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**Health Taxes**

**Proposed United Nations Handbook on Health Taxes for Developing Countries  
Chapter 4 – General Issues in Designing Health Taxes**

***Summary***

At its 23rd Session in October 2021, the UN Committee of Experts on International Cooperation in Tax Matters considered note ([E/C.18/2021/CRP.35](#)) on a proposed new workstream on health taxes. Health taxes are excise taxes on tobacco, alcohol, sugar-sweetened beverages and other harmful products that are intended to reduce their consumption, thus improving health outcomes. Health taxes therefore directly support a number of the Sustainable Development Goals. The Committee decided to establish a Subcommittee on Health Taxes to undertake work on this topic that would focus on providing tax policy and administration guidance to assist countries in adopting the most effective health taxes, from both a health and revenue perspective.

At the 24th Session of the Committee, the Subcommittee proposed a work program ([E/C.18/2022/CRP.4](#)) that would focus on producing a handbook on health taxes for developing countries. It also requested comments from the Committee on a tentative structure for that handbook and an outline of Chapter 4 – General Considerations When Designing Health Taxes. The Committee approved the proposed work plan and provided helpful comments on the handbook structure and chapter outline.

The chapter presented in this note, which is based on the outline discussed by the Committee at its 24<sup>th</sup> Session, begins the handbook's detailed discussion of the design of health taxes. This note is provided to the Committee for *discussion and guidance* at its 25<sup>th</sup> Session.

Final approval of this chapter (taking into account any comments at the 25<sup>th</sup> Session) will be sought at the 26<sup>th</sup> Session of the Committee.

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## 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 that policymakers want to take into account when designing any specific 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 tax policy considerations for designing individual taxes

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 individual taxes, 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 individual taxes 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 where governments deliberately want to use the tax system to steer economic behaviour.** This is the case in the presence of externalities. Externalities occur when consumption, production, and investment decisions of economic agents affect others not directly involved in the transaction, with the social (or total) costs or returns of the economic transaction for society being significantly different from the private costs or returns for the individual agent. 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 excessive 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 bend 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 individual taxes 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<sup>[1]</sup>). For instance, an individual tax 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<sup>[2]</sup>).

**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<sup>[3]</sup>).

#### *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<sup>[4]</sup>). 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 individual 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<sup>[3]</sup>). 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, is 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).

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### Checklist 1. Core considerations when designing individual taxes

- Prioritise tax measures that have a significant tax revenue potential
  - Do not consider tax revenues in isolation from 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<sup>[5]</sup>).

#### **1) 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 (WHO, 2019<sup>[6]</sup>). In the case of alcohol, the demand for beer is the least responsive to a price increase (price elasticities estimates ranging from -0.3 to -0.8), followed by wine (-0.46 to -1.1) while the consumption of spirits responds the most to a price increase (-0.5 to -1.1) (OECD, 2021<sup>[7]</sup>). 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 price elasticities around -0.9 to -1.3) and have a small tax base. This implies that the health tax revenue capacity of taxes on SSBs is more limited (WHO, 2015<sup>[8]</sup>) (World Bank, 2020<sup>[9]</sup>) (Pan American Health Organization, 2021<sup>[10]</sup>) (Hagenaars, Jeurissen and Klazinga, 2017<sup>[11]</sup>).

#### **2) 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 arising from the excess consumption of harmful products for health** (also referred to as Pigouvian taxes). Health taxes aim at increasing the consumer price of products that are harmful for health such that the consumer internalises the negative consumption external effects that are triggered by excess consumption. Different types of externalities are associated with excess consumption of harmful products for health:



- **For society at large** (i.e., costs which are not borne by the individual consumer but by society instead), mainly increased public health care costs, as tobacco, and excess alcohol and SSB consumption are highly correlated with higher risks of specific diseases (such as cancer, diabetes, heart diseases, etc.). These costs would not be taken into account by consumers in the absence of a health tax that increases the price that needs to be paid.
- **For individuals who suffer from the impact of the consumption behaviour by other individuals.** For example, tobacco consumption can negatively impact non-smokers' health (passive smoking). Excessive alcohol consumption can lead to car accidents (drunk driving), or marital violence. For non-consumers facing negative externalities from the consumption of others, health taxes will not compensate them individually for the harm they face (e.g., an individual suffering from cancer as a result of passive smoking might be able to receive a public health care treatment, but the individual will not be directly compensated in cash for the harm caused). In the case of SSBs consumption, the argument of internalising the negative externalities holds less than for tobacco and alcohol as there are no negative externalities for non-consumers (apart from increased health care costs borne by society) (IMF, 2021<sup>[12]</sup>).

