Designing environmental taxes in countries in transition: a case study of Vietnam

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Vietnam has implemented its first steps of an environmental tax reform that entered into force on January 1, 2012. This chapter will explore the background and design of this reform project, and will describe the reform process. Given the scope and the implementation of this reform, the Vietnamese example can serve as a valuable case study for the role and design of environmental tax reforms in transition countries.

THE ROLE OF ENVIRONMENTAL TAXES IN COUNTRIES IN TRANSITION

Countries in transition (CITs) are characterized by a transition economy, that is, an economy that is moving from a centrally planned economic system to a free market. Transition economies therefore undergo a process of economic liberalization, where prices are set by market forces rather than central planning, trade barriers are removed, state-owned enterprises are privatized and a financial sector is created in order to facilitate the movement of private capital.¹ This transition process goes hand in hand with a fundamental change in the role of the state, which is redefined through legal and institutional reforms by securing property rights, establishing the rule of law, introducing appropriate competition policies and developing indirect, market-oriented instruments for macroeconomic governance.

Tax policy and the introduction of a modern tax and tax administration system all play a central role in the transition process.² A well-designed tax system is the backbone of every functioning market economy, setting a level playing field for competition and creating sustainable incentives for investment, while guaranteeing that states actively pursue economic success. The tax tradition of CITs stands in fundamental contrast to the above, since taxes play a completely different, less important role in centrally administered economies. An entire tax system can hardly be reformed overnight, however, and CITs must therefore take a gradual approach to implementing modern tax systems, which often proves to be challenging. In the case of Vietnam, the environmental tax

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* This chapter reflects the author's personal opinion.
¹ See generally Martin Myant & Jan Drachkoupl, Transition Economies: Political Economy in Russia, Eastern Europe, and Central Asia (2010); Gérard Roland, Transition and Economics: Politics, Markets and Firms (2000).
² With regard to practice, see Jorge Martinez-Vazquez & Robert McNab, The Tax Reform Experiment in Transitional Countries (Andrew Young School of Pol'y Stud., Georgia State University, Working Paper 00-1, 2000).
reform project is embedded in, and accompanied by, reform projects affecting the entire tax system.\(^3\)

Modern tax systems do not only provide a level playing field for market actors and investments; they also aim to make optimal use of the enormous potential of taxes to set incentives and steer the behavior of private actors. Thus, taxes have become an important instrument for achieving a wide variety of political objectives, among them environmental protection. Environmental taxes are particularly useful in the transition process from a planned to a market economy, since they are part of the toolbox of indirect or market-based instruments and thus fit well in market economies.\(^4\) Moreover, environmental problems tend to be particularly pressing in CITs, where environmental policies are often underdeveloped whilst growth is mostly strong. In this context, environmental taxes are a useful tool to internalize external environmental effects. Strong additional arguments have recently been brought forward in favor of environmental taxes in CITs; environmental fiscal reforms and good financial governance are mutually reinforcing.\(^5\) Moreover, environmental taxes have considerable revenue potential that can be easily accessed with intelligently designed tax schemes. They can therefore help to address the ever-rising financial needs of CITs. Revenue-recycling mechanisms can also pursue social objectives, especially poverty reduction.\(^6\)

For a long period of time European countries held a leadership position in the field of environmental fiscal policy. Asian countries are now showing growing interest in the matter and have even, in some cases, started to draft relevant laws.\(^7\) While Indonesia and Thailand are still in an exploratory phase, preparing extensive studies, China and Vietnam have already reached a more advanced level.\(^8\) These developments also offer

\(^3\) See, for instance, the six components of the European Technical Assistance Programme for Vietnam (ETV2), comprising Fiscal Policy and Legal Advisory Services (C1), Taxation (C2), Customs (C3), Accounting, Auditing and Insurance (C4), Statistical Analysis and Policy Tools (C5) and Standards and Quality Control (C6).


\(^6\) OECD, *Environmental Fiscal Reform for Poverty Reduction* (2005); Cottrell et al., *supra* note 5, at 800–804.


industrialized countries the unique opportunity to carefully reduce tax exemptions and other privileges for their export industries, which had concerns about competitiveness with industries in CITs. In order for that to happen, however, no such provisions should be given by CITs to industries located in Asian countries.

THE VIETNAMESE PLAN FOR THE ADOPTION OF A COMPREHENSIVE ENVIRONMENTAL TAX REFORM: BACKGROUND AND MANDATES

The Socialist Republic of Vietnam is defined as a country in transition. Described by the World Bank as ‘one of the best-performing developing economies in the world,’ Vietnam is undergoing a sweeping transformation from a planned economy to a globalized, market-based economy. This process is accompanied by a dramatic economic expansion, with real gross domestic product (GDP) growth estimated at 8.5 percent in 2007, 6.3 percent in 2008, 5.3 percent in 2009, 6.8 percent in 2010 and 5.8 percent in 2011, affording Vietnam the second-highest growth rate in Asia over the past decade. Vietnam has seen two political reform waves called Doi Moi ('renovation'), one starting in 1986 and the other in 1999–2000, after the Asian financial crisis of 1998. Fundamental market reforms were implemented in the economic field as well. On a domestic level this translated into widespread privatization and market prices; on an international level it was manifested in the rapid integration of Vietnam into the global economy through trade agreements and accession to the WTO.

