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Environmental tax issues

Chapter 3 [former Chapter XX]: How to generate public acceptability for carbon taxes

Handbook on Carbon Taxation for Developing Countries

Note by the Secretariat

Chapter 3: How to generate public acceptability for carbon taxes is presented to the Committee FOR DISCUSSION AND APPROVAL at its 22nd Session.

The Chapter was placed at the beginning of the Handbook to highlight that considerations on public acceptability should be made as soon as possible when considering the introduction of a carbon tax, and before designing specific elements of the tax. This placement also creates a coherent package for policymakers, as Chapter 3 immediately follows the high-level introduction to carbon taxation provided in Chapter 2. These two chapters deal with some of the most crucial high-level considerations, before the Handbook delves into more specific and technical aspects of the tax design and administration.

The Chapter makes the argument that, when introducing a carbon tax, policymakers should take into account how to achieve public acceptability, and not just how to achieve the best technical design; failure to do so may result in the inability to effectively implement the instrument and, in the worst cases, it can generate negative perception and mistrust of environmental instruments as a whole.

Following an overview of the importance of public acceptability in climate change policy, the chapter provides some guidelines on how public acceptability of a carbon tax can be increased, for example by ensuring clear communication on the use of revenues generated by the tax, and by choosing an appropriate timing for implementation (potentially also considering a trial period or gradual introduction).

Chapter 3 was prepared by Sverker C. Jagers, Niklas Harring (Centre for Collective Action Research, University of Gothenburg, Sweden) and Simon Matti (Political Science Unit, Luleå University of Technology, Sweden), and revised based on Committee's feedback at its 21st Session, and further feedback by the Subcommittee.

For ease of reference with the previous version (E/C.18/2020/CRP.43), edits are presented in track change. Changes with respect to the previous version are intended to make the chapter more practical and readable by shortening content. In particular, the theoretical model which was developed in former section 2 (now section 3, Explaining attitudes towards carbon taxes) has been summarized, and made more relatable by providing a real-world example of the results of a survey aimed at measuring attitudes towards policies to mitigate climate change, in over 20 countries.

Chapter 3: How to generate public acceptability for carbon taxes

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1. Introduction

1. ~~Following the multilateral agreement on a~~In order to reach the global climate ~~change~~ mitigation goal adopted at the Paris Climate Conference (Conference of the Parties (COP) 21~~)~~ ~~in December 2015,)~~, growing pressure is placed on governments worldwide to achieve greater reductions in the emissions of greenhouse gases through the introduction of more stringent domestic policies.

~~1. For several reasons, relying on voluntary behavioural changes among societal actors will not suffice, and governments will therefore be tasked with designing and adopting increasingly more stringent domestic policies governing such changes. This, however,~~This requires that policy-makers carefully consider the opportunities and pitfalls of implementing policy measures that hold the potential to achieve the mandated emission cuts – ~~what can be~~here called "feasible policy measures".

2. With a specific focus on carbon ~~taxation (carbon~~ taxes~~)~~ as a policy measure addressing climate change mitigation, this chapter discusses the significance of *acceptability* for policy ~~success~~feasibility, which factors that determine acceptability, ~~as well as~~and in particular we present what policy-makers need to consider (and how) in order to increase the possibilities for successful policy implementation.

3. The chapter is organized in the following way. First, we briefly discuss the concept of feasible carbon taxes, and the necessity of acceptability in achieving this. Thereafter we account for the main factors affecting people's attitudes towards carbon taxes. Finally, we discuss how these factors can be avoided or mildered, either through more direct interventions or mixes of policies.

