

Distr.: General
7 March 2025

Original: English

**Committee of Experts on International
Cooperation in Tax Matters
Thirtieth session**

New York, 24-27 March 2025

Item 3(o) of the provisional agenda

Health Taxes

Co-Coordinator's Report

Handbook on Health Taxes for Developing Countries

Summary

This note is provided to the Committee for *approval*.

Health taxes are taxes on tobacco, alcohol, sugar-sweetened beverages and other harmful products that are intended to reduce their consumption by increasing their price, thus improving health outcomes. Health taxes therefore directly support a number of the Sustainable Development Goals.

At its Twenty-fourth Session, the Committee approved the Subcommittee's proposed work program ([E/C.18/2022/CRP.4](#)) focused on producing a handbook on health taxes for developing countries.

At its Twenty-sixth through Twenty-ninth Sessions, the Committee considered drafts of all of the chapters of the handbook. It has already approved *Chapter 2: An Introduction for Policymakers: Looking at health taxes through different lenses*; *Chapter 3: Role of Health Taxes in National Budgets*; *4: General issues in Designing Health Taxes*; *Chapter 5: Setting the Health Tax Structure and Rate*; *Chapter 8: Addressing Potential Secondary Effects of Health Taxes*; *Chapter 10: How to Generate Public Acceptability for Health Taxes*; *Chapter 12: Specific Issues with Respect to Alcohol Taxation*; and *Chapter 13: Specific Issues with respect to Excise Taxation to Support Improved Nutrition* Chapter

At its Twenty-ninth Session, the Committee had a first discussion of: *Chapter 1: Introduction to the Handbook on Health Taxes for Developing Countries*; *Chapter 6: Practical Considerations for Health Tax Revenue Use*; *Chapter 7: Administering Health Excise Taxes*; *Chapter 9: Ensuring Coherence Between Policy Instruments*; and *Chapter 11: Specific Issues with Respect to Tobacco Taxation*.

The Committee is now asked to give *final approval* to Chapters 1, 6, 7, 9 and 11 of the handbook.

Chapter 1: Introduction to the Handbook on Health Taxes for Developing Countries

A. Purpose and Scope

The United Nations Handbook on Health Taxes for Developing Countries is a response to the need, often expressed by developing countries, for guidance on the considerations that countries should take into account in introducing or revising health taxes in order to balance the dual goals of raising revenue and improving health outcomes. (See Box 1.)

The consumption of tobacco, alcohol and unhealthy foods, including sugar-sweetened beverages, is related to the incidence of many non-communicable diseases, such as cardiovascular disease, cancer, chronic respiratory disease and diabetes, which resulted in millions of premature deaths a year, the vast majority of which occurred in low-middle income countries. Increasing the price of such products, relative to other products, through taxes on such products and other measures have been shown to be effective in reducing consumption of those products so as to improve health outcomes. By decreasing such consumption, health taxes can also contribute to other public goods, such as decreasing violence and traffic accidents. In fact, adopting appropriate health tax policies can further almost all of the Sustainable Development Goals. (See Table 1.)

This Handbook outlines some of the common reasons why countries might want to introduce or revise health taxes and provides options for policy design and administration that might cater to the different needs and priorities of countries. It is meant as a practical guide, and it contains many real-world examples and practical tools, including checklists to guide the design and administration of the tax.

In most countries, excise taxes are the preferred tool for achieving these goals because they can be easily targeted to change the relative price of a narrow range of goods and apply to all such goods consumed in a jurisdiction, independent of whether they are imported or domestically produced, and do not apply to exported products. Some countries may, in certain circumstances, choose to further health goals through the adoption of import duties or differentiated sales taxes (including value-added taxes).

It is important to note that this Handbook does not advocate for differentiated value-added tax rates. Most tax policy guidance agrees that a uniform VAT rate is generally the preferred policy as differentiated VAT systems are administratively more complex and costly to administer than a uniform VAT rate and can create significant economic distortions. However, in order for the Handbook to provide practical guidance, it also takes into account the fact that many countries, primarily for political reasons, have adopted VAT systems that provide for different rates for different types of goods. In those cases, it is important that health tax policy is not undermined by the details of such other systems.

Box 1: What are health taxes?

Health taxes are taxes that are applied to products with negative public health impacts, particularly negative externalities and internalities, most prominently, tobacco, alcohol and SSBs. By design they increase the relative price of the targeted products relative to other products. The most common and preferred tax for increasing the prices of such products is an excise tax.

An undifferentiated VAT applied to such products is not a health tax within this definition because it increases all prices, not just products with negative health impacts. However, some countries apply higher VAT rates to products with negative health impacts with the goal of decreasing consumption of such products; for such countries, such a VAT system could constitute a health tax and the guidance in this handbook would be relevant to them.

Similarly, import duties generally would not constitute health taxes because they change the relative cost of imported goods vs. domestically-produced goods, without regard to whether those products have negative health consequences. However, in some countries, particularly small island developing countries, import duties may be imposed on products with negative health effects instead of an excise tax. The guidance in this handbook may also be useful in terms of defining the scope of such taxes.

This handbook also touches on some other mechanisms to increase prices, such as minimum unit prices.

See discussion in Section 5.3.A.1.

B. Overview of the Chapters

This section provides an overview of the topics covered in each chapter of the Handbook. The Handbook is divided into five Parts: General Considerations, Issues in Designing Health Taxes, Implementing Health Taxes, The Political Economy of Health Taxes, and Special Considerations.

Part I: General Considerations consists of Chapters 1 and 2, which set the scene for the more detailed policy guidance to follow.

Development of sound health tax policy requires coordination between finance and public health experts, who may have different perspectives on the issue. **Chapter 2: An Introduction for Policymakers: Looking at health taxes through different lenses** is intended to introduce some important concepts discussed throughout the handbook. It is meant to be accessible for a wide audience of officials, especially within the areas of health and finance. In particular, it provides an explanation, at a high level, of the different ways that health and finance officials may approach some of these topics to facilitate intragovernmental cooperation.

Health taxes must make sense within a country's overall budget. **Chapter 3: Role of Health Taxes in National Budgets** therefore provides an introduction to public finance and the ways that countries' budgets can be affected by health taxes.

Chapters 4, 5 and 6 comprise Part II: Issues in Designing Health Taxes, which provide more detailed practical guidance, include country examples and case studies.

Chapter 4: General Issues in Designing Health Taxes introduces the main design features that need to be taken into account when designing health taxes. It starts by introducing the main tax policy considerations that policymakers want to take into account when designing any specific tax. The second part of this chapter then applies this guidance for tax policy design to the specific case of health taxes.

Chapter 5: Setting the Health Tax Structure and Rate addresses the essential elements in the policy design of a health tax. Decisions regarding these elements have consequences for attaining the desired health and fiscal objectives, the economic impact, the distributional impact, as well as administrative and compliance costs. This chapters examines practical approaches to determining the tax structure and rate, complemented by country examples.

Chapter 6: Revenue Use discusses the complexities of revenue use in the context of the political economy of health tax design and implementation. Health taxes may raise significant revenues; the use of those revenues co-determines health taxes' net economic benefits (beyond the direct effects on health outcomes); it can affect distributional impacts, as well as strengthen support for their introduction or modification. The chapter identifies possible revenue uses and discusses how countries can establish revenue commitments and communicate those choices.

Part III, consisting of Chapters 7 and 8, addresses practical issues encountered in implementing health taxes, which can affect, and are closely linked to, the policy choices discussed in Part II.

Tax policy choices must take into account the ability of the tax authorities to implement those choices. Accordingly, **Chapter 7: Administering Health Excise Taxes** provides guidance regarding effective tax administration, focusing on specific aspects that make the administration of health excise taxes unique, starting from the fact that such taxes increasingly are levied based on weight, quantity, product content or volume rather than value.

The primary, intended effects of health taxes, as discussed in previous chapters, are mainly to reduce consumption of harmful goods through price increases as well as to generate tax revenue for the government. Besides those primary effects, health taxes can have a range of potential secondary and spill-over effects. The risk of these potential effects is often cited in order to deter governments from introducing or increasing health taxes. **Chapter 8: Addressing Potential Secondary Effects of Health Taxes** examines the most significant of these potential effects and provides guidance for countries to assist them in conducting their own assessment of the potential secondary impacts of health taxes.

Chapters 9 and 10, which may up Part IV, address political economy aspects of designing and implementing improved health tax systems.

Chapter 9: Ensuring Coherence Between Policy Instruments aims to support policymakers in identifying which existing policy instruments may interact with health taxes in ways that affect achievement of its intended goals and their effectiveness. It also discusses how health taxes may interact with countries' obligations under international legal instruments, such as trade and investment agreements.

Chapter 10: How to Generate Public Acceptability for Health Taxes argues that, to introduce or reform health taxes, policymakers should consider not only how to achieve the best technical design, but also how to ensure public acceptability. Therefore, governments interested in the implementation of health taxes may consider strategies to achieve immediate acceptability and permanent acceptance.

The final three chapters of the Handbook apply the general guidance in the preceding chapters to specific products. **Chapter 11: Specific Issues with Respect to Tobacco Taxation** discusses why tobacco use, which has been a persistent problem, can be addressed through health taxes and other measures so that it is not a "forever" problem. **Chapter 12: Specific Issues with Respect to Alcohol Taxation** explains the factors, including cultural and political economy issues, that make it difficult to provide general policy guidance with respect to this very heterogenous group of products. **Chapter 13:**

Specific Issues with respect to Taxation to Support Improved Nutrition addresses the use of nutrition-targeted taxes as a relatively recent tool to reduce the affordability of unhealthy foods and beverages and encourage substitution for healthy alternatives in order to reduce the impact of unhealthy diets.

Table 1: Overview of health taxes and the Sustainable Development Goals

SDG 1	No Poverty	Health taxes can contribute to reductions in poverty (target 1.1) and extreme poverty (target 1.2); by redirecting family budgets from harmful consumption, preventing catastrophic expenditure on healthcare, preventing income loss or reduction caused by NCDs and death of family members linked to harmful consumption (Do & Bautista, 2015; World Bank, 2019; NCD Alliance, 2023). Health taxes also, in line with target 1.a, help to mobilize domestic resources to implement programmes and policies to end poverty in all its dimensions. In 2021, expenditures on essential services, including education, health and social protection accounted for approximately 53 percent of total government expenditures globally, a rise from 47 per cent in 2015. A gap remains between advanced economies (with 62 percent) and emerging and developing economies (with 44 percent) (United Nations, 2023b). Health taxes are estimated to generate between 0.4 and 0.8 percent of GDP, which could represent considerable source of funding for poverty reduction and investment in essential services (Lauer et al., 2022).
SDG 2	Zero Hunger	Spending on harmful consumption takes away often scarce resources in household budgets that could otherwise be used for nutrition (John, 2008; Jolex & Kaluwa, 2022; Azad & Hugue, 2023). Health taxes could free these budgets and allow families to purchase more or more nutritious food and thus reduce hunger and malnutrition (targets 2.1, 2.2). Additionally, by reducing consumption of unhealthy food and creating incentives for substituting for healthier food, health taxes reduce overweight and obesity (target 2.2.2), effects which are particularly important in children as child obesity has long-term health consequences in adulthood. Reduction of obesity and over-weight would also save public resources dedicated to treatment of related NCDs, such as diabetes. Globally, the total health expenditure for diabetes in adults was US \$966 billion in 2021, which is four times more than in 2007 (Journal of Health Economics and Outcomes Research, 2022). Furthermore, health taxes could free up land used for farming ingredients entering harmful products (such as tobacco leaf) to be used to farm nutritious crops and increase food security (target 2.3 and 2.4). While between 691 and 783 million people faced hunger in 2022, 35 million hectares of land were used for production of tobacco, sugar cane and sugar beet (FAO, IFAD, UNICEF, WFP and WHO, 2023; FAO, 2024).
SDG 3	Good Health & Well-being	Health taxes reduce exposure to the common risk factors of NCDs, such as tobacco use, harmful use of alcohol, and an unhealthy diet, contributing to SDG target 3.4 aiming at reducing premature mortality from NCDs by one third by 2030. Besides that, consumption of tobacco

		<p>and alcohol during pregnancy and breastfeeding, as well as cigarette smoke and alcohol consumption in households, are all linked to an increased risk of infant mortality (American Lung Association, 2022). By reducing the consumption of alcohol and tobacco products, health taxes could reduce the number of such unnecessary deaths (in line with target 3.2). In line with target 3.5, health taxes strengthen the prevention of substance abuse, namely tobacco and alcohol. Taxes on alcohol may, in addition, help to reduce the number of deaths from road traffic accidents (target 3.6). Health taxes represent an opportunity to advance progress towards Universal Health Coverage (target 3.8) by reducing healthcare spending needed to treat NCDs and thus releasing resources for preventive care. Health taxes could raise additional resources to be used for health financing and strengthening the healthcare workforce (target 3.c) or for prevention and management of global health risks (target 3.d).</p> <p>Moreover, health taxes may reduce the number of cases of unintentional poisoning, either by alcohol, nicotine or substances used in new smoking devices (if those are not banned), where poisoning often concerns children (target 3.9) (Tin, 2023).</p> <p>Finally, health taxes on tobacco directly contribute to the achievement of the target 3.1, aiming at implementation of the WHO Framework Convention on Tobacco Control.</p>
SDG 4	Quality Education	<p>Consumption of harmful products drains family budgets needed for other essential items, including education (Do & Bautista, 2015). Redirecting household expenditures from harmful consumption and governmental expenditures spent on NCDs treatment to better use, could support the achievement of SGD 4, mainly through target 4.1 (ensuring that all girls and boys complete free, equitable and quality primary and secondary education) and target 4.2 (ensure that all girls and boys have access to quality early childhood development, care, and pre-primary education). Health and education are the two key factors of human capital, and impact each other: health facilitates and benefits from education and education is facilitated by health. Consumption of tobacco or alcohol, and the resulting increased risk of NCDs affect schooling attendance and dropout rates (Perelman et al. 2019; Austin, 2012; Müller-Riemenschneider, 2008). Health taxes could furthermore contribute to averting the loss of teachers' human capital, making an indirect contribution to target 4.c. Additional revenues stemming from economic benefits of health taxes can also be invested in education and support achieving the SDG 4.</p>
SDG 5	Gender Equality	<p>All genders benefit from health taxes: men mostly through decreased direct consumption (as main tobacco, alcohol and SSB consumers) and women through decreased indirect consumption (main victims of second-hand smoke and gender-based violence caused by alcohol) (Gram et al., 2021; Movendi, 2021; PAHO, 2022). Alcohol consumption can increase a risk of domestic violence against women and of sexually transmitted diseases (Movendi, 2021; PAHO, 2022). Violence against women bears high costs for economies, for example from healthcare</p>

		<p>treatment of injuries or reduced hours work by the victims, with estimates ranging between 0.065 to 2.05 percent of GDP loss (Duvvury et al., 2013). Poverty exacerbates the risks of women to become victims of sexual exploitation, including trafficking (UN Women, 2014). Additional funding stemming from health tax revenue directed to poverty reduction could also help to end violence against women. Additionally, women are more likely to take care of a sick household member, often for extended periods of time, which creates a burden and substantial obstacle for their other activities (NCD Alliance, n.d.). Furthermore, spending on harmful consumption crowds out spending on education where gender gaps disadvantaging girls remain, especially in LMC, including lower primary school enrolment of girls (Do & Bautista, 2015; Kattan & Khan, 2023; World Bank-Data, 2023).</p>
SDG 6	Clean Water & Sanitation	<p>Addressing water scarcity and related economic burden may require substantial expenditures from governments around the world. It is estimated that for some regions, such as the Middle East and the Sahel in Africa, cost related to water scarcity can be up to 6 percent of their GDP (World Bank, 2016). Approximately 5.3 liters of water is needed to produce a typical single-use soda bottle (Olson-Sawyer & Madel, 2020). Almost 35 liters of water are needed to produce a teaspoon of refined sugar (World Wildlife Fund, 2015). One cigarette consumes about 3.7 litres of water from production to waste which sums up annually to up to 22 billion tonnes of water lost for tobacco production around the world (Zafeiridou, Hopkinson, & Voulvoulis, 2018). In addition, a significant volumes of tobacco product waste, mainly cigarette butts, end up in water through rains or directly. One disposed cigarette pollutes around 1,000 liters of water, which sumps up to further 100 trillion litres of water polluted every year with cigarettes waste globally (World Health Organization, 2022). Water used for one kilogram of tobacco produced, consumed, and disposed of, could cover the annual needs of one person (Armstrong & Johnson, 2018). Health taxes can reduce the water footprint from production of these harmful products through significant decreases in their consumption.</p>
SDG 8	Decent Work & Economic Growth	<p>Economic costs incurred to the global economy over the period of 2011-2030 due to NCDs are estimated to reach between US\$30 trillion and US\$47 trillion (Bloom et al., 2011). Such costs represent a significant barrier to economic growth. Health taxes can help to sustain economic growth (target 8.1) and contribute to achieving higher levels of economic productivity (target 8.2) by reducing morbidity, mortality and disability caused by harmful consumption, increasing productivity by averting work force drop out, presenteeism (reduced productivity on workplace) and absenteeism (time away from work), and smoking breaks, which deplete countries' human capital.</p> <p>Health taxes have an indirect effect on reducing child labour (target 8.7), as some of the industries whose products are targeted by health taxes are also the ones that rely the most on child labour, specifically tobacco and sugarcane farming, and indirectly through poverty</p>

		<p>reduction, as poverty is often among the key factors forcing families to engage children in income-generating activity (World Health Organization, 2023a; International Labour Organization, 2017). Moreover, tobacco farmers are often exposed to agrochemicals causing several serious health issues and are at risk of poisoning, especially children due to their low body weight and pregnant women, and frequently cannot afford to purchase protective equipment (World Health Organization, 2023a). A tobacco farmer may absorb nicotine volume equivalent to 50 cigarettes per day (World Health Organization, 2023a). This hinders progress towards target 8.8 on safe working environments and health taxes have the potential to change that. Tobacco farming is labour intensive work, which often requires extensive work hours and involvement of a whole household. When these factors are considered, tobacco farming is less profitable than growing other crops. This is further amplified by the fact that smallholder farmers often have limited power for negotiating selling conditions to their larger counterparts (Lencucha et al., 2022).</p> <p>Second-hand smoke caused the deaths of 1.3 million people in 2019 (Global Burden of Disease, 2023). Around 392 million adults are exposed to second-hand smoke in their workplace (Verma et al., 2020). Tobacco taxes could reduce these numbers and contribute to target 8.8 promoting safe and secure working environments for all workers.</p>
SDG 9	Industry, Innovation & Infrastructure	<p>Health taxes have the potential to create incentives for industries to shift production towards healthier products that work as substitutes, such as beverages with lower sugar content or non-alcoholic beer and wine. This creates an opportunity for product reformulation and diversification (target 8.2), creativity and innovation (target 8.3) without hurting industries concerned (Cancer Council, 2023).</p>
SDG 10	Reduced Inequalities	<p>NCDs tend to be disproportionately clustered in lower socioeconomic groups of a society, further taking a toll on patients and their families (World Health Organization, 2023b). Higher exposure to risk factors ultimately creates health inequalities, which are linked to increased poverty due to multiple factors. Primarily, low-income groups tend to spend larger portion of their budgets on tobacco and alcohol than richer peers (Jolex & Kaluwa, 2022). They also have worse access to health care and insurance (World Health Organization, 2023b). To make things worse, low-income group members, when they lose income due to an NCD, may not be able to tap into savings or sell assets as their richer peers. On the other hand, low-income groups tend to respond more to price changes and therefore reduce their consumption more in the wake of a tax increase (WHO FCTC, 2010). In the medium to long run, this means that health taxes are progressive because the health and economic benefits for low-income groups surpass benefits of high-income counterparts (World Health Organization, n.d.; World Bank, 2020). By protecting low-income individuals from catastrophic health expenditures or loss of income due to NCDs, health taxes can prevent individuals from falling below 50 percent of the median income, contributing to progress on targets 10.2 and 10.2.1.</p>

SDG 11	Sustainable Cities & Communities	By reducing harmful consumption through health taxes, a contribution can be made towards the target 11.6 aiming at reducing adverse impacts of cities, including air quality, municipal and other waste. Health taxes can also help to create safe and inclusive public spaces, particularly for women and children, older persons, and persons with disabilities (target 11.7), through preventing alcohol-based violence and second-hand smoke exposure.
SDG 12	Responsible Production & Consumption	Taxes on SSBs can contribute to reducing plastic waste from SSBs bottles and tobacco taxes can contribute to reducing waste from cigarette butts and cigarette packaging, which both include, microplastics, and waste caused by electronic cigarettes. Through these mechanisms, health taxes can support the progress on reducing waste generation through prevention (target 12.5).
SDG 13	Climate Action	<p>Harmful consumption exacerbates climate change. Cutting it could accelerate progress toward target 13.2 on greenhouse emissions reduction. Processes in manufacturing and distribution of tobacco products generate a substantial amount of greenhouse gas emissions, estimated to be around 0.2 percent of the global total or equal to 3 million transatlantic flights (World Health Organization, 2023c; Zafeiridou et al., 2018). Additionally, forest loss and damage cause around 10 percent of global warming, and around 5 percent of global deforestation is attributed to tobacco farming (World Wildlife Fund, 2023).</p> <p>A bottle of wine (0.75 liters) creates between 0.15 to 3.51 kg CO₂ in its lifecycle (Da Silva & Esteves da Silva, 2022). Almost 35 billion bottles of wine were produced in 2022 around the world (own calculations based on International Organisation of Vine and Wine, 2022). It is estimated that in 2021, beer, ciders, wine, spirits, and ready-to-drink alcoholic beverages were responsible for 371 million tons of greenhouse gas emissions (Rocha et al., 2023).</p> <p>Food systems account for roughly one-third of global greenhouse gas emissions (Crippa et al, 2021). Unhealthy dietary patterns have been identified as a significant contributing factor (Willett et al, 2019; da Silva et al, 2021).¹ Per liter of soft drink, around 0.17 kg of CO₂ is produced, with the majority coming through PET bottles production, sweeteners, and distribution (Beverage Industry Environmental Roundtable, 2012). It is estimated that extreme weather events caused by climate change costs the global economy US\$143 billion per year in the last two decades, with the majority coming from loss of almost 70,000 human lives (Newman & Noy, 2023) and that \$196 trillion in investments is</p>

¹ Crippa M, Solazzo E, Guizzardi D, Monforti-Ferrario F, Tubiello FN, Leip A. Food systems are responsible for a third of global anthropogenic GHG emissions. *Nature Food*. 2021; 2:198-209; Willett W, Rockström J, Loken B, Springmann M, Lang T, Vermeulen S, et al. Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems. *The Lancet*. 2019; 393:447-92; da Silva JT, Garzillo JMF, Rauber F, Kluczkowski A, Rivera XS, da Cruz GL, et al. Greenhouse gas emissions, water footprint, and ecological footprint of food purchases according to their degree of processing in Brazilian metropolitan areas: a time-series study from 1987 to 2018. *The Lancet Planetary Health*. 2021; 5:e775-e85.

		needed to bring the global carbon emissions to zero by 2050 (Gongloff, 2023).
SDG 14	Life Below Water	<p>At least 14 million tons of plastic pollute oceans annually (IUCN, 2021). Plastic waste is frequently ingested by marine fauna or threatens it by entanglement and creates risk to food safety and quality and human health. Reducing consumption of sodas could reduce the production of single-use bottles and reduce ocean pollution. In addition, tobacco and sugarcane production requires the use of fertilizers and other chemicals. These are often washed into waters and pollute them (World Wildlife Fund, 2015).</p> <p>Cigarettes butts can take a very long time to decompose. Microplastics from around 4.5 trillion discarded cigarettes annually enter the environment, including waters (Zafeiridou, Hopkinson, & Voulvoulis, 2018).</p> <p>Health taxes would reduce consumption of these products and create an opportunity to reducing water pollution contributing to target 14.1</p>
SDG 15	Life on Land	<p>Tobacco farming has destructive impacts on ecosystems due to wood use and desertification, even more than livestock. Approximately 200,000 hectares of land are newly dedicated to tobacco agriculture and curing each year (World Health Organization, 2023a). Similarly, sugar cane farming has been linked to deforestation of some of the most valuable and fragile ecosystems, such as Brazil's rain forests. Growing sugarcane will push farmers to increase the cultivated areas by almost 50 percent by 2050 (World Wildlife Fund, 2015).</p> <p>Reducing the consumption of harmful products, like tobacco, alcohol and sweet beverages, and the waste derived from such consumption, would contribute to slowing down deforestation and contribute to preservation of terrestrial ecosystems (targets 15.1 and 15.2).</p>
SDG 16	Peace, Justice & Strong Institutions	Health taxes generate revenues that can be allocated to strengthening of institutions supporting by that the targets of the SDGs 16, including institutions focused on violence and trafficking prevention.
SDG 17	Partnerships for the Goals	The goal of health taxes is to change incentives on health-related behaviours, and in addition, as a side-effect, they generate tax revenues. Health taxes represent a win-win-win situation by additional revenue generation, reduced NCDs related health care costs and supporting growth and fiscal position in line with strengthening domestic resource mobilisation targets 17.1 (domestic revenue mobilization), 17.3 (mobilization of resources from diverse sources) and 17.4 (long-term debt sustainability). Investment of tax revenues in tax administration can support the domestic capacity for tax collection (target 17.1)

References:

Allen A.M., Hof A.R. Paying the price for the meat we eat. *Environmental Science and Policy*. 2019;97(April):90–94. doi: 10.1016/j.envsci.2019.04.010

- American Lung Association (2022). Sudden Infant Death Syndrome (SIDS) Risk Factors. <https://www.lung.org/sudden-infant-death-syndrome-sids/sids-syndrome-risk>
- Armstrong, L. E., & Johnson, E. C. (2018). Water intake, water balance, and the elusive daily water requirement. *Nutrients*, 10(12), 1928. <https://doi.org/10.3390/nu10121928>
- Austin, W. A. (2012). The Effects of Alcohol Use on High School Absenteeism. *The American Economist*, 57(2), 238-252. <https://doi.org/10.1177/056943451205700208>
- Azad, A.K., Huque, R. The crowding-out effect of sugar-sweetened beverages (SSBs) on household expenditure patterns in Bangladesh. *BMC Public Health* 23, 1411 (2023). <https://doi.org/10.1186/s12889-023-16290-7>
- Beverage Industry Environmental Roundtable. (2012). Research on the Carbon Footprint of Carbonated Soft Drinks. https://www.bieroundtable.com/wp-content/uploads/49d7a0_7a5cfa72d8e74c04be5aeb81f38b136b.pdf
- Cancer Council. (2023). PREVENTION: TAX AND PRICING. Countries that have taxes on sugar-sweetened beverages (SSBs). <https://www.obesityevidencehub.org.au/collections/prevention/countries-that-have-implemented-taxes-on-sugar-sweetened-beverages-ssbs>
- Da Silva, L. P., & Esteves da Silva, J. C. G. (2022). Evaluation of the carbon footprint of the life cycle of wine production: A review. *Cleaner and Circular Bioeconomy*, 2, 100021. <https://doi.org/10.1016/j.clcb.2022.100021>
- Do, Y.K., & Bautista, M.A. (2015). Tobacco use and household expenditures on food, education, and healthcare in low- and middle-income countries: a multilevel analysis. *BMC Public Health*, 15, 1098. <https://doi.org/10.1186/s12889-015-2423-9>
- Duvvury, N., Callan, A., Carney, P., & Raghavendra, S. (2013). Intimate partner violence: Economic costs and implications for growth and development. World Bank Women's Voice, Agency, & Participation Research Series No. 3.
- FAO, IFAD, UNICEF, WFP and WHO. 2023. *The State of Food Security and Nutrition in the World 2023. Urbanization, agrifood systems transformation and healthy diets across the rural–urban continuum* Rome, FAO, <https://doi.org/10.4060/cc3017en>
- FAO. (2024). Faostat – Crops and livestock products. <https://www.fao.org/faostat/en/#data/QCL>
- Global Burden of Disease. (2023). <https://vizhub.healthdata.org/gbd-results/>
- Gomez-Zavaglia A., Mejuto J.C., Simal-Gandara J. Mitigation of emerging implications of climate change on food production systems. *Food Research International*. 2020;134(April) doi: 10.1016/j.foodres.2020.109256.
- Gongloff, M. (2023). \$200 Trillion Is Needed to Stop Global Warming. That's a Bargain. <https://www.bloomberg.com/opinion/articles/2023-07-05/-200-trillion-is-needed-to-stop-global-warming-that-s-a-bargain>
- Gram, I. T., Wiik, A. B., Lund, E., Licaj, I., & Braaten, T. (2021). Never-smokers and the fraction of breast cancer attributable to second-hand smoke from parents during childhood: The Norwegian Women and Cancer Study 1991–2018. *International Journal of Epidemiology*, 50(6). <https://doi.org/10.1093/ije/dyab153>

- International Labour Organization (2017). Child labour in the primary production of sugarcane. Fundamental Principles and Rights at Work Branch. Geneva.
- International Organisation of Vine and Wine. (2022). STATE OF THE WORLD VINE AND WINE SECTOR IN 2022. https://www.oiv.int/sites/default/files/documents/OIV_State_of_the_world_Vine_and_Wine_sector_in_2022_2.pdf
- IUCN. (2021). Marine plastic pollution. <https://www.iucn.org/resources/issues-brief/marine-plastic-pollution>
- John RM. Crowding out effect of tobacco expenditure and its implications on household resource allocation in India. *Soc Sci Med.* 2008 Mar;66(6):1356-67. doi: 10.1016/j.socscimed.2007.11.020. Epub 2008 Jan 9. PMID: 18187245.
- Jolex A, Kaluwa B. Crowding Out Effects of Alcohol Consumption Expenditure on Household Resource Allocation in Malawi. *PLoS One.* 2022 Feb 4;17(2):e0263330. doi: 10.1371/journal.pone.0263330. PMID: 35120166; PMCID: PMC8815938.
- Journal of Health Economics and Outcomes Research. (2022). Global increase in diabetes prevalence imposes a substantial health and economic burden. <https://jheor.org/post/1265-global-increase-in-diabetes-prevalence-imposes-a-substantial-health-and-economic-burden>
- Kattan R.B., Khan M.M. (2023). Closing the gap: Tackling the remaining disparities in girls' education and women's labor market participation. World Bank. <https://blogs.worldbank.org/education/closing-gap-tackling-remaining-disparities-girls-education-and-womens-labor-market>
- Lauer, J. A., et al. (2022). Health taxes: Policy and practice. World Health Organization. <https://doi.org/10.1142/q0365>
- Lencucha R, Drope J, Magati P, et al Tobacco farming: overcoming an understated impediment to comprehensive tobacco control *Tobacco Control* 2022;31:308-312.
- Malik, V.S., Hu, F.B. The role of sugar-sweetened beverages in the global epidemics of obesity and chronic diseases. *Nat Rev Endocrinol* 18, 205–218 (2022). <https://doi.org/10.1038/s41574-021-00627-6>
- Movendi International. (2021). South Africa: Clear Link Between Alcohol and Gender-Based Violence. <https://movendi.ngo/news/2021/12/07/south-africa-clear-link-between-alcohol-and-gender-based-violence/>
- Müller-Riemenschneider F, Reinhold T, Berghöfer A, Willich SN. Health-economic burden of obesity in Europe. *Eur J Epidemiol.* 2008;23(8):499-509. doi: 10.1007/s10654-008-9239-1. Epub 2008 May 29. PMID: 18509729.
- NCD Alliance. (2023). Financing NCDs. <https://ncdalliance.org/why-ncds/financing-ncd>
- NCD Alliance (n.d.). Non- communicable diseases: a priority for women's health and development. https://ncdalliance.org/sites/default/files/resource_files/Non%20Communicable%20Diseases%20A%20priority%20for%20womens%27s%20health%20and%20development.pdf
- Newman, R., & Noy, I. (2023). The global costs of extreme weather that are attributable to climate change. *Nature Communications*, 14, Article 6103. <https://www.nature.com/articles/s41467-023-41888-1>

- Olson-Sawyer, K., & Madel, R. (2020). The water footprint of your plastic bottle. Foodprint. <https://foodprint.org/blog/plastic-water-bottle/>
- Pan American Health Organization. (2022). Alcohol And Violence Against Women. https://iris.paho.org/bitstream/handle/10665.2/56009/PAHONMHMH220009_eng.pdf?sequence=1&isAllowed=y
- Perelman J, Leão T, Kunst AE. Smoking and school absenteeism among 15- to 16-year-old adolescents: a cross-section analysis on 36 European countries. *Eur J Public Health*. 2019 Aug 1;29(4):778-784. doi: 10.1093/eurpub/ckz110. PMID: 31168621; PMCID: PMC6660109.
- Rocha G., Kirste A., Dittmar F., Asua I. (2023). Achieving net zero in beverages. *Kaerney*. <https://www.kearney.com/industry/consumer-retail/article/achieving-net-zero-in-beverages>
- Tin A. (2023). E-cigarette sales surge — and so do calls to poison control, health officials say. *CBS News*. <https://www.cbsnews.com/news/e-cigarette-sales-vapes-poison-control-cdc-fda/>
- United Nations. (2023b). The Sustainable Development Goals Report 2023. <https://unstats.un.org/sdgs/report/2023/The-Sustainable-Development-Goals-Report-2023.pdf>
- UN Women. (2014). Women and poverty. <https://www.unwomen.org/en/news/in-focus/end-violence-against-women/2014/poverty>
- Verma, M., Kathirvel, S., Das, M., Aggarwal, R., & Goel, S. (2020). Trends and patterns of second-hand smoke exposure amongst the non-smokers in India-A secondary data analysis from the Global Adult Tobacco Survey (GATS) I & II. *PloS one*, 15(6), e0233861. <https://doi.org/10.1371/journal.pone.0233861>
- WHO FCTC. (2010). Conference of the Parties to the WHO Framework Convention on Tobacco Control. Price and tax policies (in relation to Article 6 of the Convention). Technical report by WHO's Tobacco Free Initiative. https://apps.who.int/gb/fctc/PDF/cop4/FCTC_COP4_11-en.pdf
- World Bank. (2016). High and Dry: Climate Change, Water, and the Economy. <https://www.worldbank.org/en/topic/water/publication/high-and-dry-climate-change-water-and-the-economy>
- World Bank. (2019). High-Performance Health-Financing for Universal Health Coverage: Driving Sustainable, Inclusive Growth in the 21st Century. <https://www.worldbank.org/en/topic/universalhealthcoverage/publication/high-performance-health-financing-for-universal-health-coverage-driving-sustainable-inclusive-growth-in-the-21st-century>
- World Bank. (2020a). Sugar-sweetened beverages and prepackaged foods: the impact of taxation on price, consumption, and revenues and its contribution to achieving the sustainable development goals in Central America, Panama, and the Dominican Republic. <https://thedocs.worldbank.org/en/doc/611961599658512658-0090022020/original/TF0A4082FullreportSugarSweetDrinksEnglishFinal20201.pdf>
- World Bank (2023). Data, School enrolment, Primary, Male (% net), Male and Female (% net). <https://data.worldbank.org/indicator/SE.PRM.NENR.MA>; <https://data.worldbank.org/indicator/SE.PRM.NENR.FE>

E/C.18/2025/CRP.16

World Health Organization (n.d.) Health taxes. https://www.who.int/health-topics/health-taxes#tab=tab_2

World Health Organization. (2022). Tobacco: Poisoning our Planet. <https://iris.who.int/bitstream/handle/10665/354579/9789240051287-eng.pdf?sequence=1>

World Health Organization (2023a). World No Tobacco Day 2023. Grow food, not tobacco. <https://iris.who.int/bitstream/handle/10665/368076/9789240073937-eng.pdf?sequence=1>

World Health Organization (2023b). Noncommunicable diseases – Key facts. <https://iris.who.int/bitstream/handle/10665/368076/9789240073937-eng.pdf?sequence=1>

World Health Organization. (2023c). More than 100 reasons to quit tobacco. <https://www.who.int/news-room/spotlight/more-than-100-reasons-to-quit-tobacco>

World Wildlife Fund. (2015). Sugarcane Farming's Toll on the Environment. <https://www.worldwildlife.org/magazine/issues/summer-2015/articles/sugarcane-farming-s-toll-on-the-environment>

Zafeiridou, M., Hopkinson, N. S., & Voulvoulis, N. (2018). Cigarette Smoking: An Assessment of Tobacco's Global Environmental Footprint Across Its Entire Supply Chain. *Environmental science & technology*, 52(15), 8087–8094. <https://doi.org/10.1021/acs.est.8b01533>

Chapter 2: An Introduction for Policymakers: Looking at health taxes through different lenses

Introduction

Interest in health taxes for revenue and public health purposes is increasing. While excise taxes on products such as tobacco, alcohol, and SSBs have existed for a long time, health taxes are receiving increasing attention from finance and public health experts. For the former, there is renewed interest in them as important underutilized sources of government revenues, particularly in low- and lower middle-income countries. The latter is principally motivated by them being effective tools to reduce the consumption of products associated with the rise of chronic diseases.

Although finance and public health experts may have different objectives, there is much common ground. In addition to improving health outcomes, these taxes will improve economic efficiency and inclusive growth prospects - and raise government revenues. Optimizing these benefits requires investing in tax administration capabilities as well as intra-governmental collaboration. This chapter sets the stage and introduces some important concepts discussed throughout the handbook. It is meant to be accessible for a wider audience of officials, especially within the areas of health and finance.

Better policies can emerge from Ministries of Health and Finance working together. Early collaboration on developing health tax policy is likely to produce results that address both health and revenue concerns. In some cases, such collaboration can be undermined by ministries' different approaches to interacting with industry, with finance ministries more open to industry input. It will be important to have an early discussion and reach an agreement on such issues to allow for smooth collaboration.

I. Setting the Scene

a. Mortality and morbidity linked to tobacco, alcohol and SSB consumption are on the rise in low- and middle-income countries

Consumption of tobacco, alcohol, and sugar-sweetened beverages (SSBs) are leading global risk factors for premature deaths and disability. Tobacco use is a leading cause of preventable death and is associated with increased risk of several types of cancer, heart disease, stroke, and respiratory diseases. Likewise, alcohol consumption is also a leading risk factor for death and disability and is associated with a range of negative health outcomes, including liver disease, cancer, cardiovascular disease, and mental health problems. In addition, alcohol use contributes to road traffic accidents, interpersonal violence and suicide. Excessive use of SSBs is associated with increased risk of obesity, type 2 diabetes, and other chronic diseases.

The negative health outcomes associated with alcohol, tobacco and SSB consumption are especially on the rise in low- and lower middle-income countries. Compared with rich countries, the negative health effects are currently relatively limited in low- and lower-middle income countries, see table 1. Still, if unchecked, the trends can offset the general health improvements these countries have experienced in recent decades. Consumption of these products or the conditions associated with excessive consumption are also emerging as independent risk factors for COVID-19, e.g., smoking and obesity, adding further pressure on overburdened health systems.

Table 1: Trends in Deaths and DALYs Across Country Income Groups and by risk factor as percent of deaths/DALYS from all causes

WB income group	Commodity	Deaths			DALYs		
		1990	2019	Trend	1990	2019	Trend
High-income	Tobacco	23.0%	16.9%	↓	16.5%	12.8%	↓
	Alcohol	5.7%	5.1%	↓	5.9%	5.1%	↓
	SSBs	0.6%	0.5%	↓	0.4%	0.4%	↑
Upper-middle-income	Tobacco	19.4%	20.4%	↑	11.2%	13.2%	↑
	Alcohol	4.6%	5.2%	↑	3.9%	5.0%	↑
	SSBs	0.4%	0.5%	↑	0.2%	0.3%	↑
Lower-middle-income	Tobacco	9.5%	12.5%	↑	5.0%	6.9%	↑
	Alcohol	2.0%	3.4%	↑	1.4%	2.8%	↑
	SSBs	0.2%	0.4%	↑	0.1%	0.2%	↑
Low-income	Tobacco	3.7%	5.2%	↑	1.9%	2.5%	↑
	Alcohol	2.1%	3.0%	↑	1.2%	1.9%	↑
	SSBs	0.1%	0.2%	↑	0.0%	0.1%	↑

Note: DALYs stand for disability-adjusted life-years. It is an assessment of the overall burden of disease. One DALY represents the loss of the equivalent of one year of full health².

Source: Global Burden of Disease Study (2019)

b. The urgent need to increase the fiscal space

The Sustainable Development Goals are not being achieved. Success is held back by severe financing constraints facing the developing countries: constraints that have been gravely aggravated by the COVID-19 pandemic and the consequences of the war in Ukraine.³ The key to achieving the SDGs, besides preserving peace and lowering geopolitical tensions, is having a plan to finance them. This was emphasized by United Nations Secretary-General António Guterres in his briefing to the General Assembly on major priorities for 2022: “we must go into emergency mode to reform global finance” (Guterres, 2022).

The need for increased financing of the SDGs is well established.⁴ The challenge is especially daunting for the poorest countries. For many low-income countries, the annual financing need amounts to 10-20 percent of GDP, a forceful reminder that achieving the SDG requires a substantial global effort. No country, and especially not poor countries with a narrow tax base and weak tax administrations, can raise that amount of revenues. The UN Sustainable Development Report 2022 pointed at six pathways for increased SDG financing, one of which is domestic tax revenues. The other pathways include borrowing from multilateral development banks, sovereign borrowing on international capital markets, ODA, philanthropic giving, and debt restructuring. The SDGs are dependent on substantial progress along all these pathways.⁵

Domestic resource mobilization is especially important for a country’s development. When governments have more tax revenue, they tend to spend more on public services. An increase in government revenues has a positive effect on many SDGs and the effect is bigger in lower-income countries than in higher-income countries. In addition to directly impacting the SDGs, an increase in

² See a more detailed definition in <https://www.who.int/data/gho/indicator-metadata-registry/imr-details/158> (accessed 19 April 2023).

³ UN SDG progress report from September 2023 SDG Summit, available at: <https://unstats.un.org/sdgs/report/2023/>

⁴ See for example IMF Staff Discussion Note No. 2021/003 "A Post-Pandemic Assessment of the Sustainable Development Goals" and Note by the UNCTAD secretariat (TD/B/EFD/5/2) "Financing for development: Mobilizing sustainable development finance beyond COVID-19".

⁵ See proposed SDG Stimulus package: <https://www.un.org/sustainabledevelopment/wp-content/uploads/2023/02/SDG-Stimulus-to-Deliver-Agenda-2030.pdf>

government revenues will also have an indirect effect through an improvement in governance. Over time, as governance improves, there will be further increases in government revenue, which will further improve governance and so on, forming an important virtuous circle (Hall and O'Hare, 2022).

Health taxes can be an attractive source of income in low income and lower middle-income countries. Excise tax reforms can be pursued even with relatively weak institutions. One of the key reasons for this is that in comparison to other types of taxes, they are relatively simple and inexpensive to administer and enforce since excises are collected at source from a small number of manufacturers or importers.

II. Why health taxes in low income and lower middle-income countries?

a. Improving population health

Health taxes that result in higher prices change behaviour and health outcomes. It is widely accepted that the use of alcohol and tobacco duties is an effective way to reduce consumption of these products. There is also considerable evidence that high tax rates on SSBs will reduce consumption and have a positive health outcome (Wright et al., 2017). The evidence is similar for taxes targeting unhealthy foods, though there are a smaller number of studies and the taxes in question were often more complicated.

There is a high potential for health benefits in developing countries from increasing health taxes. The health costs associated with the consumption of tobacco, alcohol, SSBs are not adequately accounted for in the prices of these products, and the gaps are particularly large for low- and lower middle-income countries. For instance, by 2022, 41 countries in the world applied WHO's recommended level of taxation on tobacco products, whereby total taxes should represent 75 per cent or more of retail prices. Among these, only 15 are middle-income (14% of middle-income countries) and only 1 is low-income. Consequently, 88 per cent of the world population lives in countries where taxes on tobacco are considered too low (World Health Organization, 2023).⁶ Increasing retail prices through taxation for tobacco, alcohol and SSBs will result in significant gains in life years for both developing and developed countries.

Political economy may limit the feasibility of substantial health tax increases. Significant increases may be politically challenging to implement. Gradual increases over time can be one option if excises taxes are unpopular among the public, although that may reduce the health effect. Acknowledging this trade-off, maximum impact requires health taxes to be implemented alongside complementary measures such as public information campaigns to educate citizens on the harms and costs of consumption and measures to reduce the attractiveness and availability of the products.

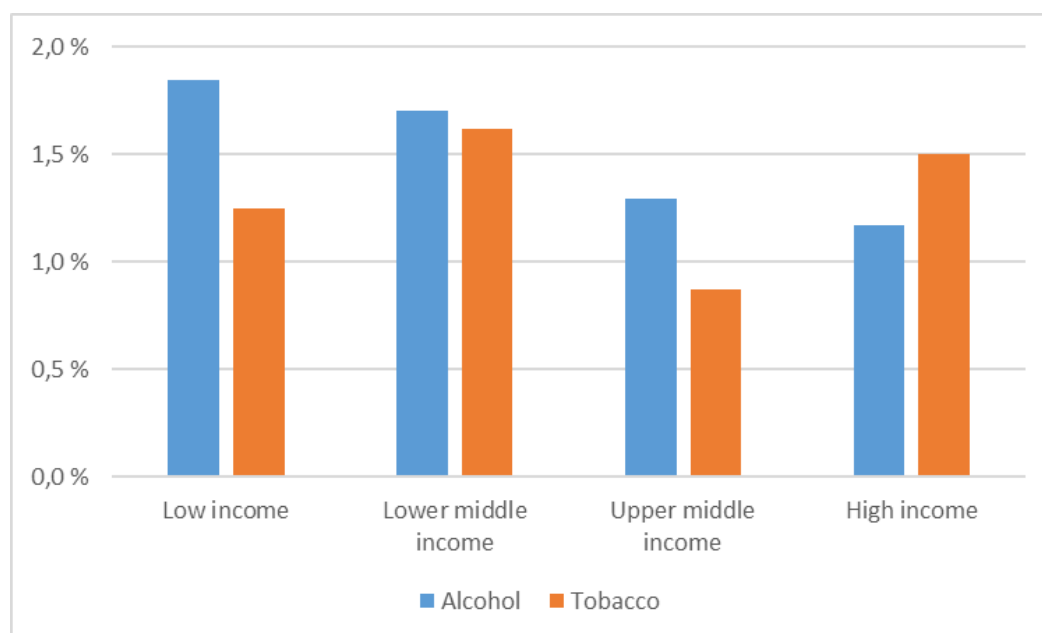
b. Raising government revenues

While health taxes are generally meant to discourage consumption, they can also help improve fiscal balance. Studies suggest that the potential revenue gains from health taxes in some low- and middle-income countries can be between 0.5 pct. of GDP and 1 pct. of GDP, but with big variations between countries (see for example Davis, 2019, Summan et al., 2020, Van Walbeek, 2014). As already noted, these estimates usually do not account for whether the tax increases leading to those gains are justified

⁶ At \$4.10 (Intl\$ PPP), the average cigarette prices in African countries are the lowest in the world, and they decreased from 2018 to 2020. The tobacco industry keeps prices low in Africa in order to expand their market in the region. Moreover, the African region did not raise its cigarette taxes by more than average income increases between 2014 and 2020, which means that cigarettes become more affordable for its citizens (Chaloupka, F., Drope, J., Siu, E., Vulovic, V., Mirza, M., Rodriguez-Iglesias, G., Ngo, A., Laternser, C., Lee, H., Dorokhina, M., & Smith, M. (2021). *Tobacconomics cigarette tax scorecard* (2nd ed.). Chicago: IL, Health Policy Center, Institute for Health Research and Policy, University of Illinois Chicago. www.tobacconomics.org). With this trend, WHO estimates that the number of tobacco-attributable deaths on the continent will double by 2030.

or economically feasible.⁷ Feasibility may require a gradual increase, which will reduce revenue generation (and health effects), at least in the short run. Currently, excise taxes on tobacco and alcohol on average amount to a small share of total taxes, see figure 1. Still, in some countries, health taxes constitute an important source of government funding, see box 1.

Figure 1 Excise tax revenues from tobacco and alcohol as per cent of total tax revenues by country grouping, 2020.



Source: OECD Revenue Statistics, 2020.

Box 1: Health taxes in the Philippines

Throughout two Presidential administrations, the Philippines has managed to substantially increase excise taxes on tobacco, alcohol, and sugar sweetened beverages (SSBs). Before the Sin Tax Reform Act was passed, taxes on the lowest-priced cigarette brands were at Php 2.72. The Sin Tax Reform Act of 2012 led to an increase of Php 30.00/pack by 2017, while fiscal reforms undertaken in 2019 have led to an increase of taxes to Php 60.00/pack in 2023. These tax increases have shown an increase in the prices of the most sold brand, from Php 40.50 in 2012 to Php 138.00⁸ in 2022. Cigarette affordability⁹ has decreased from 1.31%¹⁰ in 2012 to 5.95% despite increases in income and changes in the income tax in the country.

Alcohol taxes on the lowest priced brands pre-reform were Php 8.27/liter for Fermented Liquors, Php 11.65 per proof liter for distilled spirits that used local materials, and Php 126 per proof liter for those that did not. Under the 2012 tax reform, fermented liquor taxes by 2017 were at Php 23.50 per liter, while distilled spirits, regardless of materials, were now taxed at 20% of net retail price and a specific tax component of Php 20.00 per proof liter. The 2012 tax reform made the Philippine excise taxes on alcohol compliant with World Trade Organization rules, as well as provided for indexation of tax rates to inflation. The 2020 tax reform law has taxes on distilled spirits at 22% of net retail price and a

⁷ Most studies are based on modelling or predictive experiments. With more and more countries implementing new kinds of health taxes, there are numerous opportunities for real-world evaluations to substantially strengthen the current evidence-base.

⁸ WHO Report on the Global Tobacco epidemic 2023 (forthcoming)

⁹ Affordability is calculated as the percent of GDP per Capita required to purchase 2000 cigarettes of the most sold brand of cigarettes.

¹⁰ WHO Report on the Global Tobacco epidemic 2021

Php 59.00 per proof liter specific tax component, while fermented liquors are now taxed at Php 41.00 per liter. Data from the Global Status Report on Alcohol and Health showed that alcohol per capita consumption in the country dropped from 7.1 in 2010 to 6.6 liters of pure alcohol in 2016.¹¹ Taxes on sugar-sweetened beverages were introduced in the Philippines under the Tax Reform for Acceleration and Inclusion Law of 2017, which imposed a Php 6.00 per liter tax on beverages using purely caloric and non-caloric sweeteners and a Php 12.00 per liter tax on beverages that used high fructose corn syrup.

Consistent with the primary goal of both reforms, the large tax and price increases and reduced affordability led to a sharp reduction in smoking in the Philippines. Current tobacco users in 2009 were at 29.7%, which fell to 23.8% in 2015, and further down to 19.5% in 2021. This represents a decline of 34.4% in prevalence from 2009 to 2021. Cigarette removals¹² fell by almost 40%¹³ from 2012 to 2021. While other tobacco control measures were implemented during this time, surveys indicate that much of the reduction in smoking was due to the large tax and price increase.

A second major goal of the reform was to raise revenues to help finance the Philippines' health insurance program. Tobacco excise tax revenues rose from 32 billion pesos in 2012 to 174 billion pesos¹⁴ in 2021, a 443% increase in revenues despite the drop in tobacco use caused by the tax and price increase. Five percent of the total revenues from tobacco was to be used by tobacco-producing provinces to promote economically viable alternatives for tobacco farmers and workers, while 50%¹⁵ of the total excise tax collections were to be used for health – 80% for Universal Health Care (UHC) and 20% for the Medical Assistance and Health Facilities Enhancement Program¹⁶. Total revenues from excise taxes on alcohol products had 60% allocated for Universal Health Care, 20% of Medical Assistance and Health Facilities Enhancement Program, and 20% for the attainment of Sustainable Development Goals. Additionally, 50% of total excise revenues from SSBs are allocated for health, with 80% for UHC and 20% for Medical Assistance and Health Facilities Enhancement Program. This led to 90%¹⁷ of the country being enrolled in the National Health Insurance Program, which includes free insurance premiums for the poor and Senior Citizens.

Health tax revenues should be considered within an economic framework aiming to minimize negative externalities and internalities and not necessarily maximize tax revenues. However, since health tax rates are generally considered to be below the socially optimal level in most countries, excise tax revenues rarely account for the total economic costs to society.¹⁸ The economic framework of externalities and internalities is conceptually important, because they by themselves justify health taxes. A consumer might rationally smoke, or drink alcohol or SSB because the enjoyment they gain may outweigh the health harms. However, from a societal perspective what matters is whether their consumption imposes harms on others (externalities) or themselves that they do not correctly internalize (internalities), see II.c (i.e. the next paragraph).

¹¹ WHO Global status report on alcohol and health 2018, Philippines country profile <https://www.who.int/publications/i/item/9789241565639>.

¹² Cigarette removals are used as a proxy for consumption. Those are cigarettes produced as reported to Internal Revenue.

¹³ Bureau of Internal Revenue Data, Philippines

¹⁴ Bureau of Internal Revenue Data, Philippines

¹⁵ Republic Act no. 11457, Official Gazette, Republic of the Philippines, 30 August 2019, <https://www.officialgazette.gov.ph/2019/08/30/republic-act-no-11457/>

¹⁶ Republic Act no. 11467, Official Gazette, Republic of the Philippines, 22 January 2020, <https://www.officialgazette.gov.ph/2020/01/22/republic-act-no-11467/>

¹⁷ 2022 Sin Tax Annual Report, Department of Health Philippines

¹⁸ See Goodchild et al., 2018, on smoking and Baumberg, 2009, on alcohol.

c. Correcting for negative externalities (harm to others and society) and negative internalities (harm to oneself)

The normative case for health taxes is to integrate into the prices of certain products the costs of production and consumption that are not normally reflected in market prices. In addition to the revenue aspect, which historically has been most important, the public health motive provides an additional rationale for taxing certain products on the grounds of market failure. In particular, the consumption of such products engenders two types of effects: negative “externalities” and “internalities”. Negative externalities are the adverse effects that consumption has for other individuals and for society as a whole. For example, the use of tobacco exposes others to second-hand smoke and to its health impacts, including cancer and cardio-vascular disease; alcohol causes violent behaviour and traffic accidents, among other effects. By increasing disease risk, the consumption of unhealthy products may also increase health care expenditures and decrease the ability of those affected by diseases to participate in economic production, which, in some instances, may constitute externalities. Negative internalities are the adverse effects that consumption has for oneself. Consumers might fail to internalise information on the unhealthy effects of products, and their behaviour can be influenced by a choice environment that is not conducive to healthy consumption. The very addictive nature of some products also makes it difficult to quit once you have started.

Taxes can complement a package of measures nudging individuals away from unhealthy behaviours. Recent research in behavioural science has shown that well-targeted “nudges” from the government can be very effective in correcting such behaviour and securing better outcomes from a social welfare standpoint (Thaler and Sunstein, 2008).

d. Possibly strengthening inclusive and sustainable growth

Sustained economic growth is dependent on a healthy and educated population. To utilize the great potential of its citizens should be any government’s number one priority. The fatal NCD epidemic could have serious adverse effects on growth and development. The fiscal space to invest in human capital, inherently limited in low-income countries, has worsened still from the ongoing multiple crises. While it will take a global effort to collectively advance towards the sustainable development goals, the main responsibility lies in countries themselves.

Taxing goods that are harmful to long-term growth and public health is one effective solution. Growing consumption of unhealthy products has dire implications for human-capital outcomes and economic productivity. Health taxes constitute one of the most cost-effective ways to pursue health impact. The revenues generated also help governments summon the resources they need to increase development-related spending. As noted above, when governments have more tax revenue, they spend more on public services. The virtuous circles between government revenues and governance and the positive relationship between governance and economic growth is well-established.

III. What Health Ministers need to know about tax administration and fiscal policy

a. Enforcement of and compliance with taxes impose a cost for governments and businesses (and possible implications for employment)

Fiscal policy determines the composition and level of government revenues and expenditures, including taxes. In addition to providing collective goods (including police, defence, and a legal system) – arrangements not easily financed in a private market – the public sector is responsible for various welfare schemes (such as school, health services and a social security net). A key objective for the government is to have a tax system that enables pursuing these tasks with the least negative consequences for the economy and with a distribution of the tax burden that is perceived to be fair.

There are costs related to taxes (but health taxes are different). Generally, taxes disrupt the decisions of consumers and producers, reduce their utility, and create market inefficiencies. A central tax policy

advice is therefore to have a broad tax base and low rates, which will entail the least negative effects for the economy. Health taxes are different. Since the prices of the unhealthy products are arguably too low, consumption is too high, health taxes can help improve market efficiency. Health taxes are therefore an ideal financing source for governments as they both raise revenues and improve efficiency. Still, health taxes, like other taxes, generate various – though low – administrative and enforcement costs; it requires a well-functioning tax administration to collect taxes and to ensure that everyone pays its fair share.

b. Align tax policy to administrative capacity

Tax administration capacity is improving in many low-income countries but is still relatively weak. Tax capacity in sub-Saharan Africa (SSA) improved between 1985 and 2018, consistent with increasing tax-to-GDP ratios since the late 1990s, albeit with considerable variation across countries. The fiscal contract – the exchange of tax revenues for public goods and services – is important for tax capacity, while corruption erodes tax morale and compliance (Tagem and Morrissey, 2021). Although national tax administrations in SSA have undergone considerable reforms in recent decades, the potential for further improvement is still big (Moore, 2020). The minimum tax to GDP ratio needed to support core government functions is estimated at 15 pct. of GDP (Gaspar et al., 2016). Many low-income countries have lower tax levels than that. Technically, health-related taxes may be relatively easy to implement compared with many other taxes.

Limited administrative capacity favours specific excise taxes. These are excises based on physical measures (number of cigarettes, volume or strength of alcohol, weight of sugar, etc.). They offer greater advantages than ad valorem taxes, which are proportional to prices. Compliance checks for the former entail simple controls at the customs, the factory gates or the lab, compared to more complex value accounting for the latter. The skills required to assess and collect specific excises are therefore easier to obtain than for other taxes. Furthermore, the administration of specific excises has similarities with the collection of import duties, an area of taxation in which many low- and lower-middle income countries have capacities and experience. Specific excises must be adjusted over time to account for inflation and for changes in real incomes (if the objective is to keep affordability constant), which is easy to do.

While specific taxes may lead to better health outcomes, ad valorem taxes can generate higher government revenues. When products are differentiated (cigarettes, alcoholic drinks and SSBs are typical cases), specific taxes add the same amount to the price of all product varieties, while ad valorem taxes increase price differences between varieties. It has been observed that the pass-through of taxes hikes to prices is higher for specific excises than for ad valorem (see for instance (Griffith et al., 2010, World Health Organization, 2021c). As specific taxes also provide lesser incentives to consumers to compensate for the price increase by switching to lower-quality products, they are generally believed to trigger stronger reductions in demand – and therefore better health outcomes. Ad valorem taxes, by contrast, while more complex, allow governments to gain more revenue from higher-value products and can have a greater revenue potential (World Health Organization, 2014, Sassi et al., 2013). On the other hand, better health outcomes from specific taxes will also reduce health-related expenditures. Mixed tax structures, comprised of both specific and ad valorem components, or an ad valorem tax with a minimum tax floor, are quite common. They combine the benefits of both tax structures (guaranteed minimal revenue and price gaps reduction from the specific excise component and lower risk for tax erosion due to inflation from the ad valorem component) with some challenges remaining (need for enhanced tax capacity for the implementation of the ad valorem component).

c. What is the objective of the tax?

It is important to decide on the main objectives when designing health taxes. There may be potential conflicts between objectives. For example, if the purpose of a tax is to achieve health gains via behavioural change, it must be set at a sufficiently high level and often much higher than those

currently levied. In contrast, if the aim of a new tax is to raise revenue, then taxes set at a rate that is high enough to incentivize behavioural changes may be less desirable, if they reduce the stability of associated revenues, and a lower rate may be more appropriate. Still, there are also many instances where high tax increases have been followed by large revenue increases in lower middle-income countries. Finally, considered within an economic framework, the main rationale for health taxes is to minimize externalities and internalities, cf. IIb.

d. Earmarking for health does not automatically increase the health budget; Ministries of Finance may not support earmarking unless it is part of their regular fiscal practices

Ministries of Finance generally do not approve of hard earmarking because it can introduce rigidities and hamper the budget process. The budget is the central tool to distribute public resources. A comprehensive budget process ensures that all initiatives need to compete, revealing alternative uses and helping to select initiatives with the overall highest priority. Earmarking or other types of shielding can result in initiatives being funded without the benefit of competition under a budget prioritization process. Efficient use of public resources is an important precondition to utilizing the economies' growth potential.

Earmarking may disturb fiscal policy management. As already noted, a sound fiscal policy is crucial in the pursuit of a stable economic environment, which is attractive for investments. Earmarking can limit the scope for discretionary fiscal policy to counteract economic fluctuations. Earmarking or shielding in terms of keeping items off the budget will render the budget less of an effective tool to conduct a sound fiscal policy.

Earmarking to help introduction of a new tax may not always work as intended. Public support for new consumption taxes, or tax increases, is generally low and earmarking the revenue for specific purposes can increase public and political support for taxes. However, governments may fail to abide by initial earmarking commitments once taxes have been implemented. Earmarking also makes spending vulnerable to fluctuations in the earmarked tax, although revenues from health taxes are quite stable over time due to consumers' addiction. Lastly, earmarking may tempt politicians to reduce health sector allocations in the general budget. Depending on the fiscal policy context at country level, various decisions can be made about how to direct revenue.

Some countries use soft earmarking, or use of commitments, to help address some of the above-mentioned challenges (see Chapter 6). As discussed in more details in section IV.e below, soft earmarking can be an effective way to fund priority health programmes that are lacking resources as the dedicated amount generally goes through the general budget, it is regularly reviewed by the legislative and is therefore a democratic approach that also helps build consensus.

IV. What Finance Ministers need to know about health taxes

a. Tobacco, alcohol and SSB consumption have big effects on health and the economy

Tobacco, alcohol and SSB consumption is associated with the rise in mortality and morbidity in low- and middle-income countries. In 2019, more than 11 million people died from exposure to these risk factors worldwide, which was 20 percent of total deaths that year.¹⁹ Most of the deaths occurred in the populous middle-income countries (8.5 million), and use of tobacco is by far the deadliest risk factor (6.5 million in those groups of countries). These risk factors are also associated with a rise in years lived in poor health, cf. table 1. Beyond the effects for the individuals and health expenditures for the society, these trends are likely to hamper economic growth prospects, although the specific effects are difficult to estimate. Estimates from one study show that the total economic cost due to alcohol consumption in selected high-income and middle-income countries represents around 2.5 percent of

¹⁹ Global Burden of Disease (2019).

GDP and 2.1 percent of GDP, respectively.²⁰ Lastly, the negative health trends can affect inequality as affected households bear a higher risk of impoverishment (Tremmel et al., 2017, Murphy et al., 2020).

b. Health taxes can be an effective instrument to improve population health and wellbeing

It is well-established that higher prices or taxes on alcohol, tobacco and SSBs are an effective way to reduce demand. There is a substantial body of research and evidence collected over many countries and years, which shows that a significant increase in the excise tax and subsequent price of tobacco products is consistently an effective tool for reducing tobacco consumption (see for example (IARC, 2011) and (Chaloupka et al., 2011)). Consumers in low- and middle-income countries tend to be slightly more responsive than in high-income countries, particularly the young and the more vulnerable groups of population (US National Cancer Institute and World Health Organization, 2016). Research shows that a one-time tax-induced 50 percent price increase on tobacco, alcohol and SSBs has the potential to avert more than 60 million deaths over 50 years with more over 52 million being averted in LMICs (Summan et al., 2020).

c. Health taxes can improve economic efficiency

The current prices charged for unhealthy products do not adequately reflect the societal costs that these products hold for society and the individuals. As described in sections I and II, there are vast health and economic consequences associated with the consumption of these products, cf. discussion of negative externalities and internalities. In addition, the tax revenue that governments collect from taxing these products is not sufficiently large to justify the costs to society. As a result, intervening in the form of health taxes in the markets for unhealthy products is merited as the consumption of these goods are market failures, and lead to a net loss of economic value. Appropriately designed health taxes can be a useful tool to address these market failures.

Governments use health taxes when they deliberately want to discourage consumption of unhealthy products. A general tax policy principle is that the tax system should induce economic agents to change their behaviour as little as possible in response to the taxes levied. This principle is mainly pursued by using broad bases and low rates. There are, however, situations where governments deliberately want to use the tax system to steer economic behaviour. This is the case in the presence of externalities and internalities, as mentioned above. An efficient tax system would thus create a distortion by inducing agents to internalize these effects, reducing activity in the case of negative externalities and internalities, see IV a) and chapter 4 for a fuller description of tax efficiency.

d. Health taxes can benefit the poor

Health taxes can be progressive. When the response to a health tax is relatively pronounced among low-income consumers, they experience a relatively big increase in their budget to be used on other (more useful) goods. Their financial situation and general welfare can also improve through reduced health spending (World Health Organization, 2021c, World Health Organization, 2023, Forthcoming-, World Health Organization, 2022f). For instance, evidence from the Mexican SSB tax consistently shows larger declines in the SSBs consumed by lower-income households relative to higher-income households (Colchero et al., 2017a, Colchero et al., 2016, Colchero et al., 2017b). In addition, lower-income households also experience relatively greater health benefits (Thow et al., 2014, Eyles et al., 2012).

Progressivity depends on how consumers respond to the tax. As noted, poorer groups may be more price sensitive than other groups, and therefore more likely to change their behaviour in response to a tax. In addition, it is important to acknowledge that a regressive tax does not necessarily imply that

²⁰ Rehm, J., Mathers, C., Popova, S., Thavorncharoensap, M., Teerawattananon, Y., & Patra, J. (2009). Global burden of disease and injury and economic cost attributable to alcohol use and alcohol-use disorders. *Lancet*, 373(9682), 2223-2233.

tax increases will be regressive. If poorer consumers are more responsive, the burden of the tax may shift more to wealthier consumers (Chaloupka et al., 2012). However, if demand is price inelastic (as is typical for many unhealthy products), those with lower incomes who continue to buy these products have less to spend on basic needs, such as housing, heating, and healthy food, potentially at the expense of their health and general welfare.

Progressivity also depends on how tax revenues are spent. The progressivity or regressivity of a tax system should be assessed holistically. As previously described, using expenditure policies to improve health outcomes can make a tax system progressive. This can be important to reach vulnerable individuals that experience an increased fiscal burden from health taxes (the smoking poor will be worse off than the non-smoking poor and the smoking poor will be worse off than the smoking rich). For policy makers concerned about the regressive potential of taxes on unhealthy products, another potential response can be to subsidize other healthy foods, such as fruit and vegetables. In this way, it may be possible to put together a package of policies in which there can be some confidence that the overall impact on poverty will be negligible.

e. "Soft earmarking" or revenue commitments may be good alternatives to hard earmarks

Some countries earmark revenue from health taxes (see Chapter 6). It is shown that commitments to earmarking the revenue from health taxes for specific purposes, such as funding health system improvement or obesity prevention, can increase public and political support for the passage of taxes (see for example (Thow et al., 2011) and (Somerville et al., 2015)). Earmarking may be particularly relevant for low- and middle-income countries, in which strategies to provide universal health coverage are dependent on the effective expansion of public sector financial resources.

There are different types of revenue use mechanisms. There is generally a distinction between “hard” and “soft” earmarking. When a tax is legally earmarked for a particular service or program, and this tax revenue is the main source of revenue, the tax earmarking is described as “hard”. The link between the revenue source and expenditure is obliged by legislation, and rigidity of this agreement means that excess revenue is not allowed to be allocated elsewhere, and that its allocation circumvents regular budget processes. “Soft” earmarked taxes go through the common or general fund before being disbursed to the targeted program and are subject to regular budget rules (Cashin et al., 2017).

Applying other revenue use strategies can help secure public support for health taxes without causing the concerns traditionally related to hard earmarking. Hard earmarking of public funds is politically contentious and often opposed by ministries of finances, cf. III d. A major concern is that earmarking creates budget rigidity, which could lead to the inefficient allocation of resources. The more flexible feature of soft earmarking or use of non-legislated commitments (See chapter 6) may be an alternative. In addition, policy makers may time constrain the earmark if there is major concern about budget rigidity (Cashin et al., 2017). All in all, soft earmarking or use of commitments can be effective instruments in the political economy of health taxes – securing public support without many negative side effects.

f. International framework

The WHO Framework Convention on Tobacco Control (WHO FCTC) recognizes that price and tax measures are an effective and important means of reducing tobacco consumption. The treaty entered into force in 2005 and has 182 Parties. Member States that have become Parties to the Convention have a legal obligation to implement the provisions of the treaty, including Article 6 (Price and tax measures to reduce the demand for tobacco) by “... *implementing tax policies and, where appropriate, price policies, on tobacco products so as to contribute to the health objectives aimed at reducing tobacco consumption* ...”. Parties have adopted Guidelines for implementation of Article 6 of the WHO FCTC to assist them in meeting the objectives and obligations under that provision. Parties to the WHO FCTC have also adopted the Protocol to Eliminate Illicit Trade in Tobacco Products, which entered into force in 2018. The Protocol provides invaluable guidance for tobacco tax

administration, control and enforcement. Member States that are Parties to the Protocol have an international commitment to implement the obligations contained in it.

Reducing non-communicable diseases are part of the Sustainable Development Goals (SDGs). SDG 3 is about ensuring healthy lives and promoting well-being for all at all ages. Target 3.4 says that premature mortality from non-communicable diseases shall be reduced by one third by 2030 through prevention and treatment. Progress on SDG 3 also plays a key role in the success of socially and economically focused SDGs, as already discussed. Additionally, the Addis Ababa Action Agenda, which helps provide a global framework for financing the SDGs, highlights the relevance of tobacco taxation as a key mechanism to reduce demand and save lives while also increasing domestic resources for development (Addis Ababa Action Agenda, 2015).

There is increased interest in health taxes among multilateral institutions and the international community. The World Health Organization has for decades endorsed economic measures including taxes in its strategy for prevention of noncommunicable diseases. There has been growing interest in the use and design of health taxes from organizations such as the UN, the IMF, the World Bank and the OECD, suggesting that opportunities exist for collaboration between the health and finance sectors. The establishment of the UN Tax Committee's Subcommittee on Health Taxes, tasked to provide guidance on the implementation of health taxes, i.e., this Handbook, is a reflection of the global traction health taxes have gained.

V. What Governments need to know about health taxes

a. Likely opposition from some industry and other vested interests

While it seems to be a common agreement that tobacco, alcohol and SSB consumption is associated with negative health outcomes, there are disagreements about the remedies. Common arguments made against health taxes by industry are that they are ineffective in achieving health outcomes, have limited revenue potential, are regressive, hurt employment and increase illicit trade. All these issues are discussed in this handbook. Amid country differences, a general lesson is that a well-designed health tax that is properly enforced is an effective tool to improve health and can also be an efficient revenue generator. Another lesson is that health taxes do not occur in a vacuum, cf. Section V.c below. They should be part of government programs that also include regulations and public education campaigns. Finally, when effective, improved public finances (increased revenues and reduced health expenditures) enable governments to invest more in health systems and enforcement capacity. So, while the industry may have some valid points, their advocacy against health taxes also needs to be seen as input from a commercial stakeholder.

A common industry argument is that increasing health taxes will entail more smuggling and illicit trade. There is certainly a risk that the introduction of (or increase in) health-related taxes on unhealthy products increases the attractiveness of illicit alternatives, be they similar products that have evaded taxation through illegal manufacturing or trade, or informally produced substitutes (e.g. home-distilled spirits). The risks are particularly high when the state's taxation and law enforcement capacities are limited and the informal sector is large, as is the case in many lower middle- and low-income countries. While appreciating that this risk may have some implications for how high the tax can be, especially for countries with porous borders with lower taxing countries, it is first and foremost a governance problem. This can best be addressed by ensuring a consistent regulatory framework and strong tax administration and control capacities, rather than foregoing tax increases.

Industry actors may contest the legality of a health tax. Litigious action often entails a claim from industry that the taxation policy is a breach of trade agreements. Certain international trade agreements stipulate that domestic taxes must not discriminate based on a taxed good's country of origin, unless there is a health justification. Excise taxes therefore have an advantage over other taxes such as import tariffs and these disputes are often defensible in court or international arbitration

(World Health Organization, 2021c, World Health Organization, 2022, Forthcoming, World Health Organization, 2022f).

Industry actors may argue that health taxes reduce government revenue as consumption of these products decrease. This chapter has shown that there is potential for increasing government revenue using health taxes. The demand for unhealthy products is predominantly inelastic, meaning that an increase in the price of those products will result in a less than proportional decrease in their consumption. One of the reasons for this inelastic demand is the relatively addictive nature of these products, especially tobacco. Country evidence shows this to be true: an increase in tax rates will result in an increase in government revenue, at least in the short and medium term, and especially in LMICs (World Health Organization, 2021c). In the long run, behavior is likely to change and tax revenues may decline. Still, the combined health benefits and reduced health care costs will likely be larger than the declining revenues.

Industry actors may claim health taxes result in large-scale losses of employment. In most economies, the long-term impact of health taxation on employment is likely to be neutral or even slightly positive, as lower expenditure on unhealthy products will result in higher expenditure in other sectors of the economy. Job losses in the industries are often the result of technological changes and moves away from using labour. Some industries (e.g. tobacco) are capital intensive, so refocusing on more labour intensive industries may be good for employment. It is crucial to conduct objective research to assess the impact of a policy change on labour market outcomes in order to formulate further policy which can mitigate any potential negative consequences (World Health Organization, 2021c, World Health Organization, 2023, Forthcoming, World Health Organization, 2022f).

b. Longer-term benefits for individuals and economy

It is important that Governments take a broad view to facilitate an economic and societal transition. The implementation of health taxes and regulations may lead to job losses for farmers and industry workers. A similar argument could be made against the “green transition”, where certain industries are rendered obsolete. This needs to be taken seriously, and an important first step is to understand the size of the relevant sector in relation to a country’s overall economy. As already discussed, to secure public support and to ensure a fair distribution of the burden of transition, it is important to alleviate negative impacts by helping workers most affected. Experience suggests that many more jobs can be created in more beneficial sectors by taxing tobacco and using the revenues in other sectors (Sabir et al., 2021).

c. Health taxes in combination with other targeted health policy measures improve health

One should not ask too much of health taxes by themselves. Human responses to price changes are complex, and vary by context and over time, making it difficult to estimate economic and social impact. Such estimates are particularly vulnerable to uncertainty over longer periods. The decrease in consumption can be larger in the long run as habits are gradually broken (Zhen et al., 2011). On the other side, consumers can also over time become more accustomed to higher prices (Sharma et al., 2014). Services to help consumers cease use of unhealthy products, along with measures such as smoke-free areas and graphic health warning labels, can help support individuals’ reduction of tobacco consumption. Using the tax revenues to provide services to low-income populations promotes equity. The use of revenue can contribute to wealth redistribution and mitigate health inequalities, as discussed above.

Health taxes are most effective when implemented within a package of interventions. Enforcing bans or implementing comprehensive restrictions on industry advertising, marketing, promotions, and sponsorships are effective policies that complement health taxes, as are clear health labelling measures. For alcohol, other effective and complementary policies may include strengthening restrictions on alcohol (e.g. regulating the hours when alcohol sales are allowed, establishing a national minimum legal drinking age), or stronger enforcement of drink driving restrictions (e.g.

establishing and enforcing blood-alcohol concentration (BAC) limits) (World Health Organization, 2022d). Both tobacco and alcohol consumption should be decreased by improving interventions and treatments for addiction. This would entail improving health and social welfare systems to not only address alcohol and tobacco addiction, but also support affected families, and the treatment of conditions that may result from consumption (World Health Organization, 2022d). Across countries, individuals should have access to interventions if they wish to quit alcohol or tobacco use (World Health Organization, 2022d, World health Organization, 2022b). Policies that promote reformulating the content and/or reducing package sizes of SSBs and unhealthy food may also result in a decrease in their consumption (Marteau et al., 2015).

d. The key role of data and analytical capability of both ministries of finance and health to inform discussion, socialization and implementation.

The SDGs are said to represent an unprecedented statistical challenge. On one hand, a lot more high-quality data is needed just to monitor progress on the SDGs. But even before that, data are critical to conducting useful analysis on what kind of interventions are likely to bring the achievement of the SDGs closer. In one striking example of the need for better data, two-thirds of the data used to measure global poverty — and therefore progress on SDG1 — is inferred. The World Bank has over 6,000 distributions in its database but only a third — about 2,000 — are real survey data. Two-thirds of the country-year pairs in the database, then, are extrapolated or interpolated. Bad data quality is also prevalent in many other areas and especially in low-income countries.

Improved health data and analyses can pave the way for better policies. An efficient health taxation system necessitates that policy makers continuously collect and analyse data to ensure that the choice of tax structure and rates are appropriate to achieve their public health and revenue goals. This includes among several things data on the market for unhealthy goods, such as the nature and degree of competition, the market share and the elasticities or responsiveness of the products being consumed to prices. With the latter, for instance, policy makers would want to know that lower income groups are more responsive or will decrease their demand to a larger extent than higher income groups when there is an increase in price, to ensure that tax increases remain progressive.

Data collection is also necessary to ensure that the health tax policies are having the intended effects. For instance, if an alcohol tax policy has been designed to target heavy alcohol consumption, alcohol consumption and any other factors which may affect alcohol consumption need to be monitored and eventually evaluated during and after the tax policy changes. Developing specific indicators to monitor the outcomes of interest can be an effective method of ensuring that policy goals are continuously achieved. For instance, for tobacco control, countries are classified by the WHO as implementing total taxes on tobacco products at the highest level when they represent at least 75 per cent of the retail price.

There are various tools available to policy makers to assess the impact of their excise taxation policies on government revenue, consumption levels and health outcomes. A simple tool which policy makers can use specifically to assess the impact of a tobacco tax policy reform or increase on prices, consumption and revenues is the WHO's TaXSiM tool.²¹ The OECD's Strategic Public Health Planning for NCDs (SPHeP-NCDs) model is a microsimulation tool which can be used to model the impact of taxation and other pricing policies on consumption of products with an impact on population health (alcohol, tobacco and dietary nutrients) on life expectancy, disease prevalence and other health utilities like disability-adjust life years as well as economic dimensions including healthcare expenditure and workforce productivity.²² However, the quality of the outputs of these simulation models largely depends on the quality of the data input, and collecting this type of data should be made a priority.

²¹ Available here: <https://apps.who.int/iris/bitstream/handle/10665/260177/WHO-NMH-PND-18.3-eng.pdf>; Similar tools are currently being developed by WHO for alcohol and SSB taxes.

²² More information here: http://oecdpublichealthexplorer.org/ncd-doc/_2_1_Modelling_Principles.html

VI. Prospects for health taxes

a. Important promises of triple wins (health, revenue, equity)

Many developing countries face one of the most challenging economic environments in years. Slow recovery from the pandemic, rising food and energy prices, and high levels of public debt have devastating effects on incomes and food security. 2022 was the second year in a row in which the world was no longer making progress on the SDGs partly due to slow or non-existent recovery in poor and vulnerable countries. Multiple and overlapping health and security crises have led to a reversal in SDG progress. This is a major setback. Even before the pandemic progress was too slow to reach the 2030 deadline, but at least poorer countries made greater gains than rich countries.

Domestic resource mobilization is center stage in the pursuit of an inclusive development. To be sure, getting the SDG agenda on track through 2030 (and beyond), especially for low-income countries, requires a significant increase in external finance from rich countries to poor countries. At the same time, it is vital to strengthen domestic resource mobilization. Not only because it is the most sustainable source of revenue. But because tax is about state building and economic and societal progress.

Health taxes have many benefits that should make them appealing across government stakeholders. A general feature of taxes is that they distort economic behaviour. They tend to reduce production and consumption, creating market inefficiencies. This is one of the costs of raising taxes. Health taxes are different because they influence behaviour in a way that improves market efficiency. They reduce unhealthy behaviour and may also incentivize the transition to more productive industries. Adding to this the potential for increased government revenue should make health taxes an easy sell for any government concerned with public health, public finances, and inclusive development.

Understanding the political economy and the local context are decisive for successful implementation of health taxes. These taxes can be unpopular among consumers and in the affected industries. Governments committed to health taxes may consider increasing the general funding for health and social programmes to get public support. Framing taxes as pro-health measures and soft earmarking the revenues in support of health programmes may contribute to increased public acceptance and support for implementing a tax – of course to the extent that commitments are consistently respected by the government.

Building broad alliances may also help governments counter opposition and succeed in implementing health taxes. Having well-respected experts and academic institutions on board from the beginning of a process can ensure access to independent evidence. Active civil society organizations can further strengthen outreach to the public. Similarly, broad media coverage has been found to help shape public opinion (Carriedo Lutzenkirchen, 2018).

b. Investment in tax administration – policy is never better than what can be implemented

Even the soundest tax policies will have muted impacts if they are not implemented effectively. Constraints on the ability of tax administrations to implement policies is a first-order topic in developing countries, coining the phrase “tax administration is tax policy.” A weak tax administration compared to peers may suggest similarly modest tax policy ambitions or make policy ambitions unrealistic. Improvements in tax policies and tax administrations need to work in tandem for reforms to be effective. Although excise taxes are relatively easy to collect, challenges remain. Administration and enforcement capacities must be in place to mitigate the risks of illicit trade and fraud. See chapter 4 and 7 for a discussion of how to ensure that health taxes are easy to administer and comply with.

Information exchange among government entities is crucial for development planning and revenue generation. Health and tax authorities need to cooperate to monitor health, social and economic impacts and take corrective actions as necessary. Tax measures should be integrated within a broader public health strategy addressing NCDs and risk factors. Tax policy must be carefully planned and should consistently follow clear long-term objectives. Investing in digital infrastructure can be a powerful engine for effective service delivery, promoting accountability and enabling inter-agency and international collaboration within core government functions.

Investing in core government functions will ensure reaping the benefits from sound policies. The active use of pro-health taxes as an instrument to achieve both public health and revenue objectives requires prior work on organisational development, capacity building and planning in a range of areas, from excise tax administration and enforcement to NCD strategy design and deployment.

References

- ADDIS ABABA ACTION AGENDA 2015. Addis Ababa Action Agenda of the third international conference on financing for development. *Addis Ababa, Ethiopia*.
- AKITOBAY, B., HONDA, J., PRIMUS, K. & KEEN, M. 2020. Tax Revenues in Fragile and Conflict-Affected States-Why Are They Low and How Can We Raise Them? *IMF Working Papers*, 2020.
- CARRIEDO LUTZENKIRCHEN, A. 2018. *A policy analysis of the 2014 Mexican soda tax*. London School of Hygiene & Tropical Medicine.
- CASHIN, C., SPARKES, S. & BLOOM, D. 2017. Earmarking for health: from theory to practice. World Health Organization.
- CHALOUPKA, F. J., POWELL, L. M. and WARNER, K. E. (2019), 'The Use of Excise Taxes to Reduce Tobacco, Alcohol, and Sugary Beverage Consumption', *Annual Review of Public Health*, 40:1, pp. 187-201.
- CHALOUPKA, F. J., STRAIF, K. & LEON, M. E. 2011. Effectiveness of tax and price policies in tobacco control. *Tobacco control*, 20, 235-238.
- CHALOUPKA, F., YUREKLI, A. & FONG, G. 2012. Tobacco taxes as a tobacco control strategy. *Tobacco control*, 21, 172-180.
- COLCHERO, M. A., MOLINA, M. & GUERRERO-LÓPEZ, C. M. 2017a. After Mexico implemented a tax, purchases of sugar-sweetened beverages decreased and water increased: difference by place of residence, household composition, and income level. *The Journal of nutrition*, 147, 1552-1557.
- COLCHERO, M. A., POPKIN, B. M., RIVERA, J. A. & NG, S. W. 2016. Beverage purchases from stores in Mexico under the excise tax on sugar sweetened beverages: observational study. *bmj*, 352.
- COLCHERO, M. A., RIVERA-DOMMARCO, J., POPKIN, B. M. & NG, S. W. 2017b. In Mexico, evidence of sustained consumer response two years after implementing a sugar-sweetened beverage tax. *Health Affairs*, 36, 564-571.
- DOBBS, R., SAWERS, C., THOMPSON, F., MANYIKA, J., WOETZEL, J., CHILD, P. & AL., E. 2014. Overcoming obesity: An initial economic analysis. McKinsey global institute.
- EXECUTIVE BOARD 2018. Follow-up to the high-level meetings of the United Nations General Assembly on health-related issues: prevention and control of noncommunicable diseases: report by the DirectorGeneral. . Geneva: World Health Organization.
- EYLES, H., NI MHURCHU, C., NGHIEM, N. & BLAKELY, T. 2012. Food pricing strategies, population diets, and non-communicable disease: a systematic review of simulation studies. *PLoS medicine*, 9, e1001353.
- GALLIEN, M. & OCCHIALI, G. 2022. No smoking gun: tobacco taxation and smuggling in Sierra Leone. *Tobacco Control*.
- GASPAR, V., JARAMILLO, L. & WINGENDER, M. P. 2016. *Tax Capacity and Growth: Is There a Tipping Point?*, International Monetary Fund.

- GRIFFITH, R., NESHEIM, L. & O'CONNELL, M. 2010. Sin taxes in differentiated product oligopoly: an application to the butter and margarine market. cemap working paper.
- GUTERRES, A. 2022. *Secretary-General's remarks to the General Assembly on his Priorities for 2022* [Online]. Available: <https://www.un.org/sg/en/content/sg/speeches/2022-01-21/remarks-general-assembly-his-priorities-for-2022> [Accessed].
- HALL, S. G. & O'HARE, B. 2022. A model to explain the impact of government revenue on the quality of governance and the SDGs. World Institute for Development Economic Research (UNU-WIDER).
- HOLLANDS, G. J., SHEMILT, I., MARTEAU, T. M., JEBB, S. A., LEWIS, H. B., WEI, Y., HIGGINS, J. P. & OGILVIE, D. 2015. Portion, package or tableware size for changing selection and consumption of food, alcohol and tobacco. *Cochrane database of systematic reviews*.
- IARC 2011. *Tobacco control: effectiveness of tax and price policies for tobacco control*, Lyon, International Agency for Research on Cancer.
- MARTEAU, T. M., HOLLANDS, G. J., SHEMILT, I. & JEBB, S. A. 2015. Downsizing: policy options to reduce portion sizes to help tackle obesity. *Bmj*, 351.
- MOORE, M. 2020. What is wrong with African tax administration?
- MURPHY, A., PALAFOX, B., WALLI-ATTAEI, M., POWELL-JACKSON, T., RANGARAJAN, S., ALHABIB, K. F., CALIK, K. B. T., CHIFAMBA, J., CHOUDHURY, T. & DAGENAIS, G. 2020. The household economic burden of non-communicable diseases in 18 countries. *BMJ global health*, 5, e002040.
- PROBST, C., PARRY, C. D., WITTCHEN, H.-U. & REHM, J. 2018. The socioeconomic profile of alcohol-attributable mortality in South Africa: a modelling study. *BMC medicine*, 16, 1-11.
- REHM, J., MATHERS, C., POPOVA, S., THAVORNCHAROENSAP, M., TEERAWATTANANON, Y. & PATRA, J. 2009. Global burden of disease and injury and economic cost attributable to alcohol use and alcohol-use disorders. *Lancet*, 373, 2223-2233.
- SABIR, M., IQBAL, M. & AAMIR, N. 2021. Economic implications of cigarette taxation in Pakistan: an exploration through a CGE model. Chicago: . Chicago: University of Illinois at Chicago.
- SASSI, F., BELLONI, A. & CAPOBIANCO, C. 2013. The role of fiscal policies in health promotion.
- DAVIS B, SAVEDOFF, W & LEROUEL PL. 2019. Revenue Estimates from Taxing “Bads” in 16 Low-and Middle-Income Countries. [Online]. Available: https://wdi.umich.edu/wp-content/uploads/Excise-Tax_White-Paper_10.24.19_web.pdf [Accessed 24 April 2023].
- SHARMA, A., HAUCK, K., HOLLINGSWORTH, B. & SICILIANI, L. 2014. The effects of taxing sugar-sweetened beverages across different income groups. *Health economics*, 23, 1159-1184.
- SOMERVILLE, C., MARTEAU, T. M., KINMONTH, A. L. & COHN, S. 2015. Public attitudes towards pricing policies to change health-related behaviours: a UK focus group study. *The European Journal of Public Health*, 25, 1058-1064.
- SUMMAN, A., STACEY, N., BIRCKMAYER, J., BLECHER, E., CHALOUPKA, F. J. & LAXMINARAYAN, R. 2020. The potential global gains in health and revenue from increased taxation of tobacco, alcohol and sugar-sweetened beverages: a modelling analysis. *BMJ global health*, 5, e002143.
- TAGEM, A. M. E. & MORRISSEY, O. 2021. What are the drivers of tax capacity in sub-Saharan Africa? : WIDER Working Paper.
- THALER, R. & SUNSTEIN, C. 2008. *Nudge: Improving Decisions About Health, Wealth and Happiness* Yale University Press: New Haven & London.
- THOW, A. M., DOWNS, S. & JAN, S. 2014. A systematic review of the effectiveness of food taxes and subsidies to improve diets: understanding the recent evidence. *Nutrition reviews*, 72, 551-565.
- THOW, A. M., QUESTED, C., JUVENTIN, L., KUN, R., KHAN, A. N. & SWINBURN, B. 2011. Taxing soft drinks in the Pacific: implementation lessons for improving health. *Health promotion international*, 26, 55-64.
- TOBACCO FREE KIDS. 2017. *The Toll of Tobacco in Ghana* [Online]. Available: <https://www.tobaccofreekids.org/problem/toll-global/africa/ghana> [Accessed].

- TREMMEL, M., GERDTHAM, U.-G., NILSSON, P. M. & SAHA, S. 2017. Economic burden of obesity: a systematic literature review. *International journal of environmental research and public health*, 14, 435.
- US NATIONAL CANCER INSTITUTE & WORLD HEALTH ORGANIZATION 2016. The economics of tobacco and tobacco control. (*National Cancer Institute Tobacco Control*). Report No.: Monograph 21.
- VAN WALBEEK, C. 2014. Raising Additional Government Revenues in Ghana by Raising the Excise Tax on Tobacco and Alcohol. The World Bank.
- WHO NCD DEPARTMENT. 2020. *Rapid assessment of service delivery for NCDs during the Covid-19 pandemic* [Online]. Available: [https://cdn.who.int/media/docs/default-source/ncds/ncd-covid-19/for-web---rapid-assessment---29-may-2020-\(cleared\)_125bf384-9333-40c9-aab2-c0ecafb76ab2.pdf?sfvrsn=6296324c_20&download=true](https://cdn.who.int/media/docs/default-source/ncds/ncd-covid-19/for-web---rapid-assessment---29-may-2020-(cleared)_125bf384-9333-40c9-aab2-c0ecafb76ab2.pdf?sfvrsn=6296324c_20&download=true) [Accessed].
- WORLD BANK. 2022. *Current health expenditure (% of GDP) - High income, Low & middle income* [Online]. World Bank. Available: <https://data.worldbank.org/indicator/SH.XPD.CHEX.GD.ZS?locations=XD-XO> [Accessed].
- WORLD HEALTH ORGANIZATION 2014. Guidelines for Implementation of Article 6 of the WHO FCTC (Price and tax measures to reduce the demand for tobacco). . Geneva: World Health Organization.
- WORLD HEALTH ORGANIZATION 2017. Best buys' and other recommended interventions for the prevention and control of noncommunicable diseases. *Geneva: World Health Organization*.
- WORLD HEALTH ORGANIZATION 2019. *Global status report on alcohol and health 2018*, World Health Organization.
- WORLD HEALTH ORGANIZATION. 2021a. *Information note: COVID-19 and NCDs* [Online]. Available: https://cdn.who.int/media/docs/default-source/inaugural-who-partners-forum/covid-19-and-ncdsa6b409fc-d5bb-49fa-8ba6-3ea159384a5c.pdf?sfvrsn=9b65e287_1&download=true [Accessed 5 December 2022].
- WORLD HEALTH ORGANIZATION 2021b. *WHO Report on the Global Tobacco Epidemic, 2021: Addressing new and emerging products*, World Health Organization.
- WORLD HEALTH ORGANIZATION 2021c. WHO technical manual on tobacco tax policy and administration. . Geneva World Health Organization.
- WORLD HEALTH ORGANIZATION. 2022a. *Diabetes Fact Sheet* [Online]. Available: <https://www.who.int/news-room/fact-sheets/detail/diabetes> [Accessed].
- WORLD HEALTH ORGANIZATION. 2022b. *MPOWER* [Online]. Available: <https://www.who.int/initiatives/mpower> [Accessed 31 October 2022].
- WORLD HEALTH ORGANIZATION 2022c. *Noncommunicable disease facility-based monitoring guidance: framework, indicators and application*, World Health Organization.
- WORLD HEALTH ORGANIZATION. 2022d. *The SAFER initiative: A world free from alcohol related harm* [Online]. Available: <https://www.who.int/initiatives/SAFER> [Accessed 31 October 2022].
- WORLD HEALTH ORGANIZATION. 2022e. *Tobacco Fact Sheet* [Online]. Available: <https://www.who.int/news-room/fact-sheets/detail/tobacco> [Accessed 8 November 2022].
- WORLD HEALTH ORGANIZATION 2022f. Manual on sugar-sweetened beverage taxation policies to promote healthy diets. [Online]. Available: <https://www.who.int/publications/i/item/9789240056299> [Accessed 6 April 2023].
- WORLD HEALTH ORGANIZATION 2023, Forthcoming. WHO technical manual on alcohol tax policy and administration. Geneva.
- World Health Organization. (2023). WHO report on the global tobacco epidemic, 2023. Protect people from tobacco smoke. <https://iris.who.int/bitstream/handle/10665/372043/9789240077164-eng.pdf?sequence=1>
- WRIGHT, A., SMITH, K. E. & HELLOWELL, M. 2017. Policy lessons from health taxes: a systematic review of empirical studies. *BMC public health*, 17, 1-14.
- ZHEN, C., WOHLGENANT, M. K., KARNS, S. & KAUFMAN, P. 2011. Habit formation and demand for sugar-sweetened beverages. *American Journal of Agricultural Economics*, 93, 175-193.

E/C.18/2025/CRP.16

ZLATEVSKA, N., DUBELAAR, C. & HOLDEN, S. S. 2014. Sizing up the effect of portion size on consumption: a meta-analytic review. *Journal of Marketing*, 78, 140-154.

Chapter 3: Role of Health Taxes in National Budgets

I. Introduction

Through budgets governments decide how much to utilize available sources, fulfil their commitment to the public and prevent overspending. While other taxes such as value added tax or general consumption taxes are commonly focused on revenue generation with minimum behavioural distortions, the primary goal of health taxes is to reduce harmful consumption (Ebrill, Keen, Bodin, & Summers, 2002) (World Bank, 2023). Even so, health taxes can have an important role in overall revenue generation and macroeconomic outcomes. They have the capacity to generate significant, relatively stable revenues, prevent certain expenditures and thus to create fiscal space (Wright, Smith, & Hellowell, 2017), as well as facilitate budgetary planning. In the current context of growing public debts, health taxes can contribute to implementing many policy measures and to achieving the SDGs.

a. Additional revenue for sustainable development policies

To cover the basic needs of people and to allow growth, it is estimated that a country needs to collect at least 15 percent of its GDP in taxes (Gaspar, Jaramillo, & Wingender, 2016). However, many countries do not reach this threshold and struggle to finance national sustainable development strategies. Based on the latest available data, out of 145 countries for which data were available, 62 remained below this tipping point (World Bank, 2024).²³ For low- and middle-income countries, the average tax revenue-to-GDP ratio was only around 10.6 percent (World Bank, 2024). While the revenue generating capacity of a state can vary from country to country depending on the context and tax design, health tax revenues account on average for around 0.8 percent of GDP in high and middle-income countries and 0.4 percent of GDP in low-income countries (Lauer, Sassi, Soucat, & Vigo, 2022). When measured as a share of total tax revenues, health taxes account for 2.5 percent in high-income countries, around 4 percent in middle-income countries, and around 3.5 percent in low-income countries (Lauer, Sassi, Soucat, & Angeli, 2022).

Tobacco products and alcoholic beverages tend to have inelastic demand (in other words, demand for these products decreases at a slower pace than retail price increases) and lack direct substitutes, which opens space for revenue-raising objectives (Lauer, Sassi, Soucat, & Angeli, 2022). In the majority of countries (63 percent), tobacco tax revenue was more significant than alcohol tax revenue, with tobacco and alcohol excise taxes generating on average around 0.6 and 0.3 percent of GDP respectively in tax revenue in 2019, with negligible differences between country income groups. For some small countries moreover, tobacco and alcohol revenues represent a much more considerable portion of income, reaching up to 1.0 and 0.7 percent of GDP, and even more in small island nations. In Nauru, tobacco tax revenue accounted for 3.4 percent of GDP, and alcohol tax revenue in the Seychelles for 1.8 percent of GDP in 2019 (Blecher, Ozer, & Bloom, 2023). The revenue-generating capacity of different products depends on the country context. In general, alcohol has the potential to overcome tobacco in terms of potential revenue incomes given the currently low level of alcohol taxation which, according to evidence, remains well below the optimal point (Bittschi, et al., 2019).

Compared to tobacco and alcohol, revenue-raising capacity is lower for SSBs due to their lower sales value, more elastic demand shaped among others by the availability of close substitutes such as water. Despite that, they too can generate additional tax revenue and provide an important push to a healthier population (World Bank, 2023). Existing SSBs taxes have been shown to raise between 0.1-0.16 percent of GDP in revenue and up to 1.1 percent of total tax revenue (Lane, Glassman, & Smitham, 2021) (Petit, Mansour, & Wingender, 2021). A study by the World Bank in Central America revealed that tax revenues from SSB excise taxes were relatively stable and as a share of total annual tax revenues accounted for around 1.1 percent in El Salvador, 1 percent in Costa Rica, 0.9 percent in Honduras, 0.7 percent in Nicaragua, 0.6 percent in Guatemala and 0.1 percent in Panama (between 2001 and 2015)

²³ For most of the countries the reference year is 2021, but for some available data are older.

(World Bank, 2020). In South Africa and Portugal, despite quite substantial reformulation of products in response to the tax hike, the governmental tax revenue reached 0.15 and 0.18 percent of total tax revenues respectively the first year after the implementation (World Bank, 2020) (World Bank, 2024) (Goiana-da-Silva, et al., 2018).

In general, specific taxes and mixed regimes tend to generate more revenue than health taxes based on price (ad valorem taxes) (Blecher, Ozer, & Bloom, 2023) (see Chapter 4 on tax design).

b. Beyond tax revenue

Besides their revenue-generating capacity, health taxes impact the economy and public finances through multiple other channels (see Figure 1). They have the potential to reduce the healthcare cost linked to treating preventable diseases, the burden of public debts, both through additional domestic resource mobilization as well as indirectly through potentially improved credit ratings and enhanced economic growth. Tax-induced increases in prices of health-harming products, such as tobacco, alcoholic beverages and unhealthy food, including SSBs, motivate consumers to cut their demand of these products. The consumption of tobacco, alcoholic drinks and unhealthy diets, including consumption of SSBs, have been identified as important risk factors of severe health conditions, among others the four main NCDs: diabetes, cancer, cardiovascular and chronic obstructive pulmonary disease, be it directly or indirectly through obesity and overweight.

To tackle NCDs, the WHO identified and created a list of the most cost-effective interventions for addressing the burden of NCDs (WHO, 2022). Among these interventions, the following are linked to health taxation policies:

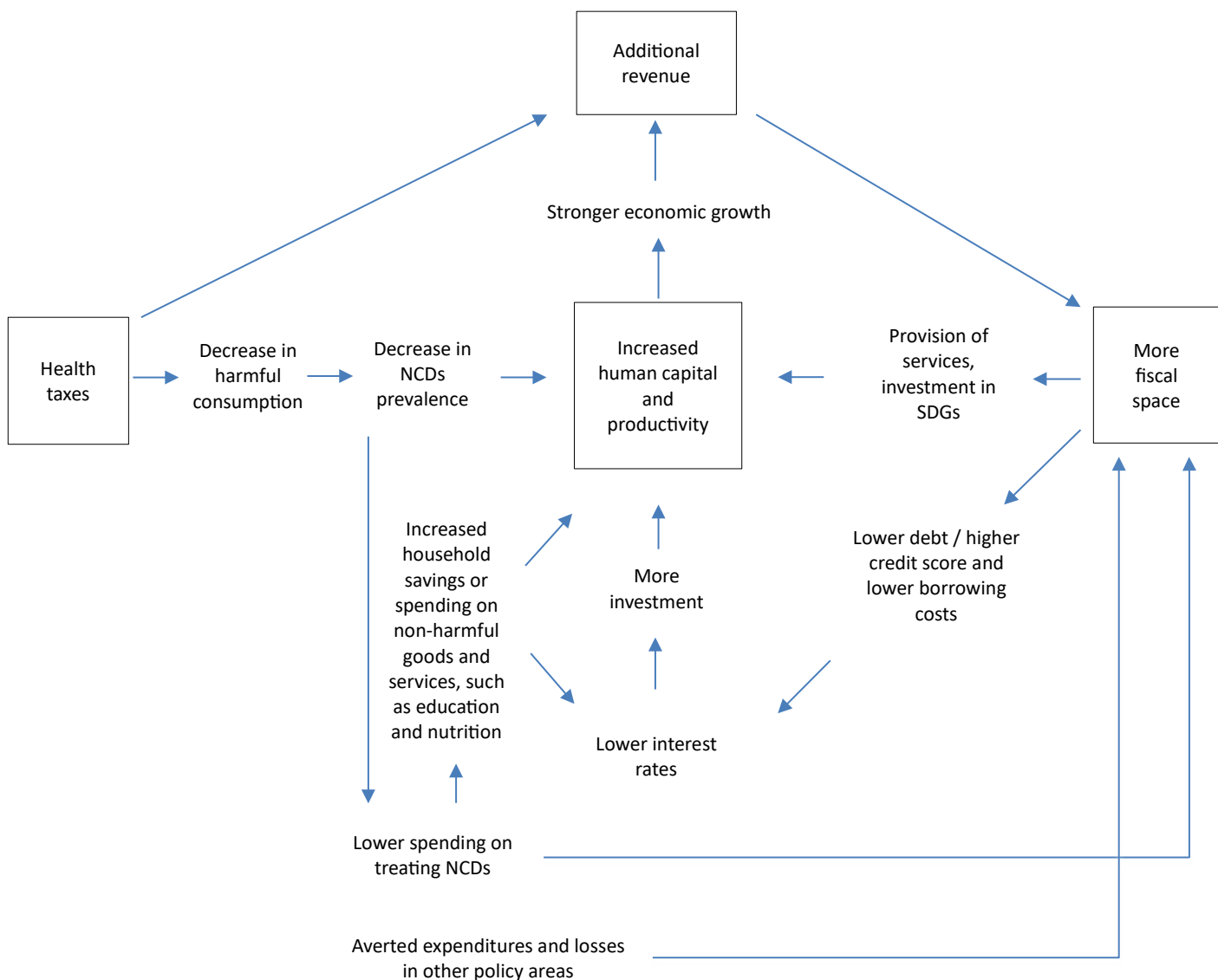
- Increase excise taxes and prices on tobacco products,
- Increase excise taxes on alcoholic beverages,
- Taxation on sugar-sweetened beverages as part of comprehensive fiscal policies to promote healthy diets,
- Reformulation policies for healthier food and beverage products (e.g., elimination of trans fatty acids and/or reduction of saturated fats, free sugars and/or sodium).

For both tobacco and alcohol taxation, less than 100 international dollars²⁴ are needed to gain a year of healthy life, which ranks them among the best-buy interventions (i.e., the interventions with the lowest investment needed to save lives). For SSBs, the investment needed is between 100 and 500 dollars, making it also one of the most efficient tools to fight NCDs (WHO, 2022).

Only a healthy population can develop and use its full potential. Health is a key factor in sustainable economic growth and health taxes can help governments to foster human capital indispensable for sustainable development and for achieving the SDGs. For example, in Chad, every dollar invested in tobacco taxation would return 52 dollars to the economy over 15 years in averted healthcare costs and productivity losses (UNDP, 2019) Moreover, health taxes have the capacity not only to avert social and economic losses caused by consumption of harmful products, incurred mainly through decreased work productivity and unnecessary health care expenditures on treating preventable diseases, but also to avert public expenditures beyond health, for example in the areas of environment or traffic accidents. Thanks to these characteristics, health taxes have a unique position in national (and sub-national) budgets which can be further amplified by strategic budgeting, i.e. budgeting beyond annual frameworks seeking synergies.

²⁴ US dollars reflecting the purchasing power of each country.

Figure 1: The effects of health taxes on human capital and public finance



II. Health taxes and public debt

a. Current context of growing public debt

In the current context of growing public debts, domestic revenue generation is a key tool for governments to ensure financial sustainability. Public debt has increased 5-fold since 2000 and continues growing in most countries (UNCTAD, 2023). The COVID-19 pandemic put a further strain on government spendings, not only through increased healthcare costs, but also through programmes supporting enterprises during lockdowns and people losing their jobs, and at the same time lowered government tax revenues as countries experienced sharp GDP drops. Deficits and debts remain above pre-pandemic levels, and the gap is largely covered by increased borrowing (Kurowski, et al., 2021). In developing countries, often further burdened by rising costs of living, climate change or a lack of alternative financing, debt levels are growing faster (UNCTAD, 2023). Some countries, mostly lower income countries, have been forced to reduce their public spending, and 52 countries, home to around 900 million people, are not expected to reach their pre-pandemic levels of expenditure per capita until 2026 (Kurowski, et al., 2021).

The level at which a country's debt becomes unsustainable may vary depending on context and vulnerabilities. However, the number of countries that reached the debt threshold of 60 percent of GDP - often considered a tipping point of sustainable finance - climbed from only 22 in 2011 to 59 in 2022 (Yartey & Turner-Jones, 2014) (European Commission, n.d.) (UNCTAD, 2023). According to the IMF, as of August 2023, among low-income and emerging economies, 10 countries are in debt distress and 26 countries are at high risk of debt distress. Another 26 countries are at moderate risk, and only 7 countries are at low risk of debt distress (IMF, 2024). Evidence suggests that having a debt-to-GDP ratio above 77 for prolonged periods slows down economic growth (Caner, Grennes, Koehler-Geib, & Koehler-Geib, 2010). In 2022, 22 countries were above this threshold (IMF, 2024).

Because of rising global interest rates and a strong dollar, borrowing costs increased drastically and interest payments as a share of government revenues in 2023 were at the highest level since 2010 (Fleming & McDougall, 2023). Low- and middle-income countries are more vulnerable to interest rate hikes. It is estimated that the gross government debt burden of low- and middle-income countries will reach an average of 78 percent of GDP by 2028, up from 53 percent a decade earlier (Fleming & McDougall, 2023). As a result of fiscal stresses, many countries will be forced to reduce public spending, including on healthcare. Debt repayment and servicing can push out expenditures that could otherwise be dedicated to sustainable development. Some regions already spend more on interest payments than on education, investment, or healthcare. Among developing countries between 2019 and 2021, 19 countries spent more on debt servicing than on education (up from 13 in 2012), 21 more than on investment (up from 9 in 2012) and 45 spend more on debt servicing than on health (up from 36 in 2012) (UNCTAD, 2023). By 2030, 54 of the poorest countries will lack around \$176 billion annually to finance the Universal Health Coverage that would support equitable and inclusive growth (World Bank, 2019).

Health taxes, besides their potential to directly increase excise tax revenues, increase the tax base for VAT and other taxes (e.g., earmarked surcharges in Thailand), which are commonly derived from the price of goods including excise tax. Increasing excise taxes would therefore increase the tax base for these taxes and could contribute to additional tax revenue generation in the countries where this applies. The revenue generation potential depends on the country context and market characteristics, such as the elasticity of demand of the concerned products, availability of substitutes, as well as the relative rates of VAT and other taxes. The additional revenue would create more fiscal space so urgently needed to tame public deficits and reduce the necessity of borrowing.

b. Potential impact on sovereign credit ratings

Developing countries pay much more than their high-income counterparts when borrowing (UNCTAD, 2023). While Germany issued bonds in 2022 and 2023 with 1.5 percent yield and the U.S. with 3.1 percent, for African countries it was 11.5 percent on average and for Latin America and the Caribbean 7.7 percent (UNCTAD, 2023). The COVID-19 pandemic led to credit rating downgrades in many countries, including 95 percent of LMICs. In 2021, only 24 emerging and developing economies and no low-income country held an investment grade rating (UNDP, 2022).²⁵

Health taxes may not only widen fiscal space and improve fiscal outlooks but may also send an important signal about political will for reforms, and efforts to mobilize domestic revenues (Fitch Ratings, 2013). While improved credit ratings cannot be attributable solely to health taxes, as credit rating decisions usually consider numerous factors, diversification of revenues through new or increased health taxes can be positively perceived by rating agencies in their rating considerations (Moody's, 2023) (S&P Global, 2020) (Hitchcock, Corson, & Spain, 2019).

Better sovereign credit rating may facilitate access to international financing at more favourable terms, mainly through lower interest rates and longer maturities. Better position for borrowing can ease the size of debt servicing obligations and create space for investment in sustainable development. Health tax reforms contributed to the enhanced credit rating of the Philippines in 2013 and coincided with a rating upgrade in 2019, which was justified by enacting increasingly effective fiscal policies, solid government fiscal accounts and low levels of indebtedness of the country (S&P, 2019) (see Box 2). Singapore's high taxes on alcohol and tobacco (and betting taxes) and high revenues from these taxes²⁶ contribute to the robust fiscal metrics of Singapore and form part of the broader picture of its strong credit quality (Aaa rating) (Moody's, 2023). Taxes on tobacco, alcohol and SSBs were mentioned as a positive factor in rating agencies credit quality evaluations in the U.S. (S&P Global, 2020) (Hitchcock, Corson, & Spain, 2019).

Box 1: The case of the Philippines

In 2012, the Philippines passed a law that increased tobacco and alcohol taxes. The following year, the four main rating agencies (Moody's, S&P, Fitch Ratings and the Japan Credit Rating Agency) improved the rating of the Philippines to 'investment grade' (i.e., the country is safe to invest in) for the first time in the country's history (Fitch Ratings, 2013) (Francisco & Lema, 2013) (Moody's, 2013) (Ordinario, 2013) (UNDP, 2022). The expected additional revenues from the tax hike and the willingness of the government to address fiscal challenges were among the drivers for the upgrade (Moody's, 2023) (Fitch Ratings, 2013). The tax revenue stemming from these taxes rose from about Philippine Pesos (PHP) 50 billion (US\$0.99 billion) in 2012 to around PHP332.3 billion (US\$6.6 billion) in 2020. This is equivalent to 1.8 percent of GDP and about 11.3 percent of total government revenue in 2020 (UNDP, 2022). In 2019, the Philippines again increased tobacco taxes and in the same year, S&P upgraded Philippine's credit rating again based on the country's sustainable public finance and tax reforms (Philippines Department of Finance, 2019)

III. Health taxes and strategic budgeting

a. Position of health taxes in the budget

Budgets are key government documents; instruments that help to identify and define priority policies to meet the needs of its population, to achieve sustainable, inclusive growth and implement the Agenda

²⁵ Ratings from AAA to BBB/Aaa to Baa3- are considered investment grade (bonds with relatively low risk of default), while bonds with ratings from BB+ to D/Ba1 to C are considered a higher risk of default.

²⁶ The sum of receipts related to alcohol, tobacco and betting have typically amounted to 4-5 percent of the government's operating revenue (Moody's, 2023).

2030. They represent a contract between citizens and the state, outlining how resources that have been raised are intended to be allocated, including for the delivery of public services (OECD, 2015).

Health taxes are excise²⁷ taxes that target products with adverse effects on health, such as tobacco, alcoholic beverages and food high in sugar, salt/sodium or unhealthy fat. Some countries use different forms of taxing unhealthy products, such as a higher VAT rate or higher customs duties on products detrimental to health, or other taxes or surcharges applicable only on selected health-harming products, however, excise taxes are the most efficient way to reduce consumption of health-harming products.

While direct taxes, such as personal or corporate income taxes, are paid directly by the entity whose wealth or activity is taxed, indirect taxes, including health taxes, are paid to the government at a given point in the supply chain, either by the manufacturer, importer, or retailer, but are passed on to the consumer in the final retail price either partly or fully (depending on market characteristics) (Lauer, Sassi, Soucat, & Angeli, 2022).

b. Planning beyond annual budgets

While annual budgets are central tools for governments to assess expected revenues and expenditures for each year, planning beyond annual budgets can contribute to optimized prioritization and better outcomes towards achieving the sustainable development goals as well as preventing the current use of resources to the detriment of future years (Schick, 2011). Annual budgeting is the main instrument of short-term fiscal policy; however medium-term expenditure frameworks (MTEFs) and medium-term revenue strategies (MTRS) have become key tools available to authorities for planning for longer horizons (Lauer, Sassi, Soucat, & Angeli, 2022).

Compared to other taxes, health taxes represent a relatively more reliable and stable source of revenue, as they are less affected by economic expansions and contractions. This is an important factor for planning, especially in the medium and long term. Excise taxes tend to have weaker responses to economic fluctuations (lower so-called buoyancy, i.e., the measure of how taxes respond to economic growth through both automatic changes and discretionary, non-automatic, measures) than other taxes (Beling, Benedek, de Mooij, & Norregaard, 2014) (OECD, 2022) (Timsina, 2007).²⁸ Excise taxes are more buoyant in long term than in the short term, but in both cases the response remains below 1 (i.e., a 1 percent change in GDP would lead to less than 1 percent response in the tax revenue in the same direction).²⁹ As a result, excise taxes may serve as an automatic stabilizer both during growth and recession (Beling, Benedek, de Mooij, & Norregaard, 2014). The response to economic growth or recession may vary for different products and depend on the tax structure as well (Economou, Kountouri, Panagopoulos, Skintzi, & Tsouma, 2022). Specific excise taxes (taxes applied as a fixed amount per unit of a product or per unit of harmful substance) represent a more stable source of revenue than ad valorem taxes (taxes calculated as a percentage of the price of the product) or mixed structures. This is because they are not subject to price policy changes by the industry, such as introducing cheaper product brands or reducing product size while keeping prices unchanged in response to a tax introduction or increase (Blecher, Ozer, & Bloom, 2023). Unified specific taxes, which tax products in all price categories equally, do not motivate consumers to switch to cheaper products as much as ad valorem taxes, which further supports the stability of revenues. On the other hand, a specific tax rate needs to be regularly indexed for inflation, otherwise tax revenues as well as the tax effect on affordability reduction would be eroded by general price level increases not reflected in the tax rate itself; in other words, the tax rate would not keep up with the speed of general price increases and the relative share of tax in retail price and tax revenue would relatively decline.

²⁷ Taxes on specific goods or services, usually those that are considered luxury items or detrimental to society.

²⁸ This was not the case during the COVID-19 pandemic when tax revenues were impacted by the social restrictions.

²⁹ In the long-term, the weaker response may be also due to the lack of indexation of excise tax rates to income growth.

The revenue-raising capacity will be also impacted by the response of the market both on the demand and supply side. The population can respond differently to price changes caused by tax increases, which can be influenced by availability and price of substitution products, income, local preferences, habits, marketing, and/or ease of cross-border shopping (Wright, Smith, & Hellowell, 2017) (Bittschi, et al., 2019) (Summan, et al., 2020) (Cawley, Thow, Wen, & Frisvold, 2019). On the supply side the revenue gains will be influenced by the market characteristics, such as competitiveness of the market, existence of dominant players, the ability (or willingness) of the industry to pass the tax on to the customer (pass-through rate) and on the space for product reformulation, which can be shaped among other factors by policy environment and consumer's habits.

Extra tax revenue should be estimated and communicated conservatively, or else any failure to generate the predicted revenue can be used as an attack against the tax. In a very long term, as health taxes targeting tobacco, alcohol and sweet beverages are aimed primarily at reducing the consumption of these products, the revenue-generating capacity of these taxes may decrease if the tax successfully incentivizes a reduction in consumption (Lauer, Sassi, Soucat, & Angeli, 2022) (World Bank, 2020). This can especially be the case if the tax policy is complemented by other policy measures focused on reduction of the consumption of health-harming products in question (e.g., provision of free cessation services) (Wright, Smith, & Hellowell, 2017) (World Bank, 2020). However, as part of policies aiming at reducing consumption of health-harming products, other products may be targeted by health taxes, such as e-cigarettes (unless banned), high-sodium products, sugar in general, red or processed meat, junk and/or processed food to widen the tax base. Colombia introduced, in 2023, health taxes that target both SSBs (based on their sugar content) and selected ultra-processed foods and/or food products with a high content of added sugar, sodium, or saturated fat (Función Pública, 2023).

In general, thorough budgetary planning may contribute to addressing potential secondary effects of health taxes (see chapter 6 and chapter 8) and to help address and/or prevent inconsistencies in national budgets and fiscal policies, such as imposing taxes on health-harming products while at the same time providing tax incentives and subsidies (both direct and indirect) to the industries that produce these products or on consumer level (such as duty free shops), VAT exemptions on unhealthy products while taxing SSBs (see chapter 9), providing fossil fuel subsidies that harm the environment and health while imposing a tax (ref.to the UN Handbook on Carbon Taxation). Health taxes interact with other taxes not only by directly influencing tax base of VAT and potentially other surcharges, but also by their effects. Evidence suggests for example, that implementing both carbon and health taxes maximizes benefits of these measures with respect to environmental and health outcomes (Faccioli, et al., 2022). It is therefore key to see health taxes within a wider context of planning and budgetary mechanisms and to budget with synergies.

c. Health taxes and public financial management

Annual budget cycle serves as a tool for public spending decisions. It consists of strategic budgeting, formulation, approval and execution, which are followed by monitoring, auditing, and evaluation processes. Transparency, accountability, and public participation in the processes strengthens the capacity of public finance to provide needed services to the public. Public financial management (PFM) consists of planning, formulating, implementing, and evaluating the use of budgets. Its main goal is to support aggregate fiscal discipline to prevent unsustainable levels of borrowing, allocation of sources according to development goal priorities, and technical efficiency (Lauer, Sassi, Soucat, & Angeli, 2022). PFM takes into consideration not only annual budgets, but also multi-year budgeting for improved outcomes. Well-performing PFM can support stability, including during and after crises, inclusive growth, and achievement of the SDGs. Better governance can leverage funds allocated to health and other priorities. Health taxes are part of a broader tax system and if well designed, respectful of the administrative capacities of authorities, keeping the administrative and compliance costs low, could support the successful execution of PFM (Lauer, Sassi, Soucat, & Angeli, 2022). A close cooperation between health and finance ministries is needed to align efficiently PFM, health financing and health system governance.

In medium-term revenue strategies (MTRS), governments plan tax system reforms. On the other hand, in the medium-term expenditure frameworks (MTEF), the governments focus on identifying goals, ensuring accountability, and addressing efficiency. In the planning and formulation phase, priorities are determined. At this stage, the financing needs to achieve national priorities are estimated, which ought to be paired with mapped resources that can be expected, including health tax revenues. Analysis may be required to assess the potential impacts of newly implemented or increased health taxes on concerned industries and households. Such impacts may reflect in the revenues expected from other taxes. In the planning phase, the potential need of mitigating policies to address secondary effects of health taxes should be evaluated (see chapters 6 and 8). This may also require an assessment of measures needed to support the effectiveness of the introduction or increase of health taxes, e.g., additional tobacco control measures, such as supporting cessation, media campaigns, and linked costs.

In the implementation phase, proper processes need to be established to channel resources raised from health taxes through the national budget to ensure efficient use of health tax revenues (see chapters 6 and 7). The evaluation phase may include processes such as assessing the accuracy of forecasted revenues, a search for errors in estimates, understanding of the reasons behind these errors to improve revenue forecasting for future periods, or the evaluation of the use of resources and the applied methodologies. The control and audit phase increase transparency and may help in gaining public support for health taxes, ensure the viability of the taxes established and sustain the progress of these taxes against resistance from potential interest groups (see chapter 10).

Within the national planning and financing systems, health taxes are part of both annual, long- and medium-term implementation strategies (Lauer, Sassi, Soucat, & Angeli, 2022).

Figure 3: National planning and financing systems

Timeframe	Planning	Financing and tools	Health tax role
Long-term (10 years +)	National development plan, Economic development plan, INFFs	Finance strategy or chapter of National Development Plan	<ul style="list-style-type: none"> • Health taxes' anticipated impact on consumption and health outcomes • Revenue potential and forecasts, industry and welfare impact • Tax policy designs, identifying bottlenecks in tax and customs administration • Simulations of impact on health sector and government budget • Health taxes revenue forecasts
Medium-term (3-5 years)	Medium term action plan (sector plan, thematic plans, subnational plans, infrastructure investment plan)	Medium term expenditure frameworks, Medium-Term Revenue Strategy, Tax Policy and Tax Administration diagnostics for excise taxes, Public-private Partnership Policy, Investment promotion policy, Development cooperation strategy, Policies on other flows	
Annual	Annual action plan	National budget	

Source: Adapted from Lauer, Sassi, Soucat & Vigo 2022

d. Addis Ababa Action Agenda

The Addis Ababa Action Agenda (AAAA) was adopted by the 193 UN Member States at the Third International Conference on Financing for Development in 2015 in Addis Ababa, Ethiopia (OECD, 2015). It provides a global framework for financing sustainable development by aligning all financing and policies with economic, social, and environmental priorities. Resource mobilization, especially domestic revenue mobilization, was identified as the key tool in achieving the Agenda 2030 (United Nations, 2015). This is particularly important for least developed countries (LDCs), as official development assistance (ODA) is expected to be scaled back as they transition out of LDC status. Halfway to 2030, most countries are seeing progress on the SDGs that will likely keep the goals out of reach at the end of the set period. It is estimated that with the current level of resource mobilization developing countries alone face a US\$ 4 trillion financing gap (United Nations, 2023).

The Addis Ababa Action Agenda includes a comprehensive set of policy actions. Several of these are linked to health taxes. In Paragraph 22, the AAAA points out the need to “improve the fairness, transparency, efficiency and effectiveness of our tax systems, including by broadening the tax base”. Health taxes are in line with this objective by introducing or restructuring taxes on additional products as part of the national tax mix. The AAAA also highlights a need for “efforts by countries to set nationally defined domestic targets and timelines for enhancing domestic revenue as part of their national sustainable development strategies”. Introducing or reforming health taxes can be conducive to such public finance planning.