Rapid economic growth was a crucial prerequisite for these positive developments. However, it also placed a heavy burden on the environment, potentially undermining the sustainability of Vietnam's continued economic success and even threatening to offset many of the benefits it offers to large segments of the Vietnamese

has been developed as part of the Sino-German Environmental Policy Programme, implemented by the Deutsche Gesellschaft fuer Technische Zusammenarbeit (GTZ) GmbH, commissioned by the German Ministry for Economic Cooperation and Development (BMZ). See SCHLEGELMILCH ET AL., supra note 4. For Chinese energy taxes, see Tianbao Qin, Energy Tax: How Far Is It from Idea to Practice? Lessons Learned from the Experience in China, in 6 CRITICAL ISSUES ON ENVIRONMENTAL TAXATION: INTERNATIONAL AND COMPARATIVE PERSPECTIVES 863 (Jacqueline Cottrell et al. eds., 2009).

population. Increases in the discharge of industrial effluent and sanitary waste water, rising quantities of domestic and industrial waste, emissions of air pollutants from industrial processes and transportation, contamination of soil, groundwater and watercourses, and endangered biodiversity are among the considerable environmental impacts that resulted from Vietnam’s economic growth. In the face of these worrying side effects, the government proceeded to take corrective action in the form of several legal measures.

Relevant environmental legislation can be traced back to the early years of the Socialist Republic of Vietnam. The Constitution of 1980 elevated environmental protection to a constitutional objective, declaring it a binding duty for all state agencies, enterprises, cooperatives and citizens. In 1993, a National Environmental Agency was established under the Ministry of Science, Technology and Environment (MOSTE). On December 27 of that same year, the IXth National Assembly passed the first general Law on Environmental Protection of Vietnam, which entered into force on January 10, 1994. On an institutional level, the Ministry of Natural Resources and Environment (MoNRE) was established by decree on November 11, 2002.

On November 21, 2007, the adoption of an Environmental Protection Tax Law was included in the official program of the XIIth Legislative Program of the National Assembly (2007–2011). This mandate was embedded in a larger process of economic reform dating back to 1986 and the approval of Doi Môi, and clearly offered a unique window of opportunity for the introduction of innovative mechanisms to target the environmental challenges currently facing Vietnam. However, this opportunity raised key institutional challenges of its own: substantively positioned at the junction of environmental and fiscal policy, the successful elaboration and implementation of an environmental tax involved complexities beyond the ambit of more conventional areas of taxation. At the same time, it required a level of tax policy expertise not commonly found in government bodies that focus purely on environmental policy.

In 2004, Vietnamese Prime Minister Nguyen Tan Dung requested the introduction of an environmental tax reform by the year 2011. Under this mandate, the framework for an environmental tax law was to be submitted to the National Assembly by

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April 2010. To this end, an editorial committee was formed under the leadership of the Tax Policy Department of the Ministry of Finance, comprising representatives from relevant ministries. This committee was supervised at the political level by a Supervisory Committee under the leadership of the Minister for Finance. Due to the novelty of this initiative, the Vietnamese legislature had limited relevant experience and very few appropriate legal instruments at its disposal. Instead, it relied partly on existing taxes and charges that were not drafted especially for this purpose, such as the natural resource tax, petroleum and oil taxes and fees, and waste water charges. However, such isolated measures are conceptually different from a comprehensive environmental fiscal reform and render targeted capacity-building efforts an urgent priority in the short term.

The process of designing and implementing an environmental tax reform has been supported and accompanied from the outset by international donors, and all three authors of this chapter were involved in the process. The program was part of the European Union’s efforts to provide technical assistance to the Vietnamese government from 2006 to 2009, and was completed with a report in 2009. Thereafter, the German Development Implementing Agency (GTZ, named GIZ since 2011) followed up and supported the program. The process came to a successful end in November 2010 with the adoption of the Law on Environment Protection Tax by the National Assembly with a majority of around 98.7 percent, which is much greater than other National Assembly adoptions of around 85–90 percent.

EXPERIENCES AND BARRIERS ENCOUNTERED IN VIETNAM’S POLITICAL SYSTEM

Vietnam is a socialist republic where the Communist Party plays a central role. Nevertheless, the National Assembly plays an important part in the design of fundamental reforms. The integration of the environmental tax reform into the legislative program of the National Assembly has been an important driver of the reform process.