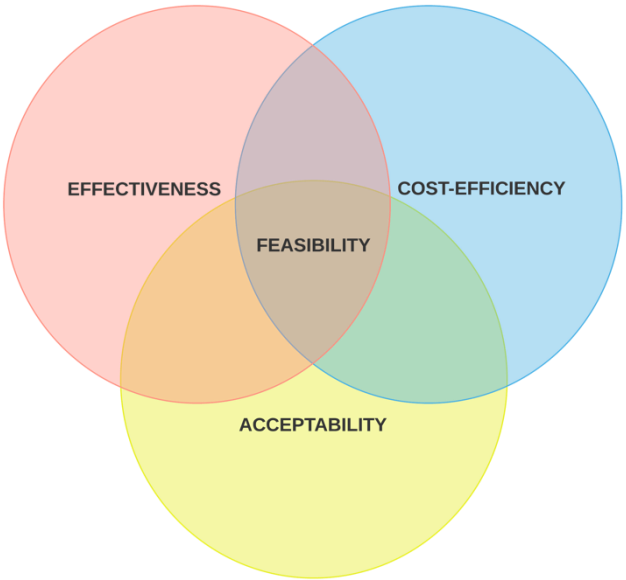
2. Designing a feasible carbon tax

~~3.~~4. ~~In order to negotiate the problem of climate change and reach the international targets for carbon emissions, a range of policy measures aimed at changing behavioural patterns among individuals have been proposed, developed and implemented.~~ Evaluating the merits of different climate policy designs is~~, however,~~ a complex task, which needs to be based on several criteria. In particular, direct and indirect positive effects on the climate (i.e. effectiveness) must be considered in combination with the cost of implementing and enforcing the policy~~,~~ and, in addition, the possible side-effects of implementation (i.e. cost-efficiency~~)~~ ~~(cf. IPCC 2014). In regard to both effectiveness and cost-efficiency, pricing externalities~~

~~through a carbon tax have apparent advantages compared to other types of price-based or regulatory measures (cf. Coria and Sterner 2012~~).

~~4.~~5. In regard to both effectiveness and cost-efficiency, pricing externalities through a carbon tax have, according to economic theory, apparent advantages compared to other types of price-based, rights-based or regulatory measures (cf. Sterner & Coria 2012). However, the extent to which a policy measure successfully addresses climate change is not solely dependent on technical or political-administrative factors. ~~Especially when implementing a policy measure with the aspiration to alter social choice mechanisms and govern towards individual-level behavioural change, as is the case with carbon taxation, its~~The effectiveness and cost-efficiency of a carbon tax are also clearly interconnected to another component: *acceptability*, i.e. the extent to which the policy ~~measure is, or have~~, once implemented, has the potential to be~~,~~ accepted by the general public. Only when these three components coincide can the policy measure be defined as feasible (see figure ~~XX.~~1 below). Although the focus of this chapter is placed specifically on public acceptability of carbon taxation, the last part of the chapter ~~will~~to some degree also discuss how policy-mixes, simultaneously addressing all three components in figure 1, may increase the probability for a ~~successful~~feasible policy implementation.

Figure ~~*XX.*~~1: Feasibility as a function of Effectiveness, Cost-Efficiency, and Acceptability



2.1. The importance of ~~acceptance/~~acceptability

~~2. The basic notion behind any environmental tax, carbon taxes included, is to put a price on an activity that generates negative consequences (externalities) in order to foster behavioural change and in turn limit both the activity itself and subsequently its externalities (Janusch et al.~~

~~2020). It is a tool to, simply put, internalise the externalities. The introduction of environmental taxes is, furthermore, also in accordance with the normative position that actors should bear the costs of their own pollution.~~

~~3.~~1. ~~This type of Pigouvian taxes (e.g. Pigou 1920) aimed at pricing externalities have long been promoted by both economists and policy-experts as being the most effective and cost-efficient way of forwarding environmental protection globally (cf. Tietenberg 1990; Chalifour et al. 2008, OECD 2010, Kallbekken & Aasen 2010, Sumner et al. 2011, Milne & Andersen 2012, Sterner 2012), not the least since they are relatively cheap to implement and administer, difficult to evade, and stimulate the future development of less carbon intensive processes and products.~~

~~5.~~6. Even though carbon taxes are both effective and cost-efficient tools for mitigating climate change, they are at present only implemented in a small number of jurisdictions around the world ~~(World Bank Group 2014).~~ This cross-national difference in policy-choice can in part be attributed to contextual factors such as system of government and policy-making, path-dependency, economic conditions and dependencies, quality of government, and political culture (cf. ~~Davidovic, Harring, & Jagers 2019, Harring, Jagers & Matti 2019, Kenny 2018, Linde 2018, Ščasný et al. 2017, Harring 2016, Cherry et al. 2014, Lachapelle & Paterson 2013).~~ Harring et al. 2019). However, previous research also points towards the highly politicized nature of climate policy measures in general and~~, given the costs involved for the individual citizen,~~ carbon taxes in particular, making them exceedingly sensitive to public opinion for their successful implementation (~~Jagers et al. 2010; Harrison 2010; 2012; Crowley 2017;~~ Feldman and Hart 2017~~; Shwom et al. 2010~~). More specifically, the marginal prevalence of carbon taxes in a global perspective is considered reflecting a lack of public acceptability[1] for such policy measures, thereby making them unfeasible ~~(cf. Carattini, et al. 2019).~~

~~4. Within the large body of research studying the opinion-policy relationship, public opinion has been shown to both constrain (Sobel 2001; Foyle 2004) and direct the actions of~~

[1] In many studies of policy attitudes, the concepts of acceptability, acceptance and support are used interchangeably, without considering neither the timing or strength of the attitude in question. Here, we focus on *acceptability* as denoting an ex-ante attitude towards a proposed, but not yet implemented, policy measure. *Acceptance*, on the other hand, signals the ex-post evaluation of an already implemented policy, which commonly is not the case for carbon taxes as they are non-existent in most countries of the world. *Support* is, as opposed to the passive evaluation of acceptability/acceptance, an attitude signalling a readiness also to act as to realise the policy and its goals (cf. Kyselá et al. 2019). For policy-makers aiming to avoid public protests and discontent as a reaction to policy implementation, reaching a state of (passive) acceptability will probably be sufficient.