Paragraph 32 of the AAAA highlights the “enormous burden that non-communicable diseases place on developed and developing countries” and the challenges that such costs represent. The document recognizes that “as part of a comprehensive strategy of prevention and control, price and tax measures on tobacco can be an effective and important means to reduce tobacco consumption and healthcare costs and represent a revenue stream for financing for development in many countries.” This explicitly emphasizes the role tobacco taxes can play in domestic revenue mobilization.

Indirectly, health taxes are linked also to paragraph 93 of action area E dedicated to debt and debt sustainability, where the document states that “debt sustainability challenges facing many least developed countries and small island developing States require urgent solutions”. Health taxes can be one such solution.

Box 2: Integrated National Financial Frameworks

Low- and middle-income countries have begun to take a strategic approach to explicitly address the financing and implementation of the AAAA and of the priority actions to reach the SDGs. The tool is known as Integrated National Financing Frameworks (INFFs) (Integrated National Financial Frameworks, n.d.) and assists countries in linking financing needs and resources. Making this link is important, since it is estimated that 70 percent of the 107 national development plans are not costed (Integrated National Financial Frameworks, 2022). Countries have agreed to use INFFs to support the national implementation of the AAAA, and so far, have been developed in 120 countries (Integrated National Financial Frameworks, 2022). Within INFFs, health taxes have been specifically mentioned in the INFF Development Finance Assessment Guidebook as a tool to broaden the objectives of tax collection and revenue mobilization strategies and recommended for example to Cambodia and Timor-Leste as a measure to raise and diversify public revenues while reducing the burden of health expenditures on NCDs (UNDP, 2019) (UNDP, 2019) (UNDP, 2021).

e. Gender responsive fiscal policies

Gender responsive fiscal policies are one of the key tools for achieving gender equality and the SDGs, especially, but not only, the SDG 5: Achieve gender equality and empower all women and girls.

Gender responsive fiscal policies mean that a gender lens is integrated into all fiscal policies, including taxes. Countries, when designing or modifying their tax policies, should ask what the impact of the tax system is on women and on gender equality, and whether there is still room for making the system more gender positive. To support countries in doing so, the UN Inter-Agency Task Force for Financing for Development developed a technical guide to mainstream gender equality into the INFFs. The manual recognizes taxation as a tool to support women and advance equity.

No or low taxes on tobacco, alcoholic beverages and SSBs that do not reflect all the negative impacts of their consumption may be considered a form of implicit subsidy of the consumption of these goods because some of the costs of consumption are not paid by the consumer but by someone else; by other individuals being sick due to second-hand smoke or through increased public healthcare costs linked to increased prevalence of NCDs (IMF, 2022). As tobacco, alcohol and SSBs are commonly consumed more by men, low taxes on these products can be perceived as being gender negative, i.e., a policy that goes contrary achieving gender equality and SDG 5.

Consumption of health-harming products impacts women differently than men. Women experience different health impacts of harmful consumption and are more affected by secondary impacts, such as by second-hand smoking, gender-based violence or allocation of household budgets. On the other hand, women tend to be more sensitive to price changes of the harmful products. When designing or reforming the tax system, potential gender bias should be considered, and a gender perspective should be part of the decision-making process (see chapter 8 for more details on gender implications of health taxes). According to the latest data covering 105 countries, only 26 percent of countries globally have systems in place that “track and make public allocations for gender equality and women’s empowerment” (SDG indicator 5.c.1); 59 percent have some features of such a system in place, and 15 percent do not have minimum elements of such systems (United Nations, 2024).

IV. Expenditures and growth

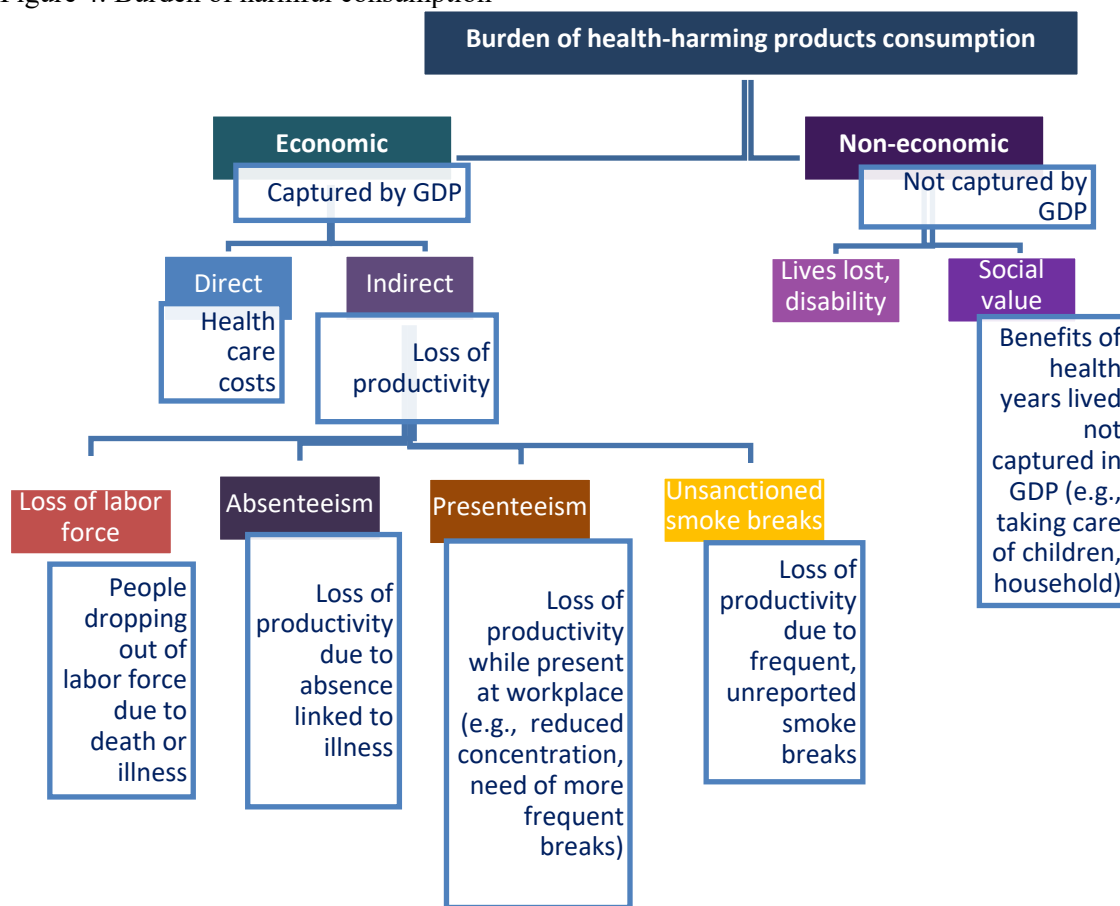
a. Non-communicable diseases represent a substantial economic burden

Healthier, more productive population can contribute more to the economy and generate revenues. Non-communicable diseases (NCDs) reduce productivity, deplete human capital, and increase healthcare costs through serious illness, disability, and death. Globally, more than 9 million people died in 2021 (around 14 percent of all deaths) because of tobacco or alcohol use or a diet high in sugary drinks, which are among the leading risk factors of NCDs (Institute for Health Metrics and Evaluation, 2024). Almost 230 million years of healthy lives were lost due to these harmful products (Institute for Health Metrics and Evaluation, 2024); years when people could not or could not fully live their lives due to death or disability; days when people could not participate in the economy (either actively working for persons in working age or contributing through consumption for older age groups). In total, NCDs claim 41 million lives each year, equivalent to 74 percent of all deaths (WHO, 2023).

On average, NCDs cost economies 4.4 percent of GDP annually, ranging from 1.1 to 9.7 percent (UNDP, forthcoming).³⁰ This burden is created not only by healthcare cost linked to treating preventable NCDs (direct costs), but also through loss of productivity (indirect costs).

³⁰ Based on data from investment cases in 24 countries across income groups.

Figure 4: Burden of harmful consumption



Source: Adapted from UNDP (forthcoming). Investment Case for Tobacco Control in North Macedonia; The case for scaling up WHO FCTC implementation (UNDP, forthcoming)

Health taxes can reduce both the direct and indirect burden of NCDs by decreasing consumption of health-harming products and thus the prevalence of chronic diseases in the population (WHO, 2023).

b. Expenditures on preventable NCDs

Healthcare spending represents a significant portion of governmental expenditures. On average, countries spent 9.68 percent of GDP in 2018 on healthcare expenditures, which jumped further to 10.9 percent of GDP in 2020 (influenced by the COVID-19 pandemic), up from 8.6 in 2000 (World Bank, 2024). However, large inter-country differences remain. While high income countries spent on average 12.28 percent of their GDP on healthcare in 2018,³¹ it was only 5.2 percent for low- and middle-income countries (World Bank, 2024) and similar patterns appear for prioritizing health care spending in public budgets— high-income countries tend to spend larger portions of their budgets on health (WHO, 2020). Public spending on health was insufficient to meet the health-related SDGs already prior to COVID-19 and the pandemic only put further pressure on healthcare funding (Gaspar, Jaramillo, & Wingender, 2016) (Kurowski, et al., 2021).

Healthcare costs spent on treating NCDs (NCDs direct costs) accounted for 30 percent of all health spending in middle-income countries and 15 percent in low-income countries (WHO, 2020). Health taxes aim at reducing the modifiable risk factors of NCDs and therefore have the capacity to reduce spending on treating preventable NCDs. Healthcare costs for smokers can be up to 40 percent higher

³¹ Newer data are available; however, data for 2018 are used to show values not biased by the COVID-19 pandemic.

than for non-smokers at a given age (Barendregt, Bonneux, & van der Maas, 1997). In Japan for example, around 4 percent of healthcare costs were attributable to smoking in the age group of 45 years and older (Izumi, et al., 2001). In China, the number was even higher at 7.24 percent (Huang, et al., 2021) and globally, it was estimated that 5.7 percent of health expenditure occurs due to smoking-attributable diseases (Goodchild, Nargis, & Tursan d'Espaignet, 2018).

Evidence confirms that also alcohol users and people with obesity, especially with severe obesity, have considerably higher annual healthcare costs (Miquel, et al., 2018) (Ward, Bleich, Long, & Gortmaker, 2021).

Government consumption - such as expenditures on NCD treatment - when covered by borrowing (issuing bonds) can make money more expensive through increased interest rates. This may discourage the private sector from investing and slow down growth. If, on the other hand, the government uses public funds for investments, such as investing in preventive and primary care, the effect on the economy can be positive (Argimon, Gonzalez-Paramo, & Roldan, 1997).

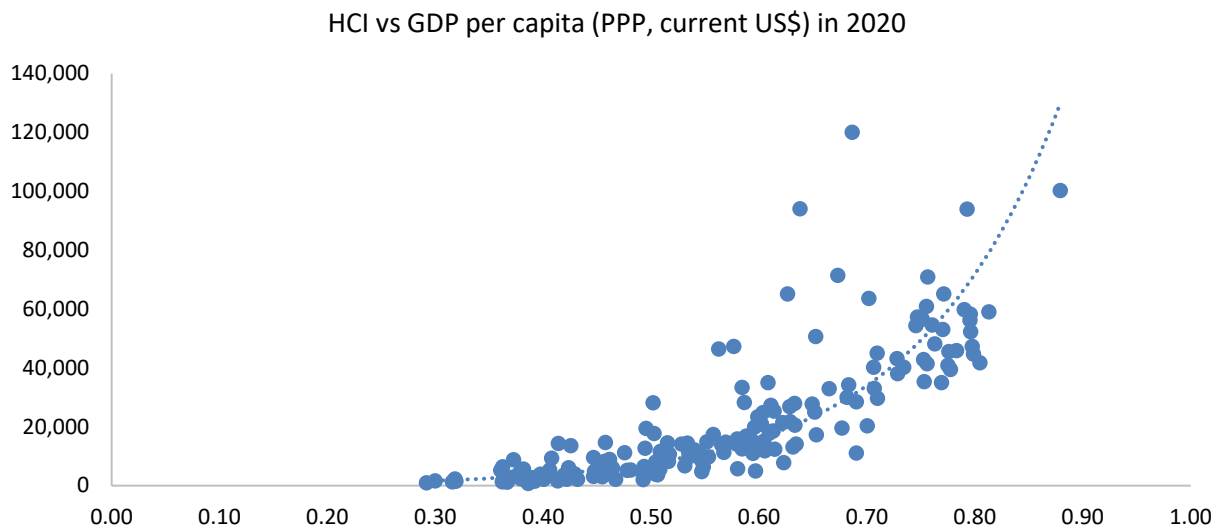
c. Health as an essential factor in sustainable development

Investing in health and human capital are key to sustainable development as well as revenue generation. Health, knowledge, skills, and experience gained, sustained and accumulated throughout people's lives allow them to realize their potential as part of society and are important factors of economic growth (IMF, 2000). Human capital complements the physical capital invested in production (such as machinery), allows the optimal use of technology and innovation, and supports growth. Between 10 and 30 percent of the differences in countries' GDP per capita are caused by differences in human capital (World Bank, 2020). Developing human capital by investing in nutrition, health, education, jobs, and skills can end extreme poverty (World Bank, 2019), increase incomes both for people and governments, as well as improve cohesion in populations. Health represents a crucial factor in human capital as it enables people to work longer, more productively and efficiently. In Figure 5, a strong relationship³² can be observed between GDP per capita (adjusted to purchasing power) and human capital measured by the Human Capital Index.³³

³² Coefficient of determination 0.64 at 95 percent confidence level.

³³ Human Capital Index takes values between 0-1. A country in which a child born today can expect to achieve both full health and full education potential (14 years of high-quality school by age 18) will score a value of 1 on the index. For example, a score of 0.8 means that the productivity as a future worker for a child born today is 20 percent below what could have been achieved with complete education and full health (World Bank Group, 2018).

Figure 5: Human Capital Index (HCI) and correlation with GDP per capita (PPP, current international US\$) (2020)



Source: data from World Bank - Data, Human Capital Index (2020) (World Bank, 2024); World Bank - Data, GDP (2020) (World Bank, 2024)

Countries lose human capital due to people dropping out of the labour force resulting from premature deaths or sickness, presenteeism and absenteeism caused by NCDs (productivity losses). Productivity losses account for the majority of the NCDs burden, making up on average 73 percent of total NCD costs (UNDP, forthcoming). Lost human capital is reflected in lower economic output, income, as well as tax revenue generation. From the 9 million deaths mentioned above, 4.5 million deaths occurred among people between the ‘productive age’ of 20 and 70 years which is equivalent to 190 million years of productive life lost (Institute for Health Metrics and Evaluation, 2024). Reducing NCDs morbidity and mortality through health taxes would support a stronger labor force with lower drop-out rates, absenteeism and presenteeism. Smokers who quit smoking before the age of 40 lower their risk of premature death from smoking-related illness by 90 percent, for those who quit before the age of 54, the risk is lower by two thirds. Even smokers who quit after being diagnosed with cancer have better chances in their treatment and healing, and for some types of cancers are up to 40 percent less likely to die from the illness (Johns Hopkins Medicine, n.d.). Smoking-attributable diseases alone cost the world 1.8 percent of the annual GDP in additional healthcare costs and productivity losses with 40 percent of this burden occurred in developing countries (Goodchild, Nargis, & Tursan d'Espaignet, 2018).

People living with NCDs experience severe restrictions in their daily lives and have a lower probability of being economically active. For example, while healthy men over 50 years of age have a 63 percent probability of being employed, for those with cancer this drops to 42 percent. For women, the probability falls from 43 percent to 34 percent (Barnay & Debrand, 2006). Overall, sickness leads to people being more absent from work or working with reduced productivity that may be caused by limited capacity to concentrate or require additional breaks (Gordois, et al., 2016) (van der Burg, et al., 2014). A person with cancer loses 16.9 days per year due absenteeism caused by the illness and, in addition, 0.7 hours per working day due to lower productivity. For respiratory disorders, such as chronic obstructive pulmonary disease, it is 14.7 days per year and 1.4 hours per day lost (Goetzel, Ozminkowski, & Hawkins, 2004).

Alcohol users are shown to have reduced work performance and increased absences (Jones, Casswell, & Zhang, 1995); smokers spend additional 8-30 extra minutes per workday on breaks in comparison to the non-smoking colleagues (Javitz, Zbikowski, Swan, & Jack, 2006). For example, Suriname loses around 0.1 percent of GDP due to unsanctioned smoking breaks only, while Armenia loses 0.22 percent

of GDP to the same cause (UNDP, 2021) (UNDP, 2021). Smokers usually also tend to earn less than non-smokers which exacerbates inequalities (Vulovic, 2018). Countries experience productivity losses also due to obesity and over-weight, which is often linked to consumption of SSBs (Harvard School of Public Health, 2023). Overweight and obese people are more often absent from work, have lower productivity and higher probability of accidents (Goettler, Grosse, & Sonntag, 2017). Obese employees can cost employers more than double than employees with a healthy weight due to increases in workdays lost from illness, payments related to short-term disability, workers' compensation and healthcare spending (Van Nuys, et al., 2014). Moreover, companies end up experiencing additional costs and administrative burden when they need to replace employees that are not present due to a disease.

Finally, between 2015 and 2050, the share of population aged 60 years or over will rise globally from 12 percent to 22 percent (WHO, 2022). Global population ageing is putting more strain on healthcare systems as older people have a higher likelihood of suffering from NCDs (United Nations, 2012). A greying labour force, on the other hand, may represent more accumulated human capital and knowledge which represent a higher total productivity factor in the economy (Lee & Mason, 2017). Whether the impact of “longer-living” societies will be positive or negative will be influenced by many factors and policy settings, such as the structure of pensions, labour market policies, the quality of preventive and primary healthcare, and social policies, among others. Health taxes may help to sway the final effect by preventing unnecessary illnesses, contributing to better quality of life even in advanced ages, and therefore enabling economic participation (Lee & Mason, 2017). Increasing labor force participation of older people, for which health is a key condition, may be one of the mechanisms to offset the impacts of ageing (Hallaert, 2023).

d. Health taxes can reduce inequalities that may hinder economic growth

Poverty and NCDs are closely interlinked. People in low-income groups are more threatened by NCDs relative to other groups (WHO, 2023). NCDs rob families of income when people fall sick or die and steal limited budgets from households when families incur healthcare spending as a result of NCDs. People in developing countries spend around half a trillion US\$ annually on healthcare in the form of out-of-pocket (OOP) expenditures (payments made directly by the households to the care provider (World Bank, 2019). In 2019, two billion of people experienced financial hardship due to OOP expenditures, including around 344 million people living in extreme poverty, and 13.5 percent of households spent more than 10 percent of their budgets on OOP expenditures (i.e., experienced catastrophic health expenditures), increase from 9.6 percent in 2000 (WHO and IBRD / World Bank, 2023). The growing burden of NCDs thus hampers efforts to reduce poverty in low-income countries (WHO, 2023). Household spending on health-harming products and on health care costs linked to consumption of these crowd out spending on education and other health care, as well as on clothing and housing (Do & Bautista, 2015). In low- and middle-income countries, daily tobacco consumption decreased household spendings on education and healthcare by 8 and 5.5 percent respectively (Do & Bautista, 2015). In some cases, household spending on health-harming products even exceeds spending on education or clothing (Social Policy and Development Center , 2021) (Eurostat, 2021).

Health taxes, as consumption taxes, are often viewed as regressive, i.e. burdening low-income groups more than groups of higher income. However, low-income groups are shown to have a higher price elasticity for harmful products, which means that they reduce their consumption more in response to price changes. Reduced consumption consequently reduces the NCDs burden and linked healthcare costs in poorer households, extends the capacity to engage in income-generating activities, and allows households to redirect their budgets towards other consumption, such as food, education, housing, and clothing (Marquez, 2018). This means that in the mid-to long-term, people with lower incomes benefit more from changes to this type of tax and the final impact is positive (the households experience net benefit from health taxes) (World Bank, 2020) (Marquez, 2018). In addition, for low-income households, work is frequently the only source of revenue and livelihood. If such households lose the income from labour due to an NCD resulting from health-harming products consumption, they may not be able to tap into savings or sell property and may be very quickly exposed to extreme financial struggles or poverty. Alternatively, shares of the released budgets could go towards household savings,

which would create a buffer for more difficult times and prevent falling into poverty and potentially could lower interest rates.

e. Health taxes impact only specific segments of the economy

Health taxes have an explicitly distortive effect on the economy by changing consumer behaviour. Tax distortions happen when subjects in the economy change their decisions in response to changes in relative price of goods or services (or factors of production) resulting from taxation. While tax policies usually aim at creating a minimum of distortions, in the case of health taxes the distortion is by design. As health taxes target only selected goods and are aimed at a narrow yet ideally well-specified tax base targeting products with negative externalities, they impact only segments linked directly or indirectly to the taxed products and affect only the part of the society that chooses to consume the taxed products (Tanzi & Zee, 2001). Thus, the impact on the economy will be narrower than that of taxes with a wider tax base (Blecher, Ozer, & Bloom, 2023) (Tax Foundation, 2023). If well designed, health taxes can open space for innovation and reformulation in taxed products. This can further mitigate the impact of the taxation on industries (Rogers, et al., 2023). Moreover, concerned industries tend to accommodate or find ways how to compensate for the potential impacts of taxes, be it in the form of new products, product or product size modification or changes in price policies and potential negative economic impacts on concerned industries are often compensated by other sectors (see chapter 8) (Wierzejska, 2022) (Rogers, et al., 2023).

f. Preventing other expenditures

Well-designed health taxes can also help to address issues related to health-harming products beyond immediate healthcare needs and prevent expenditures that would arise from the necessity to tackle its consequences. For example, alcohol taxes can reduce violence, criminality, number of casualties and injuries in road traffic accidents linked to drinking and driving, and the incidence of communicable diseases, including sexually transmitted diseases, which can free additional public resources (Wagenaar, Tobler, & Komro, 2011) (Saar, 2014). Health taxes have the capacity to prevent unintentional poisoning, be it through direct ingestion of harmful substances or during production processes.

In addition, health taxes have the capacity to reduce environmental damages related to the production and consumption of tobacco, alcohol and SSBs (and potentially other products), such as water, soil, and air pollution, by decreasing demand for these products and expenditures needed to mitigate these damages.

These positive effects could be further amplified by investing some or all of the additional revenue from health taxes into policies supporting sustainable development and/or consumption of health-harming reduction, such as the WHO FCTC policy action measures, measures limiting alcohol advertisement, media awareness-raising campaigns or cessation support.

V. Health taxes as an underused tool

Despite their advantages, health taxes remain underused. The vast majority of countries have tobacco tax rates below the levels recommended by the WHO (75 percent share of total tax in the retail price and 70 percent of excise tax in the retail price of tobacco products). In 2022, 41 countries had tax policies at or above the best-practice level, of which 25 were high-income countries (42 percent of HIC), 15 were middle-income countries (14 percent of MIC) and only one low-income country – Madagascar – had taxes at this level (WHO, 2023). Cigarette prices and cigarette taxes as a share of the retail price are lower in low- and middle-income countries (with an average of 56.5 percent and 59.1 percent respectively) and higher in high-income countries (66.9 percent) (WHO, 2023).

Globally, at least 117 countries apply excise taxes on at least one type on SSB (World Bank, 2023)³⁴. However, the excise tax levels remain low, with an average of 6.6 percent of retail price (WHO 2023)³⁵. In total at least 148 countries applied excise tax in 2022 at national level on any type of alcohol with: 121 imposing excise taxes ranging from 1.7 percent of retail price to 73 percent on spirits, and 126 on beer ranging from 0.06 percent of retail price to 60 percent (WHO, 2023). While there are no established targets in terms of recommended shares of tax of the final retail price of SSBs and alcoholic beverages, there is space for increases that would generate both additional tax revenues and health benefits. Imposing an alcohol tax that increases the share of tax in the retail price on alcoholic beverages to 25 percent could avert 40,033 deaths only in the WHO European Region, where taxes currently average at 5.7 percent, 14.0 percent, and 31.3 percent of the retail prices of wine, beer, and spirits, respectively (Movendi International, 2022).

Besides the described impacts, health taxes have a unique position in fiscal policies and national budgets due to the following attributes that set them apart from other taxes.

a. Health taxes have a corrective role

Health taxes correct market failures. Without taxes, in the majority of markets, prices of products with adverse public health effects are similarly as other goods determined by supply and demand. As a result, certain costs of harmful consumption remain outside of the market price, making the market price lower than the true costs. Health taxes attempt to re-introduce the costs of externalities and internalities into the price and therefore into the consumption decisions. (See Chapter 4 for a detailed discussion).

b. Health taxes are generally easier to administer and collect than other taxes

Well-designed health taxes that focus on narrow groups of products with inelastic demand and with negative externalities would generate revenue with relatively low administrative costs, especially in comparison for example with a personal income tax with differential tax rates which also targets large number of tax payers, corporate income tax often containing numerous exemptions and requires audits and advanced capacity for potentially complex tax planning structures or a wealth tax for which it might be difficult to establish the tax base (Tanzi & Zee, 2001). Increasing and implementing health taxes is relatively simple and can generate revenues relatively quickly (Blecher, Ozer, & Bloom, 2023) (Akitoby, 2018). The administrative requirements and costs will vary based on the tax design. For example, a specific tax on SSBs based on sugar content requires the capacity to measure the sugar content in the products, even if only on an ad hoc basis. Similarly, specific taxes on alcohol based on alcohol content would require costs linked to control measurement of the alcohol content in the beverages. Ad valorem tax structures, i.e., structures based on price, on the other hand, may require capacity to ensure that prices indicated by the taxable person are not underestimated. Please, refer to chapter 4 on tax design for more details.

c. Health taxes are usually more accepted by the public

Globally, around 1.3 billion people smoke, but the burden is carried by all (WHO, 2023). Tobacco taxes are often acceptable both by non-smokers and smokers (Uji & Dahal, 2023). Indeed, health taxes enjoy wide public support and are more accepted than other taxes (Carroll, et al., 2021) (Campaign for Tobacco Free Kids, 2023) (Dugan, 2022). To boost political and public support, the revenue raising potential can complement the public health argument even for products with more elastic demand, such as SSBs, where the additional revenue is often not be the primary purpose of the tax (World Bank, 2020). Interestingly, health taxes can, in some cases, also be more acceptable for the public than other policy measures aiming at reducing harmful consumption, such as free cessation support (Analytica, 2019). Strong engagement of all stakeholders and presenting compensatory measures for those

³⁴ World Bank 2023. Database on SSB taxes. <https://ssbtax.worldbank.org/>

³⁵ Calculation of excise tax level is based on data from 135 Member States.

potentially impacted by the implemented or increased taxation enhances the changes of gaining support (IMF, 2018) (see chapter 10 for more details about public acceptability).

Communicating in a transparent way the revenues expected from the tax increase and the actual revenues received as well as showing how the additional revenue is used may help to gain support from the public (see chapter 10). There are multiple ways to use the health tax revenue, ranging from no specific allocation simply for improving fiscal space, as part of a broader fiscal reform, to fixed specific allocation simply for improving fiscal space, as part of a broader fiscal reform, to hard earmarking. Soft earmarking health taxes or the use of different commitment mechanisms for health programs (explored in chapter 6), increases public and political support for increased taxes (Wright, Smith, & Hellowell, 2017). Health tax revenues can be used to mitigate potential negative impacts of health taxes or to support other health-focused policy measures. However, arguments against hard earmarking point out that these earmarks may reduce efficiency in fund use. When considering the use of health tax revenues, conservative budgeting should be used ensure smooth financing of identified programs (see chapters 6 and 8) for more details on revenue use. Monitoring the use of health tax revenue is key to ensure accountability in the allocation of resources, to measure effectiveness of health taxes in the national budget and to demonstrate the good use of the resources raised from taxes. Involvement of key stakeholders, such as Ministry of Finance, Ministry of Health, cessation services, research centers and academia, health associations, CSOs, specialized funds on health promotion, as well as media, can play a key role in implementation and enforcement of health taxes and the effective revenue use (Zuleta et al., 2023; Eykelenboom et al., 2021) (see chapter 7). Cooperation of international, regional, national, and local tax authorities is important to ensure the efficiency of health taxes and use of the revenue (World Bank, January 2019). Regional cooperation plays a key role in prevention of cross-border shopping well as in fight against illicit trade which might undermine both the health impact of health taxes and the revenue generation (World Health Organization, 2013).

VI. Conclusion

In conclusion, health taxes impact the economy and public finance in various ways. They represent an important fiscal tool that can both generate revenue and promote public health. Countries can leverage health taxes to increase tax revenues necessary for sustainable growth and development. Furthermore, health taxes can support economic stability by providing a relatively more predictable revenue stream, less susceptible to economic cycles. They also have the potential to positively influence sovereign credit ratings, thereby lowering borrowing costs and facilitating sustainable financing.

Moreover, health taxes can contribute to the reduction of healthcare costs and the economic burden associated with treating NCDs. By decreasing the consumption of health-harming products, health taxes can help to prevent diseases, reducing public healthcare spending and the associated strain on national budgets. By reducing the prevalence of NCDs, health taxes can contribute to a healthier workforce, enhancing productivity and economic output. Investing in health through health taxes can thus improve human capital, crucial for sustainable economic growth and development. A healthier population means a more robust and capable labor force, which in turn can drive progress toward national and global development goals.

Overall, health taxes represent an underutilized opportunity for countries to strengthen their fiscal positions while advancing public health and sustainable development goals. Their targeted, corrective nature and ease of implementation coupled with the public's relative support make health taxes a compelling part of sustainable fiscal policies. As nations navigate the complexities of growing public debt and sustainable financing, health taxes stand out as a viable and cost-effective fiscal measure.

References

Allen A.M., Hof A.R. Paying the price for the meat we eat. *Environmental Science and Policy*. 2019;97(April):90–94. doi: 10.1016/j.envsci.2019.04.010

- Analytica. (2019). Survey on tobacco consumption in SEE countries.
<https://tobacconomics.org/files/research/645/237-fact-sheet-nmk-stc-see-2019-v4-1.pdf>
- Araneta, V.A. (2013). “The opportunities and challenges of an investment-grade status”,
Businessmirror, 17 April 2013. Available at <http://www.pdic.gov.ph/index.php?nid1=8&nid2=1&nid=100297>.
- Argimon, I., Gonzalez-Paramo, J. M., & Roldan, J. M. (1997). Evidence of public spending crowding-out from a panel of OECD countries. *Applied Economics*, 29(8), 1001-1010.
<https://doi.org/10.1080/000368497326390>
- Avidon Health. (2021). ORGANIZATIONAL COSTS OF UNHEALTHY HABITS.
<https://avidonhealth.com/reports/organizational-costs-of-unhealthy-habits/>
- Barendregt JJ, Bonneux L, van der Maas PJ. The health care costs of smoking. *N Engl J Med*. 1997 Oct 9;337(15):1052-7. doi: 10.1056/NEJM199710093371506. PMID: 9321534.
- Barker AR, Mazzucca S, An R. (2022). The Impact of Sugar-Sweetened Beverage Taxes by Household Income: A Multi-City Comparison of Nielsen Purchasing Data. *Nutrients*. 2022 Feb 22;14(5):922. doi: 10.3390/nu14050922. PMID: 35267897; PMCID: PMC8912695.
- Barnay, T., & Debrand, T. (2006). Effects of health on the labour force participation of older persons in Europe. *Issues in health economics*. Vol. 109
https://www.researchgate.net/publication/260750368_Effects_of_health_on_the_labour_force_participation_of_older_persons_in_Europe
- Bengtsson T and Nilsson A. Smoking and early retirement due to chronic disability. *Economics and Human Biology*, 2018; 29:31-41. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/29413586>
- Berman, M., Crane, R., Seiber, E., et al. (2014). Estimating the cost of a smoking employee. *Tobacco Control*, 23, 428-433. <https://tobaccocontrol.bmj.com/content/23/5/428>
- Bittschi, B., et al. (2019). Price elasticities and implied tax revenue for alcoholic beverages evidence from Poland, France and Spain. https://www.wifo.ac.at/jart/prj3/wifo/main.jart?content-id=1454619331110&publikation_id=61732
- Blecher, E., Ozer, C., Bloom, D., (2023). KN4. Unpacking the Empirics Behind the Health Tax Revenue. GTP Health Taxes Knowledge Note Series.
<https://thedocs.worldbank.org/en/doc/f1f068e38935e2f5d92b7edf365d5089-0350032023/original/KN-4-Unpacking-the-empirics-behind-health-tax-revenues.pdf>
- Bushey, H., & Glynn, J.S. (2012). There Are Significant Business Costs to Replacing Employees.
<https://www.americanprogress.org/article/there-are-significant-business-costs-to-replacing-employees/>
- Boonn A. (2023). Raising tobacco taxes: a win-win-win,
<https://assets.tobaccofreekids.org/factsheets/0385.pdf>
- Caner, M., Grennes, T., & Koehler-Geib, F. (2010). Finding the tipping point -- When sovereign debt turns bad. World Bank Policy Research Working Paper. <https://doi.org/10.1596/1813-9450-5391>
- Cancer Council. (2023). PREVENTION: TAX AND PRICING. Countries that have taxes on sugar-sweetened beverages (SSBs).
<https://www.obesityevidencehub.org.au/collections/prevention/countries-that-have-implemented-taxes-on-sugar-sweetened-beverages-ssbs>
- Campaign for Tobacco Free Kids. (2023). RAISING TOBACCO TAXES: A WIN-WIN-WIN.
<https://assets.tobaccofreekids.org/factsheets/0385.pdf>
- Carroll, T., Gupta, A. K., Hai, P. T., Thu Huong, N. T., Phi, D. T., & Curell, C. (2021). Measuring community support for tobacco tax measures: Results from a community survey on support for increased tobacco taxes in Vietnam. *Tobacco Induced Diseases*, 19(1), A60.
<https://doi.org/10.18332/tid/140910>
- Cawley, J., Thow, A. M., Wen, K., & Frisvold, D. (2019). The economics of taxes on sugar-sweetened beverages: A review of the effects on prices, sales, cross-border shopping, and consumption. *Annual Review of Nutrition*, 39, 8.1–8.22.
- Claessen H, Arndt V, Drath C, and Brenner H. Smoking habits and occupational disability: A cohort study of 14,483 construction workers. *Occupational and Environmental Medicine*, 2010; 67(2):84-90. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/19773274>

- Do, Y.K., & Bautista, M.A. (2015). Tobacco use and household expenditures on food, education, and healthcare in low- and middle-income countries: a multilevel analysis. *BMC Public Health*, 15, 1098. <https://doi.org/10.1186/s12889-015-2423-9>
- Dugan, A. (2022). Global Study: Harm From Noncommunicable Diseases Underrated. <https://news.gallup.com/opinion/gallup/401279/global-study-harm-from-noncommunicable-diseases-underrated.aspx>
- Economou, F., et al. (2022). Estimating excise tax revenue elasticity and buoyancy for tobacco products and alcoholic beverages: Evidence from Greece. *Applied Economics*, 54(39), 4557–4576. <https://doi.org/10.1080/00036846.2022.2032581>
- Ebrill, L., Keen, M., Bodin, J.-P., & Summers, V. (2002). The allure of the value-added tax. *Finance & Development*, 39(2). <https://www.imf.org/external/pubs/ft/fandd/2002/06/ebrill.htm>
- Eykelenboom, M., Djojosoeparto, S. K., van Stralen, M. M., Olthof, M. R., Renders, C. M., Poelman, M. P., Kamphuis, C. B., & Steenhuis, I. H. (2021). Stakeholder views on taxation of sugar-sweetened beverages and its adoption in the Netherlands. *Health Promotion International*, 37(2). <https://doi.org/10.1093/heapro/daab114>
- Eurasian Harm Reduction Network. (2018). INTRODUCTION TO PUBLIC BUDGETS. <https://eecapatform.org/wp-content/uploads/2018/09/6.-Module-Introduction-to-budgets.pdf>
- European Commission (n.d.). Economy and Finance. How the EU monitors national economic policies. https://economy-finance.ec.europa.eu/economic-and-fiscal-governance/how-eu-monitors-national-economic-policies_en
- Eurostat. (2021). Household expenditure by category, European Union, 2021 (as % of total expenditure). https://ec.europa.eu/eurostat/cache/infographs/hhexpcofog/hhexpcofog_2021/?lang=en
- Financial Times. (2023). US interest rates add to ‘silent debt crisis’ in developing countries. <https://www.ft.com/content/b8a9fd5d-868c-41c8-b03c-e9c0cc01aecd>
- Fitch Ratings (2013). “Fitch Upgrades Philippines to Investment Grade; Outlook Stable”, 27 March 2013. Available at <https://www.fitchratings.com/research/sovereigns/fitch-upgrades-philippines-to-investment-grade-outlook-stable-27-03-2013>.
- Francisco, R. and Lema, K. (2013). “S&P raises Philippines to investment grade, second after Fitch”, Reuters, 2 May 2013. Available at <https://www.reuters.com/article/philippines-economy-upgrade-idINDEE9410D120130502>.
- Función Pública (2023). Ley 2277 De 2022 (Diciembre 13) “Por Medio De La Cual Se Adopta Una Reforma Tributaria Para La Igualdad Y La Justicia Social Y Se Dictan Otras Disposiciones”, Título V. Retrieved from: <https://www.funcionpublica.gov.co/eva/gestornormativo/norma.php?i=199883>
- Gaspar, V. (2019). Fiscal policy and development: Human, social, and physical investment for SDGs.
- Goettler, A., Grosse, A., & Sonntag, D. (2017). Productivity loss due to overweight and obesity: a systematic review of indirect costs. *BMJ open*, 7(10), e014632. <https://doi.org/10.1136/bmjopen-2016-014632>
- Goiana-da-Silva, F., A. M. Nunes, M. Miraldo, A. Bento, J. Breda, and F. F. Araújo. 2018a. “Using Pricing Policies to Promote Public Health: The Sugar Sweetened Beverages Taxation Experience in Portugal.” *Acta Med Port* 31 (4): 191–195.
- Goodchild, Mark, and Rong Zheng. 2018. “Early Assessment of China’s 2015 Tobacco Tax Increase.” *Bulletin of the World Health Organization* 96 (7): 506–12. <https://doi.org/10.2471/BLT.17.205989>.
- Goodchild M, Nargis N, Tursan d'Espaignet E. Global economic cost of smoking-attributable diseases. *Tob Control*. 2018 Jan;27(1):58-64. doi: 10.1136/tobaccocontrol-2016-053305. Epub 2017 Jan 30. Erratum in: *Tob Control*. 2018 Jul;27(4):478. PMID: 28138063; PMCID: PMC5801657.
- Goodchild, M. (2024). E-mail to Barbora Kohoutová (UNDP), 30th January 2024
- Gordois, A. L., Toth, P. P., Quek, R. G., Proudfoot, E. M., Paoli, C. J., & Gandra, S. R. (2016). Productivity losses associated with cardiovascular disease: a systematic review. *Expert review of pharmacoeconomics & outcomes research*, 16(6), 759–769. <https://doi.org/10.1080/14737167.2016.1259571>
- Global Burden of Disease. (2023). <https://vizhub.healthdata.org/gbd-results/>

- Gram, I. T., Wiik, A. B., Lund, E., Licaj, I., & Braaten, T. (2021). Never-smokers and the fraction of breast cancer attributable to second-hand smoke from parents during childhood: The Norwegian Women and Cancer Study 1991–2018. *International Journal of Epidemiology*, 50(6). <https://doi.org/10.1093/ije/dyab153>
- Guardian. (2012). Smoking breaks at work cost British businesses £8.4bn a year, study finds. <https://www.theguardian.com/society/2014/mar/03/smoking-breaks-cost-businesses-british-heart-foundation>
- Hallaert, J.J. (2023). The Fiscal Cost of Aging in Belgium – Pensions and Healthcare. Volume 2023: Issue 065, *International Monetary Fund*. <https://www.elibrary.imf.org/view/journals/018/2023/065/article-A001-en.xml>
- Hayashida K, Imanaka Y, Murakami G, Takahashi Y, Nagai M, et al. Difference in lifetime medical expenditures between male smokers and non-smokers. *Health Policy*, 2010; 94(1):84-9. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/19775772>
- Harvard School of Public Health. (2023). Sugary Drinks. <https://www.hsph.harvard.edu/nutritionsource/healthy-drinks/sugary-drinks/>
- Hervé, J., Mani, S., Behrman, J. R., Nandi, A., Lamkang, A. S., & Laxminarayan, R. (2022). Gender gaps in cognitive and noncognitive skills among adolescents in India. *Journal of Economic Behavior & Organization*, 193, 66-97.
- Hodgson TA. Cigarette smoking and lifetime medical expenditures. *Milbank Quarterly*, 1992; 70(1):81-125. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/1588892>
- Hitchcock, D. G., Corson, S. S., & Spain, C. H. (2019, May 16). U.S. states take advantage of a prolonged economic expansion. *S&P Global*. <https://www.spglobal.com/ratings/en/research/articles/190516-u-s-states-take-advantage-of-a-prolonged-economic-expansion-10950197>
- Hopkins Medicine (n.d.). Former Smokers: What's Your Risk for Lung Cancer? <https://www.hopkinsmedicine.org/health/conditions-and-diseases/lung-cancer/former-smoker-whats-your-risk-for-lung-cancer>
- Huang, S., Wei, H., Yao, T. *et al.* The impact of smoking on annual healthcare cost: an econometric model analysis in China, 2015. *BMC Health Serv Res* 21, 187 (2021). <https://doi.org/10.1186/s12913-021-06199-5>
- Ida T. (2014). A quasi-hyperbolic discounting approach to smoking behavior. *Health economics review*, 4, 5. <https://doi.org/10.1186/s13561-014-0005-7>
- International Labor Organization. (n.d.). ILOSTAT. Statistics on Labor Productivity. <https://ilostat.ilo.org/topics/labour-productivity/>
- IMF. (2000). The Role of Human Capital in Economic Growth. The Case of Spain. <https://www.imf.org/external/pubs/ft/wp/2000/wp0008.pdf>
- IMF. (2014). Tax Buoyancy in OECD Countries. IMF Working Paper WP/14/110. <https://www.imf.org/external/pubs/ft/wp/2014/wp14110.pdf>
- IMF. (2017). Cost of Aging. <https://www.imf.org/external/pubs/ft/fandd/2017/03/lee.htm>
- IMF. (2018). Raising Revenue. <https://www.imf.org/en/Publications/fandd/issues/2018/03/akitoby>
- IMF. (2022). General Government Debt, Percent of GDP. https://www.imf.org/external/datamapper/GG_DEBT_GDP@GDD/SWE
- IMF. (February 2022). Gendered taxes: The interaction of tax policy with gender equality. <https://www.imf.org/en/Publications/WP/Issues/2022/02/04/Gendered-Taxes-The-Interaction-of-Tax-Policy-with-Gender-Equality-512231>
- IMF. (2023a). List of LIC DSAs for PRGT-Eligible Countries as of August 31, 2023. <https://www.imf.org/external/Pubs/ft/dsa/DSAlist.pdf>
- INFF (n.d.). Available at: <https://inff.org>
- INFF (2019a). Development Finance Assessment Guidebook. [https://inff.org/assets/resource/rbap-dg-2019-development-finance-assessment-guidebook-\(1\).pdf](https://inff.org/assets/resource/rbap-dg-2019-development-finance-assessment-guidebook-(1).pdf)
- INFF (2019b). Development Finance Assessment in support of the achievement of the Strategic Development Plan and Sustainable Development Goals in Timor-Leste. <https://inff.org/resource/development-finance-assessment-in-support-of-the-achievement-of-the-strategic-development-plan-and-sustainable-development-goals-in-timor-leste>

- INFF. (July 2021). Cambodia's Development Finance Assessment. <https://inff.org/resource/cambodias-development-finance-assessment>
- INFF. (2022, May). Integrated national financing frameworks: A short and practical Introduction. <https://inff.org/resource/integrated-national-financing-frameworks-a-short-and-practical-introduction>.
- INFF. (2023). Timor-Leste. <https://inff.org/country/timor-leste>
- Japsen, B. (2020). Poor Worker Health Costs U.S. Employers \$575 Billion A Year. <https://www.forbes.com/sites/brucejapsen/2020/12/08/poor-worker-health-costs-us-employers-575-billion-a-year/>
- Javitz HS, Zbikowski SM, Swan GE, et al. Financial burden of tobacco use: an employer's perspective. *Clin Occup Environ Med* 2006;5:9–29
- Jha, P., de Beyer, J., & Heller, P. S. (1999). Death and taxes: Economics of tobacco control. *Finance & Development*, 36(4). <https://www.imf.org/external/pubs/ft/fandd/1999/12/jha.htm>
- Jones, S., Casswell, S., & Zhang, J. F. (1995). The economic costs of alcohol-related absenteeism and reduced productivity among the working population of New Zealand. *Addiction* (Abingdon, England), 90(11), 1455–1461. <https://onlinelibrary.wiley.com/doi/abs/10.1046/j.1360-0443.1995.901114553.x>
- Koskenvuo K, Broms U, Korhonen T, Laitinen LA, Huunan-Seppala A, et al. Smoking strongly predicts disability retirement due to COPD: The Finnish twin cohort study. *European Respiratory Journal*, 2011; 37(1):26-31. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/20516052>
- Krieger, J., Magee, K., Hennings, T., Schoof, J., & Madsen, K. A. (2021). How sugar-sweetened beverage tax revenues are being used in the United States. *Preventive medicine reports*, 23, 101388. <https://doi.org/10.1016/j.pmedr.2021.101388>
- Kurowski, C., et al. (2021). From double shock to double recovery. <https://doi.org/10.1596/35298>
- Lauer, J. A., et al. (2022). Health taxes: Policy and practice. World Health Organization. <https://doi.org/10.1142/q0365>
- Lane, C., Glassman, A. & Smitham, E. (2021). Using Health Taxes to Support Revenue: An Action Agenda for the IMF and World Bank. Center for Global Development, Washington, DC, and London. <https://www.cgdev.org/publication/using-health-taxes-support-revenue-action-agenda-imf-and-world-bank>.
- Lippiatt BC. Measuring medical cost and life expectancy impacts of changes in cigarette sales. *Preventive Medicine*, 1990; 19(5):515-32. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/2122438>
- Manning WG, Keeler EB, Newhouse JP, Sloss EM, and Wasserman J. The taxes of sin. Do smokers and drinkers pay their way? *JAMA*, 1989; 261(11):1604–9. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/2918654>
- Marcello, M.C., Ayres, M.; Frontini, P.; Madry, K., (2023). <https://www.reuters.com/world/americas/brazils-lower-house-approves-landmark-consumption-tax-reform-2023-12-16/>
- Marquez, P. V. (2018). World Bank Group global tobacco control program. World Bank Group. <http://documents.worldbank.org/curated/en/599201542204774252/World-Bank-Group-Global-Tobacco-Control-Program>
- Laia Miquel, Jürgen Rehm, Kevin D Shield, Emili Vela, Montserrat Bustins, Lidia Segura, Joan Colom, Peter Anderson, Antoni Gual, Alcohol, tobacco and health care costs: a population-wide cohort study ($n = 606\ 947$ patients) of current drinkers based on medical and administrative health records from Catalonia, *European Journal of Public Health*, Volume 28, Issue 4, August 2018, Pages 674–680, <https://doi.org/10.1093/eurpub/ckx236>
- [Ministry of Finance. Thailand \(2022\). Email from the Excise Department on 2 May 2022 to Barbora Kohoutová](#)
- Moody's (2013). “Research: Rating Action: Moody's upgrades Philippines to Baa3, revises outlook to positive”, 3 October 2013. Available at https://www.moody.com/research/moodys-upgrades-philippines-to-baa3-revises-outlook-to-positive--pr_283602.
- Moody's. (2023, October 27). [Email to Barbora Kohoutová].

- Monterosso, J., & Ainslie, G. (2007). The behavioral economics of will in recovery from addiction. *Drug and alcohol dependence*, 90 Suppl 1(Suppl 1), S100–S111.
<https://doi.org/10.1016/j.drugalcdep.2006.09.004>
- Movendi International. (2021). South Africa: Clear Link Between Alcohol and Gender-Based Violence. <https://movendi.ngo/news/2021/12/07/south-africa-clear-link-between-alcohol-and-gender-based-violence/>
- Movendi International. (2022). Impact of Minimum Alcohol Tax Share in Retail Prices in WHO European Region. <https://movendi.ngo/science-digest/impact-of-minimum-alcohol-tax-share-in-retail-prices-in-who-european-region/>
- National Alliance for Tobacco Control, Timor-Leste. (2021). Higher Tobacco Taxes for a healthier Timor-Leste. <https://theunion.org/sites/default/files/2021-08/Timor-Leste%20Tax%20Policy%20Paper%20July%202021.pdf>
- Navarra, K. (2022). The Real Costs of Recruitment. <https://www.shrm.org/resourcesandtools/hr-topics/talent-acquisition/pages/the-real-costs-of-recruitment.aspx>
- NCD Alliance. (2011). Noncommunicable diseases: A priority for women’s health and development. <https://ncdalliance.org/resources/noncommunicable-diseases-a-priority-for-women%E2%80%99s-health-and-development>
- NCD Alliance. (2023). Financing NCDs. <https://ncdalliance.org/why-ncds/financing-ncd>
- Neovius K, Neovius M, and Rasmussen F. The combined effects of overweight and smoking in late adolescence on subsequent disability pension: A nationwide cohort study. *International Journal of Obesity*, 2010; 34(1):75-82. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/19752877>
- Ngo, A., Fong, G. T., Craig, L. V., Shang, C. (2019). Analysis of gender differences in the impact of taxation and taxation structure on cigarette consumption in 17 ITC countries. *International Journal of Environmental Research and Public Health*, 16(7), 1275.
<https://doi.org/10.3390/ijerph16071275>
- OECD. (2015). Recommendation of the council on budgetary governance. <https://www.oecd.org/gov/budgeting/Recommendation-of-the-Council-on-Budgetary-Governance.pdf>
- OECD. (2015 July). Third International Conference on Financing for Development: OECD’s contribution. <https://www.oecd.org/dac/financing-sustainable-development/ffdandtheoecd.htm>
- OECD. (2018). PISA 2018 Results (Volume II). Where All Students Can Succeed. https://www.oecd-ilibrary.org/education/pisa-2018-results-volume-ii_f56f8c26-en
- OECD. (2022). [Tax Policy Reforms 2022: OECD and Selected Partner Economies](https://www.oecd.org/tax/tax-policy-reforms-2022/). *Tax Revenue Trends*.
- Okolo, L. M., Ridley, J. H., & Buswick, G. E. (2020, November 12). Approval of nontraditional revenues dominates recent ballot measures for U.S. state and local governments. S&P Global. <https://www.spglobal.com/ratings/en/research/articles/201112-approval-of-nontraditional-revenues-dominates-recent-ballot-measures-for-u-s-state-and-local-governments-11735504>
- Orinario, C. (2013). “Japan grants PH investment grade”, *Rappler*, 8 May 2013. Available at <https://www.rappler.com/business/economy/japan-ph-investment-grade>.
- Pan American Health Organization. (2022). Alcohol And Violence Against Women. https://iris.paho.org/bitstream/handle/10665.2/56009/PAHONMHMH220009_eng.pdf?sequence=1&isAllowed=y
- Pan American Health Organization. (2023). Report on Tobacco Control for the Region of the Americas 2022 Country Profiles. https://iris.paho.org/bitstream/handle/10665.2/57234/PAHONMHRF230003_eng.pdf?sequence=4&isAllowed=y
- Petit P, Mansour M, Wingender P (2021) How to Apply Excise Taxes to Fight Obesity. How to Note, Fiscal Affairs Department. Washington DC: International Monetary Fund
- Pell, D., et al. (2021). Changes in soft drinks purchased by British households associated with the UK soft drinks industry levy: Controlled interrupted time series analysis. *BMJ*, 372, n254.
<https://doi.org/10.1136/bmj.n254>

- Pew Charitable Trust. (2016). Household Expenditures and Income. <https://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2016/03/household-expenditures-and-income>
- Philippines Department of Finance (2019). “S&P upgrades Philippine credit rating to ‘BBB+ stable,’ a notch away from ‘A’ territory rating”, 30 April 2019. Available at <https://www.dof.gov.ph/sp-upgrades-philippine-credit-rating-to-bbb-stable-a-notch-away-from-a-territory-rating/>.
- Rasmussen SR, Prescott E, Sorensen TI, and Sogaard J. The total lifetime costs of smoking. *European Journal of Public Health*, 2004; 14(1):95-100. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/15080400>
- S&P (2023). Philippines Long-Term Rating Raised To 'BBB+' On Strong Growth Trajectory; Outlook Stable. <https://www.spglobal.com/en/research-insights/articles/philippines-long-term-rating-raised-to-bbb-on-strong-growth-trajectory-outlook-stable>
- S&P (2023). Brazil Long-Term Ratings Upgraded To 'BB' From 'BB-' Following Tax Reform Approval; Outlook Stable. <https://disclosure.spglobal.com/ratings/en/regulatory/article/-/view/type/HTML/id/3104158>
- Saar I. (2015). Do alcohol excise taxes affect traffic accidents? Evidence from Estonia. *Traffic injury prevention*, 16, 213–218. <https://doi.org/10.1080/15389588.2014.933817>
- Social Policy and Development Center. (2021). Household Tobacco Spending and Consumption: Implications for Tax Policy. <https://tobacconomics.org/files/research/680/spdc-pb-crowding-out-final-apr-7-1.pdf>
- Schick, A. (2011). Repairing the budget contract between citizens and the state. *OECD Journal on Budgeting*, 11(3). <https://doi.org/10.1787/budget-11-5kg3pdgctc8v>
- Stacey, N., C. Mudara, S. W. Ng, C. van Walbeek, K. Hofman, I. Edoaka. 2019. Sugar-based beverage taxes and beverage prices: Evidence from South Africa’s Health Promotion Levy. *Social Science & Medicine* 238: 112465.
- Summan A, Stacey N, Birckmayer J, et al. The potential global gains in health and revenue from increased taxation of tobacco, alcohol and sugar-sweetened beverages: a modelling analysis. *BMJ Global Health* 2020;5:e002143. doi:10.1136/bmjgh-2019-002143
- Summan, A., and Ramanan L. (2019). *Modeling the Impact of Tobacco, Alcohol, and Sugary Beverage Tax Increases on Health and Revenue*. Background Paper for the Task Force on Fiscal Policy and Health. New York: Bloomberg Philanthropies. Available online: <https://www.bbhub.io/dotorg/sites/2/2019/04/Modeling-the-Impact-of-Tobacco-Alcohol-and-Sugary-Beverage-Tax-Increases-on-Health-and-Revenue.pdf> (accessed on 8 November 2019).
- Tanzi, V., & Zee, H. (2001). Tax policy for developing countries. *Economic Issues* No. 27. International Monetary Fund. <https://www.imf.org/external/pubs/ft/issues/issues27/>
- Tax Foundation. (2023). Case Study: Sales Taxes vs. Excise Taxes. <https://taxfoundation.org/taxedu/educational-resources/case-studies-sales-taxes-vs-excise-taxes/>
- Tiihonen J, Ronkainen K, Kangasharju A, and Kauhanen J. The net effect of smoking on healthcare and welfare costs. A cohort study. *BMJ Open*, 2012; 2(6):e001678. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/23233699>
- Timsina, N. (2007). Tax elasticity and buoyancy in Nepal: A revisit. *NRB Economic Review*, 19(1), 9–21. <https://doi.org/10.3126/nrber.v19i1.52985>
- The Task Force on Fiscal Policy and Health. 2019. *Health Taxes to Save Lives: Employing Effective Excise Taxes on Tobacco, Alcohol, and Sugary Beverages*. New York: Bloomberg Philanthropies. Available online: <https://www.bbhub.io/dotorg/sites/2/2019/04/Health-Taxes-to-Save-Lives-Report.pdf> (accessed on 9 October 2019).
- UN Tobacco Control. (2009). LEY NO. 69 DE 06-11-2009.
- UNCTAD. (2023). THE COSTS OF ACHIEVING THE SUSTAINABLE DEVELOPMENT GOALS.

- United Nations. (2012, April). Population Ageing and the Non-communicable Diseases. https://www.un.org/esa/socdev/documents/ageing/Data/popfacts_noncommunicablediseases.pdf
- United Nations. (2015). Addis Ababa Action Agenda. <https://sustainabledevelopment.un.org/index.php?menu=35&nr=2051&page=view&type=400>
- United Nations (2023). Developing countries face \$4 trillion investment gap in SDGs. <https://news.un.org/en/story/2023/07/1138352>
- United Nations. (2023b). The Sustainable Development Goals Report 2023. <https://unstats.un.org/sdgs/report/2023/The-Sustainable-Development-Goals-Report-2023.pdf>
- United Nations Department of Economic and Social Affairs. (n.d.). Goal 5 | Progress and info. https://sdgs.un.org/goals/goal5#progress_and_info
- United Nations Department of Economic and Social Affairs. (2023). <https://www.un.org/development/desa/dpad/least-developed-country-category-timor-leste.html>
- INFF (2019). Development Finance Assessment in support of the achievement of the Strategic Development Plan and Sustainable Development Goals in Timor-Leste. Available at: <https://inff.org/resource/development-finance-assessment-in-support-of-the-achievement-of-the-strategic-development-plan-and-sustainable-development-goals-in-timor-leste>
- United Nations Development Programme (May 2021). The Case for Investing in WHO FCTC Implementation in Suriname
- United Nations Development Programme (November 2021). The Case for Investing in WHO FCTC Implementation in Armenia
- United Nations Development Programme (2022). Pro-Poor Taxes For Sustainable Development Financing. Tobacco Taxation To Accelerate The SDGs, Equity And Sustainability In Asia And The Pacific
- United Nations Development Programme. (June 2023). How raising tobacco taxes can save lives and cut poverty across the Asia-Pacific. <https://www.undp.org/asia-pacific/blog/how-raising-tobacco-taxes-can-save-lives-and-cut-poverty-across-asia-pacific-0>
- United Nations Development Programme, NCD Investment Case Data, 2024
- United Nations Global Crisis Response Group. (2023). The world of debt. <https://unctad.org/publication/world-of-debt>
- University of Rochester. (2023). Understanding the Teen Brain. <https://www.urmc.rochester.edu/encyclopedia/content.aspx?ContentTypeID=1&ContentID=3051>
- Utley, D.S. (2023). Views Up in smoke: How employee tobacco use impacts your business costs. <https://www.benefitnews.com/opinion/how-employee-tobacco-use-impacts-your-business-costs>
- Van der Burg, L. R. A., Boonen, A., Van Amelsvoort, L. G. P. M., Jansen, N. W. H., Landewé, R. B. M., & Kant, I. (2014). Effects of cardiovascular comorbidities on work participation in rheumatic diseases: A prospective cohort study among working individuals. *Arthritis Care & Research*, 66, 157-163. <https://doi.org/10.1002/acr.22095>
- Van Nuys, K., Globe, D., Ng-Mak, D., Cheung, H., Sullivan, J., & Goldman, D. (2014). The association between employee obesity and employer costs: evidence from a panel of U.S. employers. *American journal of health promotion : AJHP*, 28(5), 277–285. <https://doi.org/10.4278/ajhp.120905-QUAN-428>
- Vulovic, V. (2018). Tobacco Control Policies and Employment. A Tobacconomics Policy Brief. Chicago, IL: Tobacconomics, Health Policy Center, Institute for Health Research and Policy, University of Illinois at Chicago. www.tobacconomics.org
- Vulovic, V., & Chaloupka, F. J. (2022). Taxation of tobacco, alcohol, and sugar-sweetened beverages for achieving the Sustainable Development Goals. <https://doi.org/10.3390/books978-3-03897-865-7-3>
- Wagenaar, A. C., Tobler, A. L., & Komro, K. A. (2010). Effects of alcohol tax and price policies on morbidity and mortality: a systematic review. *American journal of public health*, 100(11), 2270–2278. <https://doi.org/10.2105/AJPH.2009.186007>

- Wall Street Journal. (2023). The \$2 Trillion Interest Bill That's Hitting Governments. <https://www.wsj.com/economy/global/the-2-trillion-interest-bill-thats-hitting-governments-90142a5a?mod=djem10point>
- Ward, Z. J., Bleich, S. N., Long, M. W., & Gortmaker, S. L. (2021). Association of Body Mass index with health care expenditures in the United States by age and sex. *PLOS ONE*, 16(3). <https://doi.org/10.1371/journal.pone.0247307>
- Weinstein, N. D., Marcus, S. E., & Moser, R. P. (2005). Smokers' unrealistic optimism about their risk. *Tobacco Control*, 14, 55-59. <https://doi.org/10.1136/tc.2004.008375>
- Wierzejska R. E. (2022). The Impact of the Sweetened Beverages Tax on Their Reformulation in Poland-The Analysis of the Composition of Commercially Available Beverages before and after the Introduction of the Tax (2020 vs. 2021). *International journal of environmental research and public health*, 19(21), 14464. <https://doi.org/10.3390/ijerph192114464>
- World Bank. (2018). The Human Capital Project. <https://openknowledge.worldbank.org/server/api/core/bitstreams/9b478ffa-2027-5290-bb62-816f6d385027/content>
- World Bank. (2019). World development report 2019: The changing nature of work. <https://documents1.worldbank.org/curated/en/816281518818814423/pdf/2019-WDR-Report.pdf>
- World Bank. (2019, January). Confronting Illicit Tobacco Trade: a Global Review of Country Experiences. <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/677451548260528135/confronting-illicit-tobacco-trade-a-global-review-of-country-experiences>
- World Bank. (March 2019). The Human Capital Project: Frequently Asked Questions. <https://www.worldbank.org/en/publication/human-capital/brief/the-human-capital-project-frequently-asked-questions#HCP2>
- World Bank. (May 2019). Overview of Tobacco Control Legislation, Use, and Taxation. A Country Brief – Vietnam. <https://documents1.worldbank.org/curated/en/818741559223994957/pdf/Vietnam-Overview-of-Tobacco-Use-Tobacco-Control-Legislation-and-Taxation.pdf>
- World Bank. (June 2019). High-Performance Health-Financing for Universal Health Coverage: Driving Sustainable, Inclusive Growth in the 21st Century. <https://www.worldbank.org/en/topic/universalhealthcoverage/publication/high-performance-health-financing-for-universal-health-coverage-driving-sustainable-inclusive-growth-in-the-21st-century>
- World Bank. (2020). The Human Capital Index 2020 Update. <https://openknowledge.worldbank.org/entities/publication/93f8fbc6-4513-58e7-82ec-af4636380319>
- World Bank - Data (2020). Human Capital Index. <https://databank.worldbank.org/source/human-capital-index#>
- World Bank. (2020a). Sugar-sweetened beverages and prepackaged foods: the impact of taxation on price, consumption, and revenues and its contribution to achieving the sustainable development goals in Central America, Panama, and the Dominican Republic. <https://thedocs.worldbank.org/en/doc/611961599658512658-0090022020/original/TF0A4082FullreportSugarSweetDrinksEnglishFinal20201.pdf>
- World Bank. (June 2020). Business, Employment and Productivity Impacts of SSB Taxes. <https://openknowledge.worldbank.org/server/api/core/bitstreams/2802a1fe-2b71-5e42-bf53-234cc7290dd7/content>
- World Bank (September 2020). Taxes on sugar-sweetened beverages: International evidence and experience. <https://thedocs.worldbank.org/en/doc/d9612c480991c5408edca33d54e2028a-0390062021/original/World-Bank-2020-SSB-Taxes-Evidence-and-Experiences.pdf>
- World Bank. (September 2021). From Double Shock to Double Recovery. Implications and Options for Health Financing in the Time of COVID-19. Technical updates: Widening rifts.

- World Bank. (February 2023). Why Health Taxes Matter: A Mechanism to Improve Health and Revenue Outcomes. <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/099446002132366565/idu036b3c4370c15f047e2087a3029ed3a36321f>
- World Bank. (March 2023). Health Taxes. <https://www.worldbank.org/en/topic/nutrition/brief/health-taxes>
- World Bank. (2023). Tax revenue (% of GDP). <https://data.worldbank.org/indicator/GC.TAX.TOTL.GD.ZS>
- World Bank. (2023a). Prevalence of current tobacco use (% of adults). <https://data.worldbank.org/indicator/SH.PRV.SMOK>
- World Bank. (2023b). – Data. Current health expenditure (% of GDP). <https://data.worldbank.org/indicator/SH.XPD.CHEX.GD.ZS?locations=XD>
- World Bank. (2023). – Data. Tax revenue (LC). <https://data.worldbank.org/indicator/GC.TAX.TOTL.CN?locations=TH>
- World Bank. (2023c) - Taxes & Government Revenue. <https://www.worldbank.org/en/topic/taxes-and-government-revenue#1>
- World Health Organization. (2013). Protocol to eliminate illicit trade in tobacco products. https://iris.who.int/bitstream/handle/10665/80873/9789241505246_eng.pdf?sequence=1
- World Health Organization. (2017). Tobacco control for sustainable development. WHO Regional Office for South-East Asia. <https://apps.who.int/iris/handle/10665/255509>
- World Health Organization. (December 2020). Global Health Observatory data repository. Life expectancy and Healthy life expectancy. <https://apps.who.int/gho/data/view.main.SDG2016LEXREGv?lang=en>
- World Health Organization. (2020). Global spending on health. Weathering the storm. Global report. <https://www.who.int/publications/i/item/9789240017788>
- World Health Organization. (June 2021). Obesity and overweight. <https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight>
- World Health Organization. (December 2022). Updated Appendix 3 of the WHO Global NCD Action Plan 2013-2030. https://cdn.who.int/media/docs/default-source/ncds/mnd/2022-app3-technical-annex-v26jan2023.pdf?sfvrsn=62581aa3_5
- World Health Organization. (March 2022). Taxes on sweetened drinks: WHO explains how to make them an effective health measure. <https://www.who.int/europe/news/item/21-03-2022-taxes-on-sweetened-drinks-who-explains-how-to-make-them-an-effective-health-measure>
- World Health Organization (October 2022). Ageing and health. <https://www.who.int/news-room/fact-sheets/detail/ageing-and-health>
- World Health Organization. (December 2022). Updated Appendix 3 of the WHO Global NCD Action Plan 2013-2030. https://cdn.who.int/media/docs/default-source/ncds/mnd/2022-app3-technical-annex-v26jan2023.pdf?sfvrsn=62581aa3_5
- World Health Organization. (2023). WHO report on the global tobacco epidemic, 2023. Protect people from tobacco smoke. <https://iris.who.int/bitstream/handle/10665/372043/9789240077164-eng.pdf?sequence=1>
- World Health Organization. (2023a). Tobacco. <https://www.who.int/news-room/fact-sheets/detail/tobacco>
- World Health Organization. (2023b). Global report on the use of sugar-sweetened beverage taxes, 2023. <https://iris.who.int/bitstream/handle/10665/374530/9789240084995-eng.pdf?sequence=1>
- World Health Organization. (2023c). Global report on the use of alcohol taxes 2023. <https://iris.who.int/bitstream/handle/10665/374614/9789240086104-eng.pdf?sequence=1>
- World Health Organization. (January 2023). WHO Director-General's remarks at the 152nd session of the Executive Board. <https://www.who.int/director-general/speeches/detail/who-director-general-s-remarks-at-the-152nd-session-of-the-executive-board>
- World Health Organization. (May 31, 2023). World No Tobacco Day: “Timor-Leste’s efforts towards a tobacco-free nation are commendable”. <https://www.who.int/timorleste/news/detail/31-05-2023-world-no-tobacco-day-timor-leste-s-efforts-towards-a-tobacco-free-nation-are-commendable>

- World Health Organization. (May 2023). More ways, to save more lives, for less money: World Health Assembly adopts more Best Buys to tackle noncommunicable diseases. <https://www.who.int/news/item/26-05-2023-more-ways--to-save-more-lives--for-less-money---world-health-assembly-adopts-more-best-buys--to-tackle-noncommunicable-diseases>
- World Health Organization (September 2023). Noncommunicable diseases. <https://www.who.int/news-room/fact-sheets/detail/noncommunicable-diseases>
- World Health Organization (n.d.). Global prices and taxes on sugar-sweetened and other non-alcoholic beverages. <https://www.who.int/data/gho/data/themes/topics/taxes-on-nonalcoholic-beverages>
- World Wildlife Fund. (2023). THE EFFECTS OF DEFORESTATION. <https://www.wwf.org.uk/learn/effects-of/deforestation>
- Wright, A., Smith, K. E., & Hellowell, M. (2017). Policy lessons from health taxes: a systematic review of empirical studies. BMC Public Health, 17(583). <https://doi.org/10.1186/s12889-017-4497-z>
- Yartey, C. A., & Turner-Jones, T. (2014). Caribbean renewal. International Monetary Fund eBooks. <https://doi.org/10.5089/9781484369142.071>
- Zuleta, M., Perez-Leon, S., Mialon, M., et al. (2023). Political and socioeconomic factors that shaped health taxes implementation in Peru. BMJ Global Health, 8(Suppl 8), e012024. <https://doi.org/10.1136/bmjgh-2023-012024>

Chapter 4. General Issues in Designing Health Taxes

Introduction

This chapter introduces the main design features that need to be taken into account when designing health taxes. The chapter starts by introducing the main tax policy considerations for designing any tax. These include the revenue raising capacity of the tax, the efficiency of the tax (i.e. the extent to which it induces behavioural change), its impact on economic growth and equity, whether people can afford to pay the tax increase, the ease of the administration of the tax and the tax compliance costs, as well as non-tax factors that will determine the functioning of the tax within the broader tax system. The second part of this chapter then applies this guidance for tax policy design to the specific case of health taxes. Some of the key design aspects of health taxes are touched upon only briefly as they will be discussed in greater detail in the following chapters.

I. General considerations for tax policy design

This section introduces the main tax policy design principles. It takes a general approach, not specifically applied to health taxes.

a. Tax revenue raising potential

Taxes are compulsory payments allowing general government to raise revenues. The total amount of revenue that governments want to raise depends on the spending choices that have been made. These tend to vary over time with the changes in priorities, societal preferences and economic circumstances. However, social, economic and institutional conditions limit the amount of taxes that a country can raise within the bounds of reason; this applies in particular to developing countries. These conditions also affect the tax structure (i.e., the mix of different taxes and the revenue they raise as a percentage of total tax revenue).

The collection of taxes comes at a cost. Taxation generates various administrative and enforcement costs; it requires a well-functioning tax administration to collect taxes and to ensure that everyone pays its fair share. Individuals and businesses that pay taxes will incur costs to comply with the tax obligations; taxes that are not designed or collected in a fair manner will reduce the trust that people have in their government. In addition, taxation leads to lost output by prompting people to change behaviour. For example, an income tax will influence the labour/leisure decision and a capital tax will influence the investment decision. While some taxes are expensive to collect and may induce lost output, others may be cheaper to collect and may bend behavior in a good way. The overall cost of collection taxes should also be seen in connection with how they are spent. Ideally, the benefits of government spending should surpass the costs of tax collection, but such calculations are rarely made.

A country's tax revenue potential is affected by its level of economic development and economic structure. Public expenditure and tax revenue tend to rise with per capita income. Thus, the role of fiscal policy in the provision of public services and redistribution is higher in advanced economies than in emerging market economies and low-income developing countries. In addition to tax revenue raising potential of a tax, the composition of the overall tax mix also depends on the level of economic development. For example, trade-related taxes have played a larger role in developing countries as they are easy to collect and the revenue raising potential of direct taxes is constrained. As a result, the tax revenue raising potential of a tax will depend on the limitations that other taxes face, for instance because of a large informal sector and significant non-compliance.

b. Efficiency

An efficient tax system generates revenues at the lowest possible cost for the economy. The tax system influences labour supply, consumption, savings and investments. The behavioural impact of a tax varies across economic agents (i.e., individuals, households and firms), countries and time, as well as with the design of the tax base and the level of the tax rate. Before agents actually change their behaviour, they

may first attempt to avoid (or evade) the taxes that are levied. The behavioural response to taxes therefore depends on the avoidance and evasion opportunities that are available and, in the case of tax evasion, the probability of being caught and the corresponding sanctions that will have to be faced.

A general principle is that the tax system should induce economic agents to change their behaviour as little as possible in response to the taxes levied. Economic theory has the following principles to ensure efficient taxes:

- Use broad bases and low rates. A broad tax base requires lower rates than if only a selection of goods and services are taxed. The distortionary effects on the economy from taxation increases more than proportionally with the tax rates, so a broad base is beneficial.
- Levy the highest taxes where they have the least effect on behaviour, i.e., supply and demand does not change much following price changes.
- The tax system should change the production of goods and services as little as possible. The taxes and levies should therefore fall on the end product and not on the production input, except where the use of inputs leads to negative external effects.

While tax policies should aim at being efficient, there are situations in which governments deliberately want to use the tax system to steer economic behaviour. This is the case in the presence of market failures, such as externalities, occurring when consumption, production, and investment decisions of economic agents affect others not directly involved in the transaction, with the social costs or returns of the economic transaction being significantly different from the private costs or returns for the individual agent, reflected in the market price. As a form of market failure, externalities require government intervention (taxation or regulation). An efficient tax system would thus create a distortion by inducing agents to internalise these external effects, either by increasing economic activity in the presence of positive external effects or reducing activity in the case of negative external effects. To be effective in internalising external effects, the tax or tax incentive would ideally be levied as close as possible to the source of the externality. A similar logic applies to internalities. People might overlook costs from unhealthy consumption. In those situations, taxes act as a proxy for those costs and contribute to reducing excess consumption. Thus, designing a tax system based on a set of fundamental principles that ensure that resources are allocated as efficiently as possible in the economy can be achieved by:

- First making use of taxes that influence behaviour in the right direction (for example health taxes, environmentally related taxes, R&D tax credits);
- Thereafter employing taxes that are less distortionary, in the sense that their influence on the choices made by producers and consumers is reduced (for example taxes on economic rents in sectors that benefit from market protection, and property taxes as the supply of land is inelastic);
- Finally using distortionary taxes to achieve sufficient revenues to finance public goods and services and to realize redistribution objectives.

c. Inclusive and sustainable economic growth

Economic growth is the outcome of many different factors. A country's economic growth will depend, amongst other factors, on the level of employment and the availability of good quality jobs, the size and characteristics of the informal sector, the stock of physical and human capital, the availability of natural resources, a country's integration within Global Value Chains, the level and composition of exports and imports, the productive use of the factors of production, the mobility of the workforce, entrepreneurship, R&D and innovation, the domestic savings rate, the amount of remittances, and the level of domestic and foreign direct investment.

The tax system plays a crucial role in stimulating economic growth as it impinges on many of these factors. The level of the taxes, the composition of the tax mix, the distributional impact of the tax system, the quality of the tax administration and the way it enforces tax rules that are in place, the complexity, certainty and predictability of the tax rules, the tax compliance costs, the opportunities for

tax avoidance and evasion, the trust that agents have in the functioning of their tax system, the integration of the domestic tax system within the international tax frameworks that apply including the network of tax treaties will all interact with the key drivers of growth.

The specific design of a tax will have an impact on a country's rate of economic growth. Taxes that have low rates tend to be less distortive and therefore will have a smaller effect on growth; on the other hand, well-designed tax incentives can induce investment and savings and therefore stimulate growth, although in many cases tax incentives just lead to windfall gains for existing capital owners rather than stimulating additional investment.

Countries should move away from a narrow focus on economic growth towards a more comprehensive focus on inclusive and sustainable growth. Economic growth is important for development and increases the potential tax base, which in itself allows countries to increase public investment and growth. Countries should aim at ensuring that economic growth is inclusive in that all layers of the population do benefit and is sustainable in that it maintains the quality of the natural environment and the health of the population. For example, inequality reducing measures not only strengthen equity (see below) but can also stimulate economic growth, as it allows more individuals and businesses to fully participate in the economy.

d. Equity

Ensuring that taxes are designed in an equitable manner (i.e., that they are fair) is another key objective of tax policy design. There are different forms of equity:

- Horizontal equity: taxpayers in an equal situation pay an equal amount of tax.
- Vertical equity: taxpayers with a greater ability to contribute, pay a higher share of their income in tax.

There is a wide range of additional fairness concepts that matter for tax policy design, such as “ability to pay”, which signals that taxes should be affordable. The “equality of opportunity” principle stipulates that all individuals should face equal opportunities to participate in the economy, and that the tax system should not create any hurdles to that end.

Shifting the tax mix towards taxes that have fewer negative impacts on economic growth can raise trade-offs between equity and efficiency. Greater reliance on taxes that are in general less harmful for economic growth, such as consumption taxes, and shifting partly away from growth-distorting taxes, such as income taxes, may reduce the overall progressivity of the tax system. This may be a particular challenge in developing economies that tend to rely heavily on consumption taxes. A key question then becomes how to use good tax design to shift the tax mix with minimal negative equity consequences.

However, equity and efficiency enhancing reforms can also go hand in hand. First, evidence suggests that economic performance is positively related to income equality in particular in developing countries that have a wide untapped economic potential. The larger the number of individuals that can fully participate in the economy and develop and deploy their skills, the larger the level of economic output, welfare and wellbeing. Second, taxes can be designed in ways that enhance both efficiency and equity, for instance by eliminating the most regressive tax expenditures that allow countries to keep rates relatively low.

Looking at efficiency-equity trade-offs on a tax-by-tax basis is critical but not sufficient. To ensure a coherent tax system, it is essential to view the tax system as a whole rather than considering its different elements in isolation. A tax may be well-designed, but looking in isolation at one tax provision or one type of tax can lead to poor tax policy choices and sub-optimal economic and social outcomes (Slemrod and Gillitzer, 2014^[1]). For instance, a tax measure can be progressive (regressive) while the whole tax system is regressive (progressive).

The distributional consequences of tax mix shifts should be examined in concert with the public spending mix. The tax system cannot be seen in isolation from spending and budgetary public policies.

Greater reliance on taxes that may be regressive may actually increase the amount of overall redistribution if the spending associated with the reform has progressive effects. Indeed, a tax that raises significant amounts of revenue but is slightly regressive can help to increase the overall progressivity of the tax and benefit system if the tax revenue is spent in a manner that benefits the poor.

The distributional impact of the tax system should also be considered from a lifetime perspective. Some taxes, such as income taxes, may be highly progressive when considered in a given period, but less progressive from a lifetime perspective, as individuals who may have low incomes at one time might have higher incomes later in life (Levell, Roantree and Shaw, 2015^[2]).

The ability to shift the final tax burden onto other taxpayers will affect the distributional impact and the efficiency-equity trade-offs of a tax reform. The taxpayers directly paying the tax (e.g., in cash) may not be the ones ultimately bearing the burden of the tax. The incidence of the tax not only depends on behavioural responses but also on the degree of competition and the linkages across markets. (Brys et al., 2016^[3]).

e. Administrative simplicity, transparency, certainty and trust

Simple tax rules minimise tax compliance costs for individuals and businesses and enforcement costs for tax administrations. More complex tax design can be considered when administrative capacities increase. Ideally, simple tax rules can go hand in hand with increased opportunities for self-reporting by taxpayers, which allows the tax administration to increase its focus on risk assessment-based interventions.

Tax rules need to be transparent and give individuals and businesses tax certainty. Tax certainty for taxpayers is an important component of investment and commercial decisions and can have a significant impact on economic growth while at the same time safeguarding fairness in the tax system's application. Government can provide tax certainty to economic agents through a wide range of strategies such as improving the clarity and coherence of legislation, increasing predictability and consistency of tax administration practices, having fair and efficient implementation, with effective dispute prevention and resolution mechanisms (OECD/IMF, 2019^[4]). These measures will ensure that agents have trust in their tax system, and they will strengthen overall tax compliance.

f. Non-tax factors that influence the design of the tax

A number of non-tax system factors have an impact on the efficiency and equity implications of taxes and the overall tax system. A tax system approach would integrate these broader non-tax factors within the analysis of the tax system (Brys et al., 2016^[3]). They include, among others:

- The informal sector, which has an impact on how countries can design and reform their tax system. Ideally, the tax system should be designed such that it provides incentives to the informal sector to formalise and prevents formal businesses from becoming informal.
- The socio-economic structure: the functioning of the industry or sector that is affected by the tax, the economy's labour and capital intensity and returns, the distribution of income and wealth, the purchasing power of households across the income distribution, productivity levels, etc. For example, the income distribution influences the design of the personal income tax in terms of the design of the income tax brackets and the rates that can be levied.
- Time horizons: equity-efficiency trade-offs tend to be more significant in the short term than in the long run. For instance, individuals who are considered as poor today might not be poor in the future and the negative distributional implications of a pro-growth tax reform may be overestimated when looking only at short-term impacts. On the other hand, behavioural effects of high tax rates may be higher in the longer run as it typically takes time before agents change their behaviour and specific tax avoidance strategies might also become increasingly popular as times passes by.
- The political economy: tax decisions, such as the level of the tax rate that is set, are

influenced by political economy considerations, including (un-)popularity of the tax measure, political parties in power, time to the next election, industry lobbying, etc.

- The broader policy context: the impact of a tax measure may differ depending on whether it is part of a broader tax (or non-tax) reform package or not, possibly accompanied by non-tax measures (e.g., regulatory measures).

Checklist 1. Core considerations when designing individual taxes

Prioritise tax measures that have a significant tax revenue potential

Consider tax revenues in the context of the efficiency and distributional impact of taxes as well as their tax administration, compliance and enforcement costs

Ensure that the tax induces agents to change their behaviour as little as possible, except if there are market failures (including positive or negative externalities) in which case the tax system can be used to correct for these market failures

Design taxes that are the least harmful for growth: keep tax rates as low as possible levied on broad tax bases and prioritise the taxation of outputs instead of inputs;

Take the distributional impact of taxes into account in ways that support growth that is inclusive and benefits the population at large; in addition, design taxes that are sustainable in terms of the environment and health

Limit unintended tax avoidance opportunities and reduce the risk of tax evasion

Keep tax rules as simple and transparent as possible, and give individuals and businesses tax certainty

Consider non-tax factors that have an influence on the design of the tax

II. Application of the general tax policy considerations to health taxes

This section applies the tax policy design principles that were introduced in section I to health taxes. In many countries, health taxes comprise of taxes on tobacco, alcohol and sugar-sweetened beverages (SSBs); but health taxes can be levied on a wider range of consumption items that cause negative external effects (e.g., foods high in sugar, salt and fat content, energy-dense foods, ultra-processed foods) as well as production items that lead to costs that are not taken into account by producers (e.g. pesticides).

a. What is the revenue raising capacity of health taxes?

Objective of the health tax

Health taxes raise revenues, but unlike other taxes, they also have a health dimension which allows governments to obtain a double dividend: raise tax revenues and induce a healthy lifestyle and production processes (Lane, Glassman and Smitham, 2021^[5]).

i. Raising tax revenues

The 2030 Agenda for Sustainable Development is at a watershed. The uneven progress towards the Sustainable Development Goals (SDGs) has encountered massive challenges in the multiple crises of the pandemic, soaring food- and energy prices and climate change. For low-income countries, the underfunding of the SDGs was substantial even before the crises.

Raising more domestic revenues is important to close the gap between political ambitions and available finances. The social and economic ramifications of the multiple crises amplify the importance of enhancing domestic revenue mobilization as one of the most stable and reliable pillars for financing sustainable development. To recover better, it is essential to raise domestic revenues equitably and efficiently as a means to finance effective government responses, enhance social cohesion and improve

resilience in times of crises. Health taxes have an important role to play in enlarging the fiscal space for countries to finance the broad set of SDGs.

Taxes on tobacco and alcohol products have a significant capacity to raise revenues. Optimal tax policy design suggests that goods and services for which demand remains broadly the same irrespective of the price that is levied (i.e., that are inelastic in demand) can be taxed at a relatively high tax rate. Evidence shows that the demand for unhealthy goods such as tobacco and alcohol is relatively inelastic. While tobacco price elasticity estimates vary across countries, they are on average around -0.4 for high-income countries (i.e. when prices increase by 10 %, consumption reduces by 4 %) and clustering around -0.5 for low- and middle-income countries (Chaloupka, Powell, and Warner 2019). In the case of alcohol, the demand for beer is the least responsive to a price increase (price elasticity estimate of -0.5 for low- and middle-income countries), while other alcoholic beverages are more price elastic (estimate of -0.79, with an overall price elasticity for alcohol of -0.64 for low- and middle-income countries). This suggests that on average, countries face opportunities to tax tobacco and alcohol products at relatively high rates in order to raise revenues.

The revenue raising potential of taxes on SSBs is lower. SSBs are normal goods with demand responsive to price changes (i.e., their demand is price-elastic with a price elasticity around -1.59³⁶) and have a small tax base. This implies that the health tax revenue capacity of taxes on SSBs is more limited (World Bank, 2020).

ii. Inducing more healthy lifestyles and production processes

Health taxes also have a health dimension which aims at inducing individuals to live a healthy lifestyle. More specifically, health taxes aim at raising the price of the harmful product for health in order to:

- Reduce the consumption of harmful products for health;
- Discourage or prevent initial consumption (in particular of youngsters);
- Incentivise substitution towards healthier products.

Health taxes correct for negative consumption *externalities* leading to an excessive consumption of harmful products for health (also referred to as Pigouvian taxes). Health taxes aim at increasing the prices paid by consumers for products that are harmful for health such that the consumer internalises the costs that are not normally reflected in market prices. Different types of externalities are associated with the consumption of harmful products for health, including the following:

- Direct effects on individuals other than the consumer of unhealthy products. For example, tobacco consumption can negatively impact non-smokers' health (passive smoking). Alcohol consumption can lead to traffic accidents (drunk driving), or domestic violence. It is important to note that health taxes will reduce the consumption of a harmful product, and therefore will reduce the externalities associated with it, but will not eliminate such externalities completely, nor are the revenues generated by the tax normally used for compensating the victims of such externalities. For instance, an individual suffering from cancer as a result of passive smoking may be able to receive a publicly funded health care treatment, but the individual will not be directly compensated for the harm caused.
- Wider social impacts. Examples include increased health care costs potentially associated with unhealthy consumption, when such costs are covered through an insurance mechanism (e.g. a publicly funded health care system), and productivity losses caused by diseases associated with unhealthy consumption, for instance through absenteeism, or early retirement. Under certain conditions, increased health care costs and productivity losses may represent externalities, and these costs would not be taken into account by consumers in the absence of a health tax that increases the price paid for unhealthy products.

³⁶ Andreyeva T, Marple K, Marinello S, Moore TE, Powell LM. Outcomes following taxation of sugar-sweetened beverages: a systematic review and meta-analysis. *JAMA Network Open*. 2022 Jun 1;5(6):e2215276.

Health taxes have also a role to play to “complete” markets. Certain production decisions can negatively impact the health of the consumer, and, as a result increase health care costs for society. Profit maximising producers might be inclined to use production processes that do not take these negative external effects on consumers into account. In such a case, levying a health tax on the source of the negative external effect (e.g., the harmful input) can induce producers to reduce the amount of that input used and, therefore, to internalise the negative external effect they create.

Moreover, health taxes allow for a levelled playing field and avoid competitive distortions. Producers that are intrinsically motivated to limit the use of inputs that are harmful for the consumer may face a competitive disadvantage compared to producers that merely aim at maximising their profits and do not spontaneously internalise any negative external effect. In such a setting, a health tax would level the playing field and result in fairer competition, both from a domestic and international competitive perspective.

Health taxes also tackle negative *internalities*. Consumers of products that are harmful for health face informational failures. They may not be necessarily aware – or willing to be aware – of all the negative consequences of their own consumption decisions. They may also give too much weight to the present rather than to the future and thereby underestimate the long-term health costs. These are often referred to as negative internalities (or self-imposed costs). Those consumers will have to bear increasing private health care costs, which can have significant impact on household’s well-being in societies with high reliance on health out-of-pocket payments. Health taxes increase the price of products that are harmful for health, which sends a signal to the consumer of the risks associated with the consumption of unhealthy goods (i.e., the signalling effect of a health tax).

Thus, health taxes lead to a double health dividend as they:

- Increase health tax revenues (and might allow government to reduce other taxes that might be more distortive);
- Induce a healthy lifestyle by:
 - Improving individual’s health as a result of a reduction in the (excess) consumption of unhealthy consumption items, both
 - directly by increasing the price, which will reduce consumption,
 - indirectly through the signalling function of the tax, which tackles information failures and time-inconsistent consumption decisions;
 - Discouraging the use of production inputs that have a negative external effect on the health of the consumer.

In addition, the health tax revenues will allow government to increase the public resources for the health sector by increasing the central government budget. Soft earmarking or committing the health tax revenues can also be considered, taking into account the risk of fragmenting the budgetary process (see also Chapter 6). Finally, health taxes will indirectly lead to cost savings due to the reduction in the prevalence of cancers, diabetes, and other diseases related to excess consumption of tobacco, alcohol and SSBs.

Views on the main objective of health taxes can differ within governments and over time. Some policy makers will want the tax to reflect externalities, while others will prioritise the revenue or the health promotion objectives. Bringing Ministries of Health and Finance together might be useful to better understand the different perspectives (WHO, 2022_[13]).

Being clear on objectives prioritization is important as intrinsically linked with the design of health taxes. For example, with respect to setting the tax rate:

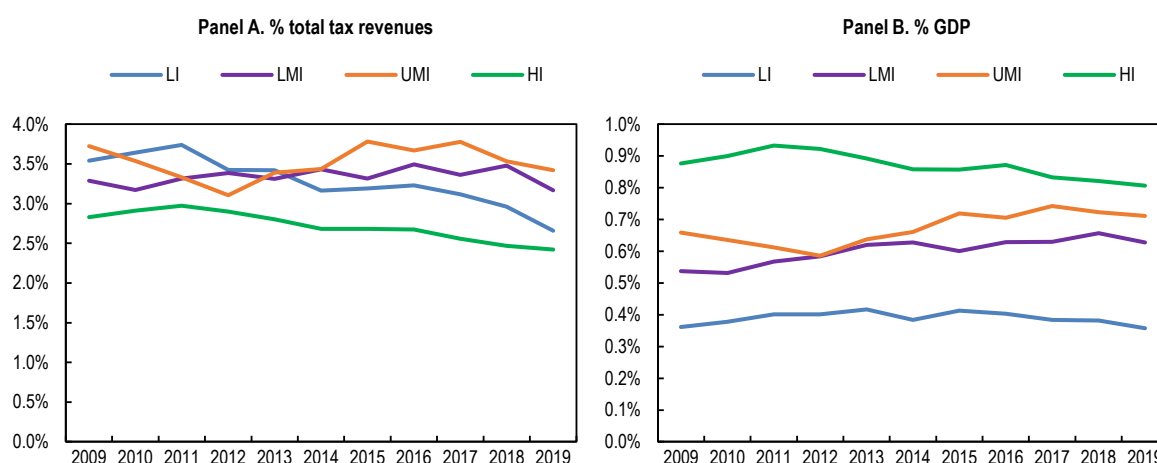
- If the health objective is prioritised, the health tax rate will have to be set at a sufficiently high level to induce behavioural change. For this reason, the WHO recommends tobacco taxes to be set at a level of at least 75 % of the retail price of cigarettes. Policymakers that prioritise the health objective will want to complement health taxes with non-tax measures such as regulation (e.g., bans on smoking in public and driving a car after drinking alcohol). They will focus on a longer-term horizon given that impact on health from an increase in health taxes will take time to materialise. Such an approach requires strong political commitment to maintain policies in place as the benefits of government intervention (i.e., improved health) will become visible in the longer run while individuals will pay the cost in the short run.
- In contrast, if the tax revenue objective is prioritised, government may not want to set tax rates at a too high level, as it does not want to induce too large behavioural change (Wright, Smith and Hellowell, 2017^[13]), and may prefer gradual tax rate increases as opposed to large, possibly one-off, hikes in prices. Gradual price increases will induce consumers to gradually adjust their consumption (or get used to the higher prices without triggering any behavioural response) rather than stopping the consumption of the unhealthy product all together (Płuta et al., 2020^[14]) (Wright, Smith and Hellowell, 2017^[13]). The type of tax will also have an impact on the tax revenue raised (see Table 1). For example, volume-based specific taxation will yield a stable source of revenues. In general, tax revenues raised by specific taxation (volume-based or content-based) are less influenced by market price trends (as compared with ad valorem taxation, which is based on product prices).

Health taxes raise moderate revenues but have significant potential in particular in developing countries

Excise taxes on tobacco, alcohol and SSBs raise moderate amounts of tax revenues. On average across countries, these taxes raise between 2.5 % and 3.5 % of tax revenues across income groups, and between 0.3 % and 0.9 % of GDP in 2019 (Figure 0.1). High-income countries raise the lowest share of health taxes in total tax revenues, but the highest share as a percentage of GDP, although both shares are on a declining trend. Revenues from health taxes are on average higher for upper-middle income countries than for lower-middle income countries and low-income countries, both expressed as a percentage of total tax revenues and GDP. They have been on a rising trend for upper-middle income countries, and to a lesser extent for lower-middle income countries over the past decade. Trends for low-income countries are more difficult to interpret given the low number of countries considered.

Health tax revenues have a significant tax revenue potential in developing countries. The higher health tax revenues as a share of total tax revenues in developing countries can be explained by the fact that developing countries collect less tax revenues as a percentage of GDP, and that their tax structure depends more heavily on consumption taxes than income taxes or social security contributions. However, this also signals that health taxes have a large potential in developing countries, in particular because consumption taxes including health excise duties are easier to collect compared to income taxes in settings where the informal sector and non-tax compliance are large.

In addition, health excise duties increase the tax revenue raising capacity of the VAT (see also Chapter 9). Health taxes are levied on the value of a product or on its quantity. However, excise duties are just one of several taxes that impact on the final consumer price. On top of excise taxes, most countries levy a consumption tax, such as the VAT (OECD, 2020^[15]). By increasing the price, health taxes increase the base of the VAT and therefore VAT revenues. These additional VAT revenues are typically not classified as revenues that are attributed to health taxes.

Figure 0.1. Health taxes revenues

Note: Are included in this graph countries that provide breakdown information on excise taxes, including health taxes: 6 LI countries, 15 LMI countries, 14 UMI countries, and 37 HI countries.
Source: OECD Revenue Statistics.

Health tax revenues are predominantly raised on tobacco and alcohol products. Taxes on alcohol and tobacco products have been widely implemented by developing countries for many years. On the other hand, taxes on SSBs have started to be introduced only more recently and the majority of developing countries does not yet have SSBs taxes in place (World Bank, 2020_[16]). Taxes on food and production inputs, such as pesticides, are even more rare (Sassi, 2022_[17]). Tax revenues from SSB taxes are smaller than for tobacco and alcohol as the tax base is smaller, rates are lower, and the demand is more elastic.

Policy options for enhancing the revenue potential of health taxes

In general, scope exists to increase health tax revenues in developing countries, by:

- Improving the design of health taxes that are already in place:
 - By increasing the rates. For example, the majority of countries that have tobacco taxation do not meet the WHO recommendation to have a level of taxation at (or above) 75 % of the retail price of the most sold brand of cigarettes (WHO 2023).
 - By broadening the base. For example, in the case of tobacco, taxation should not only apply to cigarettes and cigars, but also bidis, smokeless tobacco and water pipes.
- Introducing new taxes (i.e., enlarging the health taxes base):
 - By taxing other goods that are unhealthy when consumed excessively (such as sugar, foods high in sugar, salt and fat content, energy-dense foods, ultra-processed foods). For example, the fact that many developing countries face rising obesity and overweight amongst the population (as foods habits change with urbanisation and increase in income), there is a strong rationale to introduce a SSB tax (possibly amongst other health taxes). However, imposing multiple low-value health taxes could result in both an increase in complexity, and a decrease in efficiency, of the tax system.
 - By taxing inputs used in the production process that cause health damage (such as pesticides, pollutants, plastic bottles, etc.). This points at the interlinkage between health taxes and environmental taxes.
 -

The amount of health tax revenues that can be collected does not only depend on health tax rates (see also Chapter 5), but will also depend on other factors, including:

- The level of consumption of the good that causes health damages;
- The quantity of unhealthy inputs that are present in the product (e.g., quantity of nicotine, alcohol or added-sugar concentration);
- How consumers respond to the price increase, including whether they shift to other harmful products that are untaxed (for example illicit alternatives and informally produced substitutes) or are lower taxed;
- Income effects that are triggered by price increases;
- The industry's response (e.g., whether and how products will be reformulated and how the tax increase will be shifted to the final consumer), including degree of opposition (e.g., lobbying to influence policy positions);
- National tax administrations' enforcement capacity.

b. How to ensure that the health tax design is efficient?

A health tax aims at inducing consumers and producers to internalise the negative external effects that their behaviour causes on other individuals and society as well as for consumers to recognise negative internal effects. Tax economists argue that governments should not set tax rates to maximise tax revenues but to maximise social welfare. A revenue maximising tax rate is indeed not necessarily an “optimal” tax rate. Instead, social welfare will be maximised if external health effects are internalised, and consumers and producers adjust their behaviour in light of the damage caused (see also Chapter 5). However, determining the rate of the tax to ensure that agents pay for the health damage they have caused is extremely challenging for several reasons:

- First, the damage can be caused by the consumption or only by the *excess* consumption of certain products; the latter is even more difficult to determine and measure;
- Second, there are different types of externalities and internalities, and many of them are difficult to cost, which implies that the tax rate that internalises these costs is difficult to determine as well;
- Third, the increase in the final retail price caused by the tax rate needs to remain acceptable by the population in the current country setting (e.g., macroeconomic context, such as inflation in particular of food products, and social context), because if not, government may desire to introduce regulation rather than levying a tax.

A corollary issue is whether setting the tax rate at a level that internalises the negative marginal external effect (i.e., Pigouvian taxation) is the desired approach for all harmful products for health. For example, is there a difference between alcohol and tobacco consumption that can cause harm to non-consumers, on the one hand, and SSBs, on the other hand? There are arguments to set health tax rates above the rate that would internalise the negative marginal external effect as individuals might suffer personal damage beyond the costs that can be compensated in money (e.g., lung cancer as a result of passive smoking; death of a child because of a car accident caused by a drunk driver). High tax rates could be considered if government has set the objective to drastically reduce consumption of alcohol and tobacco (possibly even to zero). This raises the question about the optimal balance between tax rates and other pricing policies (such as minimum unit price), regulations and law enforcement to prevent unhealthy behaviour (WHO, 2020^[20]). Regulation (such as bans, restrictions to access points, front-of-package labelling, warning labels, marketing restriction, quality standards, etc.) is an integral part of a policy mix that can be effective in reducing consumption that causes damage, in particular in settings where tax rates would remain ineffective (OECD, 2021^[7]). Nevertheless, according to the WHO, significantly increasing tobacco excise taxes and prices is the single most cost-effective measure for reducing consumption, while increasing alcohol excise duties is one of the WHO's best buys to cost-effectively reduce alcohol use (WHO, 2021^[21]) (Kilian et al., 2021^[22]).

To be effective in internalising marginal external effects, the health tax should be levied as close as possible to the source of the externality (or the harm factor). In the case of alcohol, it is ethanol, and added sugar in the case of SSBs.

The effectiveness of a health tax will also depend on:

- The pass-through effect, i.e., the extent to which the tax is passed on by businesses to consumers in terms of higher prices or, alternatively, the tax is borne by businesses in the form of reduced profits or by its workers in the form of lower wages;
- The responsiveness of consumers to those higher prices. This depends on the price elasticity of demand, the tax base definition and the possibility of substitution effects; and
- The impact of those behavioural responses in the long-run.

In response to a rise in the health tax, businesses may increase the after-tax price exactly equal to the tax rate increase (full pass-through of the tax) or they may under-shift (i.e., the business absorbs some of the tax increase itself) or over-shift (i.e., the business increases the price by more than the tax increase). The degree to which manufacturers adjust their prices in response to a health tax will depend on a number of factors, including the market structure and level of competition, their market share, the amount of the tax increase, the possibility for consumer to buy from other sources (e.g., cross border shopping), the product, the country setting, etc (see also Chapter 8). Empirical evidence suggests that, in general, health tax increases are passed on to consumers via higher prices (but less so for health tax decreases).

Understanding substitution effects is crucial in ensuring the effectiveness of a health tax. An increase in the price of a product can trigger different types of substitution effects: i) consumers buying cheaper products in the same category (substitution within product category), ii) consumers switching to alternative products that are close substitutes for the products originally consumed (substitution across product categories), or iii) consumers switching to another type of product. These effects are important to consider, understand and monitor as they have impact on the health tax design (e.g., on the tax base). The following examples illustrate some of the substitution effects that can be observed in practice:

- Countries often define the base of a tax on SSBs as any non-alcoholic drink with free sugars. Sometimes, the tax base also includes healthier products, such as unsweetened dairy products and bottled water. Excluding healthier products from the tax base incentivises consumers to switch from consuming SSBs to healthier alternatives; if no alternatives are available or all products are taxed, then consumers may not change their consumption behaviour. SSBs taxes have sometimes been implemented without sufficient consideration of substitution effects as the tax base include bottled waters but without cheaper healthy substitutes available (i.e. good quality tap water) (World Bank, 2020^[9]).
- Similarly, while evidence is limited, taxing only SSBs may lead to substitutions to other sugary or energy-dense food sources (Aguilar et al, 2021; Rogers et al, 2024).³⁷ This supports the case for including in the tax base energy-dense food or food that is high in fat, sugar, or salt content. International experience shows that this approach is effective in

³⁷ Rogers NT, Cummins S, Jones CP, Mytton O, Rayner M, Rutter H, White M, Adams J. Estimated changes in free sugar consumption one year after the UK soft drinks industry levy came into force: controlled interrupted time series analysis of the National Diet and Nutrition Survey (2011–2019). *J Epidemiol Community Health*. 2024 Sep 1;78(9):578-84; Aguilar A, Gutierrez E, Seira E. The effectiveness of sin food taxes: evidence from Mexico. *Journal of Health Economics*. 2021 May 1;77:102455; Andreyeva T, Marple K, Marinello S, Moore TE, Powell LM. Outcomes following taxation of sugar-sweetened beverages: a systematic review and meta-analysis. *JAMA Network Open*. 2022 Jun 1;5(6):e2215276; Pineda E, Gressier M, Li D, Brown T, Mounsey S, Olney J, Sassi F. Effectiveness and policy implications of health taxes on foods high in fat, salt, and sugar. *Food Policy*. 2024 Feb 1;123:102599.

reducing consumption (Andreyeva et al, 2022; Pineda et al, 2024).

- In the case of tobacco, in order to avoid substitution across different products (e.g. from cigarettes to roll your own tobacco), the general recommendation has been to tax all products in a comparable way to keep relative prices at similar levels. (see recommendations from the WHO Framework Convention on Tobacco Control for implementation of Article 6 – Price and tax measures to reduce the demand for tobacco <https://fctc.who.int/resources/publications/m/item/price-and-tax-measures-to-reduce-the-demand-for-tobacco> and the WHO technical manual on tobacco tax policy and administration <https://www.who.int/publications/i/item/9789240019188>)
- Consumers may be inclined to substitute legal for illicit tobacco products. This substitution effect might differ across types of consumers and tobacco consumed and will have an impact on the efficient tax rate that can be set. For instance, when consumers of hand-rolled cigarettes are more inclined to substitute towards illegal tobacco compared to consumers of factory-made cigarettes, there might be a case to differentiate somewhat the tax rate that is set (higher for factory made and lower for hand-rolled cigarettes). On the other hand, a lower tax rate on hand-rolled cigarettes will in itself induce consumers of factory-made cigarettes to change their consumption behaviour and substitute towards the lower-taxed alternative, rather than reducing consumption.

The design of a health tax can also be targeted at, and prioritise the impact on, specific groups of the population. For example, if youngsters exhibit particularly harmful consumption patterns, such as binge drinking, the design of a health tax may aim at discouraging this type of behaviour. In this case, both content-based and volumetric health taxes are recommended as they create a higher relative price increase of cheaper goods, which will discourage lower-income consumers and youngsters from choosing less costly but equally unhealthy products.

Specific health taxes (also called ad quantum taxes) based on harmful content are the most efficient to reduce total consumption of a harmful product. Health taxes can be specific (either based on harmful content, such as alcohol, added sugar, nicotine, or on volume, such as bottles, cans, packs of cigarettes) or ad valorem (based on the price of the product). Countries can also implement mixed systems. Each type of tax (or system) has advantages and disadvantages, and the preferred design will vary across a range of dimensions (see Chapter 5). From an efficiency perspective, specific health taxes based on harmful content are the best taxes to reduce consumption of the harmful product as it directly targets the harm factor (see Table 1); volume-based specific taxes can target the negative external effect also effectively in particular if the content of the harmful product does not vary much across products. Ad valorem taxes are the least efficient in tackling the source of the harm as prices are not necessarily correlated with harmful content. In addition, specific content-based taxes:

- Encourage consumers to reduce the quantity consumed of the unhealthy product whereas ad valorem encourages to switch to lower-cost brands (“trading down”).
- Provide producers with less opportunities to attract consumers and stimulate consumption of unhealthy products through price adjustments (Chaloupka et al., 2010^[24]).
- Do not discourage expensive product innovation by producers as an ad valorem tax would do.
- Tend to be more than fully passed through to the consumer, whereas ad valorem taxes tend to be less than fully passed through (Sassi, Belloni and Capobianco, 2013^[25]).

The design of the tax will depend on the specific health objective that is pursued. For example, if the objective is to reduce consumption of high strength products (e.g., alcoholic beverages with a very strong alcohol concentration), ad valorem taxation can be considered as these products tend to be more expensive than products that have a lower unit content and they might be easier to administer for the tax administration than content-based taxes. On the other hand, specific content-based taxes are better tailored if the objective is to incentivise product reformulation. Producers will be incentivised to

reformulate their products to lower strength content (e.g. towards drinks with less added sugar in the case of SSBs, or less ethanol in the case of alcoholic drinks), and/or to develop new varieties of products (e.g. more luxurious products offered at a higher price but with the same content of the harmful product and, therefore, the same level of tax) and/or to develop lower strength products (see Table 1). Moreover, if the objective is to reduce incentives to switch to low-price products, specific volume-based taxes can be implemented. Finally, to prevent consumption initiation (e.g., in a country with high consumption of alcohol by teenagers for instance), a mixed system can be considered.

Mixed systems can balance the advantages and disadvantages of each specific design and turns the choice between specific and ad valorem taxes less binary (see also Chapter 5). They include:

- A “mixed specific and ad valorem taxation” system, where countries can differ in the weights across the different tax components. This system targets the source of the damage while ensuring that more expensive products are not facing a relatively lower share of tax. This will then prevent a too low tax burden on higher income consumers.
- “Ad valorem with specific floor taxation” system, where both the ad valorem and specific taxes are calculated separately and the tax administration selects the design that imposes the highest tax burden. In the case of alcohol for example, this system might be preferred by countries that prioritise a reduction in the alcohol consumption by heavy drinkers and/or that want to prevent drinking initiation among youngsters, while at the same time protecting health tax revenues with a minimum specific floor. Compared to specific taxation, advantages of ad valorem with specific floor taxation systems include: a higher average tax rate, greater tax revenues, lower total harmful product consumption, and a greater reduction in drinking initiation (as the tax due on low ethanol content beverages is higher than under specific taxation). Finally, as compared to specific taxation, producers have no incentive to produce high-quality beverages in the expensive product category, which reduces the variety of high-price products.

Table 1. Typology of health taxes and their respective impacts

		Specific		Ad valorem
		Based on content	Based on volume	
Tax base	Alcohol	Volume of ethanol (e.g., a bottle at 15° alcohol by volume faces a higher tax than a bottle at 12° alcohol by volume)	Volume of beverage (e.g., a bottle at 15° alcohol by volume faces the same level of tax as a bottle at 12° alcohol by volume: the tax per gram of ethanol falls as product strength increases)	Beverage price (e.g., there is no link between tax and alcohol content: a high-strength product with low production costs will be sold at a cheaper price, and therefore incur a lower tax, than a lower-strength product with higher production costs that is sold at a higher price)
	SSB	Volume of added sugar (e.g., a can with more added sugar will face a higher tax than a can with less added sugar)	Volume of beverage (e.g., drinks with high and low amounts of added sugar are taxed at the same rate)	Beverage price (e.g., there is no link between tax and added sugar content)
	Tobacco	Weight (e.g., kilogram of tobacco, grams for other tobacco products) or length	1 000 cigarettes, package of 20 sticks	Tobacco price
Impact on government (tax revenues)		Tax revenues are less influenced by market price trends (as compared with ad valorem taxation)	Most efficient way of raising tax revenues Tax revenues are less influenced by market price trends (as compared with ad valorem taxation)	Tax revenues fluctuate with market prices and induce households to consume lower-priced harmful products, which may reduce tax revenues Yield high revenue collection from very expensive products (e.g., in the case of alcohol: of high-priced alcohol such as spirits)

Impact for the tax administration	<p>More difficult to implement and administer as there is a need to assess/label content</p> <p>Need to be adjusted regularly or indexed to inflation/real income growth</p>	<p>Easy to implement and administer as it only requires the determination of the quantity of the product (thus, the risk of non-compliance is lower)</p> <p>Need to be adjusted regularly or indexed to inflation/real income growth</p>	<p>More difficult to administer than volume-based but easier than content-based specific taxes, as it is based on the product value which needs be assessed at a specific point (e.g., ex-factory, import, distribution, retail) and can be underestimated by the private sector through legal or illegal accounting practices</p> <p>Relatively easier to administer if applied late in the value chain (if applied early in the supply chain, it can be subject to producers and/or distributors pricing strategies, like transfer pricing and under-invoicing to avoid taxes – i.e. producers and/or distributors setting artificially low prices at the point where the tax is levied and then raising the price further along the distribution chain)</p> <p>A complexity is deciding on the tax base (i.e., the manufacturers' price, the wholesale price, or the before-tax consumer price)</p> <p>No need to be adjusted regularly or indexed to inflation/real income growth</p>
Impact for consumers	<p>From an efficiency perspective, best design to improve health as it directly targets the harm factor</p> <p>Effective in:</p> <ul style="list-style-type: none"> • Reducing total consumption of harmful content (if consumers do not increase total consumption when trading down from high to low strength products) • Reducing consumption of high strength/quality products <p>Less effective in:</p> <ul style="list-style-type: none"> • Reducing consumption of lower strength/quality products • Preventing consumption initiation of lower strength/quality products <p>as lower strength/quality products will become relatively cheaper in comparison with higher strength/quality products. Can result in a substitution away from higher to lower strength/quality (healthier) products (“trading down”)</p> <p>Quantity discounts are still taxed</p>	<p>From an efficiency perspective, not the best design to reduce health harms of consumption as it does not directly target the harm factor but the quantity (of liquid, of tobacco)</p> <p>Effective in:</p> <ul style="list-style-type: none"> • Reducing incentives to switch to low price products <p>Less effective in:</p> <ul style="list-style-type: none"> • Reducing consumption of high-strength/quality product • Preventing consumption initiation <p>Quantity discounts are still taxed</p>	<p>Effective in:</p> <ul style="list-style-type: none"> • Reducing consumption of high strength/quality products (which are more expensive and thus taxed at higher rates) <p>Less effective in:</p> <ul style="list-style-type: none"> • Reducing total consumption • Preventing consumption initiation <p>as it exacerbates the absolute price differences within/across product categories (e.g., low-priced alcoholic beverages remain relatively more affordable and accessible). Can result in a substitution away from higher to lower strength/quality (i.e., healthier) and cheaper products (“trading down”) without reducing the volume of product that is consumed or to buy larger quantities which are cheaper per volume of content.</p> <p>Quantity discounts are not taxed</p>
Impact for producers	<p>In order to avoid a higher tax rate, producers are incentivised to:</p>	<p>Producers might be incentivised to:</p> <ul style="list-style-type: none"> • Produce higher 	<p>Exacerbates the absolute price differences within/across product</p>

<ul style="list-style-type: none"> • Reformulate products to lower strength/quality content (which drives substitution by consumers of healthier products) • Develop varieties (e.g., more luxurious products that can be offered at higher prices but same level of harmful product and so same level of tax) • Develop new lower strength/quality products <p>Producers are less incentivised to:</p> <ul style="list-style-type: none"> • Manipulate the base price of the product <p>As compared with ad valorem taxation, it tends to result in:</p> <ul style="list-style-type: none"> • Less-intense price competition • Higher quality • Higher price • Higher product diversity 	<p>strength/quality products</p> <p>Producers are less incentivised to:</p> <ul style="list-style-type: none"> • Reformulate their product to lower strength/quality content 	<p>categories</p> <p>Producers are incentivised to:</p> <ul style="list-style-type: none"> • More aggressively market lower price/quality products • In a context of significant fixed costs of production and increasing returns to scale, the tax design might stimulate market concentration, leading to an industry with few manufacturers more inclined to produce a small number of low-quality brands <p>Producers are less incentivised to:</p> <ul style="list-style-type: none"> • Invest in quality and diversity of products that would increase the value of the product and therefore the tax amount due (If the manufacturer cuts its costs, the retail price will decrease by more than the reduced costs, because the tax will decrease under an ad valorem system. This provides a strong incentive to cut costs, and as a result, quality and diversity of brands will tend to be lower than with specific taxation, as both require significant resources)
--	---	---

Note: “High *strength* products” refers for example to alcoholic drinks that are high in alcohol content, or to SSBs that are high in added sugar content. “High *quality* products” refers to tobacco products with high nicotine concentration.
Source: Authors.

c. What are the links between health taxes and inclusive and sustainable economic growth?

Health taxes contribute to reducing premature deaths from NCDs, increasing labour productivity and therefore growth and well-being. Excess alcohol consumption increases absenteeism; it negatively affects human capital formation and leads to poorer labour market performance of workers. Similarly, excess tobacco consumption negatively affects health and well-being of individuals and, therefore, their labour productivity. Hence health taxes are often perceived as bringing sustainable returns on investment.

A reduction in the production and consumption of goods that are unhealthy might have negative short run economic effects on growth. An increase in health taxes could reduce the number of jobs in the agricultural, industrial, retail and hospitality sectors (in the case of alcohol), and in the industrial and agricultural sector (in the case of tobacco). The impact will vary across countries, regions and sectors. Countries that import most of the unhealthy goods that are consumed domestically might be affected less than countries that are large producers of tobacco, alcohol, sugar, etc. The impact will also depend on the behavioural response by consumers and producers to the introduction and/or increase in a health tax. However, the economic impact of health taxes cannot be seen in isolation from other structural changes in economies, such as the increase in automation. For instance, the recent expansion of the

alcohol sector worldwide was not accompanied by an increase in employment as large MNEs benefit from economies of scale and have automated large parts of the production process. The tobacco sector experienced a rapid development from the 1970 to the 2000's, but this expansion was also accompanied by a decline in employment in the tobacco manufacturing and farming sector due to technological advances and higher labour productivity.

Even in the long run, the impact of health taxes may be asymmetric and could require compensatory measures to assist economic conversion of regions and workers (see also Chapter 8). In the longer run, falling employment in the tobacco and alcohol sector would be offset by jobs created in other sectors (World Bank, 2017^[26]). Health taxes reduce consumption of products which are harmful for health and the corresponding increase in household disposable income could be spent on other goods, which would support employment and output of these other sectors. However, health taxes may hit the economic activity in certain regions hard, in particular the regions where agricultural and manufacturing production takes place. Moreover, in some low-income countries, alcohol production is mainly carried out by female workers, especially in remote areas (WHO, 2017^[26]). In order to mitigate the economic impact of increased health taxes, governments may wish to accompany the reforms with measures that retrain workers and stimulate alternative economic activity in the regions that are the hardest hit. Part of the health tax revenue could be recycled for the economic reconversion of these regions and workers.

Health taxes may also create positive environmental effects. In many countries, tobacco production creates a significant burden on the environment through the use of, for instance, fossil fuels to dry tobacco and fertilizers and other nutrients used in the tobacco cultivation (World Bank, 2017^[26]). It may lead to the degradation of soil quality, forest depletion, etc. As a result, taxes on tobacco that would scale back tobacco production could bring positive effects for the natural environment and create opportunities for more sustainable economic growth.

The burden imposed by health taxes may erode with inflation. This is the case if health taxes are specific and not automatically or regularly indexed to inflation. An argument against automatic indexation is that it can further add to inflationary pressures. However, in practice, the tax-inclusive prices of tobacco, alcohol and SSBs are not a significant contributor to overall inflation (Lane, 2022^[27]).

d. How to ensure that the design of health taxes is equitable?

While specific taxes are preferred to ad valorem health taxes from an efficiency perspective, the opposite might hold from a vertical equity perspective. While specific taxes may discourage unhealthy consumption by low-income households, they may have a smaller effect on the consumption of higher-income households if they are set at a low rate (see Table 1). Under the assumption that high-income taxpayers purchase more expensive products, ad valorem taxes would increase the tax burden faced by higher-income earners. However even with an ad valorem tax, high-income taxpayers may still end up paying less tax relative to their income than lower-income households. The exact distributional impact will thus depend on consumption patterns and the effective burden imposed by the type of health tax that is implemented.

The horizontal equity principle implies that products that are equally harmful for health should be taxed equally. This can be achieved if health taxes are based on the harmful content of the product which applies equally across all products that create an equal harm. For example, taxing different types of cigarettes (e.g., factory-made versus hand-rolled cigarettes) at different rates would violate the horizontal equity principle as it would imply that individuals that smoke the same amount of a similarly harmful product would end up paying a different amount of tax. In addition to creating a substitution effect, this particular tax design would violate horizontal equity.

Health taxes are often called “regressive”.³⁸ Lower-income individuals would typically spend a greater proportion of their current income on products subject to health taxes than richer households do (Crawford, I., 2004^[26]). In other words, health taxes will reduce available budgets more for relatively poorer households than for relatively richer households (see also Chapter 8). However, this may not

³⁸ In a tax context, a ‘regressive’ tax is one where the average tax burden decreases with income.

necessarily be the case as a percentage of their current expenditure (OECD, 2014^[27]). That being said, there will still be many households that are both current and lifetime poor, and health taxes can be expected to be regressive for these households whether measured as a proportion of income or expenditure.

The traditional fiscal incidence approach considers only short-term reductions in disposable income and does not consider behavioural responses and longer-term benefits. Even if lower-income households may face a relatively larger burden of health taxes in the short run, they will benefit significantly from a healthier lifestyle when they change their consumption behaviour in response to the tax (in terms of well-being, reduced medical expenses, increased productivity, etc.). In fact, research has found that the overall effect of health taxes is progressive, in that low-income consumers significantly reduce their consumption of products that are harmful for their health and benefit from a disproportionate share of improved health outcomes along with lower medical spending and extended working lives (World Bank, 2019^[29]) (World Bank, 2020^[30]) (World Bank, 2019^[31]) (Sassi et al., 2018^[32]). In particular when health out-of-pocket payments are dominant, reducing the disease burden improves the financial situation of lower-income households significantly.

However, even if progressive in the long-run, health taxes may have a regressive impact on low-income consumers in the short run. To offset this, the implementation of health taxes could be accompanied by programmes that support low-income households (such as expanding health care to low-income groups, providing child allowances, job transition programmes, etc.) (Lane, Glassman and Smitham, 2021^[5]) (Wright, Smith and Hellowell, 2017^[13]). While targeted support to low-income groups would be the preferred approach to address the regressive effect of health taxes, these accompanying measures should be designed such that they do not neutralise the incentive for individuals to change their behaviour towards a healthy lifestyle. Overall, health taxes and accompanying measures can be designed such that they are progressive, in particular when the tax and benefit system is considered as a whole and takes into account short- and long-term effects of fiscal policy.

The distributional impact can vary significantly within income groups. For example, in the USA, consumption of alcohol and tobacco is concentrated among a small number of households who pay the vast majority of health taxes, and there is greater consumption variation within income groups than across income groups (Conlon, Rao and Wang, 2021^[28]). For example, in the lowest income groups, the majority of households pay negligible amounts of health taxes. Heavy consumers can be found at all income levels, which points to the heterogeneity of the distributional impact of health taxes.

To be efficient in changing behaviours, health taxes should be designed such that they do not gradually increase product affordability over time. Concretely, this means that specific health taxes should be indexed to inflation. However, this is rarely observed in practice and only a few countries periodically adjust health tax rates to reflect rising prices. This explains why product affordability increases (OECD, 2021^[7]) (University of Illinois Chicago, 2021^[19]) (WHO, 2021^[18]). In settings where incomes are rising faster than prices of tobacco, alcohol and SSBs, adjusting health taxes for inflation will have little impact on product affordability. Thus, linking health taxes with real income growth might also be considered to ensure reduced product affordability.

e. How to ensure that health taxes are easy to administer and comply with?

Simplicity

In order to keep administrative and tax compliance costs for businesses as low as possible, health taxes should be designed in a simple and clear manner. When designing a health tax, governments need to decide upon a wide range of health tax design features, which will have to balance simplicity with the other objectives of health taxes. These include the type of tax (content-based, volume-based, ad valorem or mixed), the tax base, the tax rate (single rate or tiered system), the pace of any tax increase, the use of a minimum threshold, the point of collection of the tax, whether the tax is levied at the national or local level, etc.

The level of complexity needs to be aligned with the capacities of the tax administration (see also Chapter 7). A complex health tax design that meets efficiency and equity objectives can fail if the tax administration lacks the necessary capacity to properly administer and enforce the tax. The capacity of the tax administration is therefore an integral part in the choice of the design of a health tax. Trade-offs between simplicity and effectiveness will need to be made. Developing countries that have a lower tax administrative capacity might prefer the following health tax design features:

- A specific tax based on volume is easier to implement for the tax administration than an ad valorem tax; a specific tax based on content or mixed systems are more difficult to implement (see Table 1). On the other hand, specific taxes have to be adjusted annually for inflation or real income growth, which is not necessary for an ad valorem tax that is levied on nominal prices.
- Levy a single tax rate rather than a progressive rate schedule (i.e., rates that are increasing with product content). On the other hand, progressive rates can be more effective than a single tax rate in reducing harm caused by consumption of unhealthy products.
- Avoid minimum thresholds (i.e., only products with content above threshold are subject to the tax) as they require tax administrations to police the boundary between taxable and non-taxable products. On the other hand, minimum thresholds might be very effective, as they incentivise agents to substitute towards the untaxed product and producers to improve the health quality of their product.
- Levy health taxes at the importer or producer level when goods are imported or released for distribution from domestic production centres. Tax administration costs will be lower if the taxes are levied on a smaller number of agents instead of being levied at the retailer level.
- Favour specific volume-based taxes in the case of SSBs or food products rather than specific content-based taxes. Specific volume-based taxes can be levied on the total (and easily observable) quantity of the product and do not require identifying the nutrient-specific content of the product (e.g., quantity of added-sugar), which is complex and is not the core activity/competency of a tax administration. On the other hand, specific content-based taxes allow levying the tax more closely to the source and the size of the negative external effect. Specific volume-based taxes can be considered when the nutrient content does not vary widely within a specific product category (e.g., soft drinks). They can be combined with minimum thresholds to further finetune the design of the tax.