Still, the top-down approach has led to problems in the reform process. There were quite substantive outlines for the direction of the reform at early stages. The Law on

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16 As part of this program, both Michael Rodi and Michael Mehling served as International Short-Term Experts during this phase of the reform.
18 See generally GTZ, CONCEPTUAL PAPER ON MACROECONOMIC REFORM PROGRAM COMPONENT 2: PUBLIC FINANCE (2008); see also GTZ, CONCEPTUAL PAPER ON MACROECONOMIC REFORM PROGRAM COMPONENT 2, MODULE 4: ENVIRONMENTAL PROTECTION TAX LAW (2008); Kai Schlegelmilch led these efforts.
20 MARK SIDEL, LAW AND SOCIETY IN VIETNAM 29, 56 (2008); SIDEL, supra note 19, at 96; Matthieu Solomon, Power and Representation at the Vietnamese National Assembly: The Scope and Limits of Political Doi Moi, in VIETNAM’S NEW ORDER: INTERNATIONAL PERSPECTIVES ON THE STATE AND REFORM IN VIETNAM 198–216 (Stéphanie Balme & Mark Sidel eds., 2007).
Environmental Protection of 2005 provides that ‘organizations, individuals and households producing and trading in some kinds of products that exert long-term adverse impacts on the environment and human health shall be liable to an environmental tax’ (Article 112). The Prime Minister had already stated that an environmental protection tax law would be presented to the National Assembly in 2008 by way of a decision adopted on December 6, 2004:

An Environment-Related Tax Law will be summated to the diet before the end of 2008, which imposes taxes on goods and services polluting the environment. The tax base will be decided on each product and service that pollutes the environment. The revenue of this tax will be used only for special purposes of environmental protection, and may not be used to cover any other needs of the state budget.\(^{21}\)

As the ministries felt strictly bound by this mandate, the foregoing provision had a restrictive effect on the design of the environmental tax scheme. However, in a decision made at the end of 2011, the revenue of the environmental tax will now be used as a usual tax revenue, that is, for the general state budget. Only revenues from environmental fees and charges are earmarked for environmental purposes.

The Vietnamese government is vertically structured. As a result, the mandate to design a comprehensive environmental tax reform rests only with the Ministry of Finance. However, it is evident that an environmental tax reform must be harmonized horizontally with other policies in related areas (for example, traffic and transport taxes must be consistent with general traffic and transport policies). In the case of Vietnam this harmonization was not yet in place, and this lack of policy coordination caused considerable problems. In the initial years (under the European ETV program), it proved impossible to initiate high-ranking meetings or working groups across ministries. This experience started with the general reluctance of the Finance Ministry to fully cooperate. This was taken into account in GTZ’s follow-up project, where the Ministry’s cooperation was demanded from the outset as a precondition of support.

Despite the fact that Vietnam is centrally governed, local administrations, groups and other organizations have always had a strong political influence. These groups often have differing opinions on national reform projects, mostly leading to intense discussions on a regional level. This local power structure did not form an obstacle to the reform process. In fact, it turned out to be a useful source of local, in-depth information (such as on the administrative deficiencies of direct water pollution charges). It often also put pressure on the government to extend the number of intended tax bases and to increase the intended tax rates and thus to apply the polluter-pays principle more strictly, such as by including noise (here mainly blowing the horns) as a tax base. This tax base was eventually denied mainly for administrative reasons, but also because it remained unclear how a tax could really deliver targeted responses.

At the same time, the direct influence of civil society and public opinion on the policies and legislation of Vietnam should not be underestimated. This phenomenon has been described as ‘motorbike constitutionalism.’\(^{22}\) The reaction of the people has always

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\(^{21}\) Prime Minister, Decision No. 201/2004/QD-TTg of 6 December 2004, approving the ‘Tax Reform Strategy Toward 2010.’

\(^{22}\) See SIDEL, supra note 20, at 74.
been a major concern in the political decision-making process, sometimes even limiting available reform options. This is especially true for energy taxation that results in higher energy prices, taxes and charges that affect farmers (an important constituency in Vietnamese society and its well-vested interests), and finally, of course, traffic-related taxes and charges—with regard to motorbikes in particular.

THE DESIGN OF THE VIETNAMESE ENVIRONMENTAL TAX REFORM

The mandate for the tax reform is an essential part of the broader environmental protection strategy pursued by the Vietnamese government. It is firmly embedded in the existing framework of environmental protection legislation currently in force in Vietnam. As discussed above, the Environmental Protection Law of 1993 was revised when the Law of Environmental Protection of 2005 called for an environmental tax.²³ According to this provision, the government was to submit a list of products and commercial activities subject to the environmental tax, along with applicable tax rates, to the National Assembly for approval.²⁴