~~decision makers (Stimson 2007; Soroka and Wlezien 2010), as political leaders attempt to steer clear of decisions that risk upsetting large parts of the public. Apart from increasing the costs for monitoring and enforcing compliance in the short-term, low policy acceptability will also have long-term negative consequences for the legitimacy and authority of the political leadership itself (cf. Burstein 2003, Wallner 2008, Matti 2009).~~

~~6.~~7. ~~The necessity of considering public acceptability alongside the more technical-administrative concerns for effectiveness and cost-efficiency is also apparent in~~In political practice, ~~where~~ several attempts to implement carbon taxes has failed as a result of ~~failing~~low acceptability~~. Most recently~~, for example in Washington State, where a ballot initiative for a carbon tax was rejected in both 2016 and 2018, as well as in France, where the *gilets jaunes* (yellow vests) protests during the winter of 2018-19 led to the Macron-government's suspension of its ~~proposed carbon tax (Maestre-Andrés et al. 2019, Carratini et al. 2019). Several other examples of the consequences of low public acceptability also exist. Harrison (2010, 2012) demonstrates how the ups and downs in Canadian climate opinion has both affected and constrained federal policy choice before the Trudeau government's decision to implement the current fee-and-dividend system for carbon pricing. Crowley (2017) suggests that the Australian repeal of its carbon tax in 2014 was at least partly due to public opposition, and several studies show how governmental attempts to implement sustainability transitions are slowed down due to a lack in public support (cf. Drews & van den Bergh, 2016). In a U.S.A. context, both Feldman and Hart (2017), as well as Shwom, Bidwell, Dan, and Dietz (2010), contend that public support is key for motivating politicians to take climate action. Finally, Rabe and Borick (2012; see also Löfgren & Nordblom, 2009) point to the importance of reframing carbon pricing measures as neither a 'tax', nor on 'carbon', in response to an unfavourable mass opinion.~~proposing to escalate the existing carbon tax (Maestre-Andrés et al. 2019). Several other empirical examples of how low public acceptability restrict policy making and implementation also exist (cf. Drews & van den Bergh, 2016).

~~7.~~8. The public's attitudes towards the tax is also crucial once the policy has been implemented. Thus, public *acceptance* (i.e. attitudes formed once the policy is in place) is crucial to sustain over time too (also see the below section "Consider trial periods"). Research on the implementation of other similar policy instruments, e.g., congestion charges and taxes in some major European cities (e.g., London and Stockholm) show that the level of acceptability was typically relatively low among the general public before the implementation, but the level of acceptance among the public has gradually increased when the policy has been

in place for a while (Schuitema et al. 2010). A reason for this development has been that people's acceptance is linked to their experience that the policy has intended effects (Jagers, Matti & Nilsson 2017).

~~8.~~9. To sum up, it is crucial for governments to recognize the importance of policy acceptability, as well as to design carbon taxes in a way that minimize public resistance and subsequent political and economic costs. In order to do so, knowledge on the factors that both help and prevent acceptability is imperative. However, and as will be further asserted throughout this chapter, although some factors are known to generate positive environmental policy attitudes in general, how these function as drivers for attitudes towards carbon taxes in a particular country more exactly, is still largely an empirical question. Thus, it is also a question that has yet to be answered for countries aspiring to implement carbon taxes in the future.

~~**1.3 Aim**~~

~~**1.4 Specifications and limitations**~~

3. ~~2.~~ Explaining attitudes towards carbon taxes ~~and other pro-environmental policy instruments.~~

[Note to the Committee: the text of old sections 1.3, 1.4 and 3 have been heavily edited with respect to the previous version of this chapter (presented at the 21st Session as E/C.18/2020/CRP.43). To make the text easier to read, the old text was removed from this version.]

10. Throughout research, a number of factors have consistently been shown to drive environmental policy attitudes in general. Although not all of these have been systematically studied in relation to acceptability of carbon taxes specifically, there are good reasons to believe that they constitute important drivers also for carbon taxation acceptability. In the following overview we therefore draw on a broad variety of studies on policy attitudes, whilst at the same time acknowledging results from studies focusing on attitudes towards carbon taxes in particular.

