EDITORIAL

Environmental Tax: International Tax Coordination & Global Environmental Challenges

1 Introduction: Domestic, regional, and international perspectives on environmental tax policy

As recently experienced during the last summer in Europe, America, or Asia, extreme weather events such as heat waves or heavy floods are affecting entire populations, leaving them exposed to new risks that exacerbate their living conditions and, in some cases, threaten the habitability of large geographical areas. Scientific evidence shows that some of these events would be 'virtually impossible without human-caused climate change'.[1]

Although some of these developments are beyond human control, it is not too late to adopt policy measures at different levels to mitigate their effects. The costs related to the adoption of preventive measures might initially appear to be substantial, however, they should be compared with the enormous amounts that countries will have to pay to cover the costs of the damages caused by climate change. Cost-benefit analyses that have already been made by several public and private actors, in particular insurance companies,[2] leave little doubt as to the necessity to act decisively and rapidly.

Unlike other challenges previously faced by states (for example, ensuring peace and order within a jurisdiction, fighting against poverty, or illiteracy), the fight against climate change is a global task that requires collaboration from all actors and at all levels. It is remarkable that, despite strong political divergences on geostrategic issues, world powers now tend to agree on the urgency of collective climate action.

Therefore, the time has arrived to develop innovative environmental policies with national, regional, and global dimensions. Beyond the primary concern of raising revenues, domestic tax systems have been shaped by non-environmental concerns such as economic development and redistribution. Adopting them to this new context will not only require the creation of new environmentally-driven taxes (or similar instruments) but also a thorough evaluation of existing taxes in the light of their environmental incidence. At the national level, the priority should be to monitor favourable tax regimes that were established over the years and to ensure that public money does not directly or indirectly subsidize carbon intensive activities or the production and consumption of environmentally damaging goods and services. To a lesser extent and in such a way as to minimize windfall effects, temporary tax incentives should introduced to accelerate the shift towards greener methods of energy production and consumption.

At the regional level such as, for example, in the European Union, policies should be enacted to harmonize domestic tax systems in order to relieve national legislature from the pressure of cross-border environmental competition and national lobbies. As the European green deal shows, tax policies are part of a broader framework encompassing other regional policy areas from trade, energy, transport, industrial policy, and even finance.

At the international level, a first step could consist of the adoption of an agreement on the types of countermeasures that states would be allowed to introduce in an effort to limit the negative effects of becoming free riders by jurisdictions that do not abide by globally accepted environmental standards.

As to the exact content of these measures, policymakers may find inspiration in the results of decades – long research in the area of environmental taxation which is briefly summarized in the next section.

There is no doubt that significant legislative changes that will impact everyday tax practice will occur in the near future. This special issue is aimed at contemplating some of these changes. The articles published in this issue aim at bridging the gap between environmental policy and taxation policy. Some deal with the actual environmental

Notes

[1] World Weather Attribution, *Western North American Extreme Heat Virtually Impossible Without Human-Caused Climate Change* (7 July 2021), https://www.worldweatherattribution.org/western-north-american-extreme-heat-virtually-impossible-without-human-caused-climate-change/ (accessed 9 Aug. 2021).

[2] C. Flavelle, *Climate Change Could Cut World Economy by $23 Trillion in 2050, Insurance Giant Warns*, The New York Times (22 Apr. 2021).

consequences of very specific tax issues, whether in a domestic or a cross-border context. Others offer a broader and more far-reaching perspective on what tax systems could look like once they have fully integrated the imperatives of climate change.

2 Environmental taxation: From Pigou to Nordhaus

The development of environmental taxation dates from the 1920s when Arthur C. Pigou, a British economist, theorized the idea that 'negative externalities' (which he called 'disservices') should be internalized by the state. In his book, *The Economics of Welfare*, Pigou makes a general argument about the role of taxes in making those whose activities generate costs on society to pay for these costs. Pigou also addresses the role of tax subsidies in encouraging desirable activities and compensating individuals that undertake them. Though Pigou is often perceived as the 'father' of environmental taxes (often referred to as 'Pigouvian taxes'), it is worth recalling that his book does not at all focus on environmental tax measures. Pigou is generally interested in all types of activities that involve negative externalities, including investments in 'motor cars that wear out the surface of the road' or the construction of 'buildings in a crowded centre, which by contracting the air space and the playing-room of the neighbourhood, tend to injure the health and efficiency of the families living there'.[3] What these examples have in common is that they concern activities that are not fully negative: both investments in motor cars and the construction of buildings are useful activities. This explains why taxing them is better than prohibiting them altogether.