Under this initial mandate, revenue from this tax would only be used for the special purpose of environmental protection, and would not be allocated for other purposes in the state budget. Moreover, according to the Plan for Tax System Reforms and Modernization in the Period 2005–2010,²⁵ the environmental protection tax law would regulate all subjects engaged in activities that cause environmental pollution, based on the principle that the taxable amount shall be equivalent to or higher than the extent of environmental damages incurred. Accordingly, the tax base was to be decided on an individual basis for each of the products and services that pollute the environment. Consensus could be reached that the environmental protection tax law should be designed to create the legal framework for an intensification of environmental protection and improvement. Moreover, the framework should help mitigate environmental pollution and damages, generate more income for the state budget, ensure simplicity, clarity, transparency and publicity, and approximate international common practices of environmental taxation.²⁶

Pursuant to the foregoing strategy, the new environment protection tax system focuses on the following specific issues:

²⁴ See id. The Law on Environmental Protection also specifies other economic instruments whose adoption should be explored, including environmental protection charges, natural resource exploitation and restoration funds, and environmental protection funds.
²⁵ See Section III(1)(a) of the attachment to Decision No. 1629/QD-BTC of 19 May 2005 by the Minister of Finance, 'On the Promulgation of the Plan for Tax System Modernization and Reforms in the Period 2005–2010.'
²⁶ Id., Section III(2.9).
Governing scope: The tax system had to cover all subjects engaged in the production, processing, use or storage of goods that cause environmental pollution. Its aim was to develop concrete and clear criteria for taxable objects, which are goods and services related to polluting activities.

Tax base and tax rate: The tax base should be the quantity (not value) of products and goods that adversely affect the environment. The tax obligation was to be equal to or higher than the loss generated by the environmental pollution caused by the product; transparent guidance on the ensuing requirements for tax subjects would be provided to avoid undue impacts on the investment environment.

Tax administration: Tax collection would be administered in accordance with each category of environmental pollution (production, processing, storage, use); administration of the environmental tax would be coordinated with the administration of environmental pollution.

The Ministry of Finance declared its intention to tax all types of energy consumption, including—and this set the reform apart from similar initiatives in most European countries—domestic flights and shipping.\(^{27}\) Furthermore, taxes on environmentally harmful substances, HCFC (chlorinated and fluorinated hydrocarbons), soft plastic bags and tobacco would be covered as well. Legislation enacting this reform, adopted by the National Assembly on November 15, 2010 and taking effect on January 1, 2012, basically followed this broad approach (except with regard to tobacco), with concrete tax rates for 2012 fixed in the annex of the resolution on the issuance of tax rates for environmental protection adopted at the end of 2011. The exclusion of tobacco taxes is in line with the logic of an environmental tax approach in a narrower sense.\(^{28}\) As advocated from the beginning of the reform process, at its core the Environment Protection Act is a comprehensive energy tax. As a consequence, the gasoline surcharge regulation was abolished when the Act entered into force.

Under the legislation, the National Assembly set ranges for the tax rates (see Table 7.1). During the legislative deliberations, it increased the lower range of the tax on coal from 6000 to 10000 VND per ton, and shifted the tax range on plastic bags from 20–30000 to 30–50000 VND per kilogram. Interestingly enough, the National Assembly, along with many representatives to the regional meetings, consistently supported the law and often asked for even higher tax rates and a greater range of taxable objects, given the many environmental problems these objects cause. Hence, the Ministry of Finance was challenged during many preparatory discussions, forcing it to justify a slower pace by stating

\(^{27}\) In this category, the tax reform will target all types of gasoline, jet fuel, diesel, kerosene, mazut, lubricating oil, grease and coal. Only Norway and the Netherlands have kerosene taxation on domestic flights. Some US states also impose kerosene taxation. At least increasingly more countries like the United Kingdom, France, Ireland, Germany and Austria have introduced a kind of air ticket tax.

\(^{28}\) Still, it must be noted that in Article 2, the Environmental Protection Tax Act defines ‘environment’ in a broad sense, including ‘natural and physical factors surrounding human beings and affecting the life, production activities, existence and development of human beings and living beings.’
Table 7.1  Environmental tax as of January 2012