11. It should also be emphasized that the majority of research on policy attitudes is limited in terms of geographical scope, with very little systematic research on carbon taxation acceptability conducted in the Global South. This fact obviously (and negatively) impacts the possibilities to draw any more direct conclusions for developing countries, and emphasizes the

importance of conducting empirical pre-studies before designing and implementing novel policies. This current situation is further explored in the final section of the chapter.

12. A major strand of research attempting to explain public attitudes to carbon taxes focuses on *individual-level factors*. In particular, a person's core values, beliefs (e.g., about the seriousness of climate change and general risk perceptions) and personal norms (i.e., a feeling of moral obligation to act in a specific way) are relevant for his or her attitudes towards carbon taxation. In addition, people who are more aware of or knowledgeable about climate change, tend to be more willing to accept climate policy measures. Lastly, a person's ideological orientation also constitutes a powerful explanatory factor for tax attitudes, where a consistent finding over time is that conservatives typically are less accepting towards vigorous governmental intervention than the liberals left. It should, however, be recognized thaqt few studies have focused the particular relationship between ideology and climate policy attitudes *outside* the Global North.

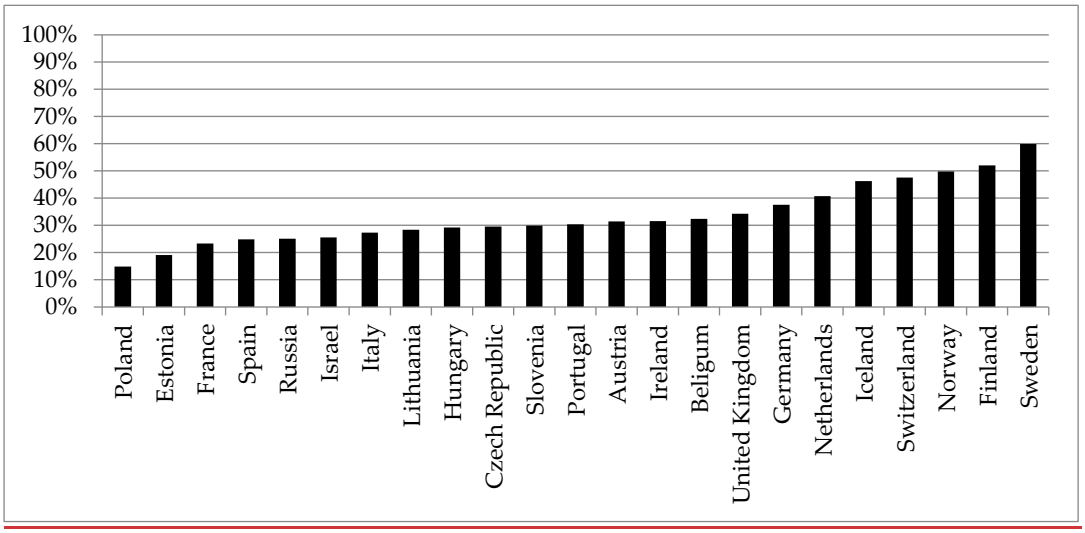
13. A set of *inter-relational factors* also determine policy attitudes. Most notably, trust in other people's voluntarily compliance with policy initiatives (i.e. interpersonal trust) and trust in the political-administrative system responsible for implementing and enforcing policies (i.e., institutional trust) affect policy acceptability. Whereas interpersonal trust influence both the perceived neccessity and potential effectiveness of a carbon tax, institutional trust targets the perceived ambition and ability of political institutions to monitor and enforce compliance; to create incentives for behavioral change; and to present viable alternatives to the public.

14. There are significant variations in acceptability across different types of policy measures and between different policy designs. This suggest that the perceived characteristics and consequences of the proposed policy, or *policy-specific beliefs*, should be added to the catalogue of factors determining policy attitudes.

15. Four – interrelated - policy-specific beliefs have been suggested to affect policy attitudes: personal outcome expectancy (i.e. perceptions of how oneself will be positively or egatively affected by implementing a carbon tax), perceived distributional effects (i.e. the extent to which the consequences of a carbon tax are perceived as being fair), perceived impact on freedom of choice (i.e. whether implementating a carbon tax necessitates a change in behavior, and whether behavioural substitutes are readily available), and perceptions of policy *effectiveness* (i.e. the extent to which the proposed carbon tax is expected to achieve its aims).

It is worth noting that these policy-specific beliefs, naturally, are the result of both individual-level factors and policy design.

