



Handbook of Research on Environmental Taxation, edited by Janet E. Milne and Mikael Skou Andersen. (Cheltenham: Edward Elgar Publishing, 2012). 528 pages. ISBN: 9781848449978.

Green Taxation and Environmental Sustainability, edited by Larry Kreiser, Ana Yábar Sterling, Pedro Herrera, Janet E. Milne and Hope Ashiabor. (Cheltenham: Edward Elgar Publishing, 2012). 304 pages. ISBN: 9781781009024.

These two collections of essays on different aspects of environmental taxation are the latest in a series of edited collections on the topic. The Milne and Andersen Handbook, as the title suggests, is more substantial, not only in length and wide-ranging coverage, but also in the depth of experience and recognition of its authors. The editors of both books are primarily academic lawyers, with Milne of the Vermont Law School as an editor of both volumes, although Andersen is an expert in political science and policy analysis and Kreiser is an academic accountant, who has edited several of the earlier volumes.

The Handbook is just what one might expect as a practical guide for tax experts and policy makers. It covers the topic from its conceptualisation in economic theory to the application to actual economies, the expected effects of the taxation and finally to *ex post* assessments of its implementation. Many interesting issues are covered in detail in 26 chapters: environmental fiscal reform; the legal authority for such taxation; the earmarking of revenues; special problems of developing countries; effects on inequality; the politics of such taxation (both national and international); the double dividend debate; transactions costs; the databases available; the decoupling of economic growth and degradation of the environment, inducing technological change; effects on sectoral and national competitiveness; the policy mix, especially the mix of regulation and taxation; and the role of bounded rationality. It excludes a detailed treatment of the reduction of environmentally damaging subsidies (e.g. on fossil fuels), but it does consider “tax expenditure”, i.e. subsidies via exemptions or allowances in the tax system (e.g. to incentivise renewable sources of power).

The standard of exposition and editing is high and the editors of the Handbook can reasonably claim to report the state of the art. The book opens with the approach taken and a paragraph summary of the content of each chapter and concludes with an agenda for future research. The chapter authors are from academia and governments, mostly in Europe, where governments have shown the most commitment to tax reform and which has had the most experience in environmental taxation at national and international levels. The authors generally take a practical approach to the subject, as befits a guide for policymakers, and there are few digressions into neoclassical mathematical models.

I will not repeat the content summary, but review some selected chapters that are critical to the introduction, modelling and assessment of environmental taxation. I shall do it from three points of view, taking the editors’ guide as to which groups of people are being urged to read and use the Handbook. Firstly, there is the interested general reader from a wide range of disciplines including law, economics, political science, public finance and even engineering. Secondly, there are policy makers and analysts in government seeking to understand, implement and assess environmental taxation. Thirdly, I shall consider its usefulness to economists in academia, research centres and business, specialising in the topic.

The general reader will find much of interest in this book, although some chapters are rather technical and others rather too specialised. The introductions by the editors (chapter 1 and 2) are very illuminating and helpful, written in clear, concise English and summarising both the book and the underlying justification and concepts used in the literature. They trace the historic origins of the topic in the neoclassical work of Pigou in his *The Economics of Welfare* (1920). They explain tax expenditures and the differences between taxation and emission permit trading schemes, which is not a tax. They generally explain what the topic is all about and how to use the book. Barde and Godard (chapter 3) mostly adopt a technical partial equilibrium approach to explaining the economic principles of the taxation, which is not relevant for macroeconomic policy, but their conclusions are interesting, listing five potential dividends from environmental taxation.

