The scope and limitations of environmental taxes in a developing country setting

Economics, Tax

1. This paper begins by briefly outlining the impact of development on the environment and the consequent need to mitigate further environmental damage. Economically, the use of environmental taxes serves as an incentive-based tax to curb behaviour that is damaging to the environment. The paper then provides a brief outline of environmental taxes.

Looking specifically at ‘ first tier’ emerging markets, this paper emphasises the necessity of mitigating the environmental damage that accompanies economic growth and industrialisation. Following this, the case of India (as one of the few developing countries that has implemented environmental taxes) is analysed in detail. This paper concludes by looking at the limitations and challenges of the use of environmental taxes in developing countries; as well as possible ways forward.

2. Development and the Environment In ‘ Reconstructing Development Theory: International Inequality, Institutional Reform and Social Emancipation’ Brett puts forward the idea that the environment has not historically, or sufficiently, been considered in the context of development because low income countries had not industrialised and therefore produced negligible emissions (Brett, 2008).

The environment has however increasingly become a point of contention in recent years as developing countries – particularly countries like China and India that have experienced rapid economic growth (and industrialisation) – industrialise under threat of greater environmental restrictions from the international community. These restrictions were not faced by the currently developed world during their time of development (Brett, 2008).

Rising consumerism in developing countries, coupled with high levels of population growth has put the environment under further pressure (Buch-Hansen & Lauridesen, 2012). In short, the nature of development has been such that the earth's finite resources have not been sufficiently considered, resulting in an environmental crisis. There have however, from a policy perspective, been few concrete laws to mitigate the detrimental impact of industrialisation on the environment.

Industrial development policies are still largely favoured in their trade-off with environmental degradation. Furthermore, politically, a policy that favours the environment over economic growth is a difficult sell to citizens. Organisations such as the World Bank, and many development economists, argue that the use of taxes, subsidies, and appropriate pricing to both encourage more efficient use of natural resources, and reduce pollution from consumption and production, would go a long way in mitigating further environmental damage (Bruce & Ellis, 1993).

Furthermore, the World Bank argues that this will be at minimal cost to economic growth. In line with the view of the World Bank, Brett rightly emphasises the need to " introduce institutions that generate the incentive and accountability mechanisms that encourage producers to shift from high impact to low impact technologies" (Brett, 2008). This view advocates a combination of market and state organisation. The introduction of environmental taxes would be one such initiative – as will be further elaborated upon in the section below.

3. Environmental Taxes Environmental taxes fall within a set of environmental policy tools known as economic- or incentive-based instruments. Economic- or incentive-based instruments attempt to change behaviour by changing incentive structures – rather than prohibitive legislation that would be costly to implement. Environmental taxes use fees as their incentive instrument (Bluffstone, 2003). Countries typically implement environmental taxes in order to raise revenues for their treasuries; or to internalise negative environmental externalities of economic activities (Bluffstone, 2003).

In ‘ Environmental Taxes in Developing and Transition Economies’, Bluffstone identifies three tiers of taxes – the Pigouvian Tax (as the ‘ First-Best Tax); the ‘ Second-Best Tax’; and the ‘ Third Best Tax’ – these are briefly outlined below (Bluffstone, 2003). The Pigouvian Tax: The tax is targeted at companies that pollute the environment or create excess negative externalities and are implemented because the market doesn’t provide enough incentive to reduce negative externalities.

While it is the ‘ best case’ for environmental taxation, the costs of implementing it are high; and the required amount of information too high – particularly relating to marginal cost and marginal benefit (Bluffstone, 2003). The Second-Best Tax: When deciding on the level of taxation for the Second-Best Tax, levels are set exogenously – typically as a result of political processes which advocate measures and goals such ‘ safe minimum standards’.

While Second-Best Taxes require less information to implement than Pigouvian Taxes, they require high levels of monitoring and enforcement. A further concern with these taxes is that goals are not specific and are therefore open to a fair amount of interpretation (Bluffstone, 2003). The Third-Best Tax: This tax applies to taxes on products of, or inputs into the economy that are deemed to produce negative externalities – for example, petroleum and sulphur. These taxes are criticised because they do not set goals for environmental improvement.

These taxes are however, the most implemented worldwide because they do not require high levels of information, nor do they require monitoring and enforcement (Bluffstone, 2003). While most developed countries have introduced environmental taxes; with the exceptions of a few countries – South Africa and India for example – these taxes have not been prevalent in the developing world (Ocran, 2012). South Africa's pollution tax came into law on 1 September 2010, while India's came into law on 1 July of the same year (Ocran, 2012).

4. Environmental Taxes and Developing Countries In seeking to gain an understanding of the use of environmental taxes (and indeed the need for environmental taxes) in developing countries this section will begin by looking at the BRICS (Brazil, Russia, India, China and South Africa) economies. The BRICS economies are considered ' first tier' emerging markets – the most developed of the developing world. These economies, perhaps with the exception of South Africa, have exhibited high levels of economic growth.

The International Monetary Fund (IMF) forecasts that Brazil, Russia, India, China and South Africa will grow by 3. 02%, 3. 38%, 5. 68%, 8. 04%, and 2. 84% - respectively (International Monetary Fund, 2013). Of these, India and China have consistently shown the highest levels of growth. These growth levels, coupled with their high populations (in excess of 1 billion people each), increasing industrialisation, and increasing consumerism will put increasing pressure on the environment. It is therefore imperative that steps such as the development and enforcement of environmental taxes are taken, in developing countries in general, but in particular in the ' first tier' emerging markets.

Upon analysis of the BRICS (Brazil, Russia, India, China and South Africa) economies; China, India and South Africa have implemented an environmental tax system. Given that China and India are the world's largest and third largest emitters of CO2 respectively – as is evident from Table 1 below – the policy-relevant approaches that the two countries have adopted serve as key examples of environmental tax policy at the extreme-end of the scale of a developing country setting.