Figure 2. Attitudes to climate taxes across 23 countries.



Note: The figure is previously published in Davidovic & Harring 2020 using the survey question 'To what extent are you in favor or against the following policies in [country] to reduce climate change?' and five response categories ranging from 'strongly in favor' (1) to 'strongly against' (5). The figure shows the proportion of respondents in percentages who are "somewhat in favor" or "strongly in favor" of climate taxes ("increasing taxes on fossil fuels, such as oil, gas and coal"), in 23 countries. Source: European Social Survey 2016.

16. Differences in policy acceptability is not only evident between individuals. As Figure 2 illustrates, there is also substantial cross-national variation in carbon tax attitudes. Thus, it is important to consider how *contextual factors* might interact with the factors mentioned above to determine policy attitudes. Cross-national variations have been attributed to various contextual features such as system of government and policy-making, path-dependency, economic dependencies, political culture, wealth and affluence and social capital. Recent studies also suggest that differences in political and institutional quality, or *Quality of Government* (QoG) can explain why policy attitudes differ significantly across countries. In particular that higher levels of corruption correlate negatively with the acceptability of economic policy tools, such as taxes and subsidies, but positively with acceptability of command-and-control regulations.

~~**3. Policy Implications**~~

~~3.~~4. How to generate public acceptability

~~9.~~17. ~~This chapter applies a feasibility-perspective on the issue of carbon taxation. In short, this means that~~As already said, for any carbon tax to be successfully designed, decided upon and eventually implemented, i.e., to become feasible, effectiveness and cost efficiency should be considered in combination with public acceptability. Most likely, however, any attempt to balance these three components will entail certain costs. ~~For example, accounting~~Accounting also for the acceptability of carbon ~~tax~~taxes can imply refraining from full optimality in terms of the tax's cost-efficiency, or setting the tax-level at a slightly lower level than would be perfectly effective. On the other hand, even if combining all three targets only results in the implementation of a second-~~-~~best policy measure in terms of effectiveness and cost-efficiency, one should keep in mind that this will nevertheless be significantly better than the risk of a completely failed implementation~~,~~ due to public protests. In addition to the high indirect societal costs of attempting to forcefully implement an unpopular (yet optimal) tax, introducing policy measures that do not enjoy acceptability among broad layers of the public should also be questioned from a perspective of democratic legitimacy. As such, striving for feasible approaches should be seen as a worthwhile route for most decision-makers.

~~10.~~18. Below we first *highlight* a number of factors~~, presented in figure XX.3,~~ that policy-makers aiming to introduce a carbon tax should consider in order to increase its public acceptability. Thereafter we provide some examples of how policy-mixes can be developed in order to overcome or negotiate negative public attitudes due to the perceived consequences of the policy measure.

4.1. The role of political and institutional trust

~~11.~~19. Since government is the key actor when deciding on and implementing policy measures, the characteristics and quality of government, and consequently it's trustworthiness, is crucial for whether or not a proposed carbon tax will be considered acceptable among affected actors or not. This is obviously a challenge for most governments, but will be particularly problematic in countries where overall trust in both government and the governmental administration is low (~~Harring 2016;~~ Davidovic ~~et al. 2019~~& Harring, 2020). Institutional trust is important since it is linked to people's general beliefs about the legitimacy of the political system, i.e. a belief that the existing political institutions and processes are the most appropriate ~~(cf. Lipset 1981).~~. Without political legitimacy, most governmentally initiated policies are difficult to implement and uphold.

~~12.~~20. Unfortunately, there are no known quick fixes or short cuts when it comes to generating or renewing institutional trust. However, trust might be generated more readily concerning a specific issue, for example for a proposed carbon tax. ~~The standard prescription for~~One key component in doing ~~this~~so is to ensure transparency in all steps of the decision-making process and, furthermore, to open up for stakeholder dialogue early on in the process. A large body of social science research suggest that ~~–~~deliberative practices are crucial for generating acceptability for authoritative decisions, in particular when they conflict with stakeholders' short-term self-interests ~~(e.g. Gutmann & Thompson 1996, Chambers 1996, 2003, Howarth and Wilson 2006; Alvarez-Farizo and Hanley 2006, Black 2008, McLaverty and Halpin 2008).~~.