**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 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<sup>[13]</sup>).

**Being clear on objectives prioritization is important as intrinsically linked with the design of health taxes.** For example:

- 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 suggests health taxes to raise the retail price of SSBs by at least 20 %, and for 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<sup>[13]</sup>), 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 (Pluta et al., 2020<sup>[14]</sup>) (Wright, Smith and Hellowell, 2017<sup>[13]</sup>). 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*

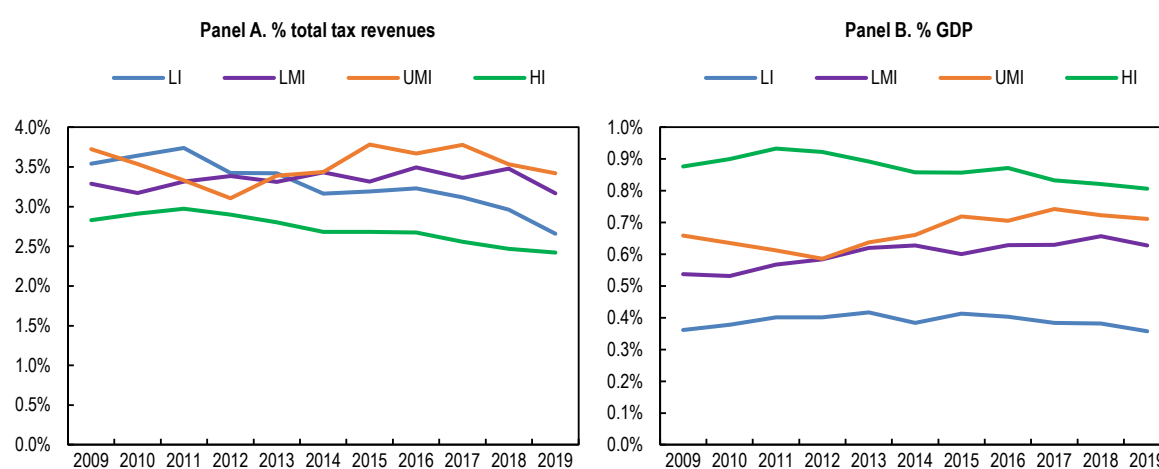
**Health taxes are excise duties that raise moderate amounts of tax revenues.** On average across countries, health taxes raise between 2.5 % and 3.5 % of tax revenues across income groups, and between 0.3 % and 0.9 % of GDP in 2019 (Figure 0.1). High-income countries raise the lowest share of health 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<sup>[15]</sup>). 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 .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<sup>[16]</sup>). Taxes on food and production inputs, such as pesticides, are even more rare (Sassi, 2022<sup>[17]</sup>). 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 price of the most sold brand of cigarettes (WHO, 2021<sup>[18]</sup>) (University of Illinois Chicago, 2021<sup>[19]</sup>).
  - **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 amount of unhealthy inputs that are used in the production process (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 affordable and 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<sup>[20]</sup>). 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<sup>[7]</sup>). 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<sup>[21]</sup>) (Kilian et al., 2021<sup>[22]</sup>).

**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 usually define the base of a tax on SSBs as any non-alcoholic drink with caloric sweeteners. Sometimes, the tax base also includes healthier products, such as 100 % fruit juices, diet drinks (with noncaloric sweeteners), 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. In Latin America, 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<sup>[9]</sup>).

- Similarly, taxing only SSBs may be ineffective in decreasing the overall consumption of sugar because consumers may substitute SSBs with sugary and high-calorie food. This supports the case for including in the tax base food that is high in sugar, salt and saturated fat content, energy-dense food as well as ultra-processed food. International experience shows that a sugar tax is effective in reducing sugar and calorie intake when imposed on a wide range of products (as opposed to a few products) (Płuta et al., 2020<sup>[14]</sup>).
- In the case of tobacco, it remains an open question whether heated tobacco products should be included in the tax base or not. The answer depends on the extent to which heated tobacco products are harmful for health. According to the WHO, there is insufficient evidence to conclude that heated tobacco products are less harmful than conventional cigarettes (WHO, 2020<sup>[23]</sup>), which supports the case to include them in the health tax base in order to avoid substitution effects. Similar considerations hold with other tobacco products, such as electronic nicotine and non-nicotine delivery systems (e-cigarettes, vapes, vape pens, e-hookahs, e-pipes, e-cigar), bidis, smokeless tobacco and water pipes (WHO, 2021<sup>[21]</sup>).
- 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<sup>[24]</sup>).
- 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<sup>[25]</sup>).