The general reader may also be interested in the important choice between taxation and regulation (command and control). This is critical in deciding legal competence – for example in the USA the President through his executive powers cannot unilaterally impose a sulphur dioxide tax or a carbon tax, but can regulate the emissions, even using trading permit schemes. The straightforward message that damaging externalities should be addressed by taxation was challenged by Ronald Coase in 1960, who introduced property rights and the use of institutions into the literature, recognising that society had developed mechanisms for dealing with externalities without the use of taxation. This is essentially self regulation by the free market. Assuming that transactions costs are low or zero (Pigou's assumption), and markets exist through negotiation of rights, Pigou's solution of government intervention and taxation is unnecessary because the market, defined as efficient, will have sorted out necessary compensation. The problem here is explained by Faure and Weishaar (chapter 22), but basically this conclusion is not justified under many prevalent conditions. These include whether pollution is diffused over space and time, whether those who suffer are many or outside the legal jurisdiction of the polluter, when transactions costs are not "low" (i.e. recourse to the courts is not intrinsic for avoidance of the pollution), if the distribution of power and income is not an issue or if the neoclassical assumptions, e.g. of full information, do not hold.

In fact the "free market" leading to environmental degradation, including the threats of climate change and loss of biodiversity, is in fact beset by regulations, usually set or heavily influenced by a few market makers, who can set the rules to favour their own interests. These makers may well be international operators such as energy and pharmaceutical companies or banks aiming for short-term profits and bonuses. A key problem, addressed by Jaccard in chapter 10, is the political acceptability of environmental taxes when the ideology of the free market is pervasive and substantial funding is available to opponents of the tax. Jaccard uses the successful carbon tax in British Columbia as his example and looks at both the short and long-term survival of the tax. This is highly relevant to many political debates, especially on climate change, and illustrates the need for integration in a set of policies and measures, as well as the extraordinary scale of misinformation and scepticism about government intentions in the political campaigns.

Another issue of general interest is that of decoupling economic growth from environmental pollution. Muller, Lofgren and Sterner (chapter 19) explain the idea, and give a review of the tools to understand and measure it (e.g. decomposition analysis using disaggregated data), but the reader will be disappointed that their main contribution is an agenda for future research. Although other chapters in this group are nearly all accessible, they tend to be on particular topics of less general interest.

The second group of readers are concerned with environmental, economic and social policy in government or aiming to influence government. The Handbook is indeed almost designed to cover the state of the art for this group, not surprising given that it covers, extensively and in detail, the legal and political issues involved. Rodi and Ashiabor (chapter 4) set the legal scene by explaining the authority by which the national state can impose these taxes (Chalifour, Grau-Ruiz and Traversa cover multilevel governance in chapter 14). These chapters complement the one on tax design in helping the policymaker decide whether and how the law needs to be changed and to give examples from many jurisdictions of current practice. The design issue is taken up in an excellent chapter by Molina (5), explaining the legal issues generally and concisely, with a broad range of examples across countries.

Vos (chapter 18) gives an overview of the databases relevant for environmental taxation. He presents criteria for assessing the databases: coverage, ease of use, reliability and “providing what the user might want”, which as this suggests is largely unknown, but Vos gives a good guess, i.e. assessment and access to time-series data. It is clear that the data are largely descriptive and fragmented, with cross-country data mainly for Europe (European Commission *Taxes in Europe*), and the US data focused on renewables and energy efficiency.

The third group of readers, which partly overlaps the second, is that of professional economists. There is also much of use here, especially in correcting the highly stylised treatment of the subject in the neoclassical literature. A key message is that many disciplines are needed to understand the complexity of topic and that there is no optimum tax or tax design because of legal issues and because there is seldom a benign dictator to plan social welfare. Another is that there are many insights from the behavioural approach to economics given by Nielsen in chapter 24. One good corrective to stylised modelling is in Olsen’s chapter 11 on intergovernmental acceptance. She states the obvious that “global harmonisation of tax levels must be considered impossible” (p. 192). This, the prevalence of regulation, and the difficult boundary between taxes and regulation make the common assumption by General Equilibrium and other neoclassical economists of a common global carbon tax absurdly simplistic for policy. The tax is supposed to have a common rate and last indefinitely to address global warming. She goes into the technicalities of international trade rules and environmental taxation. Thalmann (chapter 25) considers a global carbon tax, ending with a hope for tax harmonisation. There is more hope for international permit trading.