Transparency and certainty

Tax design rules should be transparent and certain for producers to respond in an optimal manner. A tiered tax system, for instance, will incentivise producers to lower the quantity of the harmful product as this will reduce the taxes that are levied. Nevertheless, producers will only adjust their production processes if the tax rules are transparent and will be maintained for a number of years. For example, the UK government committed to a two-year time lag between the moment the Sugar Levy was announced and introduced in order to leave sufficient time for the private sector to adjust its production processes.

Transparency and certainty allow the tax administration to properly implement and enforce the tax (see also Chapter 7). In order for the tax administration to impose the right amount of tax, it requires well-defined tax rules that are clear and easy to understand (IMF, 2016_[32]). This will also limit the number of disputes with taxpayers.

Limiting the possibilities for tax evasion

Unrecorded production is not registered in the official statistics in the country where the goods are consumed. Smuggling is one aspect of unrecorded production, defined as the trade of products across borders through unauthorized routes, or through authorized routes but disguising the true content of the cargo. Tobacco and alcohol products are more affected by smuggling than SSBs given the nature and value of the goods. Other types of unrecorded production include: the illicit manufacture of tobacco

products, legal but unrecorded alcohol products (e.g. homemade) and legal products recorded but not in the jurisdiction where consumed.

An increase in health taxes does not automatically lead to an increase in unrecorded consumption (Rehm et al., 2022^[33]). Since unrecorded tobacco or alcohol products are usually cheaper than registered ones, a standard argument against raising health taxes is the increase in unrecorded consumption, in particular in countries with weak tax administration capacity. However, in practice, the amount of unrecorded consumption does not only depend on the taxes that are levied but also on other factors including the price and availability of unrecorded products, how they are perceived by the population and the policy measures taken to reduce unrecorded consumption. Recent increases in alcohol taxes in Kenya did not lead to substantial increases in either unrecorded consumption or decreases in government revenue (Rehm et al., 2022^[33]). Similarly, Finland decreased its alcohol taxes by 33 % in 2004 after Estonia joined the EU in order to reduce the tax differential and prevent cross-border shopping; nevertheless, the unrecorded consumption in the country increased (WHO, 2017^[34]). Overall, health tax increases do not necessarily lead to higher unrecorded consumption. Chapter 7 will provide more in-depth discussion on smuggling, tax evasion and the link with health taxes.

Strengthening the effectiveness of the tax administration

Governments can introduce accompanying measures to mitigate the impact of health taxes on unrecorded consumption in developing countries (see also Chapter 7), including:

- Mandatory registration for tax purposes for production and import/export
- Mandatory licence for production, distribution and retail sales
- Physical controls of the production and manufacturing processes
- Tax stamps (traditional, enhanced tax stamps, digital tax stamps)
- Monitoring and electronic surveillance systems along the supply chain
 - Track-and-trace systems for production
 - The use of monitoring scanners at production facilities
- Increased fines for illegal activities

Regional health tax coordination

Cross-border shopping of tobacco, alcohol and SSBs products calls for greater regional tax policy coordination. Cross-border shopping constitutes the main source of unrecorded consumption in some regions of the world. Important tax rate differentials between neighbouring countries can lead consumers to travel to other countries to buy cheaper goods. For example, many tourists from the Nordic countries visit the Baltic countries to purchase alcoholic beverages and tobacco at a significantly lower price (Pluta et al., 2020^[14]). Regarding cross-border shopping, experiences of Norway (with consumers travelling to Sweden) and Denmark (with consumers travelling to Germany) show that consumers are prepared to crossing borders for purchases of harmful products, including SSBs, if there is a significant cross-country price differential (Pluta et al., 2020^[14]). This may have a significant impact on health (and other) tax revenues that are collected. Similar effects can also be observed at the local level when a health tax implemented in a city or province. In order to reduce the incentives for cross-border shopping, regional coordination of health tax policies should be considered.

Health tax coordination can be organised at the regional (multi-country) level or bilaterally. Coordination can range between minimum standards and fully harmonised tax bases and rates (WHO, 2021^[21]). For instance, the Eurasian Economic Union requires a harmonization process of excise rates on alcohol and tobacco products across all the Member States that re-aligns pricing policies every five years to prevent cross-border shopping (Rehm et al., 2022^[33]). The countries in the Gulf Cooperation Council have collectively increased health taxes with the objective to tackle obesity of their population.

In addition to regional health tax coordination, countries can strengthen joint border controls and take non-tax measures to reduce cross-border shopping and illicit trade. This includes limits to certain imports through the use of quotas and the elimination of tax-free sales. The Eurasian Economic Union, for instance, has limited the duty-free import of alcoholic beverages per person in its Customs Code.

f. Factors beyond the tax system can influence the design of health taxes

Taxes are never designed in a policy vacuum and this applies to health taxes as well. In some countries, health taxes have been designed in dialogue with non-governmental stakeholders in order to ensure that the health tax can be easily implemented and is efficient and fair. Consultation of non-governmental stakeholders may bring advantages to the health tax policy process (Hofman et al., 2021^[35]) (World Bank, 2017^[36]) (Alsukait et al., 2020^[37]). Nevertheless, it remains a responsibility of government to design the tax such that it meets all objectives that have been identified.

Large firms usually advocate against health taxes with aggressive marketing campaigns and lobbying efforts (Collin and Hill, 2019^[38]), in particular when the objective is tied to health promotion. In some countries, industry opposition blocked health taxes proposals, slowed their adoption, and even managed to withdraw health taxes. In those situations, governments need arguments in favour of health taxes (such as the impact on tax revenues, on health gains for the population in general or particular sub-groups etc.) to dialogue with the private sector and to convince citizens of the need of introducing or improving the design of health taxes. Tax policy units within Ministry of Finance can play an important role in preparing technical policy briefs based on country-data evidence to support the credibility of the government in introducing or revising a health tax and to partner with civil society organisations. Ideally tax policy units' work on health taxes should be done jointly with Ministry of Health, possibly with the support of other Ministries (such as the Ministries of Industry and Labour), often with consultation and mobilisation of major civil society organisations and the media.

Tax design and information campaigns should go hand in hand with the introduction of health tax reform measures. This will limit the opposition of consumers to the tax-induced price changes. Regular awareness campaigns of the health damage of the consumption of certain products are an integral part of a policy that aims at improving the health of the population (see also Chapter 10).

In order to increase support for health tax reform, governments may consider committing the revenue from the tax to a specific health-related purpose, either through a hard or a soft earmarking process, or the use of explicit commitments to spend additional resources for particular purposes. Earmarking of revenues may be considered when budget processes do not work efficiently. It nevertheless requires a cautious approach and might need to be complemented with special measures to avoid a misuse of the tax funds, including the introduction of sunset clauses and a regular assessment of the assignment of the funds (see also Chapter 6).

Other non-tax factors may have an impact on the design of health taxes in practice, such as:

- The alignment with international tax commitments and obligations. The General Agreement on Tariffs and Trade (GATT) prevents World Trade Organisation members from introducing taxes that discriminate against imported products to protect domestic production (non-discrimination principle – see GATT 1994 Article III). Hence a health tax imposed on products that are predominantly imported but that does not include in its base the domestically produced products that are very similar to the imports could result in a breach of the World Trade Organisation rules.
- The willingness to support a specific domestic industry (e.g., wine sector in a wine producing country). For example, in the case of alcohol, specific types of alcohol or alcohol products may benefit from lower tax rates compared to other alcohol products in order to support the domestic industry, or in response to successful lobbying (Angus Colin, Holmes and Meier, 2019^[36]). These approaches are in accordance with the GATT 1994 Article III as long as there is no discrimination against similar imported products.

Health taxes are measures that can be part of broader policy objectives. Taxes are one policy instrument amongst many others. In some cases, taxes are not the most appropriate instrument, and/or shall be used in combination of other policy tools (see also Chapter 9). For example, if the policy objective is to

decrease the prevalence of lung cancers, tobacco taxes will be needed together with taxes aiming at reducing pollution (e.g., higher taxes on fossil fuels may induce people to reduce the use of their car which will create positive health effects) and other policy instruments (such as regulation). Indeed, according to the WHO, air pollution alone has been estimated to contribute to 62,000 lung cancer deaths and 712,000 cardiac and respiratory disease deaths per year worldwide (Diarra, 2022^[36]). If the policy objective is to reduce methane emission, taxes on meat can be considered as there is increasing evidence that meat production plays a significant role in those emissions (and therefore generates negative externalities for health and the environment) while excessive meat consumption can be harmful for health. However, those taxes might be extremely challenging to implement, in particular in developing countries, and therefore shall be considered with particular attention. Similarly, taxes on pollutants could be included in government's health tax policy given the direct negative impact of pollutants on health. In general, the relation between health taxes and environmentally related taxes remains an area that has received little attention in the tax policy debate and deserves further work.

Finally, other fiscal pressures can also influence the introduction of health taxes. For example, many countries have postponed the introduction of health taxes or the revision of their design as of 2020 when the COVID-19 pandemic hit. Several factors explain this trend: governments' efforts and priorities changed to cope with immediate health, economic and social consequences of the pandemic, the international community mobilised financing to fill budgetary gaps and countries sought to cushion consumers' reduced spending power (Lane, 2022^[41]). An inflationary context can also reduce the willingness of governments to introduce or increase health taxes as it might be politically uneasy to introduce new taxes on populations whose disposable income is being squeezed by rising prices, similarly to what has been observed in 2022 with increased energy and food prices (see also Section II.C)

Box 0.1. Checklist 2. Core considerations when designing health taxes

- Define the objective(s) of the health tax (revenue raising, reducing consumption, preventing initial consumption, incentivising substitution towards healthier products). If several objectives are pursued at the same time, prioritize objectives in dialogue between the Ministries of Health and Finance
 - Ensure that key design aspects of the health tax are aligned with the objective of the tax
 - Define whether a specific population group is targeted by the health tax, and adjust the design accordingly
 - Consider the different policy options available to strengthen the role of health taxes, by first looking at health taxes currently levied, and then by considering introducing new health taxes
 - Levy health taxes as close as possible to the harm factor
 - Levy health taxes on a broad base, but ensure there are non-taxed healthier substitutes available for consumers
 - Ensure that the health tax reduce product affordability over time, by indexing it to inflation or real income growth
 - Analyse the distributional impact of health taxes; if it is decided to offset the possible regressive impact of health taxes, introduce targeted transfers to low-income households while ensuring that the behavioural incentives of health taxes remain intact
 - Keep the health taxes rules as simple, transparent and certain as possible, thereby recognising that a certain level of complexity will be unavoidable for the tax to meet its health objectives
 - Ensure that the design of the health tax is aligned with the tax administration capacities
 - Provide the tax administration with the necessary instruments for combatting health tax evasion
 - Engage in a dialogue with neighbouring countries (and possibly regional organisations) to reduce health tax rate and base differentials and fight against health tax evasion
 - Anticipate the impact of non-tax factors on the design of health taxes
 - Analyse the impact of health taxes on tax revenues, prices, and consumption, if possible, by product and across years, and make the information publicly available
 - Conduct joint technical work across Ministries (in particular the Ministry of Finance and Ministry of Health) to prepare the introduction of a health tax, dialogue with the private sector and civil society, and launch regular information campaigns
 - Consider soft earmarking to support the introduction or revision of the health tax
-

References

- Alsukait, R. et al. (2020), “Sugary drink excise tax policy process and implementation: Case study from Saudi Arabia”, *Food Policy*, <https://www.sciencedirect.com/science/article/pii/S0306919219306116?via%3Dihub> (accessed on 12 April 2022).
- Angus Colin, J. Holmes and P. Meier (2019), “Comparing alcohol taxation throughout the European Union”, https://www.researchgate.net/publication/333510334_Comparing_alcohol_taxation_throughout_the_European_Union (accessed on 12 April 2022).
- Brys, B. et al. (2016), “Tax Design for Inclusive Economic Growth”, No. 26, OECD, https://www.oecd-ilibrary.org/tax-design-for-inclusive-economic-growth_5jlv74ggk0g7.pdf?itemId=%2Fcontent%2Fpaper%2F5jlv74ggk0g7-en&mimeType=pdf (accessed on 12 April 2022).
- Chaloupka, F. et al. (2010), “Cigarette Excise Taxation: The Impact of Tax Structure on Prices, Revenues, and Cigarette Smoking”, National Bureau of Economic Research, https://www.nber.org/system/files/working_papers/w16287/w16287.pdf (accessed on 12 April 2022).
- Collin, J. and S. Hill (2019), “Structure and Tactics of the Tobacco, Alcohol, and Sugary Beverage Industries”, <https://data.bloomberglp.com/dotorg/sites/2/2019/04/Structure-and-Tactics-of-the-Tobacco-Alcohol-and-Sugary-Beverage-Industries.pdf> (accessed on 12 April 2022).
- Conlon, C., N. Rao and Y. Wang (2021), “Who Pays Sin Taxes? Understanding the Overlapping Burdens of Corrective Taxes”, National Bureau of Economic Research, https://www.nber.org/system/files/working_papers/w29393/w29393.pdf (accessed on 12 April 2022).
- Crawford, I., A. (2004), *The fat tax*, Institute of Fiscal Studies.
- Diarra (2022), https://www.oecd-forum.org/posts/holistic-environmental-policies-have-the-opportunity-to-address-health-disparities-here-s-how?utm_source=digest_mailer&utm_medium=email&utm_campaign=daily_digest.
- Hagenaars, L., P. Jeurissen and N. Klazinga (2017), “The taxation of unhealthy energy-dense foods (EDFs) and sugar-sweetened beverages (SSBs): An overview of patterns observed in the policy content and policy context of 13 case studies”, *Health Policy*, Vol. 121/8, pp. 887-894, <https://doi.org/10.1016/j.healthpol.2017.06.011>.
- Hofman, K. et al. (2021), “South Africa’s Health Promotion Levy: Excise tax findings and equity potential”, *Obesity review*, <https://onlinelibrary.wiley.com/doi/full/10.1111/obr.13301> (accessed on 12 April 2022).
- IMF (2021), *How to Apply Excise Taxes to Fight Obesity*, <https://www.elibrary.imf.org/view/journals/061/2021/008/061.2021.issue-008-en.xml> (accessed on 12 April 2022).
- IMF (2016), *How to Design and Enforce Tobacco Excises?*, <https://www.imf.org/external/pubs/ft/howtonotes/2016/howtonote1603.pdf> (accessed on 12 April 2022).
- Kilian, C. et al. (2021), “Modelling the impact of increased alcohol taxation on alcohol-

- attributable cancers in the WHO European Region”, *The Lancet Regional Health - Europe*, <https://www.sciencedirect.com/science/article/pii/S2666776221002106?via%3Dihub> (accessed on 12 April 2022).
- Lane, C. (2022), *Maintaining health taxes in an inflationary world*.
- Lane, C. (2022), *The IMF and Health Taxes: Progress Falters during COVID-19 Emergency*, Center for Global Development, <https://www.cgdev.org/publication/imf-and-health-taxes-progress-falters-during-covid-19-emergency> (accessed on 21 April 2022).
- Lane, C., A. Glassman and E. Smitham (2021), *Using Health Taxes to Support Revenue: An Action Agenda for the IMF and World Bank*, Center for Global Development, <https://www.cgdev.org/sites/default/files/Lane-Health-Tax-COVID-19.pdf> (accessed on 12 April 2022).
- Levell, P., B. Roantree and J. Shaw (2015), “Redistribution from a Lifetime Perspective”, No. W15/27, Institute for Fiscal Studies, <https://ifs.org.uk/uploads/publications/wps/WP201527.pdf> (accessed on 12 April 2022).
- OECD (2021), *Preventing Harmful Alcohol Use*, OECD Health Policy Studies, OECD Publishing, Paris, <https://dx.doi.org/10.1787/6e4b4ffb-en>.
- OECD (2020), *Consumption Tax Trends 2020: VAT/GST and Excise Rates, Trends and Policy Issues*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/152def2d-en>.
- OECD (2014), *The Distributional Effects of Consumption Taxes in OECD Countries*, <https://www.oecd-ilibrary.org/docserver/9789264224520-en.pdf?expires=1649765664&id=id&accname=ocid84004878&checksum=C730682AB53A70D473A30DB16718180F> (accessed on 12 April 2022).
- OECD/IMF (2019), *Progress Report on Tax Certainty*, OECD/IMF, <https://www.oecd.org/tax/tax-policy/imf-oecd-2019-progress-report-on-tax-certainty.pdf> (accessed on 12 April 2022).
- Pan American Health Organization (2021), *Sugar-sweetened beverage taxation in the Region of the Americas*, https://iris.paho.org/bitstream/handle/10665.2/53252/9789275123003_eng.pdf?sequence=1&isAllowed=y (accessed on 12 April 2022).
- Plūta, A. et al. (2020), *Excise Duty Policy in the Baltic States - Alcoholic Beverages, Soft Drinks and Tobacco Products*, Baltic international centre for economic policy studies, https://www.sseriga.edu/sites/default/files/2020-10/Excise%20Duty%20Policy%20in%20the%20Baltic%20States_0.pdf (accessed on 12 April 2022).
- Rehm, J. et al. (2022), “The impact of alcohol taxation changes on unrecorded alcohol consumption: A review and recommendations”, *International Journal of Drug Policy*, <https://www.sciencedirect.com/science/article/pii/S095539592100325X?via%3Dihub> (accessed on 12 April 2022).
- Sassi, F. (2022), *Fiscal Policies for Nutrition: A Vision for the Future*.
- Sassi, F., A. Belloni and C. Capobianco (2013), “The Role of Fiscal Policies in Health Promotion”, OECD, https://www.oecd-ilibrary.org/the-role-of-fiscal-policies-in-health-promotion_5k3twr94kvzx.pdf?itemId=%2Fcontent%2Fpaper%2F5k3twr94kvzx-en&mimeType=pdf (accessed on 12 April 2022).

- Sassi, F. et al. (2018), *Equity impacts of price policies to promote healthy behaviours*, The Lancet Taskforce on NCDs and economics 4, [https://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736\(18\)30531-2.pdf](https://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736(18)30531-2.pdf) (accessed on 21 April 2022).
- Slemrod, J. and C. Gillitzer (2014), “Insights from a Tax-systems Perspective”, *CESifo Economic Studies*, Vol. 60/1, pp. 1-31, <https://doi.org/10.1093/cesifo/ift015>.
- University of Illinois Chicago (2021), *Cigarette Tax Scorecard (2nd Edition)*, <https://www.tobacconomics.org/research/cigarette-tax-scorecard-2nd-edition/> (accessed on 12 April 2022).
- WHO (2022), *Sugar-sweetened beverage taxes in the WHO European region. Success through lessons learned and challenges faced*.
- WHO (2021), *WHO report on the global tobacco epidemic*, <https://www.who.int/publications/i/item/9789240032095> (accessed on 12 April 2022).
- WHO (2021), *WHO technical manual on tobacco tax policy and administration*, <https://www.who.int/publications/i/item/9789240019188> (accessed on 12 April 2022).
- WHO (2020), *Alcohol pricing in the WHO European Region*, <https://apps.who.int/iris/bitstream/handle/10665/336159/WHO-EURO-2020-1239-40989-55614-eng.pdf?sequence=1&isAllowed=y> (accessed on 12 April 2022).
- WHO (2020), *Heated tobacco products: a brief*, https://www.euro.who.int/_data/assets/pdf_file/0008/443663/Heated-tobacco-products-brief-eng.pdf (accessed on 12 April 2022).
- WHO (2019), *Price elasticity*, WHO Framework Convention for Tobacco Control.
- WHO (2017), *Resource tool on alcohol taxation and pricing policies*, <https://www.who.int/publications/i/item/resource-tool-on-alcohol-taxation-and-pricing-policies> (accessed on 12 April 2022).
- WHO (2015), *Fiscal policies for diets and prevention of noncommunicable diseases*, https://www.who.int/docs/default-source/obesity/fiscal-policies-for-diet-and-the-prevention-of-noncommunicable-diseases-0.pdf?sfvrsn=84ee20c_2#:~:text=The%20main%20fiscal%20policy%20interventions,and%20For%20other%20healthy%20foods. (accessed on 12 April 2022).
- World Bank (2020), *Health and Distributional Impacts of a Tax on Sugar-Sweetened Beverages in Kazakhstan*, <https://openknowledge.worldbank.org/bitstream/handle/10986/33970/Support-for-Sugary-Drinks-Taxes-Health-and-Distributional-Impacts-of-a-Tax-on-Sugar-Sweetened-Beverages-in-Kazakhstan.pdf?sequence=1&isAllowed=y> (accessed on 12 April 2022).
- World Bank (2020), *Sugar-sweetened Beverages and Pre-packaged Foods: the Impact of Taxation on Price, Consumption, and Revenues and its Contribution to Achieving the Sustainable Development Goals in Central America, Panama, and the Dominican Republic*, <https://thedocs.worldbank.org/en/doc/611961599658512658-0090022020/original/TF0A4082FullreportSugarSweetDrinksEnglishFinal20201.pdf> (accessed on 12 April 2022).
- World Bank (2020), *Taxes on Sugar-Sweetened Beverages : Summary of International Evidence and Experiences*, <https://openknowledge.worldbank.org/bitstream/handle/10986/33969/Support-for-Sugary->

- [Drinks-Taxes-Taxes-on-Sugar-Sweetened-Beverages-Summary-of-International-Evidence-and-Experiences.pdf?sequence=6&isAllowed=y](#) (accessed on 12 April 2022).
- World Bank (2019), *Distributional Effects of Tobacco Taxation : A Comparative Analysis*, <https://openknowledge.worldbank.org/bitstream/handle/10986/31534/WPS8805.pdf?sequence=4&isAllowed=y> (accessed on 12 April 2022).
- World Bank (2019), *Is Tobacco Taxation Regressive? Evidence on Public Health, Domestic Resource Mobilization, and Equity Improvements* *cb*, <https://openknowledge.worldbank.org/bitstream/handle/10986/31575/Is-Tobacco-Taxation-Regressive-Evidence-on-Public-Health-Domestic-Resource-Mobilization-and-Equity-Improvements.pdf?sequence=1&isAllowed=y> (accessed on 12 April 2022).
- World Bank (2017), *The Political Economy of the 2016 Tobacco and Proposed Sugar-Sweetened Beverage Tax Increases in Colombia*, <https://openknowledge.worldbank.org/bitstream/handle/10986/28569/120225-WP-P154568-ColombiaPoliticalEconomy-PUBLIC.pdf?sequence=1&isAllowed=y> (accessed on 12 April 2022).
- World Bank (2017), *Tobacco tax reform, At the crossroads of health and development, A multisectoral perspective*, <https://openknowledge.worldbank.org/handle/10986/28494> (accessed on 21 April 2022).
- Wright, A., K. Smith and M. Hellowell (2017), “Policy lessons from health taxes: a systematic review of empirical studies”, *BMC Public Health*, <https://bmcpublichealth.biomedcentral.com/track/pdf/10.1186/s12889-017-4497-z.pdf> (accessed on 12 April 2022).

Chapter 5: Setting the Health Tax Structure and Rate

I. Introduction

Nearly all countries have long-standing alcohol and tobacco excise taxes. As of 2022, 186 countries applied excise taxes on tobacco products and at least 148 countries³⁹ applied excise taxes on at least one alcoholic beverage type.⁴⁰ The number of countries applying taxes on SSBs has increased in the last decades. As of 2023, at least 117 countries applied a tax on at least one type of SSB at national level.⁴¹

Setting the tax structure and rate is an essential element in the policy design of a health tax since it has consequences for attaining the desired health and fiscal objectives, the economic impact, the distributional impact, as well as administrative and compliance costs. In this chapter we examine practical approaches to determining the tax structure and rate, complemented by country examples.

There is a complex sequence of events from setting the tax rate to assessing the impact of this tax determined by: how much of the tax is passed on to goods prices (pass-through), how consumers react to the changed goods prices (elasticities), and what impact the change in consumption has, in particular on health status, the total tax revenue from the good in question, and the consumption of other goods (substitution effects).

II. The economic framework for health tax design

A key issue to address is why the use of health taxes is appropriate. Allocative efficiency requires taxes should be applied neutrally to avoid distortions in the allocation of market resources. Uneven tax treatment is considered distortionary and is generally discouraged under an efficiency framework. However, in the presence of market failures, arising from uncompensated social costs of consumption or the lack of full information on the risks and discounting of future impacts of consumption, taxation can serve as a corrective fiscal instrument.

Negative externalities arise when consumption of a good imposes costs on other individuals and/or society as a whole. For example, second-hand smoke (Centers for Disease Control and Prevention 2022), motor vehicle accidents, crime, and public healthcare costs. Taxes help to internalize these costs, by raising prices for the consumer to reflect the costs imposed on others (see detailed discussion in Chapter 4).

Internalities refer to cognitive biases, such as addiction, that can lead to poor decisions, including consumption of harmful products, and they provide an additional rationale for levying corrective taxes. Consumers also face challenges of self-control and time-inconsistency, causing them to underweight risks of addiction and future health costs relative to how they will weigh them in the future, and thus not acting in their own best interest (Gruber and Köszegi 2001). (see detailed discussion in Chapter 4.)

Many global and country studies have taken a broad approach to estimate the economic cost of consumption which includes both externalities and internalities. This combines the direct costs such as medical care and policing (for alcohol) with the indirect costs from loss of productive workers due to death and disability (See Box 1).

³⁹ This is based on information on excise tax on alcoholic beverages collected for 164 Member States.

⁴⁰ World Health Organization (2023). WHO report on the global tobacco epidemic, 2023: protect people from tobacco smoke. Geneva: WHO; 2023. <https://www.who.int/publications/i/item/9789240077164>; World Health Organization (2023). Global report on the use of alcohol taxes, 2023. Geneva: WHO; 2023. <https://www.who.int/publications/i/item/9789240086104>

⁴¹ World Bank (2023). Global SSB Tax Database. <https://ssbtax.worldbank.org/>

Box 1. Estimates of the costs and effectiveness of corrective taxes for externalities and internalities from consumption of tobacco, alcohol, and SSBs

Tobacco

Globally, the economic cost of smoking has been estimated to be 1.8% of the world's annual gross domestic product (GDP), with 25% attributed to direct healthcare costs and 75% to indirect costs associated with mortality and disability (Goodchild, Nargis, and d'Espaignet, 2018). Mortality alone accounts for 50% of total economic losses, rising to nearly 70% in Southeast Asia.

This economic burden is not uniform across countries, as a study involving 21 low- and middle-income countries estimated that the average socioeconomic costs associated with tobacco use was 1.1% of the average annual gross domestic product (GDP) in low-income countries, 1.8% in lower-middle-income countries, and 2.9% in upper-middle-income countries (Mann et al. 2024).

An analysis by Gruber and Kőszegi (2008), applying a modern economic perspective to tobacco taxation, estimated that tobacco taxes would need to nearly double to fully account for internalities alone (costs smokers impose on themselves due to addictive behaviors and misperception of risks).

Tobacco taxation is recognized as one of the most cost-effective tobacco control interventions (U.S. National Cancer Institute and World Health Organization, 2016), and was highlighted in the Addis Ababa Action Agenda as an effective measure to reduce tobacco consumption. In a study of tobacco control investment cases, the return on investment from tobacco taxation showed the highest return across all tobacco control interventions in 15 of 21 countries, with values higher than 16 to 1, and in 9 countries return on investment were over 500 (Mann et al. 2024).⁴²

Alcohol

The annual economic costs from alcohol consumption, including liver disease and cancer treatment, road traffic accidents, and lost productivity mostly in high-income countries are estimated to be 2.6 percent of GDP (Manthey et al. 2021).

A review of 50 studies in high-income countries that examined the impact of alcohol taxes and prices on various harms caused by alcohol concluded that doubling alcohol taxes was associated with an average reduction of 35 percent in alcohol-related mortality, an 11 percent reduction in traffic crash deaths, a 6 percent reduction in sexually transmitted diseases, a 2 percent reduction in violence, and a 1.2 percent reduction in crime (Wagenaar, Tobler, and Komro 2010). Another study examining 72 papers on the effectiveness of alcohol tax policy interventions found that in nearly all cases there was an inverse relationship between the tax or price of alcohol and indices of excessive drinking or alcohol-related health outcomes (Elder et al. 2010). However, the effectiveness of corrective taxes on alcohol can be reduced if there is significant unrecorded consumption (which is often but not always illicit production) and increased enforcement is a priority in many countries (Sornpaisarn et al. 2017; Witt and Nagy 2022).

⁴² Mann N, Spencer G, Hutchinson B, et al. Interpreting results, impacts and implications from WHO FCTC tobacco control investment cases in 21 low-income and middle-income countries. *Tobacco Control* 2024;33:s17-s26.; *The Economics of Tobacco and Tobacco Control*. National Cancer Institute Tobacco Control Monograph 21. NIH Publication No. 16-CA-8029A. Bethesda, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Cancer Institute; and Geneva, CH: World Health Organization; 2016).

Although alcohol consumption and health outcomes also depend on social and economic factors an increase in pricing/taxation is viewed as a central component of an overall alcohol strategy (Patra et al. 2012).

SSBs

Sugary beverage consumption is one contributing factor to obesity, which has estimated annual economic costs of US\$2 trillion (about 2 percent of global GDP) (Dobbs et al 2014) as well as diabetes, which has healthcare costs alone of US\$760 billion (2019) (International Diabetes Foundation 2021).

A growing body of evidence is making a ~~convincing~~ case to tax SSBs to correct for market failures arising from externalities. For example in the United States, which has high per capita SSB consumption, an estimated socially optimal SSB tax would need to be between 34 and 71 US cents per liter (Allcott, Lockwood, and Taubinsky 2019).

Although the international experience with SSB taxes is relatively recent, emerging evidence suggests that the health impacts of such policies are starting to be realized (Shekar and Popkin 2020). For example, the 10 percent tax on sugar-sweetened beverages in Mexico is estimated to reduce obesity by 2.5 percent by 2024 and prevent 86,000 to 134,000 new cases of diabetes by 2030. Another study estimated a reduction of 189,300 fewer cases of type 2 diabetes, 20,400 fewer cases of strokes and myocardial infarctions, and 18,900 fewer deaths occurring from 2013 to 2022 in Mexico because of this taxation. Other studies find that SSB taxes do not significantly reduce consumption compared to similar countries without SSB taxes, e.g. (Chatelan et al. 2023). However, these studies typically focus mainly on countries where SSB taxes are small in magnitude and do not control for the large number of factors that may influence demand for SSBs.

III. Basic considerations for setting the tax structure and rate

a. General discussion

i. The choice of health tax tool: excise taxes, sales taxes, and import duties

Health taxes are taxes that are applied to products with negative public health impacts, particularly negative externalities and internalities, most prominently, tobacco, alcohol and SSBs. By design they change the relative price of the targeted products relative to other products.

Excises are the preferred and most-used tool for health taxes since they can be easily targeted to change the relative price of a narrow range of goods and apply to all goods consumed in a jurisdiction, independent of whether they are imported or domestically produced, and normally do not apply to exported products. An ‘excise’ refers to a single-stage sales tax applied to a limited group of commodities (Institute for Fiscal Studies 2010). Where there is a strong case for taxing a commodity on a specific rather than ad valorem basis, this can be implemented more easily with a separate excise (Institute for Fiscal Studies 2010). Excises may, and usually do, co-exist with VAT or sales taxes (applying to a broad range of goods) and/or import duties. Excises usually apply to fuels, alcohol, tobacco, and a few smaller product categories including sugar-sweetened beverages.

Good practices in VAT and sales tax policy favor a broad base, with low and uniform tax rates with limited exceptions whereas health taxes aim for a narrow base with relatively high tax rates. Uniform sales taxes and value-added taxes (VATs), are not generally considered health taxes since they generally do not change the relative prices of goods. Differentiated VAT or sales taxes, e.g., an elevated special

consumption tax, can function like an excise. Differentiated sales taxes or VATs are not generally viewed as good practice for administrative reasons.. However, some countries use them as health taxes in place of excises for political economy considerations, e.g., easier to change an existing tax rate or level than to introduce a new excise, or technical reasons, e.g., due to restrictions on which types of taxes can levied can be levied in sub-national jurisdictions. Also, removing VAT or sales tax exemptions that apply to harmful products, e.g., exemptions for SSBs, would change relative prices and have a similar impact to a (small) newly introduced health tax.

Import duties (also known as import tariffs or customs duties) are not usually considered health taxes since they only apply to imported goods and not to domestically produced goods although there are exceptions in some countries and for some products. Increasing the import duty will only change the relative prices between imported and domestically produced goods and is less likely to affect domestic consumption in a meaningful manner than a tax on both imported and domestically produced goods. Furthermore, increasing an import duty may simply increase the incentive for a domestic firm to begin or increase domestic manufacturing. Additionally, import duties may be limited by trade agreements, including limiting maximum tax rates or providing duty free imports from specific countries. Nonetheless, some countries, including small island states, may rely on import duties as a replacement for an excise for some products that are not domestically manufactured and are unlikely to ever be so due to unique constraints, (e.g., cigarettes in the Maldives), or in countries where the climate prevents domestic cultivation of tobacco or sugar. However, these are exceptions rather than the norm. Also, in the absence of any excise regime countries may opt for import duties or sales taxes as a practical alternative for reasons of political economy.

The structure and rate of excises varies significantly across/within products and jurisdictions. The following section describes the various tax structures and the attributes of them as well as describing best practices in tax design.

ii. Types of excises: ad valorem versus specific

The tax may be based on value, known as an ad valorem tax, where the rate is typically applied to the value of the product determined at some point in the production value chain. This value may be early in the supply chain, e.g., ex-factory or import price, for domestic and imported products respectively, or later in the supply chain, e.g., retail prices. Ad valorem taxes are viewed as more progressive than specific taxes (as low-price goods consumed by low-income consumers bear less tax than high-price goods). However, their use should be weighed against a low price and consumption impact for low-priced products which reduces potential health benefits, the potential scope for producers to manipulate taxable prices, and a multiplier effect that disincentivizes costly improvements in product quality (Keen 1998). One advantage of ad valorem taxes is that they do not need to be explicitly adjusted to account for inflation and thus maintain their real value over time. (See Chapter 4 Table 1).

The tax may be based on a defined unit or volume, known as an ad rem or specific tax. For tobacco this is often based on the number of cigarettes or the weight of tobacco, e.g., per 20 cigarettes whereas for beverages this is most often based on the volume in litres. However, for beverages, the tax base may vary between the volume of the beverage, e.g., the litres of beer or wine or juice or the volume/quantity of the alcohol or sugar (e.g. the litres of absolute alcohol or the grams of sugar). These dose-based specific taxes are more relevant to targeting the health-harming content (and the externalities and internalities), although not all health harms have a linear relationship to consumption. Specific taxes are a larger share of low-priced goods and this may result in a more regressive tax incidence as well as a larger impact in reducing consumption and linked health harms. On balance, taking into account the positive medium-term health impacts, specific taxes may be progressive (Fuchs and Meneses 2017; Fuchs, Paz, and Paula 2019; Fuchs, Mandeville, and Alonso-Soria 2020; Fuchs and Icaza 2021). Revenue from specific taxes will tend to be eroded by inflation unless regularly or automatically increased for inflation.

Both theory and practice suggest that switching from ad valorem taxation to specific taxation (in a broadly revenue neutral manner) will reduce consumption of the targeted health-harming content, with a shift to products with lower health-harming content and higher priced products within this category (Keen 1998).

In practice countries may opt for a combination of specific and ad valorem taxes. This may take the form of a specific tax and ad valorem tax or an ad valorem tax with a specific floor (discussed further below).

iii. Tax rates: Uniform versus tiers and thresholds

A uniform tax system applies the same tax rate to all products. For example, South Africa applies a uniform specific tax to cigarettes of X rand per pack. The tax is the same whether the brand is a cheaper or premium brand, and independent of the product characteristics.

Some countries apply differentiated or tiered ad valorem or specific taxes according to product characteristics including price, packaging, production volumes, production method, or product constituent. For example, Indonesia has seven tiers for cigarette taxes, differentiating rates firstly by whether the cigarette is rolled by a machine or by hand, and whether or not the cigarette includes cloves in the mixture. Then rates are tiered by the production volume and retail price (SEATCA n.d.). These tiers include greater price variation and result in specific taxes taking on more attributes of ad valorem taxes. Tiered taxes for tobacco are sometimes justified as a means to protect low-cost domestic producers (and their employees) from relatively high specific taxes. In practice, they may not achieve this; in addition there is no health rationale for such tax differentiation.

However, tiers may also be based on the sugar or alcohol content and is an alternative tax structure to a dose-based system, applying similar incentives to a volumetric tax. Stronger alcohols, particularly spirits, may be taxed at higher rates per unit of alcohol than weaker alcohols such as wine or beer. Similarly, high sugar content beverages may be taxed at a higher specific tax rate per liter.

Another approach is a threshold under which no tax applies. This generates a more explicit incentive to reduce health harming content. In some cases, a very low threshold may be applied for tax administration purposes to distinguish between taxed and non-taxed products. For example, the EU alcohol tax directives sets a threshold for beer tax at 0.5%, ostensibly to ease the burden on tax administration.

For SSBs, tiered taxes are used to apply higher taxes on high sugar content beverages to provide incentives for product reformulation.

iv. Tax base

The choice of objects to be taxed is important to both the health and revenue goals of the tax. The tax base should in principle focus on all products containing the health-harming ingredient be it tobacco, alcohol, or sugar in drinks to minimize the potential for substitution to other lower taxed or untaxed but equally harmful products. In practice, as discussed further in section B, policy goals, administrative capacity, consumption patterns, and market characteristics may determine the choice of tax base.

b. Best practices and examples of tax structures and tax rates

i. Tobacco

WHO identifies uniform specific taxes as the best practice tax structure on tobacco products. This tax structure results in the largest health impact. This also results in reduced opportunities for consumers to trade-down to cheaper brands to avoid the tax increase. Furthermore, tax increases tend to be over-

shifted more when uniform specific taxes are in place (see below). Finally, uniform specific taxes are easier to administer and collect than ad valorem taxes, resulting in less tax avoidance and evasion.

In some cases, WHO acknowledges that mixed systems, including both specific and ad valorem taxes, are also considered best practice when the specific component is significantly larger than the ad valorem component and/or when a high tax floor is in place. WHO reports that 60 percent of countries had best practice tax structures in 2022 (i.e. specific or mixed relying more on the specific component), compared to 43 percent of countries in 2008, highlighting global progress in reforming tax structures (WHO, 2023). There is also a movement away from tiered tobacco taxes, e.g., Philippines, Ukraine, due to administrative complexity and the expectation that uniform specific or ad valorem taxes will have a greater impact on health than differentiated taxes.

WHO uses several metrics to assess tobacco tax structures, including the tax share and affordability (discussed further below). WHO recommends that excise taxes should account for at least 70 percent of the retail price or that total taxes should account for 75 percent of the retail price (World Health Organization 2021a). Furthermore, countries should raise taxes regularly to ensure that tobacco products become less affordable over time.

In practice, the total tax as a share of retail price on the most-sold brand of cigarettes ranges from below 10 percent in some low-income countries to over 70 percent in a range of high- and middle-income countries in 2022 (WHO, 2023). Forty-one countries met WHO's recommendation that total taxes should account for at least 75 percent of retail prices, up from 23 in 2008. Box 2 provides some examples of good practice tobacco tax structures and rates.

Box 2. Examples of tobacco tax structures and rates

While uniform specific tobacco taxes are recommended to achieve the greatest health impact, they run the risk of being eroded by inflation, or not keeping up with wage growth. To address this risk 32 countries have a system that indexes specific cigarette taxes to either prices or wages including including members of the Southern Africa Customs Union, Armenia, Chile, Philippines, Ukraine, and Uzbekistan (World Health Organization 2021a).

One method of achieving the WHO recommended tobacco excise accounting for 70 percent of the retail price of the most sold cigarette tax is a uniform specific tax benchmarked to an ad valorem rate. For example, South Africa applies a uniform specific tax on cigarettes, but it is adjusted each year during the budget so that the uniform specific tax is a minimum percentage of the retail price of the most popular brand. Between 1993 and 2009, total taxes on cigarettes (including excise and sales taxes) in South Africa increased from 32 percent of retail price to 52 percent. During the same period, cigarette sales declined 30 percent, government revenue from tobacco taxes increased 800 percent, and smoking prevalence among adults decreased 25 percent (Tobacco Free Kids 2011).

A hybrid ad valorem and specific structure may be better at capturing additional taxes from higher income groups while also setting a non-trivial tax floor on low-priced goods. For example, the European Union requires member states to levy a minimum rate of excise duties on cigarettes; the specific cigarette tax component should account for between 7.5 percent and 76.5 percent of the total tax burden (including the specific ad valorem and VAT), and the combined value of the specific and ad valorem taxes should account for at least 60 percent of the weighted average retail selling price and at least EUR 60 per 1000 cigarettes. However, if the excise tax is more than EUR 115 per 1000 cigarettes, they need not meet the 60 percent threshold (EU [Directive 2011/64/EU](#)).

ii. Alcohol

As of 2022, at least 148 countries had alcohol excise taxes in place.⁴³ While the number of countries implementing alcohol excise taxes is lower than tobacco, this can in part be ascribed to alcohol sales being banned in seven countries while only one country (Bhutan) prohibits rather than taxes the sale and/or importation of tobacco.

Given the heterogeneity of the alcohol market, many countries apply different tax structures and/or tax rates to different alcohol products. The simplest typology may apply different tax structures and rates to beer and other alcohol products, e.g., Vietnam, or to beer, wine and spirits. In more developed tax systems, different structures and rates may also exist for ready-to-drink beverages or “alcopops” whose alcohol may come from spirits or wine sources but may be more appropriately taxed as a separate category due to patterns of consumption or industry pricing strategy, e.g., Australia introduced an alcopops tax in 2008 that raised prices by 70 percent and resulted in a decline of alcopop consumption from 22 percent to 13 percent of total alcohol consumption among youth (Mojica-Perez, Callinan, and Livingston 2020). In many countries, the popularity of particular products may also require the use of unique categories, for example, cider in the UK or brandy in South Africa.

Considering taxation in 26 OECD countries, excise taxes on beer range from 4 to 51 percent of retail prices, excise taxes on wine range from 0 to 26 percent of retail prices, while for spirits excise taxes range from under 10 percent to over 50 percent of retail prices (Ngo et al. 2021).

No specific benchmark exists for alcohol taxes however, many of the same lessons from tobacco taxation apply. Raising alcohol taxes is one of three WHO “best buys” for cost effective and feasible interventions in low and lower-middle income countries (World Health Assembly 2012). The Non-Communicable Disease Monitoring Framework targets a 10 percent relative reduction in the harmful use of alcohol. Also, alcohol consumption affects achievement of 13 of the 17 SDGs notably with goal 3.5 being “strengthen prevention and treatment of substance abuse, including narcotic drugs and harmful use of alcohol” which is assessed using annual pure alcohol consumption per capita (World Health Organization. Regional Office for Europe 2020).

First, specific taxes are generally preferable to ad valorem taxes since they will result in higher prices and less variance in prices reducing scope for trading down when taxes increase (Chaloupka, Kostova, and Shang 2014). An alternative hybrid system may apply the higher of a specific or ad valorem tax for each brand, as applied to alcohol in Thailand (Sornpaisarn et al. 2017).

Secondary is the tax base. A specific tax could be applied to the volume of the beverage or the alcohol content. Since the externality and internality are directly linked to the content of alcohol, a strong case can be made to use the pure alcohol content as the tax base thereby taxing stronger alcohol products more than weaker alcohol products. However, it is also argued that this will result in greater variation in alcohol prices and the availability of cheap low alcohol products may encourage youth drinking or experimentation or encourage more concentrated patterns of drinking, particularly amongst vulnerable populations. Also, the technical requirements for measuring alcohol content would need to be established (see also Chapter 12). Ultimately, the jurisdiction’s choice of tax base will depend on policy goals, local patterns of drinking and market characteristics.

Other mechanisms may be applied to reduce the availability of cheap products including tax floors or non-tax measures like pricing regulations including minimum unit prices (Box 3). This approach tends to be used by governments with minimal control over levels of taxation.

⁴³ This is based on information on excise tax on alcoholic beverages collected for 164 Member States.

Box 3. Minimum unit pricing (MUP) for alcohol: rationale, evidence, and feasibility as a complementary instrument to health taxes

Minimum unit pricing (MUP) is a measure that sets a minimum price per unit of alcohol, typically measured in volume (e.g., milliliters) or weight (e.g., grams). Some jurisdictions apply minimum unit prices for tobacco products (World Health Organization 2021a). MUP is designed to discourage the purchase and sale of cheap, high-strength alcohol products, which are often associated with harmful drinking behaviors and negative social and health outcomes while having a minimal impact on the price of moderate strength drinks. This may be particularly effective where there is a specific tax on alcohol by category, i.e., beer, wine, spirits.

MUP has been shown to be effective in reducing harmful drinking behaviors. A systematic review found strong support for policies such as MUP in reducing alcohol consumption and alcohol-related harms (Boniface, Scannell, and Marlow 2017).

A study of the introduction of MUP in Scotland and Wales, compared to England which did not introduce MUP, found reduced purchases of alcohol following the introduction of MUP and that the reductions in overall purchases of alcohol were largely restricted to households that bought the most alcohol (P. Anderson et al. 2021; Holmes et al. 2014).

Other countries with MUPs or price floors for some alcoholic products include former Soviet Union countries (Armenia, Belarus, Kyrgyzstan, Kazakhstan, Moldova, Russia, Ukraine, and Uzbekistan) where alcohol drinking levels have declined since their introduction. In addition, minimum prices were used to reduce unrecorded alcohol use in these countries, as they give clear guidance on how much officially produced alcoholic drinks should cost and anything below this price would be counterfeit. (Neufeld et al. 2021).

While both excise taxes and MUPs will raise alcohol prices, it should be noted that tax revenue increases will accrue to the tax authority while any increased profits resulting from MUPs would largely accrue to alcohol producers. However, a study of MUP in Scotland concluded that similar outcomes could be obtained with a differentiated tax system avoiding the transfer of public funds to the alcohol industry (Griffith, O'Connell, and Smith 2022).

Overall, the evidence suggests that MUP alongside alcohol taxation is a cost-effective measure for reducing harmful drinking behaviors and alcohol-related harms (World Health Organization 2022a).

In addition to the tax base, other tax structure elements may be useful including the use of tiers and thresholds based on the alcohol strength to generate incentives for producers to lower alcohol content.

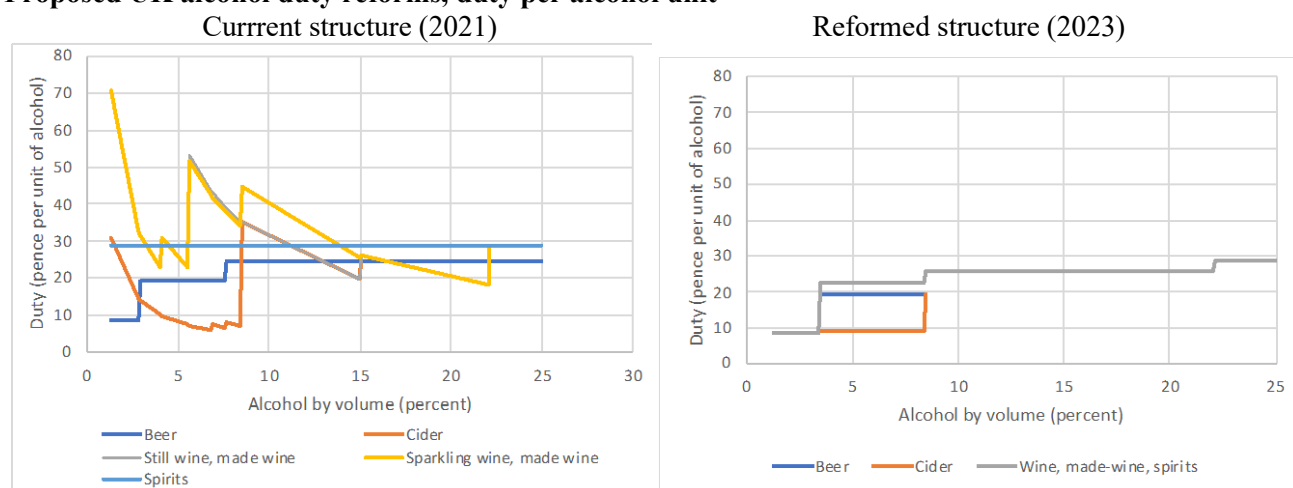
In general, more complexity, including the use of alcohol content as a tax base, requires greater tax administration capacity and resources, and may include additional regulatory capacity. Box 4 summarizes the recent UK reforms of alcohol duty aiming to simplify the tax structure, tax all products in proportion to the alcohol by volume, and eliminate distortions and arbitrary distinctions.

Box 4. Reform of the complex system of alcohol taxation in the United Kingdom

The UK applies different tax structures and rates on beer, cider, wine, and spirits. Beer attracts a specific excise per litre of absolute alcohol with the rate graduated in three tiers based on alcohol content, cider a volumetric excise, i.e. not on alcohol content, with three tiers based on alcohol content, and two additional tiers with volumetric taxes based on alcohol content for sparkling cider, wine has a volumetric rate with four tiers based on alcohol content, and two additional tiers with volumetric taxes based on alcohol content for sparkling wine, and a single alcohol-content-based specific tax for distilled spirits.

In 2021, the UK Treasury announced a reform of the alcohol duty system to come into effect in 2023 with the objective of making the tax structure simpler, more economically rational by eliminating distortions and arbitrary distinctions, and reducing administrative burden on producers. The proposed system sets specific taxes in proportion to the alcohol by volume (ABV) content replacing volume-based taxes for cider and wine. Products of the same ABV, as far as practicable, pay the same tax. The alcohol tax is progressive in that more harmful higher ABV products pay more tax per unit of alcohol than lower ABV products.

Proposed UK alcohol duty reforms, duty per alcohol unit



Source: (HM Treasury 2021)

iii. SSBs

SSBs are defined as all beverages containing free sugars, i.e. monosaccharides (such as glucose, fructose) and disaccharides (such as sucrose or table sugar) added to foods and drinks by the manufacturer, cook or consumer, and sugars naturally present in honey, syrups, fruit juices and fruit juice concentrates (World Health Organization 2017b). Free sugars distinguish between refined sugars and those naturally occurring in unrefined carbohydrates (e.g., brown rice and fruit). The main categories of SSBs are sugar-sweetened carbonated drinks, fruit drinks, sugar-sweetened milk drinks, and energy drinks.

Not all SSB taxes apply solely to SSBs as defined in the previous paragraph. WHO reports 85 countries have levied taxes that apply to SSBs in May 2022 (World Health Organization 2022c). This includes taxes that cover SSBs as well as other non-alcoholic beverages taxes that do not contain free sugar, e.g., bottled water. The World Bank reports more than 50 countries, regions, and cities having SSB taxes, counting only those that have taxes uniquely applied to SSBs and not to other non-alcoholic beverages without free sugars (World Bank 2020).

WHO recommends SSB taxes in the range of 20-50 percent as most effective in reducing SSB consumption based on a meta review of fiscal policy interventions (World Health Organization 2016).

SSB taxation is also recognized as an effective intervention to reduce sugar consumption (World Health Organization 2017a). In 2020, excise taxes on SSBs ranged from 7 percent to 50 percent of price (and 100 percent for energy drinks) (World Bank 2020).

There is no clear guidance on the best practice for designing tax structures on SSBs, however, many of the same lessons from tobacco and alcohol taxation apply. Specific taxes are generally preferred to ad valorem taxes.

Furthermore, the same consideration is applied to the tax base, with the sugar content and beverage volume being options for the tax base. Additionally, sugar content thresholds and/or tiers may be applied. The technical requirements for measuring sugar content would need to be established for uniform or tiered taxes on sugar content which may lead to usage of beverage volume if this capacity does not exist (see also Chapter 13). The base of the SSB tax is also best applied to all categories of drinks with added free sugars to minimize substitution of non-taxed SSBs for taxed SSBs (see below) although this is administratively more complex than applying the tax only to sugar-sweetened carbonated drinks.

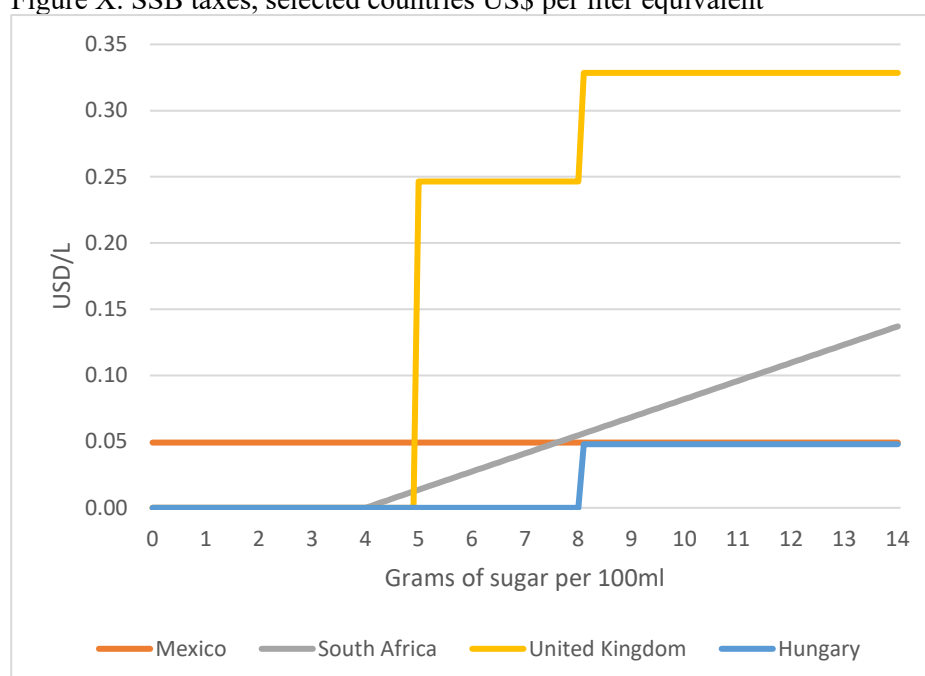
Given the relative increase in popularity and increasing rate of implementation of SSB taxes, and the significant variation in how countries are designing them, an emerging understanding of the effect of these attributes is developing. Four prominent examples with varying design are Mexico, Hungary, South Africa, and the UK (Box 5).

Box 5. Recent experience in SSB tax design

Recent experience in the design of SSB taxes show substantial experimentation: Mexico (uniform specific tax on volume); Hungary (uniform specific tax on volume with a threshold of 8g of sugar per 100ml); the United Kingdom (tiered specific tax with a threshold of 5g of sugar per 100ml); and South Africa (sugar content based specific tax with a threshold of 4g of sugar per 100ml) (Figure X).

Different tax structures generate different incentives for firms. In the UK, evidence shows that manufacturers engaged in product reformulation to lower sugar content to reduce their tax liability (Scarborough et al. 2020). In South Africa, 18 of the top 30 most-popular taxed SSBs reduced their sugar content to below the 4g threshold to avoid their tax liability entirely and a further 9 reduced their sugar content partially reducing their tax liability (World Bank 2023).

Figure X. SSB taxes, selected countries US\$ per liter equivalent



Source: World Bank, 2023.

An important consideration is the scope of the tax. Given that the sugar content is directly linked to the externality, the economic argument would favor applying the tax to all drinks with free sugars, following the WHO definition of sugary beverages, i.e., all types of beverages containing free sugars. Often countries exclude some products (e.g., 100 percent fruit juices) due to political economy considerations. While such exclusions can reduce the revenue yield and possibly reduce the health impact, they may be useful if the group of inclusions and exclusions is focused on targeting large contributors to the health burden while excluding those that are not. However, this added layer of complexity may simply be too difficult and risks a larger range of unintended consequences.

In some cases, bottled water or diet drinks may also be included in the tax base, e.g. Belize, Suriname (Roche et al. 2022). Such broader taxes may have a more substantial revenue generation motive and may be more common in jurisdictions more heavily reliant on indirect taxes. Furthermore, in older

generation tax systems, there was sometimes a very broad range of excises applied to goods and services considered luxuries. This is closely linked to an argument that such broader taxes can make such taxes more progressive. However, they also undermine the behavioral and thus health impact of the tax by reducing or removing the effect of the change in relative prices between taxed and non-taxed products.

IV. Practical approaches to set the health tax rate

The considerations in Box 1 on the estimated social costs and harms from consumption which are related to overall consumption, and therefore prevalence, provide only a starting point for setting the corrective tax rate. Health considerations differ somewhat across products: for alcoholic drinks, while a safe level of alcohol consumption that is associated with zero risk of health consequences has not been established (B. O. Anderson et al. 2023) many countries have a recommended maximum daily intake, and where a large number or proportion of consumers are consuming more than the recommended maximum the case for high corrective taxes is stronger; similar considerations apply for taxing SSBs. However, for tobacco the recommended consumption level is zero so in principle the health-maximizing tax would be a very high rate in order to minimize consumption. This suggests that other considerations including political choices, revenue and tax administration objectives also need to be taken into account in setting the health tax rate which are discussed further below.

a. Revenue considerations (see also Chapter 4).

Consumer reaction to tax changes is measured by the price elasticity of demand. Harmful goods for which price elasticity is low (inelastic demand) are strong candidates for corrective taxes on efficiency grounds, i.e., consistent with the Ramsey rule for efficient non-distortionary consumption taxation that rates should vary inversely with the elasticity of demand (Gentry 1999). The elasticity of demand is closely related to the extent to which there are close substitutes including illegal untaxed products.

As a general rule, a revenue maximizing tax rate can be calculated if information on price elasticities and the tax share of price is available: a revenue increase is more likely if demand is inelastic and the initial tax share of price is low (Crawford and Tanner 1995). Box 6 provides estimates of demand elasticities in developing countries. Nonetheless, if an excise tax increase leads to an increase in tax revenue there is likely some offset from reduced tax receipts on other products resulting from lower consumption of other products (the United States Internal Revenue Service estimates the size of this offsetting tax loss to be 25 percent).

Box 6. Estimates of price elasticities for tobacco, alcohol, and SSBs in developing countries

A price elasticity of demand of -0.5 means that a 10 percent increase in price reduces overall consumption by 5 percent. Price elasticities above -1.0 are deemed inelastic (demand falls less than price rises) and below -1.0 are deemed elastic (demand falls more than price rises). Studies show that the demand for tobacco and alcohol is inelastic in low- and middle-income countries while the elasticity for SSBs is more elastic.

Tobacco. Hundreds of studies estimate the impact of taxes and prices on the demand for tobacco products mostly on cigarettes which account for most tobacco consumption. For low- and middle-income countries price elasticities are estimated between -0.2 and -0.8 clustering around -0.5. In high-income countries the price elasticity estimates are around -0.4 (Chaloupka, Powell, and Warner 2019)

Alcohol. A systematic review of alcohol price elasticity estimates in low- and middle-income countries found the elasticity for alcohol to be -0.64, for beer -0.5 and for other alcoholic beverages -0.79 (Sornpaisarn et al. 2013).

SSBs. A systematic review of SSB price elasticities found that on average the elasticity was -1.0 although with considerable dispersion and that demand for nontaxed products, e.g. water, increased by 1.9 percent for a 10 percent SSB tax (Teng et al. 2019). A more recent systematic review of SSB tax studies found a more elastic price elasticity of -1.59 (Andreyeva et al. 2022).

b. Tax administration considerations.

i. Inflation adjustment.

While ad valorem taxes automatically increase the tax payable on a unit of the product in line with inflation, the real value of specific taxes is eroded by inflation. While this distinction had become less important in the low-inflation environment of the past decade, the recent resurgence of inflation worldwide increases the magnitude of the problem. In principle, specific excises can be automatically indexed to inflation and income growth periodically to protect their value. However, this results in a discontinuous jump in prices at the time of indexation—which may be politically unpopular—and encourages consumers to shift purchases into periods before uprating which erodes revenue. These issues can be lessened by making indexation frequent, e.g., Chile adjusts excises on a monthly basis, or setting specific excises in a foreign currency, such as US dollars as experienced in many transition economies.

ii. Evasion issues.

Specific taxes require monitoring of sales volume and content if dose-based specific taxes, while ad valorem taxes require monitoring of value, and hybrid tax design requires monitoring both sales and value. For many tax authorities the monitoring requirements may not affect the choice of tax instrument, e.g., if VAT returns already provide both volume and value data. But this argument falls if taxpayers are dishonest and are able to misrepresent either volume or value. [link to chapter on tax administration].

Some evasion risks arise from the tax structure, including:

- Ad valorem taxes, specifically those based early in the supply chain are difficult to administer, especially in low-capacity tax administration environments, and are particularly susceptible to tax evasion through under-valuation and/or transfer pricing abuses. Ad valorem later in the supply chain also presents significant compliance costs in setting up price monitoring systems.
- Tiers generate complexity and opportunities for tax evasion. For example, research in Indonesia indicates that a significant share of illicit trade is the wrong designation of higher taxed cigarettes into lower taxed tiers (World Bank 2019).

c. National preferences.

Some health taxes have been in existence for decades or even centuries and may reflect national or even subnational preferences on where the tax burden should fall most heavily. This in large part explains the large variation of health taxes across and sometimes within countries. Some national preferences may primarily reflect producer interests where tobacco, alcohol, or SSB producers are large employers and/or taxpayers.

d. Affordability.

The concept of affordability is the price of products in relation to income, such that affordability may increase during periods of rapid economic growth or if specific taxes are not indexed to inflation. If products are becoming more affordable this can be a signal that health taxes are too low. The evidence by product is that tobacco is becoming more affordable in low and middle income countries because

rising tobacco taxes are not keeping up with rising incomes while alcohol and SSBs are also becoming more affordable in most countries:

Tobacco. Since 1990, cigarettes have become more affordable in most LMICs, due to price increases lagging increases in incomes, and in many cases, prices even declining in LMICs. However, there has been remarkable progress since 2010. Larger price increases have resulted in cigarettes becoming *less* affordable in the majority of LMICs—countries, despite of dramatic increases in economic growth. This has been ascribed to improvements in tobacco tax policy, including several high-profile successes (Blecher, 2020).

Alcohol. Between 1990 to 2016, beer became *more* affordable in the majority of countries, both HICs and LMICs, although with larger magnitudes in LMICs than HICs (Blecher et al. 2017) with no systematic cross-country information available on other alcoholic beverages.

SSBs. Between 1990 to 2016, SSBs became *more* affordable in the majority of countries, both HICs and LMICs, although with larger magnitudes in LMICs than HICs (Blecher et al. 2017).

e. Pass-through of taxes.

For a producer the decision to pass on the cost of an excise tax to consumers depends on several factors. Businesses may be more likely to pass on the cost of an excise tax if the tax is large relative to the price of the good or service, if demand is inelastic as is the case for tobacco and alcohol, or if the business has a high degree of market power and can easily increase prices without losing significant market share. Companies with market power may also decide to, at least temporarily, under-shift a tax increase to prevent a behavioural response from consumers. There is evidence (for tobacco) of higher pass-through for specific taxes than ad valorem taxes, and higher pass-through for higher priced products (World Health Organization 2021b). If taxes are under-shifted, prices rise by less than the tax; if taxes are over-shifted, they increase by more than the tax. In practice the extent of pass-through varies significantly across country, industry, and product. The extent of pass-through of the tax affects the impact of a tax on consumption and welfare, including health.

Tobacco. The considerable literature on tobacco tax pass-through finds that the extent of pass-through is higher in uncompetitive markets but that generally there is less than full pass-through. A systematic review of tobacco industry pricing strategies in response to excise tax policies found the predominant pattern in low- and middle-income countries over the years covered (2000–2019) was undershifting in 11 out of 15 studies. Under-shifting was observed in South Africa, Mexico, Indonesia, Turkey, Thailand, Bangladesh, Pakistan and Mauritius (Sheikh, Branston, and Gilmore 2021).

Alcohol. A review of alcohol tax pass-through in 27 OECD countries during 2003–16 found that excise taxes on wine and cognac are over-shifted to prices, taxes on gin are fully- or under-shifted while excise taxes on beer and scotch whisky are not significantly different from full pass-through (Shang, Ngo, and Chaloupka 2020). Again, the evidence base for tax pass-through in developing countries is very limited.

SSBs. A systematic review of 62 studies on SSB taxes found an overall pass-through rate of 82 percent suggesting tax under-shifting (Andreyeva et al. 2022). In South Africa, which only taxes SSBs with more than 4 grams of sugar per 100ml, it was found that the prices of carbonated drinks below this level increased by about the same amount as the prices of high sugar drinks as firms compensated for lost sales of high sugar products by raising the price of the (now more demanded) low sugar products (Bahl and Bird 2020).

e. Regional tax harmonization objectives.

Customs areas and trading areas may set health tax floors to minimize tax competition, raise revenue, and promote health objectives through higher taxes and prices and reduced consumption. However,

regional tax harmonization is often politically and technically challenging as each region has political and economic idiosyncrasies that create multiple, and often conflicting constraints (Blecher and Drope 2014). Box 7 discusses challenges and constraints for regional tax harmonization.

Box 7. Examples of regional tax harmonization

In 2017, the 15-member ECOWAS (Economic Community of West African States) and the 8-member WAEMU (West African Economic and Monetary Union) set a minimum ad valorem excise on cigarettes of 50 percent (ex-factory or import cif price) plus a specific tax of \$0.02 per stick (ECOWAS only) which when implemented would represent a large increase in taxes as a share of price (Tesche and Walbeek 2021). It was envisaged that rates would be adjusted in line with the new minima by end-2021. Some progress is evident in the largest ECOWAS economy of Nigeria which introduced a specific excise in 2018 and increased it in 2019 and again in 2020/21 (Tesche 2022).

V. Key points

Taxation can serve as a corrective fiscal instrument for costs imposed on other parties (externalities) and later refined to include internalities (self-inflicted costs, e.g., lost productivity from death and disability).

Global estimates of these costs are 1.8 percent of GDP for tobacco, over one percent of GDP for alcoholic beverages, while SSB consumption contributes to the estimated costs of obesity of about 2 percent of global GDP.

Excise taxes are the preferred tool for health taxes since they are more effective at changing the relative price of a narrow range of goods than other indirect taxes.

Specific taxes on a defined unit or volume are more relevant to targeting the health harming content than ad valorem taxes, and both theory and practice suggest that switching from ad valorem taxation to specific taxation (in a broadly revenue neutral manner) will reduce consumption of the targeted health-harming content.

Taxes should generally be uniform (same for all products) if the product is homogenous, e.g., cigarettes, or may be tiered to take account of differing product characteristics (amount of sugar or alcohol content). Hybrid or mixed approaches combining specific and ad valorem taxes may also play a useful role, e.g., in capturing additional taxes on high value products purchased by high income consumers, particularly if the specific component is significantly larger than the ad valorem component although this may increase administrative requirements over specific only taxes.

The guidance and benchmarks for taxation of tobacco products are longstanding and clear with recommendations on tax structure, tax share of price, and making products less affordable over time.

There is less practical guidance or benchmarks for tax structures or rates on alcohol, however, many of the same lessons from tobacco taxation apply. Specific taxes are generally preferable to ad valorem taxes since they will result in higher prices and less variance in prices, reducing scope for trading down when taxes increase. Since the externality and internality ~~is~~ *are* directly linked to the content of alcohol, a strong economic case can be made to use the alcohol as the tax base thereby taxing stronger alcohol products more than weaker alcohol products.

Ultimately, the policy goals, local patterns of drinking and market characteristics may determine the choice of alcohol tax base, rates, and structure. Minimum unit pricing is a complementary instrument

to health taxes to discourage the purchase and sale of cheap, high-strength alcohol products, which are often associated with harmful drinking behaviors and negative social and health outcomes.

There is also no clear guidance on the best practice for designing tax structures on SSBs, however, many of the same lessons from tobacco and alcohol taxation apply. Specific taxes are generally preferred to ad valorem taxes. Furthermore, the same consideration is applied to the tax base, with the sugar content and beverage volume being options for the tax base.

The considerations of estimated social costs and harms from consumption which are related to overall consumption, and therefore prevalence, provide a starting point for setting the corrective tax rate. These estimates are not precise enough, however, to specify an optimal health tax.

Other considerations including political choices, revenue, and tax administration objectives also need to be considered in setting the health tax rate. This chapter also touches on some broad considerations which are elaborated in more detail in subsequent chapters, including: price elasticity of demand, inflation adjustment, evasion risks and enforcement, national preferences, affordability, pass-through of taxes, and regional health tax harmonization approaches.

References

- Allcott, Hunt, Benjamin B Lockwood, and Dmitry Taubinsky. 2019. “Regressive Sin Taxes, with an Application to the Optimal Soda Tax*.” *The Quarterly Journal of Economics* 134 (3): 1557–1626. <https://doi.org/10.1093/qje/qjz017>.
- Anderson, Benjamin O., Nino Berdzuli, Andre Ilbawi, Dévora Kestel, Hans P. Kluge, Rüdiger Krech, Bente Mikkelsen, et al. 2023. “Health and Cancer Risks Associated with Low Levels of Alcohol Consumption.” *The Lancet Public Health* 8 (1): e6–7. [https://doi.org/10.1016/S2468-2667\(22\)00317-6](https://doi.org/10.1016/S2468-2667(22)00317-6).
- Anderson, Peter, Amy O’Donnell, Eileen Kaner, Eva Jané Llopis, Jakob Manthey, and Jürgen Rehm. 2021. “Impact of Minimum Unit Pricing on Alcohol Purchases in Scotland and Wales: Controlled Interrupted Time Series Analyses.” *The Lancet Public Health* 6 (8): e557–65. [https://doi.org/10.1016/S2468-2667\(21\)00052-9](https://doi.org/10.1016/S2468-2667(21)00052-9).
- Andreyeva, Tatiana, Keith Marple, Samantha Marinello, Timothy E. Moore, and Lisa M. Powell. 2022. “Outcomes Following Taxation of Sugar-Sweetened Beverages: A Systematic Review and Meta-Analysis.” *JAMA Network Open* 5 (6): e2215276. <https://doi.org/10.1001/jamanetworkopen.2022.15276>.
- Bahl, Roy W., and Richard M. Bird. 2020. “Taxing Sugary Drinks.” SSRN Scholarly Paper 3649182. Rochester, NY: Social Science Research Network. <https://doi.org/10.2139/ssrn.3649182>.
- Blecher, Evan, and Jeffrey Drope. 2014. “The Rewards, Risks and Challenges of Regional Tobacco Tax Harmonisation.” *Tobacco Control* 23 (e1): e7–11. <https://doi.org/10.1136/tobaccocontrol-2013-051241>.
- Blecher, Evan, Alex Liber, Jeffrey Drope, Binh Nguyen, and Michal Stoklosa. 2017. “Global Trends in the Affordability of Sugar-Sweetened Beverages, 1990–2016.” *Preventing Chronic Disease* 14. <https://doi.org/10.5888/pcd14.160406>.
- Boniface, Sadie, Jack W. Scannell, and Sally Marlow. 2017. “Evidence for the Effectiveness of Minimum Pricing of Alcohol: A Systematic Review and Assessment Using the Bradford Hill Criteria for Causality.” *BMJ Open* 7 (5): e013497. <https://doi.org/10.1136/bmjopen-2016-013497>.
- Centers for Disease Control and Prevention. 2022. “Health Effects of Secondhand Smoke.” Centers for Disease Control and Prevention. August 22, 2022. https://www.cdc.gov/tobacco/data_statistics/fact_sheets/secondhand_smoke/health_effects/index.htm.
- Chaloupka, Frank J., Deliana Kostova, and Ce Shang. 2014. “Cigarette Excise Tax Structure and Cigarette Prices: Evidence from the Global Adult Tobacco Survey and the U.S. National Adult Tobacco Survey.” *Nicotine & Tobacco Research: Official Journal of the Society for Research on Nicotine and Tobacco* 16 Suppl 1 (January): S3-9. <https://doi.org/10.1093/ntr/ntt121>.
- Chaloupka, Frank J., Lisa M. Powell, and Kenneth E. Warner. 2019. “The Use of Excise Taxes to Reduce Tobacco, Alcohol, and Sugary Beverage Consumption.” *Annual Review of Public Health* 40 (1): 187–201. <https://doi.org/10.1146/annurev-publhealth-040218-043816>.
- Chatelan, Angeline, Manon Rouche, Anna Dzielska, Anne-Siri Fismen, Colette Kelly, Camille Pedroni, Lucille Desbouys, and Katia Castetbon. 2023. “Sixteen-Year Trends in Adolescent Consumption of Sugar-Sweetened Soda in Six European Countries with a Soda Tax and Comparison Countries: A Repeated Cross-Sectional Survey Analysis.” *Public Health Nutrition* 26 (3): 519–30. <https://doi.org/10.1017/S1368980022002361>.
- Crawford, Ian, and Sarah Tanner. 1995. “Bringing It All Back Home: Alcohol Taxation and Cross-Border Shopping.” *Fiscal Studies* 16 (2): 94–114.
- Elder, Randy W., Briana Lawrence, Aneeqah Ferguson, Timothy S. Naimi, Robert D. Brewer, Sajal K. Chattopadhyay, Traci L. Toomey, Jonathan E. Fielding, and Task Force on Community Preventive Services. 2010. “The Effectiveness of Tax Policy Interventions for Reducing Excessive Alcohol Consumption and Related Harms.” *American Journal of Preventive Medicine* 38 (2): 217–29. <https://doi.org/10.1016/j.amepre.2009.11.005>.
- Fuchs, Alan, and Maria Fernanda Gonzalez Icaza. 2021. “The Welfare and Distributional Effects of Taxing SSB to Reduce the Risk of Obesity in Ukraine.” World Bank, Washington, DC.

- https://www.dropbox.com/s/nsulx9ozohp2a3e/Alan-Fuchs_ukr_ssb_echa_October2021.pdf?dl=0&unfurl=1.
- Fuchs, Alan, Kate Mandeville, and Ana Cristina Alonso-Soria. 2020. "Health and Distributional Impacts of a Tax on Sugar-Sweetened Beverages in Kazakhstan." Washington, DC: World Bank, Washington, DC. <https://doi.org/10.1596/33970>.
- Fuchs, Alan, and Francisco Meneses. 2017. *Are Tobacco Taxes Really Regressive? Evidence from Chile*. Policy Research Working Papers. The World Bank. <https://doi.org/10.1596/1813-9450-7988>.
- Fuchs, Alan, Maria Fernanda Paz, and Daniela Paula. 2019. "Distributional Effects of Tobacco Taxation: A Comparative Analysis." Policy Research Working Paper. World Bank, Washington, DC. <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/899011554727317064/Distributional-Effects-of-Tobacco-Taxation-A-Comparative-Analysis>.
- Gentry, William M. 1999. "Optimal Taxation: From The Encyclopedia of Taxation and Tax Policy." In . <https://www.semanticscholar.org/paper/Optimal-Taxation%3A-From-The-Encyclopedia-of-Taxation-Gentry/97602c09901347068f7c10b95f348717ea2864a4>.
- Goodchild, Mark, Nigar Nargis, and Edouard Tursan d'Espaignet. 2018. "Global Economic Cost of Smoking-Attributable Diseases." *Tobacco Control* 27 (1): 58–64. <https://doi.org/10.1136/tobaccocontrol-2016-053305>.
- Griffith, Rachel, Martin O'Connell, and Kate Smith. 2022. "Price Floors and Externality Correction*." *The Economic Journal* 132 (646): 2273–89. <https://doi.org/10.1093/ej/ueac011>.
- Gruber, Jonathan, and Botond Köszegi. 2001. "Is Addiction 'Rational'? Theory and Evidence*." *The Quarterly Journal of Economics* 116 (4): 1261–1303. <https://doi.org/10.1162/003355301753265570>.
- Gruber, Jonathan, and Botond Köszegi. 2008. "A Modern Economic View of Tobacco Taxation," January.
- HM Treasury. 2021. "The New Alcohol Duty System: Consultation." GOV.UK. 2021. <https://www.gov.uk/government/consultations/the-new-alcohol-duty-system-consultation>.
- Holmes, John, Yang Meng, Petra S. Meier, Alan Brennan, Colin Angus, Alexia Campbell-Burton, Yelan Guo, Daniel Hill-McManus, and Robin C. Purshouse. 2014. "Effects of Minimum Unit Pricing for Alcohol on Different Income and Socioeconomic Groups: A Modelling Study." *Lancet (London, England)* 383 (9929): 1655–64. [https://doi.org/10.1016/S0140-6736\(13\)62417-4](https://doi.org/10.1016/S0140-6736(13)62417-4).
- Institute for Fiscal Studies. 2010. *Dimensions of Tax Design: The Mirrlees Review*. <https://ifs.org.uk/books/dimensions-tax-design>.
- International Diabetes Foundation. 2021. "IDF Diabetes Atlas, 10th Ed." International Diabetes Foundation, Brussels. <https://diabetesatlas.org/>.
- Keen, Michael. 1998. "The Balance between Specific and 'Ad Valorem' Taxation." *Fiscal Studies* 19 (1): 1–37.
- Manthey, Jakob, Syed Ahmed Hassan, Sinclair Carr, Carolin Kilian, Sören Kuitunen-Paul, and Jürgen Rehm. 2021. "What Are the Economic Costs to Society Attributable to Alcohol Use? A Systematic Review and Modelling Study." *PharmacoEconomics* 39 (7): 809–22. <https://doi.org/10.1007/s40273-021-01031-8>.
- McKinsey Global Institute. 2014. "Overcoming Obesity: An Initial Economic Analysis | Sportanddev.Org." McKinsey Global Institute, Washington, DC. <https://www.sportanddev.org/en/article/publication/overcoming-obesity-initial-economic-analysis>.
- Mojica-Perez, Yvette, Sarah Callinan, and Michael Livingston. 2020. "Examining Beverage-Specific Trends in Youth Drinking in Australia before and after the Implementation of the Alcopops Tax." *Drug and Alcohol Review* 39 (3): 246–54. <https://doi.org/10.1111/dar.13038>.
- Neufeld, Maria, Anastacia Bobrova, Kairat Davletov, Mindaugas Štelemėkas, Relika Stoppel, Carina Ferreira-Borges, João Breda, and Jürgen Rehm. 2021. "Alcohol Control Policies in Former Soviet Union Countries: A Narrative Review of Three Decades of Policy Changes and Their

- Apparent Effects.” *Drug and Alcohol Review* 40 (3): 350–67.
<https://doi.org/10.1111/dar.13204>.
- Ngo, Anh P., Xuening Wang, Sandy Slater, Jamie F. Chriqui, Frank J. Chaloupka, Lin Yang, Lee Smith, Qing Li, and Ce Shang. 2021. “Alcohol Excise Taxes as a Percentage of Retail Alcohol Prices in 26 OECD Countries.” *Drug and Alcohol Dependence* 219 (February): 108415. <https://doi.org/10.1016/j.drugalcdep.2020.108415>.
- Patra, Jayadeep, Norman Giesbrecht, Jürgen Rehm, Dennis Bekmuradov, and Svetlana Popova. 2012. “Are Alcohol Prices and Taxes an Evidence-Based Approach to Reducing Alcohol-Related Harm and Promoting Public Health and Safety? A Literature Review.” *Contemporary Drug Problems* 39 (1): 7–48. <https://doi.org/10.1177/009145091203900103>.
- Pigou, A. C. 1920. *The Economics of Welfare*. New York.
- Roche, Maxime, Miriam Alvarado, Rosa Carolina Sandoval, Fabio da Silva Gomes, and Guillermo Paraje. 2022. “Comparing Taxes as a Percentage of Sugar-Sweetened Beverage Prices in Latin America and the Caribbean.” *The Lancet Regional Health – Americas* 11 (July). <https://doi.org/10.1016/j.lana.2022.100257>.
- Scarborough, Peter, Vyas Adhikari, Richard A. Harrington, Ahmed Elhussein, Adam Briggs, Mike Rayner, Jean Adams, Steven Cummins, Tarra Penney, and Martin White. 2020. “Impact of the Announcement and Implementation of the UK Soft Drinks Industry Levy on Sugar Content, Price, Product Size and Number of Available Soft Drinks in the UK, 2015–19: A Controlled Interrupted Time Series Analysis.” *PLoS Medicine* 17 (2): e1003025. <https://doi.org/10.1371/journal.pmed.1003025>.
- SEATCA. n.d. “SEATCA Tobacco Tax Program: Indonesia.” SEATCA Tobacco Tax Program. Accessed December 15, 2022. <https://tobaccotax.seatca.org/country/indonesia/>.
- Shang, Ce, Anh Ngo, and Frank J. Chaloupka. 2020. “The Pass-through of Alcohol Excise Taxes to Prices in OECD Countries.” *The European Journal of Health Economics* 21 (6): 855–67. <https://doi.org/10.1007/s10198-020-01177-w>.
- Sheikh, Zaineb Danish, J. Robert Branston, and Anna B. Gilmore. 2021. “Tobacco Industry Pricing Strategies in Response to Excise Tax Policies: A Systematic Review.” *Tobacco Control*, August, tobaccocontrol-2021-056630. <https://doi.org/10.1136/tobaccocontrol-2021-056630>.
- Shekar, Meera, and Barry M Popkin. 2020. “Obesity: Health and Economic Consequences of an Impending Global Challenge.” <https://www.worldbank.org/en/topic/nutrition/publication/obesity-health-and-economic-consequences-of-an-impending-global-challenge>.
- Sornpaisarn, Bundit, Kevin Shield, Joanna Cohen, Robert Schwartz, and Jürgen Rehm. 2013. “Elasticity of Alcohol Consumption, Alcohol-Related Harms, and Drinking Initiation in Low- and Middle Income Countries: A Systematic Review and Meta-Analysis.” *International Journal of Drug and Alcohol Research* 2 (May): 45. <https://doi.org/10.7895/ijadr.v2i1.50>.
- Sornpaisarn, Bundit, Kevin Shield, Eva Osterberg, and Jürgen Rehm. 2017. “Resource Tool on Alcohol Taxation and Pricing Policies.” World Health Organization, Geneva. <https://www.who.int/publications-detail-redirect/resource-tool-on-alcohol-taxation-and-pricing-policies>.
- Teng, Andrea M., Amanda C. Jones, Anja Mizdrak, Louise Signal, Murat Genç, and Nick Wilson. 2019. “Impact of Sugar-Sweetened Beverage Taxes on Purchases and Dietary Intake: Systematic Review and Meta-Analysis.” *Obesity Reviews* 20 (9): 1187–1204. <https://doi.org/10.1111/obr.12868>.
- Tesche, Jean. 2022. “Health Excise Tax Assessment: Nigeria.”
- Tesche, Jean, and Corne Van Walbeek. 2021. “Measuring the Effects of the New ECOWAS and WAEMU Tobacco Excise Tax Directives.” *Tobacco Control* 30 (6): 668–74. <https://doi.org/10.1136/tobaccocontrol-2020-055843>.
- Tobacco Free Kids. 2011. “Tobacco Tax Success Story: South Africa.” Tobacco Free Kids. https://www.tobaccofreekids.org/assets/global/pdfs/en/success_SoAfrica_en.pdf.
- Wagenaar, Alexander C., Amy L. Tobler, and Kelli A. Komro. 2010. “Effects of Alcohol Tax and Price Policies on Morbidity and Mortality: A Systematic Review.” *American Journal of Public Health* 100 (11): 2270–78. <https://doi.org/10.2105/AJPH.2009.186007>.

- Witt, Daniel, and Janos Nagy. 2022. "Understanding the Drivers of Illicit Alcohol: An Analysis of Selected Country Case Studies." *World Customs Journal* 16 (2): 81–98.
- World Bank. 2019. *Confronting Tobacco Illicit Trade: A Global Review of Country Experiences*. Washington, DC.: World Bank, Washington, DC.
<https://blogs.worldbank.org/health/confronting-tobacco-illicit-trade-global-review-country-experiences>.
- . 2020. "Taxes on Sugar-Sweetened Beverages: Summary of International Evidence and Experiences." Washington, DC: World Bank. <https://doi.org/10.1596/33969>.
- . 2023. "Why Health Taxes Matter: A Mechanism to Improve Health and Revenue Outcomes." Global Tax Program Health Tax Knowledge Note. World Bank, Washington, DC.
- World Health Assembly. 2012. "Prevention and Control of Noncommunicable Diseases: Outcomes of the High-Level Meeting of the General Assembly on the Prevention and Control of Non-Communicable Diseases and the First Global Ministerial Conference on Healthy Lifestyles and Noncommunicable Disease Control: Report by the Secretariat." A65/6. World Health Organization. <https://apps.who.int/iris/handle/10665/78893>.
- World Health Organization. 2016. "Fiscal Policies for Diet and the Prevention of Noncommunicable Diseases." 2016. <https://www.who.int/publications-detail-redirect/9789241511247>.
- . 2017a. "Tackling NCDs: 'best Buys' and Other Recommended Interventions for the Prevention and Control of Noncommunicable Diseases." 2017.
<https://www.who.int/publications-detail-redirect/WHO-NMH-NVI-17.9>.
- . 2017b. "Taxes on Sugary Drinks: Why Do It?"
<https://apps.who.int/iris/bitstream/handle/10665/260253/WHO-NMH-PND-16.5Rev.1-eng.pdf;sequence=1>.
- . 2021a. "WHO Report on the Global Tobacco Epidemic 2021: Addressing New and Emerging Products." World Health Organization, Geneva. <https://www.who.int/publications-detail-redirect/9789240032095>.
- . 2021b. "WHO Technical Manual on Tobacco Tax Policy and Administration." World Health Organization, Geneva. <https://www.who.int/publications-detail-redirect/9789240019188>.
- . 2022a. "No Place for Cheap Alcohol: The Potential Value of Minimum Pricing for Protecting Lives." 2022. <https://www.who.int/europe/publications/i/item/9789289058094>.
- . 2022b. "The Global Health Observatory." <https://www.who.int/data/gho>.
- . 2022c. "WHO Manual on Sugar-Sweetened Beverage Taxation Policies to Promote Healthy Diets." <https://www.who.int/publications-detail-redirect/9789240056299>.
- WHO report on the global tobacco epidemic, 2023: protect people from tobacco smoke. Geneva: World Health Organization; 2023.
- World Health Organization. Regional Office for Europe. 2020. "Alcohol Consumption and Sustainable Development: Fact Sheet on Sustainable Development Goals (SDGs): Health Targets." WHO/EURO:2020-2370-42125-58041. World Health Organization. Regional Office for Europe. <https://apps.who.int/iris/handle/10665/340806>.

Chapter 6: Practical Considerations for Health Tax Revenue Use

I. Introduction: Setting the Scene

Especially in these times of limited fiscal space, countries are increasingly considering revenue raising and spending policies simultaneously to boost growth, generate revenue equitably, and channel expenditures to priorities that strengthen human capital.⁴⁴

In this environment, health taxes, or excise taxes on tobacco, alcohol and sugar-sweetened beverages (SSBs) and how their revenue can be used to further social priorities have generated strong interest amongst policy makers, and will be the focus of this chapter. Health excise taxes are shown to be one of the most cost-effective policy measures for reducing the consumption of these products- and in turn reduce associated mortality and morbidity. Well designed and administered health excise taxes make sense in their own right, and can generate revenue while addressing a set of negative internalities and externalities (see previous chapters). By supporting healthy outcomes, health taxes can also enhance human capital on their own, preventing illness and premature deaths from Non-Communicable Diseases (NCDs) that cut people off in their peak productive years, thereby contributing to future economic growth (World Bank 2021).

Health taxes are also relatively underleveraged revenue-raising resource, which can be used to support fiscal recovery and strengthen the general budget, especially when designed and administered well (World Bank 2023a). Compared to other taxes, they are relatively easy to administer and do not create distortions that may impact economies. Health tax revenue will be a function of how much related products are consumed in the country of interest, however, when all else is equal (e.g., holding population size and consumption levels constant) magnitudes will very much depend on the effectiveness of the tax design and its administration (see chapters 4 and 7). For instance, a review of country-level revenue statistics show that tobacco and alcohol excise taxes generate an average of 0.6 and 0.3 percent of GDP in tax revenue, respectively, with SSB taxes generating significantly less (World Bank 2023b).

On the spending side, some national governments are exploring the use of health tax revenue to meet policy objectives related to specific sectors, programs or populations. In particular, and in part due to the special nature of health taxes being linked so closely to health-related internalities and externalities, the use of health tax revenue has often, although not exclusively, been proposed as a mechanism to support health sector policy objectives (Tandon et al 2021). For instance, earmarking revenue is often proposed as a way to protect resources for particular priorities in the health sector, insulating funding flows to these policy targets against shifts in broader budgetary priorities. Indeed, for health tax revenue, WHO sources on tobacco, alcohol and SSBs all discuss the role that earmarking can play in financing social priorities when various contextual factors at country level are considered including public finance capacity, and how they can be leveraged to enhance the likelihood of the passage of health tax reforms from a political economy perspective (WHO 2010, 2016, 2021, 2022, 2023).

However, earmarking is not the only option, and indeed there are a range of mechanisms that can be considered in the context of “revenue use”, or the practice of directing health tax resources towards expenditure priorities. These range from relatively more rigid approaches, such as earmarking, to less rigid approaches including various forms of commitments (see a detailed discussion of types below).

⁴⁴ The World Bank defines human capital as the knowledge, skills, and health that people accumulate over their lives—is a central driver of sustainable growth and poverty reduction. More human capital is associated with higher earnings for people, higher income for countries, and stronger cohesion in societies. Resources can be found via the World Bank Human Capital Project: <https://www.worldbank.org/en/publication/human-capital#About>

Of these, earmarking – the process of linking revenue to an expenditure priority explicitly via legislation – is perhaps the most well-known, and there are a considerable number of countries that already use earmarking as a part of their regular budget processes. Some forms of earmarking align with standard international budget and public finance principles, while others, such as hard earmarking, do not (WHO 2017). However, at a conceptual level, fiscal experts often view any type of earmarking as a deviation from best practice, where annual budget preparation processes are the most efficient tool to allocating resources to priority expenditures. This fiscal perspective is due to the likely impacts of earmarks on reduced responsiveness and introduction of rigidities that impact the ability to shift resources across emerging priorities and in times of fiscal need (Allen, Hemming and Potter, 2013), as well as on principles such as budget universality and common pooling (Bird and Das-Gupta, 2014, Potter and Diamond 1999, Allen, Hemming and Potter, 2013). In particular, some experts state that earmarking is a questionable practice when it comes to using revenue from general taxation (Allen and Tommasi, 2001). However, the same experts also articulate that earmarking can improve fiscal efficiency by linking payment transparently to related expenditures in some cases, especially when there is a strong link between the tax and benefits, making them more publicly acceptable (IMF 2001; Allen and Tommasi 2001; Allen, Hemming and Potter, 2013). Others are more equivocal, stating that the net benefit or cost of earmarking is determined by design considerations (Musgrave and Musgrave 1973). Indeed, the line is not always clear, as some take the position to articulate both pros and cons of the practice.

In a well-functioning fiscal system, spending priorities will be periodically reviewed and decided upon as part of the regular budget process and will be financed from general revenue. When countries already have strong budgeting processes and institutional and governance systems in place, these spending priorities will be met (see chapter 3: Role of Health Taxes in National Budgets). However, even in contexts with well-functioning systems, health tax reform in and of itself may provide a window to improve resource allocation or attention to sectoral policy objectives, without the use of an earmark. For instance, early tobacco tax reforms in South Africa in the 1990s coincided with significant increases in social spending and emphasis on health, as well as general improvements in economic growth and tax buoyancy.

For governments that may be considering the health tax revenue use policies, this chapter provides an overview of potential considerations and approaches, with reference to existing practice and within a broader economic and public finance framework. Drawing on a new database on health tax revenue use, as well as case studies that touch on various emerging revenue use options, the chapter first outlines categories for understanding policy priorities, a taxonomy for considering how health tax revenue use strategies – including a focus on earmarking as the most formal approach to revenue use – can be classified and then applied based on what practice is best suited to meet those priorities in various contexts. The chapter then moves to a brief review and categorisation of country practices according to their policy objectives, how this has worked for health financing, and a consideration of political economy and public financial management considerations. As such, the goal of this chapter is to expand the lexicon of how countries can use revenue to meet particular expenditure priorities, without relying exclusively on earmarking.

2. Strategic considerations for health tax revenue use

Design principles of health taxes are well covered in other chapters in this handbook. It is important to emphasize that first and foremost, health taxes should be well designed, implemented and administered. If the tax does not adhere to best practice principles, including indexation for inflation, revenue may be eroded over time. With very limited revenue and health impact due to a badly designed and executed tax, considering how their revenues are to be used will be a moot point.

Once appropriate design considerations have entered into discourse, it may be desirable to complement these discussions with those around expenditure priorities. To this end, there are two key decision points for finance policy makers in considering revenue use in the context of health taxes. The first decision point relates to potential policy objectives which may be conceptually linked to a health tax, such that

the use of revenue may be considered appropriate, either to offset potential (negative) impacts of the health tax, further support the objectives of the health tax, or address political and/or constituency concerns related to the health tax.

The second decision point relates to determining the most appropriate revenue use approach that could be used to direct resources towards that particular priority. We use the term “revenue use” broadly because in not all contexts will earmarking be the best way to direct funds. To look at this issue, we use a framework that sorts these approaches by situating them in a spectrum that starts from least rigid (e.g., commitments adopted in parallel to a health tax reform) to the most rigid (e.g., a hard earmark that ties the health tax revenue raised to a spending purpose by law).

a) Defining the policy priority

The first step in determining an appropriate approach to revenue use is clarifying the policy priority or objective. Revenue use strategies can be put in place simply from a political economy perspective to generate public support for health tax reform in general; more common, however, is citing a particular policy objective that the revenue will fund. In practice, there are three common policy objectives related to the use of health tax revenue, which include reinforcing measures, compensatory measures, and other social priorities (see figure x). *Reinforcing measures* align to the objectives of health taxes to reduce consumption of specific products associated with health risks (health promotion, smoking cessation). For instance, a Ministry of Health may include a reinforcing measure to introduce cessation programs for smoking or health promotion at the time of a health tax reform, independent of receiving any funding from the health tax directly. *Compensatory measures* target particularly impacted populations to offset the impacts of health taxes (for example, tobacco leaf farmers where in some contexts, livelihoods may be impacted by reduced consumption of tobacco following the implementation of tobacco excise tax- See chapter 8). Finally, there may be *other social objectives* that can also be supported by health tax revenue, which can be achieved through specific sectoral financing, or targeting of standalone programs (such as in Lithuania where 1% of revenue from tobacco is earmarked to finance a Physical Education and Sport Support Fund).

Policy objectives related to revenue use can also be broadly considered from the perspective of the ‘level’ at which they are operationalised; either addressing broad, sector-wide objectives, an objective to fund a particular program, or an objective to direct resources towards a particular population that would benefit from the funding.

In this section, we describe in detail the rationale and nature of these different policy objectives related to revenue use, based on practice to date.

Figure x. Examples of Defined Expenditure Purposes to meet Policy Priorities

<i>Priority Level</i>	Reinforcing measure	Compensatory measure	Other social priority
<i>Aim</i>	<i>Directly supports a specific health tax policy by funding programs aligned to its objectives (i.e. smoking cessation)</i>	<i>Addresses equity impacts and other unintended consequences of taxation that target particular impacted populations</i>	<i>Supports broader sectoral financing, or other programs or populations within health or other sectors</i>
<i>Sector</i>	<i>Preventive health</i>	<i>Agriculture</i>	<i>Environment, health insurance</i>
<i>Program</i>	<i>Cessation support, cancer treatment, safe drinking water</i>	<i>Welfare measures</i>	<i>Child development</i>
<i>Population</i>	<i>Youth anti-smoking campaigns</i>	<i>Activities supporting tobacco farmers</i>	<i>Activities supporting general health of elderly</i>

Reinforcing measures

Health taxes are commonly linked to preventive health initiatives, to increase available funding in a global context where preventive health has been shown by some studies to receive as little as 2-3% of national health budgets (Gmeinder et al, 2017). These preventive health initiatives support and further the broad health objectives of such taxes, helping to reduce consumption of unhealthy products and foster health promoting behaviors that mitigate the prevalence of risk factors for NCDs. Specifically, these reinforcing measures support the fiscal disincentives for consumption of unhealthy products such as alcohol, tobacco and SSBs through addressing other drivers of consumption (such as awareness of risks or marketing), contributing to healthier behaviors and improved health outcomes (World Health Organization 2019). For example, there is some evidence that complementary measures such as awareness campaigns can have a multiplier effect on the impact of a health tax through addressing knowledge of health harms as a driver of consumption, in conjunction with the price incentive (Thow, Downs et al. 2014; Colombo et al 2023- See also chapter 9).

As such, using revenue to create additional incentives for behavior change can further the impact of a tax and support improved health outcomes. At the sector level (preventive health), this can include the use of health tax revenue to create new institutional structures. Over the past four decades of tobacco control, this has often taken the form of using tobacco tax revenue to create health promotion foundations (Schang, Czabanowska et al. 2012). For example, the Western Australian Health Promotion Foundation (HealthWay) – funded through hard earmarking of tobacco tax revenue – contributed to reduced smoking prevalence through targeted health promotion and cessation programs combined with a comprehensive tobacco sponsorship buy-out that significantly reduced the marketing of tobacco (Holman, Donovan et al. 1997). Similarly, in Thailand, a 2% surcharge of excise taxes on tobacco and alcohol is used to fund ThaiHealth, which was established in 2001 (Pongutta, Suphanchaimat et al. 2019). ThaiHealth supports evidence generation, campaigns and social mobilization to address noncommunicable disease risk factors, such as tobacco-use, harmful use of alcohol and sedentary behavior (Sopitachasak, Adulyanon et al. 2015; Tangcharoensathien et al 2024).

The creation of formal institutions with health tax revenue has both strengths and limitations. One perceived strength is sustainable financing for preventive health activities (Javadinasab, Asl et al. 2019). However, the sustainability of this funding is not always guaranteed. In the case of the Victorian Health Promotion Foundation (VicHealth) in Australia, tobacco tax earmarking was not sustained due to political challenges, and the earmarks ceased 10 years after its creation. However, the earmarking of

tobacco tax revenue did lead to the establishment of a well governed and regarded institution, which now receives ongoing budgetary allocations for health promotion activities after the end of tobacco tax earmarking (Borland, Winstanley et al. 2009; World Bank, forthcoming). Institutionalization can also create rigidities, and challenges adapting to fluctuations in revenue – including in some cases administrative capacity challenges in disbursing revenue. For example, in French Polynesia an earmarked tax on confectionary and SSBs generated more revenue than was expected, and was not able to be fully spent by the health promotion fund, which led to a decision to redirect revenue (Thow, Qusted et al. 2011).

Health tax revenues can also be used to fund preventive health outside the funding of specific institutions. For example, in the Republic of Korea, the Healthy City Wonju project was effectively financed through earmarking the local tobacco consumption tax (Nam, De Leeuw et al. 2011). This project takes a comprehensive approach to preventive health, in line with the WHO Healthy Cities Initiative, including integration of health considerations into urban planning and other facets of local government, introduction of health impact assessments, and partnerships for health promotion.

At the program level, reinforcing measures tend to focus on health promotion broadly, as well as specific programs that target products associated with risk. The use of tobacco tax revenue to fund cessation programs is well-established. Cessation programs target people who are most affected by smoking and excise tax increases, but who have fewer resources to quit, which creates a strong ethical rationale for using tobacco tax revenue for their support (Hoek, Edwards et al. 2021). Cessation programs are also highly cost-effective. Related to this is the use of health tax revenue to ensure equity of access to healthier alternatives. For example, in Mexico, SSB tax revenue was directed towards potable water in schools (Hagenaars, Jeurissen et al. 2017; World Bank, forthcoming).

Health promotion programs can complement and reinforce health taxes through creating supportive environments. The Government of French Polynesia earmarked SSB revenues for community and health promotion programs (Hagenaars, Jeurissen et al. 2017). In the United States of America, revenue from city-level SSB taxes has been used for health-related investments including access to healthy foods and beverages, and promotion of overall physical, mental or social health and wellbeing (Krieger, Magee et al. 2021). There is little information on the effectiveness of these programs specifically, however, there is global evidence for the effectiveness of health promotion in increasing health-promoting behaviors (Basińska-Zych & Springer 2021; Nickel & Knesebeck 2020; Nickel & Knesebeck 2019).

At the population level, health tax revenue has sometimes been directed towards youth, who are at a critical lifestage for prevention. For example, revenue from the UK's SSB tax was linked (informally) to school-based health programs (Thow, Rippin et al. 2022). Specifically, funds generated by the levy were promised by the government to support investment in children's breakfast clubs and school sports programs (Hashem, 2024). In the USA, SSB tax revenue collected at the city and state level has been used to promote 'Youth Development' in Berkeley, Boulder, Oakland, San Francisco and Seattle, including through mentoring, job training, and academic support for high school students (Krieger et al 2021).

Compensatory measures

'Compensatory measures' categorises the use of health tax revenue to address equity impacts and other unintended consequences of taxation. These linked compensatory mechanisms have for the most part been focused on tobacco and alcohol excise taxes and generally target actual or perceived impact on household welfare. Authorities often need to respond to concerns raised regarding the household budgetary impact of higher prices on addictive products such as tobacco and alcohol on low-income

consumers, as well as the potential negative impacts of health taxes for producers, particularly those who are low-income primary producers.⁴⁵

Program level approaches to compensatory revenue use have often focused on consumers. The addictive nature of tobacco, in particular, has given rise to concerns regarding regressivity and the impact of health taxes on household budgets. Any negative financial impacts on low-income households are likely to be short term and somewhat offset by a dynamic view taking into account behavior change and as a result reduced healthcare costs, better health, and improved welfare (Paraje et al, 2023). Further extensive research has shown that health taxes are progressive when factors such as sensitivity to price changes in poor populations as well as savings and health care costs are taken into account (see Fuchs and Pierola, 2022).⁴⁶ However, governments may have legitimate concerns for the welfare of people who are very poor and where behavior change may be quite difficult in the short run (for example, due to tobacco addiction), and may take steps to mitigate such impacts through compensatory welfare-oriented initiatives. As a result, health taxes may be presented as a part of a fiscal package that includes explicit compensatory mechanisms aimed to offset the short-run fiscal or equity impacts of the tax reform on households. For example, the ‘pro-poor’ TRAIN tax reform in the Philippines in 2018 included both health taxes (new initiatives and increases to existing taxes) and substantial equity-oriented measures to support low-income households (Onagan et al, 2019).

Tobacco farmers have been identified as a priority for population level initiatives, funded from health tax revenue, due to concerns regarding the potential impacts of declining tobacco use on their livelihoods. Tobacco farmers are often low income and face challenges in shifting to alternative crops due to the vertically integrated nature of the tobacco industry (Lecours 2014) and the seasonality of the tobacco crop. For example, in both Indonesia and Philippines, part of earmarked health tax resources is used to target programs in tobacco growing regions. While in Philippines earmarking funds to farming regions was an important decision for political economy reasons, the impact on supporting crop transition away from tobacco has been limited. In Indonesia, for instance, tobacco excise revenue was allocated to be used for health in provinces and districts engaged in tobacco production based on the amount collected, with the majority of revenue going to three provinces: East Java, Central Java, and West Tengarra.⁴⁷ However, there was a limited impact on farmers from the additional earmarked revenues going to these regions, although resources were indeed transferred for this purpose. Similar concerns regarding producer impacts have also been identified regarding sugar farmers (Mounsey et al 2020; Thow et al 2021), although to date there has not been any revenue use recorded.

Ways in which revenue use can support broader (social) policy objectives

Health tax revenue has been used to support broader sectoral financing relevant to social policy objectives. This is often focused on the health care system, for example, through supporting health insurance, but has also included broader aspects of social policy, such as investing in human capital or community wellbeing. Although this use of revenue is broadly consistent with health tax objectives (i.e. to improve health and wellbeing in the long term), this use of revenue does not compensate directly for

⁴⁵ These impacts may be limited. In LMICs, fiscal incidence analysis often finds the excise taxes are not regressive, as products are often used by higher income households, and that there are very few tobacco producing countries where tobacco farmers welfare may be a concern in this regard. Please see Tobacco Excise Taxes and Tobacco Leaf Farming- Key Considerations. Global Tax Program Health Taxes Knowledge Note Series (World Bank, 2023c).

⁴⁶ See here for [summary of research](#), as well as distributional effects of tobacco taxation in [Bangladesh](#), [Bosnia and Herzegovina](#), [Chile](#), [Georgia \(2\)](#), [Indonesia](#), [Moldova](#), [Russia](#), [South Africa](#), [Ukraine](#), [Vietnam](#); Distributional impacts of taxes and benefits in [eight post-soviet countries](#); Distributional effects of tobacco tax in [eight low and middle income countries](#); Comparative study on redistribution via VAT and cash transfers in [four middle income countries](#), Compartmental model study on consequences of cigarette price increases in [13 middle income countries](#); SSB Taxation pilots for [Kazakhstan](#) and [Ukraine](#); as well as the TOBACTAX Tool

⁴⁷ Further, while it is estimated that from the provincial earmarks more revenue went to health than was intended (60% instead of 40% of the revenue prior to the 2023 revision), this is only tracked at the federal level and not based on a detailed accounting of how the earmarked resources are expended by province (World Bank, forthcoming).

perceived impacts of taxes (as per compensatory measures) or contribute to the specific objective of health taxes (as per reinforcing measures).

Health tax revenue has been used to support health system initiatives, including health insurance and health worker wages. For example, SSB tax revenues in Portugal were formally earmarked for the National Health Service in 2017, and used as a complementary commitment in Hungary for health worker wages via the National Health Fund in 2011 (Thow, Rippin et al. 2022).

Another broader social policy-related use of health tax revenues has been to support the development of human and community capital. For example, the Republic of Korea has formally earmarked a 30% surtax on alcoholic beverages to increase education spending, in order to improve the quality of education (Kaiser, Bredenkamp et al. 2016). However, there has been limited research into the scope and impact of this earmark. Similarly, the revenue from city-level SSB taxes in the United States of America have been earmarked in part for human and community capital investments (67% of all allocations), including early childhood education, community infrastructure improvements, and youth and workforce development (Krieger, Magee et al. 2021).⁴⁸ The below section will delve into one specific revenue use practice, earmarking, in order to explore how this mechanism has been applied.

Earmarking by expenditure purpose: Current practice⁴⁹

Given the diverse experiences globally with earmarking in particular, this section will delve into this specific practice by looking first at considerations by expenditure purpose, or how the revenue has been used. An ongoing World Bank study examined examples where all or a portion of revenue from tobacco, alcohol and SSB taxes was earmarked for particular expenditure purposes at whole-of-sector, program and population level (Table 1; World Bank, forthcoming).⁵⁰ The following sections break down preliminary results from this study,⁵¹ which examined the breadth of experiences with earmarking across expenditure purpose levels by examining policies from 71 jurisdictions.⁵² It is complemented by findings from case studies using revenue use policies other than earmarking. For this work, expenditure purposes were first broadly grouped into health and non-health, identifying 169 different purposes. 71% of all identified expenditure purposes were earmarked for health priorities (See table x). Note that the number of earmarked sources and expenditure purposes is not 1:1- in many cases, a single earmarked

⁴⁸ In this study, there were a total of 7 US cities that were analysed – Berkeley (tax introduced in 2015); Albany, Boulder, Oakland and Philadelphia (tax introduced 2017), San Francisco and Seattle (tax introduced 2018). Oakland and Seattle allocated 45% and 47% of their funds respectively to building human and community capital; Philadelphia dedicated 91% of revenue from tax to human and community capital building.

⁴⁹ Note that all figures in this section are provisional and will be updated once the forthcoming study is completed.

⁵⁰ Note that while this study uncovered some examples of broader revenue use policies, the initial objective was to examine earmarking. As such, examples of revenue use have been explored only in case studies and as they were uncovered.

⁵¹ An upcoming study on health tax revenue use produced by the World Bank Global Tax Program health taxes project examined the number of countries that earmark health taxes for health as well as other sectoral policy objectives. The study compiled a database as well as a number of case studies including Australia- VicHealth, Botswana (In Progress), Dominica, Indonesia, US –Philadelphia, Jamaica, Lao PDR (IP), Philippines; Dominica and Jamaica studies funded by PAHO. A set of additional rapid reviews are also in progress (Hungary, Cote D'Ivoire). The current practices sections of this chapter both draw from this ongoing research. The study includes examples of both hard and soft earmarking. Other case studies have also been produced on [Cote D'Ivoire](#) and [Morocco](#) by OECD which include sections on earmarking.

⁵² Including Algeria, Argentina, Australia, Bangladesh, Belgium, Benin, Bolivia, Botswana, Brazil, Bulgaria, Cambodia, Canada, Cape Verde, Chad, Colombia, Comoros, Congo, Costa Rica, Cote d'Ivoire, Djibouti, Dominica, Ecuador, Egypt, El Salvador, Estonia, Finland, France, French Polynesia, Gabon, Guatemala, Hungary, Iceland, India, Indonesia, Iran, Ireland, Jamaica, Kenya, Lao PDR, Lithuania, Madagascar, Maldives, Marshall Islands, Mauritania, Mauritius, Mexico, Mongolia, Morocco, Nepal, New Zealand, Nicaragua, North Macedonia, Palau, Panama, Paraguay, Philippines, Poland, Portugal, Qatar, Republic of Korea, Romania, Serbia, Slovenia, Switzerland, Thailand, Tuvalu, United Kingdom, United States of America, Venezuela, Viet Nam, Yemen.

revenue stream fed into multiple expenditure purposes, or in others, multiple earmarked sources were used to fund a single, or multiple expenditure purposes.⁵³

Table x. Expenditure by sector across all earmarked sources

Level	Count of level
General sector- health	26
Targeted program- health	86
Targeted population-health	6
General sector- non health	19
Targeted program- non health	27
Targeted population- non health	3
TBC	2
Total	169

Programs. Funding targeting programs is the most common expenditure purpose level identified. By far the largest specific sub-category was for targeted health programs, which aligns to overall findings that health sector most often seeks to earmark. Within this sub-category, reinforcing policy priorities were most common (30), with tobacco control as the most frequently listed priority: Over 17% of revenue earmarks directed towards this purpose. Outside of “other”, earmarked funds for health promotion were the next most common, which often included a broader NCD focus (13%).⁵⁴ The category “other” covered a diverse set of expenditure purposes, ranging from school health, health worker wages, nutrition, alcohol harm reduction, and illicit trade.⁵⁵ At the program level, 2 measures were also identified as compensatory measures.

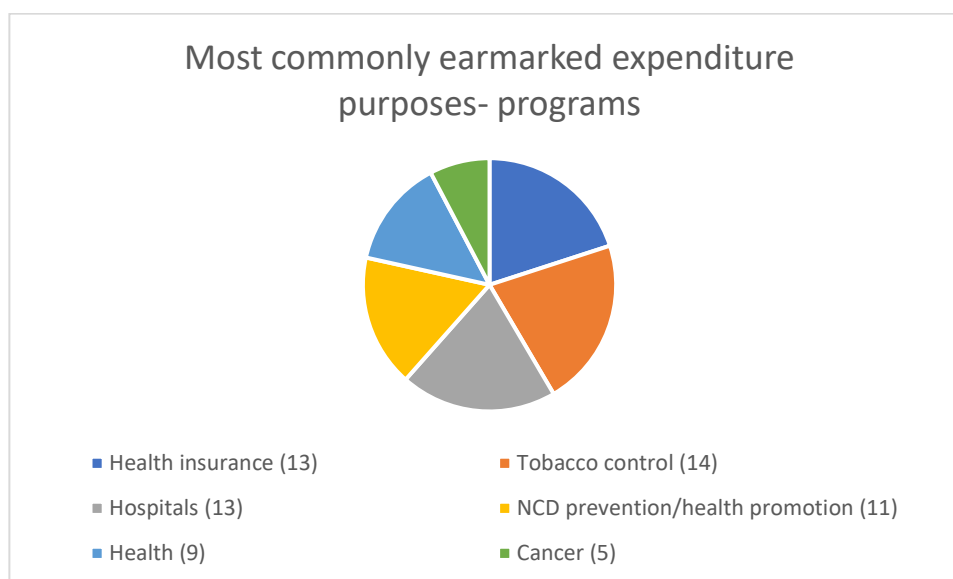
Sector. funding targeted at overall health sector priorities occurred in 26 cases, such as the “health sector”, MOH, UHC, or a health fund. In one case, the SDGs was also listed as a target. Nearly 30% of funds went to priorities outside of the health sector (49 cases). Investments in other sectors were most frequent for sports and education; agriculture, environment (both US) and general social security were each present in one instance.

Populations. In terms of populations, health taxes were most frequently earmarked to cover priorities for vulnerable groups (3) and poor households (2). Other populations included students in Egypt, where their insurance premiums are covered by health tax revenue, as well as insurance for tobacco growers in India. Compensatory measures targeting tobacco growers or tobacco farming (3) were also funded by earmarked revenue in Argentina, Indonesia and the Philippines.

⁵³ Note that each particular expenditure purpose is only counted once for the purpose of this exercise. For instance, if both earmarked tobacco and alcohol tax revenue is used, for example, to fund prevention, health promotion and health insurance premiums for the poor, each expenditure purpose is counted only once.

⁵⁴ Note that insurance coverage here differs from funds targeted only at a health insurance scheme, where the expenditure purpose is not specified as improving coverage explicitly. Note as well that specific contributions for priority populations is covered separately.

⁵⁵ Note that all purposes classified as “other” included only 1 instance of that expenditure purpose.

Figure x. Targets for health tax expenditure purpose under health programs

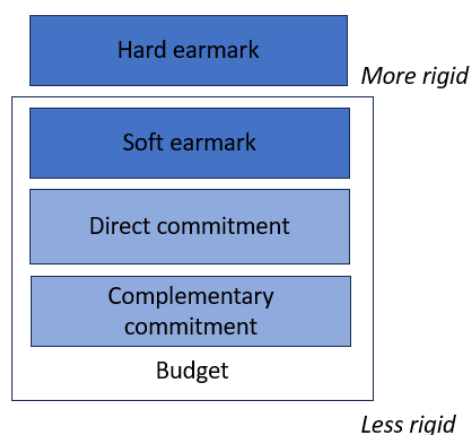
b) Revenue use mechanism

The second key consideration related to revenue use is the appropriate mechanism to achieve the policy objective. This choice will depend on the fiscal rules and degree of adherence to them within the country context, public finance capacities, as well as the existing set of funding channels at the country level that may be used to ensure transparency, efficiency and accountability to the public as a part of good fiscal practice.

In terms of directing resources towards specific policy priorities, different levels of action may be considered. At a strategic level, for instance, before any revenue use strategy is decided, health tax reforms can often be rationalized to the public as a way to help pass a reform from a political economy perspective via their direct health impact and efficiency gains to the health sector, and without making a commitment to allocate any specific resources. Indeed, revenue use decisions around health taxes may also be made without any health excise tax reform being enacted. Further, health tax reform can also have revenue impacts that may increase the overall budget envelope, creating opportunities for increased allocations towards social sectors. Additionally, governments may be open to some adjustment of sectoral spending levels away from historical trends, and sector actors can theoretically use health tax reform as an opportunity for budget advocacy, leading to active reprioritization within the budget (Tandon and Cashin 2010). Specific expenditure objectives may thus be put forward as a part of regular budget negotiations for particular sectors, programs or populations to be prioritized.

In terms of explicit revenue use approaches, mechanisms beyond earmarking may also be considered. In figure x, the light blue elements represent the least rigid or committal mechanisms where health tax reforms can have an impact at the sectoral level, while the medium blue shades represent the two types of non-legislated commitments that can be used to channel revenue towards sectoral priorities. The dark blue represents two types of earmarking, hard and soft. Along with direct and complementary commitments, soft earmarking is situated within the budget, and aligned to standard budgeting practices at the country level. On the other hand, hard earmarking operates outside of standard budget processes, and is reflective of a range of practices adopted at the country level that are more rigid in nature. However, both hard and soft earmarking usually have a legislative basis, which is an important differential.

Figure x. Revenue use mechanisms to meet policy objectives



Earmarking

Earmarking is the practice of dedicating all or a portion of revenue from a specific source and setting it aside for a designated purpose via legislation. Experts and practitioners tend to discourage the practice of linking revenues to specific expenditures, on principles such as budget universality and common pooling (Potter and Diamond 1999, Bird and Das Gupta 2014, Allen et al 2013), and specifically articulate that it is a poor practice when it comes to earmarking revenue from general taxation (Allen and Tomassi, 2001). Earmarking can also introduce rigidity, constraining the use of resources for other purposes. Empirical evidence suggests that when it comes to the impact on prioritization in the budget, earmarking may

result in little to no net gain for the expenditure purpose, or even an overall decrease in expenditure due to fungibility (Dye and McGuire 1992) Further, it should be noted that since revenue collected from tobacco excise tax will often not be commensurate to the negative externalities’ cost, even a full earmark will not be effective in mitigating these externalities. Additionally, there are concerns about revenue driving expenditure – in other words, the amount of revenue determines what is spent instead of need – which may introduce inefficiencies (Wilkenson 1994). In some contexts where earmarks exist, fiscal experts have raised more specific questions around topics such as illegal fiscal substitution, which while pointing to issues of enforcement and compliance where local authorities move earmarked funds to other expenditure purposes, also raises questions about potential efficiency gains in the face of known population needs or preferences (Blackwell et al 2006). Still some fiscal experts are equivocal, with the net benefit or cost of earmarking being determined by design considerations (Musgrave and Musgrave 1973).

There are also potential benefits to earmarking for specific purposes, including those benefits linked to political economy considerations, which have been recognised recently by the IMF, World Bank, in addition to the WHO (Petit and Nagy 2016, Cashin et al 2017, Bird 2015, Ozer et al 2020, WHO, 2020). For instance, earmarking can be used in contexts where it is allowable by a country’s budgetary practices for principles of transparency and public accountability. Earmarking revenue may also help to ensure that commitments to reinforce or compensate for the impact of taxes, or address specific policy priorities, won’t be eroded or overlooked. In addition, earmarking may be a useful mechanism to support health tax increases over time, by increasing the political palpability of a reform when they are linked to a related program- or for tobacco, to counter industry arguments (WHO 2021, 2022, 2023). For instance, earmarking may provide political benefits as a selling point for raising taxes (Mossialos et al 2002); however, this might be countered by the potential for political lobbying or revenue capture towards a specific end (Allen and Tommasi 2001). The IMF also notes that in cases with significant political interference in decision-making, earmarking may be “more efficient than not earmarking” in terms of improving allocation of resources (Chu and Hemming 1991).⁵⁶ The impacts are not always straightforward, and whether earmarking makes sense or not is highly dependent on the fiscal situation, political context and public financial management practices in a particular country.

Earmarks themselves can also be structured in different ways, as an additional tax that is directed towards the expenditure priority, as a portion of an existing tax, as the sole source, or in conjunction

⁵⁶ Note that Chu and Hemming discuss this in the context of strong earmarking, which is also often defined as alignment to the budget process instead of the degree to which there is a strong link between the revenue and expenditure purpose.

with other sources of financing for an expenditure priority. If an earmark is established, it might be hard or soft.

Earmarking of health taxes is most often applied in countries that already use this tool as a regular part of their existing fiscal systems and have sufficient public financial management capacities to manage those earmarks. For instance, in the Philippines, one of the most often cited cases of a successful health tax earmarking reform, earmarking for specific expenditure purposes is a regular part of regular budget practices. Earmarking also permeates public finances at detailed levels through hard and soft allocation of tax and non-tax revenues for a variety of purposes. In the health sector, the primary revenue source that is earmarked relates to health excise taxes, or ‘sin taxes’ in the Philippines context— taxes on products considered undesirable for health, social and cultural reasons. In 2022, almost 95 percent of earmarked revenue for health programs in the Philippines came from excise tax revenue on tobacco, alcohol, SSB and HTVP.⁵⁷

However, the legal ability and capacities to apply earmarking does not mean that it will be used as a policy tool when it comes to directing resources towards expenditure priorities: In the US state of Philadelphia, despite the ability to use earmarking to direct resources towards expenditure priorities, the state used a direct commitment to fund new programs through the program budget at the same time as a health tax reform, using this mechanism as a way to directly track resource flows towards these expenditure priorities. In other countries (Chile), earmarking is unconstitutional,⁵⁸ not practiced, or is used but does not fully meet its expenditure purposes for a variety of reasons (Lao PDR, Botswana) making the use of alternative revenue use approaches a necessity (World Bank, forthcoming).

Options for other revenue mechanisms outside of earmarking

Mechanisms other than earmarking may be leveraged to conceptually ringfence the money for specific expenditure purposes, but without the use of a legislated earmark. Recent World Bank research finds an increase in expenditure on specific programs or populations in conjunction with a health tax reform that demonstrates these practices. This finding opens two new categories of revenue use for consideration: *complementary policy commitments* which are taken by the recipient sector at the time of reform but are not directly funded by the new revenue source, as well as *direct commitments* that are, again, not legislated as an earmark, but can be tracked against a specific commitment via regular budget channels (World Bank, forthcoming). These options are important because they can provide alternate mechanisms for countries to achieve their policy objectives, while avoiding rigidities and political issues associated with earmarking, a revenue use mechanism that may not align to their macroeconomic contexts and capacities.

Direct commitments. In direct commitments, funding is directed towards a particular policy area or set of priorities but without being legislated as an earmark. However, in the case of a direct commitment the funding can be tracked directly back to policy priorities by using existing channels and/or regular monitoring and reporting, using in some cases budgetary tools such as program budgeting, or budget tagging. Conceptually, other existing channels (for instance, in targeting funding for poor populations, use of existing conditional cash transfer schemes) that align with the original policy objective may be considered.

As an alternative to earmarking, a functional program budget can facilitate the use of a direct commitment linked to budgeting and accounting for results. In Philadelphia, while earmarking is feasible, it is not common and a complex process constitutionally. To this end, only limited formal earmarks are applied- however, revenue sources are commonly tied to specific expenditure purposes

⁵⁷ Sources: Department of Health, *2022 Sin Tax Annual Report*, Table 4, Manila, Philippines and Department of Budget and Management, *Budget of Expenditures and Source of Financing*, FY 2023, Table B.15, Manila, Philippines.