<table>
<thead>
<tr>
<th>No.</th>
<th>Taxable Object</th>
<th>Unit</th>
<th>Tax rate range set by National Assembly (VND per unit)</th>
<th>Specific tax rates set by Standing Committee</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Gasoline and oil</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>All types of gasoline</td>
<td>liter</td>
<td>1000–4000</td>
<td>1000</td>
</tr>
<tr>
<td>2</td>
<td>Jet fuel</td>
<td>liter</td>
<td>1000–3000</td>
<td>1000</td>
</tr>
<tr>
<td>3</td>
<td>Diesel</td>
<td>liter</td>
<td>500–2000</td>
<td>500</td>
</tr>
<tr>
<td>4</td>
<td>Paraffin</td>
<td>liter</td>
<td>300–2000</td>
<td>300</td>
</tr>
<tr>
<td>5</td>
<td>Mazut</td>
<td>kg</td>
<td>300–2000</td>
<td>300</td>
</tr>
<tr>
<td>6</td>
<td>Lubricating oil</td>
<td>liter</td>
<td>300–2000</td>
<td>300</td>
</tr>
<tr>
<td>7</td>
<td>Grease</td>
<td>kg</td>
<td>300–2000</td>
<td>300</td>
</tr>
<tr>
<td>II</td>
<td>Coal</td>
<td>ton</td>
<td>10000–30000</td>
<td>10000</td>
</tr>
<tr>
<td>III</td>
<td>HCFC</td>
<td>kg</td>
<td>1000–5000</td>
<td>2500</td>
</tr>
<tr>
<td>IV</td>
<td>Soft plastic bags</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V</td>
<td>Restricted-use plant protection</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>chemical substances</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Agricultural chemical substances</td>
<td>kg</td>
<td>500–2000</td>
<td>500</td>
</tr>
<tr>
<td>2</td>
<td>Anti-termite chemicals</td>
<td>kg</td>
<td>1000–3000</td>
<td>1000</td>
</tr>
<tr>
<td>4</td>
<td>Preservatives for forest products</td>
<td>kg</td>
<td>1000–3000</td>
<td>1000</td>
</tr>
<tr>
<td>5</td>
<td>Disinfectant chemicals used for</td>
<td>kg</td>
<td>1000–3000</td>
<td>1000</td>
</tr>
<tr>
<td></td>
<td>warehouses</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: VND is Vietnamese Dong; at the end of February 2012, 1000 Dong were equal to 0.04 Euro

that Vietnam should not overdo the first step. In the end, the draft was successfully defended in all substantial areas.

According to Article 8 of the Environmental Protection Tax Act, and in line with a long-standing Vietnamese tradition, the specific tax rates within the ranges are set by the National Assembly’s Standing Committee. The following principles govern the choice of both current and future specific tax rates:

- Tax rates for taxable objects shall be in line with the socioeconomic development policies set out by the government for each period.
- Tax rates for taxable objects shall be designed based on the level of environmental pollution and degradation caused by taxable objects.

Applicable tax rates are set in the following manner: rates shall be adjusted every two to three years depending on the socioeconomic circumstances prevailing in Vietnam, or annually in the event of sufficient public support. The Ministry of Finance in the government will submit—and has first done so at the end of 2011—a proposal to the Standing Committee of the National Assembly, the official body that has to agree to a change in tax rates (not the National Assembly as such). The Ministry of Finance intends to increase the rates at a faster pace than inflation, and aims to provide long-term predictability by implementing a steady and foreseeable increase built on positive experiences
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with price escalators in other countries. However, socioeconomic circumstances must also be taken into account.

The level of public support is determined using opinions expressed in newspapers and other media, public hearings, and meetings with representatives during field trips organized for this purpose. Even coal suppliers, who are likely to pay a substantial share of the overall tax revenue, have so far been supportive. They stand to gain from an increase in domestic coal prices to reach a level closer to global market prices, a convergence that has not yet occurred. So far, about 50 percent of coal extracted in Vietnam has been destined for export. No price regulation applies to exported coal, whereas such regulation is in place for domestic coal use (when destined for electricity, cement, industry, construction and so on). According to recent forecasts, Vietnam is likely to become a net importer of coal by 2015. Consequently, national coal miners would be relatively less affected.

The comparison of the tax ranges and the specific tax rates in effect on January 1, 2012 shows that tax rates implemented in 2012 are generally at the lower end of the initial proposal. The rates chosen also take into account the current socioeconomic conditions (high oil prices) and the burden that the tax would place on households and businesses.

For the tax administration, the reform actually translates into a reduced burden, given that the environmental tax law—following the international standard—will apply fixed nominal tax rates, as opposed to the fluctuating product prices previously used as tax bases. This substantially facilitates the administration of the tax. In sum, the environmental tax law has garnered broad support among stakeholders and the Vietnamese public. It can therefore already be considered a success by several metrics.

THE DESIGN CHALLENGE OF A COMPREHENSIVE ENVIRONMENTAL TAX REFORM

The mandate for environmental tax reform was clearly geared toward a comprehensive system of product and service taxes. Nevertheless, discussions among representatives of the ministries and academia led to consideration of larger-scale policy instruments, such as direct emission taxes, income taxation, vehicle taxation and others.

Limiting the discussion to product taxes was deemed inadvisable. Vietnam, for example, in the past imposed high import taxes on vehicles, which are basically product taxes. A consensus emerged in the relevant discussions that such taxes strongly limit any possibility for the legislature to influence the performance of imported cars (for instance, with regard to their size or environmental features). The only effects are revenue effects, along with a dampening effect on general import figures. Thus, there are many good reasons to shift from an import tax to an annually updated vehicle tax.29

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And yet, consensus was also reached that an environmental tax reform should not consider income taxation and direct emission taxes. Regarding personal income taxes, many general arguments can be made not to overload them with other political objectives. These taxes should be easy to understand and administer, and should concentrate on revenue effects and a fair distribution of the tax load. Moreover, it is mainly tax subsidies that integrate steering effects into direct taxation, and these lead to reverse relief effects. Relatively speaking, wealthier taxpayers are subject to a higher tax rate and therefore pay more taxes, but they are still left with a higher net income than those in lower tax brackets. These arguments are even more applicable to countries in transition than to industrialized countries.