Though appealing, Pigou's arguments in favour of taxing negative externalities raised questions: 'How should they be taxed?'; and 'How can the cost of negative externalities be measured?' These questions were answered by William Baumol and Wallace Oates who suggested that the tax rate should be a function of the environmental objective to be achieved.[4] If their reasoning is applied to the case of climate change, it implies that greenhouse gas emissions should be priced at a sufficiently high rate in order to meet the temperature goal of the Paris Agreement, specifically, to hold the 'increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change'.[5]

The major problem with carbon taxes and other carbon pricing instruments such as emissions trading schemes is that they might be ineffective when they are only applied by a small group of countries. This is due to the risk of carbon leakage. The unilateral adoption of a carbon price can lead to the relocation of production to jurisdictions with lower environmental standards that would consequently lead to an increase of greenhouse gas emissions at the worldwide level. To overcome this problem, William D. Nordhaus, the 2018 winner of the Sveriges Riksbank Prize in Economic Sciences, proposes the creation of 'climate clubs'.[6] This concept could be realized through the adoption of an international climate treaty combining 'target carbon pricing and trade sanctions'.[7] Stated differently, Nordhaus' proposal relies on the introduction of an 'international target carbon price'.[8] Countries would remain free to adopt the policy tool they prefer (either a tax, a trading system, or a mixed approach), however, they would need to ensure that these policies 'produce a minimum domestic carbon price', for example, a price of USD 25 per tonne of carbon dioxide.[9] A similar idea calling for an 'international carbon price floor among large emitters' has recently been discussed by Ian Parry and others from the International Monetary Fund.[10] In addition to the establishment of a minimum carbon price, Nordhaus also advocates for the adoption of sanctions on all non-cooperative countries. He suggests that they should be penalized through the imposition of uniform percentage tariffs on the goods they export to cooperative countries.[11]

In some ways, the idea of a climate club appears to have made its way to climate policy, at least in the EU. The European Commission's proposal for a carbon border adjustment mechanism (CBAM) indicates that the EU will impose a carbon price on a number of energy-intensive goods imported from countries with no similar carbon pricing policies as those in the EU.[12] Even though the EU proposal

Notes

[3] A. C. Pigou, *The Economics of Welfare* (1920 Macmillan and Co., 4th ed. 1932), Part II, Ch. IX.

[4] *See* W. J. Baumol & W. E. Oates, *The Use of Standards and Prices for Protection of the Environment*, in *The Economics of Environment* 53–65 (P. Bohm & A. V. Kneese eds, Plagrave Macmillan 1971). 73(1) Envtl. Econ. 42–54 (1971). For a concise presentation of these different arguments, *see* J. E. Milne, *VIII.12 Environmental Taxes*, in *Elgar Encyclopedia of Environmental Law* 170–182 (M. Faure ed., Edward Elgar Publishing 2016).

[5] Article 2.1(a) of the Paris Agreement (2015).

[6] W. Nordhaus, *Climate Clubs: Overcoming Free-Riding in International Climate Policy,* 105(4) Am. Economici Rev. 1339–1370 (2015).

[7] *Ibid.,* at 1368.

[8] *Ibid.,* at 1341.

[9] *Ibid.*

[10] I. Parry, S. Black & J. Roaf, *Proposal for an International Carbon Price Floor Among Large Emitters,* IMF Staff Climate Notes 001 (2021).