⁵⁸ Note that other countries in Latin America also do not allow packaging of expenditure and revenue reforms together.

through more informal arrangements that help to specify how resources can flow to particular priorities but without explicitly linking those resources via an earmark. Philadelphia uses program-based budgeting – an evidence-based best practice in which appropriations are made on the basis of program need and performance. To this end, the use of the program budget allowed for clear targets to be established that make it easier to fund specific priorities as well as account for results. Targets for each fiscal year were determined as part of the annual budget processes and were adjusted as needed. During implementation, several City agencies work together to administer tax-related programs, which are described as programs, subprograms, or activities in budget documents including pre-K, community schools and the ReBuild program. The revenue source and amount is also clearly delineated in program budget documents, but there is no further link between the revenue and expenditure (World Bank, forthcoming).

Complementary commitments. With complementary commitments, a separate policy action is taken as a result of a health tax being amended or adopted into law, which is only conceptually linked to the health tax, but is not necessarily linked to an explicit budgetary tracking mechanism. In this case, budgetary funding is directed towards a particular policy priority without being legislated as an earmark, and may include compensatory mechanisms adopted as a part of a fiscal package that includes both specific earmarks as well as other revenue use mechanisms. For instance, in Hungary the primary objective of the Public Health Product Tax introduced in 2011 (in Hungarian: NETA) was to increase funding for the health sector. This included addressing underfunding of the health service, and in particular doctors' salaries, which was leading to health professionals seeking jobs in other countries (UK health forum, 2019). A related objective was to address the worsening health status of Hungarians and the social and economic costs of an unhealthy diet, including through price changes that incentivise consumers to improve their diets and investment in health promotion initiatives (UK Health Forum, 2019) (Box 2).

Box x: Revenue-related commitments for the Public Health Product tax in Hungary

The revenue-related commitments for the Public Health Product tax in Hungary were operationalised in two ways, through a mix of earmarking, complementary commitments and other deductions offered to taxpayers in order to offset impacts of the taxes. These two explicit expenditure purposes were determined at the time that the tax was designed. The public health fund component was operationalized through a deduction: Taxpayers are allowed to deduct up to 10% of their tax liability to finance ‘health promotion programs’. As of 1 January 2019, ‘health promotion programs’ only referred to activities, promotional campaigns, and programs of the government body in charge of the healthcare system (i.e. not activities organised by a taxpayer).⁵⁹ In this case, the government is effectively foregoing revenue in order for it to fund health promotion initiatives. As a part of this package, the component that was committed for health workers’ wages was operationalized as a complementary commitment. This included the introduction of a residence scholarship program by the Hungarian government, which offered a monthly raise to medical resident doctors who made a commitment to work in the public sector while obtaining their specialisation.⁶⁰ A staged increase of 20% in the salaries of medical doctors and nurses already working in the system was also introduced in 2012, phased over a three-year period.⁶¹ Over time, the NETA has become a stable and growing source of revenue of the Health Insurance Fund.⁶²

Current practice⁶³

Currently, approximately 70 known countries and jurisdictions earmark or have earmarked revenue from health taxes. The total frequency of direct and complementary commitments is not known, although some were uncovered during this research. In terms of revenue sources, direct earmarking of excise or other special levies, surcharges or additional taxes linked to the collection of excise taxes for tobacco, alcohol and SSBs are applied. In total, 101 different health tax revenue sources were identified across countries, with some countries using multiple earmarked revenue streams across expenditure purposes. Of these countries, the majority (70) earmark revenue from tobacco taxes⁶⁴, followed by alcohol (22) and SSBs (9).

⁵⁹ Corporate – Other taxes: Public health product tax. <https://taxsummaries.pwc.com/hungary/corporate/other-taxes>

⁶⁰ OECD. Hungary: Country Health Profile 2017. https://www.oecd-ilibrary.org/social-issues-migration-health/hungary-country-health-profile-2017_9789264283411-en




⁶¹ OECD. Hungary: Country Health Profile 2017. https://www.oecd-ilibrary.org/social-issues-migration-health/hungary-country-health-profile-2017_9789264283411-en

⁶² ASSESSING THE EFFECT OF THE PUBLIC HEALTH PRODUCT TAX IN HUNGARY BETWEEN 2011-2017 Csákvári T, Németh N, Kerner Á, Sebestyén A, Endrei D, Boncz I [https://www.valueinhealthjournal.com/article/S1098-3015\(18\)32751-7/fulltext](https://www.valueinhealthjournal.com/article/S1098-3015(18)32751-7/fulltext) 2018

⁶³ Note that all figures in this section are provisional and will be updated once this study is completed.

⁶⁴ Note that not all countries that earmark health tax revenue earmark tobacco taxes. The number is not 1:1- some countries have multiple sources of revenue from tobacco, for instance Lao PDR alone earmarks tobacco tax revenue from a profit tax on tobacco companies, a specific additional tax, as well as stamp fees from tobacco.

Table x. Jurisdictions that earmark across product areas (70 total countries and jurisdictions)

	70	<i>Algeria, Argentina, Australia (Victoria), Azerbaijan, Bangladesh, Belgium, Benin, Botswana, Brazil, Bulgaria, Cambodia, Canada (province), Cape Verde, Chad, Colombia, Comoros, Congo, Cook Islands, Costa Rica, Cote D'Ivoire, Djibouti, Ecuador, Egypt, El Salvador, Estonia, Finland, France, Gabon, Guam, Guatemala, Iceland, India, Indonesia, Iran, Iraq, Ireland, Jamaica, Kenya, Lao PDR, Lithuania, Madagascar, Maldives, Mauritania, Mauritius, Mexico, Mongolia, Morocco, Nepal, Nicaragua, North Macedonia, Palau, Panama, Paraguay, Philippines, Poland, Qatar, Republic of Korea, Romania, Serbia, Slovenia, Switzerland, Taiwan, Thailand, Tunisia, United Kingdom, United States of America (States), Venezuela, Viet Nam, Yemen</i>
	22	<i>Bolivia, Botswana, Bulgaria, Cambodia, Colombia, Costa Rica, El Salvador, Estonia, Guatemala, Iceland, Jamaica, Mexico, Mongolia, New Zealand, Nicaragua, North Macedonia, Palau, Panama, Paraguay, Philippines, Republic of Korea, Thailand</i>
	9	<i>American Samoa, France, French Polynesia, Hungary, Marshall Islands, Nicaragua, Philippines, Portugal, United States of America (States)</i> <i>~70 Countries and jurisdictions</i>

Note: that some countries have earmarks for more than one product, as such the numbers are not 1:1.

Further, in some cases, revenue from health taxes is combined with that from other (non-health) taxes, and together earmarked for the same expenditure purpose. For instance, in Colombia, state and municipal revenue from both lotteries and alcohol taxes are used to pay insurance premiums for poor households. In Jamaica, sources from environmental taxes including those on petroleum and motor vehicles are combined with alcohol tax revenue as a part of a “special consumption tax”, as well as revenue from a separate tobacco excise tax (see section x below). In El Salvador, taxes on firearms and ammunition also make up a portion of the earmarked source. As discussed, two known jurisdictions (Philadelphia, Hungary) used a combination of direct and complimentary commitments to fund priorities.

Structure of the earmark. In some countries, earmarks are collected as total or a portion of revenue from excise taxes (Cape Verde, Colombia, Costa Rica- See also OECD 2024), while in others they are collected as a special additional surcharge on top of the excise tax (Indonesia; Thailand). In other countries, political economy factors have led to the labelling of additional tobacco excises as fees or levies, as a way to circumvent challenges with implementing earmarked excises. For instance, together with Eswatini, Lesotho, Namibia and South Africa, Botswana is a member of the Southern Africa Customs Union (SACU). While the customs union brings obvious advantages, it also imposes restrictions on member countries’ ability to set the level of the excise tax on tobacco and creates a common pooling mechanism for revenues. By establishing both an additional alcohol and tobacco tax as a levy, Botswana was able to circumvent SACU limitations on taxes, as well as establish hard earmarks that diverted alcohol and tobacco revenue to health (World Bank, forthcoming). In other contexts, earmarks are placed on other portions of tobacco-linked revenue (i.e., industry profits), making them not true health taxes. For instance, in Lao PDR, while a portion of the earmark for health comes from an additional specific tax, another component is meant to come from a special additional tax on tobacco industry profits.⁶⁵

⁶⁵ Note that this is a separate profit tax and is not linked to collection of Corporate Income Taxes (CIT) in Laos. An Investment License Agreement (ILA) creates special conditions for domestic producers which limits the collection of both components. See Lao PDR Tobacco Law and SEATCA 2014.

The way that earmarks are structured and collected will also depend on tax administration capacities, and thus the efficiency and predictability of funding flows may be impacted.⁶⁶ In this study, the majority of countries (tobacco- 30, alcohol 10, SSB 1) used a fixed percent or fixed amount (in the case of specific excises) of the regular product excise⁶⁷, diverting revenue from these sources away from the general budget, whereas a subset relied on revenue from a smaller, additional tax that is placed on top of the regular excise (tobacco-36, alcohol 6, SSB 3). In the cases where a special additional tax is used, it can be argued that these are completely additional to any revenue that would have been diverted to the general budget, as they are established following the excise and as a piggyback to the regular excise, are the result of specific political economy factors, and thus do not detract from resources that would have gone to the general budget. On the other hand, while there are not reported cases to date where these additional taxes diverted revenue that would have been collected from the main product excise, it is feasible that this might indeed occur. Further, across all product categories, revenue allocated from earmarks on regular product excise was most frequently 0-10% of the total revenue collected from the product excise (23 cases), or 100% of excise revenue (10 cases), making an even split between cases where the revenue as a proportion of excise was potentially substantial-depending on the structure of the excise and revenue collection capacities- or minimal. All other cases make up a small share of the total and fall somewhere between this range. For additional taxes, the vast majority of cases (18) allocated from 80-100% of the additional tax to the expenditure priority, with the majority of others (6) allocating 10% or less of revenue towards the expenditure priority. Given the size of these additional taxes, the amount of revenue is small compared to what is collected through the overall product excise.

Implementation arrangements. Information on implementation arrangements is not consistently reported in the existing literature or legislation. In some cases, revenue may go to funds managed by National Health Insurance authorities (Ghana), National Funds for the development of Youth Sport and Recreation (Madagascar), or other extrabudgetary arrangements including foundations with board oversight and management, a form of “hard” earmarking (Thailand). In other cases, funds flow directly to Ministries of Health (Panama; Romania). In still others, earmarked resources are consolidated and then released for the earmark expenditure purpose based on requests made as a part of regular budget processes, making the earmark “soft” in nature (Philippines). While some of these cases are well documented, in others, little is known at the country level about how effective many of the earmarks are in terms of achieving their intended purpose- for instance, some countries with known earmarks have not been able to effectively release collected revenues (Lao PDR). In others (Dominica)- the earmark was established, but never used for its intended purpose (World Bank, forthcoming).

3. Relevant political economy dimensions

The use of revenue to further support the health impact of a tax can help to address politico-economic aspects of health taxes, including overcoming potential opposition to taxes or tax increases (See also chapter 10). First, there is strong evidence that public support for health taxes increases if the revenue is used to support health initiatives (Vardavas, Filippidis et al. 2012, Tamir, Cohen-Yogev et al. 2018, Eykelenboom, Van Stralen et al. 2019). Second, the use of earmarking and other forms of commitments with health taxes can increase their political acceptability (Eykelenboom, Van Stralen et al. 2019, Thow, Rippin et al. 2022). For example, in French Polynesia, the remit of the health promotion foundation that was established provided benefits to seven ministries, ranging from transport, to education, to youth

⁶⁶ Regular product excise: the amount that goes to the expenditure purpose is all or a portion of an existing excise tax on tobacco, alcohol, or SSBs. Note that cases where all revenue from an excise is dedicated to expenditure purpose are included under fixed amount, not under fixed percent (100%). Includes specific additional taxes where all revenue goes towards expenditure purpose(s). To this end, fixed amount- additional tax is represented as 100% of additional tax (note that for Ireland the Levy is specified as a ceiling, TBD if there is additional revenue collected above this ceiling). NA- Tobacco, SSB and alcohol are US where multiple earmarks exist at state level. SSB is Dominica where earmark was established but cancelled.

⁶⁷ This count includes countries that have special consumption taxes that are charged in a similar way to regular excises. Note that the count “additional tax” include fees (i.e. tax stamp fees) or other streams of revenue such as special surcharges derived from health taxes as a base.

(Thow, Quested et al. 2011). In Thailand, the creation of an independent health promotion foundation increased the ability of government to address industry interference and support civil society (Pongutta, Suphanchaimat et al. 2019). In the USA, a review of early tobacco taxes found that earmarking revenues was popular with voters, and helped bring in allies (Nicholl 1998).

In part, this increased acceptability is generated by the creation of a direct link between the costs of risky health behaviors (e.g. to the health care system) and the use of revenue (e.g. earmarking for the National Health Service) (Eykelboom, Van Stralen et al. 2019). For example, the Government of the Philippines attributed its success in increasing excise tobacco and alcohol in 2012 to the fact that most of the incremental revenues were earmarked for health expenditures (Bird 2015). A recent review found that increased acceptability of taxes with earmarked revenue also reflected the tangible or traceable policy output, providing a direct link to a positive health benefit (Elliott, Topp et al. 2020).

However, earmarking of health taxes can also generate politico-economic challenges due to trade-offs and different interests of stakeholders regarding earmarking (Ozer, Bloom et al. 2020). Industry lobbies strongly and consistently argue against health tax earmarking (Smith, Savell et al. 2013). In the USA, tobacco tax earmarking has sometimes been opposed as serving “special interests” such as physicians and hospitals, and a review of eight case studies of earmarking found that it did not automatically draw support from the intended beneficiaries (Nicholl 1998).

In line with the existence of different stakeholder perspectives on earmarking, framing regarding earmarking has varied, depending on the context. In some cases, governments have emphasised the role of the (health) tax in raising revenue for an important (sometimes non-health) policy objective; and in others, they have emphasized the additional health benefits achieved by earmarking the health tax revenue. For example, in Philadelphia, the SSB tax was framed more as a source of revenue for an important social issue – i.e. early childhood education – and this non-health frame was seen as key to avoid debates about the ‘nanny state’ and also broaden the evidence for effectiveness from simply health impacts to childhood development (Purtle, Langellier et al. 2018). In contrast, in the Philippines, the significant increase in excise taxes on tobacco and alcohol as part of a major tax reform was framed as a health measure: “the cause of good health helped fuse a winning political coalition amid formidable opposing lobbies” (Kaiser, Bredenkamp et al. 2016).

4. Revenue use for health financing

As discussed, health sector actors often raise the idea of health taxes in the context of broader Domestic Revenue Mobilization (DRM) or health financing strategy discussions, as an innovative modality for raising revenue for health, and often linked to the concept of earmarking. Separately, a 2017 study that looked at earmarking for health more broadly found that 80 countries were applying nearly 130 different earmarking policies to direct revenue towards health or specific programs or populations that benefit from health sector funding. These earmarks occur across more than 10 different revenue sources, such as payroll or income tax, different consumption taxes and debt relief (WHO 2017).

In this context, some health taxes are introduced specifically with the purpose of financing the health sector, and linked to larger health financing schemes or priorities such as Universal Health Coverage. Further, as discussed, in some cases health tax revenue is used in tandem with other non-earmarked or earmarked funding sources, including payroll taxes (such as in Jamaica), which are the most common form of earmarked financing for the health sector: a total of 62 countries earmarked payroll taxes for the population or formal sector workers as a part of a public scheme (WHO 2017).

However, earmarks are not a magic bullet able to solve all sectoral financing issues, which often have a number of drivers. For instance, current health financing best practice encourages countries to move away from contribution-based financing -including earmarked payroll taxes- and a focus on the general budget as a core source of financing (Yazbeck et al 2023). Despite this, health taxes have also been posited as a supplemental source of financing to ease the transition away from payroll tax. In order to explore these issues, this section will briefly touch on country experiences with earmarked payroll taxes,

countries that earmark both payroll and health taxes to finance health insurance, and countries that include health taxes along with general budget resources as a way of financing health sector needs. The examples of Ghana and Jamaica will also be raised in order to explore challenges with overall sustainability and sufficiency of resources as they relate to health sector financing. While there are examples where health tax earmarks have contributed to sector financing objectives, experiences also flag challenges with resource management, earmark design, and importantly, whether resources actually lead to a net increase in revenue for the sector over time.

A number of countries face significant challenges with sustainability of earmarked revenue from payroll taxes in particular as a part of social health insurance schemes, which are most often presented as a hard earmark (WHO 2017). In particular, payroll taxes which are sometimes collected as a part of social security contributions, which are challenging to implement in countries with high labor informality, increase the cost of labor, and provide incentives to bypass this system (Yazbeck et al 2023). However, countries with higher shares of formal sector labor also face challenges with sustainability and sufficiency over time. For instance, in Estonia, payroll taxes were used to fund the Estonian Health Insurance Fund, including health and pension contributions at 13% and 20% of employee wages and self-employed earnings respectively. Collected as a part of mandatory social tax, employers contributed on behalf of employees and self-employed workers paid fixed premiums to obtain coverage. While the earmark provided more than 90% of resources and has helped to advance priorities, shortfalls occurred for the first time in 2016 and were impacted by use of a hard earmark, which limited the ability to increase the contribution rate, leading to the shortfall needing to be covered by reserves (WHO 2017). Indeed, today, many high-income countries are also looking to expand their funding sources away from social health insurance earmarks given the raising cost of social security and reduced contributions (for example, France), especially as populations age and labor markets contract (Yazbeck et al 2020). For low and lower middle-income countries with different structural and economic constraints, including a high degree of informality, further challenges ensue in terms of sustainability and sufficiency of revenue.

In Ghana, while hard earmarks established to fund National Health Insurance were arguably instrumental in establishing the scheme, there remain significant issues with additionality and efficiency. Established in 2003, Ghana NHIS was funded initially by two 2.5 percentage point earmarks levied as a portion of both VAT and Social Security Contribution revenue- however overall revenue to the health sector- both per capita and as a share of GDP- declined, returning total revenue to pre-earmark levels for the sector over time. Additionally, while the earmarked funds provide on average 91 percent of NHIS's funding and 26 percent of resources for public programs in the health sector, Ghana's NHIS continues to face financial sustainability challenges including increasing costs of medical claims due to rising population coverage of the scheme and utilization of health services, delays in the release of funds and inadequate expenditure controls leading to reduced efficiency. Due to these factors as well as a host of public financing challenges- including a recent cap on the amount of earmarked funding- the NHIS began experiencing financing deficits in 2009, and needed to utilize investment income to finance the gap (WHO 2017). Funding for the health sector also returned to pre-earmark levels This points to the need for better expenditure management strategies to help manage resources.

In Jamaica, earmarking of funds from tobacco taxes to fund National Health Insurance have also faced sustainability challenges, with payroll taxes needing to be increased on order to make up a broader portion of the funding. The government of Jamaica created the National Health Fund (NHF) in 2003, with the aim of providing both individual and institutional benefits through the provision of subsidized drugs and supporting health-system strengthening projects. At inception, the NHF was funded through three hard earmarks: 1) 20% of Special Consumption Tax (SCT) revenues from tobacco products, 2) 5% of all SCT revenues from alcohol and petroleum products; and 3) 1% tax on gross salaries collected with the 4% National Insurance contribution.

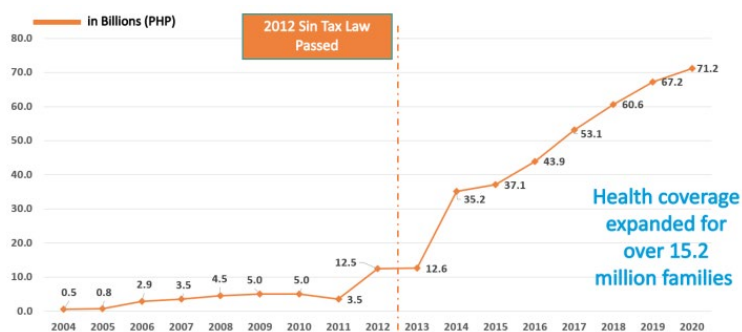
The use of earmarked tax revenue to fund the NHF generated several lessons. Given the national economic downturn at the time of its founding, there was no general funding available to support the NHF, and earmarking new tax revenue provided a solution to this challenge without reducing revenue

in the general fund. Prior positive experiences with earmarked projects (e.g. the National Housing Trust) increased public and inter-ministerial support for this financing structure, and the NHF's clear mandate and strong governance mechanisms further strengthened public trust. Finally, the use of existing tax structures reduced potential administrative burden, and over time, the diversification of sources for earmarked revenue increased the fund's resilience to unexpected changes in any single revenue stream over time. However, there were challenges with the earmarked funding streams: following the dramatic drop in tobacco tax revenue in 2006 when Carreras closed their manufacturing facility in Jamaica, reliance on payroll taxes needed to increase. Further, sustainability of the funding of the NHF from earmarked taxes is vulnerable to potential reductions in, for example, the tobacco and petroleum markets, and also reliance on the need to increase rates, regularly review tax structures, and index for inflation in order to ensure revenue sustainability. Since 2010, tobacco SCT revenues as a proportion of total earmarked tax revenues for the NHF have decreased, further increasing reliance on other sources (World Bank, forthcoming).

In Philippines, a soft earmark for health introduced as a part of the 2012 Sin tax reform included revenue from tobacco, alcohol, and eventually SSBs as well as lotteries. The earmarks were introduced in tandem with this reform and as a part of a political promise from the government not to introduce new taxes, which helped to increase the political palpability and acceptability of reforms. Further, alignment with the budgeting process, the use of multiple sources of revenue in order to reduce reliance on just the earmarked funds alone, and productive monitoring practices helped to ensure the efficiency and effectiveness of the earmark. Indeed, the contribution of earmarked revenues has grown considerably in most years since the Sin Tax Law took effect in 2013, but the amounts have fluctuated from year to year. The share of earmarked revenue has varied from as low as 16 percent in 2021 to a high point of 59 percent in 2022. The relative contribution of earmarked funding must therefore be adjusted each year based on its share of total revenue, as they were during the COVID-19 pandemic. For instance, as tax collections went down during the pandemic, the lagged effect on revenues became visible in 2021. The share of revenue from earmarked taxes fell during that period, however net allocations to the health sector did not decline as additional revenue was provided from other sources for health to address service needs and related actions due to COVID-19. Besides this, Philippines has a strong history using earmarking as a fiscal practice, which also create a supportive reform environment (WHO 2017; Ozer et al 2020; World Bank, forthcoming).

Over time, the earmarks have provided significant resources for the health sector in the Philippines, tripling revenue for health over five years (2013-2018), decreasing smoking prevalence, and expanding coverage by paying for health insurance premiums for the poor by using a national poverty targeting system to select beneficiaries (Ozer et al 2020). In this way, the government has expanded coverage to over 15.2 million families (See figure x). However, the way that earmarked resources in the Philippines are monitored, reported and managed contribute significantly to the success of the reform efforts, and it cannot be taken for granted that these capacities will be present in all contexts. Further, the Philippines example highlights the need for continual reform to the health tax base over time in order to ensure sustainability of resources. For instance, the 2018 TRAIN reforms in Philippines involved simplification of tobacco tax rates and introduction of SSBs into the tax regime, while earmarks for tobacco alone were reformulated in 2019 to rebase the earmark from incremental to total revenue (World Bank, Forthcoming).

Figure x. Health coverage expansion in the Philippines post 2012



5. Expenditure and Revenue Management Through a Public Finance Lense (PFM)⁶⁸

Further, the way that public financial management systems are structured also impacts the way that revenue use policies are structured (World Bank, Forthcoming). This is true both for earmarks, and the other revenue options that exist outside of earmarking. The following section will briefly outline some considerations and learnings including fiscal context and adoption, and across stages of the PFM cycle (budget formulation, execution/implementation and monitoring). To note, these countries represent a range of different product taxes, namely SSB, tobacco and alcohol, as well as examples of hard and soft earmarks, as well as commitments.

For instance, some countries have earmarking as a part of their fiscal context, but this does not always equate to space to apply it as a tool. For example, in Philadelphia, while earmarks are allowed and used as a part of the budget process, they are politically difficult to put in place and thus an earmark on a local SSB tax was not employed in the end, with a program budget applied instead to ensure accountability and transparency. In the Philippines, building upon the use of earmarks as a regular part of their fiscal system, a soft earmark on health taxes was used- what made the earmark “soft” in the case of the Philippines was the adoption of a complementary set of rules from the Department of Budget and Management that governed the allocation and disbursement of the fund after the TRAIN act was issued. However, there are also examples where fiscal rules are not adhered to, an issue that can limit transparency and accountability, and sacrifice the public contract in the process. In Botswana, lack of consistent reporting limited transparency and understanding around how funds associated with earmarked alcohol and tobacco tax revenue was being utilised (World Bank, forthcoming).

In terms of adoption, many of the countries presented were meeting an urgent need. For instance, some were in fiscal crisis at the time of reform- this included fiscal deficits in Jamaica, Australia and other countries. In the case of Botswana, who had favorable economic conditions, the desire was to include revenue from tobacco taxes outside of the SACU pooled mechanism. Further, despite views that hypothecation protects funding from political issues, the VicHealth case study demonstrated that the independent health promotion entity was still vulnerable, when a change in government nominally capped funding without indexation, diminishing real operational resources during this period (1992-1993 to 1995-1996)- soon after state licensing fees were rescinded (1997) and VicHealth was brought onto consolidated revenue as a part of a political move to end the earmark (1998-1999).

Good design and implementation is key for health impact and for revenue raising. A stock taking indicated that not all of the taxes included best practice design in terms of favoring a higher specific component over ad valorem, which may have impacted revenue, although many evolved throughout implementation. This includes indexation: In Jamaica, for instance, the tobacco tax was levied in a way that led to early potential revenue losses, including limited rate changes and erosion by 30% of the total projected revenue from the fund. This was partially addressed in 2015 and 2016, when the government adjusted the nominal SCT rate. However, tobacco tax revenue was impacted by other shocks, including

⁶⁸ This section draws heavily on case studies prepared as a part of a forthcoming World Bank study.

the exit of the main tobacco producing company. The amount of revenue earmarked from tobacco for the NHF decreased by about 50% in 2006 and stayed at that low level in 2007- to this effect, other sources, including earmarked payroll tax, continue to make up a larger proportion of revenue.

Budget formulation- The majority of earmarks in these case study countries followed regular budgetary channels at the budget formulation phase. This was true even for Australia, where the earmark allowed for the creation of an independent institution and separate fund- planning was further facilitated by the agency taking a medium-term perspective (5 years) that allowed plans to align to the annual budget process. In Philadelphia, where a formal earmark was not used, the program budget supported budgeting for results through annual program targets.

Revenue collection- most countries used existing collection channels to collect excise instead of designating the function of collecting earmarked revenues to a supplementary agency or organization- In Jamaica, existing channels were used to collect funds through the Tax Administration Jamaica (TAJ), easing the administrative burden. However, in other cases, tax structure negatively impacted collection- for example. in Botswana, a 6% handling fee was charged by the revenue authority, but it seems that this has not been regularly collected.

Execution- A lack of plans for how the resources will be spent limits the efficiency of execution and in some cases, has further effects; program level priorities created rigidity that contribute to underspend, especially when the nature of the priority is subject to shifts. For instance, in Philippines, disbursement rates for one of the earmarked programs targeting health facility enhancement were around one-third of allotments in 2018 and 2020. However, in the case where the earmark was not formal, additional flexibility could be used in times of fiscal crisis- For instance, the City of Philadelphia was able to respond to shifts in revenue, expenditures, and programmatic priorities in light of unanticipated circumstances, including COVID-19. The pandemic caused programs funded by the tax to temporarily shut down and forced the City to direct staff and financial resources to other sectors (e.g., public health), which was made possible by the avoidance of using formal, hard earmarks on an SSB tax.

Lessons from monitoring reinforce the need for strong accountability and measurement of performance, and in order to assess whether the funding is meeting the objective of the earmark - for instance in Indonesia, while there is central monitoring, there is limited access to results, and reporting against expenditures is challenged by a lack of consistent classifications across administrative levels.

In Philadelphia, even though there is no legal mandate requiring beverage tax revenue go to specific programs, there are several channels for monitoring spending against programs and to ensure accountability for targets. In this case, use of the program budget allowed for clear targets to be established that make it easier to track funding against specific priorities as well as account for results. Targets for each fiscal year are determined as part of the annual budget processes and can be adjusted as needed.

6. Conclusion

Health excise taxes are a valuable and impactful fiscal reform in their own right that when properly structured and administered, can have both significant health and revenue impacts. Revenue from health taxes has been used for compensatory measures that address equity and impact concerns related to the tax, for reinforcing measures that further support the specific health related objectives of the tax, and for other social policy objectives that enhance human capital and community wellbeing.

A range of mechanisms have been used to direct revenue, spanning from approaches such as earmarking, to other measures that include direct and complementary commitments. If governments are considering revenue use, channels that ultimately align to standard budget processes are preferred over those that circumvent regular budget channels. Policymakers should keep their policy objectives front of mind when selecting mechanisms in order to avoid any unintended consequences.

Critical factors for any revenue use policy include acceptability, transparency and public trust- these factors are linked to the degree to which governments can be held accountable to the commitments that they make. While revenue use is often associated with increased political and public acceptability of health taxes, some countries explore earmarking as an option for directing health tax revenue towards the health sector and other social priorities. However, this may not be the best choice given the existing fiscal system in countries, as well as the need for strong public financial management systems that can help direct health tax revenue towards various sectors, programs and populations.

In some jurisdictions, where budgeting is already complicated by an array of legislated commitments, it may be difficult to establish a legal hard earmark without resistance or some compromise to other commitments on budgetary allocations. Further, a hard commitment may do nothing but crowd-out the resources that would otherwise have been allocated to the sector in question.

If governments introduce specific revenue use mechanisms, then reporting on health tax revenue collected and the application of the funds collected can strengthen revenue use, and also provide accountability to taxpayers and constituencies that supported the policy. Reporting on how funds are used may require highlighting results related to funding for the sector, program or population in question- and can include prioritizing a channel with strong transparency and accountability as a part of the fund flow arrangements, which may not be an earmark. While this may be seen as a somewhat less concrete commitment to the policy objective or outcome in question, the idea is embedded in the principle that it is alignment overall with good budgeting practices, including accountability and reporting on results that matters most- not the specific channel, and that this principle is consistent with the drive to get political support.

Further, policy objectives for health tax revenue use can be structured to compensate for the known side effects that the tax may have on particular population groups, sometimes as a part of a package of reforms, or to strengthen the intended purpose of the reform. Once policy objectives have been established, it should be determined whether known funding channels exist to help achieve these expenditure purposes, or whether an earmark or other specific revenue use tools should be employed. In and of itself, health tax reforms may still provide a window to improve resource allocation or attention to sectoral policy objectives, without the use of an earmark. Further, emerging evidence has shown examples of health tax reforms that can be used to achieve the same policy objective, such as complementary commitments adopted at the time of reform, or direct commitments that can be tracked through existing systems such as a program-based budgets or budget tagging.

Checklist for decisionmakers

- ✓ Foremost, focus on the revenue side- ensuring that health taxes follow best practice design principles, including higher reliance on specific taxes, and indexation for inflation as a first step on any health tax reform, and to ensure both revenue and health impacts. Without well designed and administered health taxes, expenditure focused discussions around how health tax revenue will have little utility.
- ✓ Consider whether a revenue use strategy is appropriate to context, or whether the health tax revenue should be directed to the general budget.
- ✓ If a revenue use strategy is considered appropriate, ensure that the policy priority is well defined.
- ✓ Countries should select the best option (hard/soft earmarking, direct/complementary commitment) based on the country's framework that regulates budget and budgetary processes.
- ✓ In many countries, earmarking is a regular fiscal practice and has been used to support various sectoral objectives and outcomes, making the success of this practice very specific that countries context. In others, political and public finance factors will make earmarking an unpalatable choice.

- ✓ Earmarking is not a magic solution to increase revenue for a program or sector. Because expenditure can increase more quickly than anticipated, because revenue are fungible, and because it is often used in the first place for political purposes- which all may shift over time.
- ✓ If earmarking is selected, during design, assess the impact that the earmark will have on existing revenues from the excise, both based on the percent allocated and whether the funds will come from total revenue or as an additional tax.
- ✓ In general, revenue use practices that align to the standard budget process are preferred over other approaches such as hard earmarking. Both direct and complementary commitments can be effective ways to leverage political momentum around health tax reforms, as well as existing funding channels to achieve policy objectives.
- ✓ This in turn makes public financial management practices and capacities important factors in determining which mechanism is the best fit for a specific policy objective: different existing channels may be better suited to achieve policy goals over the long run than the establishment of an earmark.
- ✓ There is a need to evaluate/assess spending that is financed by any revenue use mechanism, for both accountability and advocacy purposes.

References

Allen R, Hemming R and Potter BH. 2013. *The International Handbook of Public Financial Management*

Allen and Tommasi, 2001, *Managing Public Expenditure, A reference book for transition countries. Governance, OECD*

Basińska-Zych A, Springer A. Organizational and individual outcomes of health promotion strategies— a review of empirical research. *International journal of environmental research and public health*. 2021 Jan;18(2):383.

Blackwell C, Crotts JC, Litvin SW, Styles AK (2006). Local Government Compliance with Earmarked Tax Regulation. *Public Finance Review* 34(2)

Bird R, Das-Gupta A. (2014). Public finance in developing countries. In: Medhora R, editor. *International development: ideas, experience, and prospects*. Oxford: Oxford University Press;2014;259-76.

Bird RM. (2015) Tobacco and alcohol excise taxes for improving public health and revenue outcomes: marrying sin and virtue? *Policy Research Working Paper Series 7500, World Bank*. Washington (DC)

Borland, R., M. Winstanley and D. Reading (2009). "Legislation to institutionalize resources for tobacco control: the 1987 Victorian Tobacco Act." *Addiction* 104(10): 1623-1629.

Cashin, C., S. Sparkes, and D. Bloom. 2017. "Earmarking for Health: From Theory to Practice." Geneva: World Health Organization. License: CC BY-NC-SA 3.0 IGO.

Chu and Hemming, 1991, *Public expenditure handbook: A guide to Public policy issues in developing countries*. IMF.

Colchero MA, Popkin BM, Rivera JA, Ng SW. 2016. Beverage purchases from stores in Mexico under the excise tax on sugar sweetened beverages: observational study. *BMJ*. 354:h6704.

Colombo L, Galmarini U. Taxation and anti-smoking campaigns: Complementary policies in tobacco control. *Journal of Policy Modeling*. 2023 Jan 1;45(1):31-57.

Connolly, M. P., C. L. Baker and N. Kotsopoulos (2018). "Estimating the public economic consequences of introducing varenicline smoking cessation therapy in South Korea using a fiscal analytic framework." *Journal of Medical Economics* 21(6): 571-576.

Daruich, D. (2018). "The macroeconomic consequences of early childhood development policies." Available at SSRN 3265081.

Dye RF, McGuire TJ. The effect of earmarked revenues on the level and composition of expenditures. *Public Finance Rev*; 1992;20(4):543-56.

Elliott, L., S. Topp and S. Dalglish (2020). "Health taxes on tobacco, alcohol, food and drinks in low- and middle-income countries: A scoping review of policy content, actors, process and context." *International Journal of Health Policy and Management*.

Eykelenboom, M., M. M. Van Stralen, M. R. Olthof, L. J. Schoonmade, I. H. Steenhuis and C. M. Renders (2019). "Political and public acceptability of a sugar-sweetened beverages tax: a mixed-method systematic review and meta-analysis." *International Journal of Behavioral Nutrition and Physical Activity* 16(1): 1-19.

Fuchs, Alan; Pierola, Denisse. 2022. *The Distributional Impacts of Health Taxes. Equitable Growth, Finance and Institutions Insight - Poverty and Equity*; © Washington, DC: World Bank. <http://hdl.handle.net/10986/38409> License: CC BY 3.0 IGO; <https://openknowledge.worldbank.org/handle/10986/38409>

Gmeinder M, Morgan D, Mueller M. How much do OECD countries spend on prevention?", *OECD Health Working Papers*, No. 101. Paris: OECD Publishing. Available at: <http://dx.doi.org/10.1787/f19e803c-en>, 2017.

Hagenaars, L. L., P. P. T. Jeurissen and N. S. Klazinga (2017). "The taxation of unhealthy energy-dense foods (EDFs) and sugar-sweetened beverages (SSBs): an overview of patterns observed in the policy content and policy context of 13 case studies." *Health Policy* 121(8): 887-894.

Hallerberg M., Strauch R., von Hagen, J. (2004). *The design of Fiscal Rules and Forms of Governance in European Union Countries*. European Central Bank. Working Paper Series No.419. Frankfurt, Germany.

Hashem KM, Burt HE, Brown MK, MacGregor GA. Outcomes of sugar reduction policies, United Kingdom of Great Britain and Northern Ireland. *Bull World Health Organ* 2024; 102(6): 432-9.

Hoek, J., R. Edwards, G. W. Thomson, A. Waa and N. Wilson (2021). "Tobacco excise taxes: a health and social justice measure?" *Tobacco Control* 30(3): 258.

Hofman, K. J., N. Stacey, E. C. Swart, B. M. Popkin and S. W. Ng (2021). "South Africa's Health Promotion Levy: Excise tax findings and equity potential." *Obesity Reviews* 22(9): e13301.

Holman, C., R. J. Donovan, B. Corti, G. Jalleh, S. K. Frizzell and A. M. Carroll (1997). "Banning tobacco sponsorship: replacing tobacco with health messages and creating health-promoting environments." *Tobacco Control* 6(2): 115-121.

International Monetary Fund (2001). *Manual on fiscal transparency*. IMF, Washington DC.

Javadinasab, H., I. M. Asl, A. Vosoogh-Moghaddam and B. Najafi (2019). "Sustainable financing of health promotion services in selected countries: best experience for developing countries." *Medical journal of the Islamic Republic of Iran* 33: 52.

Kaiser, K., C. Bredenkamp and R. Iglesias (2016). *Sin Tax Reform in the Philippines: Transforming Public Finance, Health, and Governance for More Inclusive Development*. Washington, D.C., World Bank Group. Available at <https://openknowledge.worldbank.org/bitstream/handle/10986/24617/9781464808067.pdf?sequence=2>. Accessed 21 February 2022.

Kim, J. Y. (2018). "The human capital gap: getting governments to invest in people." *Foreign Aff.* 97: 92.

Krieger, J., K. Magee, T. Hennings, J. Schoof and K. A. Madsen (2021). "How sugar-sweetened beverage tax revenues are being used in the United States." *Preventive medicine reports* 23: 101388.

Lane C., Glassman A., and Smitham E. (2021). *Using Health Taxes to Support Revenue—An Action Agenda for the IMF and World Bank*. CGD Policy Paper 203. Washington, DC: Center for Global Development. <https://www.cgdev.org/publication/using-health-taxes-support-revenue-action-agenda-imf-and-world-bank>.

Lecours, Natacha. "The harsh realities of tobacco farming: a review of socioeconomic, health and environmental impacts." *Tobacco control and tobacco farming: separating myth from reality* (2014): 99.

Mossialos E, Dixon A, Figueras J, Kutzin J, editors. *Funding healthcare: options for Europe*. 2002.

Musgrave RA and Musgrave, PB. (1973). *Public Finance in Theory and Practice*, Third Edition, McGraw-Hill

Nam, E. W., E. De Leeuw, J. Y. Moon, N. Ikeda, B. Dorjsuren and M. B. Park (2011). "Sustainable funding of health initiatives in Wonju, Republic of Korea via a tobacco consumption tax." *Health promotion international* 26(4): 457-464.

Nicholl, J. (1998). "Tobacco tax initiatives to prevent tobacco use." *Cancer* 83(S12A): 2666-2679.

Nickel S, von dem Knesebeck O. Effectiveness of community-based health promotion interventions in urban areas: a systematic review. *Journal of community health*. 2020 Apr;45(2):419-34.

Nickel S, von dem Knesebeck O. Do multiple community-based interventions on health promotion tackle health inequalities?. *International journal for equity in health*. 2020 Dec;19:1-3.

OECD (2020), *Mobilising tax revenues to finance the health system in Côte d'Ivoire*, OECD Publishing, Paris, <https://doi.org/10.1787/aa17c32d-en>.

OECD (2020), *Mobilising tax revenues to finance the health system in Morocco*, OECD Publishing, Paris, <https://doi.org/10.1787/f755fa62-en>.

OECD (2024), *Tobacco Taxation in Latin America and the Caribbean: A Call for Tobacco Tax Reform*, OECD Publishing, Paris, <https://doi.org/10.1787/080cd662-en>.

Onagan, F.C.C., B.L.C. Ho, and K.K.T. Chua, Development of a sweetened beverage tax, Philippines. *Bulletin of the World Health Organization*, 2019. 97(2): p. 154

Ozer C, Bloom D, Martinez Valle A, Banzon E, Mandeville K, Paul J, Blecher E, Sparkes S, Chhabra S. (2020) Health Earmarks and Health Taxes- what do we know? HNP Knowledge brief. Washington DC: World Bank.

Pettit P, Nagy J (2016) How to design and enforce tobacco excises? Washington DC: International Monetary Fund

Pongutta, S., R. Suphanchaimat, W. Patcharanarumol and V. Tangcharoensathien (2019). "Lessons from the Thai health promotion Foundation." *Bulletin of the World Health Organization* 97(3): 213.

Potrafke, N. 2023. *The Economic Consequences of Fiscal Rules*. CESifo Working Papers #107665. Munich Society for the Promotion of Economic Research, Munich, Germany.

Philippines Commission on Audit, 2016, *Special Audit Report on Shares from the Collections of Burley and Native Tobacco Excise Taxes*, Manila, Philippines.

Potter BH and Diamond J (1999) Guidelines for Public Expenditure Management. IMF

Purtle, J., B. Langellier and F. Lê-Scherban (2018). "A Case Study of the Philadelphia Sugar-Sweetened Beverage Tax Policymaking Process: Implications for Policy Development and Advocacy." *Journal of Public Health Management and Practice* 24(1).

Schang, L. K., K. M. Czabanowska and V. Lin (2012). "Securing funds for health promotion: lessons from health promotion foundations based on experiences from aze, Australia, Germany, Hungary and Switzerland." *Health Promotion International* 27(2): 295-305.

Smith, K. E., E. Savell and A. B. Gilmore (2013). "What is known about tobacco industry efforts to influence tobacco tax? A systematic review of empirical studies." *Tobacco Control* 22(2): e1.

Sopitachasak, S., S. Adulyanon and L. Lorthong (2015). "Thai Health Promotion Foundation: innovative enabler for health promotion." *World Health Popul* 16(1): 62-71.

Tamir, O., T. Cohen-Yogev, S. Furman-Assaf and R. Endevelt (2018). "Taxation of sugar sweetened beverages and unhealthy foods: a qualitative study of key opinion leaders' views." *Israel Journal of Health Policy Research* 7(1): 43.

Tandon A, Bloom D, Oliveira Hashiguchi L, Hoang-Vu Eozenou P, Cain J, Nigam A., Nagpal S. eds. (2021). *Making the Case for Health: A Messaging Guide for Domestic Resource Mobilization*. Joint Learning Network for Universal Health Coverage. Washington DC: World Bank

Tandon A. and Cashin C. (2010). *Assessing Public Expenditure on Health from a Fiscal Space Perspective*. Health, Nutrition and Population (HNP) discussion paper World Bank, Washington, DC. <http://hdl.handle.net/10986/13613> License: CC BY 3.0 IGO

Tangcharoensathien, V., Adulyanon, S., Nuttapun Supaka, N., Munkong, R., Viriyathorn, S., Sirithienthong, S., Kanhachon, S., Marten, R. (2024). The Thai Health Promotion Foundation: Two Decades of Joint Contributions to Addressing Noncommunicable Diseases and Creating Healthy Populations. *Global Health: Science and Practice* Apr 2024, 12 (2) e2300311; DOI: 10.9745/GHSP-D-23-00311.

Thow, A., H. Rippin, G. Mulcahy, K. J. Duffey and K. Wickramasinghe (2022). "Sugar-sweetened beverage taxes in Europe: learning for the future." *European Journal of Public Health* 32(2): 273-280.

- Thow, A. M., S. Downs and S. Jan (2014). "A systematic review of the effectiveness of food taxes and subsidies to improve diets: Understanding the recent evidence." *Nutrition Reviews* 72(9): 551-565.
- Thow, A. M., R. A. Lencucha, K. Rooney, S. Colagiuri and M. Lenzen (2021). "Implications for farmers of measures to reduce sugars consumption." *Bulletin of the World Health Organization* 99(1): 41.
- Thow, A. M., C. Quested, L. Juventin, R. Kun, A. N. Khan and B. Swinburn (2011). "Taxing soft drinks in the Pacific: Implementation lessons for improving health." *Health Promotion International* 26(1): 55-64.
- UK Health Forum (2019). Case study: The Hungarian public health product tax. UK Health Forum and commissioned by the Health Foundation. Alison Giles, Danielle Costigan, Hannah Graff, Rebecca Stacey and Modi Mwatsama.
- Vardavas, C. I., F. T. Filippidis, I. Agaku, V. Mytaras, M. Bertic, G. N. Connolly, Y. Tountas and P. Behrakis (2012). "Tobacco taxation: the importance of earmarking the revenue to health care and tobacco control." *Tobacco Induced Diseases* 10(1): 21.
- Wilkinson M. Paying for public spending: is there a role for earmarked taxes? *Fisc Stud.* 1994;15(4):119-35.
- World Bank (2021). *Investing in Human Capital for a Resilient Recovery: The Role of Public Finance*. Washington, DC: World Bank.
- World Bank (2023a). *Why Health Taxes Matter: A Mechanism to Improve Health and Revenue Outcomes*. Global Tax Program Health Taxes Knowledge Note Series. Washington, DC.
- World Bank (2023b). *Unpacking the Empirics Behind Health Tax Revenue*. Global Tax Program Health Taxes Knowledge Note Series. Washington, DC.
- World Bank (2023c). *Tobacco Excise Taxes and Tobacco Leaf Farming- Key Considerations*. Global Tax Program Health Taxes Knowledge Note Series. Washington, DC.
- World Health Organization (2019). *Implementation roadmap 2023–2030 for the Global action plan for the prevention and control of NCDs 2013–2030*. Geneva, World Health Assembly.
- WHO (2010). *Hypothecation of tax revenue for health*. World Health Report Background Paper #51. World Health Organization, Geneva.
- WHO (2016). *Earmarked Tobacco Taxes: Lessons Learnt from Nine Countries*. World Health Organization, Geneva.
- Chapter 9, Ozer, C. and Sparkes, S. *Public Governance and Financing, and Earmarking Health Taxes*. In WHO (2020). *Health Taxes Policy and Practice*. Lauer, JA., Sassi, F., Soucat, A., Vigo, A., (eds). World Health Organization, Geneva.
- WHO (2021). *technical manual on tobacco tax policy and administration*. Geneva: World Health Organization; 2021. Licence: CC BY-NC-SA 3.0 IGO.
- WHO (2022). *technical manual on Sugar sweetened beverage taxation to support healthy diets*. Geneva: World Health Organization. Licence: CC BY-NC-SA 3.0 IGO.

E/C.18/2025/CRP.16

WHO (2023). technical manual on alcohol tax policy and administration. Geneva: World Health Organization. Licence: CC BY-NC-SA 3.0 IGO.

Yazbeck, A. S., Savedoff, W., Hasiao, W., Kutzin, K., Soucat, A., Tandon, A., Wagstaff, A., Yip, W. 2020. *The Case Against Labor-Tax-Financed Social Health Insurance for Low- and Low-Middle-Income Countries*. Millwood: Health Aff. 39: 892–897.

Yazbeck A.S., Soucat A., Tandon A., Cashin C., Kutzin K., Watson J., Thompson S., Nguyen S., Evetovits T,(2023). *Addiction to a bad idea, especially in low- and middle-income countries: Contributory health insurance*, Social Science & Medicine, Volume 320, 115168, ISSN 0277-9536, <https://doi.org/10.1016/j.socscimed.2022.115168>.

Chapter 7: Administering Health Excise Taxes

1. General issues in tax administration

a) What is tax administration and why is it important

The tax administration of a country is responsible for the timely and accurate collection of tax revenues in order to fund public services and other expenditure obligations of government⁶⁹ through the implementation and enforcement of tax legislation and regulations.⁷⁰ Different institutional arrangements exist across countries, shaped by differing legal, political, and judicial regimes as well as by their cultural and historical background. These contextual factors will inform decisions around the administration of health taxes.

As a result of these complex forces, a variety of institutional arrangements have evolved in countries, generally differentiated along the spectrums of unity, autonomy, and centralisation:

- From a unified administration responsible for all categories of taxation to multiple administrations responsible for separate categories, such as direct, indirect, and customs;
- From an administration that is within or under the direction of the ministry of finance to an autonomous administration;
- From an administration that is centralised to one where the administration of certain or all categories of taxation is delegated to sub-national bodies.⁷¹

Whatever organisational structure is chosen, effective tax administration is essential as it leads to higher revenue collection and promotes trust in government.⁷² How governments raise money to finance public expenditure, including healthcare, education, and critical infrastructure, is central to the development and progress of every country.⁷³ Taxes ensure governments have at their disposal sufficient revenue to pursue economic growth and social harmony. A fair, efficient and effective tax administration promotes public confidence, not least because the tax administration is often one of the most visible manifestations of governance for the public.

⁶⁹ OECD (2023), *Tax Administration 2023: Comparative Information on OECD and other Advanced and Emerging Economies*, OECD Publishing, Paris, <https://doi.org/10.1787/900b6382-en>, p 25.

⁷⁰ Alink M, Van Kommer V, IBFD, *Handbook on Tax Administration (Second Revised Edition)*, p 163.

⁷¹ OECD, *Tax Administration in OECD and Selected Non-OECD Countries: Comparative Information Series* (2006), February 2007, pp 8-10.

⁷² OECD, *Taxation & SDGs: First Global Conference of the Platform for Collaboration on Tax, 14-16 February 2018, New York, Conference Report* [First global conference of the Platform for Collaboration on Tax - February 2018 \(oecd.org\)](https://www.oecd.org/tax/first-global-conference-of-the-platform-for-collaboration-on-tax/), p 21.

⁷³ IMF Working Paper, Chang ES, Gavin E, Gueorguiev N, Honda J, *Raising Tax Revenue: How to Get More from Tax Administrations?*, July 2020.

b) The link between tax policy and tax administration

The primary purpose of a tax administration is the collection of tax revenue to fund public services⁷⁴ in compliance with national tax law.⁷⁵ To discharge these tasks, tax administrations require appropriate human and material resources, effective technological resources, good governance and management, appropriate internal controls, and appeal and dispute resolution mechanisms. Other external factors influence the effectiveness and efficiency of a tax administration, including the wider political, social, economic, and cultural environment. The focus of this Chapter will be on resourcing, governance and management, internal controls, and appeal and dispute resolution mechanisms.

Countries that strengthen and increase the effectiveness and efficiency of their tax systems can generate the domestic resources needed to meet the Sustainable Development Goals (SDGs) and promote inclusive economic growth⁷⁶ as sustainable tax environments are good for business investment.⁷⁷ A well-functioning tax administration is fundamental in promoting formal business activities, investment, and economic growth whereas a malfunctioning tax administration raises the cost businesses incur in complying with the government's tax requirements.⁷⁸ The effectiveness of a tax administration refers to the extent to which compliance by taxpayers is ensured, while its efficiency refers to the cost of administration relative to revenue collected.⁷⁹

An effective tax administration can alter the relationship between citizens and the state. Taxpayers are more likely to comply with tax laws when they perceive that the tax administration is even handed and honest, that the tax burden is distributed in an equitable manner, and that the funds go towards public services they value. Governments can build public trust by improving both the design and administration of their tax systems.⁸⁰

2. Excise tax administration- why is it unique?

For health taxes that take an excise tax approach, their success depends on a strong overall system for excise tax administration. As noted in earlier chapters, excise tax is charged on a narrow base of goods and services with certain specific characteristics and hence differ significantly from other taxes such as income taxes and valued added taxes. In many countries, the scope of excise taxes goes beyond health taxes and includes products such as fuel, cosmetic products and other selected goods and services such as telecommunications and gambling.

The administration of excise tax therefore also involves certain unique elements to support the implementation of these taxes. As a tax which is increasingly being levied based on weight, quantity, product content or volume rather than value, it works to place a significant tax burden upon each taxable product, even those products of relatively little cost to produce, such as SSBs. If excise tax can be avoided or evaded it provides a substantial commercial advantage in the marketplace and increased

⁷⁴ <https://www.oecd-ilibrary.org/sites/1e797131-en/1/3/2/index.html?itemId=/content/publication/1e797131-en&csp=38baa8bc2bc68a4be5b070db809f1650&itemIGO=oecd&itemContentType=book>

⁷⁵ [https://www.oecd-ilibrary.org/docserver/9789264205376-4-](https://www.oecd-ilibrary.org/docserver/9789264205376-4-en.pdf?expires=1674918868&id=id&accname=guest&checksum=35C0DF937FC4FAE79FEDCDDE0D340201)

[en.pdf?expires=1674918868&id=id&accname=guest&checksum=35C0DF937FC4FAE79FEDCDDE0D340201](https://www.oecd-ilibrary.org/docserver/9789264205376-4-en.pdf?expires=1674918868&id=id&accname=guest&checksum=35C0DF937FC4FAE79FEDCDDE0D340201)
⁷⁶ [Countries must strengthen tax systems to meet Sustainable Development Goals - OECD](#); Platform for Collaboration on Tax, *Taxation & SDGs: First Global Conference of the Platform for Collaboration on Tax*, p 17 ([World Bank Document \(tax-platform.org\)](#))

⁷⁷ Platform for Collaboration on Tax, *Taxation & SDGs: First Global Conference of the Platform for Collaboration on Tax*, p 19 ([World Bank Document \(tax-platform.org\)](#))

⁷⁸ <https://openknowledge.worldbank.org/bitstream/handle/10986/10564/483120BRI0FIAS10Box338894B01PUBLIC1.pdf?sequence=1&isAllowed=y>

⁷⁹ International Monetary Fund, "The Reform of Tax Administration", Tanzi, V., Pellechio, A., February 1995 (WP/95/22), p 10; World Health Organization, WHO Technical Manual on Tobacco Tax Administration, 2010, p 55

⁸⁰ Platform for Collaboration on Tax, *Taxation & SDGs: First Global Conference of the Platform for Collaboration on Tax*, p 22 ([World Bank Document \(tax-platform.org\)](#))

profitability. Thus, excisable goods have had a history of attracting illicit activities such as smuggling, as well as taxpayers who attempt to understate their tax liabilities.

Traditionally tax administrations would station officials permanently at each licensed premises to ensure that they had full physical control over the manufacturing process, including approving each production run. Physical control extended into the management of the inventory of finished goods, and agency officials ensured excisable goods did not leave a licensed premises unless the excise had been properly assessed and collected. In many cases, this tax assessment was sometimes performed by the officers themselves.

In more recent years most tax administrations have moved to self-assessment and/or remote monitoring regimes that still include the requirements of licensing and permissions to undertake certain activities with most of the control and monitoring being done through the use of technology. As such, the excise regime still recognises the need for tax agencies to have control and visibility of the processes and transactions which affect excise tax liabilities.

Excise administration has also seen the implementation of unique technologies such as tax stamp systems, remote production monitoring systems, track and trace systems and other technologies that are mainly used to monitor excisable goods in recognition of the need for specific controls that are unique to this sector.

Excise administration requires a specific focus, control measures and systems different to the administration of other domestic taxes, and customs duties. These differences also impact the organisation of the excise tax administration which requires a range of specialised functions because of the nature of excise goods especially as it concerns the production, storage and release of excise goods and the monitoring of excise liabilities. These are discussed in more detail in this chapter.

The main components of excise tax administration are illustrated in figure 1 below.⁸¹

⁸¹ Note that the building blocks outlined in the excise tax administration framework draw from a forthcoming World Bank excise tax administration toolkit, which includes a guide, diagnostic tool and model legislation for use by decisionmakers.

Figure 1. Main components of excise tax administration

3. Governance and institutional arrangements

Governance refers to the institutional or structural framework that determines the responsibility, authority, and accountability of the institution responsible for tax administration.⁸² While there is no single model of governance applicable to tax administration everywhere,⁸³ an effective tax administration will require a certain degree of autonomy so that decisions are taken for reasons of effectiveness and not unduly influenced by political factors.⁸⁴ Autonomous decision making is appropriate in the area of overall general management, including the development of strategic vision and plans, setting strategic and operational goals, risk management, operational and performance management, and the management of a number of processes by which to operate the tax system effectively and efficiently.⁸⁵ Critical to the success of tax administration is the administrative arrangements of the tax authority, which includes its organizational structure and processes. A well-structured tax authority with clear lines of responsibility and reporting, ensures that tax matters are handled consistently and efficiently.

a) Institutional arrangements

Excise taxes are levied on domestically produced goods and apply equally to imports of such goods, raising issues of coordination between tax and customs administrations where these are separate bodies. Also important is the relationship between excise taxpayers and the revenue agency, including the manner in which taxpayers interact with the tax administration. All of these issues require a clear understanding of governance, and the institutional arrangements that underlie this within a changing environment. For instance, automation of transactions - including the manufacturing process - with the revenue agency are preferred, and these are monitored for risk, with the agency responding as appropriate to changes in risk.

Tax administration management is responsible for the allocation of resources and overseeing the day-to-day operations of the organisation. Resource allocation is critical because it determines the capacity of the tax administration to carry out its functions effectively. Further, adequate financial resources are essential to proper administration, allowing for the hiring and retention of qualified staff, investment in

⁸² IMF, *Revenue Administration: A Toolkit for Implementing a Revenue Authority*, 2010, p 8

⁸³ IMF, *Revenue Administration: A Toolkit for Implementing a Revenue Authority*, 2010, p 9

⁸⁴ Handbook on tax administration, Alink, Matthijs.; Kommer, V. van (Victor), Amsterdam: IBFD; 2011, p 127

⁸⁵ Handbook on tax administration, Alink, Matthijs.; Kommer, V. van (Victor), Amsterdam: IBFD; 2011, p 68

modern technology and infrastructure, and the implementation of comprehensive training programs. These resources enable tax authorities to properly enforce tax laws, conduct audits, provide taxpayer services, and administer tax collection and reporting procedures efficiently.

A tax administration authority will perform certain essential functions in the execution of its mission, including: taxpayer registration and identification, assessment, collection and audit, and associated support functions, including personnel management, planning and control, and taxpayer information and assistance.⁸⁶ Whilst both policy and administration functions may fall under the same ministerial portfolio, likely a Ministry of Finance, a Fiscal Policy Department or similar likely will take the lead on policy development considering the expertise required and the need to coordinate between tax administrators and other government agencies such the Ministry of Health and Industry, as well as various law enforcement agencies.

The structural form that an excise tax administration takes is influenced by multiple factors, including considerations of administrative efficiency. Such considerations may often argue in favor of excise administration being undertaken by a separate Department, Agency or specialized Unit within a broader Tax Department, Revenue Service, or part of a Customs & Excise Department, however, each excise administration faces a particular set of circumstances that may make other structural forms more appropriate. Furthermore, the most appropriate form may change over time in response to changes in the wider technological, economic, social, or political environment. Therefore, countries should consider their unique circumstances in determining whether to create a separate department, Agency or specialised unit. These factors may include, the size of the industry dealing in excisable goods, tax avoidance risks, the effectiveness of the integrated functions, among others. As with any tax administration agency, those administering excise tax should coordinate with excise tax policymakers to ensure excise tax policies are clear, will meet objectives and can be effectively administered without the likelihood of tax avoidance, tax evasion and continual legal challenges disputes over liabilities, in what is referred to as the tax policy life cycle (IMF, 2017, p9).

One complicating factor for excise tax administration is that excise goods, particularly alcohol, tobacco, petroleum fuels and automobiles, are traded in great volumes globally and are imported into domestic markets and compete directly with locally manufactured excise goods, or in some cases are further manufactured and/or blended with domestic excise goods. In some cases, a country may rely on imports to supply the overwhelming majority, if not all, of its excise goods.

This can create dual excise systems, one administering domestic goods and another administering imported excise goods and can influence the government's decision on who administers excise tax. The approach to administering excise tax at a national level will differ country by country but can be summarised as (adapted from IMF, 2017):

- a single 'Customs & Excise Department' where the one agency administers excises on both domestic production and imports (*e.g.*, Indonesia, New Zealand);
- a 'Revenue Service' which administers all domestic and international trade taxation, including excise (*e.g.*, South Africa, Fiji);
- a 'Customs Department' administering excise over imported goods and a separate 'Excise Department' administering domestic production (*e.g.*, Thailand, Sri Lanka);

⁸⁶ Guidelines for improving tax administration in developing countries: improving the efficiency and effectiveness of tax administration and strengthening domestic financial resource mobilization United Nations, Department for Development Support and Management Services, New York: UNO, 1997, p 19.

- a ‘Border Agency’ managing imports including the declaration of excise goods and a ‘Domestic Tax Agency’ administering both domestic production and the import of excise goods (*e.g.*, Australia, United Kingdom); and
- in the case of economic communities, a Revenue/Customs agency able to administer domestic production, imports of excise goods and the intra-community movement of excise goods (*e.g.*, European Union, South African Customs Union).

Thus, considerations as to the location of excise tax administration may depend on the role of excise products in the economy such as:

- The volume of imports versus domestic production, may drive excise administration into a ‘Customs & Excise’ Department or part of a customs function of a Revenue Service;
- Significant domestic manufacturing sector may see excise administration in a domestic Tax Department or part of a domestic tax function of a Revenue Service; or
- Where there is no ‘Customs Department’ as such but rather border management agencies, the excise administration will be in the domestic Tax Department or Revenue Service.

b) Excise tax administration functionality

Excise administration requires specific focus, control measures and systems that are different from administering other domestic taxes, and customs duties. Whilst this does not suggest the need for a separate excise agency, there are a number of functionalities, many unique to excise, that require resourcing, procedures and systems. Some of these can be synergised with a broader ‘Customs & Excise’, ‘Domestic Tax Agency’ or ‘Revenue Service’ and functionalities developed as part of these, such as an integrated revenue collection system, single taxpayer identification numbering and taxpayer accounts. However, a range of specialised functions are needed in the agency structure to reflect the nature of excise goods production, importation, storage, release, distribution and the monitoring of excise liabilities.

The functionality itself can then be split between real time operations that are required to process excise taxation such as licence and permission issuance, reporting and payments, refunds, and rulings. Then as is set out in the section on risk below, the agency will need the functionality to identify risks to excise tax collection and target these as appropriate, as well as addressing that risk through audit and compliance activities. Investigating and subsequently prosecuting offenders that intentionally non-comply is also performed within the agency, and these functions are all conducted ‘post transaction’.

In the administration of excise taxes, which often apply to goods produced by multinational corporations—it is crucial for excise tax administration teams to work closely with international tax units. This collaboration is essential to effectively identify and address the risks associated with tax avoidance including through actions such as transfer pricing. By coordinating efforts and sharing information, these teams can enhance their ability to detect and mitigate strategies employed by multinationals to shift profits and minimize tax liabilities across borders.

c) Managing risk

Excise – a high risk tax environment.

As noted above, If excise tax can be avoided or evaded it provides both a substantial commercial advantage in the marketplace and increased profitability. As a result, for many years excise tax

administrations have traditionally stationed officials permanently at each licensed premises, sometimes referred to as lockers or gatekeepers as they were possession of the keys to the premises and where they had full physical control over the manufacturing process, including approving each production run. Physical control extended into the management of the inventory of finished goods, and agency officials ensured excisable goods did not leave a licensed premises unless the excise had been properly assessed and collected. In many cases, this tax assessment was sometimes performed by the officers themselves.

In some case, officers are still stationed in excise-liable manufacturing and storage facilities today, either in all licensed premises such as in Sudan and Sri Lanka, or in only the larger excise-liable manufacturers, such as in Kenya and Thailand. However, developments in business accounting systems mean that much of the accounting by excise manufacturers and other dealers is fully automated through internationally recognised financial management systems (FMIS). Most FMISs will have manufacturing operations and warehousing of inventory components, while some FMISs even have excise modules that plug in to the FMIS. These advances in record keeping make illicit or undeclared production, or understating taxable deliveries, more difficult to hide as a single system automatically captures all excise tax related transactions, rather than the former system of keeping handwritten logbooks of raw materials, finished goods and deliveries.

Technologies have also advanced to make remote monitoring of liability possible, with many FMISs able to generate periodic operation reports or tax payment reports, for electronic lodgement directly into agency IT systems. This can extend to data coming directly, in real time, from counters and flow meters on production lines to the agency, which when all put together, provides the ability to make informed risk management decisions over where to direct resourcing, to improve levels of compliance. The emergence of new technologies to assist in excise administration is further explored in section 5 below.

Physical controls transitioning to self-assessment and integrated tax systems

It is now recognised that the approach of stationing officials at licensed premises is no longer efficient nor effective, and it is strongly recommended that agencies still utilising this approach consider transitioning to risk managed self-assessment by excise taxpayers. Apart from potentially encouraging inappropriate relationships between agency staff and excise licensees, deploying full-time resources on every low-risk licensed operation is not an effective use of those resources.

In many cases, this traditional physical control approach may also ignore the risk from outside the licensed regime. Whilst officers tightly control licensed operators, activity outside of these, such as from smugglers and from unlicensed manufacturers, may go unnoticed and not get addressed. Those officers formerly stationed at licensee premises can now be redeployed and address these wider excise tax evasion risks.

The adequacy of the licensee's FMIS (as well as other risk factors of the business), are considered as part of the decision as to whether to grant a licence to a particular business. The standard of the FMIS can also be periodically reviewed through the audit program. However, self-assessment is also supported in a risk managed setting through other legislative and administrative controls such as; licence renewal; financial securities; access to rulings and reviews; and sanctioning to incentivise compliance.

In addition, the OECD (2020)⁸⁷ envisions opportunities for tax systems that are integrated within taxpayer's natural systems. This provides an opportunity for Tax Agencies and taxpayers to increasingly collaborate and join-up services, adding value to the taxpayer, reducing administrative burdens and assuring secure, transparent and highly reliable outcomes. Therefore, there are considerable opportunities in adopting taxation processes that fit in with taxpayer's natural systems, such as FMISs and others which can facilitate compliance by design and make non-compliance difficult, as it will require deliberate and burdensome additional activities. As noted above, it is critical that the taxpayer

⁸⁷ OECD (2020), Tax Administration 3.0. The Digital Transformation of Tax Administration, OECD, Paris.

natural systems be periodically reviewed through, for example, eco system audits by the tax administration, to provide reassurance to the tax administration of the functioning of the various interconnected and seamless systems.

It is however important to note that even as tax authorities consider the use of systems that are integrated with the taxpayer systems, the WHO Protocol to Eliminate Illicit Trade in Tobacco Products requires the implementation of track and trace systems for tobacco products that are independent of the tobacco industry. Noting the huge risks in the management of excisable goods, the use of integrated systems for excise purposes may be seen as a complementary compliance measure. The data generated through these integrated systems could then be used for further analysis and to compare with the data captured by the other independent systems implemented by tax agencies.

d) Coordination between domestic and imported goods

Given the likelihood that there will be two significant sources of excise tax revenue to administer, one from licensed domestic manufacturers and another from importers, there needs to be a level of coordination between the two. Even where the same agency is responsible, coordination issues can arise. The main considerations in the question of coordination between domestic and imported excise goods are to:

- Avoid tax revenue losses as excisable goods move across the border or out of a Free Zone for the domestic market, leaving the control of customs and becoming the responsibility of the domestic tax agency, and conversely where domestic excise goods have sought an excise tax exemption as an export and leave the control of the domestic tax agency for customs export clearance, or entry to a Free Zone; and
- Ensure the country is compliant with GATT Article III which requires equal treatment between domestic and imported excise goods in terms not only of tax rates, but also administrative controls, so that excise administration does not become ‘protection’ for domestic goods or a barrier to trade. It is also important to understand that manufacturers and distributors of excise goods are very likely to have a portfolio of brands that include both local and imported products, providing to their customers a selection of products to suit all tastes and price ranges.

Where two agencies are administering excise taxes, the risk of non-compliance increases significantly, and the respective agencies will need to coordinate the administration of excise goods from the time of their importation through the Customs Department processes, and clearance into the domestic market, with excise tax payment likely administered by the domestic tax agency. Further, the need to coordinate again arises where domestically produced excise goods seek an exemption of excise from the domestic tax agency on the basis that they will be exported or moved to a place such as an airport duty-free shop, ships stores or bonded facilities that are administered by the Customs Department.

Customs, through the World Customs Organisation (WCO), has recognised the risk in the global trade in excise goods, and has developed the *Revenue Program* (WCO, 2024) for member countries to counter the risk – including beyond smuggling, commercial fraud practices such as mis-classification, undervaluation, misstating origin or understating quantity. This chapter will not extend into customs-specific controls but recommends reviewing the recent work in this area by the IMF (IMF, 2022).⁸⁸

A basic level of cooperation must exist between excise and customs administrations. Importantly, there needs to be the sharing of information, preferably digitally, using the same or easily linked IT and administrative systems. This can also be extended to not only sharing information through integrating the systems but also automating data analysis and risk management based on the information obtained from the various systems. Obstacles to this could include: privacy legislation preventing the sharing of

⁸⁸ <https://www.elibrary.imf.org/display/book/9798400200120/9798400200120.xml?code=imf.org>

information between agencies; differing IT systems and standards; and the use of different identification numbers being one for domestic tax payments and another for Customs and trade transactions (IMF 2022, pp182-184).

Within a broader ‘Revenue Service’ this may be made simpler by having a closer structural alignment and IT connectivity between the customs and excise functions, with a common Tax Identification protocol to link the taxpayer to all tax obligations such as in the Seychelles Revenue Commission (SRC). The SRC established an Excise Tax Unit in the Customs Division responsible for the issuance of licences to manufacture and store excise goods. Before applying to the Excise Tax Unit for a licence the taxpayer must be registered with the Domestic Tax Division of the SRC. All excise related production and administration activities, including the acquisition or import of raw materials, manufacturing, inventory, deliveries and exports, have been added to the ASYCUDA system of the Customs Division as a new functionality to support risk management and excise payment reconciliation.

With a common registered taxpayer identifier, there is a greater potential for agencies like the SRC to not only analyse for risk the import and export activities against domestic production, but perhaps for additional data matching and analysis with other tax liabilities, such as raw material costs for Corporate Income Tax (CIT) purposes against excise production, or sales values for VAT purposes against excisable sales.

In this regard, Poland’s National Revenue Authority implemented a ‘fully integrated customs duty and tax system’ comprising several platforms, including ZEFIR, which is described as a budgeting, accounting and settlement system, and CELINA which processes customs and tax declarations, as well as producing reports for risk and management reporting purposes (OSCE & UNECE, 2012, p 106).

Another example is Kenya where the Excisable Goods Management System (Kenya’s track and trace system- managed by the Domestic Taxes Department) has been integrated with the Customs system which allows for matching of imported products with the number of digital stamps affixed with excise stamps issued by the Domestic Taxes Department. This ensures that digital stamps issued for imported products are matched against the quantities declared through the Customs system to ensure that no extra stamps are issued which can potentially be used on illicit products.

4. Excise tax administration building blocks

The following building blocks comprise the basis for an effective excise tax system administration with a focus in this case on health taxes applied to tobacco, alcohol and SSBs. The objectives of these building blocks are to provide a range of legislative and administrative controls that ensure all excise tax liabilities are properly identified and tracked through to the time they are brought to account by the appropriate taxpayer, and at the appropriate time. These building blocks recognise the often unique nature of excise taxation.

a) Licensing

Taxpayer registration is known as the bedrock of tax administration, (Junquera-Varela, Félix et al 2024, p77), and is the identification of all taxpayers along with a capture of a minimum level of detail about each entity, and the assigning of a unique Taxpayer Identification Number (TIN). The TIN becomes a means to identify a taxpayer in all relevant areas of the tax system, and begins a framework for monitoring that each entity is reporting and paying all taxes they are expected to pay through the IT systems that manage those taxes, and is the mechanism by which tax agencies will communicate with the taxpayer on issues such as audit, disputes, refunds, demands, and management of tax debt.

In relation to excise taxation, it is expected that any applicant for an excise licence will have a TIN as they will be reporting and paying CIT, VAT, Withholding Tax, and possibly a range of any number of other taxes depending on the nature of their business and the country’s tax laws. As such, there should

not be an issue of an excise licence to an entity without a TIN.

There are generally two types of excise licences – ‘Manufacturing’ and ‘Storage’ as these are seen as two distinctly different operations with differing risks to manage. This is created by making the actions of manufacturing, storing, moving or otherwise dealing in excisable goods illegal unless the person has the appropriate licence to do so. Countries may wish to further create their own sub-categories of licences to better manage or understand the nature of their operating environment such as those in Box x.

Box x Types of licence with possible sub-categories

Manufacturing Licence

- Excise Manufacturer (e.g. Distilled Spirits, Beer Brewing, Tobacco Product, SSB)
- Secondary Manufacturer (e.g. Blending, Packaging, Re-packaging)
- Special Manufacture (e.g. Methylator, De-alcoholiser)

Storage Licence

- Private (Own excise goods)
- Public (On behalf of owner of excise goods)
- Duty Free Shops (Airport, Seaport, Inland)
- Catering (Ships stores, aircraft stores)
- Special storage (Exhibitions, Trade Fairs, Approved Government Concessions)

Excise licences are a means to reduce risk to the excise revenue at the outset by both having full knowledge of the industry and activities, as well as providing a ‘benchmark’ for which entrants must meet to access the excise tax system (Preece, 2008). Excise licences should only be granted to those applicants who are ‘fit and proper’ and meet the prescribed criteria around capabilities of accounting systems, plant and equipment, experience of staff and suitability of premises. Fit and proper is also a test that will include reference to past criminal convictions, bankruptcies, and current or recent negative customs and tax compliance findings.⁸⁹ There are also options to levy administrative fees on both the application for an excise licence, and where granted, a licence fee which is a one-off levy or levied annually and/or at renewal.

A revenue agency administering excise tax will require a process to be in place to assess the suitability of excise licence applicants, in particular to decide on the information sought and vetted in an application process and the extent of documentary reviews and visits to premises.

The requirements for licensing should be adequate to establish whether the applicant is ‘fit and proper’. The requirements may differ based on the class of goods (e.g. the requirements for tobacco manufacturers may differ slightly from those of SSB manufacturers) however, requirements should be clear, and the list of requirements made available to allow applicants to plan accordingly when setting up manufacturing plants or storage facilities. This also helps in minimising disputes relating to rejection of licenses or permissions.

Upon granting an excise licence, certain considerations can be made with a view to further protecting excise tax revenues (Preece, 2008) and include:

⁸⁹ See UK HMRC [AWRS50200 - Fit and proper test: fit and proper criteria - HMRC internal manual - GOV.UK \(www.gov.uk\)](#) and Australian Taxation Office [Fit and proper person declaration | Australian Taxation Office \(ato.gov.au\)](#)

- Restricting the activities at a licensed premises (e.g. SSB licensed manufacturers cannot manufacture cigarettes);
- Conditioning a licence (e.g. Report within 30 days any change to an accounting system);
- Depositing or providing a financial guarantee or security which covers some or all of the licensee's excise tax liability of a tax period.

Once a licence is granted, the objective is to maintain all licensees operating in the system as 'low risk', and with this have an overall confidence that all excise revenue liabilities created in the system are being properly managed and brought to account. As such, the legislative framework around licensing should contain the necessary incentives for licensees to comply by establishing the ability for the agency to:

- Periodically renew the licence following a process of seeking information and/or validating that 'low risk' status of the licensee is current and that no material changes or incidents have occurred to suggest that risk has increased;
- Suspend a licence for a period where monitoring activities have highlighted non-compliance of a nature that puts the excise revenue at risk, whilst the licensee is allowed to operate until the issues that led to non-compliance have been addressed. This may include suspending a licence whilst a criminal investigation into evaded tax revenue, or any serious crime, is conducted and the case moves to prosecution through the Courts; and
- Cancellation of a licence upon confirmation that the licensee is no longer 'fit and proper' including insolvency, findings of serious non-compliance that will be sanctioned and/or successful prosecution for criminal behaviour.

Suspension and cancellations of licences are a considerable compliance option to address risk and should serve to incentivise compliance. The consequences of suspension and loss of licence is effectively the end of that licensee's business operations and income.

b) Production controls

Record keeping is essential for all forms of taxation, as it allows for the revenue agency administering the tax to verify through auditing that the correct amount of tax has been paid. As a function, record keeping underpins tax auditing and suggests that there should be a legal basis in each tax system for which records are required to be kept, including the type of records, clarity on electronic records, access to those records and for how long they should be kept (Junquera-Varela, Félix et al 2024, pp92-98). For excises, record keeping should commence with the acquisition of raw materials and should be mandatory for at least each production run, as it is the point when excise tax liability arises.

There will be excise tax law differences country by country as to exactly where the excise tax liability is created; for example, this could be at production, such as in the fermentation tank, or when the tobacco leaf is chopped, or packaged or when the product is delivered for sale into the market. The OECD (2023, p18) leaves this open for countries to decide, stating 'excises may be imposed at any stage of production or distribution'; however, it is recommended that a licensee's records can show the excise tax liability as goods come off the packaging line and that this liability can be correlated to the raw material inputs and production processes. To achieve this, this chapter sets out the extent of record keeping for manufacturers and it is highly likely that this requirement will align with most FMIS accounting systems.

These records can be the basis of periodic reporting to revenue agencies, by extracting data from the FMIS for monthly or quarterly production statements. This allows for closer and more expeditious monitoring of risk, especially if these production reports are submitted electronically. Alternatively, these records are reviewed during programmed audit activity or during other compliance visits in which

the revenue agency may be reviewing losses or taking samples of goods to conform classification.

Excise goods can be volatile by nature which is a significant factor in determining a tax liability as excise is often levied according to weight or volume. Factors such as temperature can alter alcohol content readings, and the accuracy of filling machines can impact what quantities are actually packaged into containers for sale. As such, manufacturers should be required to ensure the accuracy of their measuring equipment on an ongoing basis through legislative controls to require the use of appropriately approved measuring equipment which is serviced and recalibrated in accordance with the suppliers' specifications or national consumer laws. This can extend beyond measuring devices and into storage vessels which themselves are calibrated and have permanent capacity markers.

The production line process has also become more important to the addressing of certain risks through application of fiscal marks which are stamps or other indications placed directly on the products at the time of packaging. When used and monitored properly, these fiscal marks are 'real time' visual indicators as to the excise tax status of the product, generally differentiated for each type of excisable product and sometime by packaging size. In some cases, there can be further differentiation of 'tax paid', 'tax exempt', 'duty free' or 'export' status. Fiscal marks will be discussed in a later section as a part of a discussion on the digitisation advances in excise tax administration.

The WHO (2021, pp127-129) recommends the use of Track and Trace (T&T) and has made this a requirement for parties to the Protocol to Eliminate Illicit Trade in Tobacco Products in Article 8. Although the T&T required under the protocol is for regulatory purposes, many countries have implemented fiscal marking systems which offer T&T capabilities, in which the fiscal mark applied at packaging is programmed to hold data about the production and tax payment, as well as customer data in some cases. Once activated, users of the technology can 'track' a product as it moves through a supply chain giving real time confirmation of product authenticity and tax status, as well as 'tracing' the movement of that product – allowing officials to potentially understand if and when an offence related to the is committed. For alcoholic beverages, the benefits of fiscal marking, and being part of a T&T system is suggested as an effective compliance tool (WHO, 2023, pp121-122).

There are unique requirements of fiscal marking for each of tobacco, alcohol and SSBs in particular, the differing packaging types, and these will be captured below.

c) Inventory controls

As with production, record keeping is again essential for the control of excisable inventory in licensed premises. Records around finished goods will allow for the revenue agency to verify during programmed audits that all excisable inventory can be accounted from its receipt, either from production, acquisition from another licensed entity, or as an import, until there is a proper acquittal of the tax liability from a tax paid sale, sale to another licensed entity, approved remission or a tax exempt sale such as an export or exempt end user. To achieve this, this chapter sets out the extent of record keeping for those persons holding a storage licence, including licensed manufacturers who store inventory whilst awaiting for it to be sold, delivered or transferred.

The record keeping requirements will again align with most FMIS accounting systems, with such systems capturing sufficient data on each taxable product to identify its excise tax liability for the purposes of assessing and paying that tax at the appropriate time. Again, these FMIS accounting systems will be scrutinised prior to issuing the storage licence and will be further subject to audit activity as conducted to ensure they are accurately recording and reporting excise tax liabilities.

There are several dealings that may occur in relation to excisable inventory, and each represent a risk to excise tax revenue and thus require additional levels of control. Some examples of these common dealings are listed in Box x.:

Box x. Possible excise dealings requiring controls, such as a permission-based system

- Under-bond or tax suspended movements between excise licensed premises, or between excise licensed premises and customs law prescribed premises for those imported excise goods or excise goods to be exported;
- Repackaging of excise goods to alter their form, such as reducing whisky with water and cola to manufacture 'ready to drink whisky and cola' in cans;
- Remanufacturing of excise goods to become new non-excise goods such as rum, to be used in flavouring chocolate, or neutral alcohol to manufacture hand sanitizer;
- Blending or mixing to make new products that will be exempt or zero rated for excise tax, such as denaturants added to distilled spirits to make methylated spirits;
- Blending or mixing to make new products that will become a different excise good such as mixing distilled spirits with gasoline or diesel to manufacture E10 or B10 fuels; or
- Excise tax-free sales to an excise exempt end-use or end-user such as cigarettes sold to a diplomatic mission, or SSBs sold to ships stores on international voyages.

To manage the risk over these types of dealings in excisable inventory, a Permission system is recommended, in which the licensee requests a Permission from the revenue agency to conduct the dealing in a one-off situation, or on a continual basis, where there is an ongoing contractual relationship between the licensee and the customer. This system is often seen as an extension to the licensing regime, as it involves licensed entities (WHO, 2021, pp103-105), the revenue agency can decide to grant or deny a Permission based on risk, and if granting a Permission, reduce the risk by applying conditions and/or requesting financial securities for the excise tax at risk.

Checks should be conducted prior to the issue of a Permission; in some cases the risk should see the revenue agency conduct a full due diligence. Whilst some risk can be controlled, such as the movement of excise tax-suspended goods between two excise licensed premises which are already considered 'fit and proper', other dealings will carry a higher level of risk, such as when one party maybe outside of the licensed system. Those dealings where excise tax rates will be 'zero rated' based on an end-use or end-user out, should result in a significant level of verification of that end-use or end-user, and scrutiny of quantities being sought. For example, a confectioner seeking to manufacture excise tax free liqueurs (i.e. for use in confectionary) would be asked to provide a range of business certifications, recipes and expected sales before issuing a Permission.

The legal framework should require licensees to store all goods in a manner that facilitates the tax agency to take stock of the inventory in the licensed premises. This ensures that taxpayers facilitate, and do not frustrate, the process of taking stock at any time that the tax agency deems necessary.

Risk is also managed post transaction, after the initial decision is made to grant a Permission, through the condition of Permissions requiring the keeping of records, and subsequent access to them (WHO, 2021 p104). Non-compliance can lead to suspension or cancellation of a Permission, and the recovery of excise taxes that cannot be accounted for, either through a written demand or the calling up of the financial security from the Permission holder. Other sanctions are also contemplated in later sections where the Guide discusses the enforcement aspect of excise tax administration.

Excise goods are often fast moving, in great volumes, and can lead to issues such as breakages, mis-picks and other errors when unloading, storing or delivering. As such, storage licensees should be required to ensure they have internal systems and controls such as stock-takes to try and prevent issues or to be able to quickly detect issues and address these, which may include making adjustments to excise tax reports and payments. A process for remissions in the case of damages and breakages is outlined later; however, underpinning the management of inventory is the ability for revenue agencies to ask for a licensee to account for that excisable inventory at any time.

Similar to that ability discussed above for Permission holders, where a licensee cannot account for inventory, then a demand for any excise tax payable on that unaccounted for inventory can be made. Likewise, further sanctions may be appropriate, or the opening of an investigation if that loss of inventory is part of serious non-compliance or fraud.

d) Reporting and payment

Clarity on who holds the excise tax liability is essential in excise tax administration. It should be recognised that in addition to any licensed manufacturer, importer or licensed storer of excisable goods, there may be an actual owner of excisable goods who is simply storing their inventory in a properly licensed premises to defer the payment of excise tax. As such, the excise tax liability falls upon the excise licensee or the owner of the goods, whomever causes or orders the excisable goods to leave the licensed premises for domestic market or home consumption.

The concept of ‘home consumption’ is important as this relates to the prescribing of the taxing point, or that point that triggers the party with liability to bring that liability to account with tax payment or confirmation of an excise tax exemption.

The taxing point is the point at which the excisable goods physically leave an excise licensed premises for home consumption (Preece 2008, p84). For imported excise goods, this may be defined as the point where customs law clearances have been completed and the goods delivered from a wharf, airport or bonded warehouse.

Some countries prefer setting a taxing point closer to the point of manufacture, and so prescribe the delivery to home consumption from the licensed manufacturing premises. This effectively removes the ability to sell excise goods on an under-bond or tax-suspended basis, unless that sale is made as an export, or to a duty-free shop or under a catering bond at a place of export.

Otherwise, it is likely that the taxing point is the ‘final’ sale and delivery into home consumption from perhaps a licensed storage premises, meaning a manufacturer or importer can sell under-bond or tax suspended to another licensed entity and a permission is in place for the physical transfer of goods. This mechanism provides a tax relief or deferred tax circumstance, an important aspect for such highly taxed goods, as excise tax becomes payable close to the timing of the sale and payment by customers.

As with most taxes, excise can also be attributed to an accounting period or tax period for the purposes of reporting and payment. This essentially provides a credit arrangement as all deliveries past the taxing point are recorded against the appropriate accounting period then reported and paid after the accounting period ends – for instance, the next working day after that accounting period end reflecting little delay on receipt of revenue and the capabilities of FMIS to produce the necessary reports.

Another unique risk to excise tax arises when an increase in the tax rate is announced. During the period between the announcement and the effective date, operators might intentionally adjust the volume of products on the market to evade their tax obligations, a practice known as ‘forestalling’ (WHO, 2014, p.14). This necessitates measures to protect excise tax revenue. The WHO recommends measures to deny the practice of delivering excessive levels of inventory past the taxing point ahead of the new tax rate being made effective. Given health taxes can be specific in nature/levied per quantity, there is the possibility that a country adjusts these tax rates at least annually for inflation, in addition to any policy being reviewed and increased at the time that the national Budget is formulated and/or after other policy announcement. Ample opportunity exists for licensees to front load or forestall in what is effectively a tax avoidance scheme.

The WHO (2021, pp138-139; 2023, p153) recommends anti-tax avoidance measures, specifically addressing forestalling, be included in national legislation and may also include the ability for the revenue agency to set amounts of excise goods that could normally be expected to be delivered in the intervening period between an announced tax increase and the effective date of that tax increase, where

this can be assessed accurately from available records. In summary, the measure also includes the ability for any excise goods delivered in excess of that declared amount to be subject to the new excise tax rate.

Excise tax liabilities should be managed through an excise tax account which is effectively an operating account to which liabilities are added in each accounting period, and reduced as excise tax debts are paid, or, as is provided for in the next section, as credits in the form of refunds, rebates and drawback to be deducted.

e) Refunds, rebates, remissions, drawbacks and adjustments

There are a number of situations in excise taxation that give rise to a refund or credit of excise tax. In addition to errors made in an assessment of excise tax liabilities that may give rise to a refund, or credit, excise taxes have a number of unique circumstances that can give rise to additional excise tax refunds, credits, adjustments or where that liability is written off for the taxpayer. As a consumption tax, there may be occasions where the excise goods are not consumed in the domestic market or are consumed in an excise tax exempt manner. Thus, these refund circumstances require clear prescription in the legislation to prevent non-appropriate returning of taxes.

One principle of excise tax refunds is that they should not be offered to under-write poor business decisions or poor-quality manufacturing, for example where a licensee has goods returned due to sub-standard quality or there is no market for the goods (Preece, 2008, pp86-88). While tax refunds are common in all tax laws, excise tax offers several unique categories which are summarised with examples in Box x.

Box x Types of excise tax refunds

- Refund – due to unintentional error in the original assessment where excise tax liability was overstated, e.g. overstatement of quantity delivered to home consumption
- Rebate – due to an excise paid delivery being consumed in an excise exempt end-use or by an excise exempt end-user, as such many circumstances will be paid to a third party who had ownership of the goods at the time they were consumed in excise tax free circumstances, e.g. 20L drum of excise tax paid rum used to flavour cakes and pastries
- Remission – due to damage, breakage or reasons deeming the product unfit to consume, excise tax liability can be written off in the inventory, e.g. pallet of bottled SSBs stored in licensed premises hit by reversing forklift becoming unsellable, and
- Drawback – export of excise tax-paid goods, and which can be paid to a third party who has ownership of the excise goods at the time of export e.g. Shipping company purchases excise tax-paid cigarettes from a grocery wholesaler, for the crew of a departing international ship

Applications for refunds, rebates, remissions and drawbacks are generally tightly controlled given the level of risk, and in some cases that risk relates to the large size of the payment claimed. As systems and risk management processes evolve, a greater degree of self-assessment is being seen, in particular where applications are made into an electronic system that has the ability to flag and stop high risk applications, cross match with other data such as with the original excise tax payment and provide reporting that allows for close monitoring of applicants.

Applications for each type of refund claim should include appropriate supporting information on which refund approval can be granted, such as commercial documents confirming an end use in the case of a rebate application, photographs of damaged goods for remission, or export declarations or Bills of Lading to support drawback applications. These can often be uploaded in an electronic system, or provided in those cases where a system cannot verify certain aspects, or the revenue agency flags a risk.

In cases where goods are damaged for example, (e.g. fire) the legislation should require the taxpayer to retain evidence of damage for verification and provide timelines within which such damage is reported to the tax authority (e.g. 48 hours after the damage occurs). This ensures that the tax authority can verify the claims immediately after the damage occurs, and the tax authority can reject a claim if the damage was not reported within the prescribed timelines.

It is also advisable for countries to put time-limits on the application for refunds, especially drawbacks where the value of the refund may be higher than the value of the excise tax paid, in cases where the export has occurred a number of years after excise payment. A 12 -month time limit may be appropriate for the applicant to make various refund claims. In addition, a limitation should be provided that restricts the refund to not more than the excise paid.

Refund, rebate, remission and drawback applications and payments will also be subject to the usual audit and recovery provisions – similar to the excise tax payment side. Audit and compliance activities post-transaction may lead to future recovery of over-stated refund claims and where appropriate, sanctions in addition to a demand for the excise tax refund to be repaid.

Not all errors will result in a refund, and in many cases errors in assessing an excise tax liability will result in an under-payment being found and a requirement to pay additional excise tax. Short-payments of excise tax discovered by the taxpayer may be voluntarily disclosed (to avoid potential penalties) although a right exists for the revenue agency to consider charging interest on short-payments.

Similarly, one might consider a scenario where the revenue agency has identified the short-payment or perhaps an incident where a breach of the law, or an error has occurred and excise goods have been found in home consumption without excise having been paid, in comparison with the tax rate in force at the time of the demand. An example here could be an approved under-bond or tax suspended movement having goods stolen or lost in transit. This type of provision also works in tandem with other actions to recover excise tax from scenarios where excise goods may be missing from the licensed premises or otherwise cannot be satisfactorily accounted for, after an audit or compliance check. Again, interest may be sought from this identified short-paid excise tax.

f) Certainty and transparency for taxpayers

In a self-assessment-based tax system, an important aspect is for taxpayers to have confidence in the decisions and assessments they make when determining their tax liabilities. If they have followed the law, the administrative rules, and revenue agency procedures, then they can file a report and make a tax payment with certainty that they have satisfied their requirements and have complied with their tax liabilities. For excise taxation, these types of decisions will focus on (See box x):

Box x Types of excise tax decisions requiring a ruling

- Classification of goods in the excise tariffs, particularly when there are tax rate differentials; for example ‘has sugar been added’, ‘mixtures of fermented and distilled alcohols’;
- Quantity of goods for taxation, such as variations between actual and labelled contents of a product, temperature corrections in alcohol strength, moisture corrections in tobacco;
- Taxable value in ad valorem or mixed excise tax rates, such as ‘what cost components to include or exclude’;

- Refund/Rebate/Remission/Drawback circumstance has been met or not met for example ‘when did goods become unfit for consumption’, or ‘when did refund circumstance occur’.

In tax disputes, the formal appeal process through the courts can be lengthy and costly and so other mechanisms can be put in place to reduce the number of disputes proceeding to Court, including a rulings system for areas of uncertainty (Junquera-Varela, Félix et al 2024, p77). A ‘Rulings’ system should describe the application process, specify information to be provided by the tax payer when applying for the ruling, and a timeframe for review and decision by the revenue agency. Critical to rulings, and considered best practice in avoiding disputes, is for the decision of that ruling to be binding on both the agency and the excise taxpayer (Waerzeggers & Hillier 2016). This is provided that the application was not based on false statements and should remain unchanged whilst all the circumstances remain unchanged. Rulings issued to an individual is known as a Private Ruling and the decision will only apply to the applicant and their circumstances.

This Rulings system may also be extended to the concept of Public Rulings that, again, will be binding on the revenue agency and in this case, all excise payers who face identical circumstances. Public Rulings can be issued by the revenue agency where they believe the decision they are making for an applicant is an issue that will likely be experienced sector-wide, and certainly an issue with broader implications for a larger cohort of excise taxpayers. In this case, the references to an individual excise taxpayer, or that could identify an excise taxpayer, will be removed, but the decision published and advertised across the sector affected.

Where taxpayers are not satisfied with a decision of the revenue agency, including a decision made as part of a ruling application process, and the taxpayer believes the decision maker has not properly considered all of the information, then an avenue should exist for such a decision to be formally reviewed outside the revenue agency, likely through an administrative or tax Court, depending on the country. Not every decision should be available for review, rather, those decisions that have a material impact on an excise taxpayer and their excise tax liabilities, the most important of these decision types being listed in Box x, but should be clearly prescribed in the law so that the relevant Court can take up the matter.

Box x Types of excise tax decisions available for formal review:

- Refusal to grant a licence to manufacture or store to an applicant;
- Overly restrictive conditions attached to a licence granted to an applicant;
- Refusal to grant a permission to conduct an excisable dealing;
- Overly restrictive conditions attached to a permission;
- Classification, taxable quantities or taxable values of excise goods;
- Denial of a refund, rebate, remission or drawback of excise tax application;
- Demand for excise tax to be paid by an excise taxpayer;
- Decision made in a ruling application; and
- Application of an administrative penalty.

Certainty and transparency is also enhanced through the publication of directions and notices, not only as to the requirements of taxpayers, but also the requirements of revenue agency staff as they administer the laws. Legislation is required to provide the head of the revenue agency with the authority to make directions, and notices for excise taxpayers to follow in terms of assisting them in understanding expectations and in complying with the law. Similarly, Standard Operating Procedures (SOPs) for staff to properly administer the law can also be made and published for stakeholders to view.

The publication of non-confidential procedures creates transparency for excise taxpayers in

understanding how revenue agency staff will conduct their duties in terms of the processes and transactions that apply to them, and where circumstances arise, use the SOPs to question or seek review of certain decisions of the revenue agency. Confidential SOPs such as intelligence gathering, or risk targeting, should not be widely available or published. However, all general administrative procedures impacting excise taxpayers should be publicly available, and indeed should be demonstrably followed by revenue agency staff.

g) Audit and compliance

Excise taxpayers are of small, medium and large turnover and may have an array of record keeping and accounting capabilities. Many of the audit approaches used in other taxes will also apply to excise taxpayers; however auditing and other compliance activities are focused on those aspects unique to excise taxes and licensed excise taxpayers.

Audits and various compliance checks of excise licensees will occur at the licensed premises where production and/or storage operations take place as the audit will often encompass an examination of manufacturing processes including measuring, counting and weighing, as well as stocktake counts and an inspection of any records which may be required to be kept at the premises. Records are most likely electronic in terms of operation of an FMIS, however, in some cases, manual logs or records may be kept such as measures of product in vats or tanks, servicing of equipment logbooks, or visitor or delivery registers.

Generally, tax audits may be categorized into three broad types: desk audit, issue-based audit or comprehensive audit. An excise audit may include simple desk audits of any supporting documentation to support, for example, a refund or drawback payment, an issue-based audit (e.g. auditing accounting for excise stamps) through to full comprehensive systems-based audits to ensure the licensee's business systems and internal controls are accurately recording transactions and that errors are prevented or quickly detected, as is the security and relevant operations in the licensed premises.

To support this, legislation is suggested which provides revenue agencies with specific powers to enter a premises, not necessarily with advanced notice, and review records including those in the FMIS, as well as stop persons and vehicles in or interacting with the licensed premises, and ask questions. Those vehicles may also be searched. Quite different to general tax audit powers is the ability to inspect any excise goods, including removing any excise goods for further tests, such as at laboratories where issues like classification, or alcohol strength, can be confirmed.

It is also highly recommended that excise law adopts the growing practice of accrediting audit and compliance staff at the revenue agency who will be entering licensed premises and undertaking those audits or compliance checks. In the Asia and Pacific regions around half of the tax administrations have at least some formal in-house or external training required to be undertaken by staff, as indeed would be expected of any similar tax professionals working on tax compliance issues with a client in the private sector (ADB, 2018, p77). This ensures a level of competence and professionalism in the auditor, a level of efficiency in that audit or compliance check and can also deter illicit activities. The revenue agency and the licensee can have confidence in the conduct and findings of the review, and that the risks will be identified addressed at minimal disruption to compliant licensees. This includes the concept of accrediting revenue agency officials, although it does leave which accreditation criteria to meet up to each agency. These criteria should be published as a Directive or Notice for transparency. Box x looks at the types of criteria that could be used to accredit audit and compliance staff intended to enter licensed premises.

Box x Criteria to consider in establishing accreditation for excise auditors

- Minimum years of experience within the agency; and/or

- Minimum education levels achieved; and/or
- Tertiary level education qualifications; and/or
- Industry experience prior to joining agency; and/or
- Professional association membership e.g. CPA; and/or
- Specific expertise e.g. FMIS, audit; and/or
- Internal agency auditing and compliance related courses; and /or
- Updated their technical knowledge annually

In terms of identifying and addressing risk, the revenue agency will use a range of sources and information from the licensee, the industry and the economy to develop risk areas and targets for audit and compliance activities. This will include the type of audit or check, and the priority in timing to undertake those checks.

The revenue agency should develop an annual compliance plan or similar, which may be drawn from an existing compliance improvement strategy. The results of these audits and compliance checks can feed back into future compliance plans or even be used to propose policy changes. These types of risk management operations are not legislated; however, a revenue agency's management of excise tax risk is still an important component.

h) Enforcement and sanctioning

Enforcement and sanctions may incentivise compliance by making it costly to not comply (Junquera-Varela, Félix et al 2024, p107) and effective enforcement will lead to a greater likelihood of being sanctioned either administratively or criminally, as appropriate. This does require a full set of enforcement powers be included in the law, allowing for investigating and prosecuting through the Courts, although this is generally only utilised in more serious non-compliance, habitual non-compliance and fraud cases, and administrative remedies are often preferred. As such, legislation should provide a range of sanction types, which for excise taxation may be a little different to general taxation. Box x outlines some of these excise tax-based sanction options in addition or in lieu of full prosecution. It is important to ensure that sanctions are proportional to the violation to ensure justice and fairness.

Box x Excise tax related sanctions in lieu of prosecution

- Suspension or cancellation of an excise licence
- Suspension or cancellation of a permission
- Additional restrictions or condition applied to an excise licence or permission
- Increase in value of financial security over an excise licence or permission
- Seizure and/or forfeiture of excise goods subject of non-compliance
- Removal of excise tax deferral arrangements (i.e. required to pre-pay excise tax)
- Administrative penalty notices (% of excise tax under-stated)

Enforcement and sanctioning begin with identifying all Offences which can be committed under excise taxation. All offences should be able to be read with an appropriate set of maximum (or minimum and maximum penalties) which provides a guide to Courts as to the seriousness of the offence and the extent of any penalties that be applied upon a conviction. These penalties can be financial, such as a fine, or incarceration, or a combination of both. Often financial based penalties are seen to be linked to the amount of excise tax evaded, for example a maximum penalty may be prescribed as being 'five times the amount of the excise tax evaded'.

In order to prosecute serious non-compliance or fraud, or to establish the extent of detected non-compliance, a formal investigation will need to occur to collect and analyse evidence, and where sufficient evidence exists, provide that in a format for prosecutors. The collection of evidence will require powers for revenue agency investigators beyond the previous powers of audit and compliance checks which are limited to licensed premises and those people, goods and vehicles on the premises.

Considering the additional powers given to officers tax fraud investigations may fall to a specialist unit within the tax agency to undertake (Junquera-Varela, Félix et al 2024, p93). Thus, it may be that the formal investigation of a possible criminal excise offence may be taken up by the 'Investigations Unit' or similar of the revenue agency, rather than a team within the excise operations area.

Investigative powers can extend to cover any premises, people, goods or vehicles suspected of being connected to the commission of an excise offence. General investigative powers, which initially involve a level of consent and cooperation by the suspects, may be established before recognising that in some cases this might not be forthcoming and additional powers are needed. In this case, excise investigators from the revenue agency may apply for a warrant from the appropriate judicial process in their country, which involves sharing the evidence and suspicions with a magistrate or judge, as appropriate.

With a warrant, it becomes an offence to obstruct the investigators' entering premises, seizing records, goods, and other evidence and may grant investigating officers the legal power to break open rooms, cabinets, and gain access to IT systems. Evidence can be taken away from premises to be analysed at the revenue agency and only returned if not forfeited through a guilty verdict or ordered returned by a Court. It is common practice for the actual excise goods which are part of the offence, and which are available to be seized, to be forfeited to the revenue agency upon a guilty conviction for disposal, sale or otherwise, by the agency.

Case management or the management of referrals from auditors and compliance staff of potential serious non-compliance is a critical component; here decisions are made as to whether a formal investigation should be opened, whether that investigation finds sufficient evidence to prosecute in the Courts, or whether the case should go back to the originating audit and compliance areas for administrative based sanction such as that laid out in Box 4.9. Whereas the balance between the cost of taking a formal investigation through to full prosecution and the value of any taxes potentially recoverable is an important consideration, it is also a relevant consideration that such investigations send important messages to the excise taxpaying sector regarding deterrence and equality of treatment.

i) Other internal controls

As noted earlier in this chapter, if excise tax can be avoided or evaded, it provides both a substantial commercial advantage in the marketplace and increased profitability. Thus, excisable goods have had a history of attracting smugglers and other criminals, as well as providing financial incentives to excise taxpayers to attempt to understate their tax liabilities.

Criminals therefore usually take advantage of weak controls and corrupt government officials to avoid or evade paying the correct share of taxes. It is therefore important for tax administrations to ensure that they put in place effective internal controls to mitigate against corruption. Corruption may be defined as the abuse of public power for private benefit⁹⁰. Tax administration is perceived as a sector particularly vulnerable to corruption due to the complexity of tax laws, the discretionary powers of tax officials, and the often low cost of punishment. Corruption can lead to a reduction in revenues collected and a consequent reduction in funding available for public services. Corruption also increases the size of the underground economy, not only undermining the tax structure, but also eroding public trust in the tax administration and compliance with tax law⁹¹.

⁹⁰ U4, Revenue administration and corruption, Odd-Helge Fjeldstad

⁹¹ https://knowledgehub.transparency.org/assets/uploads/kproducts/Tax_administration_topic_guide.pdf

Weak enforcement often means there is no significant risk of detection and punishment, which further encourages corrupt behaviour. A high tax burden and compliance costs can exacerbate the situation⁹².

The underlying causes that drive corruption among tax officials include: complex and unclear tax laws, unclear or complex procedures; non-transparent hiring and reward mechanisms; a low level of skills; a lack of professional ethics and integrity; low pay and a lack of incentives; conflicts of interest; the “get-rich-quick” syndrome; and insufficient checks and balances within the administration.⁹³ Corruption in tax administration manifests itself as *collusive*, where officials facilitate the underpayment of taxes in exchange for a personal payment, or *abusive*, where officials use their discretionary powers to extort bribes from otherwise honest taxpayers⁹⁴.

Tax administrations need to effectively combat corruption. Transparency International recommend a range of measures, to be employed at different levels of tax administration, to address corruption, including the simplification of tax regulations; autonomy for the tax authority in meeting established performance criteria ; transparent and merit-based recruitment, training and career opportunities; internal audits, monitoring and investigations; optimizing the use of technology for filing and paying tax; transparency of the tax administration; and international cooperation⁹⁵.

A comprehensive set of measures must be implemented to eliminate all forms of corrupt practices. Some of these critical measures include; asset declaration by tax officials, establishment of integrity committees, internal affairs committees within the tax administration, having in place clear procedural manuals, and modernized tax systems. For instance, enforcing the periodic submission of asset declarations by all tax officials is crucial in the fight against corruption. This measure enhances transparency and accountability among tax employees by mandating the disclosure of their financial holdings and assets, facilitating the detection of any unexplained wealth or suspicious transactions. The development of clear procedure manuals is another essential aspect of combatting corruption in tax administrations.

Collectively, these measures promote transparency, accountability, and fairness in tax administration. They ultimately empower governments to collect revenue more efficiently and rebuild public trust in the tax system, reinforcing its effectiveness and integrity.

5. Product Specific Controls

The previous section looked at the basic building blocks which make up effective excise tax administration, and these apply generally to all excisable goods. The nature of health taxed goods does mean that some administrative controls do need to be established which are unique to, and applied to, that product. This section outlines such product specific controls for each of tobacco, alcohol and SSBs which have been proposed to address risks to the excise revenue that apply to each of these product categories.

a) Tobacco

Cigarettes and other tobacco products generally carry a very high excise tax burden as policy makers look to reduce consumption of this product. This in turn establishes a significant risk to the excise revenue as criminals seek to profit from evading such taxes. The additional controls placed on tobacco products are put in place to address this risk, and the manufacturer/importer/distributor tobacco products will need to include in their licence applications details in relation to the number and capacity of cigarette manufacturing lines, as well as details of the equipment used to measure and weigh products

⁹²

<https://openknowledge.worldbank.org/bitstream/handle/10986/10564/483120BRI0FIAS10Box338894B01PUBLIC1.pdf?sequence=1&isAllowed=y>

⁹³

<https://openknowledge.worldbank.org/bitstream/handle/10986/10564/483120BRI0FIAS10Box338894B01PUBLIC1.pdf?sequence=1&isAllowed=y>

⁹⁴ https://knowledgehub.transparency.org/assets/uploads/kproducts/Tax_administration_topic_guide.pdf

⁹⁵ [Tax_administration_topic_guide.pdf \(transparency.org\)](https://knowledgehub.transparency.org/assets/uploads/kproducts/Tax_administration_topic_guide.pdf)

E/C.18/2025/CRP.16

among others. Such details provide insights into the potential excise tax liability at risk and will support the implementation or operation of the country's Track & Trace (T&T) or general fiscal marking system.

Recognising the broader tobacco tax evasion and avoidance risks, and fully consistent with Article 6 of the WHO's Protocol to Eliminate the Illicit Trade in Tobacco Products, a number of additional excise related dealings will be included for tobacco and tobacco products for licensing or licensing type controls. The additional excisable dealings included that require a permission from the revenue agency are summarised in box x below.

Box x Additional tobacco related excisable dealings requiring permission

- Being in possession of any tobacco seed, plant or leaf of tobacco. This recognises that the excise tax risk usually begins with the raw materials, and will reduce the risk of unauthorised production;
- Planting, growing, harvesting, or curing tobacco and tobacco leaf. This again recognises that the excise tax risk usually begins with the raw materials, and will reduce the risk of unauthorised production;
- Buying, importing, selling or exporting cigarette making machines so that production capacity can be better tracked by the revenue agency, as well as recognising that it will reduce the risk of unauthorised production; and
- Where no other government agency has legal jurisdiction, permission is required for wholesaling, or retailing, even though the excise has been paid. This provides an ability to better monitor the full supply chain and market for illicit products.

Under Article 6 of the Protocol to Eliminate Illicit Trade in Tobacco Products, it is recognised that licensing, registration or permission type functions are moving to points earlier in the tobacco supply chain, such as tobacco farming (WHO, 2021, p104). This reflects the nature of the risk and ensures that the primary raw material for cigarettes and other tobacco products – the tobacco leaf, is bought under the controls of the revenue agency and such raw materials cannot be diverted to unlicensed cigarette and tobacco product factories or diverted directly into the market. Similar to raw materials, licensing, registration or permits should also extend to actual cigarette making machinery (WHO, 2021, p121) to extend knowledge of production capacities and where that is located. Notwithstanding, there is no circumstance in which a cigarette making machine should be located anywhere other than in a licensed excise manufacturing premises.

Fiscal marking is a general provision as discussed earlier under the production controls section, where such markings are applied on products during packaging. There are a number of unique requirements that need to be set out for tobacco, such as the level of packaging requiring a fiscal mark, and where they are applied. Identification marking for tobacco products is seen as a critical supply chain control and such marking should be part of a T&T system, but can also occur independently (WHO, 2021, pp122-134). Where T&T systems are in place, this affixing of the relevant marking will also ‘activate’ the marking, providing the mechanism for those markings to be read in the supply chain and marketplace (see section on T&T below).

Noting the growth of new and emerging tobacco and nicotine products, it is important that special considerations are made regarding the taxation and administration of these products. The legal provisions need to clearly define the products that are subject to excise, the excise rate and the unit of measure, noting that for example, the unit of measure of cigarettes differ from that of Electronic Nicotine Delivery Systems (ENDS), Electronic Non-Nicotine Delivery Systems (ENNDS), and nicotine pouches, among others. Special controls may also apply depending on whether the ENDS and the other emerging tobacco and nicotine products are produced in the country or imported.

Disposal of tobacco waste is also critical since it can be used to make tobacco snuff or smoking tobacco and as such special considerations needs to be made to ensure that tobacco waste is accounted for, and that the tax agency has full visibility of how the waste is managed.

b) Alcohol

Countries have faced significant challenges to their alcohol excise tax regimes, from criminals attempting to manufacture or import outside of the licensed excise tax system. In addition to this general risk, it is common for differing excise tax rates to apply to the various categories of alcohol, and manufacturers or importers may mis-classify products to attract lower tax rates, an activity made easier by the heterogeneity of alcoholic beverages (WHO 2023, p121).

From an excise administrative and compliance perspective, the risk is broadly described as unrecorded alcohol which as the term suggests, is that this is alcohol not officially captured in records of the agency responsible for excise administration and therefore official government statistics (Rehm, J, Neufeld, M, et al, 2022). There may be several reasons for this, and each is a category of risk that needs to be addressed by the relevant agencies. First is that alcohol which is produced at home or by traditional means in traditional community settings, and for which the government may have implemented a policy to reduce the alcohol excise tax rate, or even exempt such products from excise. The challenge for revenue agencies is preventing such products from being diverted into the domestic market with the excise tax concessions applied, despite the diversion meaning the concessions should no longer apply.

Alcohol as well has many non-beverage end-uses which are tax free or exempt of excise, as the product is consumed as a raw material input to a new industrial product or used in its pure form as a sterilizing or solvent agent. The WHO (2023, pp128-129) refers to this unrecorded alcohol risk category as surrogate alcohol (i.e. alcohol that is excise tax free because it was not intended for consumption as a beverage, but has been diverted to the beverage market). Not only can this type of product result in excise tax revenue losses, but often there are significant health consequences from its consumption as it is not fit to be consumed.

Unrecorded alcohol can also result from unlicensed production in a household or commercial facility, un-documented production in a licensed excise facility or from smuggling into the market from a third country – even though the smuggled alcohol is recorded in the country of origin (Rehm, J, Neufeld, M, 2022). The concern is that commercially produced alcohol in this risk category can deliver large volumes of low priced and high strength alcohol in the market. In some cases, these illicit production facilities may counterfeit alcohol types calling their product ‘whisky’ or ‘rum’ or even counterfeit popular brands to attract consumers to a low-priced but well known alcoholic beverage.

Given these differing risks of unrecorded alcohol entering a market, a range of additional controls are placed on alcoholic beverage manufacturers and importers to directly address these risks. Through the licensing process it is recommended that applicants also need to include in their applications further details in relation to the number and capacity of distillation, brewing, tank storage, and packaging line capacities, as well as details of the equipment used to measure alcohol strengths and product volumes. These additional details again provide insight into the potential excise tax liability at risk and will support the implementation or operation of the country’s fiscal marking system.

One of the biggest enablers of illicit alcohol is unregulated access to ethanol which may be illegally produced, imported without proper regulation, smuggled or diverted from untaxed industrial applications. Effective control of ethanol is critical for blocking illegal production of alcohol beverages and in ensuring that illegal, potentially lethal products do not reach the alcohol beverage market. This can be controlled through various ways including (i) Mandatory denaturing of ethanol that is not intended for human consumption, (ii) effective customs controls to deter smuggling (iii) effective enforcement to deter unlicensed persons from manufacturing ethanol (iv) controls to ensure that ethanol is only accessible to licensed operators, and (v) ensuring that all quantities of ethanol produced locally or imported are accounted for.

Where ethanol is denatured, the tax agency should implement sufficient controls to confirm that denaturing has been completed and to verify the exact quantities that have been denatured.

In relation to the areas of risk from diversion of tax free or excise exempt alcohol, it is recommended that it first be established what categories of end-use or end-users be entitled to receive excise tax free alcohol, allowing for the tailoring of more specific requirements to be met before granting a permission to take possession of such tax-free alcohol. A number of exempt end-use and end-user categories are suggested in Box x.

Interaction and cooperation with alcohol market control agencies

Unlike tobacco and SSBs, there can be substantial injury and social interaction problems associated with the consumption of alcohol. A drunken person may have caused a traffic accident, or may have injured someone in a drunken brawl. When such events occur, police are often involved, but the prevention and control of the occurrence of such problems are also the responsibility of the alcohol licensing agency that in most societies watches over and enforces standards for alcohol service in taverns and restaurants and for sale of alcohol in containers at liquor and other shops. Such an agency may suspend or remove the licence it has given to sell alcohol when there is evidence that a sale was contrary to laws and rules on the conditions of sale, for instance, that the sale was to someone already drunk, or to an underaged person, or outside the allowable hours of sale.

To make its case, the licensing agency will sometimes need evidence from the records of the excise tax administration on delivery of the alcohol to the seller or provider. There thus needs to be a regular connection and means of communication between the excise tax administrative system and the alcohol market control agencies (WHO, 2023).⁹⁶

⁹⁶ WHO (2023) WHO Technical Manual on Alcohol Tax Policy and Administration. Geneva: World Health Organization. (pp. 134-135)

Box x. What end-uses can give rise to excise exemption

- Distilled spirits for use in the education and science sector, with permissions likely sought by universities, schools or other research institutions that would use such product to sterilize equipment, preserve specimens, or sanitize;
- Distilled spirits for medical use, with permissions likely sought by hospitals, clinics, pharmaceutical manufacturing businesses to be used in sterilization, medicinal products, etc;
- Other distilled spirits (undenatured) for industrial or manufacturing use, with permissions likely sought by manufacturing businesses to be used as inputs for mouthwash, perfumes, deodorants, and other products that the head of the agency is satisfied must not be denatured;
- Other distilled spirits to be denatured by a licensed excise manufacturer;
- Any alcohol for use in manufacturing or foodstuffs including flavourings with permissions likely sought by food manufacturing businesses to be used as inputs for confectionary, essences, etc.
- Any alcohol for consumption by a duty and tax-exempt organisation or its staff with permissions sought by embassies, consulates, UN, or any other international organisations that are duty and tax exempt under an internal convention such as the *Vienna Convention 1961*, provided that where annual limits are placed on duty and tax free purchases, those limits have not been exceeded.

The permission system does allow for the head of agency to approve or not approve an application for such a permission for alcohol specific dealings. In some cases, approval for a permission under a scenario listed in Box x will not be granted as the applicant has not been able to demonstrate that they are appropriately associated with the end-use sought, and/or demonstrate they require the volumes of excise free alcohol applied for, and so the supply is considered to be excessive and the risks unwarranted.

Alternatively, approval for a permission can be granted but where a degree of concern or risk is present from the application information the permission can be granted with restrictions or conditions, and/or the requirement to first lodge a financial security for the potential excise tax risk. Recipients of a permission are then required to keep records and produce these to the revenue agency on request, and where this does not occur, or the records do not allow an accounting for the excise exempt alcohol, then the relevant excise tax can be recovered, and further subject to administrative penalties or prosecution.

Alcohol is a volatile product and alcohol volumes can vary according to temperature. As such, an import product specific control particularly relevant to alcohol excise taxes based on alcohol content, is to determine what that alcohol content is for when that product passes the taxing point, and to reconcile finished goods in the packaging tanks, and even back to product in manufacturing tanks. The most common standard, indeed that used in the international trading environment is 20 degrees Celsius⁹⁷,

⁹⁷ See chapter 22, heading 2208 of the HS nomenclature

which is proposed in addition to the head of agency being able to issue a Notice as to what devices are acceptable to determine alcohol strength and are consistent with those recommended by the WHO (2023, p125), and what alcohol strength should be recorded in the FMIS for excise tax purposes.

Box x Alcohol strength – common measuring devices

- Gas chromatography
- Distillation with gravimetric measurement of the distillate in a density meter
- Infra-red spectrometry
- Densitometric analysis measuring density
- Refractometer measuring the refractive index of the distillate, and less sensitive
- Biosensor, Flow injection using permeation through a membrane, and/or the enzymatic method

Alcohol excise taxes based on alcohol content such as ‘per LPA’ or based on a unitary basis such ‘per L’ also require knowledge of fill or content as the product is put into its package, as there are often issues of over and under-filling of packaging. To support the collection of excise tax revenue on alcohol, the same process of sampling of alcohol strength should also include measurement of actual volume in a calibrated vessel. The determining of actual volume in a container in a production run is again recommended be set out in a Notice issued by the head of agency for that purpose and should align with the Notice on determining alcohol strength (if issued). These Notices will set out aspects such as the number of samples and the timing of removing the samples from each production run, and how the testing of these samples translates as what is recorded in the FMIS.

Both alcohol strength (when part of the tax rate) and actual contents should be the same as the label for the product, although many countries will allow a small tolerance if the label is used to assess excise tax. To ensure this is not abused, it is recommended that a mechanism to assess excise tax liabilities on the higher of the label or the actual strength and fill be implemented.

Fiscal marking is recommended as an ‘appropriate tool’ for compliance over alcoholic beverages by the WHO (2023, p151) and additional licensing information sought will assist in assessing the potential production capacity of a licensee. Further, additional requirements are needed if a country has adopted fiscal marking, including details for different alcoholic beverage packaging types. These additional details will also assist if the country has also adopted a track and trace system for alcohol products with such markings to be affixed in the same manner.

c) Sugar-Sweetened Beverages and unhealthy foods

One of the main risks identified by the WHO (2022, pp66-67) is from the classification of SSBs and foods and whether a product is correctly classified as falling outside of excise or is indeed an excisable product, and if a taxable product has the correct excise tax rate applied where differing classifications have differing tax rates. Whilst this depends on the individual excise tariff set by individual countries, excise taxpayers manufacturing or importing the product will need direction through a Notice (or some form of administrative instrument such a Regulation or Ruling) to provide clarity on what are key questions for classifications (an example for SSBs is set out in Box x; note that details relating to food are in Chapter 13). Note that the excise tax burden applying to SSB beverages are generally significantly lower than for alcoholic beverages, and revenue risks therefore are lower.

Box x Typical classification questions in SSB excise taxation

- Does excise apply on beverages with added sugar – what is added sugar and does this apply to naturally occurring sugars in other additives, or artificial sweeteners?
- What is a naturally occurring sugar?
- What is an artificial sweetener?
- How is total sugar determined – is this included in labelling?
- How is total sugar determined – sampling and analysis?
- Are there ‘food laws’ or ‘packaging requirements’ which provide for total sugar information on labels?
- Will there be exceptions from inclusion in excise taxation, such as milk-based products with added sugar and/or total sugars that would be taxable?

The content of any such Notice issued by the head of agency will need to identify the taxable characteristic of the product in question to provide this guidance, and provide country-based examples of this question (WHO, 2022, pp59-61). Similarly, the same Notice also needs to include how that taxable characteristic is determined or measured. For example, for SSBs, compliance with consumer labelling laws where details as to sugar and types of sugar contents are included, or whether the sugars and types of sugars require self-assessed or independent sampling and analysis. A few specific issues related to tax administration have been identified for SSB taxes. The WHO (2022, p67) notes the potential emerging classification risk of concentrates and powders given most SSB excise tax rates are on a unitary basis. The issue being that the volumes of concentrates by their nature are lower than the volumes of the retailed product and may lead to excise tax planning, to lawfully avoid SSB excise liabilities.

For clarity and avoidance of risk, where an SSB excise licensed manufacturer will also produce alcohol based RTDs such as the manufacturer of cola flavoured sodas that also produces a line of whisky and cola RTDs, these businesses must seek an excise manufacturing licence as an alcohol beverage manufacturer. If, however, an SSB manufacturer only seeks tax-free alcohol to manufacture their flavours, then they may still seek an excise licence for SSB manufacture and utilise the appropriate permission-based regime to access tax-free alcohol.

A minimal but growing number of countries are looking at fiscal marking of SSBs in the same manner as tobacco and alcohol. In these cases, additional requirements relating to SSB packaging types for a country that has or is looking at adopting fiscal marking should be explored.

6. Emerging technologies

A number of emerging technologies are relevant to the administration of health taxes.

a) Digitalization

Tax administrations worldwide are embracing digitalized solutions to improve the service to taxpayers and better target compliance activities.⁹⁸ Digitalisation of tax administration aims to keep pace with the technological innovation and automation that has revolutionised economies and societies.

Currently, taxpayers generally must take active steps to understand, calculate and report tax liabilities as well as keeping required records,⁹⁹ while tax administrations rely upon resource-intensive investigations and audits to identify noncompliance.¹⁰⁰ Digitalisation offers the prospect of building tax compliance into the systems that taxpayers use for their own purposes. Such an approach promises to reduce the compliance burden of having to use a separate process for taxation. Additionally, by moving taxation closer to the taxable event, the tax administration is able to gather real-time information in a dynamic manner, rather than relying upon post-hoc evaluations of historical transaction data.