Direct emission taxes, on the other hand, certainly have advantages from an environmental policy point of view, as they directly target the emissions that the legislator wants to reduce. Unfortunately, emission taxes also share many of the shortcomings ascribed to command-and-control regulation, especially with regard to their stringent monitoring and enforcement requirements, and for that reason there is a widespread tendency to oppose them. This is particularly true for countries in transition, and a consensus was reached that this would not be a viable way for Vietnam, which lacked a well-functioning system of regulatory emissions controls. Moreover, the country’s experiences with a direct water emission charge have been discouraging. Inquiries revealed that these charges are often collected on an improvised basis, relinquishing all behavioral steering effects (such as arrangements with the installation operators, or taxation according to best practices).

Yet, inspired by the fastest tax-lawmaking process ever, according to the Tax Policy Department of the Ministry of Finance, and the convincing European experiences, the Ministry of Finance also started working on legislation for regulating emissions in 2011. The respective decree on emissions shall be adopted in 2014. It is adapting the European experiences with the annual road tax to Vietnam. Another law on fees and charges may also be adopted in 2014 or 2015. And, as mentioned, the National Assembly, along with many representatives to the regional meetings, has consistently supported the law and has often asked for even higher tax rates and a greater range of taxable objects.

Hence, the environmental tax legislation comprises several elements and could thus—at least in the context of developing countries—be considered quite comprehensive. The major criteria for assessing this are not the height of the tax rates, but the number of tax bases, which go beyond energy-only to also cover energy uses often not covered (flights and shipping), the long-lasting process, and the courage to initiate and successfully implement it in such a short time, including stakeholder involvement.

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East Asian Countries: Do Taxes and Other Market-Based Instruments Play a Role?, in 7 CRITICAL ISSUES IN ENVIRONMENTAL TAXATION: INTERNATIONAL AND COMPARATIVE PERSPECTIVES 39 (Lin-Heng Lye et al. eds., 2009).

REVENUE ALLOCATION AND REVENUE NEUTRALITY

The question of revenue allocation played a central role in the discussions of the Vietnamese environmental tax reform. There are basically three options: (1) revenue could be assigned to the general state budget, (2) revenue could be used to lower other taxes, resulting in revenue neutrality, or (3) revenue could be earmarked for specific environmental protection purposes. Although a strong interest in the first option was apparent on the part of the Ministry of Finance, there had been broad consensus from the outset that this option should not be chosen, as it would discredit the environmental tax reform among the public.

By contrast, a remarkable consensus was reached on the significant advantages offered by the principles of revenue neutrality and revenue recycling ('double dividend') in the discussions among Ministry representatives, practitioners and academics. However, further deliberations revealed the many barriers these principles would encounter during the practical implementation of this policy process.

Concerning the design of taxes in the field of agriculture (such as fertilizer and pesticide taxes), it was suggested at one point that revenues be recycled back to farmers (for instance via social programs or environmental improvements, such as payment of environmental services provided by farmers). Given that the tax burden would be at least partly passed on to consumers, the agricultural sector might even emerge as a net winner under the tax reform. Nevertheless, the responsible government agencies feared the reaction farmers might have to new taxes, not least on major inputs such as fertilizers and pesticides to their production processes, and hence declined the idea. This is a good example of Vietnam's (motobike) democracy and of how it influences political decisions. After lengthy negotiations, a moderate tax on chemical substances used in agriculture (without simultaneous revenue recycling) was included in the environmental tax reform.

To some extent, the challenges were also of a structural or technical nature. In essence, it was accepted that energy prices should be raised with the implementation of energy taxes, and that the collected tax revenues would be recycled to those most affected by the price increase. Implementing the foregoing objective within the framework of a general social security system was agreed to be the best option. However, the Vietnamese social security system does not function well enough, if at all, to allow for an adequate redistribution of tax revenues. Energy prices will therefore only be raised very slowly, after energy subsidies are removed in a first step.

The same is true for vehicle taxes. Taxation of individual traffic will be necessary. But at the same time the population's basic mobility needs have to be satisfied. Theoretically, this need could be met by recycling the revenue toward public transport. Yet this allocation would result in a time lag that cannot and will not be accepted by the public.

In the end, the foregoing constraints resulted in a pragmatic compromise to allocate revenue to environmental protection measures. Still, this decision was not legally anchored in the Environment Protection Tax Act itself; Article 12 merely states that the tax revenue shall be divided between the state budget and provincial budgets. In a broader sense, this is also a sort of 'double dividend,' and it makes an environmental tax reform even more compelling from an environmental point of view. Moreover, the Environmental Ministry (in Vietnam as in other CITs) is chronically underfinanced. However, at the end of 2011, the National Assembly voted to use the revenues of the environmental tax as general tax
revenue (for the general state budget), and whether the Environment Ministry really gets more money depends on the allocation within the general budget.