**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 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 than 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		More difficult to implement and administer as there is a need to assess/label content  Need to be adjusted regularly or indexed to inflation/real income growth	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)  Need to be adjusted regularly or indexed to inflation/real income growth	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  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)  A complexity is deciding on the tax base (i.e., the manufacturers' price, the wholesale price, or the before-tax consumer price)  No need to be adjusted regularly or indexed to inflation/real income growth
Impact for consumers		From an efficiency perspective, best design to improve health as it directly targets the harm factor  Effective in: <ul style="list-style-type: none"> <li>Reducing total consumption of harmful content (if consumers do not increase total consumption when trading down from high to low strength products)</li> <li>Reducing consumption of high strength/quality products</li> </ul>	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)  Effective in: <ul style="list-style-type: none"> <li>Reducing incentives to switch to low price products</li> </ul> Less effective in: <ul style="list-style-type: none"> <li>Reducing consumption of high-strength/quality product</li> <li>Preventing consumption initiation</li> </ul>	Effective in: <ul style="list-style-type: none"> <li>Reducing consumption of high strength/quality products (which are more expensive and thus taxed at higher rates)</li> </ul> Less effective in: <ul style="list-style-type: none"> <li>Reducing total consumption</li> <li>Preventing consumption initiation</li> </ul> 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



	<p>Less effective in:</p> <ul style="list-style-type: none"> <li>Reducing consumption of lower strength/quality products</li> <li>Preventing consumption initiation of lower strength/quality products</li> </ul> <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>Quantity discounts are still taxed</p>	<p>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>
<b>Impact for producers</b>	<p>In order to avoid a higher tax rate, producers are incentivised to:</p> <ul style="list-style-type: none"> <li>Reformulate products to lower strength/quality content (which drives substitution by consumers of healthier products)</li> <li>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)</li> <li>Develop new lower strength/quality products</li> </ul> <p>Producers are less incentivised to:</p> <ul style="list-style-type: none"> <li>Manipulate the base price of the product</li> </ul> <p>As compared with ad valorem taxation, it tends to result in:</p> <ul style="list-style-type: none"> <li>Less-intense price competition</li> <li>Higher quality</li> <li>Higher price</li> <li>Higher product diversity</li> </ul>	<p>Producers might be incentivised to:</p> <ul style="list-style-type: none"> <li>Produce higher strength/quality products</li> </ul> <p>Producers are less incentivised to:</p> <ul style="list-style-type: none"> <li>Reformulate their product to lower strength/quality content</li> </ul>	<p>Exacerbates the absolute price differences within/across product categories</p> <p>Producers are incentivised to:</p> <ul style="list-style-type: none"> <li>More aggressively market lower price/quality products</li> <li>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</li> </ul> <p>Producers are less incentivised to:</p> <ul style="list-style-type: none"> <li>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)</li> </ul>

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<sup>[26]</sup>). 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<sup>[26]</sup>). 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<sup>[26]</sup>). 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<sup>[27]</sup>).

#### ***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”.** 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<sup>[26]</sup>). 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 necessarily be the case as a percentage of their current expenditure (OECD, 2014<sup>[27]</sup>). 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<sup>[29]</sup>) (World Bank, 2020<sup>[30]</sup>) (World Bank, 2019<sup>[31]</sup>) (Sassi et al., 2018<sup>[32]</sup>). 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<sup>[5]</sup>) (Wright, Smith and Hellowell, 2017<sup>[13]</sup>). 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<sup>[28]</sup>). 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<sup>[7]</sup>) (University of Illinois Chicago, 2021<sup>[19]</sup>) (WHO, 2021<sup>[18]</sup>). 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<sup>[32]</sup>). 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<sup>[33]</sup>). 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<sup>[33]</sup>). 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<sup>[34]</sup>). 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 (Płuta et al.,