The digitalisation of tax administration is built around the secure and unique identification of taxpayers using a digital Identity¹⁰¹ and the building-in of tax rules into the business accounting systems used by businesses¹⁰² through tools such as Continuous Transaction Controls (CTCs) that enable the collection of data directly from the businesses systems, in real-time.¹⁰³

Tax administrations have also sought to automate risk management procedures. In 2020, Uzbekistan introduced an automated risk management system to identify and monitor high-risk taxpayers, and developed tools for risk profiling for large taxpayers and SMEs.¹⁰⁴

b) Track and trace

Unique to excise tax administration is the process of marking all excisable products before they leave a licensed excise premises for home consumption, sale to another licensee or for export. As discussed, these markings have developed into tools in which each stamp has a unique identifying number, as well as certain relevant data about the product which can be read at any time.

Traceability further builds on this by allowing for data to be added to the stamp as the product moves through the supply chain and can be done efficiently by ‘aggregation’ or by linking individual excise products or packets to outer packaging. For example, a cigarette packet has a stamp, as does a cigarette carton which contains 10 cigarette packets and which links to those 10 packets, as well as a master-case containing 50 cartons.

The track and trace system (T&T) was not designed for the purpose of tax collection and the procedures put in place by tax administration authorities for the control of tobacco and the collection of tobacco taxation mostly remain separate. Thus T&T provides the capability for the revenue agency to verify an excisable product in real time as to its authenticity and tax status, and where the agency is investigating possible fraud or non-compliance, to be able to trace the route of the product from import or

⁹⁸ OECD (2020), Tax Administration 3.0: The Digital Transformation of Tax Administration, OECD, Paris. <http://www.oecd.org/tax/forum-on-tax-administration/publications-and-products/tax-administration-3-0-the-digital-transformation-of-tax-administration.htm>, p 3

⁹⁹ OECD (2020), Tax Administration 3.0: The Digital Transformation of Tax Administration, OECD, Paris. <http://www.oecd.org/tax/forum-on-tax-administration/publications-and-products/tax-administration-3-0-the-digital-transformation-of-tax-administration.htm>, p 11

¹⁰⁰ OECD (2020), Tax Administration 3.0: The Digital Transformation of Tax Administration, OECD, Paris. <http://www.oecd.org/tax/forum-on-tax-administration/publications-and-products/tax-administration-3-0-the-digital-transformation-of-tax-administration.htm>, p 3

¹⁰¹ OECD (2022) Tax Administration 3.0 and the Digital Identification of Taxpayers: Initial Findings, OECD Forum on Tax Administration, OECD, Paris, <https://doi.org/10.1787/3ab1789a-en>

¹⁰² OECD (2022) Tax Administration 3.0 and Electronic Invoicing: Initial Findings, OECD Forum on Tax Administration, OECD, Paris, <https://doi.org/10.1787/2ffc88ed-en>

¹⁰³ ICC, Scarcella L, [Digitalisation of tax administrations ICC DSI/CTC principles, presentation](#).

¹⁰⁴ World Bank Global Tax Program 2022, Global Tax Program FY22 Annual Progress Report Fiscal Policy and Sustainable Growth Unit Macroeconomics, Trade and Investment Global Practice, July 2021 – June 2022

manufacture to the point where the breach of the law occurred. The main components of a T&T system include the following:

- Printing of stamps with sophisticated security features
- Printing of a unique identifier (UID) on a stamp or directly on a product;
- Production line equipment to affix stamps and/or apply the UID;
- Manufacturers and importers ordering stamps consistent with expected inventories;
- Data on production, tax status, customers captured in the UID;
- Stamps/UIDs ‘activated’ after affixing but before entering home consumption;
- Various level of aggregation when UIDs from packs, to cartons, to master cases are linked for the ease of multiple UIDs capturing by scanning a UID higher in the packaging hierarchy;
- Secure central system storing UIDs;
- UIDs read on delivery and receipt, status of a product updated accordingly;
- UIDs used to verify the status of a product at any point in in the supply chain in real time;
- Central system generates management reports for reconciliation with excise tax paid, risk, statistics, planning, forecasting, etc.

As one example, tobacco track and trace systems are part of the regulatory environment for the sale of tobacco products in many countries and support the health objectives of the World Health Organization’s Framework Convention on Tobacco Control (FCTC) by better monitoring the tobacco supply chain.

In fact, T&T is a requirement for parties under the WHO’s Protocol to Eliminate the Illicit Trade in Tobacco Products¹⁰⁵ with the relevant extract from Article 8 reproduced in Box x, with the anticipation that parties will expand national systems to connect with regional and possibly global systems to track entire supply chains, and the minimum data sets to be incorporated into each fiscal marking or stamp applied to tobacco products on the packaging line.

Box x Protocol to Eliminate the Illicit Trade in Tobacco Products

ARTICLE 8

Tracking and tracing

1. For the purposes of further securing the supply chain and to assist in the investigation of illicit trade in tobacco products, the Parties agree to establish within five years of entry into force of this Protocol a global tracking and tracing regime, comprising national and/or regional tracking and tracing systems and a global information-sharing focal point located at the Convention Secretariat of the WHO Framework Convention on Tobacco Control and accessible to all Parties, enabling Parties to make enquiries and receive relevant information.

2. Each Party shall establish, in accordance with this Article, a tracking and tracing system, controlled by the Party for all tobacco products that are manufactured in or imported onto its territory taking into account their own national or regional specific needs and available best practice ...

4.1 require that the following information be available, either directly or accessible by means of a link, to assist Parties in determining the origin of tobacco products, the point of diversion where applicable, and to monitor and control the movement of tobacco products and their legal status:

¹⁰⁵ WHO see [9789241505246_eng.pdf \(who.int\)](#)

- (a) date and location of manufacture;
- (b) manufacturing facility;
- (c) machine used to manufacture tobacco products;
- (d) production shift or time of manufacture;
- (e) the name, invoice, order number and payment records of the first customer who is not affiliated with the manufacturer;
- (f) the intended market of retail sale;
- (g) product description;
- (h) any warehousing and shipping;
- (i) the identity of any known subsequent purchaser; and
- (j) intended shipment route, the shipment date, shipment destination, point of departure, consignee.

However, depending on the system established in the country concerned, there may be opportunities to use data from track and trace system to complement that available to the tax administration.

Some countries have adapted the implementation of track and trace and integrated it with tax control and collection procedures. For example, in Kenya, the track and trace system includes multiple security features on each stamp including a QR code, holograms and invisible UV markings that allows KRA to monitor the entire supply chain, from production/import to retail sale, thereby enhancing tax assessment accuracy.

c) Remote product monitoring

Technology is now readily accessible for remote monitoring of production lines and flow meters, in some cases, manufacturers already have such technology in place for internal quality and assurance monitoring processes, with data transferred in real time to a headquarters or administrative centre tasked with monitoring production and which can also be sent in real time to the revenue agency. The application can be utilised for liquid form excisable goods such as alcoholic beverages and SSBs, as well as cigarette packs and other tobacco product packaging.¹⁰⁶

The technology works by sending production data, usually through a web-based platform, where it is captured in a system utilised by the revenue agency for those purposes. In some cases, there may be several layers of data for example between storage tanks, between storage tanks and mixing tanks, and/or between storage or mixing tanks and the packaging lines, providing a full picture of excisable goods movement at the licensed manufacturing premises.

Tax administrations generally assign control officers to supervise tax warehouses, where excise products are produced, processed, held or stored. In the past, these were often permanently situated on-site; in some countries this continues to be the case for high-value tax warehouses. However, generally, control officers now carry out their tasks by examining stock returns submitted by the company for accuracy and any deviations from normal activity and carrying out supervisory control visits, including physical inspections and stocktakes.

As the resource cost of placing a full-time control officer within a tax warehouse became prohibitively high and as a low degree of transparency creates the opportunity for corruption by companies or their employees or tax officials, including control officers, tax administrations can leverage technology to lessen the opportunity for false reporting by designing impersonal procedures augmented by automated data processing.

Remote production monitoring allows for the use of tools which enable the remote accessing and control of certain systems in the tax warehouse. Such tools involve both software and hardware solutions and allow for either an interactive or automated control of the premises. Such tools provide an objective and a verifiable audit trail of the excise goods produced within the tax warehouse.

¹⁰⁶ In use for beer and SSBs in Thailand for some manufacturers.

d) Blockchain

Whilst still in pilot form,¹⁰⁷ the potential for utilising blockchain technology in administering excise tax is significant. Many aspects, if not all, of the building block controls and product specific controls listed in this chapter can be put onto the blockchain, and the technology in many cases has the potential to greatly improve efficiencies and effectiveness of those controls.

Blockchain has the potential to increase traceability of excise goods without the need to physically attach tax stamps or other fiscal marks. By using existing business practice and systems to create traceability and incorporating data within current barcodes/QR codes, not only do regulators have an enhanced ability to monitor compliance, but those in the supply chain and consumers will also have visibility over the integrity, authenticity, and tax status of products they wish to purchase and in real time.

Although it will vary somewhat country by country depending upon the rules and blockchain technology chosen, Box x is a simplistic summary of how blockchain works with excise tax administration.

Box x How blockchain can apply to excise administration

- Excise goods upon manufacture are ‘digitised’ or ‘tokenised’;
- Upon packaging, each packaged unit is established as a non-fungible token (NFT) which can be traced;
- Rules are created which identify the treatment of attempted transactions such as:
 - sale into the domestic market (product digitised, NFT created)
 - tax suspended sale (permission in place)
 - export sale (export declaration lodged, permission in place)
 - remission application (goods digitised, circumstance eligible);
- Transactions are ‘approved’ after checks against rules in the system;
- Subsequent transactions in the ‘excise supply chain’ are then linked to the previous transaction relating and building on the initial transaction;
- Excise payment relating to sales to home consumption of ‘digitised’ inventory is made from digital wallets (which also provide for refunds); and in many cases
- Automated reporting to the blockchain from an excise manufacturer and/or excise payers own information management system.

The current and emerging technology-based options discussed in other sections of this chapter also work with the blockchain and together will form part of modern or future digitised excise administration. These options may include at some point:

- Digital excise stamp management linking the provider, the manufacturers and the revenue agency, perhaps recording the number and type of stamps provided to the industry, with manufacturers and importers uploading the number and types of stamps activated, linking those to production runs and excise payments;
- T&T system management providing for any perceived ‘gaps’ in reporting for example an ability for those excise licensees, wholesalers or retailers to upload what excise goods they have

¹⁰⁷ Excise on the blockchain is the subject of a pilot study in the EU (3 members) for excise suspended movements see [SEED-on-Blockchain | Netcompany-Intrasoft](#), and was piloted in Australia in 2022 for distilled spirits see [ConvergenceTech_fullreport.pdf \(anz.com\)](#)

- received;
- Flow meters, counters, scales etc. with remote reporting capabilities uploading to a blockchain platform.

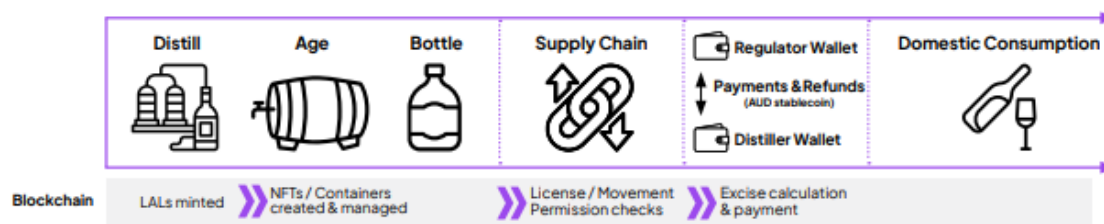
In addition, other uses of blockchain could include:

- Due diligence in the supply chain through automated licensing confirmation by those looking to acquire excisable goods;
- Ability to establish the legality of sending to, or receiving excisable goods from another entity;
- Establish the tax status of excise goods an entity has acquired;
- Establish excise tax liability of excisable good an entity has acquired;
- Improved reconciliation of excise payments and deliveries into home consumption;
- Management of excise tax liabilities, refunds, credits through a digital wallet; and
- Connection with customs and port authorities to track movements of excise goods being imported or exported.

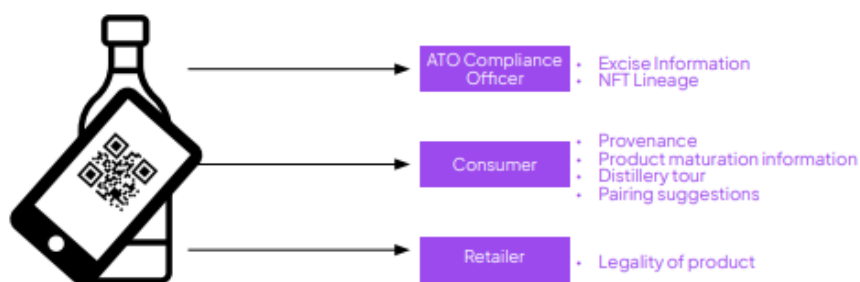
A snapshot of the Australian pilot study of excise tax administration over domestic distilled spirits production, has been included in figure x.¹⁰⁸

Figure x. Australian Blockchain Excise Pilot – Distilled Spirits

How it works



One barcode, many uses



¹⁰⁸ From [ConvergenceTech fullreport.pdf \(anz.com\)](https://www.convergence-tech.com.au/reports/fullreport.pdf)

7. Other considerations

a) Country-level considerations

Special measures for free zones.

Free Zones are Customs areas where goods on which taxes have not yet been paid are stored¹⁰⁹. Though regularly inspected by Customs officials, there are a number of ways in which high risk goods that are stored in free zones could find themselves on the market with understated taxes or without any taxes paid. These could be goods that were manufactured in the free zones or stored in the free zones. The Colon free trade zone of Panama is one of the most recognisable free zones where cigarettes are smuggled¹¹⁰. The countries of origin for these illicit cigarettes include China, India, the United Arab Emirates and Paraguay and these enter the local markets or are shipped to other destinations in the South American region¹¹¹. The Economist Intelligence Unit¹¹² further reported that Maicao Special Customs Regime Zone has turned into a refuge for smugglers, especially those trafficking in illegal cigarettes with studies showing that lucrative profits in the vice. Moreover, the problem seems to be escalating, with a 2018 Colombian government report indicating a significant rise in cigarette smuggling in 2018 in the free zone. Despite the illegal activities being perpetrated by the firms in the free zones, theft is one problem that could happen for risk goods stored in the free zones. A case in point is the 2024 incident at a warehouse at Brussels Airport was burgled and thieves mainly went away with over 269,000 cigarettes and 1,400 Kgs of hookah tobacco¹¹³. The Brussels times further stated that there were similar incidences in 2023 where warehouses were targeted and thieves mainly made away with tobacco and cigarettes. It is evident that these products end up being offloaded and sold either online or through informal business setup where tax authorities have difficulties to regulate and monitor the transactions.

In some cases, alcohols that are stored in free zones could appreciate in value. However, for tax purposes the value that is used is the value at the time of importation and this leads to under-declarations of taxes¹¹⁴.

Online sales.

The sale of goods online has opened up the sale of illegal and counterfeit goods. According to the European Union Intellectual Property¹¹⁵, more than 50% of counterfeit goods that were seized at the European Union borders were traded through online commerce¹¹⁶. For products that require tax stamps like cigarettes and alcohol, the use of online sales across the country borders could circumvent this measure. Tax administrations need to design adequate mechanisms to mitigate the possible revenue loss resulting from illegal products being sold online. Such mechanisms may include increased inspections by Customs officials on imported goods coming through post, random inspections and local market

¹⁰⁹ Ron Korver. (2018). Money Laundering and Tax Evasion Risks in free Ports. Brussels: European Parliamentary Research Service.

¹¹⁰ The Economist Intelligence Unit. (2018). The Global Illicit Trade Environment Index. London: The Economist Intelligence Unit Limited.

¹¹¹ The Economist Intelligence Unit. (2018). The Global Illicit Trade Environment Index. London: The Economist Intelligence Unit Limited.

¹¹² The Economist Intelligence Unit. (2018). The Global Illicit Trade Environment Index. London: The Economist Intelligence Unit Limited.

¹¹³ The Brussels Times. (2024, July 9). The Brussels Times. Retrieved from The Brussels Times: <https://www.brusselstimes.com/belgium/1125889/thieves-make-off-with-huge-quantities-of-marijuana-cigarettes-from-airport>.

¹¹⁴ Ron Korver. (2018). Money Laundering and Tax Evasion Risks in free Ports. Brussels: European Parliamentary Research Service.

¹¹⁵ European Union Intellectual Property Office. (2021). Online commerce has become a major distribution channel for fake goods. Brussel: European Union Intellectual Property Office.

¹¹⁶ European Union Intellectual Property Office. (2021). Online commerce has become a major distribution channel for fake goods. Brussel: European Union Intellectual Property Office.

surveillance of online sales platforms. In extreme cases, legislative provisions can be used which prohibit online advertising and/or sale of products that have a negative effect on health.

Informal markets.

The Informal sector accounted for about two-thirds of economic activity in low- and middle-income countries as at year 2020. It comprises both individuals and firms who are not in formal employment or trading and have disregard for tax and trading regulations. The firms operating in the informal sector contribute greatly to non-compliance with tax obligations. In most cases, the firms operating in the informal sector smuggle goods into the countries and sell the smuggled goods at very low prices compared to locally manufactured goods and goods that have been imported legally. In some instances, the firms manufacture goods that are subject to excise illegally and undetected.

Box x Example of Illicit Trade in the Informal Sector

In Zambia, one of the markets commonly referred to as COMESA Market, is one of the areas where smuggled alcohol and cigarettes have been found to be traded. These products are mainly imported alcohols and cigarettes concealed through the borders in various ways. In 2023, the Tax Authorities intercepted the offloading of a consignment of 2,000 cases of imported alcoholic beverages valued at over USD 165,000 in taxes and the consignment was covered with bags of maize bran used as chicken feed at importation and was at importation misclassified.

In similar circumstances, the tax authorities had also intercepted various consignments of ethanol that was misclassified as goods that do not attract excise duties such as liquid fertiliser and also some consignment of alcohol that was covered with coal. If these attempts had been successful, the product would have been sold by traders in the informal sector.

The market for illegally produced beverages and cigarettes is substantial. In most cases, the production of these products does not require mechanised or complicated equipment to produce. For example, the production of umqombothi beer in South Africa requires yeast, maize, malt and sorghum which are mixed in a drum and allowed to ferment for a certain period¹¹⁷. The production of this beer makes it a challenge to enforce tax compliance and other statutory regulatory measures. In Indonesia, 95% of the cigarettes demand is for Kerek which is a machine rolled or hand-rolled domestically made cigarettes which contain tobacco and some cloves¹¹⁸. Though Indonesia has put up some measure to curb the illicit production of kereks, there have been a number of ways in which illegal kereks have entered the market. The ways include “unpacked cigarettes, cigarettes packed without excise stamps, cigarettes packed with forged or otherwise counterfeit excise stamps, cigarettes packed with excise stamps with incorrect business excise identification numbers, cigarettes packed with wrong designations, and cigarettes packed with used excise stamps”¹¹⁹. These challenges, may not only be prevalent in Indonesia, but is most countries. Thus, it is important to implement stringent measures that are able to tackle the

¹¹⁷ Xolo, T., Keyser, Z., & Jideani, V. A. (2024). Physicochemical and microbiological changes during two-stage fermentation production of umqombothi. *Heliyon*, 1 - 14.

¹¹⁸ Ahsan, A. (2019). *A Global Review of Country Experiences - Indonesia: Tackling Illicit Cigarettes*. Java: World Bank Group.

¹¹⁹ Ahsan, A. (2019). *A Global Review of Country Experiences - Indonesia: Tackling Illicit Cigarettes*. Java: World Bank Group.

identified challenges in any illegal production, including supporting regional coordination to help stem illicit trade.

To deal with smuggling, undervaluation and misclassification that can occur in the informal sector, Revenue Authorities are faced with multiple challenges and need to put in place a number of measures as illustrated herein. The elimination of illicit trade in tobacco products can only be achieved through the control of imported and locally produced cigarettes, for instance by using track and trace on cigarettes¹²⁰. Further the fight against illicit tobacco can also be advanced by creating health reforms that support and promote tobacco cessation. The track and trace approach could also be used on alcohol to control the illicit product on the market. However, track and trace needs to be complimented by market surveillance and physical inspections. Other measures that would assist in the dealing of illicit products include customs to customs data exchange, use of scanners at point of importation to assist detect concealments, mobile enforcement teams operating 24/7 conducting road patrols and collaborations with other security and regulatory agencies. In support, the World Health Organisation¹²¹ reported that police investigations, complaint systems and case by case reporting were the most common methods reported to be used by member countries in tracking informal and illicit alcohol.

b) Regional coordination

In countries where border controls are not too effective, cheaper substitute products from neighbouring countries or illegally locally manufactured products may find themselves on the local markets. Regional coordination and cooperation among states are indispensable elements in ensuring the successful implementation of health taxes or excise duties, particularly when applied to products like alcohol, tobacco, and sugar-sweetened beverages. This collaborative effort necessitates the creation of regional operating procedures that are founded on principles of consistency and harmonization. Key aspects of this cooperation include adopting standardized valuation methods for excisable products, setting minimum pricing thresholds to prevent undercutting, and facilitating information exchange on the cross-border movement of such products. The exchange of information on exports to other countries with details such as importer names, quantities and value would help reduce the illicit product on the markets. By fostering alignment and cooperation among neighboring states, regional coordination not only strengthens the effectiveness of health tax policies but also helps mitigate tax evasion, illicit trade, and unhealthy consumption patterns, ultimately working towards a common goal of improving public health outcomes on a broader scale. Regional coordination is especially important among countries within regional bodies like European Union and Southern African Development Community (SADC).

8. Conclusions

Effective tax policy is contingent not just on how well the policies are designed, but on how strong the capacities of tax administrators are to implement them. To this end, tax administration authorities should focus on the following elements:

- Ensure effective governance and institutional arrangements to support implementation, including modern risk management processes
- Understand your starting point in terms of existing capacities across the tax administration building blocks:¹²² These building blocks include:
 - Licencing
 - Production controls

¹²⁰ Esteban Ortiz-Prado, E. T.-S. (2022). Anti-tobacco policy and the smuggled cigarettes, a hidden problem in Ecuador. *Journal of Public Health and Emergency*, 1-5.

¹²¹ World Health Organization. (2018) Global status report on alcohol and health report.

¹²² Emerging tools can help to diagnose issues and present pathways for reform. See forthcoming World Bank toolkit on health tax administration

- Inventory controls
 - Reporting and payment
 - Refunds, rebates, remissions, drawbacks and adjustments
 - Certainty and transparency for taxpayers
 - Audit and compliance
 - Enforcement and sanctioning
 - Product specific controls
- Leverage technology such as track and trace to improve implementation
 - Support efforts to enhance regional coordination

References

ADB (2018) *A Comparative Analysis of Tax Administration Asia and the Pacific* ADB accessed 28 April 2024 from [A Comparative Analysis of Tax Administration in Asia and the Pacific: 2018 Edition \(adb.org\)](https://adb.org)

IMF (2017) *How to Establish a Tax Policy Unit* prepared by Martin Grote FAD Washington DC

IMF (2022) *Customs matters – strengthening customs administrations in a changing world* accessed 27 April 2024 from <https://www.elibrary.imf.org/display/book/9798400200120/9798400200120.xml?code=imf.org>

Junquera-Varela, Raúl Félix, and Cristian Óliver Lucas-Mas (2024) *Revenue Administration Handbook*. Washington, DC: World Bank accessed 4 April 2024 from [Revenue Administration Handbook \(worldbank.org\)](https://worldbank.org)

OECD (2023) *Revenue Statistics: interpretive guide* accessed 29 April 2024 from [Revenue Statistics 2023 \(oecd.org\)](https://oecd.org)

OSCE & UNECE (2012) *Handbook of Best Practices at Border Crossings – A Trade and Transport Facilitation Perspective* Organization for Security and Co-operation in Europe (OSCE); www.osce.org United Nations Economic Commission for Europe (UNECE); www.unece.org accessed 29 April 2024 from [88238.pdf \(osce.org\)](https://www.osce.org/secretariat/88238)

Preece R (2008) *Key controls in the administration of excise* World Customs Journal Vol 2 No1 [08 key_controls_in_the_administration_of_excise_duties.pdf \(worldcustomsjournal.org\)](https://www.worldcustomsjournal.org)

Rehm, J, Neufeld, M, Room, R, Sornaisarn, B, Stelem kas, M, Swahn, M and Lachenmeier, D (2022) *The impact of alcohol taxation changes on unrecorded alcohol consumption: a review and recommendations* Int J Drug Policy January 2022; 99 103420 doi: 10.1016/j.drugpo.2021.103420

Waerzeggers, Christophe and Cory Hillier (2016) *Introducing an advance tax ruling (ATR) regime—Design considerations for achieving certainty and transparency* Tax Law IMF Technical Note Volume 1, 2/2016, IMF Legal Department

WCO (2024) *Revenue Program* accessed 26 April 2024 [World Customs Organization \(wcoomd.org\)](https://wcoomd.org)

WHO (2021) *Technical Manual on Tobacco Tax Policy and Administration* WHO Geneva accessed 13

April 2024 from [Health Promotion \(who.int\)](https://www.who.int/health-promotion)

WHO (2022) WHO Manual on Sugar Sweetened Beverage Taxation Policies to promote Healthy Diets
WHO Geneva accessed 18 April 2023 from [WHO manual on sugar-sweetened beverage taxation policies to promote healthy diets](#)

WHO (2023) *Technical Manual on Alcohol Tax Policy and Administration* (2023) WHO Geneva
accessed 10 April 2024 from [WHO technical manual on alcohol tax policy and administration](#)

Chapter 8: Addressing Potential Secondary Effects of Health Taxes

1. Introduction

The primary, intended effects of health taxes, as discussed in previous chapters, are mainly to reduce consumption of harmful goods through price increases as well as to generate tax revenue for the government. Besides those primary effects, health taxes can have a range of potential secondary and spill-over effects. These are often used for influencing governments to block or delay the introduction or increase of health taxes. Frequently used arguments are that health taxes lead to the loss of employment, hinder GDP growth, contribute to higher inflation, the outsourcing of production to other jurisdictions not affected by the tax, increase illicit trade, that health taxes are regressive and harm consumers, are unconstitutional, discriminatory, and illegal (World Bank, 2020a). The threat of, or actual, lawsuits are frequent (World Bank, 2020b). However, the nature and size of potential secondary effects vary greatly across countries and are influenced by many factors, such as the socioeconomic and political context, market size and characteristics on the side of supply and demand, presence and scale of farming linked to taxed products, existing relevant policies, social and labour market policies, and international harmonisation, and on mitigation measures employed. The aim of this chapter is to analyze potential secondary impacts on the economy and relevant sectors, evidence of their scope and factors, and potential mitigation strategies. Finally, the chapter also shows potential positive secondary effects that frequently remain overlooked.

The impacts of health taxes are to large degree influenced by the capacity and willingness of the industry to pass the tax increase on to final consumers, which is called the pass-through effect. Pass-through rates are determined by several factors (see Chapter 5). The pass-through rates vary significantly by country, industry, and product, but there is strong evidence that excise taxes increase prices in the long run and have the capacity to decrease demand of harmful products (World Bank, 2020).

Pass-through rates and the response of the market to tax-induced price increase are, as mentioned above, influenced by the price elasticity of demand. Price elasticity of demand is a measure that quantifies how demand for a product responds to changes in its price. For low- and middle-income countries price elasticities for tobacco are estimated between -0.2 and -0.8 clustering around -0.5. In high-income countries the price elasticity estimates are around -0.4 (Chaloupka, Powell, and Warner 2019). A systematic review of alcohol price elasticity estimates in low- and middle-income countries found the elasticity for alcohol to be -0.64, for beer -0.5 and for other alcoholic beverages -0.79 (Sornpaisarn et al. 2013). Demand elasticities for SSBs tend to be slightly higher (in part due to easier substitution). A meta-analysis of 62 studies estimated a price elasticity of demand of -1.59 (Andreyeva et al. 2022). Price elasticities also vary across socio-economic groups within a population, as well as gender. Price elasticity is shaped by the availability of close substitutes, habits and cultural environment, traditions, information availability, and presence of other policy measures aimed at harmful products. For example, in some countries, loose tobacco is a substitute for manufactured cigarettes, which would make the elasticity of manufactured cigarettes higher, while this is not the case in other countries. The response of the market will be additionally influenced by the current and planned tax structure, product diversity, affordability and heterogeneity in product prices. Some tax structures may create more space for consumers to switch to cheaper products instead of reducing consumption and/or may be more vulnerable to policy changes by the industry, such as price or product size reductions (see Chapter 4 and product specific chapters).

There is a lack of conclusive evidence about the total, net effect of excise taxes on the economy as a whole. Nevertheless, experience suggests that the potential negative secondary impacts on some sectors tend to be compensated through other channels in the economy, while industries and consumers would adapt to these changes. For governments, it is especially important to evaluate the potential impacts that

new or increased health taxes may have on concerned parts of the economy and population, and, if needed, how to mitigate them. At the end of the chapter, a checklist is provided as guidance on how to assess the secondary impacts of health taxes.

2. Adaptation and reformulation

Both consumers and concerned industries have the tendency to accommodate new conditions. The tobacco industry, for example, continues to generate high profits, even though the majority of countries have a tobacco tax in place (BAT, 2023; Phillip Morris International, 2023; WHO, 2023a). Tobacco companies use price policies or product changes to adapt to new tax structures and to maximize their profits. In 2016, for example, in response to a tax hike the previous year, Thailand's state-owned Tobacco Monopoly introduced a new considerably cheaper brand "Line 7.1" with slightly smaller cigarettes than standard brands which allowed it to fit into a lower cigarette tax tier (Al Jazeera, 2016). Similarly, in response to the global decline of cigarette consumption, the tobacco industry developed e-cigarettes and other heated products (World Health Organization, 2021a; University of Bath, 2023).

Half of the world's population is now covered with a national sweet beverages tax, and yet, the industry continues to thrive (World Bank, n.d.; Coca-Cola Company, 2023; Pepsico, 2023). This can be explained by the fact that consumers tend to shift to different products within the same industry, while the industry itself pursues the reformulation of products (e.g. by lowering the sugar content of beverages) in response to SSBs taxes. Evidence shows that consumers change their consumption patterns in a way that income is re-allocated to the consumption of other goods, even within the same entities, or within the same sector, although the extent of this may vary from country to country (Andreyeva et al., 2022; Breeze et al., 2018; Royo-Bordonada, 2022). In Mexico, for instance, an SSBs tax introduction led to a 6.3 percent decrease in the consumption of taxed SSBs, but to a 16.2 increase in purchases of water (Colchero et al., 2017). Similar results were found in Barbados and in Philadelphia in the U.S. (Alvaro et al., 2019; Barker et al., 2022). Tax design can also play a significant role. When Chile increased the tax on high-sugar beverages and decreased the tax on low-sugar beverages, consumers responded by decreasing purchases of the first category and increasing purchases of the latter (Caro et al., 2018).

In South Africa, the introduction of a SSBs specific tax per gram of sugar led to a 51 percent decrease in sugar consumption from the taxed beverages (Stacey et al., 2021). Around 70 percent of the sugar reduction was attributable to the change in consumer behavior, while the remaining 30 percent was attributed to the reformulation of products when producers reduced the sugar content (Essmann et al., 2021). In the UK, after a SSBs tax implementation, the total sugar consumed from soft drinks declined by 2.7 percent, while overall volumes of soft drink purchases increased by 2.6 percent, due to product reformulation to a large extent (Rogers et al., 2023).

The alcoholic beverages industry is no exception to accommodating to tax changes and changes in consumer preferences. In response to consumer demand, a larger variety of low- or non-alcoholic alternatives (so-called NoLos) are now on the market, including low- or non-alcoholic wines and spirits. The market of low- and non-alcoholic beverages has been growing 5 percent annually between 2018 and 2022 and is expected to grow by 7 percent annually between 2022-2026 (IWRS 2021).¹²³

In some settings, taxes on harmful products are currently so low that they allow the industry to increase its margins. For instance, in Timor-Leste, between 2012 and 2018, the share of tax in the retail price of cigarettes fell from 33.51 percent to 21.79 percent due to the lack of adjustments of the specific rate to inflation. Despite that, the retail prices continued increasing and did so beyond inflation. In 2017 and 2018, when the inflation was 0.52 and 2.29 percent respectively, the price increased by 33 percent

¹²³ WHO has raised concerns about the impact of NoLos and missing evidence about their effects on alcohol consumption and other potential risks, for example misleading minors, pregnant women, abstainers or those seeking to stop drinking about their actual ethanol content (WHO, 2023).

(International Union Against Tuberculosis and Lung Disease, 2021). This suggests that there is space in the market for price increases and therefore for potential tax hikes without hurting the economy or affecting employment in the concerned industries.

The adaptation and reformulation in response to health taxes that has been seen to date implies that the potential spill-over effects on employment, as well as governmental total revenues (i.e., knock-off effects on revenues from other taxes such as income tax or VAT) may not be negative.

A thorough analysis of the market can help to assess the potential industry and consumer responses to a tax change. This can be based on current data, experience from past reforms or from similar settings in other countries or regions. The analysis could be done in cooperation with independent actors, such as universities. Understanding the attitudes and preferences of consumers can help to estimate potential changes in demand for products in other price categories or substitutes. The analysis should also include evaluation of the availability of healthier options and the possibility to influence consumers behaviour through other policy measures, for example subsidies on healthier alternatives. Improving access to safe drinking water for example can offer a cheap healthy alternative to sweet beverages as well as support positive impacts of health taxes on the environment through reducing plastic pollution.

Ensuring that the tax design does not create space for price manipulations and other strategies taken by the industry to avoid the tax that could undermine the health goal as well as ensuring that all relevant products are taxed contributes to more predictable tax revenues and amplifies the effect of health taxes on consumption. While this may lead to a bigger impact on the industry, it would strengthen the effects on demand reduction, health and therefore on equality and equity. In many countries, for example, milk-based sweet beverages are not covered by the tax which not only reduces the tax base, but also leaves an important source of sugar consumption untaxed. Incomplete definitions of the taxed products, especially for tiered structures or differential rates, tend to create loopholes in the system allowing industry to profit from the gaps. The effect of health taxes could be supported by other policies, for example campaigns providing information on the consumption health-harming products and on healthier options that could help redirect consumers towards healthier products. This may be stimulated by retailers through good positioning in the stores, where giving more space to healthier products encourages selection of healthy options and enjoys public support (Gómez-Donoso et al., 2021). Consumer preferences contribute to shaping industry product offers and may provide an additional nudge to the industry to reformulate existing products or to introduce new ones. While for tobacco, early announcement of the tax hike may lead to pre-stocking, this is less likely in the case of SSBs and alcoholic beverages due to their higher volumes (Commission of the European Communities, 2008). An early announcement of the tax can on contrary give time for the industry to reformulate their products toward healthier options, especially if the tax design motivates industries to do so and if the business environment is supportive of innovation, research, and development (see Chapter 7 for detailed discussion).

3. Impacts on employment

One of the most frequent fears and counterarguments against health taxes is the loss of jobs in concerned sectors, namely manufacturing, distribution, retail, and hospitality. If the concerned sectors pass on the full health tax, they fear a drop in demand and revenue due to the higher prices. If, on the other hand, they fully or partly absorb the tax, their profit margins would be reduced, which could eventually force them to close their business. This could especially be the case in the hospitality sector that is already characterized by low margins and was particularly affected in many countries by the COVID-19 pandemic (OECD 2023; The American Consumer Institute Center for Citizen Research, 2023). Such fears, though, are often fanned by the industry itself, including through the financing of studies supporting their claims, in an effort to discourage governments from the tax increases (Chaloupka & Powell, 2019). It has been shown that such studies often overestimate the potential impact of policies to reduce consumption by relying on employment data from the industry and by looking only on impacts on the industry itself (gross employment effect), but not on the economy as a whole (net employment

effect) (National Cancer Institute, 2017; Warner, 1995; Price Waterhouse, 1990; Price Waterhouse, 1992; Tobacco Merchants Association, 1996; Wharton Applied Research Center, 1980).

The impact of health taxes on employment in the taxed sectors depends on several factors mentioned above. While there might be some job reductions in the taxed industries, contrary to the industries' arguments, evidence suggests that health taxes can have a neutral or positive effect on overall employment and productivity, especially if the tax revenues are used to finance public spending or reduce other distortionary taxes. This means that potential job losses in the taxed sectors are often offset by a gain in employment in other sectors of the economy (Marquez & Dutta, 2020; Chaloupka & Powell, 2019; Andreyeva et al., 2022).

The World Bank (2020) found that introduced SSBs taxes had no negative impact on employment in the beverage industry (or even the retail industry), and in some cases even led to net employment gains. Increase of SSBs tax in Peru by 8 percentage points (from 17 percent to 25 percent) in 2018¹²⁴ did not lead to job or wage losses in the concerned industries, including the manufacturing sector (Díaz et al., 2023). Similarly, the introduction of an SSBs tax in Mexico (1 peso/liter) (and an 8 percent tax on non-essential energy-dense food) in 2014 led to no decrease in employment associated with the tax in the production and retail sectors, and there was no increase in unemployment on the national level (Guerrero-López, Molina, & Colchero, 2017).

An OECD report highlights the (although limited) evidence that net employment effects of alcohol taxes are positive. The tax-induced declines in employment in the alcohol industry often lead to increases in other industries (e.g. vineyards being transformed into agricultural land), stimulated by re-investment of the additional tax revenue of the government (e.g. through increases in public services), redirection of spending by consumers as well as lower health-related unemployment (OECD, 2023).

Moreover, the tobacco industry itself has been one of the main causes of decline in employment in tobacco manufacturing. This is due to technological progress, automatization, and privatization of public tobacco companies which tends to increase effectiveness in the production. Around 80 percent of global employment in tobacco manufacturing is concentrated in 3 countries: India, Indonesia, and China. The share of employment in tobacco manufacturing as total employment has been small with 0.1 percent in India, 0.5 percent in Indonesia, and 0.04 percent in China and declining. In the majority of countries, the contribution of tobacco manufacturing to GDP remains way below 0.5 percent, which is very low given that total manufacturing on average contributes to around 17 percent of GDP (Vulovic, 2018). In Pakistan for example, which is the ninth largest tobacco growing country, it was estimated that tobacco farming and cigarette manufacturing made up 0.33 percent of the country's GDP (no separate data by tobacco growing and manufacturing are available) and the cigarettes industry created only 0.2 percent of all industrial jobs in 2020 (Sabir et al., 2021). Despite these numbers suggesting relatively small contribution of tobacco to economies and employment, impact on people must be assessed and potential mitigation measures considered to ensure smooth tax implementation, prevent public backlash, and negative consequences for concerned population, especially vulnerable groups.

Impact of tax policies need to be carefully assessed of course prior to the change to be able to mitigate potential impacts on employment. In assessing the impact of health taxes, consideration should be given not only to the number of jobs potentially lost, but also to the quality of these jobs and potential alternatives. Some of the jobs created by the industries may lack desired quality. For example, in the UK, the alcohol industry created around 2.5 percent of the jobs in the country, with 80 percent in retail, especially on-trade (restaurants, pub and bars, and similar). Only 35 percent of these jobs were full-time. And while jobs in alcohol production were well paid, indirect jobs in retail were among the lowest paid in the economy (Institute of Alcohol Studies, 2020). Tobacco production workers can suffer from some health conditions, mainly from exposure to chemicals, nicotine and dust (Greenhalgh, 2022).

¹²⁴ The measure was followed by obligatory front-of-package warning labels on processed and ultra-processed foods and beverages high in sugar, saturated fats, and sodium or containing trans fats in 2019.

Moreover, it has been documented that alcoholic beverages and cigarettes production involve child labour (U.S. Department of Labour, 2022).¹²⁵

To minimize net job losses resulting potentially from health tax adoption or reform, health taxes may be implemented as part of a comprehensive package of interventions aimed at behavior change and to ensure that additional tax revenue is used to create new jobs (World Bank Group, 2020; Wada et al., 2017).

Health taxes could require business models to be adapted and thus leading to increased costs and further price increases. For example, a nightclub that relies on alcohol sales might need to shift towards hosting concerts or other events, or to switch to more family-friendly model, which would require measures such as re-training staff and re-organizing supply chains (IARC, 2011). Providing support in re-training and entrepreneurship in the potentially affected sectors, or to strengthen social policies securing safe and flexible social network that motivates people in job search could facilitate adaptation of the touched sectors. Compensatory measures, such as cash transfers, tax reliefs or education grants can be some of the tools to support factory workers to switch to other sectors and throughout the transition process (Vulovic, 2018; Araujo et al., 2018). Flexible and simple social and legal systems encouraging employment and entrepreneurship, including establishment of one-stop-shop for business registration, could alleviate any potential losses caused by the tax hike. Furthermore, incentivising the reformulation of products and the redirection of consumer spending towards healthy alternatives could also lessen any negative impacts. Clear and enforceable legal frameworks may significantly facilitate health tax implementation and mitigate negative impacts. In addition, announcing tax increases well in advance can provide business owners time to prepare and adjust their business models or supply chains, e.g. through reformulation (OECD, 2021).¹²⁶ Guidance in shifting business strategies towards a focus on healthier products should be provided, and directed especially at smaller establishments and those in regions where there is little leeway in pricing.

Finally, when forecasting potential additional revenues from excise taxes, the government should use conservative estimates to prevent potential gaps in budgets and financing of supplementary measures and to prevent opposition from health tax opponents if the promised tax revenues are not materializing. On the other hand, it is essential to evaluate the impact on other taxes, such as on VAT revenues.

4. Impact on farmers

Health taxes aim at lowering the consumption of the taxed goods, which can ultimately lead to a decrease in demand for raw materials used in production of these goods. This in turn can cause the loss of jobs or income for farmers of tobacco for tobacco products, sugar beet and sugarcane for SSBs and rum, barley for beer or whiskey, grapes for wine, potatoes for vodka and other, such as corn, rice, rye, and wheat for other spirits. While some of the crops can be used for nutrition too, some (like tobacco) cannot, and in case of tax-induced decrease in demand for tobacco, alcohol and SSBs farmers may need to switch to other crops or income-generating activities. Considering the impact of health taxes on farmers is therefore an integral part of the decision-making process.

The extent to which each concerned crop is farmed in a country, and therefore the potential impact of a change in health taxes, varies greatly across countries. Production is often concentrated in a few dominant countries. Globally, 6 million tons of unmanufactured tobacco was produced in 2023. Almost 40 percent of this production happened in China and 70 percent of the total production was concentrated

¹²⁵ U.S. Department of Labor. (2024, September 5). List of Goods Produced by Child Labor or Forced Labor. Retrieved from Bureau of International Labor Affairs: <https://www.dol.gov/agencies/ilab/reports/child-labor/list-of-goods-print>; Dash, J., & Chaturvedi, A. (2024, July 2). Child labourers at India's Som liquor unit worked 11 hours a day, government says. Retrieved from Reuters: <https://www.reuters.com/world/india/child-labourers-indias-som-liquor-unit-worked-11-hours-day-government-says-2024-07-02/>

¹²⁶ In this context, it is also important to consider forestalling, discussed in Chapter 7 and Chapter 8.2

in only 5 top producing countries (China, India, Brazil, Indonesia, and Zimbabwe).¹²⁷ Similarly, from the 2.4 billion tonnes of sugar cane and sugar beet produced in 2023, 68 percent was concentrated in top 5 producers (Brazil, India, China, Thailand, Pakistan).¹²⁸ And although sugar cane has multiple uses, such as biofuels and agriculture, 70 percent of the total production is estimated to go towards human consumption (Thow et al., 2021). When it comes to wine, the top three wine producing countries - Italy, France and Spain - accounted for 51 percent of the world production (258 mhl) in 2022 (International Organisation of Vine and Wine; 2022). In some countries, employment linked farming of crops for health-harming products can represent an important part of overall employment. For example, the Brazilian sugar cane sector employs around 750 thousand people, roughly 25 percent of the rural workforce (International Institute for Sustainable Development, 2023). Around half of the cane goes to the production of sugar (S&P, 2022).

Farming of tobacco and sugar cane has been linked to serious health and environmental issues and often does not represent the best income-generating option for the workers. On the contrary, it has been documented that in many contexts, cash-crops (crops cultivated for selling only and not for direct consumption, such as tobacco, sugar cane, sugar beet) may increase poverty of the farmers (Yang, 2022; Tankari, 2017; Anderman, 2014). In addition, child and forced labour and human trafficking has been connected to tobacco farming (Lencucha et al., 2022; ILO 2017; U.S. Department of Labour, 2021). In 2022, children have been found to be involved in tobacco and sugar cane and sugar beets farming in 17 and 18 countries respectively, in breach of the article 32 of the United Nations Convention on the Rights of the Child;¹²⁹ forced labour, including forced child labour, has been discovered in Malawi in tobacco and in 6 countries in the production of sugarcane and sugar beet (including two countries with forced child labour).¹³⁰

Chemicals used in tobacco farming expose farmers to respiratory and skin diseases, including green tobacco sickness, a form of acute nicotine poisoning (Bartholomay et al., 2012; Park et al. 2018). Tobacco farmers may absorb the nicotine equivalent of 50 cigarettes per day (World Health Organization, 2023a). Equally, sugarcane farmers are exposed to thermal, chemical, biological, physiological, mechanical, and emotional risks and that they frequently suffer from mental health disorders (Ruths et al., 2023; Bazo-Alvarez et al., 2022). These risks can be even more serious for women, especially if pregnant, and children, due to their lower body weight. Exposure to the mentioned health risks may also lead to increased medical costs for the families and/or loss of work capacity.

It has been shown that tobacco farmers are often misled by the relatively higher price of tobacco leaf without taking into account the high input and labour cost and thus overestimate their profits (Kidane et al., 2014; Penuche et al., 2022; Mahadeo et al., 2021; Hussain et al., 2020). Farmers often engage in contracts to cultivate tobacco leaves without set prices, the grading of their product, knowing the costs of inputs, or the proportion of their production they will be able to sell (Lencucha et al., 2022). Prices for which farmers sell their production tend to vary considerably, mainly due to weather during the crop season, which increases insecurity (Sahadewo et al., 2021). Tobacco farmers, especially small-holder farmers, have often very limited bargaining power against larger, more effectively organized buyers resulting in lower prices and limited profit potential (Sahadewo et al., 2021). Buyers also may use coordination strategies to push prices to the bottom, when for example in a region with a small number of buyers only one operates at a time, so that farmers have no other option to sell their product. A

¹²⁷ Food and Agriculture Organization. (2025). FAOSTAT. Crops and livestock products. Retrieved from: <https://www.fao.org/faostat/en/#data/QCL>

¹²⁸ Food and Agriculture Organization. (2025). FAOSTAT. Crops and livestock products. Retrieved from: <https://www.fao.org/faostat/en/#data/QCL>

¹²⁹ Article 32 of the United Nations Convention on the Rights of the Child allows children to engage in work that is light in nature and not hazardous.

¹³⁰ U.S. Department of Labor. (2024, September 5). List of Goods Produced by Child Labor or Forced Labor. Retrieved from Bureau of International Labor Affairs: <https://www.dol.gov/agencies/ilab/reports/child-labor/list-of-goods-print>

number of studies have shown that alternative crops have higher returns than growing tobacco leaf and that tobacco farming is costlier than other crops because of higher input costs as well as more physical labor needed (Hu & Lee, 2015; Lencucha et al., 2022). This means that even farmers with higher profits often fall below World Bank's international poverty line of US\$1.90/day, and that their net income is often negative (Lencucha et al., 2022). For instance, a study in Kenya comparing the social and economic costs and benefits of tobacco to other commercial crops found that tobacco has the lowest economic return per acre (Institute for Natural Resources and Technology Studies, 2007; Hu & Lee, 2015). Additionally, the high input cost often means that farmers end up in debt (World Health Organization, 2023a).

Country case: Malawi

Malawi is the 13th largest tobacco producer in the world with over 100 thousand tonnes of unmanufactured tobacco produced in 2022 (FAO, 2024a). Tobacco accounts for 12-15 percent of its GDP (Tobacco Commission, 2021). It also represents a primary export commodity with 46 percent share on the total exports in 2021, making Malawi one of the most tobacco-depending countries globally (OEC, 2024; CEPIL, 2024). Despite the large tobacco production, Malawi remains one of the poorest countries in the world, with 71 percent of the population living on less than \$2.15 per day¹³¹ (World Bank, 2023a). The majority of tobacco farmers (58 percent) continue in tobacco farming because they see it as the only viable option and because of the existence of an organized market which may lack for other crops (10 percent). Only 3.9 percent believed that tobacco farming was highly lucrative (Appau et al., 2020). In 2021, the government in the efforts to improve working conditions of tobacco farmers banned the tenancy system. Under the tenancy system, landowners allow farmers to grow tobacco on their estates in exchange for accommodation, food ratios, inputs for the production, including loans. Tenants are then paid based on the volume and quality of tobacco sold to the landowner at the end of the season after the deduction of the provided inputs (Mwafulirwa, 2023). This system can leave farmers with no or only minimal earnings at the end of the cycle which creates a circle of indebtedness and poverty of the farmers. This also increases the risk of human trafficking and the risk of child engagement in labour as farmers are motivated to increase earnings (U.S. Department of Labour, 2021). In 2022, around 7,000 adults and 3,000 children were reported to be affected by child and forced labour or human trafficking in Malawi (OHCHR, 2022). Children engaged in tobacco production often stayed out of school, whereas women were left often without contracts as these were signed only with male heads of households (OHCHR, 2022). However, despite the efforts to eliminate the tenancy system, employers resist paying their workers regular monthly wages (Mwafulirwa, 2023). The land used for tobacco farming could be used for food. Over 78 thousand hectares of land were used for tobacco farming in 2023, equivalent to land needed to produce 123 thousand tonnes of rice,¹³² while 4.1 million people (19.9 percent) were undernourished and almost 11 million (53.5 percent) suffered severe food insecurity.¹³³

Sugarcane farming supports around 100 million livelihoods, often, however, through seasonal and informal work (ILO, 2017). Sugar prices, similarly to tobacco prices, fluctuate and may not always cover the inputs invested in the production, therefore leaving farmers' families in insecurity, which can be further amplified by weather uncertainty and, in low-income countries, by weaker financing services, infrastructure, or inflation (IISD, 2023; Nyberg, n.d.; ODI, 2012). Small producers may not be always included in unions and even if so, the bargaining power may remain low due to union fragmentation, automatization, legal restrictions and/ or inefficiencies in the union functioning (ILO, 2017). The sugar cane production work is characterized by low wages, long working hours without breaks (often in hot weather), and by causing severe health issues and injuries. Women in the sector are more at risk of

¹³¹ US\$ adjusted by the purchasing power parity (2017)

¹³² Rice yield in 2023 was 1,571.4 kg/ha in Malawi.

¹³³ Food and Agriculture Organization. (2025). FAOSTAT. Crops and livestock products. Retrieved from: <https://www.fao.org/faostat/en/#data/QCL>; Food and Agriculture Organization. (2025). FAOSTAT. Suite of Food Security Indicators. Retrieved from <https://www.fao.org/faostat/en/#data/QCL>

having precarious, lower-paid work and threatened by hostile working environment including sexual harassment and assaults, including cases when they were asked for sexual favours in exchange for the job (ILO, 2017). The insecurity of reliable income may increase the motivation of families to involve children in the work, who frequently work in hazardous parts of the process such as agrochemicals application and manual harvesting. As a result, children may live in poor conditions, experience health complications, and miss out on schooling.

Health taxes may lead to job losses in linked farming. It is, however, important to consider all the factors of the potential effects, i.e., assess not only the number of people employed by the sector, but also their working and socio-economic conditions stemming from farming the concerned crop, and use available tools to accentuate potential positive aspects. Switching from tobacco or sugar cane farming to other crops (or potentially other income-generating activity) may help farmers to be better off. For example, in a study in Thailand, most tobacco farmers' quality of life was below average,¹³⁴ almost all of them (96 percent were indebted) and around 60 percent of them wanted to stop growing tobacco (Phetphum et al., 2022). Assisting in the transition to other crops by creating a market for alternative products, securing a price for alternative crops, providing low-interest loans and support in retraining to change to other occupations may help farmers in the transition (Phetphum et al., 2022). Governmental policies may be essential in encouraging the switch because many of the farmers have grown up under the narrative that tobacco/sugarcane farming is the only viable option (World Health Organization, 2023b). Farmers may not be aware of the potentially better conditions in farming of other crops or about the disadvantages they currently may be experiencing, including health risks. It is important to tackle the 'narrative of prosperity' by providing information on the comparison of profitability of tobacco/sugarcane farming to other options (Lencucha et al., 2022). Similarly, education campaigns can help farmers better understand the health hazards of tobacco farming (Bartholomay et al., 2012; Park et al., 2018).

Providing farmers with information about alternative crops and their markets, improving value chains to support added value for higher profitability compared to raw materials, and strengthening infrastructure (e.g., better roads, wells and irrigation) could also facilitate the transition to new production (Li et al., 2019; Kumar et al., 2011; Burney & Naylor, 2011). Tobacco farmers often receive cash loans and upfront inputs from tobacco companies which may be key aspects in the decision to stay in the given crop farming as they may have limited access to other inputs and financing opportunities. Governments could offer similar support initiatives in the alternative crops to help make a shift attractive for farmers (Lencucha et al., 2022). In Indonesia, for example, almost all farmers identified lack of access to credit or capital as one of the main barriers for moving away from tobacco (Sahadewo, 2020).

In fact, Article 17 and 18 of the WHO FCTC describes how governments can assist farmers through providing agricultural technical advice, connecting them with essential supplies and services for their farming activities, offering financial aid to boost the production of nutritious foods, and shifting focus from tobacco to alternative crops (World Health Organization, 2023a). Lastly, it is also important to root out the myths of economic benefits of tobacco production not only at the level of the farmers, but also at government and ministry levels (Lencucha et al., 2022).

5. Equity and equality

a. Impact on households and low-income groups

Governments and the public may be concerned that health taxes will represent an additional economic burden for households, especially for low-income groups, and that health taxes are regressive. This claim is frequently used as one of the main arguments against health taxes. In the wider perspective however, health taxes tend to benefit low-income groups and bring them net benefits. NCDs tend to be

¹³⁴ Measured by a series of items with scale options.

disproportionately clustered in lower socioeconomic groups of a society, further taking a toll on patients and their families (World Health Organization, 2023b). Higher exposure to risk factors ultimately creates health inequalities, which are linked to increased poverty due to multiple factors. In the short term, health taxes can indeed be regressive (tax burden falls more on low-income populations). Primarily, low-income groups tend to spend a larger portion of their budgets on tobacco and alcohol than richer peers (Jolex & Kaluwa, 2022). They also have more limited access to health care and insurance (World Health Organization, 2023b). In addition, low-income group members, when they lose income due to an NCD, may not be able to tap into savings or sell assets like their richer peers.

On the other hand, low-income groups tend to respond more to price changes and therefore reduce their consumption more in the wake of a tax increase (WHO FCTC, 2010). Lower income consumers, tend to have higher price elasticity, meaning that their consumption would drop more than other groups. In the longer-term therefore, this would lead to reduced harmful consumption and prevalence of associated diseases and thus to lower medical costs and increased earnings from increased years of productive life. Short-term increases in prices are offset by long-term benefits, which are manifested in higher quitting rates that result in longer working life and reduced medical costs (World Bank, 2019).

A comparative analysis across eight countries demonstrated that, despite the first short-term price shock affecting low-income groups, when considering the change in household tobacco expenditures, the change in medical expenditures and change in years of productive life lost in longer term, the effect on net income of health taxes was positive for various socio-economic groups, but mainly low-income groups, in all the countries included in the study (World Bank, 2019). After the introduction of the SSBs tax in South Africa, low-income households reduced the consumption of taxed beverages more than their richer counterparts (Hofman et al., 2021). In the medium to long run, this means that health taxes are progressive because the health and economic benefits for low-income populations exceed the ones for high-income populations (World Health Organization, 2023d.; World Bank, 2020).

To ensure the positive effect on low-income groups, the tax design should not encourage consumers to switch to cheaper, equally unhealthy alternatives. For example, both manufactured cigarettes and loose tobacco should be taxed at equal levels. Combining the tax policy with other policy measures focused on the consumption of health-harming products, such as awareness-raising, health warnings or front of pack labelling, sales regulation, or free cessation provision could support the response of consumers, especially those in low-income groups for which accessing information and services may be otherwise more difficult. Making healthier alternatives available could also enhance the impact of health taxes on low-income groups. This could include making safe tap drinking water accessible as an alternative to SSBs and ensuring that healthy beverages are available, particularly at schools and other places frequented by children and youth. Relative affordability of healthy options can be supported by excluding un-sweetened beverages from the tax. The net benefit for low-income groups is achieved through reduced NCDs prevalence and linked medical costs and through better capacity to work. Encouraging and strengthening preventive healthcare could further augment this effect of health taxes as well as using the revenue for social protection or programmes supporting well-being. For example, in France, 50 percent of the tax revenue collected from SSBs is earmarked to support the social security system (Le Bodo et al., 2019). In Paraguay, 40 percent of revenues from tobacco excise tax are directed to the Ministry of Health for prevention and treatment of NCDs and 18 percent to the National Development Sports Fund (World Health Organization, 2021b) (see Chapter 6 on Practical Issues in Determining How Revenues will be Used).

b. Gender impact

One of the arguments against health taxes may be the fear that increased health taxes could burden the family budget, which can also be particularly bad for women as they often have less control over household finance and that they may not benefit from the tax as much as men. Tobacco, alcoholic beverages and SSBs are more often consumed by men than women. However, low taxation of these products goes against the principle of gender-equality for two reasons, described in detail in this section. First, women experience the burden of NCDs and their risk factors disproportionately (compared to

men), and second, women potentially benefit relatively more from the positive impact of reduced consumption on household budgets. Health taxes increase the price of harmful products to better reflect the true cost of the consumption and to reduce consumption, and therefore eliminate some of the gender-unequal impacts.

NCDs are responsible for 76 percent of deaths among women. They kill almost 20 million women every year, making them the number one cause of death. Over 1.9 million of these deaths can be attributed to tobacco, alcohol or SSBs consumption.¹³⁵ Tobacco use is one of the main preventable risk factors of premature death and disease in adult women (World Health Organization, 2010). Women smokers have higher risk of cardiovascular disease than men smokers, an increased risk of breast and cervical cancer, infertility, early menopause, and osteoporosis (Huxley & Woodward, 2011; Gaudet et al., 2013; Pierce et al. 2014; Roura et al., 2014; Bolumar et al., 1996; Caserta et al., 2013; Hayatbakhsh et al., 2012; Cornuz et al., 1999; Kanis et al., 2005). Lung, tracheal and bronchus cancer kills annually around 670,000 women globally. Around 37 percent of these deaths is attributed to smoking.¹³⁶

Women are more often victims of second-hand smoke. Almost 665,000 women die annually due to secondhand smoke exposure, which is around 36 thousand more than men.¹³⁷ Women around the world frequently do not have the power to negotiate smoke-free environments, including at home (NCD Alliance, 2010). Reducing exposure of women to secondhand smoke can have significant health benefits, for example, lower risk of breast cancer (Gram et al., 2021).

Alcohol consumption per capita globally has increased in the last 20 years around the world, especially in low-income countries (World Bank, 2024). Women are more likely to experience physical illnesses caused by alcohol faster than men even with lower levels of alcohol consumed. This includes higher risk of liver disease, more significant brain damage and cognitive decline and heart muscle damage that can occur for women with lower levels of consumption or within a shorter period of consumption. Alcohol consumption has been linked to increased risk of mouth, throat, oesophagus, liver, and colon cancers; however, for women also with increased risk of breast cancer even at low level of consumption (Erol & Karpyak, 2015; Roerecke et al., 2019; Rehm et al., 2020). Heavy alcohol use in women has been linked to issues with reproductive health (Nolen-Hoeksema, 2004). Gender-biased perception that women drink less can reduce the probability of early detection and treatment of alcohol-related issues for women (NCD Alliance, 2010). In addition, more than 51 thousand women die annually due to intimate partner violence, a risk which is increased by the perpetrator and victim's prior alcohol consumption, both in frequency and severity.¹³⁸ Alcohol consumption in women was linked to higher risk of experiencing physical attack and sexual assaults (Nolen-Hoeksema, 2004). Reducing alcohol use through taxes could prevent many girls and women from experiencing gender-based violence and decrease femicide rates (World Health Organization, 2006; Pan American Health Organization, 2015; Durrance et al., 2011).

The number of women and girls consuming tobacco and alcohol in some low- and middle-income countries grows due to the changing gender norms, aggressive industry marketing, and population growth and is likely to continue growing without corresponding action taken to prevent consumption the harmful products (Feeny et al., 2021).

¹³⁵ Institute for Health Metrics and Evaluation. (2024). Global Burden of Disease Study. Retrieved from <https://vizhub.healthdata.org/gbd-results/>

¹³⁶ Institute for Health Metrics and Evaluation. (2024). Global Burden of Disease Study. Retrieved from <https://vizhub.healthdata.org/gbd-results/>

¹³⁷ Institute for Health Metrics and Evaluation. (2024). Global Burden of Disease Study. Retrieved from <https://vizhub.healthdata.org/gbd-results/>

¹³⁸ UNODC and UN Women. (2024). Femicides in 2023: Global Estimates of Intimate Partner/Family Member Femicides. United Nations publication.

SSBs are becoming more and more affordable, which may support an increase in consumption, including among women (Blecher et al., 2017). Impact of sugar and SSBs consumption may be also different for women and men. Women have twice the probability of being overweight or obese just based on their biological aspects, twice the risk of dying on obesity-related causes and experience higher risk of mental and physical health issues linked to obesity than men (Kapoor et al., 2021).

Even though women tend to consume less of the harmful products, such consumption can have intergenerational consequences, underscoring the importance of taking gender differences into account. Women with NCDs (especially if untreated) have a considerably higher risk of pregnancy complications. This may affect their health as well as the health of the child. For example, hypertension and linked conditions, such as pre-eclampsia and gestational hypertension, are responsible for 10 to 15 percent of maternal deaths in low-and middle-income countries (Schierhout, 2021). Offspring of mothers with uncontrolled NCDs have higher chances of experiencing poor health later in life, including hypertension, diabetes, chronic renal impairment, heart disease and other conditions (Schierhout, 2021). Smoking during pregnancy, as well as exposure to secondhand smoke, increases the probability of pregnancy complications, preterm delivery and low birth weight, which is associated with increased risk of the baby dying, having long-term health complications or disabilities (U.S. Department of Health and Human Services, 2010a; U.S. Department of Health and Human Services, 2010b). Consumption of alcohol during pregnancy has been shown to increase the chances of miscarriage, stillbirth, and a long list of lifelong disabilities in the child, such as abnormal face and body features, heart, kidney and bone health issues, low body weight, lower height than average, poor coordination, hyperactivity and problems with concentration and memory, learning and intellectual disabilities, worse school outcomes and lower IQ, and developmental delays (Center for Disease Control and Prevention, 2023). Children of women who consumed alcohol during breastfeeding have been shown to have lower educational achievements (Gibson & Porter, 2012).

Babies of mothers who are exposed to smoke or consume alcohol during pregnancy and breastfeeding or babies living in households where tobacco and alcohol are consumed have considerably higher risk of dying from the sudden infant death syndrome (SIDS)¹³⁹ early in their lives (Eunice Kennedy Shriver National Institute of Child Health and Human Development, n.d.).

On top of that, the consumption of sugars, especially from SSBs and juices, and including consumption of diet sodas, during pregnancy and in early breastfeeding has been shown to change the infant's brain structure, worsen the infant's neurodevelopmental outcomes at the age of two and educational results later in life (Berger et al., 2021; Berger et al., 2020; Cohen et al., 2018). Increased consumption of sugar during pregnancy contributes to maternal obesity and metabolic health complications in the child, such as obesity, insulin-resistance, or increased blood pressure. Consumption of SSBs, and beverages with artificial sweeteners, was linked to an increased risk of preterm delivery (Englund-Ögge et al., 2012). Furthermore, high sugar consumption during the breastfeeding period contributes to higher risk of obesity in the child later in life (Ferreira-Junior & Cavalcante, 2023).

Expenditures on health-harming products tend to absorb considerable portions of family budgets; only for tobacco the percentage varies from close to 1 percent in countries such as Mexico and Hong Kong to nearly 10 percent in Zimbabwe and China (Selvanathan and Selvanathan, 2005; Wang et al., 2006; John, 2008). Family budgets spent on harmful consumption could be better used, for example on education, food, clothing, or housing, including clean fuels, which may impact women and children more than men. Especially in developing countries where household budgets are often very limited, the opportunity costs of crowded-out household expenditures are higher, especially for women and children, not to mention the related costs of healthcare linked to harmful consumption. Tobacco

¹³⁹ Sudden Infant Death Syndrome is an unexplained sudden death of a seemingly healthy infant, most frequently under 1 year of age. The cause of SIDS is not known and is probably linked to the development of the brain. However, certain factors have been linked to increased risk of SIDS, such as low birth weight, smoking or alcohol consumption of the mother during pregnancy, exposure of the child to second-hand smoke, or consumption of alcohol of parents when bedsharing.

consumption within household has been shown to have negative impact on nutrition intake. Health-harming products consumption therefore seems to have a negative gender effect (John, 2008). While in OECD countries, on average, girls tend to attain higher levels of education and lifetime income (OECD, 2023b), in settings with lower incomes this is not true. There is a correlation between socio-economic status and gender attitudes in families and the educational gap favouring boys in these settings. Redirecting resources from tobacco, alcohol and sugary drink consumption could help to close this gap and to contribute to gender equality by supporting female human capital development (Hervé et al., 2022).

Moreover, decreasing NCD prevalence could allow women and girls to advance their educational and income-generating opportunities, as women and girls are often those taking care of a sick family member (NCD Alliance, 2011). When women remain at home caring for family members or the household, it brings opportunity costs in form of foregone earnings. If then the man, who brings the only source of income, becomes sick due to harmful consumption, the opportunity costs relatively increase further. Women experience barriers in accessing healthcare, including prevention, detection, and treatments. The barriers are socio-cultural, such as household responsibilities, higher likelihood of illiteracy and reduced access to health information, economic and geographic barriers, as well as barriers in the health system as such where specific needs of women may not be respected (NCD Alliance, 2010).

Finally, women are exposed to health-harming substances, such as fertilizers and pesticides, and harsh conditions in tobacco and sugarcane farming. About 7 in 10 tobacco farm workers are women (World Health Organization EMRO, 2017). Tobacco farming women, due to their lower body weight, are more likely to experience several serious health issues, including miscarriage for pregnant women, and are at higher risk of poisoning by agrochemicals used or nicotine (World Health Organization, 2023). Evidence also suggests that women in households involved in farming of commercial crops, such as tobacco and sugarcane, are more likely to be disempowered, very rarely own land and have limited access to financial services (Mahofa et al., 2022; Hu & Lee, 2016).

On the other hand, women tend to be more responsive to price changes and benefit from health taxes both directly (stronger decrease in consumption) and indirectly (less second-hand smoke, more available family budgets, switching to other income-generating activity, etc.) (Ngo et al., 2019; Awawda et al., 2021; Nelson, 2014). It is important to consider impacts of consumption of health-harming products on women and potential effects of health taxes when considering the tax change, as well as other policies in place.

Assessing gender impacts of tax measures would allow to estimate potential effects of tax changes on women. Gender empowerment policies should be in place to support access of women to the labor market, financial services, education, and financial and health literacy. Programs supporting cessation should include gender aspects to be able to target and support both women and men according to their often-different needs, which can increase the chances of quitting (Minian et al., 2016). Women with nicotine addiction had a 31 percent lower success rate in quitting cigarette than men and are more likely to experience cravings for cigarettes when in stress (Alasmari et al., 2015; Lerman et al., 2014). Health taxes could play an important role in women quitting given their price sensitivity. Alcohol treatment programmes often are not adapted to gender differences and reflect mainly the needs of men (NCD Alliance, 2010). Similarly, information campaigns should provide gender specific information, as women experience different effect of harmful consumption and the differences in impacts are less known to the public. Women-specific health education and quitting programmes are rare, especially in low- and middle- income countries (World Health Organization, 2004). The additional revenue stemming from health taxes could be used to enhance access of women to healthcare or poverty reduction and prevention, which could increase public support (World Health Organization, 2016).

HIV/AIDS and health taxes

In low and lower middle-income countries, in which 65 percent of all deaths caused by HIV/AIDS occur, the majority of victims are women.¹⁴⁰ Tobacco and alcohol consumption worsen these numbers. Alcohol consumption heightens the chances of risky behaviour that may lead to HIV/AIDS infection and increases the risk of gender-based violence which then makes women vulnerable to sexually transmitted diseases, including HIV/AIDS (UNAIDS, 2023, December 15). People with HIV are more likely to use tobacco and have higher rates of alcohol disorders (American Cancer Society). On top of that, compared with the general population, individuals living with HIV are at considerably higher risk of being diagnosed with AIDS-defining cancers: 500 times higher risk of Kaposi sarcoma, 12 times of non-Hodgkin lymphoma, and 3 times higher risk of cervical cancer for women, as well as with non-AIDS-defining cancers, including lung cancer, and have worse outcomes (Hernández-Ramírez, 2017). Alcohol contributes to comorbidities in HIV positive individuals. Alcohol consumption weakens the immune system that is already damaged by the virus in HIV-positive persons which reduces the ability of the body to fight common illnesses, such as flu, and other infections, and weakens the body in the fight against severe diseases, including cancer. Alcohol consumption increases the risk of high cholesterol which is already elevated for HIV-positive persons and may speed up liver damage for HIV positive people who also have hepatitis. The brain of HIV positive individuals seems to be more affected by alcohol consumption (Alcohol Rehab Guide, 2023).

Smoking too can worsen outcomes for HIV positive individuals through multiple channels. Preventing smoking could avoid 24 percent of non-AIDS-defining cancers and 37 percent of myocardial infarctions in HIV positive persons as HIV positive smokers have 82 percent higher risk of heart attack than HIV positive non-smokers (Althoff et al., 2019). Smokers with HIV have six years shorter life expectancy than their non-smoking peers (Aidsmap, 2021). Smoking doubles the probability of death for people on HIV treatment (Aidsmap, 2021).¹⁴¹ Reducing harmful consumption of tobacco and alcohol can improve and save lives of people with HIV, especially women.

6. Other potential effects and concerns

a. Illicit trade and cross-border shopping

Governments are frequently concerned that tax increases would fuel illicit trade in the country of the given product. Illicit trade as an argument against tax increases has been commonly used by the tobacco and alcohol industry. Globally, among excisable goods, around 50 percent of seized products are cigarettes, 31 percent alcoholic beverages, 16 other tobacco products and around 3 percent cigars and e-cigarettes (World Customs Organization, 2023). However, evidence shows that in reality there is a very weak causal relationship and that the impact of taxes and prices on the share of the illicit cigarette market in a country is relatively small (Petit & Nagy, 2016). Illicit cigarette markets are more common in countries with low cigarette taxes and prices, and less common in countries with high cigarette taxes and prices (National Research Council and Institute of Medicine, 2015). Other factors, such as administration capacity, strength of the regulatory framework, including penalties, the social acceptance of illicit trade, and the availability of informal distribution networks play a more important role in determining the scope of illicit trade and smuggling of tobacco products (Chaloupka et al., 2015). The absence of significant connections between the price ratios of illegal to legal cigarettes and the decision to choose illegal cigarettes indicates that smokers are not likely to switch to illegal cigarettes when the prices of legal ones go up (Curti et al., 2015).

¹⁴⁰ Institute for Health Metrics and Evaluation. (2024). Global Burden of Disease Study. Retrieved from <https://vizhub.healthdata.org/gbd-results/>

¹⁴¹ Cancers of the lung, liver, kidney, anus, head and neck, and skin, as well as Hodgkin's lymphoma.

Many of these concerns have been fuelled by the tobacco industry. This has included funding research to support their claim and to exaggerate the real scope of the illicit market size.¹⁴² It has been documented that the tobacco industry's claims about the illicit market size have often been misrepresentations (John & Ross, 2018) and the studies provided by the industry had methodological limitations (Gallagher et al., 2019). In addition, in some cases, the tobacco industry uses the tax as an excuse to increase the prices beyond the tax hike, as happened for example in the UK, suggesting, that the illicit trade argument is false (Hiscock et al., 2019). Globally, the tax share in tobacco retail price continues growing and consumption falling, yet illicit trade does not increase (Paraje et al., 2023).

Moreover, when prices of legally sold cigarettes increase, prices on the illicit market tend to follow the price increase as well, which both discards the theory of illicit trade grown with tax increase and would discourage demand (Joosens & Raw, 2012; Goochild et al., 2022; Paraje et al., 2022; Carvalho Figueiredo et al., 2021). Maintaining low taxes to keep the prices of legal cigarettes low to prevent people from switching to illicit market does not guarantee that the prices will really remain low. In Brazil, the tobacco industry increased prices of the legal cigarettes despite taxation below inflation to increase its margins (see below) (Iglesias, 2016). In the UK on the other hand, inflation-adjusted prices of cigarettes have continued growing since 2001 thanks to regular tax increases while the share of illicit trade in the cigarettes market has been falling considerably during the same period (TobaccoAtlas.org, 2023).

Country example: Brazil

A tobacco tax reform in Brazil coupled with a track and trace system is followed by a reduction in smoking prevalence and an increase in tax revenue. In 1999, Brazil decreased the excise tax share in the cigarettes' retail price (to 25 percent from 30 percent) in an attempt to fight illicit trade and switched from a single-rate ad valorem tax to a multi-tier specific tax. Adjustments to the specific rate in the following years were always below inflation in order to maintain low real prices of legal cigarettes and to make them competitive with the illicit, cheaper ones. Meanwhile, the tobacco industry in Brazil increased prices in an attempt to expand profit margins and tried to obstruct cooperation efforts between Brazil and Paraguay (Iglesias, 2016). In 2011, Brazil implemented a reform which introduced a system combining ad valorem and specific tax options and included minimum prices and minimum regular adjustments based on the expected inflation (Iglesias, 2016). The reform, together with the widening of smoke-free environments, advertising bans following the ratification of the WHO FCTC in 2005, and the implementation of the track and trace system in 2007, led to a decline in smoking prevalence from 15.6 percent in 2006 to 10.8 percent in 2014 and an increase in cigarette excise tax revenue by 20 percent (in real terms) from 4.2 billion reals in 2011 to 5.3 billion reals in 2014 (Szklo et al., 2022; Iglesias, 2016; World Health Organization 2017). These tax administration/customs interventions have also successfully contributed to reductions in illicit trade of tobacco over the long term.¹⁴³

The tobacco industry has been shown to be directly or indirectly (by weak due diligence) part of illicit trade in multiple occasions and in many regions, including the EU, Asia, Eastern Europe, Latin America, the U.S., and the UK (Gilmore et al., 2018; Sweeting et al., 2009; European anti-fraud office, 2023; Reuter et al., 2015). Even according to industry data, around 70 percent of illicitly traded cigarettes are legally produced cigarettes by the industry itself (Philip Morris International, 2022). Illicit

¹⁴² Stoklosa M, Ross H. *Tob Control*. 2014; 23(e1), e30–e34; Chen J, McGhee SM, Townsend J, et al *Tobacco Control* 2015;24:e161-e167; Maldonado N, Llorente BA, Iglesias RM, Escobar D. *Tob Control*. 2020;29:s260-s266; John RM, Ross H. *Tobacco Control* 2017.

¹⁴³ Divino, J. A., Ehrl, P., Candido, O., Valadão, M., & Rodriguez-Iglesias, G. (2022). Tobacco Tax Reform and Demand-Switching Effects Between the Licit and Illicit Markets in Brazil [Working Paper]. UCB. <https://tobacconomics.org/research/tobacco-tax-reform-and-demand-switching-effects-between-the-licit-and-illicit-markets-in-brazil-working-paper-series/>

trade is used by tobacco companies as a strategy to penetrate a new market, as a way to get and keep people addicted through lower prices on the illicit market. The industry also uses the pretext of illicit trade to maintain relations with governments and agencies and to picture itself as part of the fight against illicit trade tobacco (Exposetobacco.org, 2021).

Country case: Canada

Between 1980s and 1991, Canada has significantly increased inflation-adjusted prices of cigarettes through tax hikes which led to successful reduction of consumption by a third. However, the tobacco industry found a way to undermine the governmental efforts. Tobacco companies exported their cigarettes to the United States bearing the “for export only” stamp (and therefore untaxed) and then engaged indigenous groups living near borders to smuggle the cigarettes back into the Canadian market for illicit trade. Around 70-80 percent of contraband smuggled into Canada in this period originated in Canada (Sweeting et al., 2009). Their strategy and lobbying the government bore fruits as the Canadian government lowered in 1993 cigarette taxes to curb the illicit market. In 2004 the scheme was discovered and in 2008 the two concerned tobacco companies agreed to pay a fine of CAD 1.15 billion (around USD 850 million) in a settlement agreement admitting their involvement. It was estimated that before the scheme was discovered, between 30 to 40 billion cigarettes was smuggled into Canada and that the lower prices caused by tax cut led to tens of billions more cigarettes being consumed. It is assumed that 1 million cigarettes cause 1 death. Therefore, the cigarettes consumed in excess as a result of this tobacco strategy will eventually lead to tens of thousands of deaths in the country (Jha et al., 2020; The Government of Canada, 2008; World Bank, 2019b).

Tax and price differences are some of the incentives behind illicit trade with alcoholic beverages. However, the illicit market is also strongly influenced by other factors, such as the legal framework determining penalties, sales regulation, taxation, control, and monitoring of inputs for the production of illegal alcoholic beverages, cross-country cooperation, profitability of illegal activities due to price differences between legal and illegal alcohol products, the ability to infiltrate legitimate markets with illicit goods, the risk of law enforcement apprehending illicit traders and other factors, including public acceptance of illicit alcohol and knowledge about potential risks (OECD, 2022, Mansour, Petit, & Sawadogo, 2023).

There is no evidence suggesting that taxes would lead to increase the illicit trade of SSBs (White et al., 2023). This may be given by the product character, mainly due to a low price to volume ratio which makes illicit trade less attractive (Paraje et al., 2023).

Health taxes may motivate customers to purchase products in neighbouring non-tax locations (and affect therefore retailers in the taxed region) for local taxes but the increase in cross-border shopping does not erase the tax-induced decrease in demand of the taxed SSBs) and fades with distance between the taxing and non-taxing region (Andreyeva et al., 2022; Falbe et al., 2016; Cawley et al., 2019; Bygvrå, 2009).

Tobacco, alcohol and SSBs taxes are one of the most efficient measures to reduce the consumption of harmful products and deaths from NCDs, but they are not a stand-alone policy. Strengthening the administration, implementing tracking measures, regulating, and controlling the supply of raw materials, enhancing the regulatory framework, including harsher penalties and more thorough control processes curb illicit trade (as illicit trade in any other product) (Paraje et al., 2023). The WHO FCTC Protocol to Eliminate Illicit Trade in Tobacco Products offers a set of measures to fight tobacco illicit trade. It includes for example measures related to the storage of tobacco products in free trade zones and duty-free shops, as these special regimes often facilitate illicit trade. A number of countries, even countries with common level of governance capacity, managed to curb illicit tobacco trade, such as Botswana, above-mentioned Brazil, Philippines and Sierra Leone (Paraje et al., 2023; Gallien & Occhiali, 2021).

In Montenegro, for example, the government prohibited since 2022 the storage of tobacco product in one of its free-trade zones and increased surveillance in another leading to a closure of a cigarettes factory in one of the special zones and seizures of 160,000 illicit cigarettes packs worth tens of millions of euros. In 2022, tobacco excise tax was raised twice (and once again in 2023) and excise tax revenues rose by 52 percent from 2021 to 2022. The illicit trade, however, shrunk at the same time disproving the notion that excise taxes cause illicit trade (Tobacconomics, 2023).

Fighting illicit trade requires involvement and cooperation of all relevant stakeholders on various governance levels, including regional and international cooperation (World Bank, January 2019, World Health Organization, 2013). Cooperation and harmonization are also important in addressing cross-border shopping (Andreyeva et al., 2022).

Industry interference in all spheres of the decision-making and enforcing processes should be prevented, including the use of misleading studies about taxation and illicit trade. Prior to implementing any tax increase, a thorough market analysis should be conducted involving independent bodies, for example universities or civil society, which includes assessment of the scope of current levels of illicit trade and potential loopholes in the legal framework and regulations. The tax structure should correspond to the country context and market characteristics. The effectiveness of addressing illicit tobacco markets has been demonstrated through the experiences of numerous countries, highlighting the importance of adopting a comprehensive approach (Chaloupka et al., 2015). The EU has effectively implemented a regional tax harmonization plan that has minimized variations in taxes and prices across its 28 member countries (Chaloupka et al., 2015).

Supporting health taxes by other measures, such as public information campaigns about the health impacts of consumption of tobacco, alcohol and SSBs, and offering smoking and alcohol quitting services can both amplify the effect of increase prices and prevent people from switching to illicit products. Providing information about the serious health risks linked to consuming illicit alcohol can also play an important role. In addition, governments should ensure that healthier alternatives are accessible to the public, mainly clean drinking water, including by tax policies as well as by supporting reformulation and innovation (World Health Organization, n.d.).

Measures to tackle illicit trade have proven to be effective, not difficult to implement, not leading to job losses in the industry, not expensive and generally use already existing technologies. Implementation of track and trace system led to significant increases in tax revenues shortly after the implementation and reductions in illicit trade (FCTC, 2019). In some countries, such implementation led to closures of illicit production sites and in contrary increases in registration legitimate manufacturers or importers. Finally, additional revenues from collected taxes can be partly allocated to support measures to fight illicit trade. In Panama, for example, a close cooperation of concerned actors was established. The country allocates 20 percent of tobacco excise tax revenues to the National Oncological Institute, 20 percent to the Ministry of Health for activities focused on tobacco use prevention and on treating tobacco-caused diseases, but also 10 percent to National Customs Authority to fight against illicit trade (Pan American Health Organization, 2015; UN Tobacco Control, 2009). It has been shown that the tobacco industry exaggerated the problem of illicit trade in the country to discourage any tobacco control legislation. The country has advanced in implementing the WHO FCTC measures and is actively engaged in shaping regional and global cooperation in tackling illicit tobacco trade. The country has one of the lowest smoking rates in the world (Pan American Health Organization, 2015).

b. Inflationary pressures

Governments may be concerned that increasing taxes with the aim of increasing prices of harmful products may add inflationary pressures to the economy. Health taxes increase the price of goods that form part of the basket used to determine the consumer price index (CPI). Health taxes could also force

business owners to adjust their business models (so-called implementation costs) which could lead to higher operating costs and thus further price increases (OECD, 2023). However, a government's overall fiscal stance (i.e., expansionary, or contractionary fiscal policy) is more important for inflation than increases in indirect taxes (World Bank, 2023b).

Although tobacco products, alcoholic and non-alcoholic beverages are often part of the consumer price index (CPI) basket (OECD, 2023), CPI composition is different in every country. Health taxes are applied only on a limited number of products which usually do not represent a significant share of the CPI and the pressures on inflation, therefore, are limited. For example, on average, only between 1-3 percent of all household expenditures were spent on tobacco products in the U.S, China and Russia (IARC, 2011). In addition, the tax increase/new tax may not be fully reflected in retail prices, due to decisions that impact on pass-through, as described above. Tobacco taxes have been found to have minimal effect on general price inflation, if any at all (IARC, 2011). In addition, tax increases may have an inflationary supply-side effect (the increase in prices), but also a deflationary demand-side effects (higher prices lead to lower demand minimizing the impact on inflation) (Pitchford & Turnovsky, 1976).

Overall fiscal discipline and macroeconomic predictability is more important for inflation development than an increase/introduction of a health tax. Continuous and extensive fiscal deficits lead to inflation. Additional revenues from health taxes in contrary can reduce such deficits, the need of borrowing, and enhance fiscal predictability. Moreover, central banks do not usually react to initial inflation impulses stemming from changes in indirect taxes, including excise taxes because these one-off increases have limited influence on core inflation (World Bank, 2023b).

Country experience shows impacts of health taxes are generally small and narrowly focused, without an impact on other consumer prices (World Bank, 2023b). In Mexico, for example, after the introduction of an excise tax on high-sugar food and drinks in 2014, inflation concerning prices of the tax products was observed in a short-term, but there was no effect after two years after the introduction of the measure (Mendoza-Velázquez & Aguirre Sedeño, 2019). A World Bank simulations study in nine countries estimated that a 10 percent increase in an excise tax would lead to an annual 0.06 – 0.36 percent increase in inflation (World Bank, 2023b).

Health taxes are linked only to a limited number of products, in case of tobacco also consumed by a narrow group of consumers, with a limited weight in the CPI basket. Clear communication explaining that the tax changes impact only selected products and only households that purchase these products can help to tame any potential inflation expectations and therefore prevent any stronger impact on inflation. Tax-induced increases in prices of harmful products can be compensated by tax measures aiming at improving accessibility of healthy food through price decrease, for example a reduced VAT tax rate on water, fruit, and vegetable (World Bank, 2023b).

Moreover, supporting the decrease in consumption of harmful products by other policy measures, such as public campaigns informing the population about the harmful effect of tobacco, alcohol and SSBs consumption, may amplify the demand-side effect of the tax change and therefore mitigate the impact on inflation (World Health Organization, 2019).

In countries where consumption of the taxed products represents a considerable part of the CPI, these products can be excluded from the CPI to prevent a cascading effect of the CPI increase on the economy as for example wages or pensions valorization may be derived from CPI increases (IARC, 2011; World Bank, 2023b). Alternatively, especially in countries with inflation targeting regimes, CPI changes can be calculated without the one-time effects of indirect tax changes to capture underlying, core inflation.

c. Environmental impacts

Health taxes may have a positive impact on the environment through reduced pollution of air, soil and water, reduced water use in farming and production processes. They can help to reduce waste and contribute to cleaner environments and communities. Thanks to that governments may save needed resources for addressing pollution, environmental damage, and impact of climate change.

Both tobacco and sugar cane farming can lead to a degradation of soil quality, water and freshwater ecosystem pollution, biodiversity loss and deforestation (Lencucha et al., 2022; World Wildlife Fund, 2015; El Chami, Daccache, & El Moujabber, 2020). Tobacco farming has destructive impacts on ecosystems due to wood use and desertification, even more than livestock. Approximately 200,000 hectares of land are newly dedicated to tobacco agriculture and curing each year (World Health Organization, 2023a). Sugar cane farming has been linked to deforestation of some of the most valuable and fragile ecosystems, such as Brazil's rain forests. Growing sugarcane will push farmers to increase the cultivated areas by almost 50 percent by 2050 (World Wildlife Fund, 2015). In addition, there is a growing land-use competition between sugarcane and food crops that is threatening world food production (El Chami, Daccache, & El Moujabber, 2020).

Reducing the consumption of harmful products, like tobacco, alcohol and sweet beverages, and the waste derived from such consumption, would contribute to slowing down deforestation and contribute to preservation of terrestrial ecosystems.

Moreover, harmful consumption exacerbates climate change. Processes in manufacturing and distribution of tobacco products generate a substantial amount of greenhouse gas emissions, estimated to be around 0.2 percent of the global total in 2014, or equal to 3 million transatlantic flights (World Health Organization, 2023d; Zafeiridou et al., 2018). Additionally, forest loss and damage cause around 10 percent of global warming, and around 5 percent of global deforestation is attributed to tobacco farming (World Health Organization 2023c). A bottle of wine (0.75 liters) creates between 0.15 to 3.51 kg CO₂ in its lifecycle (Pinto da Silva & Esteves da Silva, 2022). Almost 35 billion bottles of wine were produced in 2022 around the world (own calculations based on International Organisation of Vine and Wine, 2022). It is estimated that in 2021, beer, ciders, wine, spirits, and ready-to-drink alcoholic beverages were responsible for 371 million tons of greenhouse gas emissions (Rocha et al., 2023). Per liter of soft drink, around 0.17 kg of CO₂ is produced, with the majority coming through PET bottles production, sweeteners, and distribution (Beverage Industry Environmental Roundtable, 2012). Similarly, livestock farming for meat contributes between 12 and 18 percent to the total global greenhouse emissions (Gomez-Zavaglia et al., 2020; Allen & Hof, 2019). It is estimated that extreme weather events caused by climate change costs the global economy US\$143 billion per year in the last two decades, with the majority coming from loss of almost 70,000 human lives (Newman & Noy, 2023) and that \$196 trillion in investments is needed to bring the global carbon emissions to zero by 2050 (Gongloff, 2023).

Harmful consumption also drains and poisons water resources, and consequently the food we eat. Approximately 5.3 liters of water is needed to produce a typical single-use soda bottle (Olson-Sawyer & Madel, 2020). Almost 35 liters of water are needed to produce a teaspoon of refined sugar (World Wildlife Fund, 2015). One cigarette consumes about 3.7 litres of water from production to waste which adds up to 22 billion cubic meters of water depleted for tobacco production around the world (Zafeiridou, Hopkinson, & Voulvoulis, 2018). In addition, a significant volume of tobacco product waste, mainly cigarette butts, end up in water through rains or directly. One discarded cigarette pollutes around 1,000 liters of water, which adds up to a further 100 trillion litres of water polluted every year with cigarette waste globally (World Health Organization, 2023d). Water used for one kilogram of tobacco produced, consumed, and disposed of, could cover the annual needs of one person (Armstrong & Johnson, 2018). Addressing water scarcity and related economic burden may require substantial expenditures from governments around the world. It is estimated that for some regions, such as the Middle East and the Sahel in Africa, costs related to water scarcity can be up to 6 percent of their GDP (World Bank, 2016). Health taxes can reduce the water footprint from production of these harmful products through significant decreases in their consumption.

At least 14 million tons of plastic pollute oceans annually (IUCN, 2021). Plastic waste is frequently ingested by marine fauna or threatens it with entanglement and creates risks to food safety and quality and human health. Reducing consumption of sodas could reduce the production of single-use bottles and reduce ocean pollution. In addition, tobacco and sugarcane production requires the use of fertilizers and other chemicals. These often wash into waters and pollute them (World Wildlife Fund, 2015). Cigarette butts can take a very long time to decompose. Microplastics from around 4.5 trillion discarded cigarettes annually enter the environment, including waters (World Health Organization, 2022; Zafeiridou, Hopkinson, & Voulvoulis, 2018). Health taxes would reduce consumption of these products and create an opportunity to reduce water pollution. The reduction of plastic waste could be supported by making safe tap drinking water accessible, which would encourage people to use tap water and not to switch to bottled water or other bottled beverages as alternatives to the taxed SSBs.

Finally, by reducing harmful consumption through health taxes, people living in cities could enjoy improved living conditions, including air quality, and less municipal and other waste. Health taxes can also help to create safe and inclusive public spaces, particularly for women and children, older persons, and persons with disabilities, through preventing alcohol-based violence and second-hand smoke exposure. This can be amplified by policies aiming at tobacco- and alcohol-free public places.

7. Conclusions

Implementing health taxes can reduce consumption of taxed harmful products and generate revenue, but can also lead to other, secondary impacts on the economy and certain population groups. To understand potential secondary impacts is important for communication, to gain public support as some of the potential secondary impacts might be used as arguments against the reform and in the public dialogue the secondary impacts may be weighed against the primary goals of health taxes. However, based on the existing experience, despite frequently sown fears, health taxes brought positive outcomes to the countries that implemented them. When assessing the impacts of health taxes, the whole picture needs to be taken into account and based on that possible mitigation policies designed. When considering effects on employment, it is not only the number of people that could possibly end up without jobs that plays a role, but also the quality of the jobs – profitability, security, working environment and safety, available policies that may support jobs switching and social security net ensuring that no one falls into poverty. The analysis of potential impacts should also include social equity, gender, and environmental lens. In the public discussion, linking and communicating clearly the health and economic benefits of health taxes as well as showing awareness and readiness to address any spill-over effects can be the factor that enables implementation and sustainability of the tax change.

Appendix: Assessing potential secondary impacts of health taxes

This Appendix offers an overview of potential aspects to consider; however, in most cases the analysis cannot encompass all the listed parameters due to resources limitations (financial, time, capacity, data, etc.). The prioritization of the aspects to be analysed will depend on the country context as described next to each category.

General considerations: General considerations provide basic information about the taxed market structure and its potential response to tax implementation or increase and should be subject of thorough analysis in the decision-making process.

Market characteristics:

- Competitive market/oligopolist/monopolistic/state-owned
- Price elasticities (by socio-economic group) and cross price elasticities
- Trading down (price differences between cheap and expensive products, price variety)

Tax system:

- Current and planned tax structure
- Pass-through rate (experience from past or similar settings)

Health aspects:

- Burden of NCDs and related healthcare costs
- Health-harming products affordability (trend over time)
- Accessibility of healthier options and tax policies on healthier options
- Other policies linked to health-harming products, such as cessation programmes, public information campaigns

Other:

- Social and economic policies: unemployment and retraining policies, social security networks, gender policies
- International legal environment

Considerations by sectors

a) Agriculture: Assessment of the effect on agriculture linked to taxed products will be important for countries where farming of the raw inputs for the taxed product occurs, especially if the contribution to employment, GDP or export is significant. This can be also particularly relevant when farmers have limited access to other income-generating activities. In countries with significant levels of farming linked to the taxed products, assessing impacts and design mitigation strategies may become a priority in the policy designing, as well as in gaining public support.

- Presence of relevant farming
- Number of people employed
- Contribution to GDP
- Tax revenue
- Conditions in relevant farming
- Official employment: men vs women
- Wages (men vs women), profitability
- Potential to export produced crops, added value or only raw materials for export
- Negotiation position of farmers
- Child labour present, forced labour or human trafficking present
- Protective equipment available
- Health risks linked to relevant farming
- Availability of other farming and livelihood options (do farmers see their living as profitable or are staying in farming of the given crops just because of lack of other alternatives)
- Policies supporting change to other crops or livelihoods

b) Industry: Impact will vary if manufacturing industry is present in the country or if taxed products are only distributed. In both cases, there might be impact on the taxed industries, but the impacts, adaptation and mitigation strategies might differ.

- Presence of industry (manufacturing vs distribution)
- Number of people employed and type of employment
- Contribution to GDP
- Tax revenue: income tax, VAT, excise tax, customs, other
- Conditions in the industry
- Official employment

- Profitability
- Wages
- Reformulation opportunities

c) Retail: The impacts on retail depend on the taxed product, its current levels of consumption in different retail outlets (off-trade vs on-trade). This sectoral assessment tends to be relevant in all countries.

- Number of people employed and type of employment
- Contribution to GDP
- Tax revenue: income tax, VAT, excise tax, customs, other
- Conditions in the industry
- Official employment
- Profitability, margins
- Wages
- Availability of not taxed healthier substitutes in retail

d) Households: Health taxes benefit people and households, especially those from low-income groups. However, assessing impacts of health tax changes on households, both from economic and health perspective, may be an important aspect in gaining public support, particularly in settings with large income disparities and inequalities.

- Health and economic burden of harmful consumption of households and effects of the policy
- Elasticity by socioeconomic group
- Existing social policies
- Current crowding out effect of harmful consumption in family budgets and potential effects off health taxes
- Involvement of women in decision-making processes within households which can influence the final impact

e) Gender: Gender aspect of taxation is relevant in all countries; however, it is especially important to adopt gender lens in the decision-making in countries, where women have weak decision-making power in households and can be therefore more impacted both by second-hand smoking as well as spending used for harmful consumption rather than other expenses, such as food, education, and clothing.

- Elasticity of demand among women for harmful products
- Prevalence of harmful consumption in women and linked consequences
- Harmful consumption in pregnancy and breastfeeding, nutrition status of pregnant and breastfeeding women in households with harmful consumption present
- Second-hand smoking prevalence and places of exposure
- Capacity of women to negotiate smokefree households
- HIV/AIDS prevalence among women
- Gender-based violence (especially in pregnancy) and links to harmful consumption
- Education gender gap
- Women empowerment policies in place

f) Illicit trade: Impact of health taxes on illicit trade is a common fear and common argument against taxes. Assessment will be important in countries with high presence of illicit trade of the taxed products and/or weak illicit trade measures in place and enforcement.

- Presence and scope of illicit trade
- Impact of past tax changes on illicit trade

- Margins on taxed products
- Regional differences in illicit trade
- Measures in place to prevent illicit trade and potential gaps, status of the WHO FCTC Protocol on Eliminating Illicit Trade
- Cooperation between relevant actors
- Cross-border harmonization and cooperation

g) Inflation: This aspect is important to consider in context with higher inflation, where other economic parameters are linked to CPI and where the taxed product represents a large share in the CPI basket.

- Current and expected inflation
- Weight of harmful products in CPI
- CPI-related economic factors (e.g., wages)

h) Environment: Relevant in all countries; however, given the rather indirect impacts of health taxes on environments, the environmental impact assessment usually does not represent the key priority in this context. Nevertheless, the environmental benefits could serve as a good argument in the policy discussion and in gaining public support. This can be particularly relevant in countries with high plastic pollution and with high impacts of climate change.

- Air pollution by relevant production
- Water pollution + impact on other industries, such as farming
- Soil degradation and pollution
- Deforestation
- Waste
- Climate change risks
- Accessibility of safe drinking water as alternative to SSBs PET bottles

References

- Aidsmap (2021). About HIV. Smoking and HIV. <https://www.aidsmap.com/about-hiv/smoking-and-hiv>
- Alasmari, F., Al-Rejaie, S. S., AlSharari, S. D., & Sari, Y. (2016). Targeting glutamate homeostasis for potential treatment of nicotine dependence. *Brain research bulletin*, 121, 1–8. <https://doi.org/10.1016/j.brainresbull.2015.11.010>
- Alcohol Rehab Guide. (2023) Alcohol and HIV <https://www.alcoholrehabguide.org/resources/medical-conditions/hiv/>
- Allen, A. M., & Hof, A. R. (2019). Paying the price for the meat we eat. *Environmental Science and Policy*, 97(April), 90–94. <https://doi.org/10.1016/j.envsci.2019.04.010>
- Al Jazeera (2016). How Thailand kept cigarettes cheap despite a tax hike. <https://www.aljazeera.com/news/2016/6/11/how-thailand-kept-cigarettes-cheap-despite-a-tax-hike>
- Althoff, K. N., et al. (2019). Contributions of traditional and HIV-related risk factors on non-AIDS-defining cancer, myocardial infarction, and end-stage liver and renal diseases in adults with HIV in the USA: A collaboration of cohort studies. *The Lancet HIV*, 6, e93-e104.
- Alvarado, M., Unwin, N., Sharp, S. J., Hambleton, I., Murphy, M. M., Samuels, T. A., Suhrcke, M., & Adams, J. (2019). Assessing the impact of the Barbados sugar-sweetened beverage tax on beverage sales: An observational study. *International Journal of Behavioral Nutrition and Physical Activity*, 16(1). <https://doi.org/10.1186/s12966-019-0776-7>
- American Cancer Society. (n.d.). HIV and cancer. <https://www.cancer.org/cancer/risk-prevention/infections/hiv-infection-aids/hiv-aids-and-cancer.html>

- Anderman, T. L., Remans, R., Wood, S. A., DeRosa, K., & DeFries, R. S. (2014). Synergies and tradeoffs between cash crops production and food security: A case study in rural Ghana. *Food Security*, 6(4), 541–554. <https://doi.org/10.1007/s12571-014-0360-6>
- Andreyeva, T., et al. (2022). Outcomes following taxation of sugar-sweetened beverages: A systematic review and meta-analysis. *JAMA Network Open*, 5(6), Article e2215276. <https://doi.org/10.1001/jamanetworkopen.2022.15276>
- Appau, A., Drope, J., Goma, F., Magati, P., Labonte, R., Makoka, D., Zulu, R., Li, Q., & Lencucha, R. (2020). Explaining why farmers grow tobacco: Evidence from Malawi, Kenya, and Zambia. *Nicotine & Tobacco Research*, 22(12), 2238–2245. <https://doi.org/10.1093/ntr/ntz173>
- Armstrong, L. E., & Johnson, E. C. (2018). Water intake, water balance, and the elusive daily water requirement. *Nutrients*, 10(12), 1928. <https://doi.org/10.3390/nu10121928>
- Awawda, S., Chalak, A., Khader, Y., Mostafa, A., Abla, R., Nakkash, R., Jawad, M., Salloum, R. G., & Abu-Rmeileh, N. M. (2022). Gender differences in the price elasticity of demand for waterpipe and cigarette smoking in Lebanon, Jordan and Palestine: a volumetric choice experiment. *BMJ open*, 12(7), e058495. <https://doi.org/10.1136/bmjopen-2021-058495>
- Barker, A. R., Mazzucca, S., & An, R. (2022). The impact of sugar-sweetened beverage taxes by household income: A multi-city comparison of Nielsen purchasing data. *Nutrients*, 14(5), 922. <https://doi.org/10.3390/nu14050922>
- Bartholomay, P., Iser, B. P. M., de Oliveira, P. P. V., et al. (2012). Epidemiologic investigation of an occupational illness of tobacco harvesters in southern Brazil, a worldwide leader in tobacco production. *Occupational and Environmental Medicine*, 69(7), 514–518. <https://doi.org/10.1136/oemed-2011-100307>
- BAT (2023). Half-Year Report for the six months to 30 June 2023. https://www.bat.com/group/sites/UK_CRHJSY.nsf/vwPagesWebLive/DOCU3LTH#
- Bazo-Alvarez, J. C., Bazalar-Palacios, J., Bazalar, J., et al. (2022). Mental health among the sugarcane industry farmers and non-farmers in Peru: A cross-sectional study on occupational health. *BMJ Open*, 12(e064396). <https://doi.org/10.1136/bmjopen-2022-064396>
- Berger, P. K., Plows, J. F., Jones, R. B., Alderete, T. L., Rios, C., Pickering, T. A., Fields, D. A., Bode, L., Peterson, B. S., & Goran, M. I. (2020). Associations of maternal fructose and sugar-sweetened beverage and juice intake during lactation with infant neurodevelopmental outcomes at 24 months. *American Journal of Clinical Nutrition*, 112(6), 1516–1522. <https://doi.org/10.1093/ajcn/nqaa255>
- Berger, P. K., Monk, C., Bansal, R., Sawardekar, S., Goran, M. I., & Peterson, B. S. (2021). Association of prenatal sugar consumption with newborn brain tissue organization. *Nutrients*, 13(7), 2435. <https://doi.org/10.3390/nu13072435>
- Beverage Industry Environmental Roundtable. (2012). Research on the Carbon Footprint of Carbonated Soft Drinks. https://www.bieroundtable.com/wp-content/uploads/49d7a0_7a5cfa72d8e74c04be5aeb81f38b136b.pdf
- Blecher, E., Liber, A. C., Drope, J. M., Nguyen, B., & Stoklosa, M. (2017). Global trends in the affordability of sugar-sweetened beverages, 1990–2016. *Preventing Chronic Disease*, 14, 160406. <https://doi.org/10.5888/pcd14.160406>
- Bolumar, F., Olsen, J., Boldsen, J., et al. (1996). Smoking reduces fecundity: A European multicenter study on infertility and subfecundity. *American Journal of Epidemiology*, 143(6), 578–587. <https://doi.org/10.1093/oxfordjournals.aje.a008788>
- Breeze, P., Womack, R., Pryce, R., Brennan, A., & Goyder, E. (2018). The impact of a local sugar sweetened beverage health promotion and price increase on sales in Public Leisure Centre Facilities. *PLOS ONE*, 13(5). <https://doi.org/10.1371/journal.pone.0194637>
- Burney, J. A., & Naylor, R. L. (2012). Smallholder irrigation as a poverty alleviation tool in sub-Saharan Africa. *World Development*, 40, 110–123. <https://doi.org/10.1016/j.worlddev.2011.05.007>
- Bygvrå, S. (2009). Distance and cross-border shopping for alcohol: Evidence from Danes' cross-border shopping 1986–2003. *Nordic Studies on Alcohol and Drugs*, 26(2). <https://doi.org/10.1177/145507250902600203>
- Caro, J. C., Corvalán, C., Reyes, M., Silva, A., Popkin, B., & Taillie, L. S. (2018). Chile's 2014 sugar-sweetened beverage tax and changes in prices and purchases of sugar-sweetened beverages: An

- observational study in an urban environment. *PLOS Medicine*, 15(7).
<https://doi.org/10.1371/journal.pmed.1002597>
- Carvalho Figueiredo, V., Drope, J., Iglesias, R., et al. (2021). Consumo de cigarros ilegais em cinco cidades brasileiras. <https://actbr.org.br/post/consumo-de-cigarros-ilegais-em-cinco-cidades-brasileiras/19495/>
- Caserta, D., Bordi, G., Di Segni, N., et al. (2013). The influence of cigarette smoking on a population of infertile men and women. *Archives of Gynecology and Obstetrics*, 287, 813–818. DOI: 10.1007/s00404-012-2643-5
- Cawley, J., Thow, A. M., Wen, K., & Frisvold, D. (2019). The economics of taxes on sugar-sweetened beverages: A review of the effects on prices, sales, cross-border shopping, and consumption. *Annual Review of Nutrition*, 39, 8.1–8.22.
- Centre d'Études Prospectives et d'Informations Internationales (CEPII). 2023. Base pour l'Analyse du Commerce International (version 202301). CEPII: Paris, France
- Center for Disease Control and Prevention (2023). Alcohol use.
<https://www.cdc.gov/ncbddd/fasd/alcohol-use.html>
- Center for Global Development (2022). Protecting Health Taxes in an Inflationary World. Available at: <https://www.cgdev.org/blog/protecting-health-taxes-inflationary-world> (Accessed 06.12.2023)
- Chaloupka, F. J., Edwards, S. M., Ross, H., & Diaz, M. (2015). Preventing and reducing illicit tobacco trade in the United States. National Center for Chronic Disease Prevention and Health Promotion. <https://www.cdc.gov/tobacco/stateandcommunity/pdfs/illicit-trade-report-508.pdf>
- Chaloupka, F.J. & Powell, L. (2019). Using Fiscal Policy to Promote Health: Taxing Tobacco, Alcohol, and Sugary Beverages. *Tobacconomics*.
<https://www.tobacconomics.org/files/research/509/Using-Fiscal-Policy-to-Promote-Health-Taxing-Tobacco-Alcohol-and-Sugary-Beverages.pdf>
- Chaloupka, F. J., Edwards, S. M., Ross, H., Diaz, M., Kurti, M., Xu, X., Pesko, M., Merriman, D., & DeLong, H. (2015). Preventing and reducing illicit tobacco trade in the United States. Centers for Disease Control and Prevention. Retrieved from
<http://www.cdc.gov/tobacco/stateandcommunity/pdfs/illicittrade-report-121815-508tagged.pdf>
- Coca-Cola Company (2023). Coca-Cola Reports Third Quarter 2023 Results and Raises Full-Year Guidance. <https://investors.coca-colacompany.com/news-events/press-releases/detail/1094/coca-cola-reports-third-quarter-2023-results-and-raises>
- Cohen, J. F. W., Rifas-Shiman, S. L., Young, J., & Oken, E. (2018). Associations of prenatal and child sugar intake with child cognition. *American Journal of Preventive Medicine*, 54(6), 727–735.
<https://doi.org/10.1016/j.amepre.2018.02.020>
- Colchero, M. A., Molina, M., & Guerrero-López, C. M. (2017). After Mexico implemented a tax, purchases of sugar-sweetened beverages decreased and water increased: Difference by place of residence, household composition, and income level. *Journal of Nutrition*, 147(8), 1552-1557.
<https://doi.org/10.3945/jn.117.251892>
- Commission of the European Communities. (2008). Recommendation for a COUNCIL DECISION abrogating Decision 2005/182/EC on the existence of an excessive deficit in Slovakia
- Cornelsen, L., & Normand, C. (2014). Is roll-your-own tobacco substitute for manufactured cigarettes: Evidence from Ireland? *Journal of Public Health*, 36(1), 65–71.
<https://doi.org/10.1093/pubmed/ftd030>
- Cornuz, J., Feskanich, D., Willett, W. C., et al. (1999). Smoking, smoking cessation, and risk of hip fracture in women. *American Journal of Medicine*, 106(3), 311–314.
[https://doi.org/10.1016/S0002-9343\(99\)00022-4](https://doi.org/10.1016/S0002-9343(99)00022-4)
- Curti, D., Shang, C., Ridgeway, W., Chaloupka, F. J., & Fong, G. T. (2015). The use of legal, illegal and roll-your-own cigarettes to increasing tobacco excise taxes and comprehensive tobacco control policies: Findings from the ITC Uruguay Survey. *Tobacco Control*, 24(Suppl 3), iii17-iii24. <https://doi.org/10.1136/tobaccocontrol-2014-051890>
- Davis, B., Mane, E., Gurbuzer, L.Y., Caivano, G., Piedrahita, N., Schneider, K., Azhar, N., Benali, M., Chaudhary, N., Rivera, R., Ambikapathi, R. and Winters, P. (2023). Estimating global and

- country-level employment in agrifood systems. FAO Statistics Working Paper Series, No. 23-34. Rome, FAO. <https://doi.org/10.4060/cc4337en>
- Díaz, J.-J., Sánchez, A., Diez-Canseco, F., Jaime Miranda, J., & Popkin, B. M. (2023). Employment and wage effects of sugar-sweetened beverage taxes and front-of-package warning label regulations on the food and beverage industry: Evidence from Peru. *Food Policy*, 115, 102412. <https://doi.org/10.1016/j.foodpol.2023.102412>
- Durrance, C. P., Golden, S., Perreira, K., & Cook, P. (2011). Taxing sin and saving lives: Can alcohol taxation reduce female homicides? *Social science & medicine* (1982), 73(1), 169–176. <https://doi.org/10.1016/j.socscimed.2011.04.027>
- El Chami, D., Daccache, A., & El Moujabber, M. (2020). What are the impacts of sugarcane production on ecosystem services and human well-being? A review. *Annals of Agricultural Sciences*, 65(2), 188-199. <https://doi.org/10.1016/j.aosas.2020.10.001>
- Englund-Ögge, L., Brantsæter, A. L., Haugen, M., Sengpiel, V., Khatibi, A., Myhre, R., Myking, S., Meltzer, H. M., Kacarovsky, M., Nilsen, R. M., & Jacobsson, B. (2012). Association between intake of artificially sweetened and sugar-sweetened beverages and preterm delivery: A large prospective cohort study. *American Journal of Clinical Nutrition*, 96(3), 552-559. <https://doi.org/10.3945/ajcn.111.031567>
- Erol, A., & Karpyak, V. M. (2015). Sex and gender-related differences in alcohol use and its consequences: Contemporary knowledge and future research considerations. *Drug and Alcohol Dependence*, 156, 1–13.
- Essman, M., Taillie, L. S., Frank, T., Ng, S. W., Popkin, B. M., & Swart, E. C. (2021). Taxed and untaxed beverage intake by South African young adults after a national sugar-sweetened beverage tax: A before-and-after study. *PLoS Medicine*, 18(5), e1003574. <https://doi.org/10.1371/journal.pmed.1003574>
- Eunice Kennedy Shriver National Institute of Child Health and Human Development (n.d.). What Are the Known Risk Factors? <https://safetosleep.nichd.nih.gov/about/risk-factors>
- Exposetobacco.org. (2021). Illicit tobacco trade: Who it hurts and who it helps. <https://exposetobacco.org/news/illicit-tobacco-trade/>
- FAO (2024a). Crops and livestock products. <https://www.fao.org/faostat/en/#data/QCL>
- FAO (2024b). Suit of food security indicators. <https://www.fao.org/faostat/en/#data/FS>
- Falbe, J., Thompson, H. R., Becker, C. M., Rojas, N., McCulloch, C. E., & Madsen, K. A. (2016). Impact of the Berkeley Excise Tax on Sugar-Sweetened Beverage Consumption. *American journal of public health*, 106(10), 1865–1871. <https://doi.org/10.2105/AJPH.2016.303362>
- FCTC. (2019). FCTC Protocol to Eliminate Illicit Trade in Tobacco Products. Guidebook on Implementing Article 8: Tracking & Tracing. <https://www.fctc.org/wp-content/uploads/2019/11/ITP-Guidebook-pdf>
- Feeny, E., Dain, K., Varghese, C., Atiim, G. A., Rekve, D., & Gouda, H. N. (2021). Protecting women and girls from tobacco and alcohol promotion. *BMJ*, 374. <https://doi.org/10.1136/bmj.n1516>
- Ferreira-Junior, M.D., Cavalcante, K.V.N., Mota, A.P.C.d., & Gomes, R.M. (2023). Dietary Sugars during Critical Phases of Development and Long-Term Risk of Non-Communicable Diseases. *Diabetology*, 4, 243-250. <https://doi.org/10.3390/diabetology4030021>
- Forecasting Associates, Inc., University of Pennsylvania. (1980). Retrieved from <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/qflc0002>.
- Gallagher, A.W.A., Evans-Reeves, K.A., Hatchard, J.L., et al. (2019). Tobacco industry data on illicit tobacco trade: a systematic review of existing assessments. *Tob Control*, 28:334–45. doi:10.1136/tobaccocontrol-2018-054295
- Gaudet, M. M., Gapstur, S. M., Sun, J., et al. (2013). Active smoking and breast cancer risk: original cohort data and meta-analysis. *Journal of the National Cancer Institute*, 105, 515–525. <https://doi.org/10.1093/jnci/djt023>
- Gibson L, Porter M. (2012). Drinking or Smoking While Breastfeeding and Later Academic Outcomes in Children. *Nutrients*. 2020 Mar 20;12(3):829. doi: 10.3390/nu12030829. PMID: 32244947; PMCID: PMC7146206.
- Gilmore, A. B., Gallagher, A. W. A., & Rowell, A. (2019). Tobacco industry’s elaborate attempts to control a global track and trace system and fundamentally undermine the illicit trade protocol. *Tobacco Control*, 28(2), 127–140. <https://doi.org/10.1136/tobaccocontrol-2017-054191>

- Global Burden of Disease. (2019). GBD Results. <https://vizhub.healthdata.org/gbd-results/>
- Gómez-Donoso, C., Sacks, G., Vanderlee, L., Hammond, D., White, C. M., Nieto, C., Bes-Rastrollo, M., & Cameron, A. J. (2021). Public support for healthy supermarket initiatives focused on product placement: A multi-country cross-sectional analysis of the 2018 International Food Policy Study. *International Journal of Behavioral Nutrition and Physical Activity*, 18(1), 78. <https://doi.org/10.1186/s12966-021-01149-0>
- Gomez-Zavaglia, A., Mejuto, J. C., & Simal-Gandara, J. (2020). Mitigation of emerging implications of climate change on food production systems. *Food Research International*, 134(April), Article 109256. <https://doi.org/10.1016/j.foodres.2020.109256>
- Gongloff, M. (2023). \$200 Trillion Is Needed to Stop Global Warming. That's a Bargain, available at: <https://www.bloomberg.com/opinion/articles/2023-07-05/-200-trillion-is-needed-to-stop-global-warming-that-s-a-bargain>; Gallien, M., & Occhiali, G. (2021). No smoking gun: tobacco taxation and smuggling in Sierra Leone. *Tobacco Control*, Epub, <https://doi.org/10.1136/tobaccocontrol-2021-057163>.
- Goodchild, M., Paul, J., Iglesias, R., et al. (2022). Potential impact of eliminating illicit trade in cigarettes: A demand-side perspective. *Tobacco Control*, 31(1), 57–64.
- Gram, I. T., Wiik, A. B., Lund, E., Licaj, I., & Braaten, T. (2021). Never-smokers and the fraction of breast cancer attributable to second-hand smoke from parents during childhood: The Norwegian Women and Cancer Study 1991–2018. *International Journal of Epidemiology*, 50(6). <https://doi.org/10.1093/ije/dyab153>
- Greenhalgh, EM, Freeman, B and Winstanley, M. 10.4 Ethical issues related to tobacco farming and production In Greenhalgh, EM, Scollo, MM and Winstanley, MH [editors]. *Tobacco in Australia: Facts and issues*. Melbourne: Cancer Council Victoria; 2022. Available from <https://www.tobaccoinaustralia.org.au/home.aspx>.
- Guerrero-López, C. M., Molina, M., & Colchero, M. A. (2017). Employment changes associated with the introduction of taxes on sugar-sweetened beverages and nonessential energy-dense food in Mexico. *Preventive Medicine*, 105. <https://doi.org/10.1016/j.ypmed.2017.09.001>
- Hayatbakhsh, M. R., Clavarino, A., Williams, G. M., et al. (2012). Cigarette smoking and age of menopause: A large prospective study. *Maturitas*, 72, 346–352. <https://doi.org/10.1016/j.maturitas.2012.05.004>
- Hernández-Ramírez, R. U., Shiels, M. S., Dubrow, R., & Engels, E. A. (2017). Cancer risk in HIV-infected people in the USA from 1996 to 2012: A population-based, registry-linkage study. *The Lancet HIV*. Advance online publication. [https://doi.org/10.1016/S2352-3018\(17\)30125-X](https://doi.org/10.1016/S2352-3018(17)30125-X)
- Hervé, J., Mani, S., Behrman, J. R., Nandi, A., Lamkang, A. S., & Laxminarayan, R. (2022). Gender gaps in cognitive and noncognitive skills among adolescents in India. *Journal of Economic Behavior & Organization*, 193, 66-97. <https://doi.org/10.1016/j.jebo.2021.11.011>
- Hiscock, R., Branston, J. R., Partos, T. R., McNeill, A., Hitchman, S. C., & Gilmore, A. B. (2019, December). UK tobacco price increases: Driven by industry or public health? *Tobacco Control*, 28(e2), e148-e150, <https://tobaccocontrol.bmj.com/content/28/e2/e148>
- Hofman, K. J., Stacey, N., Swart, E. C., Popkin, B. M., & Ng, S. W. (2021). South Africa's Health Promotion Levy: Excise tax findings and equity potential. *Obesity Reviews*, 22(9). <https://doi.org/10.1111/obr.13301>
- Hu T. and Lee A. (2015). Tobacco control and tobacco farming in African countries. *Journal of Public Health Policy*, 36(1), 41-51.
- Hu T., H Lee, A. (2016). Women in tobacco farming: health, equality, and empowerment. A study conducted in China, Tanzania and Kenya. Center for International Tobacco Control. Public Health Institute.
- Huxley, R. R., & Woodward, M. (2011). Cigarette smoking as a risk factor for coronary heart disease in women compared with men: A systematic review and meta-analysis of prospective cohort studies. *The Lancet*, 378, 1297–1305, [https://doi.org/10.1016/S0140-6736\(11\)60781-2](https://doi.org/10.1016/S0140-6736(11)60781-2).
- Hussain, A. G., Rouf, A. S. S., Shimul, S. N., et al. (2020). The economic cost of tobacco farming in Bangladesh. *International Journal of Environmental Research and Public Health*, 17, 9447. <https://doi.org/10.3390/ijerph17249447>

- IARC. (2011). Handbooks of Cancer Prevention. Tobacco Control. Vol. 14. Effectiveness of Tax and Price Policies for Tobacco Control. <https://publications.iarc.fr/Book-And-Report-Series/Iarc-Handbooks-Of-Cancer-Prevention/Effectiveness-Of-Tax-And-Price-Policies-For-Tobacco-Control-2011>
- Iglesias, R. (2016). Increasing excise taxes in the presence of an illegal cigarette market: the 2011. Brazil tobacco tax reform. *Rev Panam Salud Publica*, 40(4): 243-9. Retrieved from: <https://iris.paho.org/handle/10665.2/31306>
- ILO. (2017). Child labour in the primary production of sugarcane. Fundamental Principles and Rights at Work Branch (FUNDAMENTALS) - Geneva: ILO. https://www.ilo.org/wcmsp5/groups/public/---ed_norm/---ipec/documents/publication/wcms_ipec_pub_29635.pdf
- Institute for Natural Resources and Technology Studies. (2007). Case study on tobacco cultivation and possible alternative crops – Kenya. A technical document for the first meeting of the Ad Hoc Study Group on Alternative Crops established by the Conference of the Parties to the WHO Framework Convention on Tobacco Control; 27-28 February 2007; World Health Organization; 2007.
- International Institute for Sustainable Development (2023). GLOBAL MARKET REPORT Sugar cane prices and sustainability. <https://www.iisd.org/system/files/2023-09/2023-global-market-report-sugar-cane.pdf>
- International Organisation of Vine and Wine. (2022). State of the world vine and wine sector in 2022. https://www.oiv.int/sites/default/files/documents/OIV_State_of_the_world_Vine_and_Wine_sector_in_2022_2.pdf
- International Union Against Tuberculosis and Lung Disease (2021). Higher tobacco taxes for a healthier Timor-Leste. <https://theunion.org/sites/default/files/2021-08/Timor-Leste%20Tax%20Policy%20Paper%20July%202021.pdf>
- IUCN. (2021). Marine plastic pollution. <https://www.iucn.org/resources/issues-brief/marine-plastic-pollution>
- IWRS (2021). Drinks Market Analysis. No- and low-alcohol category value surpasses \$11bn in 2022. <https://www.theiwsr.com/no-and-low-alcohol-category-value-surpasses-11bn-in-2022/>
- Jha, P., Hill, C., Wu, D. C., & Peto, R. (2020). Cigarette prices, smuggling, and deaths in France and Canada. *The Lancet*, 395(10217), 27–28. [https://doi.org/10.1016/s0140-6736\(19\)31291-7](https://doi.org/10.1016/s0140-6736(19)31291-7)
- John, R. M. (2008). Crowding out effect of tobacco expenditure and its implications on household resource allocation in India. *Social Science & Medicine*, 66(6), 1356-1367. <https://doi.org/10.1016/j.socscimed.2007.11.020>
- John R.M. , Ross H. (2018). Illicit cigarette sales in Indian cities: findings from a retail survey. *TobControl*, 27:684. doi:10.1136/tobaccocontrol-2017-053999
- Joossens, L., & Raw, M. (2012). From cigarette smuggling to illicit tobacco trade. *Tobacco Control*, 21(2), 230-234. <https://doi.org/10.1136/tobaccocontrol-2011-050205>
- Kapoor, N., Arora, S., & Kalra, S. (2021). Gender Disparities in People Living with Obesity - An Unchartered Territory. *Journal of Midlife Health*, 12(2), 103-107. https://doi.org/10.4103/jmh.jmh_48_21
- Kanis, J. A., Johnell, O., Odén, A., et al. (2005). Smoking and fracture risk: A meta-analysis. *Osteoporosis International*, 16, 155–162. 3
- Kidane, A., Hepelwa, A., Ngeh, E., & Hu, T. W. (2014). A comparative analysis of technical efficiency of smallholder tobacco and maize farmers in Tabora, Tanzania. Paper presented at the Workshop on Tobacco Control Research in Africa, Cape Town, South Africa, July 2014.
- Kumar, A., Singh, H., & Kumar, S. (2011). Value chains of agricultural commodities and their role in food security and poverty alleviation – A synthesis. *Agricultural Economics Research Review*, 24, 169–181.
- Le Bodo, Y., Etilé, F., Gagnon, F., & De Wals, P. (2019). Conditions influencing the adoption of a soda tax for public health: analysis of the French case (2005–2012). *Food Policy*, 88, 101765.
- Lencucha, R., Drope, J., Magati, P., et al. (2022). Tobacco farming: Overcoming an understated impediment to comprehensive tobacco control. *Tobacco Control*, 31, 308-312. <https://doi.org/10.1136/tobaccocontrol-2021-056564>

- Lerman, C., Gu, H., Loughhead, J., Ruparel, K., Yang, Y., & Stein, E. A. (2014). Large-scale brain network coupling predicts acute nicotine abstinence effects on craving and cognitive function. *JAMA psychiatry*, 71(5), 523–530. <https://doi.org/10.1001/jamapsychiatry.2013.4091>
- Li, Q., Magati, P., Lencucha, R., et al. (2019). The economic geography of Kenyan tobacco farmers' livelihood decisions. *Nicotine & Tobacco Research*, 21, 1711–1714. <https://doi.org/10.1093/ntr/ntz011>
- Mahofa, G, Chrispen Sukume C., Mutyasira V. (2022). Agricultural commercialisation, gender relations and women's empowerment in smallholder farm households: evidence from Zimbabwe. https://opendocs.ids.ac.uk/opendocs/bitstream/handle/20.500.12413/17372/APRA_Working_Paper_88_Agricultural_Commercialisation_Gender_Relations_Women_Empowerment_Smallholder_Farm_Households_Zimbabwe.pdf?sequence=2&isAllowed=y
- Mansour, M., Petit, P., & Sawadogo, F. (2023). How To Design Excise Taxes on Alcoholic Beverages, IMF How to Note 2023/004. Washington, DC. : International Monetary Fund.
- Mendoza-Velázquez, A., and Aguirre Sedeño, D. (2019). Special excise tax on food and beverages and its impact on inflation in Mexico in terms of dynamics, persistence, and change of regime. *Pan American Journal of Public Health*. Vol. 43(88), <https://www.paho.org/journal/en/articles/special-excise-tax-food-and-beverages-and-its-impact-inflation-mexico-terms-dynamics>
- Minian, N., Penner, J., Voci, S., & Selby, P. (2016). Woman focused smoking cessation programming: a qualitative study. *BMC women's health*, 16, 17. <https://doi.org/10.1186/s12905-016-0298-2>
- Mwafuilirwa, N. (2023). Tenancy labour abolition policy faces resistance. *MW Nation* (15.9.2023) <https://mwnation.com/tenancy-labour-abolition-policy-faces-resistance/>
- National Cancer Institute (2017). NCI Tobacco Control Monograph Series 21 - The Economics of Tobacco and Tobacco Control. Chapter 15 – Employment Impact of Tobacco Control. https://cancercontrol.cancer.gov/sites/default/files/2020-06/m21_15.pdf
- National Research Council and Institute of Medicine. (2015). *Understanding the U.S. Illicit Tobacco Market: Characteristics, Policy Context, and Lessons from International Experiences*. Washington, DC: The National Academies Press.
- Nelson, J. P. (2013). Meta-analysis of alcohol price and income elasticities – with corrections for publication bias. *Health Economics Review*, 3(17). <https://doi.org/10.1186/2191-1991-3-17>
- Nelson J. P. (2014). Gender differences in alcohol demand: a systematic review of the role of prices and taxes. *Health economics*, 23(10), 1260–1280. <https://doi.org/10.1002/hec.2974>
- Newman, R., & Noy, I. (2023). The global costs of extreme weather that are attributable to climate change. *Nature Communications*, 14, Article 6103, <https://www.nature.com/articles/s41467-023-41888-1>.
- NCD Alliance (2010). Non- communicable diseases: a priority for women's health and development. https://ncdalliance.org/sites/default/files/resource_files/Non%20Communicable%20Diseases%20A%20priority%20for%20womens%27s%20health%20and%20development.pdf
- Ngo, A., Fong, G. T., Craig, L. V., & Shang, C. (2019). Analysis of gender differences in the impact of taxation and taxation structure on cigarette consumption in 17 ITC countries. *International Journal of Environmental Research and Public Health*, 16(7), 1275. <https://doi.org/10.3390/ijerph16071275>
- Nolen-Hoeksema S. (2004). Gender differences in risk factors and consequences for alcohol use and problems. *Clin Psychol Rev*. 2004 Dec;24(8):981-1010. doi: 10.1016/j.cpr.2004.08.003. PMID: 15533281.
- Nyberg, J. (n.d.), *Sugar International Market Profile*. FAO
- ODI (2012). *Impact of the Common Agricultural Policy on Food Price Volatility for Developing Countries*. <https://odi.org/en/publications/impact-of-the-common-agricultural-policy-on-food-price-volatility-for-developing-countries/>
- OECD (2024). Malawi. <https://oec.world/en/profile/country/mwi?depthSelector1=HS2Depth>
- OECD. (2021). *Preventing Harmful Alcohol Use*. https://www.oecd-ilibrary.org/social-issues-migration-health/preventing-harmful-alcohol-use_6e4b4ffb-en

- OECD. (2022). *Illicit Trade in High-Risk Sectors: Implications of Illicit Alcohol for Public Health and Criminal Networks*. France: OECD Publishing.
- OECD. (2023). Special focus: An overview of the impact of alcohol policies on alcohol producers and vendors. Retrieved June 16, 2023, from <https://www.oecd-ilibrary.org/sites/819e3e94-en/index.html?itemId=/content/component/819e3e94-en>
- OECD. (2023b). Gender, Education and Skills. The Persistence of Gender Gaps in Education and Skills. <https://www.oecd.org/publications/gender-education-and-skills-34680dd5-en.htm>
- OHCHR (2022). Malawi: Children working on tobacco farms remain out of school, say UN experts. Press release. <https://www.ohchr.org/en/press-releases/2022/12/malawi-children-working-tobacco-farms-remain-out-school-say-un-experts>
- Olson-Sawyer, K., & Madel, R. (2020). The water footprint of your plastic bottle. Foodprint. <https://foodprint.org/blog/plastic-water-bottle/>
- European anti-fraud office (OLAF). (2023) *Illegal tobacco*. Brussels: European Commission 2023. Available: https://anti-fraud.ec.europa.eu/policy/policies-prevent-and-deter-fraud/illegal-tobacco_en
- Pan American Health Organization (2015). *Tobacco control and illicit trade in tobacco products in Panama*. <https://www.paho.org/sites/default/files/tobacco-PAHO-Fact-sheet-Tobacco-control-illicit-trade-products-Panama-2015.pdf>
- Paraje, G., Stoklosa, M., & Blecher, E. (2022). Illicit trade in tobacco products: Recent trends and coming challenges. *Tobacco Control*, 31, 257–262. <https://doi.org/10.1136/tobaccocontrol-2021-056557>
- Paraje, G. R., Jha, P., Savedoff, W., & Fuchs, A. (2023, October). Taxation of tobacco, alcohol, and sugar-sweetened beverages: Reviewing the evidence and dispelling the myths. *BMJ Global Health*, 8(Suppl 8), e011866. <https://doi.org/10.1136/bmjgh-2023-011866>
- Park, S. J., Lim, H. S., Lee, K., & Yoo, S. J. (2018). Green Tobacco Sickness Among Tobacco Harvesters in a Korean Village. *Safety and health at work*, 9(1), 71–74. <https://doi.org/10.1016/j.shaw.2017.06.007>
- PepsiCo (2023). *PepsiCo Reports Second-Quarter 2023 Results; Raises Full-Year Guidance*. https://investors.pepsico.com/docs/default-source/investors/q2-2023/q2-2023-earnings-release_sbkjql2mrs693bw.pdf**
- Petit P., Nagy J. (2016). How to design and enforce tobacco excises? *International Monetary Fund 2016*. <https://www.imf.org/external/pubs/ft/howtonotes/2016/howtonote1603.pdf>
- Phetphum, C., Prajongjeep, A., Keeratisiroj, O., Simsin, S., & Thawatchaijareonying, K. (2022). Deteriorating quality of life and a desire to stop growing tobacco among Virginia and burley tobacco farmers in Thailand. *JCO Global Oncology*, (8). <https://doi.org/10.1200/go.22.00180>
- Pierce, J. P., Patterson, R. E., Senger, C. M., et al. (2014). Lifetime cigarette smoking and breast cancer prognosis in the after breast cancer pooling project. *Journal of the National Cancer Institute*, 106, djt359. <https://doi.org/10.1093/jnci/djt359>
- Pinto da Silva, L., & Esteves da Silva, J. C. G. (2022). Evaluation of the carbon footprint of the life cycle of wine production: A review. *Cleaner and Circular Bioeconomy*, 2, 100021. doi:10.1016/j.clcb.2022.100021.
- Pitchford, J., Turnovsky, S.J. (1976). Some Effects of Taxes on Inflation. *The Quarterly Journal of Economics*. Vol. 90(4), pp. 523-539.
- Phillip Morris International (2022). *Investor Information October 2022*. <https://philipmorrisinternational.gcs-web.com/static-files/88d67ac2-85a8-4509-bbec-e061490b43ac>
- Phillip Morris International (2023). *Philip Morris International Reports 2023 Third-Quarter and Nine-Month Year-to-Date Results*. <https://www.pmi.com/media-center/press-releases/press-details?newsId=26881>
- Powel, L.M., and Leider, J. (2022). Impact of the Seattle Sweetened Beverage Tax on substitution to alcoholic beverages. *PLoS ONE*. Vol. 17(1). <https://doi.org/10.1371/journal.pone.0262578>
- Price Waterhouse. *The economic impact of the tobacco industry on the United States economy*. Arlington, VA: Price Waterhouse; 1990. Available from: <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/fsjk0110>.