~~13.~~21. ~~Another emerging research field, involving both economists, political scientists and behavioural scientists, conclude that increased transparency can be a way to compensate for low level of trust in a government or a bureaucratic body. For example, through both qualitative studies and various types of survey experiments, it has been shown that~~Furthermore, openly displaying the use of tax revenues can be a successful way to develop higher levels of acceptability for a carbon tax, also among groups with low levels of political and institutional trust ~~(cf. Bento et al. 2009, Jagers and Hammar 2009).~~. Since attempts to clearly and transparently connect tax revenues with offsets easily can be associated with, or even become, a case of ear-marking, which is typically not allowed in ~~most democratic~~many countries, such approaches should be further investigated especially from a legal point of view. Finally, it is important to note that many of the countries that have introduced carbon taxes are rather non-corrupt countries. In a situation where countries and governments suffer from low political trust and rampant corruption, it is important that the introduction of carbon taxes does not add to these problems (Klenert et al. 2018).

4.2. Focus on the revenues

22. As further discussed elsewhere in this handbook, compared to other sources of income for a government a carbon tax is often a more reliable ~~tax~~ in terms of guaranteed ~~tax~~ revenues~~, compared to other sources of income for a government.~~. This fact can ~~potentially~~ be utilized and contribute to increased levels of ~~acceptance~~acceptability, especially if it can be convincingly demonstrated ~~what~~that welfare improvements will be targeted with the prospective revenues from the carbon tax (~~Hammar &~~e.g. Jagers & Hammar 2009).

~~14.~~23. *Furthermore*, ~~over time,~~ the costs for climate change adaptation are likely to increase in most countries around the world~~. By linking~~ over time. Linking mitigation ~~policy, e.g.~~

policies such as carbon ~~taxes,~~taxation to the funding of various adaptation ~~policies~~projects might therefore be a way to increase acceptability for the former ~~(Ref: recent article in Climate Policy 2020). Simply put, focusing on~~. In essence, using revenues ~~and~~for adaptation ~~would be away~~is a way to emphasize local~~/~~ or national returns from the tax, instead of ~~focusing~~a one-sided focus on mitigation ~~and~~for global ~~costs and~~ benefits~~. ~~, and a way to build political alliances with domestic groups that benefit from adaptation. Furthermore, policies where the benefits accrue to broader groups in society might run less risk of withdrawal when there are parliamentary changes (see further Klenert et al. 2018).

4.3. The importance of perceived fairness

~~15.~~24. Previous research has emphasized the importance of perceived fairness for policy acceptance (Maestre-Andrés et al 2019, Drews & van den Bergh, 2019). Although this is discussed more in detail in the forthcoming example section, it is worth some special attention *already* here. ~~For example, if the general public's expectation is~~Expectations that some groups will benefit more, or suffer less, than other groups~~, this~~ is a hotbed for perceptions of unfairness, which has a strong tendency to ~~results~~result in negative opinions about a carbon tax (and not necessarily only among those who expect to be personally worse off than others, but also among~~,~~ e.g., morally righteous "winners~~). Such reasonings imply that the fewer exceptions being associated with the tax (e.g., tax reliefs for certain industries), the more likely that the tax will be accepted on a more general basis. At the same time, people tend to have different fairness perceptions (Povitkina et al 2021). Thus, arguing that certain groups – e.g., those groups who are proportionally more negatively affected by a tax, or who are particularly essential for society – should have certain tax exemptions, could simultaneously be a way to reach *increased* acceptance.~~").

25. One implication of this is that with an increasing number of exceptions built into the tax-instrument (e.g., tax reliefs for certain industries), the likeliness that the tax will be *perceived* as unfair, and therefore unacceptable, increases among the general public. At the same time, however, people tend to have different perceptions on what fairness entails. This might instead imply that allowing for exceptions among certain groups, e.g., those who are proportionally more negatively affected or who are particularly essential for society, could simultaneously be a way to reach increased acceptability. In conclusion, this points to the necessity of carefully analysing how (and what type of) fairness is associated with tax attitudes.

4.4. Searching for windows of opportunity

~~16.~~26. Previous experience of carbon tax implementation (e.g., in Sweden, Chile, Colombia and Mexico) suggest that timing can be an important factor~~. If an introduction of a~~ for increasing acceptability. Introducing carbon ~~tax is~~taxation as an isolated ~~phenomenon, then much attention~~policy response will inevitably increase the amount of attention, both positive and negative, that will be paid *to* ~~this single event~~the novel policy, compared to if the carbon tax ~~only constitute one policy event out of many. Thus, if a country is about to~~ is implemented as part of a broader tax-reform ~~several components in its tax system, then this can be a window of~~ . This will also provide an opportunity~~.~~ for governments to more clearly signal the interlinkages between carbon taxation, other sources of governmental revenues and potential plans for revenue-use.