2020<sup>[14]</sup>). 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 (Płuta et al., 2020<sup>[14]</sup>). 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<sup>[21]</sup>). 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<sup>[33]</sup>). 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<sup>[35]</sup>) (World Bank, 2017<sup>[36]</sup>) (Alsukait et al., 2020<sup>[37]</sup>). 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<sup>[38]</sup>), 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 earmarking the revenue from the tax to a specific health-related purpose,** either through a hard (via legislation) or a soft (via public political commitment) earmarking process. 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 food 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<sub>[36]</sub>). 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<sub>[36]</sub>). 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, non-tax factors 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<sub>[41]</sub>). 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 disposal 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)

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**Box .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
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- 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
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## References

- Alsukait, R. et al. (2020), “Sugary drink excise tax policy process and implementation: Case study from Saudi Arabia”, *Food Policy*, [41]  
<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”, [43]  
[https://www.researchgate.net/publication/333510334\\_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, [3]  
[https://www.oecd-ilibrary.org/tax-design-for-inclusive-economic-growth\\_5jlv74ggk0g7.pdf?itemId=%2Fcontent%2Fpaper%2F5jlv74ggk0g7-en&mimeType=pdf](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, [25]  
[https://www.nber.org/system/files/working\\_papers/w16287/w16287.pdf](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”, [42]  
<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, [32]  
[https://www.nber.org/system/files/working\\_papers/w29393/w29393.pdf](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. [30]  
 ]
- 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](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). [44]  
 ]
- 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, [11]  
<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). [39]  
 ]
- IMF (2021), *How to Apply Excise Taxes to Fight Obesity*, [12]  
<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?*, [37]  
<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). [23 ]
- Lane, C. (2022), *Maintaining health taxes in an inflationary world*. [29 ]
- 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). [45 ]
- 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). [5 ]
- 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). [2 ]
- OECD (2021), *Preventing Harmful Alcohol Use*, OECD Health Policy Studies, OECD Publishing, Paris, <https://dx.doi.org/10.1787/6e4b4ffb-en>. [7 ]
- 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>. [16 ]
- 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). [31 ]
- 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). [4 ]
- 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](https://iris.paho.org/bitstream/handle/10665.2/53252/9789275123003_eng.pdf?sequence=1&isAllowed=y) (accessed on 12 April 2022). [10 ]
- Płuta, 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](https://www.sseriga.edu/sites/default/files/2020-10/Excise%20Duty%20Policy%20in%20the%20Baltic%20States_0.pdf) (accessed on 12 April 2022). [15 ]
- 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). [38 ]

- Sassi, F. (2022), *Fiscal Policies for Nutrition: A Vision for the Future*. [18  
]
- Sassi, F., A. Belloni and C. Capobianco (2013), “The Role of Fiscal Policies in Health Promotion”, [26  
] OECD, [https://www.oecd-ilibrary.org/the-role-of-fiscal-policies-in-health-promotion\\_5k3twr94kvzx.pdf?itemId=%2Fcontent%2Fpaper%2F5k3twr94kvzx-en&mimeType=pdf](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 [36  
] 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 [1]  
Studies*, Vol. 60/1, pp. 1-31, <https://doi.org/10.1093/cesifo/ift015>.
- University of Illinois Chicago (2021), *Cigarette Tax Scorecard (2nd Edition)*, [20  
] <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 [13  
] lessons learned and challenges faced*.
- WHO (2021), *WHO report on the global tobacco epidemic*, [19  
] <https://www.who.int/publications/i/item/9789240032095> (accessed on 12 April 2022).
- WHO (2021), *WHO technical manual on tobacco tax policy and administration*, [22  
] <https://www.who.int/publications/i/item/9789240019188> (accessed on 12 April 2022).
- WHO (2020), *Alcohol pricing in the WHO European Region*, [21  
] <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*, [24  
] [https://www.euro.who.int/\\_data/assets/pdf\\_file/0008/443663/Heated-tobacco-products-brief-eng.pdf](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. [6]
- WHO (2017), *Resource tool on alcohol taxation and pricing policies*, [28  
] <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*, [8]  
[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%2For%20other%20healthy%20foods](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%2For%20other%20healthy%20foods). (accessed on 12 April 2022).
- World Bank (2020), *Health and Distributional Impacts of a Tax on Sugar-Sweetened Beverages in [34  
] 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). [9]
- 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). [17]
- 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). [33]
- World Bank (2019), *Is Tobacco Taxation Regressive? Evidence on Public Health, Domestic Resource Mobilization, and Equity Improvements*, <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). [35]
- 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). [40]
- 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). [27]
- 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). [14]