- Price Waterhouse. The economic impact of the tobacco industry on the United States economy in 1990. Arlington, VA: Price Waterhouse; 1992. Available from: <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/jllx0062>.
- Rehm, J., Shield, K. D., & Weiderpass, E. (2020). Alcohol consumption: A leading risk factor for cancer. In C. P. Wild, E. Weiderpass, & B. W. Stewart (Eds.), *World Cancer Report* (pp. 68–76). Lyon, France: International Agency for Research on Cancer.
- Reuter, P., Bouchard, M., Chaloupka, F.J., Cook, P.J., Farrelly, M.C., Fong, G.T., Harmon, R.A., Kleemans, E.R., Kottak, C.P., Levi, M., Owens, E., Rees, V.W., So, A.D., von Lampe, K., & Wipfli, H. (2015). *Understanding the U.S. Illicit Tobacco Market: Characteristics, Policy Context, and Lessons from International Experiences*.
- Rocha G., Kirste A., Dittmar F., Asua I. (2023). Achieving net zero in beverages. *Kearney*. <https://www.kearney.com/industry/consumer-retail/article/achieving-net-zero-in-beverages>
- Roerecke, M., Vafaei, A., Hasan, O. S. M., et al. (2019). Alcohol consumption and risk of liver cirrhosis: A systematic review and meta-analysis. *The American Journal of Gastroenterology*, 114, 1574–1586.
- Rogers, N. T., Pell, D., Mytton, O. T., et al. (2023). Changes in soft drinks purchased by British households associated with the UK soft drinks industry levy: A controlled interrupted time series analysis. *BMJ Open*, 13, e077059, <https://bmjopen.bmj.com/content/13/12/e077059>.
- Roura, E., Castellsagué, X., Pawlita, M., et al. (2014). Smoking as a major risk factor for cervical cancer and pre-cancer: Results from the EPIC cohort. *International Journal of Cancer*, 135, 453–466. <https://doi.org/10.1002/ijc.28666>
- Royo-Bordonada, M. Á., Fernández-Escobar, C., Gil-Bellosta, C. J., & Ordaz, E. (2022). Effect of excise tax on sugar-sweetened beverages in Catalonia, Spain, three and a half years after its introduction. *International Journal of Behavioral Nutrition and Physical Activity*, 19(1). <https://doi.org/10.1186/s12966-022-01262-8>
- Ruths, J. C., Shikida, P. F. A., & Fracarolli, I. F. L. (2023). Rural work in the sugarcane sector and its influences on health: Scoping review. *Revista Brasileira de Medicina do Trabalho*, 21(1), e2023779, <https://doi.org/10.47626/1679-4435-2023-779>.
- Sabir, M., Saleem, W., Iqbal, M.A., & Aamir, N. (2021). *Economic Implications of Cigarette Taxation in Pakistan: An Exploration Through a CGE Model [Report]*. SPDC. <https://tobacconomics.org/files/research/726/spdc-rp-cge-report-final.pdf>
- Sahadewo, G. A., Drope, J., Li, Q., Witoelar, F., & Lencucha, R. (2020). In-and-Out of Tobacco Farming: Shifting Behavior of Tobacco Farmers in Indonesia. *International Journal of Environmental Research and Public Health*, 17(24), 9416. <https://doi.org/10.3390/ijerph17249416>
- Sahadewo, G. A., Drope, J., Li, Q., et al. (2021). Tobacco or not tobacco: Predicting farming households' income in Indonesia. *Tobacco Control*, 30, 320–327. <https://doi.org/10.1136/tobaccocontrol-2019-055274>
- Sahadewo, G.A., Drope, J., Witoelar, F., Li, Q., & Lencucha, R. (2021b). *The Economics of Tobacco Farming in Indonesia: 3rd Wave Tobacco Farmers Survey [Report]*. *Tobacconomics*. <https://www.tobacconomics.org/files/research/748/entobacco-farming-report-wave3.pdf>
- Selvanathan, S., & Selvanathan, E. (2006). Consumption patterns of food, tobacco, and beverages: A cross-country analysis. *Applied Economics*, 38, 1567-1584. <https://doi.org/10.1080/00036840500392664>
- Schierhout, G., Palagyi, A., Gadsen, T., Dubois, G., Renshaw, N., & Dodd, R. (2021). *Leveraging global health wins for sustainable, person-centered healthcare systems*. NCD Alliance / The Helmsley Charitable Trust Policy Research Report.
- Scollo, M., et al. (2003). Review of the quality of studies on the economic effects of smoke-free policies on the hospitality industry. *Tobacco Control*. Vol. 12, pp. 13-20.
- S&P (2022). CS Brazil H1 Oct sugar production expected to rise 69.1% on year: survey. Retrieved from: <https://www.spglobal.com/commodityinsights/en/market-insights/latest-news/agriculture/102122-cs-brazil-h1-oct-sugar-production-expected-to-rise-691-on-year-survey>

- Sparks, A., et al. (2022). The Potential Economic and Social Effects of an Alcohol Tax Increase in Hawai'i. University of Hawaii. <https://www.hawaii.edu/aging/phac/wp-content/uploads/2022/03/Hawaii-Alcohol-Tax-Policy-Study-v1.2.pdf>
- Stacey, N., Edoaka, I., Hofman, K., Popkin, B. M., & Ng, S. W. (2021). Changes in beverage purchases following the announcement and implementation of South Africa's Health Promotion Levy: An observational study. *Lancet Planet Health*, 5(4), e200-e208.
- Sweeting, J., Ma, T., Johnson, M., et al. (2009). Anti-contraband policy measures: Evidence for better practice. The Ontario Tobacco Research Unit. Retrieved from https://www.otru.org/wp-content/uploads/2012/06/special_anti_contraband_measures.pdf
- Tankari, M. R. (2017). Cash crops reduce the welfare of farm households in Senegal. *Food Security*, 9, 1105–1115. <https://doi.org/10.1007/s12571-017-0727-6>
- The American Consumer Institute Center for Citizen Research. (2023). Taxes and Regulations Hamper the Restaurant Industry's Road to Recovery. <https://www.theamericanconsumer.org/2022/03/taxes-and-regulations-hamper-the-restaurant-industrys-road-to-recovery/>
- The Government of Canada (2008). Federal and provincial governments reach landmark settlement with tobacco companies. <https://www.canada.ca/en/news/archive/2008/07/federal-provincial-governments-reach-landmark-settlement-tobacco-companies.html>
- Thow, A. M., Lencucha, R. A., Rooney, K., Colagiuri, S., & Lenzen, M. (2021). Implications for farmers of measures to reduce sugars consumption. *Bulletin of the World Health Organization*, 99(1), 41. <https://doi.org/10.2471/BLT.20.257667>
- TobaccoAtlas.org (2023). Challenges – Illicit trade. <https://tobaccoatlas.org/challenges/illicit-trade/>
- Tobacco Commission (2021). Demand for Malawi's tobacco intact – Tobacco Commission Malawi. <https://tc.mw/demand-for-malawis-tobacco-intact-tobacco-commission/>
- Tobacco Merchants Association. (1996). Tobacco's contribution to the national economy (1980-1995). Princeton, NJ: Tobacco Merchants Association. Retrieved from <https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/gphp0054>.
- Tobacconomics. (2023). The Illicit Cigarette Market in Montenegro. <https://www.tobacconomics.org/research/the-illicit-cigarette-market-in-montenegro/>
- UNAIDS (2023). Responding to gender-based violence through sorority and information. <https://www.unaids.org/en/keywords/gender-based-violence>
- University of Bath (2023). Newer Nicotine and Tobacco Products. <https://tobaccotactics.org/article/newer-nicotine-and-tobacco-products/>
- U.S. Department of Health and Human Services. (2010a). A report of the Surgeon General: How tobacco smoke causes disease: What it means to you. https://www.cdc.gov/tobacco/sgr/2010/consumer_booklet/pdf/consumer.pdf
- U.S. Department of Health and Human Services. (2010b). Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, https://www.cdc.gov/tobacco/data_statistics/sgr/2010/highlight_sheets/pdfs/overview_reproductive.pdf
- U.S. Department of Labour (2021). 2021 Findings on the Worst Forms of Child Labor: Malawi. https://www.dol.gov/sites/dolgov/files/ILAB/child_labor_reports/tda2021/Malawi.pdf
- Vulovic, V. (2018). Tobacco Control Policies and Employment. A Tobacconomics Policy Brief. Chicago, IL: Tobacconomics, Health Policy Center, Institute for Health Research and Policy, University of Illinois at Chicago. www.tobacconomics.org
- Wang, H., Sindelar, J. L., & Busch, S. H. (2006). The impact of tobacco expenditure on household consumption patterns in rural China. *Social Science & Medicine*, 62(6), 1414-1426. <https://doi.org/10.1016/j.socscimed.2005.07.032>
- Warner, K. E. (1995). The importance of tobacco to a country's economy. In K. Slama (Ed.), *Tobacco and health* (pp. 301-308). New York: Plenum Press.
- Wharton Applied Research Center. A study of the tobacco industry's economic contribution to the nation, its fifty states, and the District of Columbia. Philadelphia: Wharton Applied Research Center and Wharton Econometric

- White, J. S., Basu, S., Kaplan, S., Madsen, K. A., Villas-Boas, S. B., & Schillinger, D. (2023). Evaluation of the sugar-sweetened beverage tax in Oakland, United States, 2015-2019: A quasi-experimental and cost-effectiveness study. *PLoS medicine*, 20(4), e1004212. <https://doi.org/10.1371/journal.pmed.1004212>
- World Bank (n.d.). Global SSB Tax Database. SSB tax coverage. <https://ssbtax.worldbank.org/story-two/>
- World Bank. (2016). High and Dry: Climate Change, Water, and the Economy, <https://www.worldbank.org/en/topic/water/publication/high-and-dry-climate-change-water-and-the-economy>.
- World Bank. (2019). Distributional Effects of Tobacco Taxation: A Comparative Analysis. <https://documents1.worldbank.org/curated/en/358341554831537700/pdf/Distributional-Effects-of-Tobacco-Taxation-A-Comparative-Analysis.pdf>.
- World Bank. (2019b). Confronting Illicit Tobacco Trade: a Global Review of Country Experiences. <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/677451548260528135/confronting-illicit-tobacco-trade-a-global-review-of-country-experiences>.
- World Bank. (2020a). Knowledge Brief. Health earmarks and health taxes: what do we know? <https://documents1.worldbank.org/curated/en/415911607500858658/pdf/Health-Earmarks-and-Health-Taxes-What-Do-We-Know.pdf>
- World Bank. (2020b). Taxes on sugar-sweetened beverages: International evidence and experiences. <https://openknowledge.worldbank.org/server/api/core/bitstreams/4ca4b739-f713-5a89-aca2-02ec50976e7c/content>
- World Bank (2023a). The World Bank in Malawi. <https://www.worldbank.org/en/country/malawi/overview#1>
- World Bank (2023b). Health Taxes and Inflation. Available at <https://documents1.worldbank.org/curated/en/099531302232310282/pdf/IDU02744ac8c07576041e209fea0171a74ecce7e.pdf>
- World Bank. (2023c). Unpacking the empirics behind health tax revenue. <https://thedocs.worldbank.org/en/doc/flf068e38935e2f5d92b7edf365d5089-0350032023/original/KN-4-Unpacking-the-empirics-behind-health-tax-revenues.pdf>
- World Bank. (2024). Total alcohol consumption per capita (liters of pure alcohol, projected estimates, 15+ years of age). <https://data.worldbank.org/indicator/SH.ALC.PCAP.LI>
- World Customs Organization, Illicit Trade Report 2022. https://www.wcoomd.org/-/media/wco/public/global/pdf/topics/enforcement-and-compliance/activities-and-programmes/illicit-trade-report/itr_2022_en.pdf?db=web
- World Health Organization. (2006). Intimate partner violence and alcohol. https://movendi.ngo/wp-content/uploads/2019/05/fs_intimate.pdf
- World Health Organization. (2010). Gender, Women and the Tobacco Epidemic. <https://www.who.int/publications/i/item/9789240004849>
- World Health Organization. (2011) Alcohol: Fact Sheet. http://www.who.int/substance_abuse/facts/alcohol/en/index.html.
- World Health Organization. (2013). Protocol to eliminate illicit trade in tobacco products. https://iris.who.int/bitstream/handle/10665/80873/9789241505246_eng.pdf?sequence=1
- World Health Organization. (2014). Secretariat Study of the Basic Requirements of the Tracking-and-Tracing Regime to be Established in Accordance with Article 8 of the Protocol to Eliminate Illicit Trade in Tobacco Products. Geneva, CH: Secretariat, WHO Framework Convention on Tobacco Control, World Health Organization.
- World Health Organization. (2016). Earmarked tobacco taxes: lessons learnt from nine countries. <https://www.who.int/publications/i/item/9789241515825>
- World Health Organization. (2017). Brazil Impact Assessment. <https://fctc.who.int/publications/m/item/factsheet-ia-brazil>
- World Health Organization (2019). Health Taxes - A primer. Available at: <https://apps.who.int/iris/handle/10665/329757>

- World Health Organization. (2020). More than 100 reasons to quit tobacco.
<https://www.who.int/news-room/spotlight/more-than-100-reasons-to-quit-tobacco>
- World Health Organization. (2021a). Home/News/Tobacco use falling: WHO urges countries to invest in helping more people to quit tobacco. <https://www.who.int/news/item/16-11-2021-tobacco-use-falling-who-urges-countries-to-invest-in-helping-more-people-to-quit-tobacco>
- World Health Organization. (2021b). WHO report on the global tobacco epidemic 2021: addressing new and emerging products. Annex 9.4. <https://www.who.int/publications/i/item/WHO-HEP-HPR-TFI-2021.9.4>
- World Health Organization. (2022). Tobacco: poisoning our planet.
<https://iris.who.int/bitstream/handle/10665/354579/9789240051287-eng.pdf?sequence=1>
- World Health Organization. (2023). SAFER - Raise prices on alcohol through excise taxes and pricing policies. <https://www.who.int/initiatives/SAFER/pricing-policies>
- World Health Organization. (2023a). WHO report on the global tobacco epidemic, 2023. Protect people from tobacco smoke. ISBN: 978-92-4-007716-4.
<https://iris.who.int/bitstream/handle/10665/372043/9789240077164-eng.pdf?sequence=1>
- World Health Organization (2023). A public health perspective on zero- and low-alcohol beverages. Brief 10. Geneva: Snapshot series on alcohol control policies and practice.
- World Health Organization. (2023a). World No Tobacco Day 2023 – grow food, not tobacco. Q&A. World Health Organization. <https://www.who.int/news-room/questions-and-answers/item/world-no-tobacco-day-2023---grow-food--not-tobacco>
- World Health Organization. (2023b). Tobacco farmers switch to sustainable crops in Brazil.
<https://www.who.int/news-room/feature-stories/detail/tobacco-farmers-switch-to-sustainable-crops-in-brazil>
- World Health Organization. (2023c). World No Tobacco Day 2023. Grow food, not tobacco.
<https://iris.who.int/bitstream/handle/10665/368076/9789240073937-eng.pdf?sequence=1>
- World Health Organization. (2023d). Health Taxes https://www.who.int/health-topics/health-taxes#tab=tab_1
- World Health Organization (EMRO) (2017). How does tobacco impact women and children?
<https://www.emro.who.int/tfi-campaigns/2017/how-does-tobacco-impact-women-and-children.html>
- Wright, A., Smith, K.E. & Hellowell, M. (2017). Policy lessons from health taxes: a systematic review of empirical studies. BMC Public Health. Vol.17(583). <https://doi.org/10.1186/s12889-017-4497-z>
- World Wildlife Fund. (2015). Sugarcane Farming's Toll on the Environment.
<https://www.worldwildlife.org/magazine/issues/summer-2015/articles/sugarcane-farming-s-toll-on-the-environment>
- Yang, W., Xu, C., & Kong, F. (2022). Does Non-Food Cultivation of Cropland Increase Farmers' Income? International Journal of Environmental Research and Public Health, 19(12), 7329.
<https://doi.org/10.3390/ijerph19127329>
- Zafeiridou, M., Hopkinson, N. S., & Voulvoulis, N. (2018). Cigarette smoking: An assessment of tobacco's global environmental footprint across its entire supply chain. Environmental Science & Technology, 52(15), 8087-8094.

Chapter 9: Ensuring Coherence Between Policy Instruments

1. Introduction: Setting the Scene

a) Health taxes in the context of widening fiscal policy goals

Tax systems still primarily serve their traditional purposes of collecting revenues for financing the state machinery and public expenditure, and redistributing income and wealth. However, taxes are also increasingly used to address certain market failures, as illustrated in earlier chapters, particularly externalities and internalities (see Chapter 4 for definitions). Taxation has become a key element in policy strategies to curb the consumption of products contributing to poor health. As the rationale for taxation is widened, as well as the range of fiscal policy goals that governments may wish to pursue, the importance of policy coherence increases. There is potential for trade-offs between different goals of fiscal policies, each of which may be legitimate in its own right, and there is a need for coherence in addressing such trade-offs when they emerge.

b) Fiscal policy interactions and potential synergies

In many instances, health taxes co-exist with other indirect taxes, levied on the same products at different levels of the supply chain. This may create interactions between health taxes and other taxes, with the latter possibly weakening or magnifying the effects of health taxes. The direction and strength of the interaction effect depends on tax rates on target products, their complements and substitutes, but also on the detailed design of the different taxes at play. A health tax must be designed in a way that creates incentives for health improvement. Combining that tax with one that is designed differently, or pursuing other objectives, may result in the dilution of the incentives the health tax was designed to create. In such instances, the design of either, or both, taxes may need to take that interaction into account.

In Section II, we explore some of the potential interactions of health taxes with other indirect taxes on goods and services, direct taxes, and other fiscal and price regulation policies. Box 1 provides an illustration focusing on food and non-alcoholic beverages taxes.

c) Interactions with trade and commercial agreements and potential constraints

Policy interactions are not limited to the fiscal policy domain. In Section III, we explore the complex interplay between health taxes and customs and monetary unions, as well as non-tax agreements, such as trade and commercial agreements, as potential constraints to the use and design of health taxes. There are often tensions between international trade objectives, corporate strategies, and the imperative to safeguard public health. Some agreements set mutual obligations between the parties involved, designed to create the conditions for reaping mutual benefits down the line. However, potential external (unwarranted) effects of the obligations underwritten by a government are not always assessed, transparent, or taken into consideration in the decision to engage in an agreement. Among the possible effects of non-tax agreements, for instance, are limitations to a government's ability to apply taxes. The sometimes complex policy dynamics triggered by these agreements require careful consideration, in view of ensuring coherence between policy instruments.

d) Wider policy interactions and potential synergies

A further type of policy interaction is in connection with policies that typically form part of a public health strategy alongside health taxes. It is well established that health taxes must be viewed as one element in a wider strategy and should be combined with policy measures that are complementary, and possibly synergistic, such as packaging and marketing regulations, and education campaigns. In Section IV, we explore several public health policies that may interact with health taxes in the context of the prevention of non-communicable diseases.

2. Health taxes within the wider fiscal system

The aim of this chapter is primarily to raise awareness of potential interactions and trade-offs that might lead to policy incoherence. An important message it intends to convey is that Governments should examine the coherence of tax systems using a health lens, and design specific tax measures (health taxes) that account for potential interactions and trade-offs with the rest of the tax system.

Taxes on goods and services represent a significant portion of total tax revenue, ranging from 58% of tax revenues and 6.8% of GDP, on average, in low-income countries to 34% of tax revenues and 9.5% of GDP in high income countries.¹⁴⁴ However, health taxes represent only a fraction of such revenues. As of 2019, revenues from health taxes on tobacco and alcoholic beverages represented on average less than 1% of GDP globally (0.6% for tobacco and 0.3% for alcohol). These represent on average 4.1% of total tax revenues in high-income countries and 5.5% in low- and middle-income countries, with significant differences across individual countries. SSB taxes generate significantly less revenue.¹⁴⁵ Although the number of taxes applied on SSBs has increased in recent years, and a large potential still exists in countries not yet taxing SSBs, such taxes have a smaller tax revenue potential for reasons including a more elastic demand for those products.¹⁴⁶

There is scope for increasing existing health tax rates and raising additional tax revenues, particularly in low- and middle-income countries. While the impact on revenue resulting from increases in health taxes depends on multiple factors, including the rate of pass-through to prices, the elasticity of demand for the taxed goods, and tax avoidance strategies, one can expect revenue to increase as current health tax rates and structures in most countries are likely not set at their tax revenue maximising point.¹⁴⁷ Countries could also broaden the scope of health taxes by taxing further unhealthy products. For example, many countries still do not apply health taxes on SSBs, while some countries only apply SSB taxes to a narrow range of beverages (e.g., excluding fruit juices or sugar-sweetened milk products),¹⁴⁸ and relatively few countries apply health taxes on foods high in fat, salt, or sugar.¹⁴⁹

¹⁴⁴ OECD. Global Revenue Statistics database. Paris: OECD; 2021.

<https://www.oecd.org/en/data/datasets/global-revenue-statistics-database.html>

¹⁴⁵ World Bank. Unpacking the empirics behind health tax revenue. Global Tax Programme Health Taxes Knowledge Note Series. Washington D.C.: World Bank; 2023.

<https://documents.worldbank.org/en/publication/documents-reports/documentdetail/099755211022314276/idu1ce8d42c01ed701496c18b6317a0118352541>

¹⁴⁶ Andreyeva T, Marple K, Moore TE, Powell LM. Evaluation of economic and health outcomes associated with food taxes and subsidies: a systematic review and meta-analysis. *JAMA network open*. 2022 Jun 1;5(6):e2214371-.

¹⁴⁷ Colin C, de Melo G, Brys B. The Place for Health Taxes in the Wider Fiscal System. Chapter II. Health Taxes: Policy and Practice. Editors: Lauer A, Sassi F, Soucat A, Vigo A. Issuing body: World Health Organization. Singapore: World Scientific; 2022. https://doi.org/10.1142/9781800612396_0002

¹⁴⁸ World Health Organization. Global report on the use of sugar-sweetened beverage taxes, 2023. Geneva: WHO; 2023. <https://www.who.int/publications/i/item/9789240084995>

¹⁴⁹ Pineda E, Gressier M, Li D, Brown T, Mounsey S, Olney J, Sassi F. Effectiveness and policy implications of health taxes on foods high in fat, salt, and sugar. *Food Policy*. 2024 Feb 1;123:102599.

As discussed in Chapter 3 on the role of health taxes in national budgets and in the Addis Ababa Action Agenda,¹⁵⁰ revenue raised from such taxes can contribute to funding sustainable development. This is particularly true for low- and middle-income countries seeking to ensure financial stability in the current context of growing public debt.

a) Health taxes' interactions with other consumption taxes: opportunities and risks

Interactions between health taxes and other indirect taxes on goods and services will depend on the design and purposes of existing taxes in each country.

Shaping consumption

When a government determines that the consumption of a certain category of products exceeds socially desirable levels, and therefore must be reduced, including by using taxes, they may find that existing general consumption taxes (e.g., VAT or sales taxes) may provide incentives that are not conducive to reducing the externalities and internalities associated with that consumption. There are at least two ways in which the incentives provided by general consumption taxes and health taxes may not be well aligned. The first is the ad valorem nature of general consumption taxes, which in some instances might weaken the effects of health taxes, especially in certain population groups (e.g. price sensitive low-income groups). The second is the differentiation of general consumption tax rates, which is common and may or may not be aligned with the health impacts of different taxed products. These two issues are discussed briefly in the following paragraphs.

A common argument highlighting the potential misalignment of general consumption taxes and health objectives is that general consumption taxes, as ad valorem taxes, target value rather than quantity of a potentially unhealthy product (although the two are at least broadly correlated, as a larger quantity corresponds to a larger value). This may have practical implications when there is a negative correlation (e.g., fast food), or no correlation, between price and health impact, as some consumers may decide to purchase cheaper products to mitigate the impact of a tax on their finances, thus offsetting the intended effect of a health tax applied on such products. This risk has been discussed widely in the context of tobacco taxation, in which 'trading down' (consumers responding to taxation by shifting to cheaper products) is a strong possibility. In the case of tobacco products there is no correlation between price and health impact, as all cigarettes are equally harmful. The risk of trading down also causes equity concerns, as low-income consumers tend to be both most responsive to price changes and most vulnerable to health harms from taxed products.

The relationship between value and health impacts is more complex in the case of alcoholic beverages, and even more so in the case of food and non-alcoholic beverages (for instance, foods high in fat, salt or sugar are often more expensive than healthier foods by weight, but the opposite is true by calorie, so the correlation between value and health impact can be positive or negative, depending on what drives consumer choices in a particular setting). Therefore, governments must assess the incentives from existing ad valorem general consumption taxes on a case-by-case basis in designing health taxes. For example, introducing a specific excise tax - based on quantity or volume - may contribute to reducing the relative price difference between cheaper and more expensive products.

A second area which requires attention is the differentiation of general consumption tax rates, which creates incentives for consumer and supplier behaviour that need to be taken into consideration in the design of health taxes. VAT or sales tax rate differentiation is very common in the case of food and

¹⁵⁰ United Nations. Addis Ababa Action Agenda. New York: UN; 2015.
<https://sustainabledevelopment.un.org/index.php?menu=35&nr=2051&page=view&type=400>

non-alcoholic beverages, while it is more limited in the case of alcoholic beverages and tobacco products. Rate differentiation is often a response to distributional concerns, but it may be used to address other types of objectives (e.g., industrial policy objectives) in the short as well as in the long term. Health goals do not need to take priority over other legitimate goals, but fiscal policy makers should consider ways in which the different goals can be best pursued with a set of appropriately designed tax measures.

Finally, some countries apply additional environmental levies to certain types of packaging or container (e.g., on cans or plastic bottles). They are most often applied as a specific rate per container or packaging. In some countries, they work as a deposit that is refunded when the packaging or container is returned. Even in this case, such levies can have an impact on the final retail price that consumers face. In the case of alcoholic beverages, this is applied regardless of the alcohol content of the product and may translate to a higher total tax burden and a higher increase in the relative price per unit of alcohol for a lower-ABV beverage (e.g., a beer) than a high-ABV beverage (e.g., a spirit), which may not be aligned with public health objectives.

Revenue generation

From a revenue generation perspective, health taxes, in the form of excise taxes, are most often part of the tax base value on which VAT or sales taxes apply. Introducing or increasing excise taxes on a specific product may thus in turn increase the total VAT or sales tax revenue raised on this product. However, a wide range of factors determine such a relationship. First, a higher tax base value results in higher VAT or sales tax revenue per unit sold. Second, the price effect likely induces a drop in demand which reduces total VAT or sales tax revenue. The resulting net impact on VAT revenue from the price effect and the quantity effect depends on the elasticity of the demand for the taxed good. A third factor is the extent to which consumers may adopt tax avoidance strategies. A tax increase may induce consumers to shift to other untaxed or more lightly taxed goods. The impact on VAT or sales tax revenue thus depends on cross-price effects and the tax rates applied to close substitutes. Illicit trade and opportunities for cross-border shopping may also represent tax avoidance strategies that may impact tax revenue. Finally, as for the impact on excise tax revenue, VAT or sales tax revenue is influenced by the tax passthrough, i.e., the extent to which the excise tax increase is passed onto consumers through higher retail prices.

While trade liberalization has led to a general reduction of tariffs and broadening regional free trade areas are eliminating tariffs with subregions of the globe, customs and other import duties still represent a significant proportion of tax revenue in low- and middle-income countries.¹⁵¹ Health taxes may reduce the consumption of health harming products, and thus may reduce imports of such products. The impact of health taxes on the revenue from customs and other import duties is mostly driven by this quantity effect given that the base value for customs and other import duties most often does not include health taxes and is only made of the import or CIF¹⁵² value. However, specific excise taxes on tobacco or alcohol, which particularly increase the price of low-cost or lower-quality products (relative to higher-cost or high-quality products), may lead consumers to perceive higher-priced cigarettes or alcoholic beverages as higher quality and create a shift in consumer preference towards the perceived higher-

¹⁵¹ Lawrence RZ. The unappreciated trend toward unilateral trade liberalization. 2021. Peterson Institute for International Economics Policy Briefs, March 2021. <https://www.piie.com/sites/default/files/documents/pb21-6.pdf>; World Bank. Customs and other import duties (% of tax revenue). Washington, D.C: World Bank; 2024. <https://data.worldbank.org/indicator/GC.TAX.IMPT.ZS>

¹⁵² Cost, Insurance and Freight (CIF) value is the value of unloaded consignment paid by a seller to cover the costs, insurance, and freight against the possibility of loss or damage to a buyer's order while it is in transit. The CIF value is used in most countries as the base for import duties and ad valorem excise taxes on imported products.

quality products.¹⁵³ The latter being often imported, the value of imports could rise, offsetting part of the aforementioned quantity effect on customs and other import duties revenue.

Some countries apply additional special levies to specific products in addition to excise taxes. This is the case, for example, of Costa Rica with the INDER levy on tobacco products and alcoholic and non-alcoholic beverages, aimed at funding education and other needs of rural development (it takes the name of the Institute of Rural Development, which receives the revenue).¹⁵⁴ If such additional levies follow a specific tax structure, health taxes may reduce their revenue through the quantity effect. If they follow an ad valorem tax structure, including health taxes in their base value, the impact of health taxes on their revenue will additionally depend on the price effect.

Governments should consider these individual interactions between health taxes and other indirect taxes in designing fiscal policies. However, from a revenue generation perspective, any potential decline in revenue from other indirect taxes should be considered against increased revenue from health taxes as well as increased revenue from household spending shifts (i.e., substitution from goods targeted by a health tax to other goods and services) as a net combined effect on total indirect tax revenue.

b) Interactions with other fiscal and regulatory policies

Direct taxes

Direct taxes include, among others, personal income tax, inheritance tax, capital gains tax, and corporate income tax which is imposed on companies' profits. In this subsection, we focus on interactions between health taxes and personal income and corporate income taxes, as most other forms of direct taxes apply to capital or wealth.

Corporate income tax

Health taxes may impact corporate income tax revenue although their net effect depends on various factors. First, as any other indirect tax or policy targeted at reducing the consumption of specific products, a health tax may decrease sales thus reducing the base for corporate income tax, being total corporate profits. This quantity effect may be balanced by a substitution effect for large companies producing close substitutes. For example, a company producing soft drinks may decrease its sales of regular carbonated soft drinks but increase its sales of diet carbonated soft drinks or bottled waters following the introduction or increase of SSB taxes. Similarly, following an increase in alcohol taxes, a beer producer may incur decreases in the sales of beers with alcohol but increase its sales of non-alcoholic beers. Consumer substitutions from goods targeted by a health tax to other goods and services may also increase corporate income tax revenue from other sectors.

On the other hand, health taxes may improve employees' health through a reduced risk of negative health conditions associated with the consumption of health-harming products. For example, smokers in China, the US, and five European countries have been found to experience 22% more work-related impairments due to health problems compared to non-smokers.¹⁵⁵ Smokers also take more breaks throughout the workday than non-smokers.¹⁵⁶ Increased productivity (e.g., less presenteeism or

¹⁵³ Delipalla S, Keen MJ. Product quality and the optimal structure of commodity taxes. *J Public Econ Theory*. 2006;8:547–54; Sornpaisarn B, Shield KD, Österberg E, Rehm J. Resource tool on alcohol taxation and pricing policies. Geneva: World Health Organization; 2017. <https://iris.who.int/handle/10665/255795>

¹⁵⁴ See: [https://www.tobaccofreekids.org/what-we-do/global/taxation-price/tax-gap-costa-rica#:~:text=Costa%20Rica%20also%20imposes%20a,development%20\(Law%20No%205792\)](https://www.tobaccofreekids.org/what-we-do/global/taxation-price/tax-gap-costa-rica#:~:text=Costa%20Rica%20also%20imposes%20a,development%20(Law%20No%205792)).

¹⁵⁵ Baker CL, Flores NM, Zou KH, Bruno M, Harrison VJ. Benefits of quitting smoking on work productivity and activity impairment in the United States, the European Union and China. *International journal of clinical practice*. 2017 Jan;71(1):e12900.

¹⁵⁶ Berman M, Crane R, Seiber E, Munur M. Estimating the cost of a smoking employee. *Tobacco control*. 2013 May 25.

smoking breaks) may in turn increase profits and lead to higher corporate income tax revenue. Reducing work absenteeism linked with unhealthy lifestyles may also reduce corporate costs,¹⁵⁷ increasing profits, potentially leading to higher corporate income tax revenue.

Personal income tax

As health taxes reduce the consumption of health-harming products, they may improve health outcomes. As previously mentioned, this may translate into less work absenteeism, improved productivity at work (i.e., reduced presenteeism), and averted early retirement or exit from the labour force due to morbidity or premature mortality. For example, the frequency of heavy episodic drinking in the previous month¹⁵⁸ is associated with higher recorded absence days at work.¹⁵⁹ Workers with extreme and moderate obesity may also be less productive.¹⁶⁰ Increasing life expectancy through improved health outcomes may delay exit from the labour force. Additional working years result in additional personal income tax revenue for the government and a reduced burden on pension systems and other social benefits. Increased firm productivity may also trickle down to increased household income and thus increased personal income tax revenue.

On the other hand, health taxes, as any other policy targeted at reducing the consumption specific products, may negatively impact targeted industries through reduced sales and increased costs. This largely depends on pass-through rates, price elasticities, and substitution effects within the industry. One may expect declines in sales to negatively impact employment and thus reduce personal income tax revenue for the government. However, the evidence shows that health taxes have a non-significant impact or even a net positive effect on overall employment, especially when taking into account the job-creation that accompanies public spending projects that use the tax revenue raised (see Chapter 8 for more details on the macroeconomic impact of health taxes).¹⁶¹ Substitute sales can also lead to increased revenue and employment in alternative industries.

Welfare expenditures

From a fiscal balance perspective, the size of public expenditure is just as important as tax revenue, and health taxes will influence the former in several ways. Analysing the distributional and equity effects of shifts in tax composition should occur in conjunction with an examination of the mix of public spending. A regressive tax system could enhance overall redistribution through the transfer of tax revenue if the associated spending has larger progressive effects.

While limited, some health-harming product industry workers may lose employment and income as the demand for these products falls. Governments should assist such vulnerable workers - who may lack the skills to adapt - to access equal or better livelihoods; for example, helping tobacco farmers to

¹⁵⁷ Pidd KJ, Berry JG, Roche AM, Harrison JE. Estimating the cost of alcohol-related absenteeism in the Australian workforce: the importance of consumption patterns. *Medical Journal of Australia*. 2006 Dec;185(11-12):637-41.

¹⁵⁸ Defined by WHO as having at least 60 grams or more of pure alcohol on at least one occasion in the past 30 days.

¹⁵⁹ Bacharach SB, Bamberger P, Biron M. Alcohol consumption and workplace absenteeism: the moderating effect of social support. *Journal of Applied Psychology*. 2010 Mar;95(2):334.

¹⁶⁰ Gates DM, Succop P, Brehm BJ, Gillespie GL, Sommers BD. Obesity and presenteeism: the impact of body mass index on workplace productivity. *Journal of occupational and environmental medicine*. 2008 Jan 1:39-45.

¹⁶¹ World Bank. Tobacco Tax Reform at the Crossroads of Health and Development. Washington, D.C.: World Bank; 2017. <https://elibrary.worldbank.org/doi/abs/10.1596/28494>; Mounsey S, Veerman L, Jan S, Thow AM. The macroeconomic impacts of diet-related fiscal policy for NCD prevention: a systematic review. *Economics & Human Biology*. 2020 May 1;37:100854.

transition to alternative crops.¹⁶² This may lead to increased government expenditure, which could be covered using health tax revenue.

On the other hand, a growing incidence of NCDs associated with the consumption of health-harming products such as tobacco, alcohol, and unhealthy foods and beverages lead to higher health expenditure, both from public sources and out-of-pocket. Such expenditure may lead some individuals to fall into poverty.¹⁶³ Health taxes can improve health outcomes and reduce government health expenditures as well as households' need for welfare transfers.

Subsidies (agricultural, industry-specific)

Production subsidies sometimes exist on health-harming products or their inputs, affecting the fiscal balance but also representing incoherences with public health objectives. For example, while 21% of Ugandans engage in binge drinking and alcohol use is the leading risk factor for years of life lost in the country, the government of Uganda has heavily subsidized low-cost local sorghum-based beer production for the past two decades to support jobs in the industry.¹⁶⁴

Production supports, such as agricultural subsidies, often apply on crops which are key ingredients in ultra-processed foods (e.g., corn for high-fructose corn syrup) and raise health concerns.¹⁶⁵ Evidence from the United States shows that current government-issued agricultural subsidies are participating to the obesity epidemic.¹⁶⁶ Policy coherence could be improved by performing an assessment of measures supporting production for alignment with nutrition and health goals. For example, the government of Malaysia in 2013 removed subsidies on sugar because of the high incidence of diabetes.¹⁶⁷

Argentina's Special Tobacco Fund (FET) tax on tobacco products represents another example of incoherence with public health objectives. Revenue from this tax - applied in addition to excises - is used by the government to subsidise producers of the main tobacco producing provinces.¹⁶⁸ This means that while the excise tax is looking to raise prices and reduce consumption, the FET presumably places downward pressure on the price of loose tobacco.

Price regulation policies

Pricing measures, such as price controls, aimed at ensuring food affordability, enhancing food security, and protecting consumers are implemented in many low- and middle-income countries. In the WHO Southeast Asia and Western Pacific regions, for instance, price controls on unhealthy foods like sugar, fats, and oils have raised concerns about their negative impact on promoting healthier food environments. These are often implemented by government agencies for finance and commerce, which

¹⁶² World Bank. Tobacco Tax Reform at the Crossroads of Health and Development. Washington, D.C.: World Bank; 2017. <https://elibrary.worldbank.org/doi/abs/10.1596/28494>

¹⁶³ Ciapponi A, World Health Organization. Systematic review of the link between tobacco and poverty. Geneva: WHI; 2014. https://iris.who.int/bitstream/handle/10665/136001/9789241507820_eng.pdf

¹⁶⁴ Vital Strategies. The sobering truth: Incentivizing alcohol death and disability. An NCD Policy Report. New York: Vital Strategies; 2021. <https://www.vitalstrategies.org/resources/the-sobering-truth-incentivizing-alcohol-death-and-disability/>

¹⁶⁵ Do WL, Bullard KM, Stein AD, Ali MK, Narayan KV, Siegel KR. Consumption of foods derived from subsidized crops remains associated with cardiometabolic risk: an update on the evidence using the national health and nutrition examination survey 2009–2014. *Nutrients*. 2020; 12:3244.

¹⁶⁶ Franck C, Grandi SM, Eisenberg MJ. Agricultural subsidies and the American obesity epidemic. *American journal of preventive medicine*. 2013 Sep 1;45(3):327-33.

¹⁶⁷ Bridel A, Lontoh L. Lessons Learned: Malaysia's 2013 Fuel Subsidy Reform. Winnipeg, Canada: International Institute for Sustainable Development; 2014. https://www.iisd.org/gsi/sites/default/files/ffs_malaysia_lessonslearned.pdf

¹⁶⁸ González-Rozada M. Impact of a recent tobacco tax reform in Argentina. *Tobacco Control*. 2020 Nov 1;29(Suppl 5):s300-3.

are generally separated from health agencies.¹⁶⁹ From a nutritional perspective, greater policy coherence regarding overall price incentives to consumers could be achieved through the revision of price control measures to account for nutritional impact.¹⁷⁰

Free trade zones and duty-free retailers are also examples of policy incoherence, incentivising bulk sales of harmful products (e.g. tobacco products, alcoholic beverages, sweets) at reduced prices. Free trade zones may also have negative impacts on illicit trade, as discussed in Chapter 8.

On the other hand, other pricing measures, such as minimum pricing of alcoholic beverages or bans on price promotions on health-harming products may strengthen the potential health benefits of a health tax. Minimum pricing policies set a fixed price level below which a specific volume of product (or volume of ethanol for alcohol minimum unit pricing policies) cannot be sold. It has been shown to reduce alcohol consumption and harms and to be particularly effective to target heavier drinkers.¹⁷¹ The WHO Framework Convention on Tobacco Control (FCTC) includes a comprehensive ban on price promotions (Art. 13).¹⁷² Recently, the UK has passed legislation to restrict the use of multi-buy price promotions on products high in fat, sugar, or salt to promote healthier diets. However, the implementation of the measure has been delayed.¹⁷³ Such policies should be considered as a complement to taxation.

d) Tax administration and compliance costs

As most other taxes, health taxes generate revenue as well as administrative and compliance costs for governments. Some trade-offs exist between keeping such costs as low as possible and designing an effective tax to reduce the use of harmful products. For example, while specific excise taxes based on alcohol or nutrient content may perform better at targeting unhealthy products, they require detailed product information and may involve closer monitoring and more complex enforcement than quantity/volume based specific taxes. Also, specific taxes necessitate regular updates for inflation to avoid base erosion.

Excise taxes on health-harming products may share the same tax base with other consumption taxes (e.g., VAT), thereby necessitating a coordinated approach to administration between often siloed indirect tax departments. The inclusion of the excise tax amount in the tax base of other consumption taxes contributes to increasing the overall tax burden on these products, further deterring their consumption. Some countries do not include excise taxes as part of the VAT tax base value. For example, the VAT tax base value for tobacco products in Costa Rica does not include the specific excise tax applied on such products.¹⁷⁴ While this does not lower the excise tax burden applied to tobacco products, it reduces the overall tax burden imposed on such products and is thus not coherent from a

¹⁶⁹ Sträuli B, Thow AM, Reeve E. Policy coherence of price controls on food and noncommunicable disease prevention, WHO South-East Asia and Western Pacific regions. *Bulletin of the World Health Organization*. 2024 Nov 6;103(1):43.

¹⁷⁰ Asfaw A. Do Government Food Price Policies Affect the Prevalence of Obesity? Empirical Evidence from Egypt. *World Development*. 2007; 35:687-701.

¹⁷¹ World Health Organization. Regional Office for Europe. No place for cheap alcohol: the potential value of minimum pricing for protecting lives. Copenhagen: WHO EURO; 2022.
<https://iris.who.int/bitstream/handle/10665/356597/9789289058094-eng.pdf?sequence=1>

¹⁷² World Health Organization. Framework Convention on Tobacco Control. Geneva: WHO; 2003.
<https://iris.who.int/bitstream/handle/10665/42811/9241591013.pdf?sequence=1>

¹⁷³ The Guardian. Ban on two-for-one junk food deals to be delayed for two more years. 16 June 2023.
<https://www.theguardian.com/society/2023/jun/17/ban-two-for-one-junk-food-deals-delayed-two-years>

¹⁷⁴ Art. 12, Law 9635, December 2018. The specific excise tax component is not included in the VAT tax base, but the ad valorem excise tax component is included. Portilla Navarro A. [Productos de tabaco logran esquivar parte del IVA](#), aDiarioCR.com; 19 June 2019.

public health perspective. It may also add administrative complexity and compliance costs as it creates an exception only for some products.

While not optimal from a tax policy efficiency and revenue generation perspective, many countries differentiate their VAT rates across consumer goods.¹⁷⁵ Some countries take advantage of such differentiation and apply higher VAT rates on harmful products, in addition to excise taxes. This is the case of Panama, where a standard VAT rate of 7% is applied on most goods and services but higher rates of 10% and 15% apply to alcoholic beverages and tobacco products, respectively. In addition, the country applies an excise tax on such products.

Box 1. Interactions with existing indirect taxes: the case of food and non-alcoholic beverages

We use the example of health taxes on food and non-alcoholic beverages to illustrate the importance of interactions between health taxes and other taxes, particularly VAT or sales taxes. More details on health taxes on food and non-alcoholic beverages can be found in Chapter 13.

While the policy goal for most health taxes is to reduce consumption, the main policy goal for health taxes on food is to shift consumption from less healthy to healthier foods. Most households have relatively stable food expenditures, overall, but when the relative prices of different foods change, households tend to respond strongly – especially strongly when the relative prices of close substitutes change – and adapt their consumption to the new price structure.¹⁷⁶ Any taxes differentiating rates between food products can shift relative prices and incentivise certain food choices over others. Most countries do apply indirect taxes to food. Among them, many differentiate VAT or sales tax rates across food products, applying reduced rates or even zero-rating VAT or sales tax for selected food groups. This means that consumer food choices are different from what they would be without taxes, or with uniform taxes, and incentives may not go in the direction of improved nutrition.

In countries that apply indirect taxes at different rates on different foods, a starting point in designing health taxes is to assess the scope for an improved alignment of tax rates with the nutritional quality of different foods. An improved alignment can take several forms, including increasing rates on less healthy foods when there is scope to do so, and using reduced and zero rates on healthier foods when these are taxed at higher rates. This approach may not be sufficient to create effective incentives, because (a) few indirect tax rates are usually available; (b) existing taxes (VAT or sales taxes) tend to be ad valorem, which may not be ideal in the design of health taxes; (c) highest rates tend to be low; (d) measures may be required to ensure a high pass-through of both rate increases and decreases; (e) fiscal policy makers may be reluctant to use a general purpose tax in the pursuit of a specific policy goal; and (f) administrative and compliance costs may be associated with the differentiation of consumption tax rates according to nutritional quality criteria.

On the other hand, removing inconsistencies and aligning existing indirect taxes to health goals would not require new taxes, which would simplify the policy process, and would reduce administrative and compliance costs relative to a scenario in which a new tax was added to existing ones. Countries currently using differentiated VAT or sales tax systems for poverty alleviation, economic growth, or

¹⁷⁵ EY (2024). Worldwide VAT, GST and Sales Tax Guide 2024. https://www.ey.com/en_gl/tax-guides/worldwide-vat-gst-and-sales-tax-guide

¹⁷⁶ Green R, Cornelsen L, Dangour AD, Turner R, Shankar B, Mazzocchi M, Smith RD. The effect of rising food prices on food consumption: systematic review with meta-regression. *Bmj*. 2013 Jun 17;346; Cornelsen L, Green R, Turner R, Dangour AD, Shankar B, Mazzocchi M, Smith RD. What happens to patterns of food consumption when food prices change? Evidence from a systematic review and meta-analysis of food price elasticities globally. *Health economics*. 2015 Dec;24(12):1548-59.

the support of specific industries do so despite the aforementioned concerns around tax pass-through, revenue generation inefficiency, and administrative costs. Countries that wish to apply health taxes separately from general consumption taxes, as it typically happens with tobacco and alcohol products, and with sugar-sweetened beverages, may differentiate the taxation of food products by applying a new excise tax selectively on certain products, additional to existing VAT or sales taxes (as several countries using health taxes on food have done, e.g., Colombia). However, they should still be aware of the incentives embedded in the underlying differentiated VAT or sales tax rates, and they should consider the overall increase in the cost of food to consumers that adding a new tax to existing ones entails.

3. Health taxes and trade and investment agreements

a) Trade obligations and the right to impose domestic health taxes

Trade and international investment agreements play a crucial role in shaping economic relations, yet they also introduce limitations on the use of domestic taxation. The World Trade Organization (WTO) imposes constraints on the application of customs duties and establishes principles of non-discrimination. Disputes may arise when there are allegations that a tax discriminates against imported products in comparison to their domestic counterparts. Any differential treatment of product categories needs to be justified by differences in the risk they pose to health. Ensuring a health rationale is therefore key when designing health taxes. While there have been relatively few trade disputes concerning health taxes, the industries producing health-harming products may invoke trade laws, or the threat of legal action based on trade law, to oppose taxation policies.¹⁷⁷

Although customs duties and tariffs are not the preferred tax instrument to target unhealthy commodities, they are used in lieu of excise taxes in some countries, particularly small island states (e.g., Bermuda). They may represent an adequate form of taxation for health-harming products when no domestically produced substitutes are available, or able to be produced. However, their use is limited by trade agreements establishing upper limits or the phasing out of customs duties and tariffs through increased liberalisation.

Trade agreements can limit excise taxes through the principle of non-discrimination. The WTO General Agreement on Tariffs and Trade (GATT) is the overarching governing agreement regulating trade. The WTO GATT prohibits domestic tax discrimination both in form - i.e., explicitly taxing an imported product more than a 'like' domestic product - and in effect - i.e., the tax rates are the same between substitutable imported and domestic products but a relatively higher tax burden is imposed on imported products (WTO GATT Article III:2). The latter is less quantifiable and necessitates assessing the degree of competitiveness or substitutability between imported and domestic products. For example, a tiered alcohol-content-based specific excise tax on alcoholic beverages could be found discriminatory under WTO GATT if a significantly higher proportion of imported spirits are taxed at a higher rate than similar domestically produced spirits. This was the case in Chile in the late 1990s.¹⁷⁸

The GATT's principle of non-discrimination is not incongruent with good practices in health taxes that argue in favour of taxing domestic and imported products similarly (e.g., a domestic cigarette is not

¹⁷⁷ McGrady B, Khanijo K. Health taxes and trade law. Chapter XI. Health Taxes: Policy and Practice. Editors: Lauer A, Sassi F, Soucat A, Vigo A. Issuing body: World Health Organization. Singapore: World Scientific; 2022. https://doi.org/10.1142/9781800612396_0014; Eckhardt J, Holden C, Callard CD. Tobacco control and the World Trade Organization: mapping member states' positions after the framework convention on tobacco control. *Tobacco control*. 2016 Nov 1;25(6):692-8.

¹⁷⁸ Appellate Body Report, Chile – Taxes on Alcoholic Beverages, WT/DS87/AB/R, AT/DS110/AB/R, adopted 12 January 2000. https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds87_e.htm

healthier than an imported cigarette). Nevertheless, discriminatory taxation can be justified on health grounds. In particular, WTO GATT Article XX states: “Subject to the requirement that such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade, nothing in this Agreement shall be construed to prevent the adoption or enforcement by any Member of measures: [...] (b) necessary to protect human, animal or plant life or health; [...]”. Taxation to promote healthier behaviour (reducing smoking or alcohol consumption) or diets may thus be considered a measure to protect human health. So, for example, a tiered alcohol-content-based specific excise tax on alcoholic beverages could be justified on this basis. Nevertheless, any differential tax treatment must be justifiable by reference to a health goal and the positive contributions to public health must outweigh the degree to which the tax restricts international trade. The Appellate Body of the WTO may consider, for example, whether another tax structure or non-tax less restrictive alternative regulation could achieve the pursued public health objectives.¹⁷⁹

The Harmonized System (HS) codes developed by the World Customs Organization (WCO) to classify traded products have been used extensively as criteria to define products subject to consumption taxes. HS codes are agreed as part of custom/monetary unions or trade agreements. Such classification is based on characteristics other than health or nutritional content. This creates challenges for the introduction of health taxes on products and product types that lack their own HS code. For example, HS code 2202 does not differentiate between sugar-sweetened and non-sugar sweetened beverages (e.g., artificially sweetened beverages). However, HS codes can be adapted by countries or customs and monetary unions, notably for regulatory purposes, for example, by further extending the 6-digit HS codes to more detailed 8-digit or more specific codes. Also, the WCO often revise HS codes and can amend the classification to better classify some products. For example, following proposals from the WHO FCTC Secretariat, the WCO has adopted new customs subheadings relevant to the classification of novel and emerging tobacco products and nicotine products in its 2022 HS code nomenclature.¹⁸⁰

b) Customs and monetary unions

Agreements governing customs and monetary unions may establish minimum or maximum levels of excise or sales taxes for specific product categories. Additionally, these agreements might seek to harmonize rules in order to ease tax administration. Stipulating maximum tax rates may limit the potential of health taxes. This was the case for tobacco taxes until 2017 in the Economic Community of West African States and is still the case in the Western African Economic and Monetary Union.¹⁸¹ This current lack of harmonization between the directives of these two communities may lead countries to ‘pick and choose’ which to follow, possibly further undermining the potential of health tax policies in the region. Conversely, the European Union has a common framework for excise taxation on tobacco and alcohol, which sets out the tax base, structure, and minimum rates.¹⁸² It has led the EU to be the region with the highest tobacco taxes and generated significant positive externalities in the use of tobacco taxes globally.¹⁸³ A similar approach is followed by the Gulf Cooperation Council countries - Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and United Arab

¹⁷⁹ McGrady B, Khanijo K. Health taxes and trade law. Chapter XI. Health Taxes: Policy and Practice. Editors: Lauer A, Sassi F, Soucat A, Vigo A. Issuing body: World Health Organization. Singapore: World Scientific; 2022. https://doi.org/10.1142/9781800612396_0014

¹⁸⁰ FCTC/COP/9/10. See: <https://iris.who.int/bitstream/handle/10665/368642/fctc-cop9-10-en.pdf?sequence=1>

¹⁸¹ Tesche J, Van Walbeek C. Measuring the effects of the new ECOWAS and WAEMU tobacco excise tax directives. Tobacco control. 2020 Sep 28.

¹⁸² Except for wine in effect, as the minimum excise tax rate is set to EUR 0 in the European Union. See: https://taxation-customs.ec.europa.eu/taxation-1/excise-duties/excise-duty-alcohol_en. Blecher E, Ross H, Leon ME. Cigarette affordability in Europe. Tobacco control. 2012 Oct 1; Angus C, Holmes J, Meier PS. Comparing alcohol taxation throughout the European Union. Addiction. 2019 Aug;114(8):1489-94.

¹⁸³ World Health Organization. WHO report on the global tobacco epidemic, 2023: protect people from tobacco smoke. Geneva: 2023; WHO. <https://www.who.int/publications/i/item/9789240077164>

Emirates - for tobacco and alcohol, as well as for SSBs.¹⁸⁴ Member countries of these unions must abide by these rules, which contribute to protecting public health. Overall, while customs and monetary unions may at times impose limitations on the use of health taxes, when well-designed, they also have the potential to significantly expand their use.

c) Public-private partnerships and investment agreements

Public-private partnerships and investment agreements may limit the ability to implement and increase health taxes, impeding policy coherence across government sectors. Two critical aspects are the potential conflicts of interest between the profit-driven motives of private entities and the broader objectives of governments which include public health and wellbeing as well as the lack of coherence across government with some sectors pursuing foreign investment and economic growth in detriment of public health. Investment agreements between governments and private entities often involve negotiations that influence regulatory frameworks, potentially hindering the imposition of higher taxes on products detrimental to public health. These types of agreement can also include other kinds of tax benefits, like corporate tax holidays clauses or customs exemptions on the import of input materials. Their intricacies can limit the flexibility of governments to adopt health taxes, enforce existing ones, or weaken their potential health benefits by putting a downward pressure on the price of health-harming products. Any such agreements, often signed by non-health sectors of governments, should be in line with the national laws enacted to protect public health, as well as obligations under international treaties, such as the WHO FCTC. In Box 2, we present the experience of the Lao People's Democratic Republic which signed an investment license agreement as part of a public-private partnership with a tobacco company providing preferential tax treatment and placing a moratorium on tobacco tax increases.¹⁸⁵

¹⁸⁴ Delipalla S, Koronaoui K, Al-Lawati JA, Sayed M, Alwadey A, AlAlawi EF, Almutawaa K, Hussain AH, Al-Maidoor W, Al-Farsi YM. The introduction of tobacco excise taxation in the Gulf Cooperation Council Countries: a step in the right direction of advancing public health. *BMC Public Health*. 2022 Apr 13;22(1):737; Alsukait R, Bleich S, Wilde P, Singh G, Folta S. Sugary drink excise tax policy process and implementation: Case study from Saudi Arabia. *Food Policy*. 2020 Jan 1;90:101789.

¹⁸⁵ Southeast Asia Tobacco Control Alliance. Tobacco Industry Monitor. Lao Tobacco Limited (LTL). Bangkok: SEATCA; 2020. <https://timonitor.seatca.org/lao-tobacco-limited-ltl/>; Ross, H. Lost Funds: A Study on the Tobacco Tax Revenue Gap in selected ASEAN countries. Bangkok: SEATCA; 2021.

<https://seatca.org/dmdocuments/SEATCA%20LOST%20FUND%20FINAL.pdf>; Doward, J., UK cigarette firm criticised over Laos tobacco tax deal, in *The Guardian*. 2014. <https://www.theguardian.com/world/2014/oct/05/imperial-tobacco-laos-cigarette-tax-deal>; Ministry of Health Lao PDR, RTI International, UN Development Programme, Secretariat of the WHO FCTC, and World Health Organization. Investment Case for Tobacco Control in LAO PDR: The case for scaling up WHO FCTC implementation. Bangkok: UNDP; 2022. <https://www.undp.org/laopdr/publications/investment-case-tobacco-control-lao-pdr-case-scaling-who-fctc-implementation>; UNDP Laos. Creating a Tobacco-Free Future for Laos. Vientiane, Lao PDR: UNDP; 2024. <https://laopdr.un.org/en/270235-creating-tobacco-free-future-laos>

Box 2. The Lao People’s Democratic Republic 25-year Investment License Agreement with Imperial Tobacco

On 23 November 2001, the government of the Lao People’s Democratic Republic (Lao PDR) signed a 25-year (2001-2026) Investment License Agreement (ILA) with local subsidiaries of Imperial Tobacco, a British multinational tobacco company. This agreement provides preferential tax treatment to Lao Tobacco Company Ltd, a joint venture between the subsidiaries of Imperial Tobacco and the government of Lao PDR, which retains 47% ownership, accounting for approximately 80% of the market in Lao PDR. Specifically, it stipulates a freeze of the ad valorem excise tax rate on tobacco at a rate of 15% below a certain level of production cost (LAK 1,500 per pack, approximately USD 0.07) and 30% above such production level, while the official statutory ad valorem excise tax rate was 50%, as defined under the national tax law in 2020. In addition to this lower rate, the tobacco industry is not complying with the national Tobacco Control Fund contributions (2% tax on tobacco company profits tax and a specific tax of LAK 200 per pack), which is meant to finance the National Tobacco Control Programme. While the government of Lao PDR intended to boost foreign investment and economic activity in the country through this ILA, it is estimated that it lost LAK 1,429 billion (USD 142.9 million) in excise tax revenue from 2002-2019 because of it. UNDP estimated that these funds could have, for example, helped build 30 hospitals. The ILA is up for renewal for another 25 years in 2026. According to Article 5.3 of the WHO FTCT, of which Lao PDR is a member, governments should protect tobacco control policies from the commercial interests of the tobacco industry.

4. Health taxes and other cost-effective NCD prevention policies

Health taxes are among the most cost-effective policies to prevent NCDs. Taxes on tobacco products and alcoholic beverages are listed among the WHO ‘best-buys’ interventions for the prevention and control of NCDs, i.e., the most cost-effective and feasible for implementation. SSB taxes were included in the WHO list of recommended cost-effective interventions following the 70th World Health Assembly in 2017.¹⁸⁶ More recent evidence has highlighted their effectiveness in increasing the price of SSBs and reducing purchases.¹⁸⁷

However, health taxes should not be viewed as a standalone policy option, but rather as one component of a comprehensive strategy for preventing NCDs, alongside other evidence-based interventions. Combining policies into coherent policy packages may yield better outcomes than implementing individual interventions in isolation.¹⁸⁸ Some policies, such as packaging and marketing regulations, are coherent by design. This section considers policy coherence as maximizing the potential effectiveness of health taxes and discusses the introduction of other population-level policy options that may provide complementary incentives that could work synergistically with health taxes to promote

¹⁸⁶ World Health Organization. Tackling NCDs: 'best buys' and other recommended interventions for the prevention and control of noncommunicable diseases. Geneva: WHO; 2017.

<https://www.who.int/publications/i/item/WHO-NMH-NVI-17.9>

¹⁸⁷ Andreyeva T, Marple K, Marinello S, Moore TE, Powell LM. Outcomes following taxation of sugar-sweetened beverages: a systematic review and meta-analysis. *JAMA Network Open*. 2022 Jun 1;5(6):e2215276-.

¹⁸⁸ U.S. National Cancer Institute and World Health Organization. The Economics of Tobacco and Tobacco Control. National Cancer Institute Tobacco Control Monograph 21. NIH Publication No. 16-CA-8029A. Bethesda, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Cancer Institute; and Geneva, CH: World Health Organization; 2016.

<https://cancercontrol.cancer.gov/brp/tcrb/monographs/monograph-21>; Organisation for Economic Co-operation and Development. Preventing Harmful Alcohol Use. Paris: OECD; 2021.

<https://www.oecd.org/health/preventing-harmful-alcohol-use-6e4b4ffb-en.htm>; Organisation for Economic Co-operation and Development. The Heavy Burden of Obesity: The Economics of Prevention. Paris: OECD; 2019. https://www.oecd-ilibrary.org/social-issues-migration-health/the-heavy-burden-of-obesity_67450d67-en

healthier behaviours and prevent NCDs. Emphasis is placed on the most cost-effective non-fiscal policies, such as those included in the WHO ‘best-buys’.

a) Packaging regulations

Graphic warnings and other standardized labelling policies aim to inform consumers about the content of health-harming products and associated health consequences. Recently, Ireland introduced the first comprehensive health labelling law for alcohol products, including alcohol content as well as warnings about some of the health risks associated with alcohol consumption.¹⁸⁹ While the evidence for alcohol labelling is limited it remains relatively favourable.¹⁹⁰ Front-of-pack nutrition labelling and warnings are increasingly implemented and have been found to lead to reduced purchases of unhealthy products while promoting healthier alternatives and industry reformulation.¹⁹¹ The WHO FCTC recommends the use of large graphic warnings on all tobacco packages (Art. 11).¹⁹² It represents the most widely implemented tobacco control policy of the MPOWER¹⁹³ package.¹⁹⁴ Following the example of Australia in 2012, an increasing number of countries have gone further and implemented plain packaging laws. Evaluations have shown that such policies increase knowledge and reduce smoking.¹⁹⁵

The categorization of foods based on their nutrient composition is required for both health taxes and front-of-pack nutrition labelling and warnings. The use of nutrient profile modelling to identify products with excessive amounts of unhealthy nutrients, such as sugar, sodium or saturated fat is widely recommended.¹⁹⁶ This approach has also been suggested as a way to identify HFSS foods for taxation and adopted by Colombia in 2023.¹⁹⁷ Applying health taxes on products bearing nutrition or other health warning labels may simplify the definition of the tax base or tax tiers (for non-uniform tax structures).

¹⁸⁹ <https://www.who.int/europe/news/item/26-05-2023-what-s-in-the-bottle--ireland-leads-the-way-as-the-first-country-in-the-eu-to-introduce-comprehensive-health-labelling-of-alcohol-products>

¹⁹⁰ Jané-Llopis E, Kokole D, Neufeld M, Hasan OS, Rehm J. What is the current alcohol labelling practice in the WHO European Region and what are barriers and facilitators to development and implementation of alcohol labelling policy?. World Health Organization. Regional Office for Europe; 2020.

<https://iris.who.int/handle/10665/332129>

¹⁹¹ Shangguan S, Afshin A, Shulkin M, Ma W, Marsden D, Smith J, Saheb-Kashaf M, Shi P, Micha R, Imamura F, Mozaffarian D. A meta-analysis of food labeling effects on consumer diet behaviors and industry practices. *American journal of preventive medicine*. 2019 Feb 1;56(2):300-14; Barahona N, Otero C, Otero S. Equilibrium effects of food labeling policies. *Econometrica*. 2023 May;91(3):839-68.; Barahona C, Otero C, Otero S, Kim J. Single-Threshold Food Labeling Policies. 2023. https://sebotero.github.io/papers/foodlabels_policy.pdf

¹⁹² World Health Organization. WHO Framework Convention on Tobacco Control. Geneva: WHO; 2003.

<https://iris.who.int/bitstream/handle/10665/42811/9241591013.pdf?sequence=1>

¹⁹³ The MPOWER policy package stands for: Monitor tobacco use and prevention policies; Protect people from tobacco smoke; Offer help to quit tobacco use; Warn about the dangers of tobacco; Enforce bans on tobacco advertising, promotion and sponsorship; Raise taxes on tobacco.

¹⁹⁴ World Health Organization. WHO report on the global tobacco epidemic, 2023: protect people from tobacco smoke. Geneva: WHO; 2023. <https://www.who.int/publications/i/item/9789240077164>

¹⁹⁵ Noar SM, Francis DB, Bridges C, Sontag JM, Ribisl KM, Brewer NT. The impact of strengthening cigarette pack warnings: Systematic review of longitudinal observational studies. *Social science & medicine*. 2016 Sep 1;164:118-29; Moodie C, Hoek J, Hammond D, Gallopel-Morvan K, Sendoya D, Rosen L, Özcan BM, van der Eijk Y. Plain tobacco packaging: progress, challenges, learning and opportunities. *Tobacco Control*. 2022 Mar 3;31(2):263-71.

¹⁹⁶ Roberto CA, Ng SW, Ganderats-Fuentes M, Hammond D, Barquera S, Jauregui A, Tallie LS. The influence of front-of-package nutrition labeling on consumer behavior and product reformulation. *Annual review of nutrition*. 2021 Oct 11;41:529-50; World Health Organization. Guiding principles and framework manual for front-of-pack labelling for promoting healthier diets. Geneva: WHO; 2019.

<https://www.who.int/publications/m/item/guidingprinciples-labelling-promoting-healthydiet>

¹⁹⁷ Daniels JP. Colombia introduces junk food tax. *The Lancet*. 2023 Dec 2;402(10417):2062.

However, research on the interaction between front-of-pack nutrition labelling and HFSS food taxation remains limited.¹⁹⁸

By improving consumer information, packaging regulations can increase health literacy and public support for more stringent policies, such as taxation. The health signalling effect of health taxes may also be strengthened by health warnings on product packages.¹⁹⁹ Finally, overall administrative and compliance costs for regulators and manufacturers related to the introduction of a health tax may be reduced if product information is already collected and displayed under labelling regulations. For example, mandatory alcohol by volume or sugar content display on packages can be used for taxation based on alcohol and nutrient content.

b) Marketing regulations

Marketing restrictions or bans are highly cost-effective policies aimed at reducing the appeal of health-harming products, addressing information asymmetry, and encouraging healthier consumption choices.²⁰⁰ The WHO FCTC recommends banning tobacco advertising, promotion and sponsorship (Art. 13).²⁰¹ Comprehensive tobacco advertising bans reduce tobacco consumption with stronger effects in low- and middle-income countries.²⁰² Alcohol advertising also increases total alcohol consumption, with greater impacts for heavy drinkers.²⁰³ Regarding dietary behaviour, food marketing predominantly promotes HFSS foods. The public health community is particularly concerned about targeted marketing towards children, influencing the development of taste preferences and dietary habits.²⁰⁴ Many nutrient profile models are designed to support the identification of food products not suitable for advertising to children.²⁰⁵ While limited, the evidence suggests that food marketing policies may result in reduced purchases of unhealthy food items.²⁰⁶

Marketing regulations can signal a health risk to consumers and may increase public awareness and support for a tax. Coherence between the list of taxable products and products with marketing regulations may increase transparency and facilitate compliance.

¹⁹⁸ Acton RB, Jones AC, Kirkpatrick SI, Roberto CA, Hammond D. Taxes and front-of-package labels improve the healthiness of beverage and snack purchases: a randomized experimental marketplace. *International Journal of Behavioral Nutrition and Physical Activity*. 2019 Dec;16(1):1-5.

¹⁹⁹ Alvarado M, Penney TL, Unwin N, Murphy MM, Adams J. Evidence of a health risk 'signalling effect' following the introduction of a sugar-sweetened beverage tax. *Food Policy*. 2021 Jul 1;102:102104.

²⁰⁰ World Health Organization. Tackling NCDs: 'best buys' and other recommended interventions for the prevention and control of noncommunicable diseases. Geneva: WHO; 2017. <https://www.who.int/publications/i/item/WHO-NMH-NVI-17.9>

²⁰¹ World Health Organization. WHO Framework Convention on Tobacco Control. Geneva: WHO; 2003. <https://iris.who.int/bitstream/handle/10665/42811/9241591013.pdf?sequence=1>

²⁰² Saffer H, Chaloupka F. The effect of tobacco advertising bans on tobacco consumption. *Journal of health economics*. 2000 Nov 1;19(6):1117-37; Blecher E. The impact of tobacco advertising bans on consumption in developing countries. *Journal of health economics*. 2008 Jul 1;27(4):930-42.

²⁰³ Franco S, editor. Tackling harmful alcohol use economics and public health policy: Economics and public health policy. OECD publishing; 2015 May 12. https://www.oecd.org/en/publications/2015/05/tackling-harmful-alcohol-use_g1g21ffc.html

²⁰⁴ World Health Organization. Policies to protect children from the harmful impact of food marketing: WHO guideline. Geneva: WHO; 2023. <https://www.who.int/publications/i/item/9789240075412>

²⁰⁵ Labonté MÈ, Poon T, Gladanac B, Ahmed M, Franco-Arellano B, Rayner M, L'Abbé MR. Nutrient profile models with applications in government-led nutrition policies aimed at health promotion and noncommunicable disease prevention: a systematic review. *Advances in Nutrition*. 2018 Nov 1;9(6):741-88; World Health Organization. Policies to protect children from the harmful impact of food marketing: WHO guideline. Geneva: WHO; 2023. <https://www.who.int/publications/i/item/9789240075412>

²⁰⁶ Boyland E, McGale L, Maden M, Hounsoume J, Boland A, Jones A. Systematic review of the effect of policies to restrict the marketing of foods and non-alcoholic beverages to which children are exposed. *Obesity reviews*. 2022 Aug;23(8):e13447.

c) Prevention campaigns

Prevention campaigns include mass media and other behavioural change communication campaigns. Mass media campaigns are effective in increasing awareness and changing attitudes and beliefs about smoking or alcohol. The evidence is more limited on their impact on actual consumption.²⁰⁷ Media campaigns to promote healthier diets are generally considered less effective than food labelling interventions.²⁰⁸

Mass media or other communication campaigns may increase public awareness and support for a tax (see Chapter 10 for an in-depth discussion on generating public acceptability for health taxes). This was the case in Mexico before the implementation of an SSB tax in 2014. Various civil society organizations disseminated messages through billboards, expert discussions on radio and TV, and coverage in major national newspapers emphasizing the detrimental effects of SSB consumption and the imperative for proactive measures, with lasting impact on public perceptions.²⁰⁹ This may have in turn reinforced the health-signalling effect of taxation. Clear communication about allocating tax revenue to fund social programmes was key in Mexico.²¹⁰ While awareness campaigns may enhance the impact of health taxes by addressing knowledge of health risks as a factor influencing consumption,²¹¹ alongside the price incentive induced by taxes, they can be costly.

5. Conclusion

Tax systems have evolved to address new fiscal policy goals, including addressing market failures and redistributing wealth, alongside their traditional functions of revenue generation. In this context health taxes have emerged as a key tool in the pursuit of public health goals. Their effectiveness in reducing the consumption of harmful products is influenced by their interplay with the broader fiscal system and particularly other consumption taxes, such as VAT and sales taxes. Policy coherence in tax design that considers the cumulative tax burden and the incentives created by different taxes is crucial for equity and may amplify health benefits. Coherence in fiscal and regulatory price policies is also important. For example, production subsidies for health-harming products can counteract the benefits of health taxes.

Health taxes may influence corporate income tax and personal income tax revenue by affecting their tax base through their impact on profits, income, productivity, and employment. By improving public health, they may also lead to reduced government health expenditures and a lower need for welfare transfers. Expanding health taxes to more unhealthy commodities and ensuring alignment with broader fiscal policies can enhance their effectiveness in promoting public health and funding sustainable development initiatives.

²⁰⁷ Allen JA, Duke JC, Davis KC, Kim AE, Nonnemaker JM, Farrelly MC. Using mass media campaigns to reduce youth tobacco use: a review. *American Journal of Health Promotion*. 2015 Nov;30(2):e71-82; Young B, Lewis S, Katikireddi SV, Bauld L, Stead M, Angus K, Campbell M, Hilton S, Thomas J, Hinds K, Ashie A. Effectiveness of mass media campaigns to reduce alcohol consumption and harm: a systematic review. *Alcohol and alcoholism*. 2018 May 1;53(3):302-16.

²⁰⁸ Hyseni L, Elliot-Green A, Lloyd-Williams F, Kypridemos C, O'Flaherty M, McGill R, Orton L, Bromley H, Cappuccio FP, Capewell S. Systematic review of dietary salt reduction policies: Evidence for an effectiveness hierarchy?. *PloS one*. 2017 May 18;12(5):e0177535.

²⁰⁹ Pan American Health Organization. *Taxes on Sugar-sweetened Beverages as a Public Health Strategy: The Experience of Mexico*. Mexico City: PAHO; 2015.

https://iris.paho.org/bitstream/handle/10665.2/18391/9789275118719_eng.pdf?sequence=1&isAllowed=y; James E, Lajous M, Reich MR. The politics of taxes for health: an analysis of the passage of the sugar-sweetened beverage tax in Mexico. *Health Systems & Reform*. 2020 Dec 1;6(1):e1669122.

²¹⁰ James E, Lajous M, Reich MR. The politics of taxes for health: an analysis of the passage of the sugar-sweetened beverage tax in Mexico. *Health Systems & Reform*. 2020 Dec 1;6(1):e1669122.

²¹¹ Colombo L, Galmarini U. Taxation and anti-smoking campaigns: Complementary policies in tobacco control. *Journal of Policy Modeling*. 2023 Jan 1;45(1):31-57.

International trade and investment agreements as well as monetary or customs unions may either facilitate or hinder the implementation of health taxes. Monetary or customs unions may establish minimum or maximum levels of excise or sales taxes for specific product categories. Trade agreements often impose constraints on domestic tax policies, requiring careful navigation to ensure that health taxes comply with international obligations, like the principle of non-discrimination, while achieving their public health goals. Investment agreements, particularly those that offer preferential tax treatments, can also have implications for health taxes.

Finally, there is a need for comprehensive and coherent overall policy frameworks that integrate health taxes with other NCD prevention strategies. This holistic approach can maximize public health benefits.

Chapter 10: How to Generate Public Acceptability for Health Taxes

1. Introduction

Public acceptability is a critical component of the feasibility of health taxes. Acceptability shapes the practicality and viability of implementing taxation measures.²¹² This chapter will explore the nature and importance of public acceptability, within the broader context of health taxes; notably, their contribution to achieving the Sustainable Development Goals (SDGs) and the response to health crises, including the COVID-19 pandemic and non-communicable diseases (NCDs) that represent the new primary health threat, especially for lower and middle-income countries.²¹³

The imposition of health taxes on sugary beverages, tobacco, or alcohol, plays a vital role in public health policy. These taxes are designed to discourage such harmful consumption while generating revenue, including for healthcare systems, and promoting healthier behaviours. However, taxes to disincentivize consumption of alcohol, tobacco, and sugar-sweetened beverages (SSBs) are underutilized, in part due to concerns regarding acceptability by key stakeholders, including the public.²¹⁴

Public acceptability thus stands at the core of the feasibility of health taxes, which ensures that health taxes not only achieve their intended health and public finance objectives but are also sustainable in the long term without causing undue hardship or resistance.²¹⁵ Acceptability encompasses the willingness of the general population to embrace and comply with these taxation measures. Without being publicly acceptable, even the most well-designed health tax policies can falter.

Acceptability must be considered against the backdrop of cultural dynamics that play a significant role in shaping the consumption patterns of alcohol, tobacco, and SSBs. Environmental and cultural factors that influence consumption include socioeconomic disadvantage (tobacco), religious beliefs (tobacco and alcohol), and living in an urban area.²¹⁶ Assessing public acceptability involves understanding the perceptions, attitudes, cultures, and behaviors of the people directly affected by health taxes. It also consists of crafting communication strategies and providing education to ensure the public comprehends the rationale behind these taxes and their benefits regarding health improvements and likely increased access to quality healthcare.

a) Global Context for Health Taxes

Health taxes are not isolated policy measures but may be adopted in the broader global health landscape, aligning with critical international initiatives such as the Sustainable Development Goals (SDGs). SDG3 specifically focuses on health, well-being, and Universal Health Coverage (UHC). These taxes may aid in directly achieving health-related SDG targets and also address health disparities and

²¹² World Health Organization (WHO). (2021). "Tobacco Taxation: A Win-Win Measure for Fiscal Space and Health" (<https://www.who.int/activities/raising-taxes-on-tobacco>).

²¹³ Sustainable Development Goal 3: Good Health and Well-being | United Nations in Rwanda. (n.d.). Retrieved October 18, 2023, from <https://rwanda.un.org/en/sdgs/3/key-activities>.

²¹⁴ Ghebreyesus TA & Clark H. 2023. Health taxes for healthier lives: an opportunity for all governments. *BMJ Global Health* Vol. 8 Issue Suppl 8

²¹⁵ *Taxes for health: Evidence clears the air—The Lancet*. (2018). Retrieved October 13, 2023, from [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(18\)30629-9/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(18)30629-9/fulltext)

²¹⁶ Cummings, K.M., G.T. Fong, and R. Borland, *Environmental influences on tobacco use: evidence from societal and community influences on tobacco use and dependence*. *Annual Review of Clinical Psychology*, 2009. 5: p. 433-458. ; Athauda, L.K., et al., *Factors influencing alcohol use among adolescents in south Asia: a systematic review*. *Journal of studies on alcohol and drugs*, 2020. 81(5): p. 529-542

contribute towards equitable access to healthcare services.²¹⁷ The public acceptability of such taxes is integral to their success in funding efforts to mitigate the risks posed by public health crises such as the COVID-19 pandemic and the growing NCDs.

NCDs, such as heart disease, diabetes, and cancer, have become a greater global health burden. More recently, COVID-19, a highly contagious respiratory illness, has underscored the importance of a robust healthcare system. Alarming, individuals with NCDs are at a significantly higher risk of severe COVID-19 outcomes.²¹⁸ The intersection of these pandemics has drawn attention to the importance of introducing effective measures – including health taxes – to address these common risk factors.

In this context, it is vital to emphasize the benefits of health taxes as addressed in the Addis Ababa Action Agenda financing for development. They not only may fund pandemic responses and health care systems but also create a healthier, more resilient population. By linking these taxes to visible improvements in healthcare and disease prevention, public acceptability can be bolstered. For example, a portion of the revenue generated from these global health taxes can be dedicated through a soft earmark or commitment to strengthening healthcare infrastructure, vaccine distribution, and NCD prevention programs. This not only addresses immediate pandemic needs but also fortifies healthcare systems to better manage NCDs.

2. The importance of public acceptability

Public acceptability is a crucial element for implementing feasible health taxes. It refers to the degree of approval, support, or willingness of the general population to embrace and comply with health taxation policies. These may be designed to improve public health outcomes, and to generate revenue (including for healthcare-related purposes and to address societal health-related challenges).²¹⁹ Public acceptability involves the public's understanding, agreement, and positive perception of the need for such taxes. In general, acceptability considerations related to public policy include transparency as well as potential impacts on equity, health and the economy.²²⁰ More specific to health taxes, public acceptability has three key dimensions, which are discussed below.

First, the acceptability of taxation on health-harming products as an intervention (considered by itself) depends on public recognition of both the policy 'problem' of NCDs and the appropriateness and effectiveness of taxation as an intervention.²²¹ In situations where there is strong public recognition of the health harms caused by tobacco, alcohol and SSBs, together with recognition of price as an influence on consumption, health taxes are likely to be more acceptable. For example, alcohol consumption is a prevalent and deeply rooted component of numerous cultures worldwide. Alcohol consumption is associated with a variety of health issues, including an elevated likelihood of cancer development. Public awareness of this connection can support the endorsement of policies designed to mitigate the harm caused by alcohol.²²² This dimension of acceptability can also vary depending on the comparator. For example, when taxation is compared to other NCD policy interventions, it is often seen as less

²¹⁷ Sustainable Development Goal 3: Good Health and Well-being | United Nations in Rwanda. (n.d.). Retrieved October 18, 2023, from <https://rwanda.un.org/en/sdgs/3/key-activities>

²¹⁸ Atkins, J.L., et al., *Preexisting comorbidities predicting COVID-19 and mortality in the UK biobank community cohort*. The Journals of Gerontology: Series A, 2020. 75(11): p. 2224-2230. doi: <https://doi.org/10.1093/gerona/glaa183>

²¹⁹ Sharp, C.A., et al., *Public acceptability of public health policy to improve population health: A population-based survey*. Health Expectations, 2020. 23(4): p. 802-812. doi: 10.1111/hex.13041.

²²⁰ Barry, L.E., et al., *An umbrella review of the acceptability of fiscal and pricing policies to reduce diet-related noncommunicable disease*. Nutrition Reviews, 2023. 81(10): p. 1351-1372.

²²¹ Petrescu, D.C., et al., *Public acceptability in the UK and USA of nudging to reduce obesity: the example of reducing sugar-sweetened beverages consumption*. PLoS One, 2016. 11(6)

²²² Knowledge of alcohol as a risk factor for cancer was significantly associated with support for policies to reduce alcohol related harm, including pricing and taxation of alcohol (Buykx, Gilligan, Ward, Kippen, & Chapman, 2015)

acceptable than other options, such as labelling.²²³ Public acceptability of taxation as an intervention also varies depending on the product being taxed. For example, particularly in high-income contexts, public acceptability tends to be higher for tobacco than for alcohol taxes or unhealthy food or beverage taxes.²²⁴ Factors influencing this difference, explored in more detail below, include that tobacco taxes have often been in place for longer, there is widespread awareness of the health harms associated with tobacco consumption, and the historical use of revenues to support public health spending.²²⁵

A second dimension of public acceptability is the perception of different constituencies; acceptability to the public interacts with acceptability among industry and political groups. Concerns still persist regarding the negative impact of health taxes on employment despite a lack of evidence of these adverse effects.²²⁶ Countries that have introduced or increased health taxes have faced public opposition from commercial interests and industry lobbies.²²⁷ In Mexico, for example, soft drink manufacturers strongly opposed a tax on sugary beverages in 2014 to address high rates of obesity and related health problems. Despite the opposition, the tax was implemented (See Box 1). There can be a perceived tension between a risk of potential short-term economic losses compared to long-term health benefits.²²⁸ In Peru, in the lead-up to proposed health tax reforms in 2016, the most common concerns raised in the public media were that health taxes would impact prices and sales, decreasing employment and investments and negatively impacting market competition.²²⁹ Similarly, in Ghana, industry actors and some government representatives opposed health taxes, citing concerns about potential economic harm.²³⁰ Acceptability of health taxes may also be influenced by beliefs among political actors regarding impacts on people or industries in their constituencies. For example, in Israel, legislators argued that limits should exist to limit government intervention because health taxes would impede individual freedom.²³¹

A third dimension of acceptability relates to health tax design. Health taxes have been widely implemented – particularly for tobacco and alcohol – but the design often does not reflect best-practice, in terms of the scope, structure and rate of the taxes.²³² As such, in many cases it is not the acceptability of a new tax that is important, but the acceptability of changes to current tax design, and particularly, tax rates. Changes to health tax design and rate have been publicly opposed in many low-and-middle

²²³ Diepeveen, S., Ling, T., Suhrcke, M., Roland, M., & Marteau, T. M. (2013). Public acceptability of government intervention to change health-related behaviours: a systematic review and narrative synthesis. *BMC Public Health*, 13(1), 756. doi:10.1186/1471-2458-13-756 ; Lobstein, T., M. Neveux, and J. Landon, *Costs, equity and acceptability of three policies to prevent obesity: A narrative review to support policy development*. *Obes Sci Pract*, 2020. 6(5): p. 562-583. ; Reynolds, J.P., et al., *Public acceptability of nudging and taxing to reduce consumption of alcohol, tobacco, and food: A population-based survey experiment*. *Social Science & Medicine*, 2019. 236: p. 112395

²²⁴ Reynolds, J.P., et al., *Public acceptability of nudging and taxing to reduce consumption of alcohol, tobacco, and food: A population-based survey experiment*. *Social Science & Medicine*, 2019. 236: p. 112395

²²⁵ Wright, A., K.E. Smith, and M. Hellowell, *Policy lessons from health taxes: a systematic review of empirical studies*. *BMC Public Health*, 2017. 17(1): p. 583. Doi: 10.1186/s12889-017-4497-z.

²²⁶ Barry LE, Kee F, Woodside J, Cawley J, Doherty E et al. An umbrella review of the acceptability of fiscal and pricing policies to reduce diet-related noncommunicable disease. *Nutrition Reviews* Vol. 81(10):1351–1372. <https://doi.org/10.1093/nutrit/nuad011>.

²²⁷ Lwin, K.S., et al., *Framing health taxes: learning from low-and middle-income countries*. *BMJ Global Health*, 2023. 8(Suppl 8): p. e012955.

²²⁸ Ghebreyesus, T.A. and H. Clark, *Health taxes for healthier lives: an opportunity for all governments*. *BMJ Global Health*, 2023. 8(Suppl 8)

²²⁹ Zuleta, M., et al., *Political and socioeconomic factors that shaped health taxes implementation in Peru*. *BMJ Global Health*, 2023. 8(Suppl 8): p. e012024.

²³⁰ Singh A, Smith K, Hellowell M, et al. An exploration of stakeholder views and perceptions on taxing tobacco, alcohol and sugar- sweetened beverages in Ghana. *BMJ Global Health* 2023;8:e012054. doi:10.1136/bmjgh-2023-012054.

²³¹ Tamir, O., et al., *Taxation of sugar sweetened beverages and unhealthy foods: a qualitative study of key opinion leaders' views*. *Israel journal of health policy research*, 2018. 7(1): p. 1-11. Doi: <https://doi.org/10.1186/s13584-018-0240-1>.

²³² Ghebreyesus, T.A. and H. Clark, *Health taxes for healthier lives: an opportunity for all governments*. *BMJ Global Health*, 2023. 8(Suppl 8)

income countries.²³³ For example, increasing the tobacco tax rate in Ethiopia was enabled by analysis of the additional revenue that would be generated, as well as discrediting assertions that a tax rate increase would lead to an increase in illicit trade through highlighting the more important role of border control.²³⁴ Similarly, changes to SSB tax design in France, Belgium and Latvia to use a differentiated rate faced public opposition and were supported by policy learning from other jurisdictions, as well as evidence for effectiveness in decreasing sugar content via incentivizing reformulation.²³⁵

Overall, understanding different dimensions of acceptability and identifying approaches and strategies to address public concerns is an important consideration in the development of health taxation. For example, when taxes have been framed in understandable ways, they have garnered more support from policy champions including the Ministry of Finance and civil society organizations.²³⁶ This in turn has balanced (negative) public framing of health taxes by industry actors and enhanced the feasibility of successfully implementing health taxes.²³⁷

3. Explaining public attitudes towards health taxes

A major influence on public attitudes towards health taxes is individual consumption of tobacco, alcohol and SSBs. In general, people prefer interventions that affect the behaviour of others, such that non-consumers are more likely to support taxes.²³⁸ The fact that most people in high-income countries no longer smoke has contributed to a shift in public attitudes and behaviours regarding tobacco, reducing its acceptability.²³⁹ This can increase public acceptability of taxes and other tobacco control measures, since people are more likely to support measures which do not impact on them personally. For example, non-smokers are significantly more supportive of tobacco tax increases²⁴⁰ and higher alcohol consumption is associated with reduced support for alcohol taxation.²⁴¹ In contexts where rates of consumption are high, public acceptability of taxes is likely to be lower. This can be exacerbated where there is an aspirational dimension to consumption – for example, where tobacco smoking, unhealthy food consumption or drinking alcohol is associated with status. One factor unique to SSB taxation is that SSBs are commonly consumed by children. A study in Australia found that concerns related to

²³³ See for example, Ahsan A, Amalia N, Rahmayanti KP, et al. 2023. *Health taxes in Indonesia: a review of policy debates on the tobacco, alcoholic beverages, and sugar-sweetened beverage taxes in the media*. *BMJ Global Health*, 2023. Oct;8(Suppl 8) ; Acharya Y, Karmacharya V, Pau del U, et al. *Perceptions of Key Stakeholders on Taxes on Tobacco and Alcohol Products in Nepal*. *BMJ Glob Health*, 2023 Oct; 8(Suppl 8) ; Erku D, Yigzaw N, Tegegn HK, et al. *Framing, moral foundations and health taxes: interpretive analysis of Ethiopia's tobacco excise tax policy passage*. *BMJ Glob Health*; 2023. 8 (Suppl 8)

²³⁴ Erku D, Yigzaw N, Tegegn HK, et al. *Framing, moral foundations and health taxes: interpretive analysis of Ethiopia's tobacco excise tax policy passage*. *BMJ Glob Health*, 2023. 8 (Suppl 8)

²³⁵ Thow, A.M., et al., *Sugar-sweetened beverage taxes in Europe: learning for the future*. *European Journal of Public Health*, 2022. 32(2): p. 273-80.

²³⁶ Carriedo A, Koon AD, Encarnación LM, Lee K et al. The political economy of sugar-sweetened beverage taxation in Latin America: lessons from Mexico, Chile and Colombia. *Globalization and Health* 2021, 17:5; Lwin KS, Koon AD, Rasanathan K, et al. Framing health taxes: learning from low- and middle-income countries. *BMJ Global Health* 2023; 8:e012955.

²³⁷ Lwin KS, Koon AD, Rasanathan K, et al. Framing health taxes: learning from low- and middle-income countries. *BMJ Global Health* 2023; 8:e012955.

²³⁸ Diepeveen, S., et al., *Public acceptability of government intervention to change health-related behaviours: a systematic review and narrative synthesis*. *BMC Public Health*, 2013. 13(1): p. 756

²³⁹ Diepeveen, S., et al., *Public acceptability of government intervention to change health-related behaviours: a systematic review and narrative synthesis*. *BMC Public Health*, 2013. 13(1): p. 756.

²⁴⁰ Farley, S.M., et al., *Public opinions on tax and retail-based tobacco control strategies*. *Tobacco control*, 2015. 24(e1): p. e10-e13.; Hanewinkel, R. and B. Isensee, *Opinion on tobacco tax increase: Factors associated with individuals' support in Germany*. *Health Policy*, 2008. 86(2): p. 234-238.; Spivak, A.L., M.S. Givel, and S.M. Monnat, *Self-interest and public opinion in health policy: smoking behavior and support for tobacco control*. *Social Theory & Health*, 2018. 16(1): p. 20-43

²⁴¹ Buykx, P., et al., *Public support for alcohol policies associated with knowledge of cancer risk*. *International Journal of Drug Policy*, 2015. 26(4): p. 371-379.

protecting children from health harms of SSB consumption increased the acceptability of interventions.²⁴²

A challenge to public acceptability of health taxes stems from public resistance to taxation in general, coupled with the fact that the personal benefits of health taxation are heterogenous, and individuals often don't see a specific benefit, particularly in the near future. In effect, we see a collective action challenge, in which the aggregate benefit of health taxes at a population level is almost invisible to a given individual. However, gradual changes in public attitudes have been observed over time, and the public is more likely to accept taxation on unhealthy commodities if legislation has already been enacted.²⁴³ Linked to public resistance to taxation is mistrust of government. Several studies have found that mistrust of government, including whether revenue will not be used for public health, is associated with low acceptability of health taxes.²⁴⁴

Revenue use also influences public acceptability. The use of tax revenue to support health and other social policy objectives increases public acceptability of health taxes.²⁴⁵ For example, in New York City, only 25% of smokers were in favour of increasing cigarette tax, but if the tax revenues were earmarked for smoking prevention and treatment, support increased to 56%.²⁴⁶ Similarly, public acceptance of alcohol taxation in Australia was higher if the additional revenue collected was dedicated towards prevention and treatment of alcohol related harm.²⁴⁷ See Chapter 6 for further discussion on health tax revenue use, including wider considerations that should inform decisions regarding revenue use.

Public awareness of the application of health taxes is an important precursor to forming public attitudes. The salience of health taxes is a contributor to awareness and varies depending on the tax mechanism (for example, whether the tax is identified in the posted price).²⁴⁸ Awareness of health taxes is also influenced by public discussion in media, which is in turn influenced by industry and public health advocacy regarding the potential impact of a tax.²⁴⁹

Media reporting has been identified as an important influence on public acceptability. There is evidence that industry has actively influenced media reporting to undermine public acceptability of taxation, for example, in Hong Kong, the alcohol industry has worked closely with media in an attempt to garner

²⁴² Boelsen-Robinson, T., et al., *Evaluating the implementation and customer acceptability of a sugar-sweetened beverage reduction initiative in thirty Australian aquatic and recreation centres*. Public Health Nutrition, 2021. 24(15): p. 5166-5175.

²⁴³ Diepeveen, S., et al., *Public acceptability of government intervention to change health-related behaviours: a systematic review and narrative synthesis*. BMC Public Health, 2013. 13(1): p. 756

²⁴⁴ Somerville, C., et al., *Public attitudes towards pricing policies to change health-related behaviours: a UK focus group study*. The European Journal of Public Health, 2015. 25(6): p. 1058-1064. ; Eykelenboom, M., van Stralen, MM., Olthof, MR, et al (2019). Political and public acceptability of a sugar-sweetened beverages tax: a mixed-method systematic review and meta-analysis. *International Journal of Behavioral Nutrition and Physical Activity*, 16(1), 78. ; Wright A, Smith KE and Hellowell M. Policy lessons from health taxes: a systematic review of empirical studies. BMC Public Health 2017, 17:583

²⁴⁵ Eykelenboom, M., et al., Political and public acceptability of a sugar-sweetened beverages tax: a mixed-method systematic review and meta-analysis. *International Journal of Behavioral Nutrition and Physical Activity*, 2019. 16(1): p. 78.

²⁴⁶ Farley, S.M., et al., *Public opinions on tax and retail-based tobacco control strategies*. Tobacco control, 2015. 24(e1): p. e10-e13

²⁴⁷ Tobin, C., A.R. Moodie, and C. Livingstone, *A review of public opinion towards alcohol controls in Australia*. BMC Public Health, 2011. 11(1): p. 58

²⁴⁸ Goldin, J., *Optimal tax salience*. Journal of Public Economics, 2015. 131: p. 115-123.; Goldin, J. and T. Homonoff, *Smoke gets in your eyes: cigarette tax salience and regressivity*. American Economic Journal: Economic Policy, 2013. 5(1): p. 302-336.

²⁴⁹ Altman, E.A., K.A. Madsen, and L.A. Schmidt, *Missed opportunities: the need to promote public knowledge and awareness of sugar-sweetened beverage taxes*. International journal of environmental research and public health, 2021. 18(9): p. 4607

public support, and to shape public opinion that the alcohol tax was unfair.²⁵⁰ In Indonesia, media reporting regarding tobacco taxation was found to be biased towards industry statements, with industry actors emerging as opinion leaders in the media.²⁵¹ Similarly, in France, public support for tobacco taxation was undermined by a strong communication strategy by tobaccoists (retailers), who framed themselves as close to the people and their concerns, especially in increasingly under-served rural areas where they maintain public services, social support, and conviviality.²⁵²

In contrast, introducing the SSB tax in Mexico provides an example of a supportive media that increased public acceptability. Media campaigns were successfully used by public health advocates to raise the public and political profile of both the health harms associated with SSB consumption, and SSB taxation as an appropriate policy intervention²⁵³ (See Box 1).

Box 1: Lessons from Mexico on the role of NGOs in public acceptability²⁵⁴

Mexico was the first country in the Americas to pass an SSB tax in October 2013. Its successful implementation the following year marked increased global interest in SSB taxes. The tax of one peso per liter (about 10% of SSB retail price) on any beverage sweetened with sugar provided significant additional revenue for the Mexican government, as well as reduced SSB consumption by between about 6% and 10%, thereby helping to address the obesity epidemic in Mexico.

This experience provides essential lessons from Mexico on how to frame an SSB tax to enhance its feasibility in other countries with similar implementation contexts. First, Non-Governmental Organizations (NGOs) used the available empirical evidence to increase public and government awareness of excessive SSB consumption and its associated health problems. Through public relations campaigns, *el Poder del Consumidor (Consumer Power)*, an NGO focused on consumer rights and the *Alianza por la Salud Alimentaria (Alliance for Food Health)*, an umbrella organization of 22 NGOs and 650 civil society groups, brought visibility to the obesity epidemic, helping shape public perception that Mexico's obesity epidemic was driven in part by SSB consumption.

Second, supporters needed to understand how to manage the political and economic context.

Facilitated by a grant from Bloomberg Philanthropies, supporter groups were able to hire a political strategy and lobbying firm and design and implement advocacy efforts inside the national government and the Mexican public. Third, framing the tax as revenue-generating helped get the proposal onto the policy agenda and enabled buy-in from the powerful Ministry of Finance (Hacienda). Finally, forming networks within the legislature early on allowed tax proponents to have a network of allies within Congress ready for when the SSB tax was introduced as a bill.

In sum, the favorable correlation of forces from well-organized civil society, private financial support, academics, and high-level political decision-making enabled the implementation of the SSB tax.

Public acceptability is also influenced by industry activity. There is substantial evidence that the tobacco industry has sought to influence public attitudes about tobacco control measures, including taxation. This has included deliberate misrepresentation of the costs and benefits of tobacco control measures,

250 Yoon, S. and T.-H. Lam, The alcohol industry lobby and Hong Kong's zero wine and beer tax policy. *BMC Public Health*, 2012. 12(1): p. 717

251 Ahsan, A., et al., Health taxes in Indonesia: a review of policy debates on the tobacco, alcoholic beverages and sugar-sweetened beverage taxes in the media. *BMJ Global Health*, 2023. 8(Suppl 8): p. e012042

252 Geindreau, D., M. Guillou-Landréat, and K. Gallopel-Morvan, Tobacco Tax Increases: A Discourse Analysis of the French Print and Web News Media from 2000 to 2020. *International Journal of Environmental Research and Public Health*, 2022. 19(22): p. 15152

253 Wright, A., K.E. Smith, and M. Hellowell, Policy lessons from health taxes: a systematic review of empirical studies. *BMC Public Health*, 2017. 17(1): p. 583

254 Based on Erin James, Martín Lajous & Michael R. Reich. The Politics of Taxes for Health: An Analysis of the Passage of the Sugar-Sweetened Beverage Tax in Mexico, *Health Systems & Reform*, 2020. 6:1, e1669122, DOI: 10.1080/23288604.2019.1669122.

and underplaying the potential benefits of taxation.²⁵⁵ Similarly, the SSB industry has sought to undermine public support for SSB taxation through casting doubt on the scientific evidence linking SSBs to poor health outcomes, as well as the effectiveness of SSB taxation, and emphasising potential negative aspects such as regressivity.²⁵⁶ In addition, the SSB and related industries have emphasised the role of a lack of physical activity rather than diet in contributing to obesity.²⁵⁷ The alcohol industry has also sought to undermine the acceptability of taxation through arguments related to economic interests, culture, and livelihoods of producers (see Box 2). Corporate social responsibility activities are another means through which the tobacco industry has sought to decrease public and political acceptability of tobacco control measures.²⁵⁸ For example, in the UK, British-American Tobacco used corporate social responsibility investments as a tool to improve public perception of the company during the late 1990s and early 2000's, in order to 'gain the access and influence that we need'.²⁵⁹ Similarly, the SSB and alcohol industries have used sponsorship of public events such as sports to normalize consumption and reduce acceptability of public health interventions, including taxation.²⁶⁰

Box 2: Industry advocacy to exclude wines from increases in excise taxes in Czechia

In Czechia, a lack of public acceptability of taxes on wines has contributed to an ongoing exemption of still wines from excise taxation, despite a suggestion by the National Economic Council of the Government to introduce a tax as part of a consolidation package, in an attempt to generate revenue and balance the government budget.²⁶¹ In 2021, Czechia was the second largest per-capita alcohol consumer in the EU, which poses public health concerns. However, taxation has been strongly opposed by industry actors, on the basis that a tax would reduce competitiveness of Czech winegrowers, with consumers shifting purchases away from domestically produced Moravian wines, as they would become more expensive, and instead turn to cheaper, imported varieties. In addition, the wine industry represents around 20% of the agriculture sector in Czechia leading to concerns over livelihood impacts. The lack of acceptability has also been linked to the promotion of wine culture and wine tourism, with a tax placing an administrative burden on winegrowers and running counter to efforts to develop the tourism industry.²⁶² There has been significant public discussion regarding this issue.

4. How to generate public acceptability

a) The importance of public communication regarding health taxes

255 Gilmore, A.B., et al., Exposing and addressing tobacco industry conduct in low-income and middle-income countries. *The Lancet*, 2015. 385(9972): p. 1029-1043

256 Du, M., et al., Sugar-Sweetened Beverage Taxes: Industry Response and Tactics. *Yale J Biol Med*, 2018. 91(2): p. 185-190

257 Bridge, G., M. Lomazzi, and R. Bedi, Implementation of a sugar-sweetened beverage tax in low- and middle-income countries: recommendations for policymakers. *Journal of Public Health Policy*, 2020. 41(1): p. 84-97.

258 Gilmore, A.B., et al., Exposing and addressing tobacco industry conduct in low-income and middle-income countries. *The Lancet*, 2015. 385(9972): p. 1029-1043.

259 Fooks GJ, Gilmore AB, Smith KE, Collin J, Holden C, Lee K. Corporate social responsibility and access to policy elites: an analysis of tobacco industry documents. *PLoS medicine*. 2011, 23;8(8)

260 Kelly, B., et al., Building solutions to protect children from unhealthy food and drink sport sponsorship. 2013.; Brown, K., Association Between Alcohol Sports Sponsorship and Consumption: A Systematic Review. *Alcohol and Alcoholism*, 2016. 51(6): p. 747-755.; Cody, K. and S. Jackson, The contested terrain of alcohol sponsorship of sport in New Zealand. *International Review for the Sociology of Sport*, 2016. 51(4): p. 375-393.

261 McEnchroe, T., Moravian winemakers up in arms over proposal to tax still wines, in *Radio Prague International* 2023, Czech Radio.; Czech Daily, Lawmakers in South Moravian Region Protest Against Introduction of Consumption Tax on Wine, in *Czech Daily*. 2023, Czech Daily: Czechia

262 McEnchroe, T., Moravian winemakers up in arms over proposal to tax still wines, in *Radio Prague International* 2023, Czech Radio.; Czech Daily, Lawmakers in South Moravian Region Protest Against Introduction of Consumption Tax on Wine, in *Czech Daily*. 2023, Czech Daily: Czechia

Public advocacy regarding the negative health impacts of the targeted commodities and the effectiveness of taxation can also increase the acceptability of health taxes.²⁶³ This includes ensuring that the public are aware of the health, social and economic burden of NCDs and other related health issues (such as dental caries associated with SSB consumption and road traffic accidents associated with alcohol intake). Effective public communication and organized civil society engagement was crucial for reforming health taxes in Ghana. In 2023, the Excise Duty Amendment Bill passed in no small part thanks to civil society coalitions organized under the Tax Advocacy Network for Health Promotion group and the A4H coalition, which through media and social media campaigns changed public perception on the tax reforms (where it had originally been unpopular) and engaged MPs to promote the bill's passage into law. Such public awareness campaigns can also raise awareness of broader, non-health impacts, including related environmental issues. Communicating the effectiveness of health taxes has also been found to increase acceptability.²⁶⁴

Addressing public perceptions of fairness and the appropriateness of government intervention through clear communication is also critical for the acceptability of health taxes. Arguments from the public and from industry regarding “nanny statism” are often used to oppose health taxes, which imply that governments are treating adults like children through the imposition of regulations that seek to change their behaviour.²⁶⁵ Public perceptions of the potential for greater negative impact on the poor or other groups also need to be addressed. Industry actors often frame taxes as unfair and regressive (see Chapter 8), and public acceptability can be increased by countering this framing with data as well as emphasis on positive health and social benefits.²⁶⁶

b) The role of revenue use

Communicating the public benefit from health tax revenues can also generate public acceptability, particularly when this takes the form of increased spending on health or other social issues. This spending can be operationalised through a range of revenue use mechanisms. For example using commitments to fund compensatory measures can support public acceptability (see Chapter 6). For example, enhancing social welfare benefits for low-income consumers, or concurrent public investment in programmes that support and enable reduced consumption of taxed commodities (including programmes to support tobacco cessation, or recovery from alcohol addiction). Using soft earmarks to channel funds through the annual budget can reinforce this commitment through improved accountability on the use of these resources, and also help gather public support, while improving governance and transparency. Revenue use for the health system can thus strengthen sustainability of public health capacity and service delivery, as well as redress power imbalances between the public and

²⁶³ Reynolds, J.P., et al., Public acceptability of nudging and taxing to reduce consumption of alcohol, tobacco, and food: A population-based survey experiment. *Soc Sci Med*, 2019. 236: p. 112395.; Wright, A., K.E. Smith, and M. Hellowell, Policy lessons from health taxes: a systematic review of empirical studies. *BMC public health*, 2017. 17(1): p. 1-14

²⁶⁴ Reynolds JP, Pilling M, Marteau TM. Communicating quantitative evidence of policy effectiveness and support for the policy: Three experimental studies. *Social Science & Medicine*. 2018 Dec 1;218:1-2. ; Pechey R, Burge P, Mentzakis E, Suhrcke M, Marteau TM. Public acceptability of population-level interventions to reduce alcohol consumption: a discrete choice experiment. *Social science & medicine*. 2014 Jul 1;113:104-9.

²⁶⁵ Moore M, Yeatman H, Davey R. Which nanny—the state or industry? Wowers, teetotalers and the fun police in public health advocacy. *Public health*. 2015 Aug 1;129(8):1030-7. ; Steele M, Mialon M, Browne S, Campbell N, Finucane F. Obesity, public health ethics and the nanny state. *Ethics, Medicine and Public Health*. 2021 Dec 1;19:100724.

²⁶⁶ Akin-Onitolo A, Hawkins B. Framing tobacco control: the case of the Nigerian tobacco tax debates. *Health Policy and Planning*. 2022 Jan 1;37(1):22-32. ; Elliott LM, Dalglis SL, Topp SM. Health taxes on tobacco, alcohol, food and drinks in low-and middle-income countries: a scoping review of policy content, actors, process and context. *International Journal of Health Policy and Management*. 2022 Apr 1;11(4):414-28. ; Thow AM, Rippin HL, Mulcahy G, Duffey K, Wickramasinghe K. Sugar-sweetened beverage taxes in Europe: learning for the future. *European Journal of Public Health*. 2022 Apr 1;32(2):273-80.

private sector in relation to their influence on public health.²⁶⁷ There is consistent evidence that allocating tax revenues specifically for healthcare and using that money as promised typically boosts public approval.²⁶⁸ This also highlights the importance of transparency in revenue use. This approach can strengthen sustainability of public health capacity and service delivery, as well as redress power imbalances between the public and private sector in relation to their influence on public health.²⁶⁹ As an example, an analysis of the SSB tax in France, a measure initially put forth with the primary objective of combating the country's growing obesity problem, found that including the explicit goal of raising funds for public health initiatives increased public support.²⁷⁰

c) Addressing industry response

Public health communication campaigns, in conjunction with comprehensive policy packages to reduce advertising and sponsorship, and ultimately consumption of tobacco, alcohol and SSBs, can also contribute to increasing public acceptability through their impact on the social norms related to consumption and reducing acceptance of industry framing.²⁷¹ There is a positive interaction between the denormalization of consumption of alcohol, tobacco and SSBs and associated industries, and support for health taxes. For example, in Hong Kong, tobacco industry denormalization beliefs were associated with support for tobacco taxes among adolescents, particularly among non-smokers.²⁷² Similarly, denormalization of alcohol consumption through health promotion efforts appears to be associated with support for restrictive alcohol policies, including taxes.²⁷³ SSB taxes may be associated with denormalization, and in turn associated with increased public support after their implementation.²⁷⁴ Conversely, health taxes are less likely to be introduced when targeted commodities have high public acceptance.²⁷⁵

Effectively addressing industry responses to health taxes can also be supported by institutional efforts to limit avenues for impact.²⁷⁶ These can include measures to require declarations of conflicts of interests, to restrict advertising, and to limit lobbying.

d) The role of policy design and stakeholder engagement

²⁶⁷ Wright A, Smith KE and Hellowell M. Policy lessons from health taxes: a systematic review of empirical studies. *BMC Public Health* 2017. 17(1): p. 583. Doi: 10.1186/s12889-017-4497-z.

²⁶⁸ Wright A, Smith KE and Hellowell M. Policy lessons from health taxes: a systematic review of empirical studies. *BMC Public Health* 2017. 17(1): p. 583. Doi: 10.1186/s12889-017-4497-z.

²⁶⁹ Wright A, Smith KE and Hellowell M. Policy lessons from health taxes: a systematic review of empirical studies. *BMC Public Health* 2017. 17(1): p. 583. Doi: 10.1186/s12889-017-4497-z.

²⁷⁰ Julia, C., et al., *Public perception and characteristics related to acceptance of the sugar-sweetened beverage taxation launched in France in 2012*. *Public Health Nutrition*, 2015. 18(14): p. 2679-2688.

²⁷¹ Elliott, L., S. Topp, and S. Dalglish, Health taxes on tobacco, alcohol, food and drinks in low-and middle-income countries: A scoping review of policy content, actors, process and context. *International Journal of Health Policy and Management*, 2020

²⁷² Chen, J., et al., Adolescent Support for Tobacco Control Policies and Associations with Tobacco Denormalization Beliefs and Harm Perceptions. *International Journal of Environmental Research and Public Health*, 2019. 16(1): p. 147.

²⁷³ Caluzzi, G., et al., Declining drinking among adolescents: are we seeing a denormalisation of drinking and a normalisation of non-drinking? *Addiction*, 2022. 117(5): p. 1204-1212.

²⁷⁴ Le Bodo, Y., et al., Potential "signal" effects from sugar-sweetened beverage taxation. *Taxing Soda for Public Health: A Canadian Perspective*, 2016: p. 151-160

²⁷⁵ Elliott, L., S. Topp, and S. Dalglish, Health taxes on tobacco, alcohol, food and drinks in low-and middle-income countries: A scoping review of policy content, actors, process and context. *International Journal of Health Policy and Management*, 2020

²⁷⁶ Mirza Z, Munir D. Conflicting interests, institutional fragmentation and opportunity structures: an analysis of political institutions and the health taxes regime in Pakistan. *BMJ Global Health*. 2023;8(Suppl 8).

Strategic policy design and stakeholder engagement can also support public acceptability of health taxes. In particular, hearing and addressing public and industry concerns regarding potential impacts on businesses, equity and employment can support public acceptability. This may include tax design approaches such as limiting the scope of the tax. For example, taking steps to limit administrative burden on small businesses, as was done in Hungary with the Public Health Product Tax.²⁷⁷

In planning stakeholder engagement regarding health taxes, it is also critical to identify and manage potential conflicts of interest in stakeholder engagement. For example, in Ghana, some stakeholders also believed that links between politicians and affected industries represent an important barrier, indicating the importance of transparency and addressing conflicts of interest for building trust and enabling health taxes.²⁷⁸ This may entail limiting participation by non-Government stakeholders in design decisions regarding health taxes, while ensuring that consultation is undertaken regarding potential impacts and tax implementation.

In contexts where political and institutional trust is low, efforts to generate public acceptability may need to include efforts to build trust. This can include public communication as part of a commitment to transparency and inclusive processes. For example, undertaking stakeholder dialogues and ensuring that community voices are heard in relation to tax design as well as revenue use and compensatory measures. For example, in several West African countries, effective stakeholder participation was seen to support evidence use in tobacco tax reform.²⁷⁹

e) Influence of the overall tax package on public acceptability

Public acceptability can also be fostered by communicating health taxes as part of the broader tax framework. By making the health objectives of excise taxes clear within the broader context of a redistributive tax framework, concerns regarding potential for regressivity can be addressed. For example, in the Philippines, articulating health taxes as part of a broader pro-poor tax reform increased acceptability (see Box 3).

From a health perspective, it is also critical to consider policy coherence within the broader tax framework. This can include considering the potential impact of health taxes on corporate tax revenue (i.e. if they contribute to reductions in sales then corporate tax revenue could theoretically decrease). It can also involve minimizing any tax incentives applied to the commodities targeted by health taxes, such as tax credits for advertising.

Box 3: Health taxes as part of tax reform in the Philippines

In the Philippines, including tobacco tax increases and a new SSB tax in a broader package of tax reform helped to increase the acceptability of these health taxes.²⁸⁰ The 2018 Tax Reform for Acceleration and Inclusion (TRAIN) Act was a broad tax reform with a pro-poor agenda, that reduced personal income taxes and increased consumption taxes, including excise taxes. The health taxes were

²⁷⁷ Thow AM, Rippin HL, Mulcahy G, Duffey K, Wickramasinghe K. Sugar-sweetened beverage taxes in Europe: learning for the future. *European Journal of Public Health*. 2022 Apr 1;32(2):273-80.