[11] *Ibid.*

[12] *See* European Commission, *Proposal for a Regulation of the European Parliament and of the Council Establishing a Carbon Border Adjustment Mechanism*, COM(2021) 564 final (14 July 2021), in particular Art. 9 (on how 'carbon price paid in a country of origin' will be taken into account).

is not justified – at least not explicitly – by reference to the need to sanction countries that do not have a sufficiently ambitious carbon price as that in the EU, it sends a clear signal to third countries. They can *either* follow the EU's footsteps, adopt a carbon price, and 'join its club', *or* their manufacturers that export energy-intensive products to the EU will be subject to the CBAM. Important questions remain as to the compatibility of this strategy with the law of the World Trade Organisation.[13] Moreover, it is not entirely clear how the CBAM can be reconciled with the differentiated approach of the Paris Agreement. This is not surprising. If the CBAM is a first step towards the practical implementation of Nordhaus' 'climate club' concept, the intention would be for it to discontinue the voluntary approach of international climate change agreements from the Kyoto Protocol to the Paris Agreement.[14]

The next section of this editorial discusses the other tax and non-tax policies that are part of the European Commission's (the Commission) climate policy package in more detail.

3 The commission's package for climate Change

The Commission's climate policy package, also referred to as 'Fit for 55', aims to make Europe the world's first climate-neutral continent by 2050. The European Union is targeting to reduce carbon emissions by at least 55% by 2030 in comparison to 1990 levels, and this will involve joint action by the Union and the individual Member States in their own capacity.[15]

The Commission's package includes a broad variety of proposals, including the application of the EU emissions trading system (ETS) to new sectors, a revision of the Energy Taxation Directive, and the CBAM that was mentioned previously. The proposals also foster an increased use of renewable energy, greater energy efficiency, a more rapid roll-out of low emission transport modes, the infrastructure and fuels to support them, and diversified tools to preserve and expand the EU's natural carbon sinks. If adopted, these proposals will have implications for both the EU and the Member States. Part of the ambitions of the Commission with its 'Fit for 55' package is to encourage Member States to undertake ambitious commitments that are more ambitious in terms of emissions reductions.[16] For example, the Effort Sharing Regulation assigns stricter emission reduction targets to each Member State for the sectors not covered under the EU ETS such as buildings, road and domestic maritime transport, agriculture, waste, and small industries. Moreover, the Regulation on Land use, Forestry and Agriculture establishes a new overall EU target for carbon removals to which Member States will contribute. Part of the objective is to 'improve the quality, quantity and resilience of EU forests'. The Renewable Energy Directive will also be based on a new increased target to which Member States will contribute, including through new specific targets for 'renewable energy use in transport, heating, cooling, building and industry'. Other tools include a recast of the Energy Efficiency Directive and the revised alternative fuels infrastructure regulation.[17] These measures, if jointly adopted, would help achieve the EU's objective of climate neutrality.

The ETS, the revision of the Energy Taxation Directive, and the CBAM are closely linked as regulatory measures to reduce carbon emissions. Their primary objective is not to generate revenue but to assist in shifting behaviours towards climate neutrality. This demonstrates that the Commission is attempting to align taxation policies with its climate policies as part of its climate policy package.[18] From this perspective, the package approach is consistent with Article 11 of the Treaty on the Functioning of the European Union, known as the 'integration clause' that was introduced by the Single European Act in 1993. This provision requires an integration of the environmental protection in the Union's policies and activities.

The current EU ETS relies on a market-based approach: it puts a price on greenhouse gas emissions by requiring certain sectors to submit emissions allowances. As the number of available allowances is reduced on a yearly basis, the emissions trading price should feasibly serve as an increased incentive to lower carbon output.[19] In the Union, the ETS has led to the reduction of emissions from power generation and energy-intensive industries by 42.8% since 2005 which is the same year the Kyoto Protocol came into force.[20] This does not mean that the

Notes

[13] On this question, *see* A. Pirlot, *Environmental Border Tax Adjustments and International Trade Law: Fostering Environmental Protection* (Edward Elgar Publishing 2017); R. Ismer, K. Neuhoff & A. Pirlot, *Border Carbon Adjustments and Alternative Measures for the EU ETS: An Evaluation,* DIW Berlin Discussion Paper No. 1855 (2020).

[14] Nordhaus makes many references to the Kyoto Protocol in his article, which he concludes as follows: 'The attractiveness of a Climate Club must be judged relative to the current approaches, where international climate treaties are essentially voluntary and have little prospect of slowing climate change'. Nordhaus, *supra* n. 6, at 1368.

[15] European Commission, *European Green Deal: Commission Proposes Transformation of EU Economy and Society to Meet Climate Ambitions*, Press Release (14 July 2021), https://ec.europa.eu/commission/presscorner/detail/en/IP_21_3541 (accessed 9 Aug. 2021). [hereafter European Green Deal: Press Release].