4.5. Consider trial periods

27. Research on the acceptance of other ~~environmental policies, e.g.,~~economic policy measures, for example congestion taxes and charges, find that there is typically a larger resistance against the policy before implementation~~. Once the policy has been in place for a period of time, the level of *acceptance* tends to increase (e.g Schuitema, Steg & Forward, 2010).~~ than after. This ~~again~~ indicate the importance of policy-specific beliefs ~~and especially,~~ in particular that expected outcomes are a key driver for ~~negative opinions and attitudes,~~ pre-implementation~~.~~ acceptability. Once ~~the policy has been in place for a while, several things appear~~implemented, experiences tend to ~~happen;~~ differ from expectations as people get ~~used to~~familiar with the policy, ~~they perceive that it has intended effect~~see its effects firsthandedly and ~~perhaps are not~~ even experience the ~~expected negative~~ consequences as less negative ~~as they were~~than what was initially expected ~~to be. A way to "await" these gradual positive changes in the opinion, without risking that a carbon tax will fail/be dismissed already in the decision-making phase, can be to utilize a.~~

~~17.~~28. Utilizing trial ~~*period*. This way, those~~ periods, where groups who initially expect the policy to have ~~very~~significant negative ~~economic or other~~ consequences, will ~~get a chance~~have the opportunity to evaluate whether or not these ~~consequences/apprehensions in the end *came* true.~~expectations were realized after the trial, is another way to benefit from the possibility of gradual positive changes in the opinion. However, ~~one should be cautious in the sense that~~although this has been shown to matter for policies where ~~there are clear~~ the local benefits ~~–~~are evident (e.g. improved air quality and less congestion~~ while not~~), there are less empirical evidence for policies where ~~there~~the positive outcomes are ~~fewer local benefits, such as for a~~

~~carbon tax. A similar~~primarily global. A related strategy ~~may be~~more relevant for carbon taxes is therefore to introduce ~~modest carbon taxes to reach acceptability and then~~a relatively low tax in order to gradually (and transparently) increases the tax rate along the way.

4.6. Examples of potential policy-mixes/packages

~~18.~~29. For some of the factors that the research has identified as drivers behind acceptance or non-acceptance for carbon taxes, there are no simple solutions. For example, the fact that people's core values affect their propensity to accept a carbon tax does not take policy-makers far in terms of policy design since (a) core values are very difficult to change and (b) it is difficult to design a tax that is sensitive to, or regard the great variation in core values that people can have, and apparently do have. In that respect, a factor such as a *personal* ~~*norms*~~*norm* is probably less challenging. Not because the tax can be designed to match with these norms but rather because such norms *can* be changed. Two important channels for such norm changes are education and media. Thus, through the national curricula for education, a longer set target can be to educate students that environmental policies in general are relevant for sustainable development (and potentially also ~~that a carbon tax is a desirable policy goal.~~the rationale behind Pigouvian taxes). However, we do not aim at discussing such grander political endeavors here, and will instead concentrate on the factors more directly affecting public acceptance, namely policy-specific beliefs ~~(PSB).~~.

~~19.~~30. As was established in the previous section, there are mainly four ~~PSB factors~~policy-specific beliefs that have been identified as major drivers of (non)acceptance: (a) Personal outcome expectancy, (b) perceived consequences for personal freedom, (c) perceived fairness ~~and~~consequences of the policy and (d) perceived effectiveness.[2] Proceeding from these findings, it ~~can be asked: *Would*~~is worth asking if it ~~*be*~~is possible to reduce or increase the impact of the various ~~*PSBs*~~policy-specific beliefs on acceptance for a carbon tax~~*, by*~~. Be believe it is. By combining the tax with additional policy measures~~?~~. It should be said, upfront, that although there is an incipient stream of research, the current, empirically ~~based research~~founded literature on policy mixing is still rather scant. Thus, the following exercise should primarily be seen as *food for thought* for policy makers when designing policy packages aimed at overcoming challenges constituted by the various ~~PSB factors.~~policy-specific beliefs.

[2] It is true that all four aspects in a sense can be seen as different expressions of fairness, but here we disregard this and stick to the terminology in the literature.

4.6.1. (Un)fairness in outcome

~~20.~~31. If conducted pre-studies[3] demonstrate that perceived unfairness in outcome is a crucial reason why actors express disapproval with an intended carbon tax, reducing the potential resistance by combining the tax with compensatory measures should be considered. This can obviously be done in various ways. For example, ~~an~~ already a flat dividend will compensate for perceived "wallet"/income effects~~",~~ especially among lower-income groups. If this compensation is connected to an annual income tax return, then a flat dividend can even have a certain re-distributional effect, since many citizens with lower incomes may not have access to a car at all, but will – in this example - still benefit from the dividend. An alternative compensation scheme would be to connect the tax revenues to other policy goals, e.g., to materialize the compensation by improving healthcare, education or other policies aimed at increasing the general welfare.[4] Finally, based on previous research, avoiding exceptions is another approach that can lower resistance, since the tax will then "hit" more equally among society.