²⁷⁸ Singh A, Smith K, Hellowell M, et al. An exploration of stakeholder views and perceptions on taxing tobacco, alcohol and sugar-sweetened beverages in Ghana. *BMJ Global Health* 2023;8:e012054. doi:10.1136/bmjgh-2023-012054.

²⁷⁹ Amisi MM, Awal MS, Pabari M, Bedu-Addo D. How relationship and dialogue facilitate evidence use: Lessons from African countries. *African Evaluation Journal*. 2021 Dec 9;9(1):559.

²⁸⁰ Onagan, F.C.C., B.L.C. Ho, and K.K.T. Chua, Development of a sweetened beverage tax, Philippines. *Bulletin of the World Health Organization*, 2019. 97(2): p. 154.; United Nations Development Programme, Policy brief tobacco taxation to accelerate the SDGs, equity and sustainability in Asia and the Pacific. 2022, UNDP: New York.

positioned as maximizing benefits to both public health and government revenue, through which these taxes would contribute to the pro-poor objectives of the tax reform.²⁸¹

5. Public acceptability and the policy process

Searching for windows of opportunity

The broader policy and political context influence the acceptability of health taxes. Electoral commitments to tax reform and/or health reform have been found to create windows of opportunity for the introduction of health taxes.²⁸² For example, extensive tax reform in the Philippines included increases in tobacco tax rates as well as the introduction of a new SSB tax (see Box 3).

Actively coupling taxes with social problems that are issues of public concern can create windows of opportunity for health taxes. For example, the introduction of an SSB tax was coupled to concerns regarding the agriculture sector in France, and to concerns regarding health workforce losses in Hungary.²⁸³ Further to this, using revenue for public health and other social concerns can increase public acceptability, in part by addressing a common public perception that health taxes are simply a means to raise revenue.²⁸⁴

The COVID-19 pandemic heightened awareness of health risks associated with NCDs and the importance of financing health systems, and created a window of opportunity for health taxes as a means for addressing underlying health risks that contribute to disease severity. Furthermore, the Covid-19 pandemic, the war in Ukraine and rising interest rates in response to the cost-of-living crisis have reduced tax revenue worldwide, creating budget gaps. Health taxes have been identified as a means to both boost revenue and support better health, including reducing obesity as a risk factor for more severe COVID-19 health outcomes.²⁸⁵ For example, Turkmenistan raised excises on both tobacco and alcohol products as part of post-COVID recovery measures.²⁸⁶ International Financial Institutions have also identified health taxes as a means to strengthen the resilience of health systems in the context of population aging.²⁸⁷

Examples of potential policy ‘mixes’ or packages

Evidence-based public health recommendations from the WHO and others that aim to reduce consumption of tobacco, alcohol and SSBs emphasise that there are diverse drivers of consumption of health harming products. As such, for effective action to reduce intakes, a policy package is required. For tobacco, this is exemplified by the articles of the Framework Convention on Tobacco Control, which in addition to taxation includes complementary policy measures to raise consumer awareness of health

²⁸¹ Onagan, F.C.C., B.L.C. Ho, and K.K.T. Chua, *Development of a sweetened beverage tax, Philippines*. Bulletin of the World Health Organization, 2019. 97(2): p. 154.; United Nations Development Programme, *Policy brief tobacco taxation to accelerate the SDGs, equity and sustainability in Asia and the Pacific*. 2022, UNDP: New York.

²⁸² Elliott, L., S. Topp, and S. Dalglish, *Health taxes on tobacco, alcohol, food and drinks in low-and middle-income countries: A scoping review of policy content, actors, process and context*. International Journal of Health Policy and Management, 2020

²⁸³ Hagenaars, L., et al., *Effectiveness and policy determinants of sugar-sweetened beverage taxes*. Journal of Dental Research, 2021. 100(13): p. 1444-1451.; Thow, A.M., et al., *Sugar-sweetened beverage taxes in Europe: learning for the future*. European Journal of Public Health, 2022. 32(2): p. 273-80.

²⁸⁴ Elliott, L., S. Topp, and S. Dalglish, *Health taxes on tobacco, alcohol, food and drinks in low-and middle-income countries: A scoping review of policy content, actors, process and context*. International Journal of Health Policy and Management, 2020.

²⁸⁵ Lane, C., A. Glassman, and E. Smitham, *Using Health Taxes to Support Revenue: An Action Agenda for the IMF and World Bank. CGD Policy Paper 203*. Washington, DC, Center for Global Development. 2021.

²⁸⁶ <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

²⁸⁷ OECD, *Tax and fiscal policies after the COVID-19 crisis*. 2021, Organization for Economic Cooperation and Development: Paris.

harms associated with consumption (including social marketing and labelling), change environments to de-normalize tobacco consumption (such as restrictions on advertising and place-based smoking bans), and counter illicit trade (Box 4 provides an example). Similar measures are recommended with respect to alcohol and SSBs in the WHO *Global Action Plan for the Prevention and Control of NCDs*, which includes policy options ranging from public awareness campaigns, restricting advertising and promotion, labelling, and supporting healthier environments.

Although in some contexts, health taxes may not be the most politically feasible policy measure, the significant influence of price on consumer behaviour means that health taxes make a critical contribution to this policy package. While other measures may be identified as more publicly and politically acceptable, the exclusion of health taxes from the policy package will limit its effectiveness (see Chapter 9 for discussion of health policy coherence and the interface of other policy measures with taxation).

Box 4: Public acceptability in relation to policy package for tobacco in Australia

Regular increases in excise taxation have formed part of the policy package for tobacco control in Australia, which also includes smoking bans, labelling requirements and restrictions on advertising, in line with the Framework Convention on Tobacco Control. Tobacco tax increases have made an independent contribution to reducing overall smoking prevalence, particularly among populations of lower socio-economic status. For example, a 12.5% tax increase in 2013 was associated with a reduction in overall smoking prevalence of 6%.²⁸⁸ The Australian experience suggests that staged increases in excise taxation could be more effective in sustaining changes in smoking prevalence than one-off increases.²⁸⁹

The acceptability of tobacco tax excise increases in Australia differs by smoking status. Overall, tax increases have been less acceptable than other forms of tobacco control policy, other than smoking bans. Non-smokers and occasional smokers tend to find taxes more acceptable, perceiving price increases as effective in preventing tobacco uptake by children and incentivizing quitting. Framing of tobacco control policies, including taxes, as a means to protecting children and hypothecating tobacco excise for health education and care increased acceptability.²⁹⁰

Measuring acceptability in due time

Monitoring public support for health taxes can further support public acceptability. For example, in Kenya, evidence for high levels of public support for other tobacco control measures, disseminated when the tobacco control law was being voted on, likely contributed to unanimous support.²⁹¹ Monitoring of impact of taxes can also play a role in increasing public acceptability for health taxes in two ways: first, through raising public and political awareness of the taxes raised and their benefits to health, and second, through informing more effective advocacy by civil society and other public health actors.²⁹²

6. Conclusion

²⁸⁸ Wilkinson, A.L., et al., *Smoking prevalence following tobacco tax increases in Australia between 2001 and 2017: an interrupted time-series analysis*. The Lancet Public Health, 2019. 4(12): p. e618-e627.

²⁸⁹ Wilkinson, A.L., et al., *Smoking prevalence following tobacco tax increases in Australia between 2001 and 2017: an interrupted time-series analysis*. The Lancet Public Health, 2019. 4(12): p. e618-e627

²⁹⁰ Carter, S.M. and S. Chapman, *Smokers and non-smokers talk about regulatory options in tobacco control*. Tobacco Control, 2006. 15(5): p. 398-404

²⁹¹ Maina, W.K., R. Kitonyo, and A.E. Ogwel, *Using findings from a public opinion poll to build political support for tobacco control policy in Kenya*. Tobacco Control, 2013. 22(6): p. 423-426

²⁹² Sandoval, R.C., et al., *Monitoring and measuring health taxes*, in *HEALTH TAXES: Policy and Practice*. 2022. p. 351-399

Health taxes are effective but must be feasible. Public acceptability of health taxes is critical to enhance their feasibility of implementation. Key considerations relate to tax design and effectiveness, perceptions of key stakeholders, prevalence of consumption and industry activity. Strategies to generate public acceptability include strategic public communication and revenue use, addressing industry concerns and efforts to normalize consumption, considering health taxes within an overall tax package, and strategic policy design and stakeholder engagement.

Chapter 11: Specific Issues with Respect to Tobacco Taxation

1. Introduction

Tobacco use is an independent risk factor for noncommunicable diseases (NCDs) such as cardiovascular disease, respiratory disease, cancer, and diabetes. NCDs cause 71% of mortality globally, most of which is premature and disproportionately occurs in low- and middle-income countries (WHO 2013). Although global smoking prevalence has decreased by 7.2 percentage points over the past 20 years and the total number of smokers has declined by 117 million people over the past 22 years (WHO 2024), the number of smokers has increased in half of the WHO regions (Figure 3). In 2000, 32.7% of the world's adult population used tobacco: 49.3% among males, and 16.2% among females. In 2020, 22.3% of the world's population used tobacco: 36.7% among males and 7.8% among females (WHO 2024).

Box x: Main sources of data used in this Chapter

WHO Report on the Global Tobacco Epidemic (WHO RGTE)

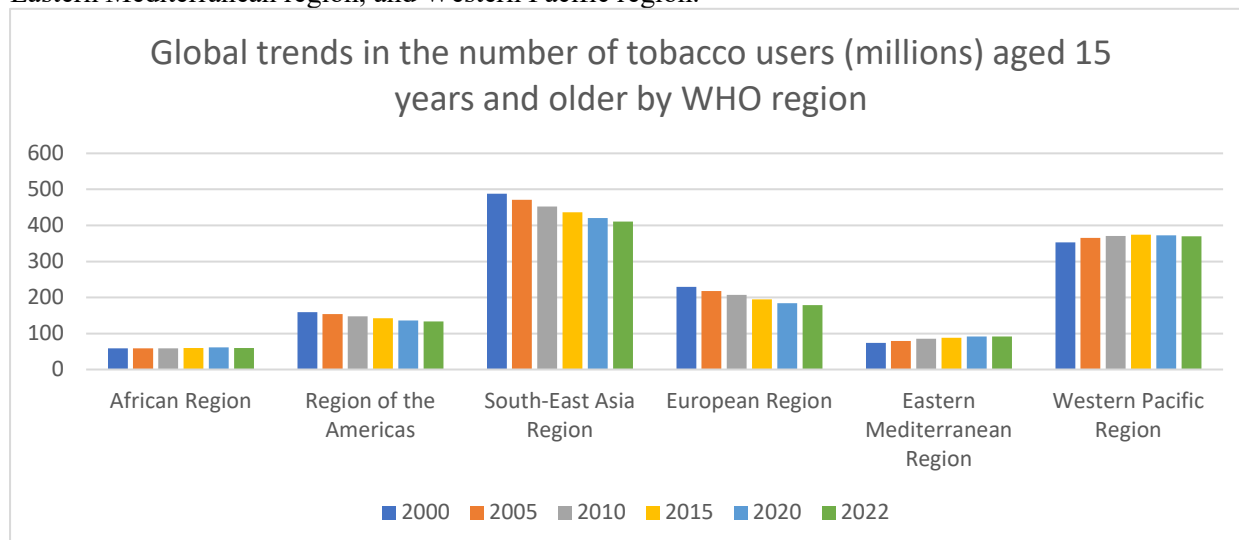
The WHO RGTE is a biennial report produced by the WHO tracking the progress made by countries in tobacco control since 2008. It monitors the implementation of the MPOWER technical package of demand-reduction measures. For R (“Raise Taxes”), information on the taxation of tobacco products and tax structure is gathered from ministries of finance. Tobacco product prices are collected from ministries of health or finance and, in few cases, from online or physical stores through regional data collectors. This information is used to estimate several indicators, among them, for cigarettes (WHO, 2023).

Tobacconomics Cigarette Tax Scorecard (Scorecard)

The Scorecard is a biennial report produced by Economics for Health at the John's Hopkins University scoring cigarette tax policy performance in 170 countries on a five-point scale using data from the WHO RGTE, providing policy makers with an actionable assessment of their country's cigarette tax policy. It has four grading components with scoring systems (Drope et al, 2024).

Figure 3. Over the past 22 years, the number of smokers has declined in the Region of the Americas, the South-East Asia region, and the European region, while it has increased in the African region,

Eastern Mediterranean region, and Western Pacific region.



Source: WHO global report on trends in prevalence of tobacco use 2000-2030 (2024).

Harms of tobacco production and use not only include health harms (Sujoso et al. 2020), but also secondary harms to the environment (see chapter 8) as well as immense economic costs. The global economic cost of health expenditure and lost productivity from tobacco use is significant (Goodchild et al. 2017), and households with NCDs bear a higher risk of impoverishment (Murphy et al. 2020). The economic costs of tobacco for low- and middle-income countries is especially significant. For example, in Pakistan the combined public and private costs of tobacco-related diseases and deaths in 2019 amounted to 1.6% of GDP, mostly through healthcare costs and lost productivity (Nayab et al. 2021). This cost is five times the total tax revenue collected from the tobacco industry in the same year (Nayab et al. 2021). The total economic burden of smoking in Bosnia and Herzegovina was estimated at 2.36% of GDP in 2019 (Gligorić et al. 2022). A study conducted in Indonesia found that the total burden of tobacco use on the economy ranged from 1.16% to 2.59% of GDP (Meilissa et al. 2022). On the other side, the economic benefits of tobacco taxation can be substantial; a study in Mexico (Sáenz de Miera et al. 2022), estimates the potential prevention of premature deaths and illnesses, alongside savings in healthcare, in a scenario involving a 50% price increase for cigarettes.

Recognizing the widespread evidence of harm from tobacco and the need for international cooperation to address its negative effects, in 2003, the World Health Assembly adopted the World Health Organization Framework Convention on Tobacco Control (WHO FCTC 2003), which entered into force in 2005. Designed to reduce tobacco consumption and control tobacco supply, the WHO FCTC is one of the most rapidly and widely embraced treaties in United Nations history.

2. Tobacco use prevalence is declining modestly, but it remains a persistent problem

Why does tobacco use persist despite the global consensus on its harms and the measures needed to combat it? And why does progress on taxation remain checkered with small steps forward and sometimes steps back? Shortly after adoption of the WHO FCTC in 2003, the WHO developed the MPOWER measures²⁹³ to help countries implement effective policies to reduce the demand for tobacco. The last MPOWER measure, “Raise Taxes” recommends price increases on tobacco products through tax increases to discourage their use. Although taxation is the most effective and cost-effective MPOWER measure, it remains the least employed to date (2022) according to the WHO (2023). In further sections, we analyse this measure alongside other indicators of tobacco tax policy performance through the Tobacconomics Cigarette Tax Scorecard (Drope et al. 2024). The most recent edition of the

²⁹³ The MPOWER measures comprise: (M) monitor tobacco use and prevention policies; (P) protect people from tobacco smoke; (O) offer help to quit tobacco use; (W) warn about the dangers of tobacco; (E) enforce bans on tobacco advertising, promotion and sponsorship; and (R) raise taxes on tobacco.

Scorecard finds that although the global average cigarette tax score (created by the Scorecard authors and described in more detail below) rose modestly from 1.89 (out of 5.00) in 2014 to 2.25 in 2020, it dropped back down to 1.99 in 2022. Overall, the Scorecard concludes that “global progress on tobacco taxation is uneven at best, and very disappointing at worst. Many governments are still failing to effectively employ tobacco taxes as a public health instrument.” (Drope et al. 2024). The sections below explore how better tobacco tax policy design, effective engagement with the tobacco industry, and regulation of new and emerging products can make progress in reducing tobacco use worldwide.

a) Tobacco Tax Policy Design:

Governments typically levy a variety of taxes on tobacco products. These taxes include excise taxes, value added taxes or sales taxes, import or customs duties in some cases and other indirect taxes (that can sometimes be earmarked to fund particular programs). However, these taxes may be directed to competing goals, such as revenue generation, protection of domestic producers, and more recently, as a public health instrument. Historically, revenue generation has been the primary aim of tobacco taxes. From an economic perspective, manufactured cigarettes are appropriate objects of taxation, given that they are produced in the formal sector by a small number of tobacco manufacturers, have relatively few substitutes and significant externalities, and inelastic demand. Given this relative inelasticity of demand, tobacco taxes can generate steady revenues with fewer market distortions compared to taxes on goods and services with more elastic demand.

In addition to revenue raising, and despite tariff discrimination prohibitions (GATT 1994), some governments have used taxation as a protectionist measure for domestic tobacco producers. Those approaches include high customs duties or applying excise taxes that vary based on the source or type of tobacco contained in a product, the price of the product (where foreign brands are expensive relative to those produced domestically), or other product characteristics. The use of ad valorem taxes also tends to protect local products if they are cheaper, by widening the price differential with imported products.

In more recent years, however, governments have begun to use excise taxes as a public health tool to discourage the use of harmful products. However, progress in adopting well-designed health taxes has been hampered, in part, by different conceptualizations of key issues by the ministries involved in designing health taxes. Health promotion is the purview of health policymakers, while taxation is the mandate of finance ministries. Bringing these two ministries together on tax design is essential, especially in targeting the specific health-harming product or group of products (Elliott et al. 2020).

Once a health objective for tobacco taxation is identified, taxes (preferably excises) should be well-designed and constitute a substantial share of the price. Uniform specific taxes that keep pace with inflation and income growth are more effective instruments at raising prices, reducing affordability, and thus, decreasing consumption than ad valorem and tiered designs. The following subsections examine four characteristics of tobacco taxes, make recommendations, and present the latest results of the Tobacconomics Cigarette Tax Scorecard (Scorecard) (Drope et al. 2024) for each.

The Scorecard assesses cigarette tax policy performance in 170 countries on a five-point scale with respect to consistency with the widely accepted best practices articulated in the WHO FCTC Article 6 Guidelines (WHO 2014), the 2021 WHO Technical Manual on Tobacco Tax Policy and Administration (WHO 2021), the NCI-WHO Monograph 21: The Economics of Tobacco and Tobacco Control (US NCI and WHO 2016), the World Bank Tobacco Tax Reform (World Bank 2017) and Curbing the Epidemic reports (Jha et al.1999), and other seminal research on effective tobacco taxation. The Scorecard uses biennially-released data on tobacco taxes from the WHO Report on the Global Tobacco Epidemic (WHO RGTE) (WHO 2023) to evaluate each country’s tax policy on a five-point rating system by showing specific areas of improvement for each country’s tax policy. The Scorecard examines four components of cigarette tax policy: cigarette price, changes in cigarette affordability, tax

structure, and tax share of price. Since data on only cigarettes is available on a global basis through the WHO RGTE, the Scorecard does not evaluate tax policy on all tobacco products, but only on cigarettes.

Price

How effective are price increases at reducing tobacco use? The estimated impact of price on tobacco consumption varies from country to country, but most studies show that increases in the price of cigarettes reduces smoking (Tauras et al. 2016). However, cigarettes are relatively price inelastic, meaning that an increase in price will result in a less-than-proportional decline in consumption. Although elasticities may vary country to country, consumption is more responsive to price in low- and middle-income countries (LMICs) than high-income countries (HICs) (US NCI and WHO 2016).

In addition, not all population groups within countries respond to changes in price in the same way. Importantly, youth are two to three times more responsive to tobacco price increases than the general population, which is explained by various factors including limited income, lower addiction levels, and peer effects (Bader et al. 2011). For example, in a three-country study in Argentina, Brazil, and Mexico, where the reported average age of daily smoking initiation is similar (and between 17 and 18 years old), researchers found that a 10% price increase would delay smoking initiation by five months in Argentina, nearly 2.5 years in Brazil, and one year and four months in Mexico (Franco-Churruarín and González-Rozada 2023).

There is also evidence that lower-income groups are more sensitive to price increases relative to higher-income groups, which is explained primarily by limited income (Vulovic and Chaloupka 2021; Smith et al. 2020; Parks et al. 2017). For example, in a study of seven countries in Southeast Europe (Bosnia and Herzegovina, Croatia, Albania, Kosovo, Macedonia, Montenegro, and Serbia), researchers found that most of the countries would experience a positive redistributive effect due to higher excise taxes on cigarettes (Zubović et al. 2019). Low-income households in all countries studied were more responsive to price increases compared to their high-income counterparts (Zubović et al. 2019). The share of the budget dedicated to cigarettes even decreased among low-income households after the simulated tax increase in some of the countries (Zubović et al. 2019).

The latest edition of the Scorecard shows that despite the evidence that cigarette price increases lead to decreases in cigarette consumption, cigarette prices²⁹⁴ have declined in all regions and in most income-groups²⁹⁵ from 2020 to 2022. From 2018 to 2022, cigarette prices remained largely stagnant in most regions and income groups. As of 2022, average cigarette prices were highest in the South-East Asia region and among high-income countries and lowest in the African region and among low-income countries.

²⁹⁴ This Scorecard component is based on the price of a 20-cigarette pack of the most-sold brand in international dollars, adjusted for purchasing power parity (PPP), which is a common metric used to compare countries' currencies based on an exchange that allows one to buy the same amount of goods and services in each country.

²⁹⁵ Data presented by region reflect the six regional groupings defined by WHO (African region – AFR; Region of the Americas – AMR; Eastern Mediterranean region – EMR; European region – EUR; South-East Asia region – SEAR; and Western Pacific region – WPR), while data presented by income level reflect the country income categories defined by the World Bank.

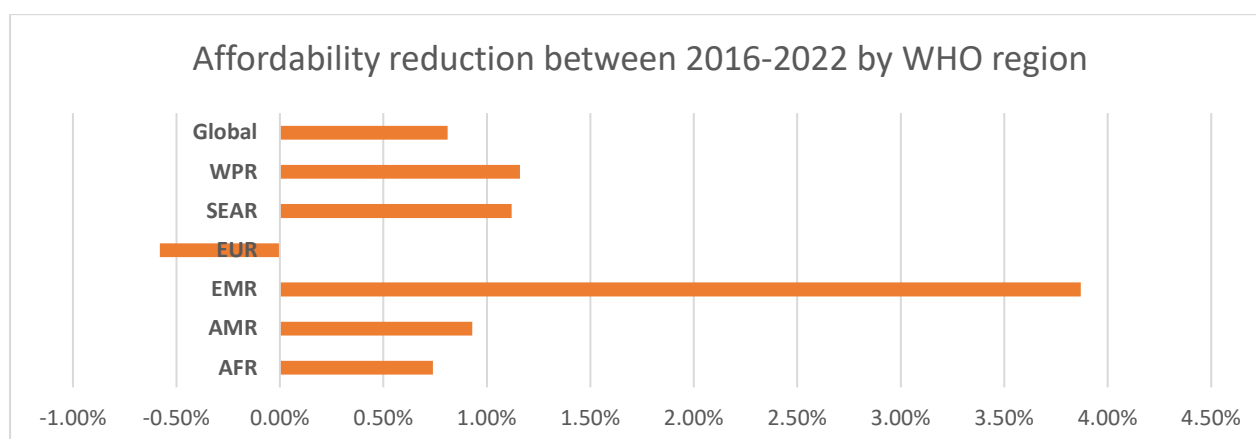
Affordability

Changes in income affect smoking behaviour, with increases in income of smokers often resulting in greater consumption. Cigarette affordability addresses both price and income by reflecting an individual's ability to purchase cigarettes. (US NCI and WHO 2016). Over the past few years, most countries around the world have experienced rapid inflation, and over the past few decades, many low- and middle-income countries in particular have seen rapid growth in incomes and inflation. Depending on the type of tax (which will be detailed in the section below) these increases in inflation and purchasing power can erode the impact of tax and resulting price increases on consumption (Blecher 2020). As a result, income growth and inflation should be taken into consideration when raising tobacco taxes. Tax increases should be large enough to make tobacco products less affordable over time.

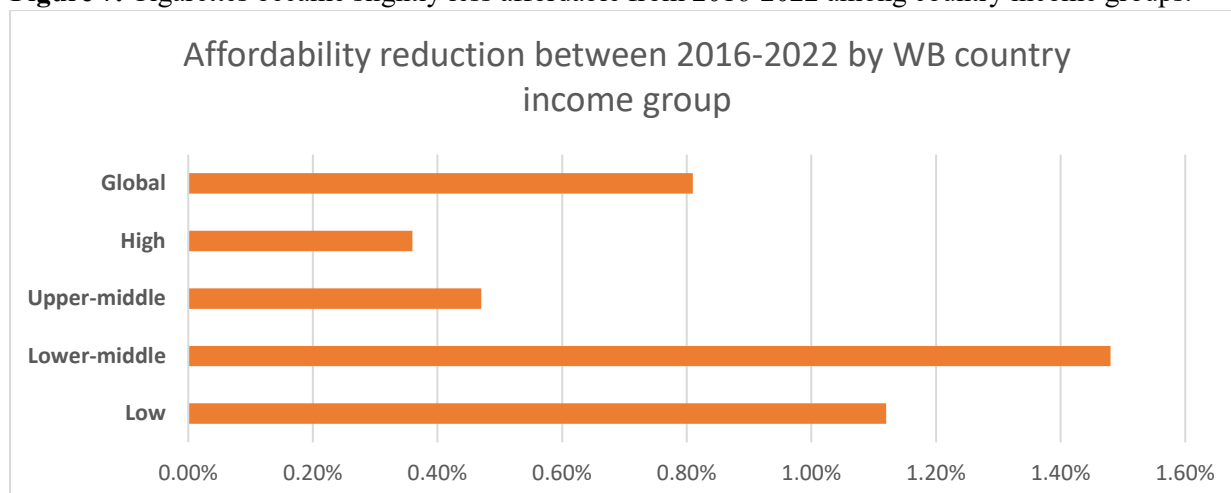
The latest edition of the Scorecard finds that 156 of the 188 countries evaluated received a score of zero in the area of change in affordability of cigarettes between the years 2016-2022 (figures 8 and 9)²⁹⁶. This low score is attributable to four distinct sets of circumstances: (1) 25 countries had no statutory tax increase and cigarettes became more affordable; (2) 16 countries had a statutory tax increase, but it was too small, and cigarettes still became more affordable; (3) 56 countries had no statutory tax increase and no change in affordability; (4) 59 countries had a statutory tax increase but no change in affordability (Drope et al. 2024). Important to note from these results is that even with tax increases, cigarettes may become more affordable (and thus lead to increases in consumption) if the resulting price change does not outpace inflation or income growth. Therefore, if the aim of the tax is to curb demand of cigarettes and protect public health, the tax increase must be large enough to significantly affect the price of the product.

Although cigarettes became more affordable in the European region over the past six years, in most regions and income groups, cigarettes became modestly less affordable on average globally by around 1% from 2016-2022. Notably, the Eastern Mediterranean region experienced the greatest reduction in cigarette affordability among the WHO regions. In addition, the evidence on affordability over the decade spanning 2012-2022 shows that cigarettes are becoming less affordable over the long term in many countries. From 2012-2022, cigarettes became less affordable in 64 countries, did not significantly change in 88 countries, and became more affordable in 25 countries, 17 of which were low- and middle-income countries (WHO 2023).

²⁹⁶ This scoring component assesses changes in cigarette affordability over a six-year period (2016-2022), in order to ensure the four data points necessary for the analysis, from the biannual study. Affordability is defined as the percentage of per capita GDP required to purchase 2,000 cigarettes of the most-sold brand, with an increase in this measure implying that cigarettes are becoming less affordable over time.

Figure 6. Cigarettes became less affordable from 2016-2022, except in the European region.

Source: Tobacconomics Scorecard, 3rd ed. (2024). Note: A positive change means that cigarettes became less affordable and a negative change means that cigarettes became more affordable.

Figure 7. Cigarettes became slightly less affordable from 2016-2022 among country income groups.

Source: Tobacconomics Scorecard, 3rd ed. (2024).

Although it is illegal to sell single-stick cigarettes in many countries, single sticks are more affordable relative to cigarette packs due to their divisibility (for some people a whole cigarette pack may be too expensive to purchase). A recent study of 42 countries representing all WHO regions found the sale of single sticks in 33 of them (Brown et al. 2023). In 17 of these 33 countries, the sale of single sticks is prohibited by law (Brown et al. 2023). In another study in Pakistan, researchers conducted two national surveys before and after a tobacco excise increase of 150% in February of 2023 (SPDC 2024). Although cigarette consumption decreased by 19.2% after the tax increase, 35% of smokers surveyed reported buying loose cigarettes despite their prohibition (SPDC 2024).

Although effective enforcement of point-of-sale regulations on packs is the most targeted remedy to the problem of single stick consumption, there is evidence that higher prices as a result of tax increases do increase the price of single sticks (Maldonado et al. 2020). In Colombia, where the sale of single sticks is banned, researchers conducting a five-city survey of illicit cigarettes before and after a 100% specific excise tax increase in Colombia in 2016 found that the average real price of single sticks increased by 23.1% while the real increase in price for packs was 28.2% (Maldonado et al. 2020). At the same time, however, the proportion of smokers who bought single sticks increased by 11 percentage points (from 57.8% in 2016 to 68.8% in 2017) (Maldonado et al. 2020). Overall, the researchers observed a modest

increase in illicit cigarette consumption (from 3.35% to 4.23%) following the tax increase (Maldonado et al. 2020).

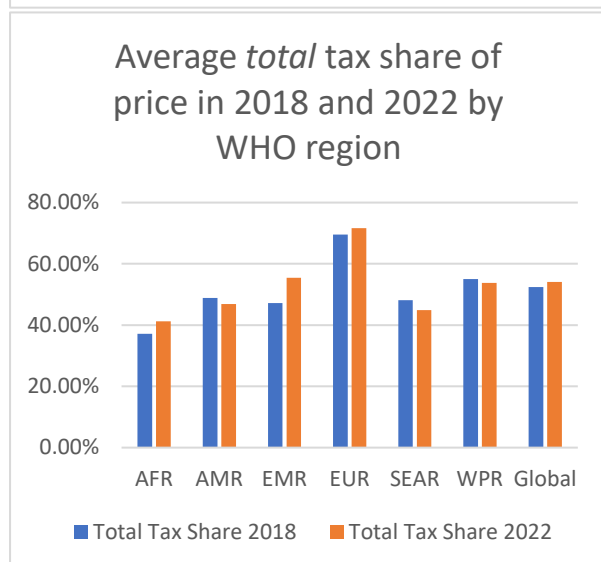
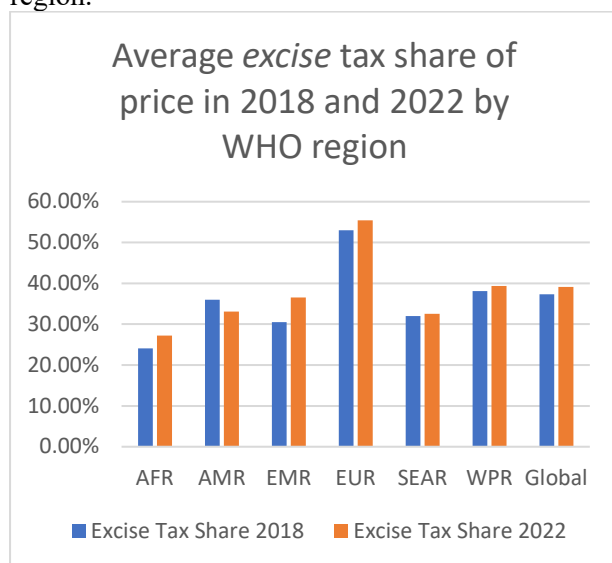
Tax Share

There are two common and related benchmarks of tobacco tax performance: The first benchmark is whether the sum of all taxes is greater than 75% or more of the retail price of the most popular brand of cigarettes, and the second benchmark is whether excise taxes account for at least 70% of tobacco product retail prices. When taxes are increased to these levels—provided prices are sufficiently high—they lead to significant price increases, motivating many users to quit and deterring large numbers of youth from starting to use tobacco. However, where prices are very low, the tax share measure cannot be used alone as an indicator of tax policy performance and must be interpreted with caution. A higher tax share of price is also a good measure of a government's ability to affect the retail prices of tobacco products more directly and generate significant revenue from these excise taxes.

In 2022, only 12% of the world's population living in 41 countries were protected by tax rates at 75% or more of the price of the most popular brand of cigarettes (WHO 2023).

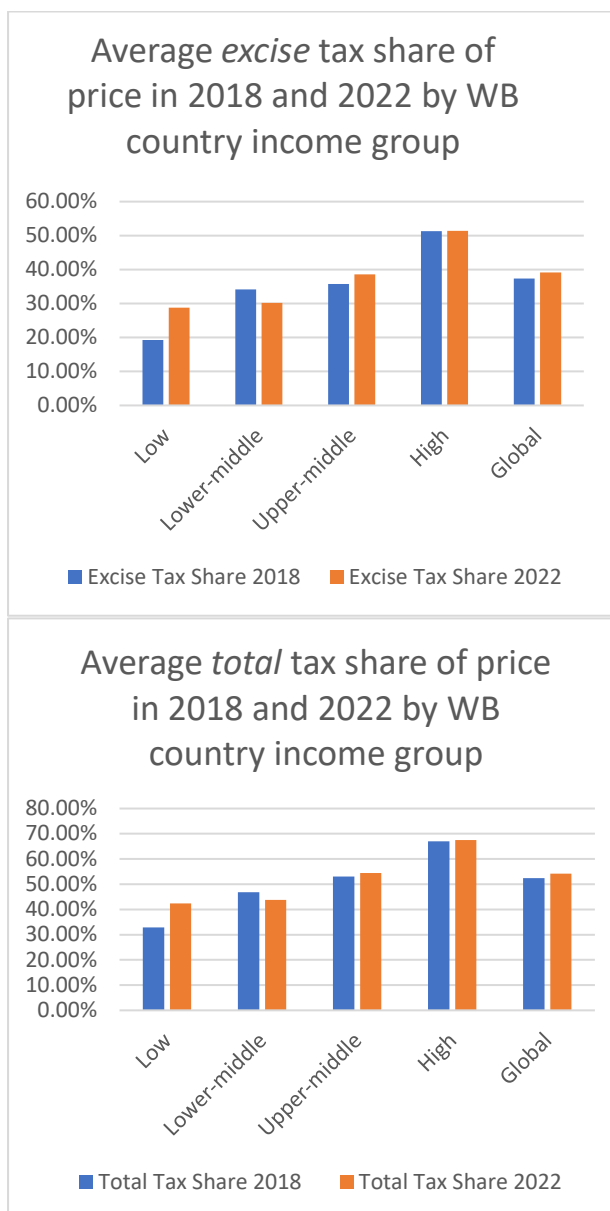
Comparing the results from the first and third editions of the Scorecard, total tax shares and excise tax shares increased modestly from 2018-2022 (figures 10, 11, 12 and 13). Notable exceptions are the Americas region and the lower-middle income country group for both total tax share and excise tax share, as well as the South-East Asia and Western Pacific regions for the total tax share of price measure. The largest increases in tax shares (both total tax shares and excise tax shares) occurred in the African and Eastern Mediterranean regions as well as the low-income country group, though it must be noted that the prices in the African region and the low-income country group decreased and the prices in the Eastern Mediterranean region remained largely stagnant in the same period. These declining or stagnant prices likely play a role in the tax share increases. Although the European region and the high-income country group has the highest average tax shares (both total tax shares and excise tax shares) neither group meets the recommended minimum tax share percentages of 70% (excise) and 75% (total).

Figures 8 & 9. Average tax shares increased modestly from 2018 to 2022 except for the Americas region.



Sources: Tobacconomics Scorecard, 3rd ed. (2024); Tobacconomics Scorecard, 1st ed. (2020).

Figures 10 & 12. Average tax shares increased modestly from 2018 to 2022 except for the lower-middle income group.



Sources: Tobacconomics Scorecard, 3rd ed. (2024); Tobacconomics Scorecard, 1st ed. (2020).

Structure

Tobacco products are typically subject to excise taxes, which are either specific or ad valorem, or both, known as hybrid or mixed structures. Specific taxes are assessed as a fixed amount per unit of the product (for example, a stick or a pack), while an ad valorem excise tax is a tax that is assessed as a percentage of value (for example manufacturer price or retail price).

Uniform specific excise taxes reduce price variability, while the immediate impact of ad valorem excises and tiered tobacco tax structures result in greater variability in prices, which creates more opportunities for substitution that occurs when tobacco users trade down to cheaper brands in response to tax and price increases, rather than quitting or cutting back on consumption (Chaloupka et al. 2010, 2014; Shang et al. 2014). Specific excise taxes are therefore more effective in raising consumer prices compared to ad valorem taxes and, thus, result in greater reductions in cigarette consumption (Delipalla & Keen 1992; Delipalla & O'Donnell 2001) while complicated tax structures, such as tiered tax

structures and systems with a greater share of ad valorem taxes, are generally associated with higher cigarette consumption compared to uniform specific tax structures (Shang et al. 2019). Linking specific tax rates to inflation rates and income growth can help maintain the impact of the tax and thus keep the affordability of tobacco products from increasing over time (WHO 2021).

Uniform specific taxes are generally easier to administer relative to more complex tax structures (WHO 2014; 2021). Ad valorem taxes and/or tiered tax structures are more difficult to administer: the product price can be undervalued to minimize ad valorem taxes, and tiered tax structures create more opportunities for tobacco manufacturers to avoid tax by manipulating the features of their products, making tax revenues more difficult to forecast and less stable (WHO, 2014). If an ad valorem tax is used, the tax base should be retail price given that it is the most transparent (as long as a reference retail price is applied). A retail price tax base not only tends to be higher relative to other types of tax bases, it is also more effective at preventing tax evasion and avoidance. In contrast, where the ad valorem tax is based on the manufacturer's (ex-factory) price; the cost, insurance, and freight (CIF) price; or the wholesale price, manufacturers can simply evade the tax by artificially lowering the product price at the earlier stages of the value chain where the tax is assessed and move some of the costs further up the chain (WHO 2021) or through abuse of transfer pricing practices.

A minimum tax in combination with an ad valorem tax creates a price floor below which cigarettes cannot be sold, pushing up the prices of economy brands and reducing the relative price variation between brands. Governments will not only gain more revenue from the higher priced brands, but a minimum tax guarantees that amount of revenue from lower-priced brands (WHO 2021). While minimum pricing policies can also set a price floor, the revenues from these policies go to the industry rather than to the government.

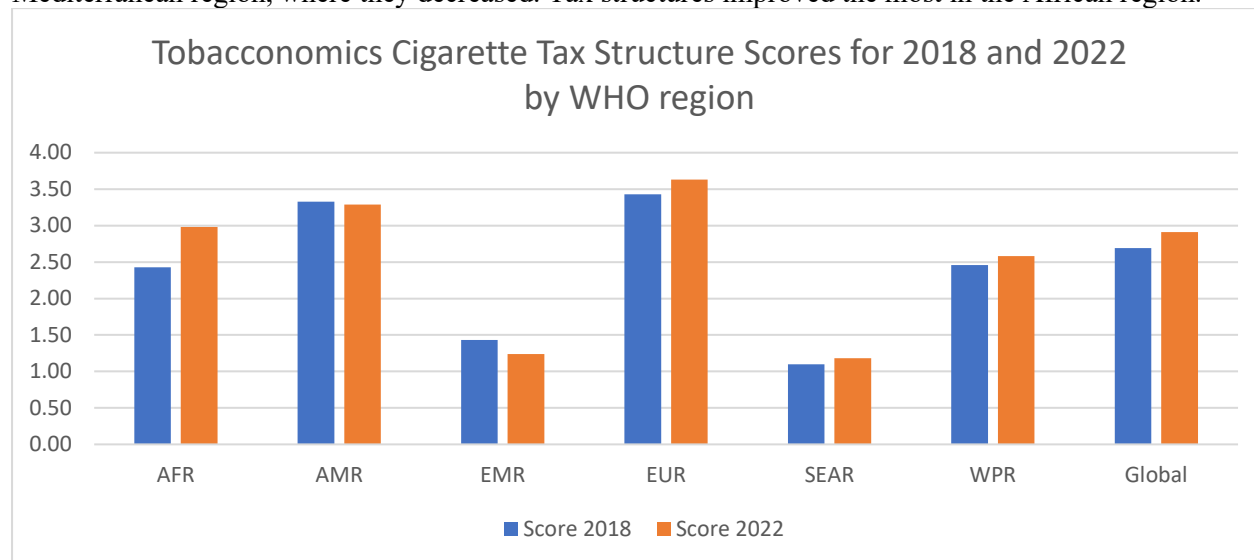
Some jurisdictions have tiered structures with different tax levels depending on the product features, such as the type of cigarette (e.g., Indonesia has eight tiers based on whether they are machine-made or hand-rolled, among other production features) or the pack's price category (e.g., Bangladesh has a low-price and high-price category). However, these product classifications add complexity to the administration of the tax and may result in trading down (or substitution) to lower-priced cigarettes, instead of reducing consumption. For example, researchers in Bangladesh found that increasing the price of high-price cigarettes by 10% would increase consumption of low-price cigarettes by 2.64%, suggesting that some smokers will switch to cheaper brands when faced with price increases. The study goes on to recommend "increases in cigarette prices in the low-price tier that are faster than increases in the high-price tier to achieve a gradual convergence of prices" (Shimul & Hussain 2022). Tiered structures also motivate price and product manipulation by producers to fit into lower tiers.

On a broader level, excise taxes should also tax all tobacco products similarly to avoid substitution between types of products, e.g., fine-cut or loose tobacco, smokeless tobacco, etc. These other types of tobacco products often avoid taxation altogether when they are sold illicitly. For example, hand-rolled or roll-your-own tobacco, often sold in outdoor markets in the Southeastern Europe region is largely sold illicitly. A 2019 survey of six countries (Albania, Bosnia & Herzegovina, Kosovo, Montenegro, North Macedonia, and Serbia) found that 88.5% of the loose tobacco consumption was illicit (Vladisavljević et al. 2021). Tax administration efforts, which are discussed in Chapter 7, are critical to curb illicit trade of all tobacco products. An important example is the European Union's Track and Trace system introduced in May 2019 for both cigarettes and roll-your-own tobacco. This system requires all tobacco retail packages to be marked with a unique identifier and security feature that allows for traceability throughout the tobacco supply chain to point of sale.

The Scorecard gives the highest score of 5.00 to two types of cigarette excise structures: (1) uniform specific taxes with an automatic inflation-indexation or other adjustments; or (2) uniform mixed tax structures (for example, those with both a specific and an ad valorem component) with greater share of specific tax, with an automatic adjustment for the specific component, the retail price as the base for

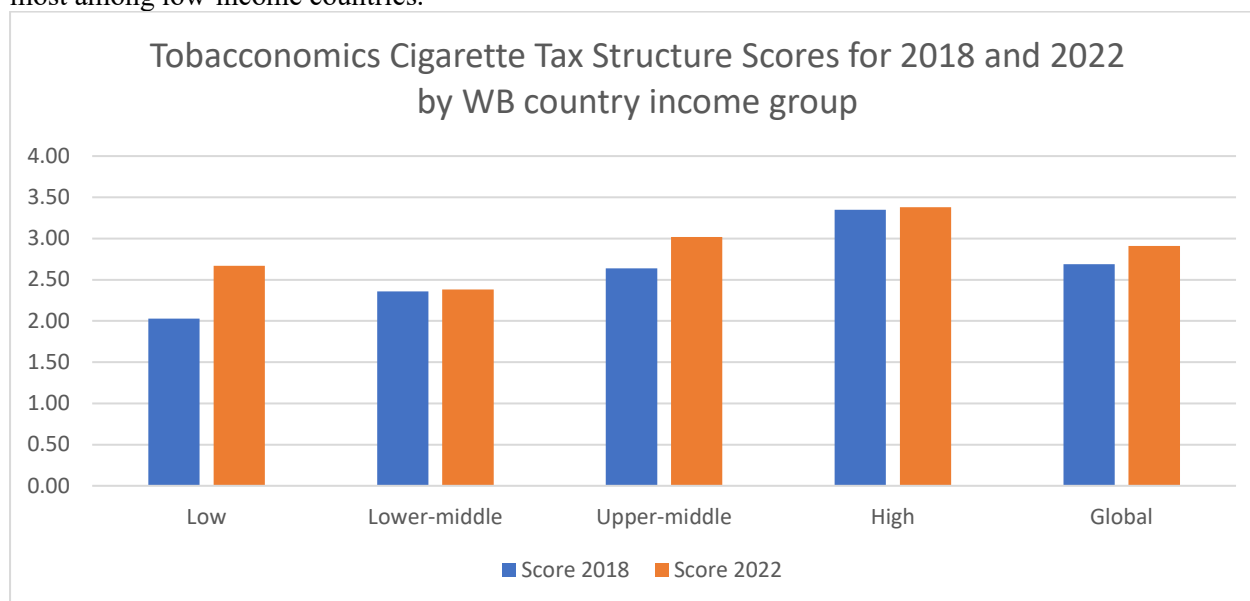
the ad valorem component, and a minimum specific tax. At the opposite end of the scoring scale, countries without an excise tax on cigarettes receive a score of 0. Tiered taxes receive scores of 1.00 point and uniform ad valorem taxes or mixed systems with a greater share of ad valorem taxes receive a score of 2.00. Uniform specific taxes and mixed systems with a greater share of specific tax but without inflation adjustments and a retail price base for ad valorem taxes receive a score of 3.00.

Figure 12. Tax Structure scores increased modestly from 2018 to 2022 except for the Eastern Mediterranean region, where they decreased. Tax structures improved the most in the African region.



Sources: Tobacconomics Scorecard, 3rd ed. (2024); Tobacconomics Scorecard, 1st ed. (2020).

Figure 13. Tax Structure scores increased modestly from 2018 to 2022. Tax structures improved the most among low-income countries.



Sources: Tobacconomics Scorecard, 3rd ed. (2024); Tobacconomics Scorecard, 1st ed. (2020).

Comparing the country tax structure scores from 2018 and 2022, overall, there was modest improvement (figures 14 and 15). The most improvement in tax structures took place in the African region and among low-income countries (where tax shares also increased during the same period). However, cigarette prices in both the African region and among low-income countries decreased at the same time, providing a partial explanation for the higher tax share of price. At the same time smoking prevalence as well as the absolute number of smokers declined slightly during these years.

The latest globally available data on cigarette tax policies indicates that progress on reducing the consumption of traditional cigarettes through taxation is to date an underemployed policy. While substantial progress has been made to reduce tobacco use through non-price policies, such as those regulating cigarette advertising, access to minors, smoke-free public spaces, etc., taxation has yet to realize its full potential as a public health instrument. Countries should strengthen international and regional cooperation efforts to implement the WHO FCTC obligations and MPOWER measures to reduce tobacco consumption and control tobacco supply. In doing so, countries should understand the historic role of the tobacco industry in blocking tobacco control efforts as well as incorporate new and emerging tobacco products into their regulatory regimes. These challenges will be discussed in the sections below.

b) The Role of the Tobacco Industry: blocking efforts for strengthened tobacco control, including taxation

The tobacco industry has historically played a significant role in obstructing efforts to strengthen tobacco control measures, particularly in the realm of taxation. This section explores the tactics employed by the tobacco industry to impede effective tobacco control, and the importance of implementing Article 5.3 of the WHO Framework Convention on Tobacco Control (WHO FCTC 2003) to counteract industry interference.

Industry efforts to weaken, delay or avoid the implementation of tobacco control policies

Industry interference has been identified as the most significant barrier to the implementation of evidence-based tobacco control measures, including tobacco taxation (WHO FCTC 2014). From influencing research through financial support to spreading disinformation, engaging in and supporting illicit trade, using front groups, and lobbying, the tobacco industry uses a multifaceted approach to protect its interests and block effective tobacco control (and tax) policies. The tactics used within this multifaceted approach can be broadly categorized into two groups: discursive tactics, which involve shaping narratives and arguments, and instrumental tactics or approaches, which encompass the direct actions taken by the tobacco industry to influence policy making and markets (Ulucanlar et al. 2016). By understanding these tactics, policy makers can better navigate the complexities of tobacco control policies, including taxation, and develop evidence-based policies that prioritize public health over the interests of the tobacco industry. This section examines the various tactics employed by the tobacco industry to influence tobacco control policies.

Shaping the narrative – the discursive tactics

The tobacco industry's main discursive strategy is to overstate the potential costs of proposed tobacco control policies while at the same time downplaying or completely denying their potential public health benefits. Using disinformation, distorting independent evidence, and influencing research through financial support, the industry creates detailed yet believable narratives that exploit policy makers' fears by portraying proposed public health policies as harmful to the economy (US NCI and WHO 2016).

In the 1950s and 1960s, despite mounting scientific evidence linking smoking to lung cancer and other health risks, the industry vigorously denied these claims, promoting narratives suggesting that smoking was safe and even beneficial to health (Cummings et al. 2002). As evidence of the harms of smoking became irrefutable, the tobacco industry shifted its strategy to creating doubt and confusion: they influenced research through financial support, misrepresented data and hired scientists to cast doubt on the scientific consensus linking smoking to cancer and other diseases (Bates and Rowell 1999, USA 2006).

The tobacco industry has continued to employ similar tactics of disinformation surrounding the science behind several tobacco control policies, including smoke-free environments. In the early 2000's, studies documented industry efforts globally to undermine and discredit the scientific evidence linking secondhand smoke (SHS) to diseases—underscoring the industry's efforts to undermine smoke-free policies (US NCI and WHO 2016). The 2006 *United States v. Philip Morris USA, Inc.* case confirmed that tobacco companies distorted SHS health risks to deceive the public, manipulate scientific findings, evade regulations, and prevent indoor smoking restrictions (USA 2017).

Today, the tobacco industry uses similar tactics to promote novel and emerging nicotine tobacco products, like electronic cigarettes and heated tobacco, as safer alternatives to traditional cigarettes—even promoting them as cessation tools despite insufficient evidence supporting these claims (see next section).

In addition to sowing doubt and confusion about the scientific basis of tobacco control policies, the industry employs similar disinformation tactics to portray dire social and economic consequences of tobacco control policies. The industry's narrative exploits fear of job losses and economic downturns—presenting tobacco control policies as a threat to the economy and vulnerable populations in society (US NCI and WHO 2016). For example, the tobacco industry consistently obstructs the implementation of comprehensive smoke-free policies falsely claiming that such policies harm businesses and in particular the hospitality sector, despite overwhelming independently produced evidence to the contrary: independent evidence indicates that smoke-free policies not only do not have negative

economic consequences for businesses, also bring economic benefits to businesses, including increased worker productivity and reduced costs (IARC 2009, NCI and WHO 2016).

Direct actions – the instrumental Tactics

The tobacco industry employs a variety of instrumental tactics, some legal while others are not, to actively undermine tobacco control efforts. These tactics range from lobbying of government officials, using front groups and corporate social responsibility initiatives, to bribing, smuggling, and intimidation (legal and economic threats) (US NCI and WHO 2016, World Bank 2019, WHO 2008, WHO 2012).

Globally, the tobacco industry extensively lobbies policymakers to influence legislation and regulations directly. Beyond traditional methods like financial contributions to political parties, communities, and individual politicians, the industry often employs individuals with close ties to government agencies to establish relationships with policy makers, providing them with industry-funded research and information that supports the industry's agenda and even drafting and distributing sample legislation that is favorable to the tobacco industry (WHO 2008, WHO 2012). In the 1990s it was established that the industry tried to influence the work of the WHO in tobacco control by placing their own consultants in positions at WHO and by using other UN agencies to influence or resist WHO's tobacco control policies (WHO 2000). WHO now requires staff, consultants and experts to disclose any ties to the tobacco industry before considering hiring them to work or engage with the organization with the disclosure being reviewed by an ethics committee that assesses whether the individual can be hired or not.²⁹⁷

Additionally, the industry often hires front groups, including tobacco growers' associations and restaurant or bar organizations, to lobby on its behalf, which appear to be independent but are secretly funded and controlled by the industry (WHO 2008, STOP 2022, Gannon et al. 2023). This tactic creates the illusion of public support for industry-friendly policies. The Foundation for a Smoke-Free World, for instance, portrays itself as an independent organization advocating for smoke-free initiatives by eliminating the use of cigarettes and other forms of combustible tobacco, but is closely tied financially to the tobacco industry, particularly to Philip Morris International (PMI); it cannot be regarded as independent (Truth Initiative 2019, van der Eijk et al. 2019).

Litigation threats, alongside its associated costs, are another common tactic used by the tobacco industry to intimidate governments and deter them from implementing strict tobacco control measures—particularly in low-and middle-income countries (US NCI and WHO 2016, WHO 2008, WHO 2012). High-profile cases such as Philip Morris vs. Uruguay, where PMI took the government of Uruguay to court at the International Centre for Settlement of Investment Disputes (ICSID) over stringent anti-smoking regulations, which PMI argued violated investment agreements demonstrate the industry's attempts to use litigation to undermine public health policies aimed at reducing tobacco consumption (ICSID 2016). Similar legal challenges have been observed in other developing countries, such as the Philippines, Thailand, Uganda, and India, where tobacco companies have challenged tobacco control measures on grounds such as alleged violations of trade agreements and intellectual property rights related to packaging and labelling—as well as in high-income countries such as Australia and Norway (Moodie et al. 2022, Tobacco Control Laws).²⁹⁸ Despite numerous losses in court, the tobacco industry continues to employ legal challenges or threats of challenges, contributing to a "regulatory chill" which can result in delaying or preventing governments from implementing specific tobacco control policies (US NCI and WHO 2016).

²⁹⁷ See example of a declaration of interest for IARC/WHO experts: <https://asbest-study.iarc.who.int/quality-assurance/conflicts-of-interest/annex-a-doi-formcirc-56.pdf>

²⁹⁸ See examples of tobacco control litigation victories in countries worldwide: <https://www.tobaccocontrolaws.org/litigation/major-litigation-decisions>

The industry also uses corporate social responsibility (CSR) as a tool to portray itself as socially responsible, aiming to weaken public health policies and regulations in its favor (Friedman 2009). Tobacco companies fund philanthropic projects, make donations to health facilities, and support community programs, all while continuing to market products that cause significant harm. For example, during the COVID-19 pandemic, the tobacco industry engaged in CSR efforts, including donations to relief efforts and funding research into coronavirus vaccines, while promoting the idea of a protective effect of nicotine or smoking for COVID-19, despite evidence demonstrating increased disease severity in smokers with SARS-CoV-2 infection (Burki 2021, UNDP and WHO FCTC 2023).

In addition to lobbying, threatening with litigation, and CSR, the tobacco industry utilizes other covert influence tactics to sway policy makers and obstruct tobacco control measures, such as bribery in exchange for favorable treatment (WHO 2008, US SEC 2010, Jackson et al. 2021). For example, a recent analysis of whistleblower documents from former British American Tobacco (BAT) employees in the Africa region revealed a total of 236 payments made between 2008 and 2013, totaling over US \$600,000. These payments targeted national and local politicians, journalists, civil servants, farmers, and individuals associated with parliamentary committees, indicating a systematic attempt by BAT to secure favorable policies and gain a competitive advantage. This analysis suggests that these practices were not limited to East Africa but may be part of a broader strategy within the BAT Group (STOP 2021).

Lastly, there is substantial evidence indicating that major multinational tobacco companies engage in illicit trade to undermine tobacco control efforts (WHO 2008, Gilmore et al. 2019, World Bank 2019). For example, during the 1990s, tobacco company documents revealed their significant involvement in global cigarette smuggling, with approximately one-third of global cigarette exports ending up on the illicit market, and in some cases, tobacco companies supplied entire markets through illicit channels (Gilmore et al. 2019). The continued involvement of the industry has been further exposed in various countries, including Canada, Colombia, Ecuador, and the EU (US NCI and WHO 2016). In these legal cases, multinational tobacco companies were accused of supplying illicit cigarettes or knowingly facilitating the illegal distribution of their products, demonstrating a deliberate effort to circumvent tobacco control regulations, avoid taxes, and undermine tobacco control initiatives. There are several reasons why multinational tobacco companies may engage in illicit trade of cigarettes, such as to evade taxes and increase profits; to maintain market share by offering cheaper, untaxed products; to circumvent regulations designed to reduce smoking rates; and to exploit weak law enforcement and regulatory frameworks that allow them to operate in markets where they might otherwise face significant legal repercussions.

Article 5.3 of the WHO Framework Convention on Tobacco Control

Recognizing the threats and harms of industry interference, the WHO Framework Convention on Tobacco Control (WHO FCTC 2003)—an international legally binding treaty with 182 Parties—includes Article 5.3, which states: “In setting and implementing their public health policies with respect to tobacco control, Parties shall act to protect these policies from commercial and other vested interests of the tobacco industry in accordance with national law” (WHO FCTC 2003). The Guidelines for implementation of Article 5.3 recognize the inherent conflict between the tobacco industry's interests and public health policy, and emphasize that all government branches responsible for creating, implementing, and enforcing tobacco control policies must also protect these policies from tobacco industry influence and be held accountable for doing so. This includes that government officials always act in a transparent manner when it comes with interacting with the tobacco industry and avoid, for example, providing the industry incentives or preferential treatment to run their business, as this would conflict with tobacco control policy (WHO FCTC 2013).

Unfortunately, in many countries there seems to be a limited understanding of obligations stipulated in Article 5.3 beyond the health sector (Barry et al. 2022, WHO FCTC 2014). Evidence suggests that the tobacco industry has attempted to undermine the implementation of the WHO FCTC in various countries by engaging with and inciting controversy between financial, trade, and health ministries, using business associations and front groups to lobby on its behalf, and even gained access to WHO FCTC negotiations (WHO 2012). Evidence also suggests that the tobacco industry forms partnerships with different branches of government to fund joint projects. These partnerships, which involve projects like supporting border patrols to prevent illicit trade and sponsoring sports programs for children, not only allow the tobacco industry to influence government policies and actions but also present significant conflicts of interest and violations to Article 5.3 of the treaty (WHO 2008, WHO 2012). As such, it is vital to recognize that all government sectors are bound by Article 5.3 of the WHO FCTC. Parties should follow their obligation more strictly, utilizing the available resources to practically implement frameworks that safeguard public health policies effectively (WHO FCTC 2003). Practical steps include establishing clear policies that explicitly reject partnerships or non-binding agreements with the tobacco industry, thereby preventing any form of collaboration that could undermine public health objectives; establishing comprehensive transparency measures, requiring all interactions between public officials and the tobacco industry to be fully documented and publicly accessible; and establishing strong conflict of interest regulations and ensuring strict enforcement can further protect public health policies from undue influence (WHO 2012b, The Union 2020).

c) Product Innovation: New and emerging nicotine and tobacco products creating confusion in tobacco control implementation, including taxation

Another important development in the regulation of tobacco consumption has been the introduction of new and emerging nicotine and tobacco products, which has created a new challenge for policy makers to identify the best way to address them.

New and emerging nicotine and tobacco products typically refer to four main types of products, including heated tobacco products (HTPs), electronic nicotine delivery systems (ENDS), electronic non-nicotine delivery systems (ENNDS), and nicotine pouches. Such products are usually presented in shapes and forms that resemble tobacco products. HTPs are products that contain tobacco in sticks, pods or plugs which are heated by a device that releases aerosols inhaled by the user (WHO 2020). ENDS and ENNDS products are systems that heat a liquid (called e-liquid) that creates aerosols inhaled by the user. Those e-liquids do not contain tobacco but may contain nicotine (ENDS products) or not (ENNDS) (WHO 2024). The most common type of ENDS/ENNDS products are electronic cigarettes (or e-cigarettes), which often resemble their conventional counterpart (WHO 2021). Finally, a product that appeared just recently (in 2018), nicotine pouches are similar to smokeless tobacco, in particular snus (placed in the mouth between the gum and the lip), but without tobacco, containing nicotine and other substances (WHO 2023a).

HTPs, ENDS and ENNDS products are heated at lower temperatures compared to cigarettes or other combusted tobacco products, seemingly releasing fewer toxic substances. They are therefore advertised as safe alternatives to conventional tobacco smoked products. However, their long-term impact is unknown and mounting evidence has been showing they are not harmless. In particular, in the case of ENDS and ENNDS products, the debate has been much more fierce because, unlike HTPs, those products do not contain tobacco, a substance that contains many known carcinogenic and toxic substances. ENDS and ENNDS products contain many additives, flavours and chemicals in addition to nicotine for ENDS products. A recent study looking at health outcomes odds ratios for electronic cigarettes or e-cigarettes (a subset of ENDS products and the most popular product) compared to cigarettes show no detectable difference for cardiovascular disease, stroke and metabolic dysfunction and just a marginally lower risk for asthma, chronic obstructive pulmonary disease and oral disease (Glantz et al. 2024). In addition, populations consuming both e-cigarettes and cigarettes (called dual

users, a new type of consumer that is on the rise) show higher risk for all the covered adverse health outcomes compared to cigarette-only users (Glantz et al. 2024).

Consumption and product characteristics

Those novel and emerging products are still a small fraction of global consumption of conventional and new and emerging nicotine and tobacco products – 5% in 2020 (Perucic et al. 2022) -- but their growth has been extremely fast, with HTPs growing more than seven thousand times in sales value in just over a decade (2013-2020) and ENDS and ENNDS products growing more than 40 times in sales value between 2008 and 2020. The sales value of nicotine pouches increased more than 100 times in just a four-year period (2018-2022) (Euromonitor 2024). Aggressive marketing often targeted at youth and loose regulation from countries still grappling with the best approach to control their use has left markets flooded with those products, leading to concerningly high prevalence of youth consumption of those products in many countries, especially in Europe. For example, in Lithuania adolescent current e-cigarette use was estimated to be 31% compared to 7.7% for adult current e-cigarette use in 2021, and in Poland adolescent current e-cigarette use was estimated to be 30% in 2019 compared to 0.9% for adult current e-cigarette use in 2021 (WHO 2023b).

While HTPs have been relatively more stable in terms of variability of features (tobacco heated in sticks, but also the presence of hybrid products containing tobacco sticks and liquid cartridges) and while nicotine pouches are relatively new to the market, the evolution of ENDS and ENNDS products has been very fast and challenging to follow (WHO 2021). ENDS and ENNDS products have gone through different iterations of “generations” of the product with different designs and types of liquids used.

The most common types of ENDS and ENNDS products available in the market, with varying popularity depending on countries and regions, include open systems (which have e-liquid refillable tanks where consumers make the mixes they like), rechargeable closed systems (which have tanks containing e-liquids that are already pre-filled and cannot be modified but can be replaced once the liquid is consumed) and disposable closed systems (pre-filled tanks and devices that are disposed of when consumed). Three main types of e-liquids are also available; non-nicotine containing e-liquids, freebase nicotine (nicotine in its purest form, with a method of extraction used since the 1960s; when heated, it can be absorbed fast in the lungs and in the brain) and nicotine salts (a more recent technology, compared to freebase nicotine e-liquids; those with nicotine salts deliver higher levels of nicotine to the user while masking its harshness) (Perucic et al. 2022, WHO 2021). For ENDS e-liquids, the electrical power of devices heating the liquid has evolved over time to increase the power of the battery delivering increasing amounts of nicotine to the body, sometimes higher than what even conventional cigarettes can deliver.

Around 16,000 different flavours have been identified to be sold with ENDS and ENNDS products, many of them appealing to children and, hiding the harshness of nicotine -- which could play a role in a person’s decision to try those products for the first time (WHO 2021). Other developments in the production of nicotine and which make regulation more challenging if nicotine is defined narrowly, is the production of synthetic nicotine, which is not produced from the tobacco plant (WHO 2023a). Just recently, a new molecule, metatine²⁹⁹, is available in the market that is a non-nicotine compound but which is structurally similar to nicotine and which can function like nicotine. Additionally, ENDS/ENNDS devices, which hold the e-liquids that are vaped by consumers, also vary greatly in shapes and sizes with new designs that are constantly produced, some of which come in shapes that are appealing to youth (e.g. in the shape of toys or containing cartoon characters) (WHO 2021, WHO 2024).

Regulatory approaches

²⁹⁹ <https://metatine.com/>

For ENDS and ENNDS products and for nicotine pouches, manufacturers have been attempting to convince regulators not to treat them as tobacco products so that they fall into grey areas and escape tobacco regulation. And in general, manufacturers of those novel products, including HTPs, have been pressing governments to exempt them from the common regulatory approaches imposed on tobacco products, using the claims of being safer alternative and, in the case of ENDS/ENNDS products, that they are cessation tools to help quit tobacco use (WHO 2023a).

However, to date, according to WHO, evidence on the effectiveness of ENDS products as a cessation tool has been inconclusive (WHO 2021) -- but this subject has split public health advocates from within. In particular, the Cochrane Living Systematic review of the effectiveness of electronic cigarettes for smoking cessation concluded that people using nicotine containing e-cigarettes were more likely to quit cigarette use compared to those using other conventional nicotine replacement therapies (Lindson et al. 2024). One main criticism of this work is the definition of cessation, which considers a successful quitting as cessation of tobacco use but not of e-cigarettes. In the case of the traditional nicotine replacement therapy approaches, cessation meant full quitting of tobacco but also of nicotine use, meaning the use of the cessation therapy is supposed to be temporary to help tobacco users fully quit their addiction to nicotine overall. Considering those who continue using e-cigarettes as quitters disregards the continued addiction to nicotine and the continued exposure to the health dangers of ENDS products consumption (WHO 2021).

Approaches in regulation have been diverse and inconsistent at times. Part of the challenge was the classification of those products. As of 31 December 2022, 19 countries banned the sale of HTPs (including large countries like India, Iran or Türkiye), while 69 countries had some form of regulation with diverse approaches in their classification, where 16 treat them as a conventional tobacco product, 29 as a novel product, 5 as ENDS products and 10 as smokeless tobacco and the rest as other products. Another 86 countries seem to implicitly regulate HTPs (tobacco sticks) under conventional tobacco product regulations (WHO FCTC 2023).

For ENDS and ENNDS products, the approach can be different because of their nicotine content. A review of ENDS regulation in 2022 showed that 34 countries banned their sale (including large countries like Brazil, India, Iran, Thailand or Türkiye), while 87 allowed their sales with one or more regulation, such as imposing age restriction, banning or restricting their consumption in public places, banning or restricting their advertising, promotion and sponsorship and banning or restricting flavours. A remaining large number of 74 countries do not have any regulation in place addressing ENDS products (WHO 2023b). The status of regulation is an evolving matter as countries continue to look for the best approach they deem appropriate. For example, in Mexico, an initiative was under discussion by end 2024/early 2025 to incorporate in the Constitution a ban for the production, distribution and sale of electronic cigarettes and vapes.

It is worth mentioning here the example of two countries that have approached regulation of ENDS in a less common way. The United Kingdom, who consider that vapes (e-cigarettes) are less harmful than smoking, considered applying their regulation to encourage their use to support smoking cessation, making it easily available as a consumer product. While regulation of tobacco products is very strong in the UK, for ENDS and ENNDs products it is more lax, with an absence of bans on use of the products in indoor public places, partial bans on advertising and absence of regulation of flavours (WHO 2023c). However, the sharp increase in vape use among children and youth in recent years has led the government to reconsider some of its regulatory approaches to address those concerns (United Kingdom Gov. 2023). New and strengthened regulations include, for example, the introduction of an excise tax, taking effect in 2026 (United Kingdom Gov. 2024). Australia, on the other hand, recognizing the health risks of e-cigarette consumption but bearing in mind that some tobacco users may wish to use this product as a tool for cessation, decided that nicotine and non-nicotine products could be sold only in pharmacies and under prescription (Australian Gov. 2024).

For nicotine pouches, 12 countries were banning the sale of the product in 2022 (including Australia and the Russian Federation). WHO identified 22 countries where those products were regulated. Most of the countries regulating those products do it through laws on pharmaceutical products, food and general consumer protection. In a small number of countries, e.g. Estonia or the Republic of Moldova, nicotine pouches fall under the countries' tobacco control laws (WHO 2023a).

In relation to taxation, as of 2022, 64 countries were identified as applying an excise on HTPs with varied approaches. While the majority of countries applied a specific excise on those products, taxation based on the weight of tobacco rather than on the number of sticks was more common. Taxing the product based on the number of sticks is easier to determine, since the tobacco content in each stick cannot be ascertained without laboratory analysis.

As of 2022, 45 countries were identified as taxing ENDS or ENNDS e-liquids. Most also apply a specific excise tax per volume (millilitres) and more than half tax both nicotine and non-nicotine containing liquids (i.e. both ENDS and ENNDS e-liquids). For nicotine pouches, less information is readily available on their taxation but two countries in Europe, Greece and Ukraine, just introduced an excise on those products -- specific excise taxes per weight in kilograms (ECigIntelligence 2024). As indicated earlier, manufacturers have been trying to influence policymakers to tax novel products at lower rates than cigarettes on the grounds that they are less harmful, and evidence shows that they have been successful in doing so. A compilation of price and tax share estimates, for 31 countries in 2020 for which data was available for all three cigarettes, HTPs and ENDS e-liquids, showed that, while price levels may have been similar for HTPs and ENDS e-liquids for closed systems, compared with cigarettes the tax burden was significantly lower among HTPs and ENDS e-liquids (Perucic et al. 2022).

Based on an expert meeting held in 2018, WHO developed a set of recommendations for the taxation of HTPs, ENDS and ENNDs products and published them in the WHO technical manual on tobacco tax policy and administration (WHO 2021). No recommendations are so far available for nicotine pouches as they are a very new product. With regards to HTPs, given that they are tobacco products and similar in shape and price to cigarettes, the recommendation is to tax them at the same rate as cigarettes with a specific tax on a per stick basis. This is reinforced by the fact that the Conference of the Parties, the governing body of the WHO FCTC, recognised in its Decision 22 in 2018 that "*heated tobacco products are tobacco products and are therefore subject to the provisions of the WHO FCTC*" (WHO FCTC 2018), meaning that all tobacco control measures, including taxation, should be similarly applied to conventional tobacco products and HTPs. The WHO technical manual also suggests that countries can consider taxing the devices used for HTP consumption, but they need to adequately assess their administrative capacity to do so.

In relation to ENDS and ENNDS products, the constant evolution of those products makes it difficult to identify best practices in taxation. However, based on some evidence and experience of countries, some emerging recommendations were summarized in the WHO technical manual, including the importance of first targeting the taxation of e-liquids, given that they are a key input to ENDS and ENNDS consumption. The manual also recommends taxing both nicotine and non-nicotine containing e-liquids. This is based on evidence that some non-nicotine labelled products were found to contain nicotine following lab tests. Additionally, the tax should not vary based on nicotine concentration because, as briefly mentioned earlier, the delivery of nicotine in the body could be independently controlled by the battery power of the heating device regardless of initial content of nicotine in the product. A flat rate applicable to all types of e-liquids is also easier to administer. Similar to the recommendation for HTPs, countries are also invited to consider taxing devices used for ENDS and ENNDS consumption, if their administrative capacity permits them to do so (WHO 2021).

Despite the scattered and varying approaches in regulating those products, a recent systematic review of effectiveness of regulatory policies on electronic nicotine products concluded that flavour restrictions and taxation were most effective in reducing the use of those products (Yan et al. 2023).

Table 1: Summary of regulatory approaches to heated tobacco products (HTPs), electronic nicotine delivery systems (ENDS), electronic non-nicotine delivery systems (ENNDS) products and nicotine pouches:

Product	Regulatory approach	Number of countries
HTPS	Banned	19
	Classified as conventional tobacco product	16
	Classified as novel product	29
	Classified as ENDS product	5
	Classified as smokeless product	10
	Classified as other product	9
	Implicitly classified as conventional tobacco product	86
	Taxed	64
	Specific excise	48
	Base: sticks	16
	Base: kg of tobacco	32
	Ad valorem	5
	Mixed	11
Specific excise component base: sticks	5	
Specific excise component base: kg of tobacco	6	
ENDS products	Banned	34
	Legally sold with one or more regulation in place (not accounting for taxation)	87
	Unregulated	74
	Taxed (e-liquids)	45
	Specific excise	35
	Ad valorem excise	9
	Mixed system	1
	Tax all e-liquids	18
Tax nicotine containing e-liquids	27	
Nicotine pouches	Banned	12
	Subject to some regulation	22

Source: WHO 2023. <https://www.who.int/teams/health-promotion/tobacco-control/global-tobacco-report-2023>

3. Conclusion: Tobacco use has been a persistent problem, but it doesn't have to be a forever problem

Although tobacco use is a persistent health problem leading to more than 8 million annual deaths globally, prevalence has slowly declined over the past two decades and there have been substantial advances to curb its use and prevent its harmful consequences. Adoption of the WHO FCTC was a major step in establishing a global agreement on the need for control of tobacco as a harmful substance. This global treaty led the way for the development of evidence-based measures, most of which have been implemented in countries worldwide. The primary measure, however, that has not reached its full potential is taxation. The third edition of the Tobacconomics Scorecard, which uses standard data on cigarette tax policies and prices in over 170 countries, shows the very modest progress in the use of taxation as a public health instrument, despite evidence on its effectiveness in countries across the globe.

Historically, the primary obstacle for effective tobacco taxation and tobacco control overall has been the result of pressure from the tobacco industry, as taxation has a direct effect on the industry's profitability. Governments need to be aware of industry's tactics that block effective tobacco control and taxation policies, and, for those who are Parties to the WHO FCTC, to abide by the Article 5.3 commitments to protect their national policies from undue industry interference.

However, the rise in consumption of novel and emerging nicotine and tobacco products, especially among the youth, along with the mounting evidence of their health harm and their yet unknown long-term health effects, is a new and growing threat. These products call for strong regulations to be implemented by countries to control their use. Given the fast change in technology affecting the design and features of these products, those regulations need to be flexible enough to facilitate adjustments when needed. Novel products are presented as less harmful but at the same time using designs that are look-a-like to tobacco products, and they run the risk of re-normalizing tobacco use, bringing in new tobacco users who would have not consumed those products otherwise. Indeed, a recent systematic review and meta-analysis showed that use of e-cigarettes was associated with initiation of cigarette use among teenagers in Europe and North America (O'Brien et al. 2021). This accumulating evidence raises concerns over the possible erosion of decades of efforts to tackle tobacco use in many countries around the world.

Yet there are other promising signs that tobacco will not be a forever problem. Regulatory work is being increasingly sought by governments, pushing towards substantial reductions in tobacco consumption, looking towards reaching tobacco-free generations in some countries of the European Union and New Zealand (Lancet 2024). A tobacco-free generation is indeed possible in countries worldwide, and taxation has the potential to play a leading role in making it a reality.

References

- Australian Government, Department of Health and Aged Care, About vaping and e-cigarettes. 12 February 2024 <https://www.health.gov.au/topics/smoking-vaping-and-tobacco/about-vaping#:~:text=In%20recognition%20of%20the%20health,nicotine%20containing%20e%2Dcigarette%20products.>
- Bader, P., Boisclair, D., & Ferrence, R. (2011). Effects of tobacco taxation and pricing on smoking behavior in high risk populations: A knowledge synthesis. *International Journal of Environmental Research and Public Health*, 8(11), 4118-4139.
- Barry RA, Abdullah SM, Chugh A, et al. Advancing whole-of-government approaches to tobacco control: Article 5.3 and the challenge of policy coordination in Bangladesh, Ethiopia, India and Uganda. *Tobacco Control* 2022;31:s46-s52.
https://tobaccocontrol.bmj.com/content/31/Suppl_1/s46.citation-tools
- Bates C and Rowell A, 1999. Tobacco Control Reports on Industry Activity. University of California. https://escholarship.org/content/qt9fp6566b/qt9fp6566b_noSplash_cf5479bcb22b38bca6c5db7a3ffb9dfe.pdf
- Blecher, E. (2020). Affordability of Tobacco Products: The Case of Cigarettes [White Paper]. *Tobacconomics*. <https://www.tobacconomics.org/files/research/609/affordability-white-paper-v4.1-final.pdf>
- Brown JL, Rosen D, Carmona MG, et al Spinning a global web: tactics used by Big Tobacco to attract children at tobacco points-of-sale *Tobacco Control* 2023;32:645-651.
- Burki TK. Tobacco industry capitalises on the COVID-19 pandemic. *Lancet Respir Med*. 2021 Oct;9(10):1097-1098. doi: 10.1016/S2213-2600(21)00361-1. Epub 2021 Jul 29. PMID: 34332656; PMCID: PMC8479378. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8479378/>
- Chaloupka, F., Drope J., Siu, E., Vulovic, V., Stoklosa, M., Mirza, M., Rodriguez-Iglesias G., Lee, H., (2020). *Tobacconomics cigarette tax scorecard* (1st ed.). Chicago, IL: Health Policy Center, Institute for Health Research and Policy, University of Illinois Chicago.
- Chaloupka, F. J., Kostova, D., & Shang, C. (2014). Cigarette excise tax structure and cigarette prices: Evidence from the Global Adult Tobacco Survey and the US National Adult Tobacco Survey. *Nicotine & Tobacco Research*, 16(Suppl 1), S3-S9.
- Chaloupka, F. J., Peck, R., Tauras, J. A., Xu, X., & Yurekli, A. (2010). Cigarette excise taxation: the impact of tax structure on prices, revenues, and cigarette smoking. *National Bureau of Economic Research Working Paper* 16287. DOI 10.3386/w16287
- Cummings KM, Morley CP, Hyland A. Failed promises of the cigarette industry and its effect on consumer misperceptions about the health risks of smoking. *Tob Control*. 2002 Mar;11 Suppl 1(Suppl 1):I110-7. doi: 10.1136/tc.11.suppl_1.i110. PMID: 11893821; PMCID: PMC1766060. <https://pubmed.ncbi.nlm.nih.gov/11893821/>
- Delipalla, S., & Keen, M. (1992). The comparison between ad valorem and specific taxation under imperfect competition. *Journal of Public Economics*, 49(3), 351-367.
- Delipalla, S., & O'Donnell, O. (2001). Estimating tax incidence, market power and market conduct: The European cigarette industry. *International Journal of Industrial Organization*, 19(6), 885-908.

Drope, J., Oo, S., Lee, H., Dorokhina, M, Guerrero-López, C., Rodriguez-Iglesias G., Mugosa, A., Mirza, M., Bontu, A., & Chaloupka, F. (2024). *Tobacconomics cigarette tax scorecard* (3rd ed.). Baltimore, MD: Bloomberg School of Public Health, Johns Hopkins University.

ECigIntelligence [Internet]. London: Tamarind Media; 2024 Tamarind Intelligence Policy Radar, March 2024. Available from: <https://ecigintelligence.com/> [restricted access].

Elliott L, Topp S, Dalglis S. Health taxes on tobacco, alcohol, food and drinks in low-and middle-income countries: A scoping review of policy content, actors, process and context. *International Journal of Health Policy and Management*. 2020.

Euromonitor 2024. Euromonitor International Limited [Internet]. London: Euromonitor; 2024. Tobacco: From trade sources/national statistics. Available from: <https://www.portal.euromonitor.com/> [restricted access].

Franco-Churruarin, F. & Gonzalez-Rozada, M. Prevalence of Daily Smoking and Initiation in Latin America [Report]. *Tobacconomics*. 2023.

Friedman LC. Tobacco industry use of corporate social responsibility tactics as a sword and a shield on secondhand smoke issues. *J Law Med Ethics*. 2009 Winter;37(4):819-27. doi: 10.1111/j.1748-720X.2009.00453.x. PMID: 20122118. <https://pubmed.ncbi.nlm.nih.gov/20122118/>

GATT 1994: General Agreement on Tariffs and Trade 1994, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, 1867 U.N.T.S. 187, 33 I.L.M. 1153 (1994).

Gannon J, Bach K, Cattaruzza MS, Bar-Zeev Y, Forberger S, Kilibarda B, Azari R, Okwor U, Lomazzi M, Borisch B. Big tobacco's dirty tricks: Seven key tactics of the tobacco industry. *Tob Prev Cessat*. 2023 Dec 20;9:39. doi: 10.18332/tpc/176336. PMID: 38124801; PMCID: PMC10731746. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10731746/>

Gilmore AB, Gallagher AWA, Rowell A. Tobacco industry's elaborate attempts to control a global track and trace system and fundamentally undermine the Illicit Trade Protocol. *Tobacco Control* 2019;28:127-140. <https://tobaccocontrol.bmj.com/content/28/2/127.citation-tools>

Glantz S, Nhung N, Oliveira da Silva. Population-Based Disease Odds for E-Cigarettes and Dual Use versus Cigarettes. February 27, 2024, *NEJM Evid* 2024;3(3) DOI: 10.1056/EVIDoa2300229, VOL. 3 NO. 3.

Gligorić, D., Preradović Kulovac, D., & Mičić, Lj. (2022). *The Economic Burden of Smoking in Bosnia and Herzegovina, 2019* [Report]. University of Banja Luka. <https://www.tobacconomics.org/research/the-economic-burden-of-smoking-in-bosnia-and-herzegovina-2019/>.

Goodchild M, Nargis N, Tursan d'Espaignet E Global economic cost of smoking-attributable diseases *Tobacco Control* Published Online First: 30 January 2017. doi: 10.1136/tobaccocontrol-2016-053305.

IARC Handbooks of Cancer Prevention, Tobacco Control, Vol. 13: Evaluating the effectiveness of smoke-free policies (2009: Lyon, France). Retrieved from: <https://www.iarc.who.int/wp-content/uploads/2018/07/handbook13.pdf>

ICSID 2016. International Center for Settlement of Investment Disputes. In the arbitration proceeding between PHILIP MORRIS BRANDS SÀRL, PHILIP MORRIS PRODUCTS S.A., ABAL HERMANOS S.A. and ORIENTAL REPUBLIC OF URUGUAY. ICSID Case No. ARB/10/7. https://icsidfiles.worldbank.org/icsid/ICSIDBLOBS/OnlineAwards/C1000/DC9013_En.pdf

Jackson, R. R, Rowell, A., & Gilmore, A. B. (2021). "Unlawful Bribes?": A documentary analysis showing British American Tobacco's use of payments to secure policy and competitive advantage in Africa. UCSF: Center for Tobacco Control Research and Education. Retrieved from <https://escholarship.org/uc/item/4qs8m106>. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9908085/>

Jha, P., & Chaloupka, F. J. (1999). *Curbing the epidemic: Governments and the economics of tobacco control*. Washington, DC: World Bank Group.

Lancet Respiratory Medicine (2024). Editorial: A tobacco-free generation: the end goal of the endgame, Vol 12, March 2024. [https://doi.org/10.1016/S2213-2600\(24\)00033-X](https://doi.org/10.1016/S2213-2600(24)00033-X)

Lindson N, Butler AR, McRobbie H, Bullen C, Hajek P, Begh R, Theodoulou A, Notley C, Rigotti NA, Turner T, Livingstone-Banks J, Morris T, Hartmann-Boyce J. Electronic cigarettes for smoking cessation. *Cochrane Database of Systematic Reviews* 2024, Issue 1. Art. No.: CD010216. DOI: 10.1002/14651858.CD010216.pub8.

Maldonado N, Llorente B, Escobar D, Iglesias RM. Smoke signals: monitoring illicit cigarettes and smoking behaviour in Colombia to support tobacco taxes. *Tobacco control*. 2020;29(Suppl 4):s243-s8

Meilissa Y, Nugroho D, Luntungan NN, et al. The 2019 economic cost of smoking-attributable diseases in Indonesia *Tobacco Control* 2022;31:s133-s139.

Moodie C, Hoek J, Hammond D, et al. Plain tobacco packaging: progress, challenges, learning and opportunities. *Tobacco Control* 2022;31:263-271. <https://tobaccocontrol.bmj.com/content/31/2/263.citation-tools>

Murphy A, Palafox B, Walli-Attaei M, Powell-Jackson T, Rangarajan S, Alhabib KF, et al. The household economic burden of non-communicable diseases in 18 countries. *BMJ Global Health*. 2020;5(2):e002040.

Nayab D, Nasir M, Memon JA, Siddique O. *The Economic Cost of Tobacco-Induced Diseases in Pakistan*. Research Report. 2021.

O'Brien, D., Long, J., Quigley, J. et al. Association between electronic cigarette use and tobacco cigarette smoking initiation in adolescents: a systematic review and meta-analysis. *BMC Public Health* 21, 954 (2021). <https://doi.org/10.1186/s12889-021-10935-1>.

Parks MJ, Kingsbury JH, Boyle RG, Choi K. Behavioral change in response to a statewide tobacco tax increase and differences across socioeconomic status. *Addictive behaviors*. 2017;73:209-15.

Perucic AM, Sandoval RC, Malik S, Morales-Zamora G. Taxation of novel and emerging nicotine and tobacco products (HTPs, ENDS, and ENNDS) globally and in Latin America. *Rev Panam Salud Publica*. 2022;46:e175. <https://doi.org/10.26633/RPSP.2022.175>.

Saenz-de-Miera, B., Wu, D.C., Essue, B.M. et al. The distributional effects of tobacco tax increases across regions in Mexico: an extended cost-effectiveness analysis. *Int J Equity Health* 21, 8 (2022). <https://doi.org/10.1186/s12939-021-01603-2>.

Shang, C., Lee, H. M., Chaloupka, F. J., Fong, G. T., Thompson, M., & O'Connor, R. J. (2019). Association between tax structure and cigarette consumption: Findings from the International Tobacco Control Policy Evaluation (ITC) Project. *Tobacco Control*, 28(Suppl 1), s31-s36.

Shang, C., Chaloupka, F. J., Zahra, N., & Fong, G. T. (2014). The distribution of cigarette prices under different tax structures: Findings from the International Tobacco Control Policy Evaluation (ITC) Project. *Tobacco Control*, 23(Suppl 1), i23-i29.

Shimul, S. & Hussain, A. K. M. (2022). Estimating own- and cross-price elasticity of cigarette consumption by price tiers in Bangladesh [Working Paper]. IHE.

Smith CE, Hill SE, Amos A. Impact of population tobacco control interventions on socioeconomic inequalities in smoking: a systematic review and appraisal of future research directions. *Tobacco Control*. 2020.

SPDC. (2024). Cigarette Tax Hike in Pakistan Resulted in Reduced Consumption and a Shift Towards Cheaper Brands.

STOP 2021. Buying Influence and Advantage in Africa: An Analysis of British American Tobacco's Questionable Payments. STOP, A Global Tobacco Industry Watchdog. <https://bat-uncovered.exposetobacco.org/wp-content/uploads/2021/09/Buying-Influence-Advantage-in-Africa.pdf>

STOP 2022. STOP Exposes 25 More Organizations That Help Tobacco Companies Undermine Public Health. September 2021. STOP, A Global Tobacco Industry Watchdog. <https://exposetobacco.org/news/stop-exposes-industry-allies/>

"Tobacco Control Laws." *Tobacco Control Laws*, www.tobaccocontrolaws.org/litigation/major-litigation-decisions. Accessed 10 July 2024.

Sujoso, Anita & Martiana, Tri & Martini, Santi. (2020). THE OVERVIEW OF GREEN TOBACCO SICKNESS AMONG TOBACCO FARMERS IN JEMBER DISTRICT, INDONESIA. *Jurnal Berkala Epidemiologi*. 8. 181. 10.20473/jbe.V8I22020.181-189.

Truth Initiative 2019. Spinning a new tobacco industry: how big tobacco is trying to sell a do-gooder image and what Americans think about it. November 2019. https://truthinitiative.org/sites/default/files/media/files/2019/11/Tobacco%20Industry%20Interference%20Report_final111919.pdf

Ulucanlar S, Fooks GJ, Gilmore AB. The Policy Dystopia Model: An Interpretive Analysis of Tobacco Industry Political Activity. *PLoS Med*. 2016 Sep 20;13(9):e1002125. doi: 10.1371/journal.pmed.1002125. PMID: 27649386; PMCID: PMC5029800. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5029800/> The Union 2020. The Union Toolkit for FCTC Article 5.3: Protecting tobacco control policy from vested interests. Retrieved from <https://theunion.org/sites/default/files/2020-08/The%20Union%20Toolkit%20for%20FCTC%20Article%205.3.pdf>

United Kingdom Government 2024. Policy paper. Tobacco and Vapes Bill: vapes and other nicotine products factsheet. Department of Health & Social Care. Published 20 March 2024. <https://www.gov.uk/government/publications/tobacco-and-vapes-bill-factsheets/tobacco-and-vapes-bill-vapes-and-other-nicotine-products-factsheet>

United Kingdom Government 2023. Stopping the start: our new plan to create a smokefree generation, Department of Health & Social Care. Published 4 October 2023. <https://assets.publishing.service.gov.uk/media/651d43df6a6955001278b2b0/cp-949-I-stopping-the-start-our-new-plan-to-create-a-smokefree-generation.pdf>

UNDP and WHO FCTC 2023. UNDP, Secretariat of the WHO Framework Convention on Tobacco Control. Strengthening tobacco control in the wake of COVID-19: Discussion paper. Geneva: United Nations Development Programme and World Health Organization; 2023. Licence: CC BY-NC-SA 3.0 IGO. <https://iris.who.int/bitstream/handle/10665/374198/9789240082106-eng.pdf?sequence=1>

E/C.18/2025/CRP.16

USA District Court for the District of Columbia. USA vs. Philip Morris USA INC. Civil Action No. 99-2496 (GK). August 17, 2006.

<https://www.publichealthlawcenter.org/sites/default/files/resources/doj-final-opinion.pdf>

USA District Court for the District of Columbia. USA vs. Philip Morris USA INC and ITG BRANDS LLC. Civil Action No. 99-CV-496 (PLF). October 2, 2017.

https://assets.tobaccocontrollaws.org/uploads/litigation/United%20States/US_United-States-v.-Philip-Morris-102017.pdf

US NCI and WHO 2016. U.S. The Economics of Tobacco and Tobacco Control. National Cancer Institute Tobacco Control Monograph 21. NIH Publication No. 16-CA-8029A. Bethesda, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Cancer Institute; and Geneva, CH: World Health Organization; 2016.

<https://cancercontrol.cancer.gov/brp/tcrb/monographs/monograph-21>

US SEC 2010. US Securities and Exchange Commission. SEC Charges Two Global Tobacco Companies With Bribery. 2010-44.

<https://web.archive.org/web/20201004093300/https://www.sec.gov/news/press/2010/2010-144.htm>

van der Eijk Y, Bero LA, Malone RE. Philip Morris International-funded ‘Foundation for a Smoke-Free World’: analysing its claims of independence. *Tobacco Control* 2019;28:712-718.

<https://tobaccocontrol.bmj.com/content/28/6/712.citation-tools>

Vladisavljević, M., Đukić, M., Zubović, J., Jovanović, O., & Jolović, N. (2021). Tobacco Tax Evasion in Southeastern Europe: Tax Evasion Prevalence and Evasion Determinants.

Vulovic V, Chaloupka FJ. Questioning the regressivity of tobacco taxes: a distributional accounting impact model of increased tobacco taxation—commentary. *Tobacco Control*. 2021;30(3):260-1.

WHO 2000. Report of the Committee of Experts on Tobacco Industry Documents. Report of the Committee of Experts on Tobacco Industry Documents. July 2000.

https://iris.who.int/bitstream/handle/10665/67429/67429_eng.pdf?sequence=1&isAllowed=y

WHO 2008. Tobacco industry interference with tobacco control.

https://iris.who.int/bitstream/handle/10665/83128/9789241597340_eng.pdf?sequence=1

WHO 2012. Tobacco industry interference. A global brief.

https://iris.who.int/bitstream/handle/10665/70894/WHO_NMH_TFI_12.1_eng.pdf?sequence=1&isAllowed=y

WHO 2012b. Guidelines for implementation of Article 5.3 of the WHO Framework Convention on Tobacco Control on the protection of public health policies with respect to tobacco control from commercial and other vested interests of the tobacco industry. Retrieved from

https://iris.who.int/bitstream/handle/10665/44880/9789241503730_eng.pdf?sequence=1

WHO 2014. WHO Guidelines for Implementation of Article 6 of the WHO FCTC. Geneva: World Health Organization.

WHO 2021. WHO global report on trends in prevalence of tobacco use 2000-2025, fourth edition. Geneva: World Health Organization.

WHO 2021. WHO technical manual on tobacco tax policy and administration.

<https://www.who.int/publications/i/item/9789240019188>

WHO 2023. WHO report on the global tobacco epidemic, 2023: protect people from tobacco smoke. Geneva: World Health Organization, 2023.

WHO 2023a. WHO study group on tobacco product regulation. Report on the scientific basis of tobacco product regulation: ninth report of a WHO study group. Geneva: World Health Organization; 2023 (WHO Technical Report Series, No. 1047). Licence: CC BY-NC-SA 3.0 IGO.

WHO 2023b. WHO report on the global tobacco epidemic 2023: protect people from tobacco smoke, <https://www.who.int/publications/i/item/9789240077164>

WHO 2023c. Tobacco United Kingdom of Great Britain and Northern Ireland 2023 country profile. <https://www.who.int/publications/m/item/tobacco-gbr-2023-country-profile>

WHO 2020. Heated tobacco products information sheet, 2nd edition. March 2020. <https://www.who.int/publications/i/item/WHO-HEP-HPR-2020.2>

WHO 2024. Tobacco: E-cigarettes. 19 January 2024 | Q&A. <https://www.who.int/news-room/questions-and-answers/item/tobacco-e-cigarettes>

WHO FCTC 2003. WHO Framework Convention on Tobacco Control. <https://iris.who.int/bitstream/handle/10665/42811/9241591013.pdf?sequence=1>

WHO FCTC 2013. Guidelines for implementation of Article 5.3 WHO Framework Convention on Tobacco Control. Technical document. 1 January 2013. <https://fctc.who.int/publications/m/item/guidelines-for-implementation-of-article-5.3>

WHO FCTC 2014. Implementation of Article 5.3 of the WHO FCTC: evolving issues related to interference by the tobacco industry Report of the Convention Secretariat. FCTC/COP/6/16 14 July 2014. https://apps.who.int/gb/fctc/PDF/cop6/FCTC_COP6_16-en.pdf

WHO FCTC 2018. FCTC/COP8(22) Novel and emerging tobacco products [https://fctc.who.int/publications/m/item/fctc-cop8\(22\)-novel-and-emerging-tobacco-products](https://fctc.who.int/publications/m/item/fctc-cop8(22)-novel-and-emerging-tobacco-products)

WHO FCTC 2023. FCTC/COP/10/10 document [Comprehensive report on research and evidence on novel and emerging tobacco products, in particular heated tobacco products, in response to paragraphs 2\(a\)–\(d\) of decision FCTC/COP8\(22\) \(storage.googleapis.com\)](https://storage.googleapis.com/fctc-cop10-10-reports/Comprehensive_report_on_research_and_evidence_on_novel_and_emerging_tobacco_products_in_particular_heated_tobacco_products_in_response_to_paragraphs_2(a)-(d)_of_decision_FCTC_COP8(22).pdf)

World Bank 2019. Confronting Illicit Tobacco Trade: A Global Review of Country Experiences. Technical report of the World Bank Group. Global Tobacco Control Program. https://documents1.worldbank.org/curated/en/677451548260528135/pdf/133959-REPL-PUBLIC-6-2-2019-19-59-24-WBG_Tobacco_Illicit_Trade_FINAL_vweb.pdf

Yan D, Wang Z, Laestadius L, Mosalpuria K, Wilson FA, Yan A, Lv X, Zhang X, Bhuyan SS, Wang Y. A systematic review for the impacts of global approaches to regulating electronic nicotine products. *J Glob Health*. 2023 Aug 25;13:04076. doi: 10.7189/jogh.13.04076. PMID: 37622721; PMCID: PMC10451104.

Zubović J, Ljumović I, Jovanović O, Bodroža D, Domazet I, M. V, et al. Regional Study on the Economics of Tobacco And Tobacco Taxation in the SEE Countries. Institute of Economic Sciences. 2019.

Acknowledgments

The authors would like to thank Jeff Drope and the Tobacconomics team for sharing early versions of the third edition of the Tobacconomics Cigarette Tax Scorecard to inform this chapter. For country-specific and more in-depth information on the latest Scorecard, go to www.tobacconomics.org.

Chapter 12: Specific Issues with Respect to Alcohol Taxation

1. Introduction: Global evidence on the harm from alcohol consumption and the effectiveness of alcohol control policies, including alcohol taxation

a) Evidence of adverse effects on health and welfare: for the drinker, for others around the drinker, and for the society and the environment

At a global level, alcoholic beverages (Ethanol alcohol or alcohol in this Chapter) are among the higher risk factors for health. Current estimates from the Global Burden of Disease studies rank alcohol in the top ten risk factors for death or disability, and the highest risk factor for ages 25 to 49 (GBD 2019 Global Risk Factors Collaborators, 2020). In 2019, there were an estimated 2.6 million deaths (4.7% of all deaths) that were attributable to alcohol globally, in addition to the loss of over 115 million disability-adjusted life years (i.e., loss of years of healthy, active life) (WHO, 2024).³⁰⁰ This high burden of disease reflects the health consequences of alcohol consumption for drinkers, as well as to those around them. There are also welfare and other social costs for the drinker, those around them, and for their society, including for the work of the societal response systems and agencies responding to and dealing with the harm. Econometric studies of the social costs of alcohol have primarily counted the costs of the drinker's health problems and of the societal responses to them, but adding in costs to those around the drinker and their problems from the drinking -- roughly doubles the cost (Jiang et al., 2022).

The World Health Organization (WHO) has indicated that there is no form of alcohol consumption that is risk-free (WHO, 2024b). However, the severity and nature of harms from alcohol are affected by the volume, concentration, and speed of consumption. The costs connected to heavy drinking are substantially greater than for light drinking, although there are some negative effects on health even from light drinking. There is also a substantial literature on the "single distribution" of levels of alcohol consumption in a population, that finds that the rate and level of heavy drinking in the population are related to the levels of drinking of those drinking much less (Room & Livingston, 2017). From this perspective, the drinking level of the population as a whole becomes a matter of concern. In addition, important questions emerge on the relationship between low and heavy drinkers, notably regarding the social acceptability of heavy drinking.

In terms of the UN's Sustainable Development Goals, the preparation and provision of alcoholic drinks, as well as what results from their use, is of concern. Alcohol production, distribution and consumption is a substantial net negative factor for a majority of the 17 Sustainable Development Goals (Room et al., 2024; WHO Euro, 2022).

b) Policies to limit the harms, and the leading role of alcohol taxation

Taxes are among WHO's "best buys" for limiting harm from alcohol.

In setting an agenda for limiting the particular harms from alcohol, in relation to noncommunicable diseases, WHO named alcohol taxes as one of the three "best buys" for controlling the levels of alcohol consumption, as a measure which was both effective and relatively inexpensive for a government to apply (WHO, 2017, p. 9). The other two best buys are reducing availability of alcoholic beverages, and banning marketing.

Looking at the full range of alcohol-related harms, a review of 50 articles with 340 estimates found that "beverage alcohol prices and taxes were significantly and inversely related to all outcome categories

³⁰⁰ WHO. Global status report on alcohol and health and treatment of substance use disorders. Geneva: WHO; 2024. <https://www.who.int/publications/i/item/9789240096745>

examined, [including] alcohol-related morbidity and mortality, violence, traffic crash fatalities and drunk driving” (Wagenaar et al., 2010).

The aims of alcohol taxation related to public health and social welfare include preventing illness, injury, traffic injury, aggression, violence, homicides, assaults and other negative effects of drinking for the drinker and those around the drinker, and diminishing the demand for health and welfare services – e.g. in emergency rooms, police responses and welfare programs. From a public health perspective, taxes are a public health measure independent of the social and economic dimensions, and an effective means of limiting problematic behaviour, as is recognised in their nomination by WHO as a “best buy”.

Following Pigou’s principle, alcohol has long been considered an appropriate subject of taxation as the vast majority of consumption does not represent a necessity, and negative externalities and internalities are generated which are not reflected in the market price. As an example, in Australia in 2016 the economic cost of alcohol’s harm to others was estimated to be 1.17% of GDP (AUD\$19.81 billion) (Jiang et al 2022). Around 60% of this cost was due to tangible costs, including those related to health care and social services, crime costs, costs of productivity loss (\$11.45 billion; 0.68% of gross domestic product in 2016).

Alcohol taxes are a population-level measure, which avoids singling out and stigmatising individuals

Alcohol taxes apply generally to the product, and do not single out buyers, as measures to limit harmful drinking do – measures such as a Banned Drinker Register or making public drunkenness a criminal offence. Such individualised controls are expensive to implement and have the disadvantage of singling out the individual drinkers, putting them at risk of stigmatisation (Room, 2012).

2. Taxing alcohol: the market and its regulation, and considerations in the structure of the taxes, and their levels

From a finance policy perspective, increases in alcohol taxes have often also been considered from a revenue-raising perspective, and there is evidence that increases in alcohol taxation result in increased government revenue (Manthey et al., 2024). There is a long history of governments taxing alcohol, often justifying this policy through a harm prevention and social welfare/health rationale. Excise taxes on alcohol are collected in most countries. A WHO study in 2022 found that 148 countries of the 164 included in the study collected national-level excise taxes on at least one alcoholic beverage, with 11 of those not doing so having banned the sale of alcohol altogether (WHO, 2023a, p. 3). Alcohol taxes, and particularly alcohol excise taxes, are thus widely spread globally.

a) Levels of government

Alcohol taxes can be imposed at any level of government and can take many forms. Our attention is on excise taxes on alcohol, which can be applied on the basis of the quantity of liquid or of pure alcohol in the liquid (specific) or as a percentage of its price (ad valorem), rather than general consumption or sales taxes that are applied broadly to a wide range of goods.

Recommendations for alcohol taxation highlight specific excise taxes or duties on alcohol. In particular, specific excise taxes do not exacerbate price differentials between alcoholic beverages with similar alcohol content but different price points.

Alcohol taxes can be applied by various levels of government – nationally, at the state or provincial level for federal states, or at a local government level. Federated countries differ on whether the alcohol taxing power is at the federal level (e.g., Australia), the state level (e.g., India) or at both the federal and a lower level (e.g., the United States). The tax is often collected at the production and import level or

wholesale level, rather than from the retail level. It does not replace general consumption taxes which may also apply, such as general sales taxes, which are usually collected at the retail level.

Differentiation of alcohol tax rates across borders means that a buyer can avoid a high local tax by buying across a border (cross-border shopping). This is true between states in the US and India, and across national borders, particularly for smaller countries in Europe, Africa and Asia. It is possible in such circumstances for a consortium of neighbouring countries to agree on common alcohol tax policies, which has been done in some customs unions. Thus the 5-country South African Customs Union includes an agreed level of alcohol excise taxes (Mansour et al., 2023, pp. 201-2), and the European Union's common market has an agreement on the ranges within which tax levels on each alcoholic beverage type can be set (though for wine the range is large, with zero as its minimum) (Cnossen, 2007).

b) Organization of the market

The production and distribution chain for commercial alcoholic beverages is fairly standard. The raw materials for alcoholic beverages are agricultural crops. For beer, spirits and cider, most of the fruits or plants from which they are processed have alternative uses as foodstuffs. As a result, applying excise tax to the primary input to production is not feasible for alcohol taxation. Grapes also have alternative uses, but for wine there is substantial differentiation by grape variety and the land ("terroir") on which the grapes are grown.

The fermentation or distillation process on the raw agricultural products is the distinguishing feature of the production chain at which the alcohol industry usually takes over. The transnational alcohol companies, particularly in beer and spirits, control the production and distribution chain from that point, including particularly for spirits the substantial international shipping, until it is in the hands of the wholesaler or importer in the country in which the product is to be sold. The wholesale industry may be largely separate from the retail level of alcohol sales, although in some places with large retail firms, those firms may also run their own wholesale-level business.

At the retail level in many countries, there are two primary ways in which alcohol is sold: on-trade and off-trade. On-trade means that the alcohol is served to customers mostly sitting down in the seller's premises, either in a tavern where drinking is the main activity, or in a restaurant where the alcohol is part of a meal. In off-trade, the alcoholic beverages are sold in containers – bottles or cans – to be taken away and consumed at home or elsewhere off-premises. The alcohol price excluding taxes is generally higher for on-trade than for off-trade, since it includes the costs of service. The two types of retail have always had some overlap, and this has been increasing in recent years, in part in connection with the advent of online ordering and fast delivery.

In a majority of countries, governments control the alcohol market by licensing the producers, distributors and retailers. Holding a licence is conditional on following government regulations on when alcohol can be sold, to whom, and under what circumstances. The licensing system is a direct path by which the government can enforce the collection and transmission of its alcohol taxes.

An alternative organisational form in some places is a government monopoly of at least part of the market. The primary form of such government monopolies is of all or part of the off-trade retail market, with government stores monopolising the sale of all or specified forms of alcohol. In the US, for instance, 17 of the 50 states have some form of retail monopoly, selling all of the spirits, or spirits and wine, for off-site consumption. Except for Alberta, each province in Canada has a retail monopoly for off-sale of at least spirits and wine, along with a provincial monopoly also at the wholesale level. Most of the Nordic countries in northern Europe (not mainland Denmark) also have off-sale retail monopolies. The research literature about alcohol monopolies is almost wholly based on these six higher-income countries, but the WHO database reports 34 countries have retail sales monopolies in 2019, including a number of African and island countries (WHO, 2024b).

Such monopoly systems have several advantages, in particular from a public health perspective of limiting harms to health and welfare from alcohol (Room & Cisneros Örnberg, 2019). With respect to government alcohol taxation, a retail monopoly system can serve as a complement or adjunct to the tax system, in that a government agency is setting and collecting the retail price of the beverage.

While most “recorded” alcohol, on which tax is paid, is commercially produced, the WHO estimated that in 2019 about 21% of worldwide alcohol consumption was unrecorded (1.2 litres of pure alcohol out of 4.3 litres per adult) (WHO, 2023b). Unrecorded alcohol production includes homemade production or informally produced alcohol, as it is quite easy to access alcohol raw materials. Informally produced alcohol is not subject to taxation, and in addition there are significant health concerns related to unrecorded home or illegal alcohol production (Rehm et al., 2014). Most notably, health concerns include the presence of poisonous contaminants such as methanol and isopropyl alcohols.

c) Considerations in establishing the tax base

There are three main bases for alcoholic beverage taxation: per litre of ethanol (the 100% pure alcohol in the beverage; “alcohol-content based specific tax”); per litre of the liquid beverage (“volume-based specific tax”); and as a percentage of the value or price (“ad valorem tax”). It is not uncommon for governments to apply one of these bases for one class of alcoholic beverages, and a second basis for another class. For instance, in Australia wine is taxed on its value, while beer and spirits are taxed (at different rates) on the basis of their ethanol content. Or the system may combine different bases for the taxes on a particular type of alcohol (e.g., Thailand; Mansour et al., 2023, pp. 88-91). The WHO publication on the use of alcohol taxes provides tabulations on the bases used by countries for computing excise taxes, finding that the volume-based specific basis is most common for beer and wine, and the alcohol-content-based specific basis is most common for spirits (WHO, 2023a, pp. 8-10). As of 2022, on average, excise tax level per gram of ethanol is higher for beer than for spirits globally, except in the European Region (WHO, 2023a)

Since the ethanol content is the primary element in how intoxicating and potentially harmful a given quantity of the beverage is, taxing on the basis of the beverage’s ethanol content ties the tax most directly to most forms of harm from drinking and is thus primarily recommended from the perspective of public health and welfare. But this requires that there are trustworthy arrangements for knowing and verifying the “ethanol content” of the beverage at the point in the distribution chain where the tax is determined. A tax on the volume of the beverage or on the price or value of the bottle or can of it can more easily be collected. But since there are big variations in strength (percentage of ethanol) for drinks which look similar, particularly for different beers or spirits, a tax based on the volume of beverage will not be proportional to the potential for harm.

Other considerations than the overall potential for harm are often built into an alcohol tax system. In terms of harms, a public health argument can be made for a higher tax per unit of ethanol on stronger alcoholic beverage, since drinking a large amount can be fatal, so spirits can kill by overdose much more easily than a weaker alcoholic beverage, and these may be more attractive to underage drinkers (e.g. these can be more easily concealed), and Sweet mixed drinks containing alcohol may be particularly attractive to teenage drinkers, and this may be argued to justify a higher tax on them (Saengow et al., 2021).

In terms of social equity, for the same volume of ethanol, a tax based on value or price will probably be collecting more from richer than from poorer drinkers. On the other hand, there is an “alcohol harm paradox” that the harm per litre of alcohol is greater for poorer than for rich persons (Room & Rehm, 2023), and countering this inequality can be an argument for higher taxes on cheaper products.

d) Considerations related to the policy context

The agricultural production of raw materials for alcoholic beverages is often encouraged and supported by government subsidies. When considering excise and other taxes on alcoholic beverages, such government supports in the opposite direction should be taken into consideration.

A supplement to taxation as a pricing measure with public health implications is for a government to set a “minimum unit price” to increase the price floor for retail sale of alcoholic beverages. This particularly affects off-sales of beverages, since on-sale prices are usually already above whatever minimum is set. A minimum price was widely used (without a specific name) by Canadian provincial alcohol monopolies, has more recently been applied in Scotland and 13 other countries, and has been shown to be an effective health measure, for instance reducing traffic casualties, sexually-transmitted disease, suicides and other alcohol-related mortality (WHO-Euro, 2022). A fiscal disadvantage for governments is that there is no revenue for them from the increase in price, which is absorbed by the alcohol industry or seller instead of government.

Policymaking relevant to alcohol, including its taxation, is spread across government departments and agencies, including local governments, justice and police, welfare, mental health and health systems.

Box x: Alcohol reform in Lithuania

In the early 2000s, Lithuania had the highest reported per-capita consumption in the world. A health minister persuaded the national parliament in 2007 to undertake several measures to reduce the national level of consumption, including alcohol tax increases in 2008 and 2009 (Rehm et al 2025). Political counter-reaction then limited the possibility of further measures for several years. But in 2017 and 2018, new alcohol problems prevention measures were implemented, including a further increase in alcohol taxes.

The two waves of alcohol policy measures had strong effects on the national level of per-capita alcohol consumption. Both waves included other preventive measures as well as the tax raises, reflecting a broad policy commitment to reducing national rates of alcohol consumption and problems.³⁰¹

e) Considerations in setting alcohol tax rates

There has been little attempt yet by public health advocates to set any international standard for levels of alcohol taxation—unlike for tobacco, where WHO has recommended a minimum tax level of 75% of the retail price (WHO-Euro, 2023). WHO has recommended raising alcohol tax levels as one of three “best buys” for controlling alcohol consumption levels (WHO, 2017), but has not suggested any particular level. While public health campaigns have resulted in taxes on cigarettes rising quite steeply, taxes on alcohol have remained much lower, as can be seen in comparisons in six European countries (Mansour et al., 2023, p. 2). Globally, the median excise tax was 13.4% of the price of the most-sold brand of beer, and 24.8% of the most-sold brand of spirits. Including also other taxes, the median tax total was 29.0% for beer and 39.6% for spirits (WHO, 2023a, p. 23). As of 2022, on average, excise tax level per gram of ethanol is higher for beer than for spirits globally, except in the European Region (WHO, 2023a).

Regular increases to alcohol tax rates are essential, as a fixed rate of tax in units of the national currency will be eroded by inflation, compared to other commodities and to wage levels. Thus, for a tax at a named rate, whether based on the ethanol or the volume of liquid, it is wise to provide for automatic inflation and wage/income adjustments, or for annual or other periodic resetting of the rate to keep alcoholic beverages from becoming more affordable, as is done for instance, in Australia for beer and spirits taxes twice a year (Movendi, 2022).

³⁰¹ Rehm, J., Lange, S., Miščikienė, L., & Jiang, H. (2025). The impact of an integrated alcohol policy: The example of Lithuania. *Drug and Alcohol Review* 44:403-410.

Setting alcohol tax rates should also take into account the market structure, but this should not undermine tax increases.

- In contexts where there is a substantial national market for “informal” (i.e., untaxed) alcohol, industry interests have often argued that raising taxes will result in an increase in the informal alcohol sold. However, the reality is often more complicated, with a change in taxes often resulting in the informal alcohol sellers also changing their prices in the same direction (Okaru et al., 2019).
- Particularly for tax jurisdictions which are smaller or with long borders, cross-border trade is a consideration with respect to tax rates. If the price of alcoholic beverages is considerably less in a neighbouring jurisdiction, a substantial cross-border trade, with alcohol brought in by cross-border travellers, can result. For instance, when Estonia reduced its alcohol taxes in 2019, it was in response to a doubling of cross-border purchases from Latvia in the preceding five years (Rehm et al, 2023). In such circumstances, national disparities may be reduced by negotiation in a customs union, as occurred in the Eurasian Economic Union, composed of a number of countries formerly part of the Soviet Union (Rehm et al., 2022).

f) Considerations relevant to tax administration

The alcohol tax may be collected by the government at various points along the production, distribution and retail sale path, as provided by government regulations. The preferred choice is either at the production/importation or wholesale level for excise taxes, as this keeps down the number of taxpayers. In particular, specific excise taxes on alcohol content are likely to be more efficiently collected at the production or import stages. However, the basis of the tax will play a substantial role in determining the taxing point. A tax based on the retail price may be collected as part of the retail transaction with the customer and paid to the government by the retailer.

Although this chapter does not address the role that licence or other fees applied to sellers of alcohol play in shaping price, it is important to note that licencing can play a role in administering alcohol taxation. Selling and providing alcohol at the retail level, either by the glass on premises or in a container to take elsewhere, is usually licensed, and there is usually a charge for the licence which may generate revenue for some level of government. Collecting the alcohol taxes from private industry parties is facilitated for a government by a specific licensing system for preparing, producing, distributing or selling alcoholic beverages, which not only specifically identifies those parties who are involved in the alcohol trade, but also provides a specific means of enforcement and monitoring for governing rules, including collecting and transmitting alcohol taxes.

3. The political economy of alcohol taxation

The health, social and economic dimensions of alcohol consumption mean that there are diverse interests seeking to influence consideration of the introduction of alcohol taxes, as well as their design and level-setting.

It is also important to note that contextual factors such as majority religion can strongly influence the political economy of alcohol policy broadly, including alcohol taxation. For example, the politics of alcohol in societies with a Muslim governance or majority population, often starts from the assumption of prohibition, with commercial and minority interests pushing for exceptions to this rule (Al-Ansari et al., 2016).

a) Alcohol industry interests

There are substantial industries and associated economic interests involved in the production, distribution, and sale of alcoholic beverages. Since fruits and other plant products are the raw material for all alcoholic beverages, farming interests are involved in the alcohol production chain. Many alcoholic beverages are sold and consumed far from where their raw materials were grown, so that various packing and freight interests are involved. The defining features of alcoholic beverage production are the fermentation and distillation processes involved in producing alcoholic beverages, which for beer and spirits were concentrated and industrialised early in the Industrial Revolution. Alcoholic beverages are sold and consumed in connection with eating, socialising and other activities, which means that various consumer-oriented industries – supermarkets and other food stores, restaurants and taverns, and industries serving sports and other recreational activities – have an interest in sales of alcoholic beverages. In addition to the core alcoholic beverage industry interests – concerned with producing, promoting, advertising and distributing their brands of the fermented or distilled product – there are thus many interests which have some stake in the shape and size of the alcoholic beverage market, and are likely to lend a hand in political lobbying when alcohol industry interests are at stake.

The alcoholic beverage industry has become transnational in character, and, particularly for beer and spirits, has been increasingly dominated by a relatively small number of transnational corporations (Jernigan & Ross, 2020), which also provide the core funding for “Social Aspects and Public Relations Organisation” (SAPRO) entities with the dual purpose of improving the public reputation of the corporations and the industry by “good works”, and promoting the industry’s policy interests. The industry and its SAPROs pursue policy influence both by public and by off-the-record channels (Room, 2006a). On the public channel side, alcohol industry and related organisations, for instance, made 46 submissions to the World Health Organization in response to its invitation for submissions concerning an Alcohol Action Plan being prepared to improve results from its Global Strategy to Reduce the Harmful Effects of Alcohol (O’Brien et al., 2023). Office visits and informal communications are among the off-the-record channels.

It is also important to note that the alcohol industry is heterogeneous, and thus that recommendations regarding ‘appropriate’ taxation from different sectors of the industry may be quite different. Beer and spirits industries, for example, have opposing views on taxation. From the perspective of the spirits industry, all alcohol should be taxed the same per millilitre of pure alcohol, rather than with a changing tax rate that is higher per ml. of pure alcohol for stronger drinks. In contrast, from the perspective of the beer industry, the taxation should be progressive, i.e., a millilitre of pure alcohol should be taxed higher in spirits than in beer, as concentration has an impact on health.

The economic characteristics of beer, wine, and spirits are also very different. These characteristics have implications for political-economic discourse regarding taxation, and the most appropriate and strategic approach by governments to reforming alcohol taxes. Beer is always locally produced (foreign beers are overwhelmingly produced locally under license) and relatively easy to tax due to the existence of large formal sector production facilities. In addition, smuggling of beer is rare, as the product is too cheap for its large volume to generate significant profits. Beer is also widely consumed: it is the largest source of consumed alcohol in the world. The combination of these economic dynamics means that ensuring that the design of beer taxes supports public health objectives may be a good starting point for alcohol tax reform. Spirits are more complicated, as they should be taxed heavily, but they can be smuggled (for medium to high quality products), or produced very cheaply (legally or not). As a result, strengthening tax design for spirits requires more “policing and controls”. Wine, in turn, can be politically challenging to tax because the grapes from which it is made are (often) from small producers who in many contexts are well organised and lobby strongly for minimal taxation in most producing countries.

b) Public interest organizations and alcohol taxation

There are a range of professions and interest groups – e.g., emergency-room physicians, child protection welfare workers, women’s interest groups – who reflect or represent the interests of those impacted by

alcohol-related harms. These individuals and groups can provide valuable insights related to the contribution of alcohol to the problems they encounter in their daily practice. However, their level of organization concerning alcohol policy issues and their contribution to political debate is often very limited, particularly when contrasted with that of the alcohol industry and its allies (Herrick, 2016).

In dealing with issues of alcohol taxation, there is a need for political processes that provide avenues for input from - and in some cases preference for - the views of those impacted by alcohol-related harms. Though attention by researchers and public health organisations to the political processes determining alcohol policy has increased in recent years, their efforts are less than the extent and strength of lobbying by alcohol industries and related interests (McCambridge et al., 2019).

c) Addressing the normalization of alcohol consumption

In many contexts, alcohol consumption is considered a normal behaviour in society, and as such, the acceptability of high alcohol taxation can be low (see Chapter 10 for detailed discussion of acceptability). In particular, drinking together is a means and expression of conviviality and commensality (MacLean et al., 2021). Others in the society may not share the heavier drinkers' expectations about heavy drinking occasions (Room et al., 2019), but drinking and indeed the heavy drinking in these social worlds is tolerated by others in the society.

This normalization of alcohol consumption has implications for its governance, including for taxation. In many societies – and at the international and intergovernmental level – regulation of alcohol drinking is considered differently from the use of other psychoactive substances. Alcohol is thus not covered by the international drug treaties – specifically the 1971 Convention on Psychotropic Substances. The official UN “Commentary” on that treaty acknowledges that alcohol fits the criteria for coverage by the treaty as a “dangerous substance” that causes serious public health and social problems, but notes that the delegates deciding on the Convention in 1971 “did not intend to apply [it] to alcohol” (United Nations, 1976, p. 48).

Alcoholic beverages are also a symbol of luxury in many societies and at the international level (Järvinen et al., 2014; Ma, 2001). On international flights, alcohol beverages are usually provided gratis as a symbol of luxury to passengers in first class seating; “to be treated with a drink by a beautiful middle-class stewardess” is part of the experience of “cosmopolitan glamour” (Nilsson, 2011). At meetings between leaders of governments and of corporations, there is often a toast over an alcoholic drink as a symbol of mutual respect and collective interest. In the context of international discussions of drug control, alcohol thus not likely to be on the agenda (Room, 2006b).

This means that, in contrast to tobacco these days, rulemaking decisions about alcohol are likely to be made by drinkers and their associates, who may be taking into account their personal relationships with alcohol and with drinkers. Policy decisions about alcohol availability will often be made in the context that alcohol is “our drug” for the policymakers (Room, 2006b).

d) Bringing balance to the political economy of alcohol taxation

Policymaking concerning the varied factors influencing how readily available alcohol is to consumers, including the dimension of its taxation, is thus subject to an unbalanced set of influences. A strong alcohol industry lobby and its allies work to influence policymakers both in the open and behind closed doors. Responsibility for dealing with harms from alcohol is broadly spread across government departments and agencies – the list starts with local governments, the police, welfare, mental health and health systems. Some sections of the professions and interest groups – e.g., emergency-room physicians, child protection welfare workers, women's interest groups – may speak up about the alcohol involvement in the problems they encounter in their daily practice, but their contribution to the political economy is small compared with the alcohol industry and its allies (Herrick, 2016). In dealing with issues of alcohol taxation, there is a need for the political process to

take into account that there are weighty vested interests involved in the influences from whom it is hearing.

4. Conclusion: Alcohol taxes: an effective way of limiting substantial harms

The basic conclusion from the perspective of protecting public health and welfare is that relatively high taxes on alcoholic beverages are an effective way of limiting the substantial harms which are attributable to drinking. To be most effective in limiting harm, the taxes should be based on the ethanol content of the beverage. But the ease of determining and collecting the amount of tax in the national circumstances needs to be taken into account in this decision.

High alcohol taxes are an effective way of limiting harm from alcohol, but the decisions on tax levels should be part of a general governmental commitment to policies to limit levels of harm from alcohol. Government departments and agencies responsible for health and welfare should play the leading role in setting and implementing these policies and practices, and the actions of the government department and agencies in charge of tax collection should be coordinated with and supportive of these alcohol policies. A high tax on alcohol should be a core part of a general commitment and program to limit harms from alcohol.

5. Considerations for strengthening alcohol taxation

- Alcohol taxes should be adopted as part of a package of effective policy measures
- Specific excise taxation is recommended
- To be most effective in limiting harm, the taxes should be based on the ethanol content of the beverage
- Understanding the political economy dimensions of alcohol can enable interpretation of diverse interests related to tax policy design, and support management of conflicts of interest in the design of alcohol taxes that support public health objectives.