[16] *Ibid.*

[17] *Ibid.*

[18] *Ibid.*

[19] *See* T. Falcão, *Highlights of the UN Handbook on Carbon Taxation*, 49(11) Intertax (2021).

[20] European Green Deal: Press Release, *supra* n. 13. *See also* The Kyoto Protocol entered into force on 16 Feb. 2005 in accordance with Art. 23, https://unfccc.int/process/the-kyoto-protocol/status-of-ratification (accessed 9 Aug. 2021).

ETS should be viewed as a complete success story. The EU ETS carbon price has remained too low and it still has a too limitedscope of application.[21] In the 'Fit for 55' package, the Commission proposes a lower overall emissions cap and an increase in its annual rate of reduction. Furthermore, it proposes to better internalize the emissions of the aviation sector (by phasing-out free allowances) and include the shipping sector within the scope of the EU ETS.[22]

Past experience with the EU ETS suggests that its success in mitigating climate change is closely associated with how well it interacts with other climate policies, including the energy taxation directive. In addition to the reform of the EU ETS, it is key to align the taxation of energy products with the goal of mitigating climate change. The United Nations Handbook on carbon taxation recommends the use of carbon taxes as the most effective measures for behavioural shifts in carbon production and consumption patterns as well as critically assess different carbon tax designs.[23] In this context, the Commission has proposed a revision of the Energy Taxation Directive that aims at aligning the directive with the EU's energy and climate policies: promoting clean technologies, removing exemptions, and reduced tax rates on fossil fuels.[24] Thus far, the European Union has failed in both introducing EU-wide taxes aimed at internalizing carbon emissions and in making existing directives on energy taxation consistent with the EU environmental policies and objectives.[25]

The energy taxation directive that is currently in force (2003/96/EC) contains explicit references to environmental objectives, including to EU's climate commitments, but lacks a systematic link with the EU's environmental considerations. The minimum prescribed levels of taxation depend on the type of fuels, their use (motor or heating, business or non-business) and specific purpose (e.g., agricultural, public works). However, in some cases, the minimum level of taxation can be inconsistent with the EU's environmental objectives, and some energy high-polluting uses are excluded from its scope. Furthermore, a number of authorized different rates and reduced rates or exemptions encourage the use of carbon-intensive energy products which is difficult to reconcile with the EU's climate agenda.[26]

Finally, the CBAM aims to ensure that the EU climate package, in particular the EU ETS, does not lead to carbon leakage. It does so by imposing a carbon price on energy-intensive products imported from third countries with no similar carbon pricing policies as those established in the EU. In this way, it stimulates the rest of the world to adopt policies and targets as ambitious as those that have been adopted in the EU.

In its package of measure, the Commission explicitly addresses concerns regarding national voters' reactions to its climate package measures. More than a green transition, it is seeking to achieve what it calls a 'socially fair transition'.[27] As earmarking has been shown to play a positive role in the acceptability of environmental taxes, this might explain why the Commission proposed to do so with the revenue generated through the EU ETS for climate and energy-related projects.[28] Moreover, the Commission recommends that potential negative effects on taxpayers with lower ability-to-pay (including effects resulting from new systems for road transport and buildings) should be addressed by the Member States. This should be done via revenue transfers to vulnerable households, micro-enterprises, and transport users. Finally, the Commission also proposes the establishment of a new social climate fund.[29]

Whether there will be adequate national and Member States' support to adopt the package at the EU and each Member State's levels is not yet known. The reduction of carbon emissions is expensive, and one of the main difficulties in financing climate-neutral policies relates to the cost-benefit perception by taxpayers and voters. From the taxpayer perspective, it is difficult to relate those costs to the damages caused by individual behaviour and to future benefits. *Sustainable, risk,* and *improvement* are broadly used words in the European Green Deal and in the package, illustrating the significant role of actuarial data. As individual action is often led by emotions rather than reason, it is uncertain whether the package will achieve the support of EU citizens. Reference and actual measures related to the creation of jobs, addressing energy poverty, and reduction of external dependency may be important for achieving the public support needed to implement the package and to help voters believe in the future of a 'prosperous and green' Union.

Notes

[21] For more details, *see* Falcão, *supra* n. 17.