The conclusion of Vollebergh’s chapter 20 on introducing technological change into environmental models also warns against simple conjectures based on theoretical propositions, and notes the paucity of empirical studies. Understanding of technologies is intrinsic to the effects on the environment and ways of reducing both the emissions and their impacts, especially over long periods of time when technologies can evolve, given economic signals and R&D expenditures. Clearly there is much research to be done.

The competition literature is especially relevant for environmental taxation because pollution is often international, and trade carries with it environmental implications in the form of embedded pollution. Ekins and Speck (chapter 21) address the understanding of the topic from the empirical modelling, summarising the concept, reviewing the literature, and covering the Porter hypothesis that brings in the aspect of quality as well as price competitiveness. This aspect is crucial to many arguments put forward by interest groups seeking to weaken or influence policy for their own interests.

The regressivity of the taxes is another important issue and is addressed by Kosonen (chapter 9) for Europe, where many such taxes have been studied and introduced. Her con-

clusions are worth reading for the qualifications to the simple assumption that the taxes are inevitably regressive.

Jaeger's contribution (chapter 12) is a review of the double dividend debate, which is relevant to green fiscal reform. The double dividend here is not the simultaneous environmental benefit and the tax-raising benefit for the government needing to finance the provision of public goods and services. It is instead a feature of neoclassical tax theory: the first dividend comes from the correction of the damaging environmental externality associated with the tax, e.g. waste destined for landfill, and the second dividend is the economic benefit from reducing another tax, which is a burden on the economy because it is taxing a social good, such as employment. Green fiscal reform envisages a general shift of taxation from taxing socially desirable activities, such as providing employment, to taxing the undesirable ones, such as activities that degrade the environment. Jaeger's chapter is a major contribution to the literature in that he carefully assesses the models and their results that claim that the apparent dividends are much reduced by so-called tax interaction effects. The literature is an example of extensive neoclassical theorising on the basis of highly unrealistic assumptions (e.g. perfect competition, representative agents, maximised social welfare), with almost no empirical content, and different papers relaxing different assumptions in an incoherent order. Jaeger concludes that "a large, previously unnoticed distortionary tax interaction effect existed was based on mistaken inferences and misleading evidence" (p. 216). He has discovered an algebraic error in some papers, confusing a tax rate (\$/tonne) with a tax ratio (price without tax divided by price with tax), but more importantly, he finds that the models use unreliable benchmarks and overlook compounding effects of direct and indirect taxes.

The Kreiser volume is the twelfth in the series *Critical Issues in Environmental Taxation*, previously published by Oxford University Press (volumes 5 to 8) and Richmond Law Publishers (volumes 1 to 4). It has a slight emphasis on reporting research on Spanish provinces, reflecting the location of the annual conference on environmental taxation, from which the papers presumably originated. The "environmental sustainability" in the title is addressed indirectly and without any overview or conclusion. There is an index, but no summary of the 17 chapters. However, the standard of the chapters is high and the editing also well done.

One of the problems of green taxation is the fact that environmental problems are highly specific to what pollutant, where the flow is emitted, how it diffuses across the environment, who is affected and when, but most seriously, how the flows accumulate into serious if not catastrophic environmental problems. This means that there is a huge range of potential analyses for different pollution problems in different institutional settings across and within countries. The *Critical Issues* volumes well illustrate this and have maintained a high standard over the years, reflecting developing concerns as environmental problems have become more pressing. The book is focused on five issues: measurement of green taxes (part I), including a useful chapter by Braathen on the OECD database; sustainable mobility (parts II and III), pointing the direction of travel rather than a destination; technologies (parts IV and V) with the concerns of encouraging new renewable technology and identifying nuclear power externalities; and finally waste and waste management (part VI). Specialists in these areas will find useful material here.

In conclusion, both books are worth including in collections devoted to environmental taxation, but for a more general coverage of the state of the art, choose the Handbook.

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