4.6.2. Freedom

~~21.~~32. Introducing a carbon tax is often associated with reduced freedom (e.g., of movement). When the price increases, some people can only afford public transportations or vehicles without combustion engines. For example, one often pronounced argument against the intended increase of the French carbon tax was that it would mainly affect people living in suburbs or in rural areas and since the public transportations are (relatively speaking) poorly developed, such a tax *increase* would hit disproportionally hard on those who have no alternatives but to drive their car. To avoid such reactions, it would be possible to combine the carbon tax with policies ~~aimed at~~ increasing the availability of public transportations, e.g., by broadening the public transportation system altogether, or at least by improving the public's access to the existing system (for example through the provision of parking space nearby train- or bus stations~~).~~) or by subsidizing the private consumption of electric vehicles.

4.6.3. Effectiveness

[3] See further below under "*Measuring acceptability in due time"*

[4] Such connections should not be conflated with "ear-marking", which is typically not compatible with many countries' constitutions.

~~22.~~33. As we have seen, a common reason for questioning a carbon tax among the public is to dispute the degree to which it is necessary at all and/or whether it will have intended effect. It is obviously difficult to overcome such arguments only by complementing the tax with some kind of compensation scheme. This challenge has more to do with overcoming people's skepticism~~. I~~: i.e., ~~it has more to do with~~lack of knowledge, conviction and eventually with experience. For the former two factors, one should not underestimate the importance of both a good rhetoric/pedagogics, as well as to make use of easily accessible scenarios and prognoses in order to ~~convince~~explain to the public ~~about~~ the benefits and the most likely outcomes of the implemented tax. The pedagogical path can be built upon various lines of reasoning, e.g., either by applying pure cost-efficiency arguments, or more ethical motivations, such as to convincingly argue that it is more *reasonable* that only the actual polluters are paying, rather than society as a whole. The latter will for example most likely be the consequence if a country chose to subsidize biofuels (and where that funding could be spent on general welfare investments instead) or the government decides to invest in public transportations while sustaining unpriced carbon emissions by avoiding the implementation of a carbon tax. As for experience, the use of trial periods might be a way to milder potential resistance (see above). A typical tendency for other policy measures is that ~~here~~there is often a larger resistance against the policy *before* implementation. However, once the policy has been in place for a while, the level of acceptance tends to increase. By adopting a trial period, it ~~would be~~is possible to decrease the initial concerns while at the same time ~~"pick up"~~gather and reenforce the amount of public support gradually being generated after the initial implementation.

4.6.4. *Personal Outcome Expectancy*

~~23.~~34. This factor very much resemblances unfairness in outcomes but is specifically directed towards the consequences for the individual consumer or citizen. Yet, pretty much the same logic can be applied for both, i.e., the tax ~~should~~can either be complemented with a purer form of compensation, such as a dividend or a deduction in the income tax return and/or in investments in more general welfare policies such as improved public transportations, educational programs or improvements in the health sector.

4.7. ~~-~~Measuring ~~acceptance~~acceptability in due time

~~24.~~35. Throughout this chapter, it has been emphasized that trying to prognosticate if a prospective carbon tax *will be* considered acceptable or not, is both difficult and - perhaps first and foremostly - an empirical task. The reviewed literature clearly signals that the

~~acceptance~~acceptability of carbon taxes is determined by numerous factors (though some are considerably more important *than* others) and also that one can expect variation from one country to another. Thus, there is hardly any panacea or a universal "one-fit-all-solution" to consult or to hope for. For these reasons, it is important to survey the opinion in order to understand and establish which are the main objections against such a tax ~~and~~in each particular case and furthermore to do this in order to come up with complementary policies that can help overcome these objections. The previous examples of how to develop policy mixes can hopefully give some inspiration. Furthermore, it is important to do this already at an early stage of the decision-making process.

~~25.~~36. At least three approaches are conceivable. First, and also discussed above; policy-makers should open up for dialogue – consultation procedures – which can primarily provide important qualitative input into the designing of the tax. Second, through the use of survey instruments, also important quantitative aspects of potential objections of the tax can be discovered (e.g., which factors matter most). Thirdly, various types of (survey~~-~~-)experimental approaches can be used in order to determine if a certain policy package will/would be more friendly received compared to other policy mixes. The latter approach become more and more common in the research literature and methodological guidance and can ~~thus~~ be collected from there (e.g. Fesenfelt et al. 2020; Hainmueller et al. 2014).

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