[22] European Green Deal: Press Release, *supra* n. 13.

[23] *See* Falcão, *supra* n. 17.

[24] European Green Deal: Press Release, *supra* n. 13.

[25] A. Pirlot, *Exploring the Impact of EU Law on Energy and Environmental Taxation*, in *Research Handbook in European Union Taxation Law* 359–388 (C. H. J. I. Panayi, W. Haslehner & E. Traversa eds, Edward Elgar Publishing 2020).

[26] *Ibid.*

[27] European Green Deal: Press Release, *supra* n. 13.

[28] *Ibid.*

[29] *Ibid.*

4 A SUMMARY OF THE PAPERS PUBLISHED IN THE ISSUE

Approximately one hundred years ago, Pigou introduced the concept that taxation could play an important role in internalizing externalities. Fast forward to 2021; the world is facing global environmental challenges from plastic waste to climate change. This issue of Intertax provides insight into current and future developments in the field of environmental taxation.

First, Yvette Lind guides the readers through the Swedish tax system and its preferential tax regime in favour of data centres.[30] As she explains, data centres from multinational tech-giants, including Facebook, Microsoft, Amazon, and Netflix, benefit from a highly preferential tax regime in Sweden regarding the taxation of the electricity that they use. She provides a critical assessment of this tax regime, highlighting that neither EU state aid law nor the non-discrimination principle seem to prevent the adoption of such preferential tax measures. Yet, it is possible that this regime distorts competition in the internal market. Moreover, Yvette Lind's paper stresses the inconsistencies between this tax regime and Sweden's sustainability agenda. Her conclusions emphasize the importance of aligning tax systems to broader environmental objectives such as the mitigation of climate change.

Second, Edoardo Traversa and Benoît Timmermans explore a new model of environmental taxes based on the logic of the value-added tax.[31] Their analysis encourages thinking beyond the traditional model of environmental taxes that is often based on the model of excise taxes (e.g., carbon taxes, levies on plastic bags, plastic packaging taxes). In an unusual manner, the authors do not call for the adoption of a new environmental tax but, rather, for a 'virtual tax' that would serve as a gentle persuasion. From this perspective, the question of consumers' responsibility lies at the core of their analysis: 'Would consumers change their consumption pattern if a price tag attached to products would inform them about the environmental cost linked to their consumption?'

Third, Tatiana Falcão moves the discussion of environmental taxation to the international level. In her paper, she discusses the Handbook on Carbon Taxation prepared by the Subcommittee on Environmental Taxation of the United Nations Tax Committee of Experts on International Cooperation in Tax Matters.[32] It provides an incredible resource for anyone interested in the role of taxation to mitigate climate change. It also suggests that there is an increasing interest in the international community for carbon pricing instruments, including carbon taxes. Other international bodies, including the World Bank, have also published guidelines on carbon taxation.[33] The organization of a G20 High Level Tax Symposium on Tax Policy and Climate Change on 9 July 2021 confirms the widespread interest for carbon taxes as part of countries' climate change agendas.[34] Carbon taxation and discussions on the adoption of a minimum carbon price floor might well become the new project of the G20/OECD Inclusive Framework.

Ana Paula Dourado
Editor-in-Chief
Alice Pirlot
Research Fellow at the Centre for Business Taxation
Email: Alice.Pirlot@sbs.ox.ac.uk.
Edoardo Traversa
Professor of Tax Law at UCLouvain
Email: Edoardo.traversa@uclouvain.be.

Notes

[30] Y. Lind, *Attracting Multinational Tech-Companies Through Environmental Tax Incentives*, 49(11) Intertax (2021).

[31] E. Traversa & B. Timmermans, *Value-Added Tax (VAT) and Sustainability in the European Union: A Radical Proposal*, 49(11) Intertax (2021).

[32] Falcão, *supra* n. 17.

[33] Partnership for Market Readiness, *Carbon Tax Guide: A Handbook for Policy Makers*, World Bank (2017), https://openknowledge.worldbank.org/handle/10986/26300 (accessed 9 Aug. 2021).

[34] *See* G20 High Level Tax Symposium on Tax Policy and Climate Change (10 July 2021), https://www.g20.org/g20-high-level-tax-symposium-on-tax-policy-and-climate-change.html (accessed 9 Aug. 2021).