

THE DISTRIBUTIONAL EFFECTS OF ENVIRONMENTAL POLICY

EXECUTIVE SUMMARY

Concern with the distributional impacts of environmental policies arises from a widely-held perception that poorer households pay more of the financial costs and receive fewer of the environmental benefits from such policies.

This book addresses the distributional impacts associated with environmental policies. The concern with distributional impacts arises from a widely-held perception amongst policymakers and others that poorer households face relatively greater financial impacts from the introduction of environmental policies than wealthier households. The introduction of environmentally motivated energy taxes is oft-cited in this regard. More recently, there has also been some concern that poorer households reap fewer of the benefits of such policies, facing greater exposure to local air pollution and other environmental risks such as those which arise from living in proximity to manufacturing establishments or hazardous waste treatment and disposal facilities. There is also concern that they may have more limited access to public environmental goods such as green space. While the evidence is far from clear-cut, considerable empirical work has been undertaken which supports such perceptions in a number of instances.

There is a need to look at the distribution of both financial and environmental impacts in an integrated manner if the full distributional impacts are to be assessed.

This book examines the distribution of the financial impacts of environmental policy and the distribution of the associated change in environmental quality in an integrated manner. Environmental policies are not costless, and most households will incur at least some financial impacts arising from the introduction of a given environmental policy. However, they are also likely to enjoy some of the benefits associated with the introduction of a policy in terms of improved environmental quality. Looking at one or the other in isolation can lead to very misleading conclusions. For instance, the direct and indirect financial impacts of a given policy measure may fall particularly heavily on relatively poorer households, leading to concerns about its apparent regressivity. However, if this same group enjoys a disproportionate share of the environmental benefits (reduced exposure to environmental 'bads' or improved access to environmental 'goods') such concerns will be attenuated somewhat.

The distribution of environmental quality across households should be viewed in both physical and economic terms.

Assessing the distribution of environmental benefits associated with the introduction of environmental policy extends beyond assessment of relative levels of exposure to 'bads' or access to 'goods'. It is necessary to look at the underlying demand for environmental quality across different households. Not all households have identical preferences and assuming that this is the case can lead to misguided policy conclusions. It was once thought that demand for environmental quality rose more than proportionately with income - i.e. environmental quality is a luxury good. However, there is increasing evidence that the pattern of demand varies markedly depending upon the nature of the environmental impact, and in many cases environmental quality is better understood as a necessity. Depending upon the nature of the income-demand relationship, a measure whose environmental impacts appear to be regressively distributed when expressed in physical terms (e.g. levels of exposure) may be progressive when underlying preferences (e.g. willingness-to-pay) are taken into account. The converse may also be true. However, in order to ensure that such preferences are reflected in household decision-making, households must be informed of environmental conditions.

While economic instruments are often seen as being particularly regressive, other policy instruments may have equivalent (or worse) effects

The focus of much work on the distributional impacts of environmental policies has concentrated on the impacts of economic instruments. This is hardly surprising – the financial impacts of environmentally related taxes and tradable permits are relatively easy to calculate, at least in comparison with the financial impacts of more direct forms of regulation such as technology-based standards or performance standards. However this is not to say that the distributional impacts of direct regulations are not at least as great as those associated with economic instruments. The household may be less aware of their financial impacts, but that does not make the impact less severe. Similarly, the distributional effects of other policies (financial subsidies, environmental liability, voluntary agreements, etc.) may be no less important. This book seeks to broaden the literature by discussing the impacts of a wide range of policy measures.

A focus only on the direct financial impacts of environmental policy can give a very misleading impression of the distribution of the total financial effects of a given policy.

In addition to the focus on economic instruments, much of the literature has focussed only on the direct impacts of environmental policies. Who spends relatively more on the good which is being regulated or taxed? However, the financial impacts of a given measure are far more complex than such a view would imply. On the one hand, different socio-economic groups may respond very differently to the same policy measure, affecting its incidence. For instance, a residential energy tax may impose unequal financial burden on lower-income households as they may have fewer substitution possibilities than higher-income households (e.g. investment in energy conservation, fuel switching). On the other hand, the indirect effects of policies via their incidence on intermediate inputs can attenuate or exacerbate the direct distributional impacts arising from the impacts on the targeted good (e.g. a carbon tax would affect prices faced by households both directly for fuels, and indirectly for manufactured goods). And finally, the effects of a given policy on related markets (employment markets, public finance, real estate, etc.) will also play a role, significantly attenuating or exacerbating its distributional impacts. All of these different channels need to be assessed if the overall financial impacts are to be assessed.

If distributional impacts need to be addressed for political reasons, this should not undermine the environmental effectiveness and economic efficiency of the environmental policy measure.

In summary, all public policies have distributional implications, and environmental policy is no exception. Ensuring that all new policies are neutral in distributional terms would clearly impose considerable administrative costs on public authorities. Moreover, there are more effective policy levers in place in OECD countries for public authorities to meet distributional objectives, such as progressive income taxation or social welfare benefits. Nonetheless, in some cases the distributional impacts of a particular environmental policy may be such that policy-makers may decide to simultaneously introduce complementary policy measures to address these impacts. Indeed, in many cases it will be politically necessary to address the distributional implications explicitly as part of a 'policy package' in order to introduce a given measure. When doing so, however, it is important to ensure that the environmental effectiveness and economic efficiency of the measure is preserved – i.e. that the marginal incentives to mitigate the environmental bad and conserve the environmental good are retained. For instance, using the revenue generated by a tax for direct financial assistance to vulnerable groups (e.g. low-income households) is likely to be a better option than exempting them from the measure altogether and thus removing the incentives associated with the tax.

In order to address these issues, the first section (Chapters 1, 2 and 3) of the book develops the theoretical framework for the analysis of the distributional impacts of environmental policy. It draws upon insights from environmental economics, welfare economics, public economics and political philosophy. This section reviews the mechanisms through which the benefits and costs of environmental policies affect the individual household, and the reasons why such impacts are likely to be unevenly distributed. Empirical evidence on the distributional implications of environmental policies is examined in the second part through selected case studies, including: ecological tax reform in Germany (Chapter 4), regulatory approaches to residential energy efficiency (Chapter 5), exposure to noise in the United Kingdom (Chapter 6), and proximity to hazardous waste facilities in OECD countries (Chapter 7). Chapter 8 reviews the policy implications arising out of the preceding chapters.

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