IMPACTS

A simulation of the likely impacts of the environmental tax reform has been carried out by Dirk Willenbockel, a consultant recruited specifically for this task. Using figures from the year 2007, he employed a General Equilibrium Computer Model based on an updated Social Accounting Matrix and Input-Output Model. The key results of this exercise are highlighted below.\(^\text{31}\)

Although the likely political decisions were still somewhat unclear at the time the impact assessment was carried out, the model assumes that the government distributes all additional tax revenue from environmental taxes on public investment spending, government consumption, and additional transfers to the private sector.

The reader should note that figures do not represent point forecasts for a particular year—they show deviations from the baseline growth path of the economy (that is, the growth path in the absence of an environmental tax). Numbers are presented in real terms, which means that quantities are valued at constant 2007 prices. Absorption is defined as total domestic demand for final goods in the economy, including imports. In other words, it comprises the sum of household consumption (C), investment expenditure including public investment (I) and government consumption purchases (G).

Ultimately, it is the household sector that bears the burden of the tax, as reflected in the noticeable drop in C (household consumption) at the high end of the tax band. The reduction in private consumption would be higher if the government failed to return part of the tax revenue to households in the form of income transfers or reductions in other taxes.

Table 7.2 Impact on real macroeconomic aggregates

<table>
<thead>
<tr>
<th>Percent deviations from baseline growth path</th>
<th>LOW</th>
<th>HIGH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absorption (C+G+I)</td>
<td>0.3</td>
<td>0.9</td>
</tr>
<tr>
<td>Household consumption</td>
<td>-0.3</td>
<td>-0.8</td>
</tr>
<tr>
<td>Investment (public and private)</td>
<td>1.2</td>
<td>3.7</td>
</tr>
<tr>
<td>Government consumption</td>
<td>0.4</td>
<td>1.3</td>
</tr>
<tr>
<td>Exports</td>
<td>-0.8</td>
<td>-2.4</td>
</tr>
<tr>
<td>Imports</td>
<td>-0.6</td>
<td>-1.8</td>
</tr>
<tr>
<td>Real exchange rate*</td>
<td>-0.2</td>
<td>-0.8</td>
</tr>
<tr>
<td>Government revenue</td>
<td>1.9</td>
<td>5.4</td>
</tr>
</tbody>
</table>

Note: * Minus sign indicates real exchange rate appreciation

\(^{31}\) The following results are all taken from Dirk Willenbockel, IMPACT ASSESSMENT REPORT OF DRAFT ENVIRONMENTAL TAX LAW FOR VIETNAM (2010).
Table 7.3  Estimated environmental tax revenue in 2012 (in 2007 prices, billion VND)

<table>
<thead>
<tr>
<th></th>
<th>LOW</th>
<th>HIGH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coal</td>
<td>367</td>
<td>1112</td>
</tr>
<tr>
<td>Refined fuels</td>
<td>8307</td>
<td>25982</td>
</tr>
<tr>
<td>HCFC</td>
<td>4</td>
<td>21</td>
</tr>
<tr>
<td>Chemicals</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Plastic bags</td>
<td>114</td>
<td>170</td>
</tr>
<tr>
<td>Total</td>
<td>8794</td>
<td>27292</td>
</tr>
</tbody>
</table>

The government, on the other hand, can claim a higher share of productive resources as a result of the environmental tax. The increase in real government expenditure (which means an increase in demand for domestic nontradable goods and services) causes the price of nontradables relative to export goods to rise, and thus discourages exports. A drop in exports can therefore be observed.

The negative sign of real exchange rate change (price of tradables/price of nontradables) indicates a real appreciation of the VND. An important message from Table 7.3 is that the high end of the proposed tax interval implies substantial effects. If further real increases in the tax rates on refined liquid fuels are envisaged, it is advisable to gradually phase them in according to a pre-announced timetable. This will give investors the time to shift to more energy-efficient technologies. This was amply illustrated by the extreme high scenario presented at the first stage of the impact assessment.

Table 7.3 shows the estimated tax revenue in the year 2012 that would result from the imposition of the environmental taxes on coal, refined fuels, HCFCs, chemicals and plastic bags. The table is based on an assumed average annual real GDP growth rate of 7.0 percent between 2008 and 2012, with zero inflation.

As Table 7.3 shows, taxes on HCFCs, chemicals and plastic bags would generate relatively little tax revenue in comparison to coal and refined fuels. The impact of imposing taxes on these three products on the overall economy is also correspondingly small, and this is why the report has so far concentrated on taxes on coal and refined fuels alone.

The fact that the impact is small does not imply that the taxes should not be imposed in the first place. Imposing a tax on products that have negative environmental externalities is a worthwhile policy either way, and should therefore be encouraged. In theory, revenue from taxes on these products should eventually be driven to zero, as consumers shift their consumption to more sustainable substitutes that are not subject to an environmental tax. In other words, falling revenue from these taxes should be interpreted as a sign of success.