References

- Al-Ansari, B., Thow, A.-M., Day, C.A. & Conigrave, K.M. (2016) Extent of alcohol prohibition in civil policy in Muslim majority countries: the impact of globalization. *Addiction*. 111(10):1703-1713.
- Cnossen, S. (2007) Alcohol taxation and regulation in the European Union. *International Tax and Public Finance* 14:699-732.
- GBD 2019 Global Risk Factors Collaborators (2020) Global burden of 87 risk factors in 204 countries and territories, 1990-2019: A systematic analysis for the Global Burden of Disease 2019. *The Lancet* 396:1223-1249.
- Herrick, C. (2016). The post-2015 landscape: vested interests, corporate social responsibility and public health advocacy. *Sociology of Health & Illness* 38(7): 1026-1042.
- Järvinen, M., Ellergaard, C.H. & Larsen, A.G. (2014). Drinking successfully: Alcohol consumption, taste and social status. *Journal of Consumer Culture*, 14(3), 384-405.
- Jernigan, D. & Ross, C.S. (2020) The alcohol marketing landscape: Alcohol industry size, structure, strategies, and public health responses. *Journal of Studies on Alcohol and Drugs. Supplement*, (Suppl 19): 13-25.
- Jiang, H., Doran, C.M., Room, R., Chikritzhs, T., Ferris, J. & Laslett, A.-M. (2022) Beyond the drinker: Alcohol's hidden costs in 2016 in Australia. *Journal of Studies on Alcohol and Drugs* 83(4):512-524.
- Ma, E.K.W. (2001) The hierarchy of drinks: Alcohol and social class in Hong Kong. In: Mathews, G. & Lui, T.-L., eds., *Consuming Hong Kong*, pp. 117-137. Hong Kong: Hong Kong University Press.
- MacLean, S., Dwyer, R., Pennay, A., Savic, M., Wilkinson, C., Roberts, S., Turner, K., Saleeba, E. & Room, R. (2021) The 'social worlds' concept: A useful tool for public health-oriented studies

- of drinking cultures. *Addiction Research and Theory* 29(3):231-238. doi: 10.1080/16066359.2020.1820491
- Mansour, M., Petit, P. & Sawadogo, F. (2023) How to Design Excise Taxes on Alcoholic Beverages. Washington, DC: International Monetary Fund. <https://www.imf.org/en/Publications/imf-how-to-notes/Issues/2023/12/04/How-To-Design-Excise-Taxes-on-Alcoholic-Beverages-541086>
- Manthey, J., Gobiņa, I., Isajeva, L., Neneman, J., Reile, R., Štelemėkas, M. & Rehm, J. (2024) The impact of raising alcohol taxes on government tax revenue: Insights from five European countries. *Applied Health Economics and Health Policy* 22(3):363-274.
- McCambridge, J., Coleman, R. & McEachern, J. (2019) Public health surveillance studies of alcohol industry market and political strategies: a systematic review. *Journal of Studies on Alcohol and Drugs* 80(2):149-157.
- Movendi (2022) Australia Raises Alcohol Excise Taxes. Stockholm, August 25. <https://movendi.ngo/news/2022/08/25/australia-raises-alcohol-excise-taxes/>
- Nilsson, J.-H. (2011) Service in the Air: A Century of Hospitality among Passenger Airlines. Working Paper No 2. Lund: Lund University, Department of Service Management. <https://lucris.lub.lu.se/ws/portalfiles/portal/5460673/2432635.pdf>
- O'Brien, P., Dwyer, R., Gleeson, D., Cook, M. & Room, R. (2023) Influencing the global governance of alcohol: Alcohol industry views in submissions to the WHO consultation for the Alcohol Action Plan 2022-2030. *International Journal of Drug Policy* 119:114105.
- Okaru, A.O., Rehm, J., Sommerfeld, K., Kuballa, T., Walch, S.G. & Lachenmeier, D.W. (2019) The threat to quality of alcoholic beverages by unrecorded consumption. In: Grumezescu, A.M. & Holban, A.M. (Eds.), *Alcoholic Beverages*, pp. 1–34. Woodhead Publishing. <https://doi.org/10.1016/B978-0-12-815269-0.00001-5>
- Rehm, J., Kailasapillai, S., Larsen, E., Rehm, M.X., Samokhvalov, A.V., Shield, K.D., Roerecke, M. and Lachenmeier, D.W. (2014) A systematic review of the epidemiology of unrecorded alcohol consumption and the chemical composition of unrecorded alcohol. *Addiction*, 109(6), pp.880-893.
- Rehm, J., Neufeld, M., Room, R., Sornpaisarn, B., Štelemėkas, M., Swahn, M.H. & Lachenmeier, D.W. (2022) The impact of alcohol taxation changes on unrecorded alcohol consumption: a review and recommendations. *International Journal of Drug Policy* 99:103420.
- Rehm, J., Badaras, R., Ferreira-Borges, C., Galkus, L., Midttun, N.G., Gobiņa, I., Janik-Koncewicz, K., Jasilionis, D., Jiang, H., Kim, K.V., Lange, S., Liutkutė-Gumarov, V., Manthey, J., Miščikienė, L., Neufeld, M., Petkevičiene, J., Radišauskas, R., Reile, R., Room, R., Stoppel, R., Tanutienė, I., Tran, A., Trišauske, J., Zatoński, M., Zatoński, A., Zurlytė, I. & Štelemėkas, M. (2023) Impact of the WHO "best buys" for alcohol policy on consumption and health in the Baltic countries and Poland 2000–2020. *Lancet Regional Health - Europe* 33:100704. <https://doi.org/10.1016/j.lanepe.2023.100704>
- Room, R. (2006a) Advancing industry interests in alcohol policy: the double game. *Nordisk Alkohol- & Narkotikatidskrift* 26: 389-402. <https://journals.sagepub.com/doi/pdf/10.1177/145507250602300603>
- Room, R. (2006b). International control of alcohol: alternative paths forward. *Drug and Alcohol Review*, 25(6), 581-595.
- Room, R. (2012) Individualised control of drinkers: back to the future? *Contemporary Drug Problems* 39(2):311-343. <http://journals.sagepub.com/doi/pdf/10.1177/009145091203900207>
- Room, R. & Cisneros Örnberg, J. (2019) Government monopoly as an instrument for public health and welfare: Lessons for cannabis from experience with alcohol monopolies. *International Journal of Drug Policy* 74:223-228.
- Room, R., Cook, M. & Laslett, A.-M. (2024) Substance use and the Sustainable Development Goals: will development bring greater problems? *Drugs: Education, Prevention and Policy* 31(1):148-157. Doi: 10.1080/09687637.2022.2150125
- Room, R., Kuntsche, S., Dietze, P., Munné, M., Monteiro, M. & Greenfield, T. (2019) Testing consensus about situational norms on drinking: a cross-national comparison, *Journal of Studies on Alcohol and Drugs* 80(6):651-658.

- Room, R. & Livingston, M. (2017) The distribution of customary behavior in a population: The Total Consumption Model and alcohol policy, *Sociological Perspectives* 60(1):10-22.
<http://journals.sagepub.com/doi/pdf/10.1177/0731121416683278>
- Room, R. & Rehm, J. (2023) “Harm per litre” as a concept and a measure in studying determinants of relations between alcohol consumption and harm. *International Journal of Drug Policy* 115:104006 (doi: 10.1016/j.drugpo.2023.104006).
- Saengow, U., Asksonthong, R. & Laohaprapanon, A. (2021). Ready-to-drink beverage (RTD) consumption in Thai population: trend and associated factors. *MedRxiv*, 2021-01.
<https://www.medrxiv.org/content/10.1101/2021.01.22.21250292v1>
- United Nations (1976) *Commentary on the Convention on Psychotropic Substances*. New York: United Nations. Sales No. E.76.XI.5.
- Wagenaar, A.C., Tobler, A.L., & Komro, K.A. (2010) Effects of alcohol tax and price policies on morbidity and mortality: a systematic review. *American Journal of Public Health* 100(11): 2270-2278.
- WHO-Euro (2020) Alcohol Consumption and Sustainable Development. Copenhagen: World Health Organization Regional Office for Europe.
https://www.euro.who.int/_data/assets/pdf_file/0008/464642/Alcohol-consumption-and-sustainable-development-factsheet-eng.pdf
- WHO-Euro (2022) No Place for Cheap Alcohol: The Potential Value of Minimum Pricing for Protecting Lives. Copenhagen: WHO Regional Office for Europe.
<https://iris.who.int/bitstream/handle/10665/356597/9789289058094-eng.pdf>
- WHO-Euro (2023) Promoting taxation on tobacco products. Copenhagen: World Health Organization, Regional Office for Europe. <https://www.who.int/europe/activities/promoting-taxation-on-tobacco-products>
- World Health Organization (2017) Tackling NCDs: ‘Best buys’ and other recommended interventions for the control of non-communicable diseases. Geneva: WHO.
<https://iris.who.int/bitstream/handle/10665/259232/WHO-NMH-NVI-17.9-eng.pdf?sequence=1>
- World Health Organization (2023a) Global report on the use of alcohol taxes, 2023. Geneva: WHO.
<https://www.who.int/publications/i/item/9789240086104>
- World Health Organization (2023b) WHO Technical Manual on Alcohol Tax Policy and Administration. Geneva: WHO. <https://iris.who.int/handle/10665/374284>.
- World Health Organization (2024a) Alcohol: key facts. 28 June, 2024. Geneva: WHO.
<https://www.who.int/news-room/fact-sheets/detail/alcohol>
- World Health Organization (2024b) Government monopoly on retail sales, in: The Global Health Observatory. <https://www.who.int/data/gho/data/indicators/indicator-details/GHO/government-monopoly-on-retail-sales> (accessed 24 August, 2024)

Chapter 13: Specific Issues with respect to Taxation to Support Improved Nutrition

1. Introduction and context

a) The rationale for nutrition-targeted taxes

Nutrition-targeted taxes are a fiscal policy tool aimed at reducing the affordability of unhealthy foods and beverages (Box 1) and encouraging substitution of healthy alternatives. The main goal is to improve population health by reducing the impact of unhealthy diets. Such taxes can also raise tax revenue. In contrast to tobacco and alcohol taxes, nutrition-targeted taxes have only recently become popular and as such, there is less consensus on optimal policy. Indeed, in several areas, fiscal and nutritional perspectives are not yet aligned. Given the growing attention being paid to these taxes in low- and middle-income countries (LMIC), this chapter summarizes the current state of the evidence and important considerations for policymakers.

Box 1. What are “unhealthy” foods and beverages?

The excess consumption of certain foods is associated with an increased risk of diet-related diseases. These ‘unhealthy’ foods and beverages tend to have nutrient-poor profiles including higher levels of sugar, salt, saturated fat, and energy, with lower levels of dietary fiber, vitamins, and minerals. Foods and beverages that have a high level of industrial processing (e.g., ultra-processed) may also work through additional mechanisms to adversely affect health.³⁰² Examples of unhealthy foods include sugar-sweetened beverages (sodas, etc), chocolate and sugar confectionery, ice cream, sweet desserts, savoury and sweet baked goods, packaged snacks (potato chips, etc), sweetened breakfast cereals, instant noodles, pizza, sauces and condiments, some processed meat, and fast food.

Understanding food choice is complex.³⁰³ Food choices are driven by many determinants (Box 2).³⁰⁴ Nutrition-targeted taxes primarily influence demand by reducing the affordability of unhealthy food and beverage products relative to healthier alternatives. Lower tax rates or subsidies for healthy foods can also help to influence affordability and demand. Nutrition-targeted taxes may serve as a signal and may help increasing consumer knowledge and awareness about health risks associated with excess consumption, as well as acting to counter sociocultural determinants.³⁰⁵ They can contribute to shaping food environments by incentivizing the industry to reformulate products or diversify product portfolios (as a means of minimizing tax liability). Depending on tax design, this may reduce the caloric, sugar, sodium, or fat content of available products.

³⁰² Lane M M, Gamage E, Du S, Ashtree D N, McGuinness A J, Gauci S et al. Ultra-processed food exposure and adverse health outcomes: umbrella review of epidemiological meta-analyses *BMJ* 2024; 384 :e077310 doi:10.1136/bmj-2023-077310

³⁰³ Blake CE, Frongillo EA, Warren AM, Constantinides SV, Rampalli KK, Bhandari S. Elaborating the science of food choice for rapidly changing food systems in low-and middle-income countries. *Global Food Security*. 2021; 28:100503.

³⁰⁴ European Food Information Council. The Factors That Influence Our Food Choices. 2006; Available from: <https://www.eufic.org/en/healthy-living/article/the-determinants-of-food-choice>; Boncyk M, Isanovic S, Samin S, Rampalli KK, Frongillo EA, Avula R, et al. Development of a methods repository for food choice behaviors and drivers at the household and individual levels. Research Note 1, Work Package 42023.

³⁰⁵ Alvarado M, Penney TL, Unwin N, Murphy MM, Adams J. Evidence of a health risk ‘signalling effect’ following the introduction of a sugar-sweetened beverage tax. *Food Policy*. 2021; 102:102104; Dal E, MoralesOpazo C, Yagüe Blanco JL, Angulo Urarte A. Fiscal Policies and Malnutrition: Signaling Effect of the Sugar-Sweetened Beverages Tax in Catalonia, Spain. *Fao Agricultural Development Economics Working Paper*. 2020.

Box 2 Drivers of food choice and examples**Economic determinants:** affordability; wealth**Food environment and other physical determinants:** accessibility; seasonality**Sociocultural determinants:** traditions; values; peer influence; marketing and media**Beliefs and intrapersonal drivers of behaviour:** knowledge and skills; time use; preferences and habits**Psychological and biological determinants:** stress and mood; physiological needs; biological features*Source: Adapted from European Food Information Council (2006) and CGIAR (2023)*

The economic rationale for nutrition-targeted taxes is similar to that for other health taxes and includes correcting for negative externalities and addressing internalities linked to consumption. Unhealthy foods and beverages may represent adequate subjects of taxation as the vast majority of their consumption does not represent a necessity - as long as there is access to healthier alternatives - and they generate negative externalities which are not reflected in their market price. There is a general view that externalities from unhealthy foods and beverages are smaller than those for tobacco and alcohol. However, these externalities have not been extensively quantified for LMIC where diet-related non-communicable diseases (NCDs) have been increasing rapidly and are often higher contributors to the total burden of disease than tobacco or alcohol,³⁰⁶ This is particularly so for women, for whom smoking and alcohol use are smaller contributors to the global burden of disability-adjusted life years than for men.³⁰⁷ Internalities have been shown to be significant for sugar-sweetened beverages (SSBs).³⁰⁸ Recent evidence points in the same direction for unhealthy foods, though more research is needed.³⁰⁹ Nutrition-targeted taxes can contribute to addressing internalities by increasing the relative cost of unhealthy foods and beverages consumption, as well as signalling their health risk,³¹⁰ thereby supporting informed choices and encouraging people to avoid acting against their own self-interest.³¹¹ This is particularly the case for children.³¹²

The nutritional rationale for nutrition-targeted taxes is based on strong evidence of associations between unhealthy foods and beverages and adverse health outcomes. For example, SSBs are high in free

³⁰⁶ Afshin A, Sur PJ, Fay KA, Cornaby L, Ferrara G, Salama JS, Mullany EC, Abate KH, Abbafati C, Abebe Z, Afarideh M. Health effects of dietary risks in 195 countries, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017. *The Lancet*. 2019 May 11;393(10184):1958-72; Lachat C, Otchere S, Roberfroid D, Abdulai A, Seret FM, Milesevic J, Xuereb G, Candeias V, Kolsteren P. Diet and physical activity for the prevention of noncommunicable diseases in low-and middle-income countries: a systematic policy review. *PLoS medicine*. 2013 Jun 11;10(6):e1001465.

³⁰⁷ Brauer, M., et al. (2024). "Global burden and strength of evidence for 88 risk factors in 204 countries and 811 subnational locations, 1990–2021: a systematic analysis for the Global Burden of Disease Study 2021." *The Lancet* **403**(10440): 2162-2203.

³⁰⁸ Allcott H, Lockwood BB, Taubinsky D. Should we tax sugar-sweetened beverages? An overview of theory and evidence. *Journal of Economic Perspectives*. 2019; 33:202-27.

³⁰⁹ Griffith R, O'Connell M, Smith K. Corrective taxation and internalities from food consumption. *CESifo Economic Studies*. 2018 Mar 1;64(1):1-4.

³¹⁰ Alvarado M, Penney TL, Unwin N, Murphy MM, Adams J. Evidence of a health risk 'signalling effect' following the introduction of a sugar-sweetened beverage tax. *Food Policy*. 2021; 102:102104.

³¹¹ Mirrlees J. *Tax by design: The Mirrlees review*: OUP Oxford; 2011.

³¹² Griffith R, O'Connell M, Smith K. Corrective taxation and internalities from food consumption. *CESifo Economic Studies*. 2018 Mar 1;64(1):1-4.

sugars³¹³ and contribute a significant proportion of excess sugar and energy intakes around the world, while providing little-to-no nutritional value.³¹⁴ There is conclusive evidence linking their consumption to multiple health risks, including type 2 diabetes, dental caries, and overweight and obesity – which in turn is associated with increased risk of heart disease, stroke, and some cancers.³¹⁵ Moreover, a rapid transition in consumption patterns is occurring in LMICs, both in terms of overconsumption of unhealthy foods and beverages, including ultra-processed foods, as well as the continued under-consumption of healthy foods and nutrients.³¹⁶ This shift is contributing to an increasing burden of diet-related NCDs in many LMICs. For example, by 2035, 79% percent of adults and 88% of children with overweight and obesity will live in LMICs.³¹⁷

Nutrition-targeted taxation that creates incentives for the consumption of healthier, minimally processed and packaged foods can also support efforts towards environmental sustainability.³¹⁸ Food systems contribute approximately a third of global greenhouse gas emissions mainly through production and land use,³¹⁹ and unhealthy dietary patterns have been implicated as a major contributor.³²⁰ Food and beverage packaging also contributes to pollution and greenhouse gas emissions (although this contribution must be balanced against the role of packaging in preventing food waste).³²¹ While most existing unhealthy food taxes are based solely on health objectives, there is growing interest in combined policies that are optimized for both health and sustainability. The greenhouse gas (GHG) emissions and environmental degradation associated with current food systems represent externalities which could be internalized through taxation.³²² Additional research on potential synergies and

³¹³ Free sugars include caloric sweeteners added to foods and beverages by the manufacturer, cook, or consumer (such as sucrose and high-fructose corn syrup), as well as sugars naturally present in honey, syrups, fruit and vegetable juices, and fruit and vegetable juice concentrates.

³¹⁴ Malik VS, Hu FB. The role of sugar-sweetened beverages in the global epidemics of obesity and chronic diseases. *Nature Reviews Endocrinology*. 2022; 18:205-18; Bailey RL, Fulgoni III VL, Cowan AE, Gaine PC. Sources of added sugars in young children, adolescents, and adults with low and high intakes of added sugars. *Nutrients*. 2018; 10:102; Lara-Castor L, Micha R, Cudhea F, Miller V, Shi P, Zhang J, et al. Sugar-sweetened beverage intakes among adults between 1990 and 2018 in 185 countries. *Nature communications*. 2023; 14:5957.

³¹⁵ Singh GM, Micha R, Khatibzadeh S, Lim S, Ezzati M, Mozaffarian D. Estimated global, regional, and national disease burdens related to sugar-sweetened beverage consumption in 2010. *Circulation*. 2015; 132:639-66; Bleich SN, Vercammen KA. The negative impact of sugar-sweetened beverages on children's health: an update of the literature. *BMC obesity*. 2018; 5:1-27; Malik VS, Popkin BM, Bray GA, Després J-P, Willett WC, Hu FB. Sugar-sweetened beverages and risk of metabolic syndrome and type 2 diabetes: a meta-analysis. *Diabetes care*. 2010; 33:2477-83.

³¹⁶ Lane M M, Gamage E, Du S, Ashtree D N, McGuinness A J, Gauci S et al. Ultra-processed food exposure and adverse health outcomes: umbrella review of epidemiological meta-analyses, *BMJ* 2024; 384 :e077310 doi:10.1136/bmj-2023-077310; Afshin A, Sur PJ, Fay KA, Cornaby L, Ferrara G, Salama JS, Mullany EC, Abate KH, Abbafati C, Abebe Z, Afarideh M. Health effects of dietary risks in 195 countries, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017. *The lancet*. 2019 May 11;393(10184):1958-72.

³¹⁷ World Obesity Federation. *World Obesity Atlas 2024*. London: World Obesity Federation, 2024.

³¹⁸ Nneli A, Revoredo-Giha C, Dogbe W. Could taxes on foods high in fat, sugar and salt (HFSS) improve climate health and nutrition in Scotland?. *Journal of Cleaner Production*. 2023 Oct 1;421:138564.

³¹⁹ Crippa M, Solazzo E, Guizzardi D, Monforti-Ferrario F, Tubiello FN, Leip A. Food systems are responsible for a third of global anthropogenic GHG emissions. *Nature Food*. 2021; 2:198-209.

³²⁰ Willett W, Rockström J, Loken B, Springmann M, Lang T, Vermeulen S, et al. Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems. *The Lancet*. 2019; 393:447-92; da Silva JT, Garzillo JMF, Rauber F, Kluczkowski A, Rivera XS, da Cruz GL, et al. Greenhouse gas emissions, water footprint, and ecological footprint of food purchases according to their degree of processing in Brazilian metropolitan areas: a time-series study from 1987 to 2018. *The Lancet Planetary Health*. 2021; 5:e775-e85.

³²¹ Marsh K, Bugusu B. Food packaging—roles, materials, and environmental issues. *Journal of food science*. 2007 Apr;72(3):R39-55.

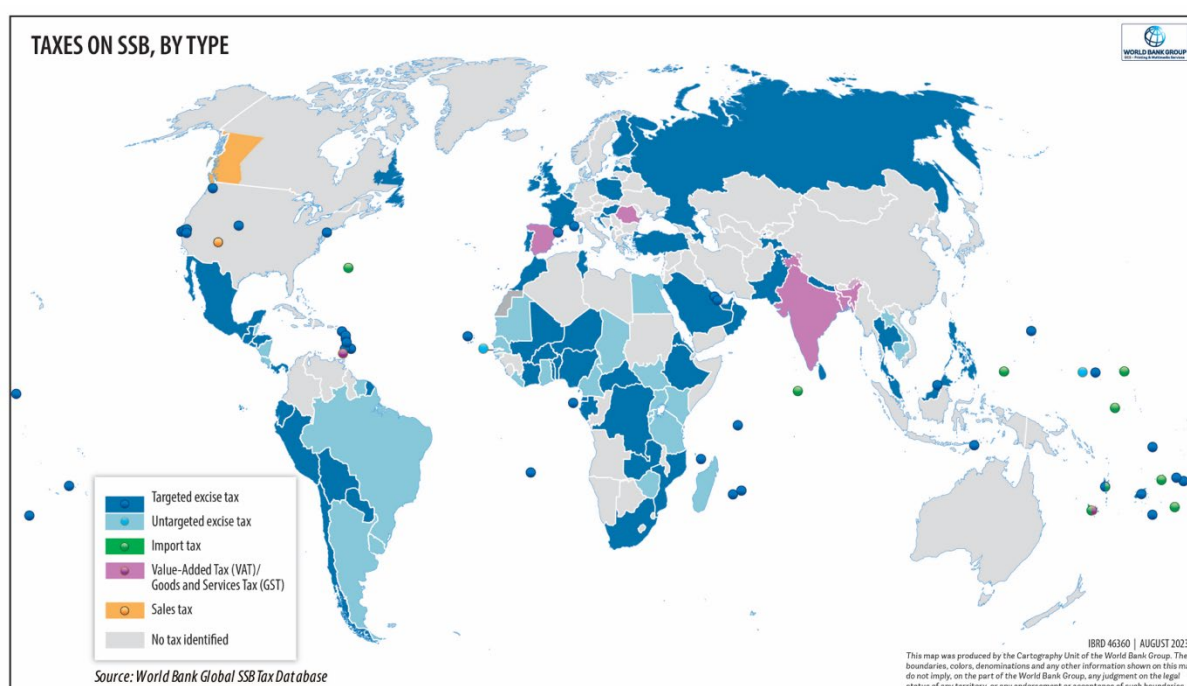
³²² Springmann M, Mason-D'Croz D, Robinson S, Wiebe K, Godfray H CJ, Rayner M, et al. Mitigation potential and global health impacts from emissions pricing of food commodities. *Nature Climate Change*. 2017; 7:69-74;

dissonances is needed to inform the design of taxes on foods to promote both healthy and sustainable diets.³²³

b) Implementation of nutrition-targeted taxes worldwide

Nutrition-targeted taxes remain less utilised worldwide than alcohol or tobacco taxes, and have mainly focused on SSBs to date. More than half of current SSB taxes were introduced within the last decade.³²⁴ In 2023, 117 countries applied a national-level tax on at least one type of SSB (Figure 1).³²⁵ Most of these taxes are excises (the preferred instrument for a health tax), though not all excises levied on SSBs have been introduced or designed as health taxes. For example, many of these excise taxes are levied on non-alcoholic beverages more broadly, rather than SSBs specifically (Figure 1). These taxes are not well-targeted at unhealthy consumption as they often apply to beverages that form part of a healthy diet, such as plain milk and unsweetened water.³²⁶

Figure 1 Global coverage of taxes on SSBs by type, as of August 2023



Source: World Bank Global SSB Tax Database³²⁷

Edjabou LD, Smed S. The effect of using consumption taxes on foods to promote climate friendly diets—The case of Denmark. *Food policy*. 2013; 39:84-96; Briggs AD, Kehlbacher A, Tiffin R, Garnett T, Rayner M, Scarborough P. Assessing the impact on chronic disease of incorporating the societal cost of greenhouse gases into the price of food: an econometric and comparative risk assessment modelling study. *BMJ open*. 2013; 3:e003543.

³²³ Moberg E, Säll S, Hansson P-A, Rööf E. Taxing food consumption to reduce environmental impacts—Identification of synergies and goal conflicts. *Food Policy*. 2021; 101:102090

³²⁴ Allcott H, Lockwood BB, Taubinsky D. Should we tax sugar-sweetened beverages? An overview of theory and evidence. *Journal of Economic Perspectives*. 2019; 33:202-27

³²⁵ World Bank Group. Global SSB Tax Database. In: World Bank Group, editor. Washington, DC 2023.

³²⁶ Pineda E, Gressier M, Li D, Brown T, Mounsey S, Olney J, Sassi F. Effectiveness and policy implications of health taxes on foods high in fat, salt, and sugar. *Food Policy*. 2024 Feb 1;123:102599

³²⁷ World Bank Group. Global SSB Tax Database. In: World Bank Group, editor. Washington, DC. 2023.

Note: Targeted excise taxes exempt unsweetened bottled water or apply to unsweetened bottled water at a lower rate than SSBs. Untargeted excise taxes apply to unsweetened bottled water at the same, or higher, rate as SSBs, and may include excise taxes levied on non-alcoholic beverages

Far fewer jurisdictions apply unhealthy food taxes, despite SSBs representing only a subset of unhealthy products that are associated with increased health risks (Figure 2). Jurisdictions with unhealthy food taxes in place include Bermuda, Colombia, Dominica, Ethiopia, Fiji, French Polynesia, Hungary, Mexico, Nauru, Navajo Nation in the United States, Norway, Romania, Samoa, St. Vincent and the Grenadines, and Tonga.³²⁸ Most existing taxes have been limited to a narrow range of specified and unequivocally unhealthy foods (such as confectionery, chocolates, biscuits, salty snacks, and high-fat animal products). For example, Dominica taxes confectionery and chocolate bars, in addition to SSBs. French Polynesia imposes an import tax on imported confectionery, marmalade, and ice cream. Some countries have more directly taxed the unhealthy ingredient, e.g. St Vincent and the Grenadines taxes sugar and Norway has an excise tax on different types of sugar and rock candy, which does not apply when sugar is used as an ingredient in another product.

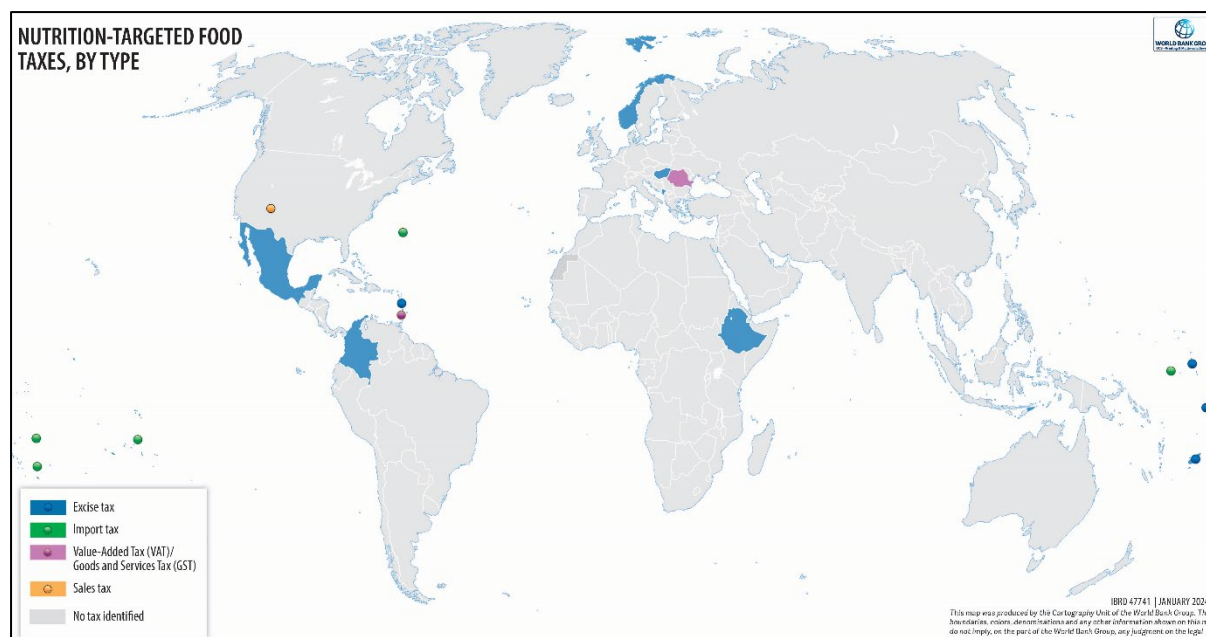
More recently, some countries have widened the scope of their unhealthy food taxes. For example, Bermuda initially only levied a 50% import duty on SSBs, sugar confectionery excluding cocoa-based products, and pure sugar imports. However, from 2019, this tax was increased to 75% and now covers all food products containing cocoa and added sugar, with revenue subsidizing selected fruit and vegetables.³²⁹ Most notably, Colombia introduced an excise tax on ultra-processed foods and/or food products with a high content of added sugar, sodium, or saturated fat in November 2023.³³⁰

Figure 2 Global coverage of unhealthy food taxes, as of January 2024

³²⁸ Pineda E, Gressier M, Li D, Brown T, Mounsey S, Olney J, Sassi F. Effectiveness and policy implications of health taxes on foods high in fat, salt, and sugar. *Food Policy*. 2024 Feb 1;123:102599; World Health Organization. The global database on the implementation of food and nutrition action (GIFNA), <https://gifna.who.int/>; Sassi F, Roche M, Belloni A, Pineda E, Olney J. *Food Taxes for Healthy Eating* London, UK: Centre for Health Economics and Policy Innovation, Imperial College London, Centre for Health Economics and Policy Innovation ICL;2022.

³²⁹ Sassi F, Roche M, Belloni A, Pineda E, Olney J. *Food Taxes for Healthy Eating* London, UK: Centre for Health Economics and Policy Innovation, Imperial College London, Centre for Health Economics and Policy Innovation ICL,2022; Segal AB, Olney J, Case KK, Sassi F. The benefits and challenges of taxing sugar in a small island state: an interrupted time series analysis. *International Journal of Behavioral Nutrition and Physical Activity*. 2022; 19:1-11.

³³⁰ Burki T. New junk food legislation in Colombia. *The Lancet Oncology*. 2023 Dec 1;24(12):e460.



Sources: Sassi et al 2022³³¹; Pineda et al 2024³³²; WHO Global Database on the Implementation of Food and Nutrition Action (GIFNA)³³³

2. Specific considerations for SSB taxation

SSBs are a clear candidate for nutrition-targeted taxation. SSBs are a discrete, well-defined category that is relatively simple to identify and define for taxation. SSBs are considered a more feasible and effective target for taxation than sugar (i.e. what is commonly called ‘table sugar’: sugar derived from cane and beet), despite the fact that sugar consumption is similarly associated with poor health outcomes. An excise tax on sugar would need to be applied to sugar as both a ‘finished’ product (e.g., ‘table sugar’ for consumption) and as a ‘raw material’, since the majority of sugar is consumed in processed foods and beverages.³³⁴ It would also need to apply to the sugar content of all food and beverage items manufactured outside of the country applying the tax, to avoid discrimination against domestically produced food and beverage producers, increasing the complexity of the tax. Applying the excise tax only to a narrower item category (e.g., SSBs) can reduce the tax administration burden (see Section 3 on specific considerations for unhealthy food taxes for a more detailed discussion).

a) Approaches to categorising and defining SSBs for taxation

From a nutritional perspective, SSB taxes would apply to all commonly consumed non-alcoholic beverages that contain free sugars, including carbonated soft drinks (e.g., sodas), energy drinks, sports drinks, sweetened and unsweetened fruit and vegetable juices, sweetened ready-to-drink teas and coffees, sweetened milk-based drinks, sweetened waters, and beverage concentrates (liquid, powder, and gel concentrates used to prepare SSBs, e.g. squashes and cordials). This is to limit potential loopholes and substitution to similarly unhealthy beverages, both of which undermine potential health

³³¹ Sassi F, Roche M, Belloni A, Pineda E, Olney J. Food Taxes for Healthy Eating London, UK: Centre for Health Economics and Policy Innovation, Imperial College London, Centre for Health Economics and Policy Innovation ICL;2022.

³³² Pineda E, Gressier M, Li D, Brown T, Mounsey S, Olney J, Sassi F. Effectiveness and policy implications of health taxes on foods high in fat, salt, and sugar. *Food Policy*. 2024 Feb 1;123:102599

³³³ World Health Organization. The global database on the implementation of food and nutrition action (GIFNA). <https://gifna.who.int/>

³³⁴ Bailey RL, Fulgoni VL, Cowan AE, Gaine PC. Sources of Added Sugars in Young Children, Adolescents, and Adults with Low and High Intakes of Added Sugars. *Nutrients*. 2018; 10.

gains. While fruit and vegetable juices and sugar-sweetened milk-based drinks have some nutritional value, their high free sugar content means they raise similar health concerns as more easily recognized SSBs such as carbonated soft drinks. At the same time, taxes should not apply to unsweetened bottled water and plain unsweetened milk, which should be incentivized as healthy substitutes.³³⁵

In practice, few existing taxes extend to all SSB categories and many of those that do apply broadly to all non-alcoholic beverages, including beverages that form part of a healthy diet such as plain milk and unsweetened water. Sweetened water-based beverages, including carbonated soft drinks and energy drinks, are covered by almost all current SSB taxes. One-third of taxes apply only to these SSBs, with some applying only to carbonated products. Natural and added sugars in juices are often approached differently despite carrying similar health risks, with sweetened juices excluded from one-third and unsweetened (100%) juices excluded from two-thirds of current SSB taxes (Figure 3). Sweetened milk-based drinks are excluded from half of current SSB taxes.³³⁶ Some taxes apply only to SSBs containing sugar (or added sugar) above a specified threshold (such as 5 grams of sugar per 100ml).

b) Considerations regarding the inclusion of non-sugar sweetened beverages

Three out of four SSB taxes worldwide apply to non-sugar sweetened beverages (NSSBs) – beverages sweetened with low- or no-calorie synthetic and naturally occurring sugar substitutes.³³⁷ In many cases, these products are included in SSB taxes by default because the World Customs Organization Harmonized Commodity Description and Coding System nomenclature (also referred to as the Harmonized Tariff System or HS codes) - widely used to identify taxed products - does not distinguish between caloric (sugar) and non-caloric sweeteners.

There is currently no clear guidance on whether NSSBs should be covered by SSB taxes. On the one hand, excluding these beverages may help to reduce sugar consumption, by encouraging substitution and incentivizing reformulation. Excluding diet drinks may also lower industry opposition to a tax, given the market opportunities provided (e.g. for reformulation and new product development).³³⁸

On the other hand, there is some limited evidence to suggest that high intake (typically several servings a day) of NSSBs is positively associated with cardiovascular-related, digestive disease-related, and all-cause mortality.³³⁹ This may be due to strengthening individuals' taste preferences for sweetness, stimulating insulin response, and altering gut microflora linked to insulin resistance.³⁴⁰ The WHO recently advised against using artificial sweeteners for weight control.³⁴¹ One of the most widely used artificial sweeteners, aspartame, has also been classified as 'possibly carcinogenic' based on weak evidence of an association with liver cancer.³⁴²

³³⁵ WHO. WHO manual on sugar-sweetened beverage taxation policies to promote healthy diets. Geneva 2022

³³⁶ World Bank Group. Global SSB Tax Database. In: World Bank Group, editor. Washington, DC 2023.

³³⁷ World Bank Group. Global SSB Tax Database. In: World Bank Group, editor. Washington, DC 2023.

³³⁸ Thow AM, Rippin HL, Mulcahy G, Duffey K, Wickramasinghe K. Sugar-sweetened beverage taxes in Europe: learning for the future. *European Journal of Public Health*. 2022; 32:273-80.

³³⁹ Malik VS, Li Y, Pan A, De Koning L, Schernhammer E, Willett WC, et al. Long-term consumption of sugar-sweetened and artificially sweetened beverages and risk of mortality in US adults. *Circulation*. 2019; 139:2113-25; Mullee A, Romaguera D, Pearson-Stuttard J, Viallon V, Stepien M, Freisling H, et al. Association between soft drink consumption and mortality in 10 European countries. *JAMA internal medicine*. 2019; 179:1479-90.

³⁴⁰ Malik VS, Li Y, Pan A, De Koning L, Schernhammer E, Willett WC, et al. Long-term consumption of sugar-sweetened and artificially sweetened beverages and risk of mortality in US adults. *Circulation*. 2019; 139:2113-25.

³⁴¹ World Health Organization. Use of non-sugar sweeteners: WHO guideline. Geneva: World Health Organization; 2023. Licence: CC BY-NC-SA 3.0 IGO.

³⁴² Riboli E, Beland FA, Lachenmeier DW, Marques MM, Phillips DH, Schernhammer E, et al. Carcinogenicity of aspartame, methyleugenol, and isoeugenol. *The Lancet Oncology*. 2023; 24:848-50.

Limited evidence from evaluations of existing taxes suggests that excluding NSSBs can strongly incentivize the supply and consumption of non-sugar sweeteners.³⁴³ In the UK, for example, sales of low- and zero-sugar drinks (not including unsweetened water) rose significantly more than pre-tax trends in the first three years following the announcement of the Soft Drink Industry Levy (SDIL), both in terms of absolute volume sale and as a proportion of drinks sold.³⁴⁴

This suggests the need for caution when considering whether to include or exclude these beverages in a SSB tax. Priority should be given to encouraging substitution towards drinks that are less sweet, and preferably to unsweetened beverages such as plain water or milk.

c) Considerations regarding the inclusion of unsweetened (100%) juices

Unsweetened (100%) fruit and vegetable juices are often perceived to be a healthier option than other SSBs due to their content of antioxidant and bioactive substances, including vitamins, minerals, and polyphenols. However, they are also high in free sugars as the structure of the fruit or vegetable has been broken down, with some 100% fruit juices containing similar or higher amounts of sugar than carbonated soft drinks. These sugars, while naturally present, function in essentially the same way as added sugars once metabolized in the body. 100% fruit and vegetable juices have a moderately high glycemic index (i.e., how quickly the consumed sugar increases blood sugar levels when consumed on its own) and are less satiating and more easily over-consumed than solid foods, contributing to energy imbalance. Given these metabolic pathways, the WHO consistently defines SSBs to include 100% juices.³⁴⁵ Few studies have examined the health impacts of 100% juice separately from other SSBs and the quality of studies is generally rated as low; however, the limited evidence available indicates small positive associations between 100% fruit juice consumption and long-term weight gain³⁴⁶, tooth decay³⁴⁷, type 2 diabetes³⁴⁸ and cancer risk.³⁴⁹

Overall, coverage of 100% juices (and sweetened milk-based drinks) is higher in low- and middle-income than high-income countries (Figure 3). Two-thirds of SSB taxes in low-income countries apply to 100% juices, for example. However, there is still significant scope to increase SSB tax coverage of 100% juices in all regions (Figure 3). From a practical perspective, fresh, locally produced fruit and vegetables juices may not be captured by a tax (when, for example, they are prepared at point of sale or sold through informal retail).

³⁴³ Dickson A, Gehrsitz M, Kemp J. Does a Spoonful of sugar levy help the calories go down? an analysis of the UK soft drinks industry levy. *Review of Economics and Statistics*. 2023;1-29.

³⁴⁴ Bandy L, Scarborough P, Harrington R, Rayner M, Jebb S. Reductions in sugar sales from soft drinks in the UK from 2015 to 2018. *BMC medicine*. 2020; 18:1-10; Scarborough P, Adhikari V, Harrington RA, Elhussein A, Briggs A, Rayner M, et al. Impact of the announcement and implementation of the UK Soft Drinks Industry Levy on sugar content, price, product size and number of available soft drinks in the UK, 2015-19: A controlled interrupted time series analysis. *PLoS medicine*. 2020; 17:e1003025.

³⁴⁵ World Health Organization. Taxes on sugary drinks: Why do it? Geneva, World Health Organization, 2017; WHO. WHO manual on sugar-sweetened beverage taxation policies to promote healthy diets. Geneva 2022.

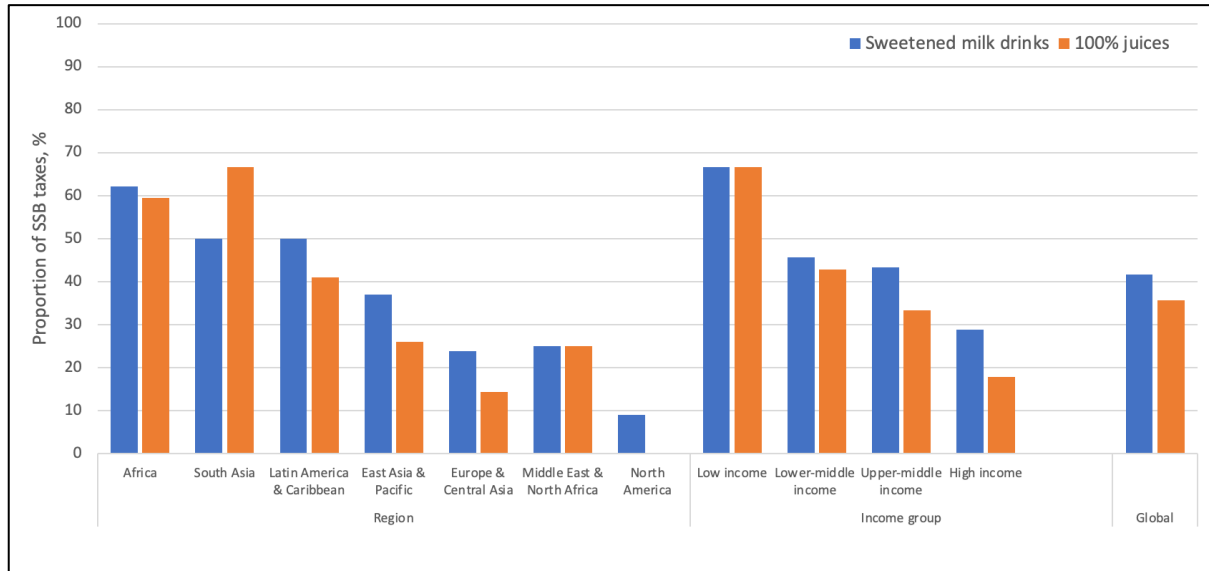
³⁴⁶ Pan A, Malik VS, Hao T, Willett WC, Mozaffarian D, Hu FB. Changes in water and beverage intake and long-term weight changes: results from three prospective cohort studies. *International journal of obesity*. 2013; 37:1378-85; Mozaffarian D, Hao T, Rimm EB, Willett WC, Hu FB. Changes in diet and lifestyle and long-term weight gain in women and men. *New England journal of medicine*. 2011; 364:2392-404.

³⁴⁷ Salas M, Nascimento G, Vargas-Ferreira F, Tarquinio S, Huysmans M, Demarco F. Diet influenced tooth erosion prevalence in children and adolescents: Results of a meta-analysis and meta-regression. *Journal of dentistry*. 2015; 43:865-75.

³⁴⁸ Imamura F, O'Connor L, Ye Z, Mursu J, Hayashino Y, Bhupathiraju SN, et al. Consumption of sugar sweetened beverages, artificially sweetened beverages, and fruit juice and incidence of type 2 diabetes: systematic review, meta-analysis, and estimation of population attributable fraction. *Bmj*. 2015; 351; Muraki I, Imamura F, Manson JE, Hu FB, Willett WC, van Dam RM, et al. Fruit consumption and risk of type 2 diabetes: results from three prospective longitudinal cohort studies. *Bmj*. 2013; 347.

³⁴⁹ Pan B, Lai H, Ma N, Li D, Deng X, Wang X, et al. Association of soft drinks and 100% fruit juice consumption with risk of cancer: a systematic review and dose-response meta-analysis of prospective cohort studies. *International Journal of Behavioral Nutrition and Physical Activity*. 2023; 20:1-16.

Figure 3 Proportion of SSB taxes that also apply to 100% juices and milk-based drinks, as of August 2023



Source: World Bank Global SSB Tax Database 2023.³⁵⁰

³⁵⁰ World Bank Group. Global SSB Tax Database. In: World Bank Group, editor. Washington, DC. 2023.

d) Evidence on the impact on prices, sales, reformulation, and diet/health outcomes

There is strong, consistent evidence that SSB taxes raise prices and reduce sales of taxed beverages.³⁵¹ A recent systematic review and meta-analysis of available evaluation studies found an average pass-through rate (the extent to which a tax is passed on to consumers in the form of higher retail prices) of 82% (95% confidence intervals (CI), 66% to 98%), with high heterogeneity across taxes, sub-populations, and product categories.³⁵² Consumer demand for SSBs tends to be highly sensitive to tax-induced price increases, with an average estimated price elasticity of demand of -1.59 (95% CI, -2.11 to -1.08). Given that most evaluated SSB taxes have been relatively small, sales of taxed products have been reduced by a mean of approximately 15% (95% CI, 9% to 20%). Available studies on beverage sales provide no evidence, on average, of significant substitution to untaxed beverages, though again there is a high level of heterogeneity across taxes and studies.³⁵³

There is less evidence to date on changes in consumption of taxed and untaxed products in response to implemented SSB taxes, mainly due to the more limited availability of longitudinal consumption data compared to sales data. Where evaluation evidence is available, SSB taxes have been shown to reduce consumption. A meta-analysis of intervention and prospective cohort studies determined that a 10% price increase reduced SSB consumption by 7% (95% CI, 3 to 10%).³⁵⁴ The smaller observed effects on SSB consumption to-date when compared to sales effects may be due, at least in part, to methodological limitations in available consumption studies.³⁵⁵ Behavioural effects, such as stockpiling (when consumers buy more product immediately before introduction of a tax and store it for later), may also partly explain larger observed reductions in sales versus consumption in the short-term.

Evidence on more long-term effects of implemented SSB taxes, including on health outcomes, is also limited but emerging. The UK Soft Drink Industry Levy (SDIL) has been associated with an overall 8% relative reduction in obesity levels in girls aged 10/11 years, with the greatest reductions in the most deprived areas.³⁵⁶ Mexico's SSB tax, introduced in 2014, has been associated with a 1.3 percentage point absolute decrease in overweight or obesity prevalence among adolescent girls within the first two years.³⁵⁷ There is also emerging evidence of positive impacts on oral health. An analysis of hospital admission data in the UK identified a relative reduction of 12.1 percent (95% CI, 7.2% to 17.0%) in hospital admissions for carious tooth extractions in all children (0–18 years) in the first two years post SDIL implementation, with the greatest reductions in children under 4 years of age (28.6 percent, 95% CI, 21.5% to 35.6%).³⁵⁸ A downward post-tax trend in oral health outpatient visits has also been identified in Mexico, along with reduced probability of having experienced dental caries for all age

³⁵¹ Andreyeva T, Marple K, Marinello S, Moore TE, Powell LM. Outcomes following taxation of sugar-sweetened beverages: a systematic review and meta-analysis. *JAMA Network Open*. 2022; 5:e2215276-e; Teng AM, Jones AC, Mizdrak A, Signal L, Genç M, Wilson N. Impact of sugar-sweetened beverage taxes on purchases and dietary intake: Systematic review and meta-analysis. *Obesity Reviews*. 2019; 20:1187-204.

³⁵² Andreyeva T, Marple K, Marinello S, Moore TE, Powell LM. Outcomes following taxation of sugar-sweetened beverages: a systematic review and meta-analysis. *JAMA Network Open*. 2022; 5:e2215276-e.

³⁵³ Andreyeva T, Marple K, Marinello S, Moore TE, Powell LM. Outcomes following taxation of sugar-sweetened beverages: a systematic review and meta-analysis. *JAMA Network Open*. 2022; 5:e2215276-e.

³⁵⁴ Afshin A, Penalvo JL, Del Gobbo L, Silva J, Michaelson M, O'Flaherty M, et al. The prospective impact of food pricing on improving dietary consumption: a systematic review and meta-analysis. *PloS one*. 2017; 12:e0172277

³⁵⁵ Andreyeva T, Marple K, Marinello S, Moore TE, Powell LM. Outcomes following taxation of sugar-sweetened beverages: a systematic review and meta-analysis. *JAMA Network Open*. 2022; 5:e2215276-e.

³⁵⁶ Rogers NT, Cummins S, Forde H, Jones CP, Mytton O, Rutter H, et al. Associations between trajectories of obesity prevalence in English primary school children and the UK soft drinks industry levy: An interrupted time series analysis of surveillance data. *PLoS Medicine*. 2023; 20:e1004160

³⁵⁷ Gračner T, Marquez-Padilla F, Hernandez-Cortes D. Changes in weight-related outcomes among adolescents following consumer price increases of taxed sugar-sweetened beverages. *JAMA pediatrics*. 2022; 176:150-8.

³⁵⁸ Rogers NT, Conway DI, Mytton O, Roberts CH, Rutter H, Sherriff A, et al. Estimated impact of the UK soft drinks industry levy on childhood hospital admissions for carious tooth extractions: interrupted time series analysis. *BMJ nutrition, prevention & health*. 2023:e000714.

groups over 5 years old, and in the number of teeth with caries.³⁵⁹ Finally, more recent evidence has identified improvements on childhood asthma, which has been linked to the consumption of SSBs.³⁶⁰ The UK's SDIL was associated with an overall 20.9 percent (95%CI: 29.6-12.2) relative reduction in hospital admissions for asthma in children aged 5 to 18 years.³⁶¹

High-quality modelling studies have consistently predicted significant reductions in disability-adjusted life years (DALYs), obesity, type 2 diabetes, dental caries, and health-care costs associated with SSB taxes, with the greatest benefits typically found in lower-income and younger age groups.³⁶² Extended cost-benefit analyses that account for consumer behavioral responses (lower income groups are on average more responsive to tax-induced price increases than higher-income households) and the externalities associated with SSB consumption (such as increased health costs and reduced productivity) have found SSB taxes to have a net positive income effect, with lower income households expected to benefit from a disproportionate share of improved health outcomes, reduced healthcare costs, extended working lives, and reduced years of life lost.³⁶³

3. Specific considerations for unhealthy food taxes

As described previously, many countries have introduced health-motivated taxes on SSBs, with far fewer countries applying unhealthy food taxes. While taxing unhealthy foods can be viewed as an extension of SSB taxes, it is considerably more complex for several reasons. First, foods are more heterogeneous; thus, taxation may lead to significant substitutions. Second, foods contain both more nutrients of concern (beyond sugar) and nutrients that are essential to human life and well-being. Third, affordability becomes a more prominent concern when taxes are extended to products upon which food-insecure households may rely.

a) Approaches to categorising and defining unhealthy foods for taxation

The categorization of food items to define the base for taxation is an important consideration. Many approaches could be used, varying in scope, from a narrow single-nutrient approach to nutrient profile models, processing levels, or environmental impacts (Table 1). The choice of food categorization needs to account for a variety of factors, including consumption patterns, potential substitutions, and the overall policy goal behind the tax.

³⁵⁹ Hernández-F M, Cantoral A, Colchero MA. Taxes to unhealthy food and beverages and oral health in Mexico: an observational study. *Caries Research*. 2021; 55:183-92.

³⁶⁰ Zalabani, A. H. et al. Association between soft drinks consumption and asthma: A systematic review and meta-analysis. *BMJ Open* 9, 1–11 (2019).

³⁶¹ Rogers, N.T., Cummins, S., Jones, C.P. et al. The UK Soft Drinks Industry Levy and childhood hospital admissions for asthma in England. *Nat Commun* 15, 4934 (2024). <https://doi.org/10.1038/s41467-024-49120-4>

³⁶² Hattersley L, Thiebaud A, Silver LD, Mandeville K. Taxes on Sugar-Sweetened Beverages-Summary of International Evidence and Experiences: International Evidence and Experiences. Washington, DC2020. Report No.: License: CC BY 3.0 IGO.

³⁶³ Fuchs A, Pierola D. The Distributional Impacts of Health Taxes. *Equitable Growth, Finance and Institutional Insight - Poverty and Equity*. Washington, DC2022. Report No.: License: CC BY 3.0 IGO.

Table 1 Summary of approaches to categorising and defining unhealthy foods for taxation

Approach	Detail	Examples
Product category	Applies to food products within one or more categories of concern, regardless of nutrient or energy content.	Samoa: 8% excise tax on sugar confectioneries, cocoa products, sweet biscuits and cakes, bread products, savory snacks, instant noodles, pizza, and sugars other than beet/cane; 5% excise on beet/cane sugar and iodized salt
Single nutrient	Applies to foods within one or more product categories based on content of a single nutrient-of-concern, such as saturated fat, salt, or sugar	Denmark (repealed): DKK 16 per kg of saturated fat on all products containing more than 2.3% saturated fat
Multiple nutrients	Applies to foods within one or more product categories based on content of multiple nutrients-of-concern	Colombia: Ad valorem tax on processed and ultra-processed food products that exceed thresholds for sugar, sodium, or saturated fat within selected categories
Energy density	Applies to foods within one or more product categories based on energy-density	Mexico: 8% tax on energy-dense, non-essential foods within specified product categories that exceed energy-density threshold of 275kcal per 100g
Level of processing	Applies to some or all product categories based on level of processing (e.g. targeting ultra-processed foods)	No implemented taxes

Food category-based

This represents the simplest approach to identifying unhealthy foods for taxation. It consists of selecting one or more well defined food categories of concern (e.g., salty snacks, confectionery) and applying the tax only on this category. This is the approach followed by multiple Pacific Island Countries, including Fiji, French Polynesia, and Samoa. Finland also previously applied an excise tax on candy and ice cream, though this tax was repealed in 2017 after allegations that it may violate EU state aid laws. Indeed, the tax did not apply to other equivalently sugary items, e.g., biscuits or puddings, and was thus challenged as ‘non-neutral’.³⁶⁴

Aside from potential legal challenges, applying unhealthy food taxes only on certain food categories may incentivize consumers to switch to untaxed categories, particularly if they are close substitutes, and does not incentivize producers to reduce the content of critical nutrients in the taxed products. Decreases in the intake of calories and nutrients of concern may thus be compensated by increases in intake from other food categories. In Finland, the demand for untaxed food categories increased, for example, frozen desserts (+4%) and breakfast bars (+10%).³⁶⁵

Nutrient-content-based

³⁶⁴ Hofverberg, E., 2015. Finland: Tax on Chocolate and Sweets to Be Eliminated 2017. Library of Congress. [Available from: <https://www.loc.gov/item/global-legal-monitor/2015-10-07/finland-tax-on-chocolate-and-sweets-to-be-eliminated-2017/>]

³⁶⁵ Ecorys. Food taxes and their impact on competitiveness in the agri-food sector. Final report for DG Enterprise and Industry. Annex - Case Studies in Member States. 2014

There is a strong rationale for basing unhealthy food taxes on nutrient content, though this approach is administratively more complex. Excessive sodium intake increases the risk of high blood pressure.³⁶⁶ Free sugars and saturated fat intakes cause weight gain and are also directly associated with chronic disease risks.³⁶⁷ It is recommended to limit their intake. A nutrition-targeted tax on food can focus on one specific nutrient, like the 2011 saturated fat tax in Denmark, or multiple nutrients of concern, like the tax on selected processed and ultra-processed food products high in sugar, salt, and saturated fat introduced in Colombia in 2023. While a single-nutrient approach may appear simpler, its limited scope may lead to unintended substitutions to untaxed unhealthy items which may limit the intended health impact of the tax.

Nutrient profile models (NPMs) represent a promising tool to define foods for taxation across several nutrients. They are increasingly used to categorise foods exceeding critical nutrients and to set front-of-pack nutrition labelling (FOPNL) policies and marketing regulations.³⁶⁸ Many NPMs exist and serve different purposes. Some, like regional NPMs developed by the World Health Organization, set category-specific thresholds for each nutrient of concern. Primarily designed for the definition of food marketing regulations to children, they are well-suited to identify the products with the worst nutritional composition within a category. Others, like the UK-NPM and the Nutri-score, give a summary score to all food items based on their nutrient composition, enabling a potential tiered tax structure. While most NPMs include sugar, sodium, and saturated fats, some also consider other forms of fats like trans fats or give positive weights to products with higher fibre or fruit and vegetable content.

To facilitate tax administration, the nutrients accounted for in an NPM-based nutrition-targeted tax approach should use information readily available for food products. Using the same NPM approach across various food policies – for example, FOPNL, marketing regulations, and nutrition-targeted taxes – could make the tax base more transparent and simplify enforcement.

Energy density

A simpler approach is disregarding nutrient content altogether and basing unhealthy food taxes solely on energy density. Mexico has applied an 8% excise tax on non-essential foods with an energy density above 275kcal/100g since 2014. The tax was estimated to cover 14.4% of the total energy intake among the Mexican population at the time it was implemented.³⁶⁹ This tax decreased the purchase of taxed foods by 5-7% in the first two years of implementation, with a higher impact on low socio-economic status (SES) households and households with higher before-tax consumption of such foods. Nevertheless, the decrease in calories from taxed foods may have been compensated by increases in calories purchased from untaxed items.³⁷⁰ Unhealthy food taxes based solely on energy density may be well suited for countries with low tax administrative capacity interested in targeting overweight and obesity. However, it does not account for diet quality and may not be appropriate to prevent nutrient-specific negative health outcomes.

Level of food processing

³⁶⁶ World Health Organization. Guideline: Sodium intake for adults and children: World Health Organization; 2012.

³⁶⁷ World Health Organization. Guideline: sugars intake for adults and children: World Health Organization; 2015; World Health Organization. Saturated fatty acid and trans-fatty acid intake for adults and children: WHO guideline. Saturated fatty acid and trans-fatty acid intake for adults and children: WHO guideline2023.

³⁶⁸ Labonté M-É, Poon T, Gladanac B, Ahmed M, Franco-Arellano B, Rayner M, et al. Nutrient profile models with applications in government-led nutrition policies aimed at health promotion and noncommunicable disease prevention: a systematic review. *Advances in Nutrition*. 2018; 9:741-88.

³⁶⁹ Batis C, Pedraza LS, Sánchez-Pimienta TG, Aburto TC, Rivera-Dommarco JA. Energy, added sugar, and saturated fat contributions of taxed beverages and foods in Mexico. *Salud pública de México*. 2017; 59:512-7.

³⁷⁰ Aguilar A, Gutierrez E, Seira E. The effectiveness of sin food taxes: evidence from Mexico. *Journal of Health Economics*. 2021; 77:102455.

Aside from nutrients, a nutrition-targeted food tax could be based on the level of processing of food products. Highly processed foods tend to be more energy-dense and high in fat, sodium, and sugar (HFSS). Their intake is associated with worse cardiometabolic risk profiles and higher risks of cardiovascular disease, cerebrovascular disease, and depression.³⁷¹ The most applied processed food classification system in the literature is NOVA.³⁷² It groups food items based on the extent and purpose of food processing applied to them. It includes four categories: unprocessed or minimally processed, processed culinary ingredients, processed, and ultra-processed foods. The level of food processing could be used to determine the tax base or tax tiers, either by discriminating between food products based solely on their level of processing or by assessing both the level of processing and the nutritional quality of food products based on the NOVA classification and an NPM. The latter approach is similar to how the Pan American Health Organization (PAHO) NPM is designed.³⁷³ However, processed food classifications, including NOVA, have been criticized for their significant degree of misclassification and not accounting for nutritional quality.³⁷⁴ To this day, no country has used food processing as the sole base for nutrition-targeted taxation.

b) Evidence on the impact on prices, sales, reformulation, and diet/health outcomes

Two recent systematic reviews found statistically significant increases in the price and decreases in the sales of taxed products following the introduction of taxes on HFSS foods.³⁷⁵ Many factors influence tax pass-through to prices. Opportunities for tax avoidance for consumers may reduce tax pass-through, e.g., a neighbouring jurisdiction with no taxes or lower prices.³⁷⁶ Higher levels of competition between producers or retailers may also lead to lower pass-through. The heterogeneous impact of unhealthy food taxes on sales by SES needs to be investigated further. The experience of Mexico's tax on non-essential energy-dense foods and the Hungarian Public Health Product Tax (PHPT) on foods high in salt and sugar show a statistically higher price sensitivity for sales among low SES.³⁷⁷ Studies of the price elasticity of demand for foods also show that demand is more sensitive in lower-income countries. Within countries, the responsiveness of lower-income groups to price changes is somewhat greater, though differences are relatively modest.³⁷⁸

Unhealthy food taxes may lead consumers to substitute from purchasing taxed to untaxed products. The risk of substitution to untaxed unhealthy items – weakening the potential health impact of such taxes – is especially high when taxes are applied to foods, as opposed to beverages, because the range of substitute options is wider. This risk varies based on product availability and the scope and overall design of the tax. Evidence from studies of real-world food taxes is limited and shows mixed results.³⁷⁹

³⁷¹ Pagliai G, Dinu M, Madarena M, Bonaccio M, Iacoviello L, Sofi F. Consumption of ultra-processed foods and health status: a systematic review and meta-analysis. *British Journal of Nutrition*. 2021; 125:308-18.

³⁷² Monteiro CA, Cannon G, Moubarac J-C, Levy RB, Louzada MLC, Jaime PC. The UN Decade of Nutrition, the NOVA food classification and the trouble with ultra-processing. *Public health nutrition*. 2018; 21:5-17.

³⁷³ Pan American Health Organization. Pan American health organization nutrient profile model. Pan American Health Organization Washington DC; 2016.

³⁷⁴ Braesco V, Souchon I, Sauvant P, Haurigné T, Maillot M, Féart C, et al. Ultra-processed foods: how functional is the NOVA system? *European Journal of Clinical Nutrition*. 2022; 76:1245-53.

³⁷⁵ Andreyeva T, Marple K, Moore TE, Powell LM. Evaluation of economic and health outcomes associated with food taxes and subsidies: a systematic review and meta-analysis. *JAMA network open*. 2022; 5:e2214371-e; Pineda E, Gressier M, Li D, Brown T, Mounsey S, Olney J, Sassi F. Effectiveness and policy implications of health taxes on foods high in fat, salt, and sugar. *Food Policy*. 2024 Feb 1;123:102599.

³⁷⁶ Cawley J, Frisvold DE. The pass-through of taxes on sugar-sweetened beverages to retail prices: the case of Berkeley, California. *Journal of Policy Analysis and Management*. 2017; 36:303-26.

³⁷⁷ Batis C, Rivera JA, Popkin BM, Taillie LS. First-year evaluation of Mexico's tax on nonessential energy-dense foods: an observational study. *PLoS medicine*. 2016; 13:e1002057; Bíró A. Did the junk food tax make the Hungarians eat healthier? *Food Policy*. 2015; 54:107-15.

³⁷⁸ Green R, Cornelsen L, Dangour AD, Turner R, Shankar B, Mazzocchi M, et al. The effect of rising food prices on food consumption: systematic review with meta-regression. *Bmj*. 2013; 346.

³⁷⁹ Andreyeva T, Marple K, Moore TE, Powell LM. Evaluation of economic and health outcomes associated with food taxes and subsidies: a systematic review and meta-analysis. *JAMA network open*. 2022; 5:e2214371-e.

The current literature relies almost exclusively on simulation studies based on overly aggregated demand models with a limited ability to capture substitutions. Consideration of cross-price effects is essential in evaluating the effect of unhealthy food taxes and further research is needed in this area to inform tax design.

The evidence is also limited on the impact of unhealthy food taxes on industry reformulation. One year after the implementation of the PHPT in Hungary, approximately 40% of food manufacturers declared having modified their products to either reduce or eliminate the taxed ingredients (28% and 12%, respectively).³⁸⁰ Effective tax design is crucial to encourage reformulation and maximize public health benefits.

A limited number of studies of real-world food taxes have assessed their impact on diet or health outcomes.³⁸¹ A meta-analysis of studies conducted between 1990 and 2016, which included both interventional and prospective research, determined that a 10% rise in the price of unhealthy food and drinks would result in a decrease of -0.06kg/m² in BMI, although not statistically significant.³⁸² It is difficult to isolate such impact from confounders as health impacts only occur years later. Nonetheless, several microsimulation model-based studies have predicted improvements in health outcomes.³⁸³

4. Considerations regarding tax design

In addition to the scope of a nutrition-targeted tax (i.e., the categorisation of foods and beverages and the list of products covered), the type of tax, its structure, its base, and its rate(s) are other key dimensions to consider for effective tax policy design. A well-designed health tax is critical to maximize health and equity outcomes. However, as relatively newer taxes, there is less evidence for, and consensus on, best practices in nutrition-targeted tax design compared to tobacco and alcohol taxes. Even the design of SSB taxes, which are more prevalent than nutrition-targeted food taxes, is highly heterogeneous and most could be improved from a health perspective. For example, most are ad valorem or volume based, and less than one in five SSB taxes worldwide target sugar content (that is, apply on a grams of sugar basis or include sugar content thresholds). Many taxes do not include all SSB categories (see below), lowering their health and revenue potential. Finally, while there is significant heterogeneity across countries, tax rates applied to SSBs are generally low, with a global median excise and total tax share in the retail price of an internationally comparable brand of sugar-sweetened carbonated drink of 3.4% and 18.4% in 2023, respectively.³⁸⁴

a) Tax type

Indirect taxes levied on the consumption of unhealthy food and beverage products can take the form of excise taxes, sales taxes, value-added taxes, or import duties. Excise taxes are typically targeted to a narrow range of products and applied equally to both imported and domestic products. They are single-stage taxes usually levied at the manufacturer or importer level. Excise taxes are considered the

³⁸⁰ Ecorys, Euromonitor, IDEA, ETI. Food taxes and their impact on competitiveness in the agri-food sector. Rotterdam: DG Enterprise and Industry. 2014.

³⁸¹ Andreyeva T, Marple K, Moore TE, Powell LM. Evaluation of economic and health outcomes associated with food taxes and subsidies: a systematic review and meta-analysis.

³⁸² Afshin A, Penalvo JL, Del Gobbo L, Silva J, Michaelson M, O'Flaherty M, et al. The prospective impact of food pricing on improving dietary consumption: a systematic review and meta-analysis. *PloS one*. 2017; 12:e0172277.

³⁸³ Härkänen T, Kotakorpi K, Pietinen P, Pirttilä J, Reinivuo H, Suoniemi I. The welfare effects of health-based food tax policy. *Food Policy*. 2014; 49:196-206; Cobiac LJ, Tam K, Veerman L, Blakely T. Taxes and subsidies for improving diet and population health in Australia: a cost-effectiveness modelling study. *PLoS medicine*. 2017; 14:e1002232; Tiffin R, Arnoult M. The public health impacts of a fat tax. *Eur J Clin Nutr*. 2011; 65:427-33.

³⁸⁴ World Health Organization. Global report on the use of sugar-sweetened beverage taxes, 2023. Geneva2023

preferred instrument for health taxes because they can be targeted to raise the retail price of specific products or groups of products (including tobacco, alcohol, SSBs, and unhealthy foods) relative to healthy substitutes. Most countries applying nutrition-targeted SSB and food taxes have done so using excise taxes (Figures 1 and 2).

Excise taxes represent the most efficient and effective fiscal tool to correct for market failures, changing consumer behaviour and mitigating the negative effects of overconsumption of health-harming products. They are backed by a dedicated administration system and enable targeting of specific products with larger rates than would be possible under a VAT or sales tax system. In practice, however, nutrition-targeted tax rates have been generally low.³⁸⁵ In some countries there may be long-standing excise taxes that apply to SSBs, which have been applied as tax revenue mechanisms on non-alcoholic beverages broadly (i.e. including SSBs but also other categories, such as mineral waters).

Other indirect taxes, such as import taxes, value-added taxes, and sales taxes, usually apply to a broad range of goods and services. A value-added tax (VAT) (referred to as Goods and Services Tax, or GST, in some jurisdictions) is applied at multiple stages of a product's value chain, with the final consumer paying its value. Sales taxes, on the other hand, are applied at the retailer level. Sales taxes can be included in the shelf price or added at checkout – either of which may increase saliency to the consumer depending on the jurisdiction. VAT or sales taxes have a broad tax base and already apply to food in most countries, often under multiple tax rates (applying discounted rates or exempting from VAT or sales tax selected food groups).³⁸⁶ Some countries apply higher VAT rates to SSBs than to healthier alternatives (e.g., India, Spain).³⁸⁷

From a fiscal perspective, countries are recommended to converge towards simpler tax systems including uniform VAT rates applied to all goods and services. Differentiated VAT or sales tax rates are not optimal from a tax policy and revenue generation efficiency perspective as they may narrow the tax base and require additional administrative and compliance efforts (e.g., complicate the tax credit mechanism for VAT). LMICs may have less administrative and enforcement capacities to dedicate to this. In practice, however, some jurisdictions have existing differentiated VAT or sales tax rate structures in place that are misaligned with health goals. In these cases, ensuring that unhealthy foods are not taxed at lower rates than healthier substitutes (for example, by ensuring that HFSS foods and SSBs are subject to the highest tax rate tier) would increase alignment with public health objectives and support policy coherence. This approach was recently taken by Costa Rica, which reformed its discounted VAT tax basket (1% rate vs. 13% general rate) in 2023 with the aim to promote more balanced diets. This discounted tax basket was previously set based on the consumption patterns of the 20% poorest households, without accounting for nutritional aspects.³⁸⁸ Whereas introducing a new excise tax may increase overall tax burden (except if compensated by targeted subsidies or welfare programmes) and raise equity concerns, aligning existing differentiated VAT or sales tax rates with health goals may alleviate these concerns by acting as a subsidy for healthy alternatives.

Import duties are applied on selected products imported and destined for domestic consumption (i.e., not in transit). They are generally collected at the point of entry into the country. Historically used to protect domestic industries or to generate additional revenue, they are gradually being phased out with the signature of free-trade agreements and global trade liberalization. They are therefore not the

³⁸⁵ Roche M, Alvarado M, Sandoval RC, da Silva Gomes F, Paraje G. Comparing taxes as a percentage of sugar-sweetened beverage prices in Latin America and the Caribbean. *The Lancet Regional Health–Americas*. 2022 Jul 1;11; World Health Organization. Global report on the use of sugar-sweetened beverage taxes. 2023. <https://www.who.int/publications/i/item/9789240084995>

³⁸⁶ EY (2024). Worldwide VAT, GST and Sales Tax Guide 2024. Available from: https://www.ey.com/en_gl/tax-guides/worldwide-vat-gst-and-sales-tax-guide

³⁸⁷ Hattersley L, Mandeville KL. Global coverage and design of sugar-sweetened beverage taxes. *JAMA Network Open*. 2023 Mar 1;6(3):e231412-.

³⁸⁸ Roche M. Can differentiated value-added tax rates promote healthier diets? The case of Costa Rica. *Food Policy*. 2025. *In press*.

preferred option for taxing unhealthy products to decrease consumption. Nevertheless, they may be effective in reducing consumption in small island states where no domestically produced substitutes are available. At least nine small island states currently apply SSB import taxes with an explicit health rationale.³⁸⁹ However, tariffs on imported products that may also be produced domestically would raise the relative price of the imported products and may induce tax substitution (tax avoidance) in favour of domestically produced items. This was the case in Tonga following an increase in the import duty on ice cream and instant noodles between 2015 and 2017.³⁹⁰ In addition, preferential treatment for domestic production may be inconsistent with the principles of non-discrimination in international trade laws (see Chapter 9).

b) Tax structure considerations

Nutrition-targeted taxes aim at disincentivizing the consumption of unhealthy foods and beverages. The choice of tax structure is important in achieving this goal. Specific taxes reduce the incentive to switch to cheaper brands as they apply equivalently to all products based on either their weight, volume, or their nutrient content. The latter has been found to lead to larger positive nutritional outcomes.³⁹¹ However, specific taxes need to be regularly adjusted to keep up with inflation and avoid erosion of their real value over time. They may also be seen as less equitable as they apply equivalently to all products regardless of their price band. On the other hand, ad valorem taxes – i.e., ad valorem excise taxes or VAT, applied as a percentage of the value of a product – by nature follow price trends but tend to widen price dispersion between cheaper and premium brands. Ad valorem taxes are also more subject to industry tax-avoidance strategies, such as under-invoicing, and may lead to lower tax pass-through.³⁹²

Specific considerations for SSB tax structure

SSB taxes applied based on sugar content are likely to be most effective at reducing sugar consumption and improving health outcomes. Yet as mentioned above, less than one in five SSB taxes worldwide are designed to target sugar content, with these taxes concentrated in high-income economies. Only six countries apply specific taxes based either fully (Cook Islands, Mauritius, South Africa) or partially (Ecuador, Poland, Sri Lanka) on sugar content, suggesting that this approach has been considered challenging by most policy makers to-date. Another approach is to apply a tiered volume-based tax with thresholds based on sugar content. To-date, 15 countries have used this design, including Chile, Morocco, Thailand, and the United Kingdom.³⁹³ This design can approximate a sugar-based tax by applying higher rates to high-sugar SSBs and providing a supply-side incentive for industry to lower the sugar content of their products to limit tax liability, as well as other responses such as increasing promotion of lower-sugar products and reducing portion sizes of high-sugar products. Careful consideration is needed in setting appropriate thresholds for tax rate tiers, including determining the distribution of SSB sales volume by sugar content in the taxing jurisdiction.³⁹⁴ Treatment of NSSBs is another important consideration for sugar-based taxes. For jurisdictions intending to tax these beverages, a mixed tax structure with SSBs taxed based on sugar content and NSSBs taxed based on volume may be an option. Table 2 provides four examples of existing SSB tax structures.

³⁸⁹ World Bank Group. Global SSB Tax Database. In: World Bank Group, editor. Washington, DC2023.

³⁹⁰ World Bank. Using taxation to address noncommunicable diseases: lessons from Tonga. Nuku'alofa, Tonga: World Bank2019.

³⁹¹ Biondi B, Cornelsen L, Mazzocchi M, Smith R. Between preferences and references: Asymmetric price elasticities and the simulation of fiscal policies. *Journal of Economic Behavior & Organization*. 2020; 180:108-28.

³⁹² Schmacker R, Smed S. Do prices and purchases respond similarly to soft drink tax increases and cuts? *Economics & Human Biology*. 2020; 37:100864.

³⁹³ World Bank Group. Global SSB Tax Database. In: World Bank Group, editor. Washington, DC2023.

³⁹⁴ Powell LM, Andreyeva T, Isgor Z. Distribution of sugar-sweetened beverage sales volume by sugar content in the United States: implications for tiered taxation and tax revenue. *Journal of public health policy*. 2020; 41:125-38.

Table 2. Examples of existing SSB taxes

	Mexico	Peru	South Africa Health Promotion Levy	United Kingdom Soft Drink Industry Levy (SDIL)
<i>Tax type</i>	Excise	Excise	Excise	Excise
<i>Tax base</i>	Non-alcoholic beverages with added sugar, excluding milk-based drinks	Sweetened non-alcoholic beverages (including NSSBs)	SSBs containing more than 4g sugar per 100ml	SSBs with added sugar containing at least 5 g of total sugars per 100 ml, excluding milk-based drinks.
<i>Tax rate</i>	1.3996 Mexican pesos per liter; additional 25% on energy drinks and concentrates, powders, and syrups used to prepare them	Volume-based tax with tiered rates based on sugar content thresholds: <ul style="list-style-type: none"> - 25% on beverages with ≥ 6 g sugar per 100 ml - 17% on drinks with 0.5-6g sugar per 100ml - 12% on drinks with < 0.5g sugar per 100ml 	Sugar content-based levy. ZAR 0.021 per gram of sugar over 4 g per 100 ml. First 4g of sugar per 100ml is levy free.	Two-tier volume-based levy: <ul style="list-style-type: none"> - GBP 0.18 per liter on drinks with 5–8 g total sugar per 100 ml; - GBP 0.24 per liter on drinks with > 8 g total sugar per 100 ml
<i>Evaluation evidence* - see Section 2.d for details on the evaluation findings</i>	Aguilar et al (2021) ³⁹⁵ ; Colchero et al (2015, 2016a,	Not yet evaluated.	Bercholz et al (2022) ³⁹⁹ ; Essman et al (2021) ⁴⁰⁰ ; Stacey et al	Chu et al (2020) ⁴⁰³ ; Dubois et al (2020) ⁴⁰⁴ ; Public Health England

³⁹⁵ Aguilar A, Gutierrez E, Seira E. The effectiveness of sin food taxes: evidence from Mexico. *Journal of Health Economics*. 2021 May 1;77:102455.

³⁹⁹ Bercholz M, Ng SW, Stacey N, Swart EC. Decomposing consumer and producer effects on sugar from beverage purchases after a sugar-based tax on beverages in South Africa. *Economics & Human Biology*. 2022 Aug 1;46:101136.

⁴⁰⁰ Essman M, Taillie LS, Frank T, Ng SW, Popkin BM, Swart EC. Taxed and untaxed beverage intake by South African young adults after a national sugar-sweetened beverage tax: A before-and-after study. *PLoS medicine*. 2021 May 25;18(5):e1003574.

⁴⁰³ Chu BTY, Irigaray CP, Hillier SE, Clegg ME. The sugar content of children's and lunchbox beverages sold in the UK before and after the soft drink industry levy. *Eur J Clin Nutr*. 2020;74(4):598-603. doi:[10.1038/s41430-019-0489-7](https://doi.org/10.1038/s41430-019-0489-7)

⁴⁰⁴ Dubois P, Griffith R, O'Connell M. How well targeted are soda taxes? *Am Econ Rev*. 2020;110(11):3661-3704. doi:[10.1257/aer.20171898](https://doi.org/10.1257/aer.20171898)

	2016b, 2017) ³⁹⁶ Grogger (2017) ³⁹⁷ ; Ng et al (2019) ³⁹⁸		(2019) ⁴⁰¹ ; Wrottesley et al (2021) ⁴⁰²	(2019) ⁴⁰⁵ ; Scarborough et al (2020) ⁴⁰⁶
--	--	--	--	---

Note: *as of September 2024.

Specific considerations for nutrition-targeted food tax structure

Unhealthy food taxes can also encourage product reformulation. Applying taxes based on nutrient content, either through nutrient-content-based specific taxes or nutrient-based tiered taxes, may give stronger incentives to the industry, e.g., Hungary's PHPT tax.⁴⁰⁷ The choice of tiered structure depends on the approach followed to categorise foods for taxation. Nutrient profile models (NPMs) are particularly well suited to inform the definition of tax tiers. Nevertheless, nutrient-based tiered taxes may represent a challenge in countries with low tax administration and enforcement capacities. Table 3 provides three examples of nutrition-targeted food tax structures.

Table 3. Examples of existing unhealthy food taxes

	Colombia	Fiji	Mexico
<i>Tax type</i>	Excise	Excise	Excise

³⁹⁶ Colchero MA, Salgado JC, Unar-Munguía M, Molina M, Ng S, Rivera-Dommarco JA. Changes in prices after an excise tax to sweetened sugar beverages was implemented in Mexico: evidence from urban areas. *PLoS One*. 2015;10(12):e0144408; Colchero MA, Guerrero-López CM, Molina M, Rivera JA. Beverages sales in Mexico before and after implementation of a sugar sweetened beverage tax. *PLoS One*. 2016;11(9):e0163463; Colchero MA, Popkin BM, Rivera JA, Ng SW. Beverage purchases from stores in Mexico under the excise tax on sugar sweetened beverages: observational study. *BMJ*. 2016;352:h6704. doi:[10.1136/bmj.h6704](https://doi.org/10.1136/bmj.h6704); Colchero MA, Rivera-Dommarco J, Popkin BM, Ng SW. In Mexico, evidence of sustained consumer response two years after implementing a sugar-sweetened beverage tax. *Health Aff (Millwood)*. 2017;36(3):564-571. doi:[10.1377/hlthaff.2016.1231](https://doi.org/10.1377/hlthaff.2016.1231).

³⁹⁷ Grogger J. Soda taxes and the prices of sodas and other drinks: evidence from Mexico. *Am J Agric Econ*. 2017;99(2):481-498. doi:[10.1093/ajae/aax024](https://doi.org/10.1093/ajae/aax024)

³⁹⁸ Ng SW, Rivera JA, Popkin BM, Colchero MA. Did high sugar-sweetened beverage purchasers respond differently to the excise tax on sugar-sweetened beverages in Mexico? *Public Health Nutr*. 2019;22(4):750-756. doi:[10.1017/S136898001800321X](https://doi.org/10.1017/S136898001800321X)

⁴⁰¹ Stacey N, Mudara C, Ng SW, van Walbeek C, Hofman K, Edoka I. Sugar-based beverage taxes and beverage prices: evidence from South Africa's Health Promotion Levy. *Soc Sci Med*. 2019;238:112465. doi:[10.1016/j.socscimed.2019.112465](https://doi.org/10.1016/j.socscimed.2019.112465)

⁴⁰² Wrottesley SV, Stacey N, Mukoma G, Hofman KJ, Norris SA. Assessing sugar-sweetened beverage intakes, added sugar intakes and BMI before and after the implementation of a sugar-sweetened beverage tax in South Africa. *Public Health Nutrition*. 2021 Jul;24(10):2900-10.

⁴⁰⁵ Public Health England. Sugar reduction: report on progress between 2015 and 2018. September 2019. Accessed September 7, 2021. <https://www.gov.uk/government/publications/sugar-reduction-progress-between-2015-and-2018>

⁴⁰⁶ Scarborough P, Adhikari V, Harrington RA, et al. Impact of the announcement and implementation of the UK Soft Drinks Industry Levy on sugar content, price, product size and number of available soft drinks in the UK, 2015-19: a controlled interrupted time series analysis. *PLoS Med*. 2020;17(2):e1003025. doi:[10.1371/journal.pmed.1003025](https://doi.org/10.1371/journal.pmed.1003025)

⁴⁰⁷ Ecorys, Euromonitor, IDEA, ETI. Food taxes and their impact on competitiveness in the agri-food sector. Rotterdam: DG Enterprise and Industry. 2014

<i>Tax base</i>	Selected processed and ultra-processed food products with added sugar, sodium, or saturated fat with nutritional content above the following thresholds: <ul style="list-style-type: none"> - Sodium: $\geq 1\text{mg/kcal}$ or $\geq 300\text{mg}/100\text{g}$ - Free sugars: $\geq 10\%$ of total energy content - Saturated fat: $\geq 10\%$ of total energy content Product categories include, among others: sausages, confectionery products, chocolate, prepared foods based on cereals, bakery products except bread, jams, sauces, and ice cream (full list of item categories provided by Law 2277 of 2022)	Ice cream and other edible ice, whether or not containing cocoa, including frozen confectionary; Sweet biscuits, waffles and wafers; Sugar confectioneries (excluding traditional Indian sweets); and Snack foods ‘obtained by roasting, frying, baking, swelling and the like’.	Non-essential foods with caloric density above 275kcal/100g Non-essential foods include, among others: snacks, confectionery products, chocolate, custards and puddings, peanut and hazelnut creams, milk sweets, other sweets, prepared foods based on cereals, and ice cream (full list of non-essential foods provided by Law IEPS)
<i>Tax rate</i>	10% (2023), 15% (2024), 20% (from 2025)	FJ 0.40 per liter/kilogram	8%
<i>Evaluation evidence* - see Section 3.b for details on the evaluation findings</i>	Not yet evaluated.	Not yet evaluated.	Aguilar et al (2021) ⁴⁰⁸ ; Batis et al (2016) ⁴⁰⁹ ; Colchero et al (2017) ⁴¹⁰ ; Salgado and Ng (2019) ⁴¹¹ ; Taille et al (2017) ⁴¹²

Note: *as of September 2024

c) Incentivizing the consumption of healthier alternatives

Food and water are necessities of life. Equity and the affordability of healthy alternatives are thus prominent concerns when applying nutrition-targeted taxes. From a nutritional perspective, increasing the consumption of plain water or milk and healthy foods may lead to positive health impacts. Indeed,

⁴⁰⁸ Aguilar A, Gutierrez E, Seira E. The effectiveness of sin food taxes: evidence from Mexico. *Journal of Health Economics*. 2021 May 1;77:102455.

⁴⁰⁹ Batis C, Rivera JA, Popkin BM, Taillie LS. First-year evaluation of Mexico’s tax on nonessential energy-dense foods: an observational study. *PLoS Med*. 2016;13(7):e1002057. doi:[10.1371/journal.pmed.1002057](https://doi.org/10.1371/journal.pmed.1002057)

⁴¹⁰ Colchero MA, Zavala JA, Batis C, Shamah-Levy T, Rivera-Dommarco JA. Changes in prices of taxed sugar-sweetened beverages and nonessential energy dense food in rural and semi-rural areas in Mexico. Article in Spanish. *Salud Publica Mex*. 2017;59(2):137-146. doi:[10.21149/7994](https://doi.org/10.21149/7994)

⁴¹¹ Salgado JC, Ng SW. Understanding heterogeneity in price changes and firm responses to a national unhealthy food tax in Mexico. *Food Policy*. 2019;89:101783, 10.1016/j.foodpol.2019.101783.

⁴¹² Taillie LS, Rivera JA, Popkin BM, Batis C. Do high vs. low purchasers respond differently to a nonessential energy-dense food tax? two-year evaluation of Mexico’s 8% nonessential food tax. *Prev Med*. 2017;105S:S37-S42. doi:[10.1016/j.ypped.2017.07.009](https://doi.org/10.1016/j.ypped.2017.07.009)

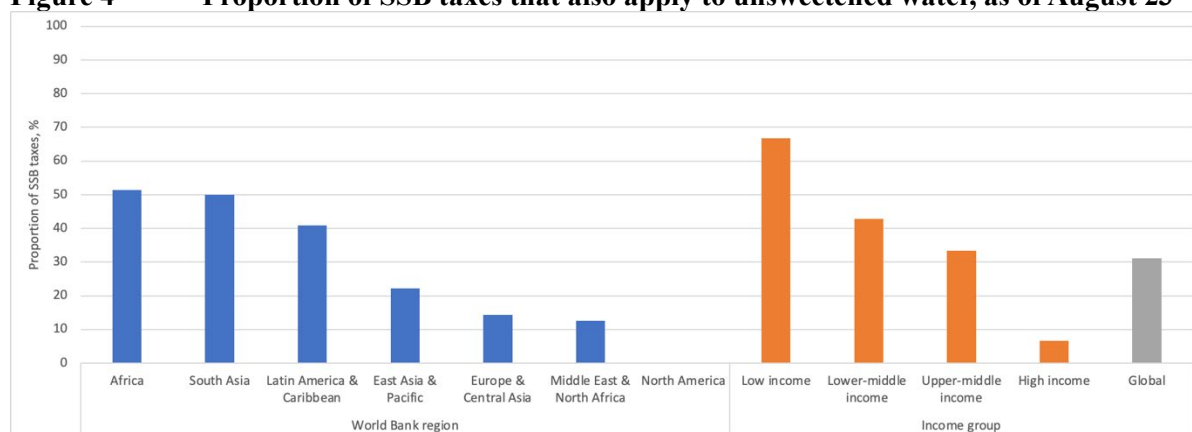
globally and in many countries, the low intake of many healthy foods such as whole grains, fruits, vegetables, nuts and seeds are greater contributors to deaths and DALYs than a high consumption of unhealthy foods and nutrients (apart from sodium).⁴¹³ Increasing the consumption of healthier alternatives may also contribute to further reducing the externalities and internalities associated with unhealthy diets.

Specific considerations for SSB taxes

When designing a SSB tax, it is important to ensure that healthy substitution options (including safe drinking water, unsweetened bottled water, and plain milk) are available to, and affordable for, the target population. A wide tax base covering all non-alcoholic beverages can be beneficial from a revenue perspective, but taxing non-SSB, particularly unsweetened water and plain milk, substantially weakens the health potential of a tax (by providing less incentives to healthy substitutions).

One third of current SSB taxes globally, and more than half (56%) of SSB taxes in low-income economies, apply to unsweetened bottled water (Figure 4). Many of these taxes were not introduced with an explicit health rationale and apply to all non-alcoholic beverages, whether sweetened or not, or apply at a higher rate to bottled water. There is significant scope to improve the health potential of these taxes simply by excluding unsweetened bottled water.

Figure 4 Proportion of SSB taxes that also apply to unsweetened water, as of August 23



Source: World Bank Global SSB Tax Database¹¹

Specific considerations for unhealthy food taxes

From a nutritional perspective, the scope of unhealthy food taxes needs to be broad to capture all unhealthy foods and tax rates sufficiently high to significantly impact their affordability and create meaningful incentives for both consumers and producers. However, such taxes should not exacerbate social inequalities in the distribution of tax burden (see section 5 for further discussion on equity concerns). Thus, disincentivizing unhealthy food consumption could be accompanied by incentivizing the consumption of healthier alternatives by increasing their affordability. As of 2021, three billion people around the world could not afford a healthy diet.⁴¹⁴

Aligning existing differentiated VAT or sales tax rates on foods with health objectives, with higher rates on unhealthy foods and lower or zero rates on healthier foods could incentivize substitutions to healthier

⁴¹³ Afshin A, Sur PJ, Fay KA, Cornaby L, Ferrara G, Salama JS, Mullany EC, Abate KH, Abbafati C, Abebe Z, Afarideh M. Health effects of dietary risks in 195 countries, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017. *The Lancet*. 2019 May 11;393(10184):1958-72.

⁴¹⁴ Ritchie H. Three billion people cannot afford a healthy diet. *Our World in Data*; 2021; Available from: <https://ourworldindata.org/diet-affordability>.

foods and mitigate equity concerns. The extent of this effect will depend on pre-existing rates applied to healthy foods, which need to be non-zero, and cross-price elasticities of demand, which may vary widely.⁴¹⁵ This was recently supported by the European Parliament, through Resolution 2022/C 184/01 on the Farm to Fork Strategy, which endorsed “giving Member States more flexibility to differentiate in the VAT rates on food with different health and environmental impacts, and enable them to choose a zero VAT tax for healthy and sustainable food products such as fruits and vegetables, [...] and a higher VAT rate on unhealthy food and food that has a high environmental footprint”.⁴¹⁶ However, the recent institutional tensions arising from the Dutch government’s proposal to eliminate the VAT on fruits and vegetables underscore the differing viewpoints between fiscal and public health experts regarding the effectiveness of VAT discounting or exemptions to promote healthier diets, especially how to classify foods based on their healthiness.⁴¹⁷

Nevertheless, tax passthrough to prices may be lower for tax cuts than tax increases.⁴¹⁸ The evidence is mixed, with a 50% passthrough to prices found for VAT cuts on food necessities in Argentina and an almost complete passthrough in Portugal following a recent temporary VAT cut on food items.⁴¹⁹ Consumers as well may not react symmetrically to price rises and cuts.⁴²⁰ However, real-world evidence is scarce. The experience of the now repealed SSB tax in Denmark shows that consumers responded similarly to tax cuts and tax increase.⁴²¹ Additional research is needed on the potential asymmetries in tax pass-through to prices and individual responses to price changes between unhealthy and healthier foods and price increases and decreases.⁴²² Governments may influence tax pass-through through political pressure or regulation.⁴²³

Another form of incentive for healthier alternatives is a subsidy on fruits and vegetables. A recent meta-analysis found that a 10% subsidy-induced reduction in the price of fruits and vegetables was associated with a 5.9% increase in sales (95% CI, -10.4% to -1.3%).⁴²⁴ Increasing the affordability of healthy foods through subsidies could also compensate for the short-run increase in expenditure caused by unhealthy food taxes. Modelling studies have found that combining excise taxes on unhealthy foods with subsidies for healthier options encourages consumers to make healthier choices, leading to improved health

⁴¹⁵ Andreyeva T, Marple K, Moore TE, Powell LM. Evaluation of economic and health outcomes associated with food taxes and subsidies: a systematic review and meta-analysis. *JAMA network open*. 2022; 5:e2214371-e

⁴¹⁶ European Parliament (2022) Resolution 2022/C 184/01. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52021IP0425> (p.25)

⁴¹⁷ Hageaars LL, Fazzino TL, Mackenbach JD. Giving fruits and vegetables a tax break: lessons from a Dutch attempt. *Public health nutrition*. 2024 Jan;27(1):e70.

⁴¹⁸ Bíró A. Did the junk food tax make the Hungarians eat healthier? *Food Policy*. 2015; 54:107-15

⁴¹⁹ Benzarti Y, Garriga S, Tortarolo D. Can VAT Cuts and Anti-Profitteering Measures Dampen the Effects of Food Price Inflation? National Bureau of Economic Research; 2024 Mar 18; Bernardino T, Gabriel RD, Quelhas JN, Pereira ML. A Temporary VAT Cut in Three Acts: Announcement, Implementation, and Reversal. *Implementation, and Reversal* (March 29, 2024). 2024 Mar 29.

⁴²⁰ Biondi B, Cornelsen L, Mazzocchi M, Smith R. Between preferences and references: Asymmetric price elasticities and the simulation of fiscal policies. *Journal of Economic Behavior & Organization*. 2020; 180:108-28.

⁴²¹ Schmacker R, Smed S. Do prices and purchases respond similarly to soft drink tax increases and cuts? *Economics & Human Biology*. 2020; 37:100864.

⁴²² Benzarti Y, Carloni D, Harju J, Kosonen T. What goes up may not come down: asymmetric incidence of value-added taxes. *Journal of Political Economy*. 2020; 128:4438-74; Talukdar D, Lindsey C. To buy or not to buy: Consumers’ demand response patterns for healthy versus unhealthy food. *Journal of Marketing*. 2013; 77:124-38.

⁴²³ Benzarti Y, Garriga S, Tortarolo D. Can VAT Cuts and Anti-Profitteering Measures Dampen the Effects of Food Price Inflation? National Bureau of Economic Research; 2024 Mar 18; Castelló JV, Casasnovas GL. Impact of SSB taxes on sales. *Economics & Human Biology*. 2020; 36:100821.

⁴²⁴ Andreyeva T, Marple K, Moore TE, Powell LM. Evaluation of economic and health outcomes associated with food taxes and subsidies: a systematic review and meta-analysis. *JAMA network open*. 2022; 5:e2214371-e.

outcomes.⁴²⁵ Subsidies for healthy foods represent a promising policy tool, particularly in settings where there is no room for lowering consumption tax rates on such food items (e.g., fruits and vegetables are already exempted from VAT or sales taxes).

5. General considerations for nutrition-targeted taxation

Designing and implementing a nutrition-targeted tax involves trade-offs between health objectives and standard principles of tax policy, tax objectives, best practices, existing tax policy, tax administration capacities, and complex political economies.

a) Administrative considerations

In contrast to alcohol and tobacco taxes, fewer countries have adopted nutrition-targeted taxes. As a result, administrative considerations include both changes in the design of existing taxes, as well as the design and implementation of new taxes. New taxes require administrative consideration of mechanisms, as well as the scope of the tax, in terms of what beverages and/or foods a tax might apply to. Changes to existing taxes also require the revision of the structure and scope of the tax.

A critical consideration for administration is the ease of identification of taxed beverages. Legal definitions of different categories of SSBs vary based on function, for example, within food standards codes for food safety and marketing purposes (e.g. these differentiate between alcohol-containing and non-alcohol-containing beverages), and within the harmonized tariff system, which provides differentiations related to trade. Using definitions of SSBs that align with existing tax classifications, such as the harmonized tariff system, could be more straightforward administratively. The Harmonized Tariff System is commonly used to define beverage types for differential taxation. HS codes for beverages align to a certain extent with health considerations, as they classify sweetened beverages, including energy drinks, carbonates, and liquid and powder concentrates that can be reconstituted into SSBs, separately to unsweetened water.⁴²⁶ The Harmonized Tariff System has also been used to define food for taxation in contexts where a limited subset of foods has been taxed (e.g. confectionary).

However, existing classifications within food standards legislation and HS codes do not tend to align with health considerations. A key limitation of HS codes in defining beverages for taxation, for example, is the lack of differentiation between SSBs and NSSBs (i.e. HS Code 22.01 refers to waters not containing sugar, and HS Code 22.02 refers to “waters, including mineral waters and aerated waters, containing added sugar or other sweetening matter or flavoured, and other non-alcoholic beverages, not including fruit, nut or vegetable juices”). It is possible to create more detailed country-specific codes to differentiate types of SSBs for taxation by performing a national ‘split’ of HS codes to create clear parameters for the SSBs subject to taxation.⁴²⁷ A combination of HS codes and other criteria (such as minimum sugar content thresholds) can also be used to categorize and define SSBs for taxation. Similarly, HS codes alone are not a suitable categorization for nutrition-targeted taxation on food because of the lack of alignment with nutritional criteria. A common approach for foods is to develop lists for exclusion or inclusion, based on the criteria or categories used to identify the object of the tax (in other words, listing foods based on the approaches described in section 3). However, the multiple

⁴²⁵ Hoenink JC, Mackenbach JD, Waterlander W, Lakerveld J, Van Der Laan N, Beulens JW. The effects of nudging and pricing on healthy food purchasing behavior in a virtual supermarket setting: a randomized experiment. *International Journal of Behavioral Nutrition and Physical Activity*. 2020; 17:1-12; Dodd R, Santos JA, Tan M, Campbell NR, Ni Mhurchu C, Cobb L, et al. Effectiveness and feasibility of taxing salt and foods high in sodium: a systematic review of the evidence. *Advances in Nutrition*. 2020; 11:1616-30.

⁴²⁶ Hattersley L, Mandeville KL. Global Coverage and Design of Sugar-Sweetened Beverage Taxes. *JAMA Network Open*. 2023; 6:e231412-e.

⁴²⁷ Sandoval RC, Roche M, Belausteguigoitia I, Alvarado M, Galicia L, Gomes FS, et al. Excise taxes on sugar-sweetened beverages in Latin America and the Caribbean. *Revista Panamericana de Salud Pública*. 2021; 45:e21.

legal categorizations of food – for example, HS codes which separate milk-based drinks from other types of beverages – can support arguments for exclusion of specific types of beverages. Tax administrators need to be aware of the interface between health-based classifications (discussed in the following paragraph) and existing classifications. Further refinement of HS codes at a global level could support nutrition-targeted taxes.

A second administrative consideration is the approach to assessing whether a given food or beverage is classed as ‘unhealthy’ and is subject to taxation. This may require information on nutrient composition in relation to relevant thresholds (e.g., sugar content for beverages or multiple nutrients for foods), and/or ingredients necessary for categorising beverage and food items (for example, for classification based on processing level). These definitional approaches underpinning taxes may be relatively administratively complex. This is because administrators responsible for implementing and administering the tax have limited capacity for measuring nutrient content (including sugar); responsibility for food and beverage composition usually lies with a food safety authority, which also has a mandate for governing labelling requirements (see below). Administrative complexity becomes even greater in the case of nutrition-targeted food taxation, where multiple nutrients of concern – and thus potentially multiple thresholds – may be considered (see section 3). To streamline the administration of nutrition policies, including taxation, one approach has been to develop common definitions and/or NPMs that are used for all nutrition policy interventions. For example, a recent analysis in Chile found that using the same NPM underpinning marketing restrictions and front-of-pack labelling for taxation would be an effective approach.⁴²⁸

Aligning taxation with nutrition labelling can support the administrative aspects of the identification of unhealthy foods and beverages. For SSB taxation, mandatory nutrition labelling of sugar content offers more scope for introducing taxes based on sugar content. For unhealthy food taxes, nutrient declaration labelling – which is recommended under Codex Alimentarius Commission Guidance⁴²⁹ – provides a reference point for identifying foods subject to nutrient-based taxes (including NPM-based taxes and energy density-based taxes), and ingredient lists (which are recommended as mandatory) provide a reference point for identifying ultra-processed foods. Front-of-pack nutrition labels – such as Nutri-score, the Health Star Rating or warning labels – can provide a straightforward reference point for identifying foods subject to taxation based on more complex NPMs.⁴³⁰ The alignment of taxes with food labelling may also increase salience, public acceptability and understanding of taxes (see Chapter 9).

The dynamics related to the formality of the food system affect how industry actors respond to nutrition-targeted taxes, as well as the administration of these taxes. In countries with substantial informal food systems, food often moves between formal and informal systems, creating challenges for tax administration. The nature of the specific national food system can inform the feasible scope of taxes. For example, nutrition-targeted taxes may be easier to implement in situations where the informal food system largely provides fresh and minimally processed foods, rather than highly processed HFSS foods. Policymakers must be aware that nutrition-targeted taxes may incentivise substitution by consumers and industry between food system avenues for production and sale. This dynamic will also influence industry opposition to taxation, particularly if similar products are sold in formal and informal food systems, with taxes only applied to formal food system producers.

b) Tax principles and policy coherence

Any new tax adds complexity. The health objectives of nutrition-targeted taxes need to be balanced alongside standard tax policy principles of administrative simplicity, revenue generation efficiency, and

⁴²⁸ Colchero MA, Paraje G, Popkin BM. The impacts on food purchases and tax revenues of a tax based on Chile’s nutrient profiling model. *Plos one*. 2021; 16:e0260693.

⁴²⁹ Codex Alimentarius Commission. Guidelines on Nutrition Labelling. Rome2021. Report No.: CXG 2-1985.

⁴³⁰ Colchero MA, Paraje G, Popkin BM. The impacts on food purchases and tax revenues of a tax based on Chile’s nutrient profiling model. *Plos one*. 2021; 16:e0260693.

equity. A clear case needs to be established for using a tax over, or in addition to, other public policy measures to reduce the burden of unhealthy diets. Context-specific research is needed to quantify the externalities and internalities associated with the consumption of unhealthy foods and beverages, as well as the cost-effectiveness of complementary policies.

The application of nutrition-targeted taxes also needs to be considered in light of existing price-related policies applied to food, which can support or undermine health objectives. A range of policies that directly impact food prices are applied throughout food supply chains, which can create price incentives for consumers that may have (unintended) health consequences.⁴³¹ These include production incentives as well as consumer subsidies and price controls (see Chapter 9).

Production supports, such as agricultural subsidies or other price supports, often apply to crops such as sugar or corn (contributing to production of high fructose corn syrup), which are used widely in processed foods and are a subject of health concerns.⁴³² Reviewing production measures for consistency with nutrition and health objectives can identify opportunities to improve policy coherence. The United Nations has called for the repurposing of agricultural subsidies to promote healthier diets, which can complement nutrition-targeted taxes by improving the affordability of healthier alternatives.⁴³³

Consumer-oriented pricing measures, designed to address food security and consumer protection, are particularly common in low- and middle-income countries.⁴³⁴ Similarly, price control measures are widely used in low- and middle-income countries to address food affordability and food security.⁴³⁵ A review of consumer subsidies and price control measures from a nutrition perspective can promote policy coherence with respect to price incentives.

The broader policy environment can also promote or undermine policy coherence related to nutrition-targeted taxation. With respect to the broader tax framework, other (non-food and beverage) tax measures that apply to the food industry can also create incentives relevant to nutrition. For example, tax breaks for unhealthy food advertising can undermine efforts to protect children from the harmful effects of food marketing. There is also potential to develop other complementary policy measures to limit industry pricing strategies that lower the costs of unhealthy food. For example, restrictions on retail price promotions for unhealthy food items, which are planned for introduction in the United Kingdom, can help to address a key strategy that the food retail industry uses to increase sales.⁴³⁶

c) Considerations related to distributional equity impacts

Food is essential for life. It represents an important share of household expenditure and as such taxes on food are particularly sensitive for lower-income households. Nutrient-based taxes targeting HFSS foods tend to apply to foods across multiple food sub-sectors, and it is important that these do not disincentivise consumption of “core” foods recommended in dietary guidelines. Many approaches to nutrition-targeted taxes exempt minimally processed “core” foods such as staple foods, fruits,

⁴³¹ FAO, IFAD, UNICEF, WFP, WHO. The State of Food Security and Nutrition in the World 2022.

Repurposing food and agricultural policies to make health diets more affordable. Rome: FAO2022.

⁴³² Do WL, Bullard KM, Stein AD, Ali MK, Narayan KV, Siegel KR. Consumption of foods derived from subsidized crops remains associated with cardiometabolic risk: an update on the evidence using the national health and nutrition examination survey 2009–2014. *Nutrients*. 2020; 12:3244

⁴³³ FAO, IFAD, UNICEF, WFP, WHO. The State of Food Security and Nutrition in the World 2022.

Repurposing food and agricultural policies to make health diets more affordable. Rome: FAO2022.

⁴³⁴ Asfaw A. Do Government Food Price Policies Affect the Prevalence of Obesity? Empirical Evidence from Egypt. *World Development*. 2007; 35:687-701.

⁴³⁵ Ginn W, Pourroy M. Optimal monetary policy in the presence of food price subsidies. *Economic Modelling*. 2019; 81:551-75.

⁴³⁶ Watt TL, Beckert W, Smith RD, Cornelsen L. Reducing consumption of unhealthy foods and beverages through banning price promotions: what is the evidence and will it work? *Public health nutrition*. 2020; 23:2228-33.

vegetables, and some dairy and meat products. In the context of rising food inflation - higher food prices added 6 percentage points to consumer food inflation in 2022, and up to 14% for commonly traded food commodities⁴³⁷ – food taxes that apply to core foods should be carefully considered.

There have been proposals to address affordability concerns associated with taxation through complementary subsidies on healthier foods. Lowering consumption tax rates on healthy alternatives or introducing consumer subsidies would also provide a means to further incentivise a shift to healthier food consumption. Consumer subsidies on fruit and vegetables, in particular, have been found to be effective in increasing sales.⁴³⁸ Equity concerns could also be mitigated by compensatory mechanisms targeted to the most vulnerable, such as welfare benefits and cash transfer programs.⁴³⁹

Equity impacts will thus depend largely on the extent to which consumers reduce purchase of the taxed foods (including substitution to untaxed foods).⁴⁴⁰ With often higher price responsiveness among low income households, well designed nutrition-targeted taxes can present a minimal tax burden together with relatively higher gains for health, medical costs and economic productivity.⁴⁴¹ While additional research is needed, recent extended cost-benefit analyses of SSB taxation in Kazakhstan and Ukraine found that when accounting for health benefits including the associated increase in lifetime income and reduced health care costs, SSB taxes tend to benefit the poorest households the most and can have a progressive impact in the medium- and long-run.⁴⁴² As a result, nutrition-targeted taxes may seem regressive in the short run if we only account for the potential increase in household expenditure on food relative to income. However, lower SES individuals may accrue larger health benefits in the long run.⁴⁴³

d) Industry & macro-economic impacts, and the political economy dynamics of nutrition-targeted taxes

Food and beverages contribute notably to gross domestic product in all countries, including through the contribution of their production, processing, transport, and retail. As a result, concerns regarding potential macro-economic impacts of nutrition-targeted taxes have political salience. For example, opponents of the fat tax implemented in Denmark argued that it negatively affected the meat, dairy, bakery, confectionary, and oil industries. The result was concerted industry opposition to the tax, which was removed based on industry estimates of its business impacts with limited considerations for its effect on saturated fat consumption.⁴⁴⁴

Nevertheless, there is little scientific evidence to support any negative macro-economic impacts from SSB or unhealthy food taxes.⁴⁴⁵ While such taxes could impact specific sectors including

⁴³⁷ Bogmans C, Pescatori A, Ervin P. Global Food Prices to Remain Elevated Amid War, Costly Energy, La Niña. International Monetary Fund Blog. International Monetary Fund Blog: International Monetary Fund Blog; 2022.

⁴³⁸ Andreyeva T, Marple K, Moore TE, Powell LM. Evaluation of economic and health outcomes associated with food taxes and subsidies: a systematic review and meta-analysis.

⁴³⁹ Harris T, Phillips D, Warwick R, Goldman M, Jellema J, Gorau-Tanska K, et al. Redistribution via VAT and cash transfers: an assessment in four low- and middle-income countries: IFS Working Papers 2018.

⁴⁴⁰ Grummon AH, Lockwood BB, Taubinsky D, Allcott H. Designing better sugary drink taxes. *Science*. 2019; 365:989-90.

⁴⁴¹ Fuchs A, Pierola D. The Distributional Impacts of Health Taxes. *Equitable Growth, Finance and Institutional Insight - Poverty and Equity*. Washington, DC 2022. Report No.: License: CC BY 3.0 IGO.

⁴⁴² Fuchs A, Mandeville K, Alonso-Soria AC. Health and Distributional Effects Taxing Sugar-Sweetened Beverages. 2020.

⁴⁴³ Sassi F, Belloni A, Mirelman AJ, Suhrcke M, Thomas A, Salti N, et al. Equity impacts of price policies to promote healthy behaviours. *The Lancet*. 2018; 391:2059-70.

⁴⁴⁴ Vallgård S, Holm L, Jensen JD. The Danish tax on saturated fat: why it did not survive. *European journal of clinical nutrition*. 2015; 69:223-6.

⁴⁴⁵ Mounsey S, Veerman L, Jan S, Thow AM. The macroeconomic impacts of diet-related fiscal policy for NCD prevention: A systematic review. *Economics & Human Biology*. 2020; 37:100854.

manufacturing, retail, and crop production (e.g., sugar cane), modelling studies have shown minimum to net-zero impacts, and in some cases net positive impacts to the economy.⁴⁴⁶ Real-world evaluations have also found no impact on employment in the manufacturing industry in Mexico following the introduction of the energy-dense food tax.⁴⁴⁷ Positive employment impacts can arise in the medium-to-long term because money not spent on unhealthy foods and beverages is often spent on other goods and services. Many companies affected by nutrition-targeted taxes produce a diverse range of products, some of which that would not be affected by the tax and thus may benefit from tax-induced substitutions (for example, SSB companies that also produce bottled water). In addition, employment impacts from nutrition-targeted taxes may be positive when consumers shift spending to services, which have a higher employment factor.⁴⁴⁸

However, there may be some short-term and sector-specific impacts related to employment, depending on the nature of the national food system. For example, for countries with substantial sugar production, taxing sugary products may have some impact on sugar farmers who may be poor and relatively unskilled.⁴⁴⁹ Given the diversity of uses of sugar though, any reduction in the demand for sugar from nutrition-targeted taxes could be absorbed by export markets. For example, in Ukraine, simulation of a recommended SSB tax found that the reduction in demand for domestically-produced sugar would be equal to at most 0.5% of exported sugar, meaning any decrease could likely be absorbed by export markets.⁴⁵⁰ However, consideration of complementary policy opportunities (perhaps even funded from tax revenue) to support diversified production and transitional employment can help mitigate macroeconomic concerns. Overall macroeconomic impact also needs to account for additional government spending resulting from increased tax revenue, as well as the contribution of taxation to reducing productivity losses arising from NCDs (less absenteeism, less premature labour force exit, etc.).⁴⁵¹

e) Framing and public acceptability

The influences on public acceptability of nutrition-targeted taxes is largely similar to that affecting health taxes more broadly (see Chapter 10). However, SSBs and unhealthy foods are widely consumed across the entire population, and thus their consumption is highly normalized in comparison with tobacco and alcohol use. These products are also popularly consumed by children, which is an important point of difference. This can reduce acceptability due to the normalization of consumption – but also can increase acceptability where concerns regarding child health are prominent. The denormalization of unhealthy food and beverage consumption, through public awareness campaigns and the introduction of other complementary measures, can thus make an important contribution to the public acceptability of nutrition-targeted taxes.⁴⁵²

In addition, SSB and HFSS food-related industries often point to their important contribution to employment as well as the potential for negative economic impacts, including highlighting potential for

⁴⁴⁶ Mounsey S, Veerman L, Jan S, Thow AM. The macroeconomic impacts of diet-related fiscal policy for NCD prevention: A systematic review. *Economics & Human Biology*. 2020; 37:100854.

⁴⁴⁷ Guerrero-López CM, Molina M, Colchero MA. Employment changes associated with the introduction of taxes on sugar-sweetened beverages and nonessential energy-dense food in Mexico. *Preventive medicine*. 2017; 105:S43-S9.

⁴⁴⁸ Powell LM, Wada R, Persky JJ, Chaloupka FJ. Employment impact of sugar-sweetened beverage taxes. *American journal of public health*. 2014; 104:672-7.

⁴⁴⁹ Thow AM, Lencucha RA, Rooney K, Colagiuri S, Lenzen M. Implications for farmers of measures to reduce sugars consumption. *Bulletin of the World Health Organization*. 2021; 99:41.

⁴⁵⁰ Mandeville KL, Nivievskiy O, Neyter R, Martyshov P, Vakhitov V, Warren B, et al. Impact of a sugar-sweetened beverage tax on sugar producers in Ukraine. *European Journal of Public Health*. 2023; 33:665–7.

⁴⁵¹ Thow AM, Lencucha RA, Rooney K, Colagiuri S, Lenzen M. Implications for farmers of measures to reduce sugars consumption. *Bulletin of the World Health Organization*. 2021; 99:41.

⁴⁵² Le Bodo Y, Paquette M-C, De Wals P. Potential “signal” effects from sugar-sweetened beverage taxation. *Taxing Soda for Public Health: A Canadian Perspective*. Switzerland: Springer Nature; 2016. p. 151-60.

impacts on primary producers (for example of sugar) and other small industry actors (e.g. retailers). Although there is limited evidence for impacts on employment (see Chapter 8), these arguments can support resistance to the introduction of a nutrition-targeted tax.⁴⁵³

f) Revenue use

Nutrition-targeted tax revenue has been used to address social and health priorities. For example, in Hungary, revenue from the PHPT was used to support the health workforce.⁴⁵⁴ While both have a legal basis, earmarking can be hard - bypassing the budget process - or soft, which is subject to regular budget processes. Hard earmarking may create rigidities and inefficiencies from a fiscal perspective (see Chapter 6).⁴⁵⁵ Soft earmarks, closer to standard annual budget processes with higher flexibility, for a dedicated expenditure purpose of significant priority may participate in making a nutrition-targeted tax more politically acceptable or improve public support. Examples of earmarking have included complementary policy measures, such as improving the healthfulness of school food or funding public health campaigns, as well as for financing better access to healthy alternatives such as fruits and vegetables and safe drinking water.⁴⁵⁶ There is also potential for earmarking to be used for short-term compensatory measures, for example, to address impacts on food systems actors such as supporting transitional packages for sugar producers.⁴⁵⁷

⁴⁵³ Elliott LM, Dalglish SL, Topp SM. Health taxes on tobacco, alcohol, food and drinks in low-and middle-income countries: a scoping review of policy content, actors, process and context. *International Journal of Health Policy and Management*. 2022; 11:414-28.

⁴⁵⁴ Thow AM, Rippin HL, Mulcahy G, Duffey K, Wickramasinghe K. Sugar-sweetened beverage taxes in Europe: learning for the future. *European Journal of Public Health*. 2022; 32:273-80.

⁴⁵⁵ Ozer et al. *Health Earmarks and Health Taxes: What do we know?* Washington D.C.: World Bank; 2020. Available from: <https://documents1.worldbank.org/curated/en/415911607500858658/pdf/Health-Earmarks-and-Health-Taxes-What-Do-We-Know.pdf>

⁴⁵⁶ Thow AM, Rippin HL, Mulcahy G, Duffey K, Wickramasinghe K. Sugar-sweetened beverage taxes in Europe: learning for the future. *European Journal of Public Health*. 2022; 32:273-80; Elliott LM, Dalglish SL, Topp SM. Health taxes on tobacco, alcohol, food and drinks in low-and middle-income countries: a scoping review of policy content, actors, process and context. *International Journal of Health Policy and Management*. 2022; 11:414-28; Wright A, Smith KE, Hellowell M. Policy lessons from health taxes: a systematic review of empirical studies. *BMC Public Health*. 2017; 17:583.

⁴⁵⁷ Thow AM, Lencucha RA, Rooney K, Colagiuri S, Lenzen M. Implications for farmers of measures to reduce sugars consumption. *Bulletin of the World Health Organization*. 2021; 99:41.

6. Proposed pathways for introducing or scaling up nutrition-targeted taxation

There is wide variation in the extent to which countries have made use of nutrition-targeted taxes to date. Countries also vary widely in their nutrition challenges and priorities, food systems and market structures, capacities, and resources, as well as existing legal and tax frameworks. Approaches to introducing or scaling up nutrition-targeted taxation will therefore necessarily be country- and setting-specific. Governments considering nutrition-targeted taxes need a thorough understanding of these existing conditions.

Country-specific data on the health burden associated with consumption of specific food and beverage categories or nutrients, where available, can inform the identification of priority products and nutrients to target through taxation. While SSBs provide a relatively straightforward tax base, defining the scope of a nutrition-targeted food tax is more complex. When it comes to tax design, including type, scope, structure, and rate, trade-offs are likely to be needed between health, fiscal, and equity objectives as well as administrative feasibility.

Considerations regarding nutrition-targeted taxes would ideally include a full review of existing fiscal and other policies that influence the food system, either existing or proposed, and that may undermine the potential health benefits of a nutrition-targeted tax. As for health taxes applied on other unhealthy commodities, excise taxes represent the preferred instrument for introducing nutrition-targeted taxes. In countries with existing differentiated VAT or sales tax rates that are suboptimal from a nutritional perspective, governments could consider aligning the rate differentiation with nutritional objectives, by removing any exemptions or reduced rates on unhealthy foods and beverages and applying reduced rates to healthier alternatives. Many approaches could be used to identify unhealthy foods and beverages, from a narrow single-nutrient or energy-dense approach to nutrient profile models or processing levels. While nutrient-based taxation could lead to higher health benefits, it may complicate tax administration. It is important to assess policy coherence and the alignment of incentives between nutrition-targeted taxation and other related pricing measures, including agricultural support measures, price control, and consumer subsidies.

Proposed pathways to introduce or scale up nutrition-targeted taxes could include:

1. If considering the introduction of an excise tax on SSBs or nutrition-targeted food tax:
 - a. Undertake an analysis to identify priorities for nutrition-targeted taxation, with reference to data on food and beverage market structure and existing consumption patterns of healthy and unhealthy products (including over time, by different socioeconomic groups, and the identification of nutrients of concern).
 - b. Assess current capacity to administer tax to ensure capacity is aligned with proposed design, including cost and enforcement of rigorous product nutrient labelling
 - c. Based on design choices, market and consumption trends, estimate potential revenue
 - d. If there is an existing local/regional nutrient profile model and sufficient administrative capacity and nutrient label information, consider using this as a basis for taxation
 - e. If no nutrient profile model exists yet and/or insufficient tax administration capacity to base taxation on nutrient content, consider limiting the tax base to selected non-essential and well-defined unhealthy items as an initial step
 - f. Ensure healthy alternatives (e.g. plain water, plain milk, minimally processed fruit and vegetables, minimally processed nuts and seeds) are excluded from the tax base, *i.e.* explicitly exempt from the proposed tax, so they can function as substitutes for consumers
2. If there is an existing excise tax on SSBs:

- a. Review products taxed to ensure all SSBs are included and healthy alternatives such as bottled water are excluded
- b. If the existing tax is an import tax, consider moving to an excise tax according to jurisdictional context (e.g. existence or prospective domestic production)
- c. In order to maximize the health objective of the tax,
 - i. If the existing structure is not specific, consider moving to this structure
 - ii. If the rate is uniform, consider adding tiers based on sugar content, if sufficient administrative capacity and nutrient label information
 - iii. If the rates are tiered on a basis other than sugar content, consider adjusting tiers to those based on sugar content, if sufficient administrative capacity and nutrient label information
3. If there is an existing excise tax on unhealthy foods:
 - a. If a comprehensive local/regional nutrient profile model now exists, consider revising the tax base to align to this framework
 - b. If not, review products taxed and/or nutrient thresholds applied to ensure these remain aligned with a healthy diet
 - c. If the rates are tiered on a basis other than nutrient content, consider adjusting tiers to those based on nutrient content (e.g., based on a nutrient profile model), if sufficient administrative capacity and nutrient label information
4. If not considering the introduction of an excise tax on unhealthy foods and there are existing differentiated VAT or sales tax rates applying on foods:
 - a. Review products currently exempt or subject to reduced rates
 - b. From a nutritional perspective, consider excluding all unhealthy food and beverage products from exemptions or reduced rates, if sufficient capacity, ideally based on a nutrient profile model
 - c. From a nutritional perspective, consider precisely defining a group of healthy substitutes, including among other minimally processed fruits and vegetables, and applying VAT or sales tax exemption or reduced rates, if sufficient capacity, ideally based on a nutrient profile model
5. Complementary policies and synergies:
 - a. Consider subsidies to healthier alternatives such as fruits and vegetables to promote healthier diets and mitigate equity concerns
 - b. Consider other non-price-related policies such as front-of-pack nutrition labelling or marketing regulations to maximize the impact of nutrition-targeted taxes
6. Monitoring and evaluation:
 - a. Establish a systematic monitoring and evaluation system, including baseline and ongoing retail prices, sales/consumption of taxed and untaxed products, and indicators of intermediate and long-term health impacts/outcomes, to determine and demonstrate tax effectiveness, and enable tax design to be refined where necessary
 - b. Incorporate process evaluation to track implementation fidelity and identify enablers/barriers influencing tax effectiveness

7. Summary / conclusions

Nutrition-targeted taxes represent a promising policy tool to tackle externalities and internalities linked with unhealthy diets. While their health impact may take time to materialize, they participate in incentivizing healthier dietary choices. Their positive impact in reducing affordability and sales of taxed products has been evidenced. More SSB taxes have been implemented than taxes on unhealthy foods, but interest is growing for the latter among policymakers. Existing nutrition-targeted tax rates are low. Existing taxes are often primarily driven by revenue-generation; thus their design is often not optimized for health impact. Careful tax design, implementation, monitoring, and evaluation is critical to maximize health and equity outcomes. From a nutritional perspective, the goal should not only be to reduce the affordability of unhealthy foods and beverages but also to foster substitution for healthy alternatives. Health objectives need to be balanced alongside standard tax policy principles of

administrative simplicity, revenue generation efficiency, and equity. Approaches to introducing or scaling up nutrition-targeted taxation should be country- and setting-specific, as part of a broader policy framework to promote healthier diets.