It is evident that an environmental tax on refined fuels constitutes the intervention with the largest potential impact on the Vietnamese economy. Figure 7.1 examines the share of refined fuel in the total cost borne by the six most fuel-intensive sectors (out of a total of 33 sectors distinguished in the model).

Figure 7.1 shows that the biggest users of refined fuels are the refined fuels sector and the fishery sector. One must keep in mind that the latter is closely linked to large upstream and downstream industries (such as processing and marketing). In fact, employment in these up- and downstream industries is estimated to exceed employment in the fishery
sector by a factor of three. Through the fisheries sector, the environmental tax will have significant repercussions for these industries as well. In the case of the transport sector, a rising tax burden will also affect all the goods that are transported. This will in turn be impacted by a higher ‘transport margin.’ Finally, the intense use of refined fuels in the fuel sector itself is worth noting as an intermediate input; a rise in costs carries with it the potential danger of tax cascading effects.

The study of impacts contains a detailed analysis on a number of other points as well. In sum, the impact assessment forecast the following effects of the environmental tax reform:

- At the higher end of the proposed tax rate band, the environmental tax on fuels will have noticeable economy-wide repercussions.
- The tax-induced fuel price increase will raise the production cost and output prices of other fuel-intensive sectors to some extent—notably for the fishery, coal and transport sectors.
- The tax-induced rise in transport services spreads the impact of the fuel tax broadly across the economy through its effect on transport margins for all (nonservice) commodities.
- The refined liquid fuels tax will be the dominant source of tax revenue of all the various environmental taxes.
- At medium to high levels of the tax rate, the environmental tax shifts a significant amount of purchasing power from households to the government.
- Relative to the no-eco-tax growth path, the real exchange rate appreciates to some extent and real exports decline slightly due to the fact that the additional tax
revenue is spent on environmental protection measures (or other nontraded goods and services).

- Household welfare—narrowly defined as utility derived from the consumption of private goods—declines significantly across all household groups. However, this result does not take into account future welfare gains from beneficial environmental impacts.

- Overall, the increase in production prices of energy-dependent industries could reduce the competitiveness of Vietnam's exports and hamper the growth of national employment. Nevertheless, these negative effects could be offset by the environmental benefits generated by the tax, such as reduced abatement costs and the improved health of the population. Another remedy could be to compensate certain industries using the revenues from the environmental tax.

- The analysis suggests that higher tax rates for fuels should be phased in gradually according to a transparent, pre-announced schedule. This will give firms the necessary time to plan investments in fuel-efficient technologies.

- Supportive measures are needed in order to facilitate a smooth transition to low-carbon technologies.

- The relation of coal tax rates to fuel tax rates must be taken into consideration, so as to avoid unintended substitution effects (from coal to refined fuels).

- Taxation of HCFCs, substitutable hazardous chemicals and plastic bags constitutes a good economic policy, despite the low expected revenue and insignificant economy-wide effects. A fall in tax revenue toward zero should be seen as a sign of the success of this policy.

CONCLUSIONS

Looking back from the vantage point of its recent adoption by the National Assembly, the environmental tax law and the process of its creation have turned out to be a success story in Vietnam. Within a period of two to three years, a relatively comprehensive environmental tax reform has been successfully implemented and further steps have been initiated, arguably making this one of the swiftest legislative processes ever in the area of environmental taxation. The environmental tax law will facilitate its operational administration through the introduction of international standards. Moreover, its economy-wide impacts make the tax an effective tool—both in terms of outcome and in terms of cost—to reduce greenhouse gas emissions. The fact that no tax exemptions are extended to industries is of particular importance regarding foreign states, including industrialized ones. This may—and should—have an effect on politicized debates about the competitiveness of domestic industries in Europe and North America vis-à-vis producers in low-income CITs. Also, contrary to most other environmental taxation schemes, fuels used for shipping and domestic flights will be taxed.

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The reform experience also drew attention to the value of international expert input and the importance of a coordinated approach to capacity building. In particular, the project was able to build on previous research, facilitating the consulting services provided to the Vietnamese government as well as at the onset of the legislative process. Still, not all challenges have been addressed. Stronger cooperation between different ministries, which is required, is an area with significant room for improvement. For instance, whether implementing agencies have the required capacity to actually apply the new tax rates remains to be seen. Moreover—and perhaps more importantly—it is not certain that the stakeholders’ initial response to the environmental tax will remain positive once it becomes an actual cost burden, rather than a mere reform proposal. Finally, the reform process, whose underlying mandate was originally geared toward a ‘comprehensive environmental tax reform,’ has shown that no such thing exists. In practice it is exceptionally difficult to draft a general environmental tax act. Instead, an environmental tax law should contain certain elements, such as the coverage of as many energy products as possible, particularly in the transport sector.