Eco Tax Reform Can Also Be A Double Dividend Solution for Developing Countries

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Abstract

A number of studies of the EU experience with ecological tax reform found that eco-taxes have generated a double dividend for developed countries such as Germany. Fossil fuels are taxed to become more expensive and less affordable, which discourages their consumption. At the same time, taxing fossil fuels reduces the relative prices of renewable energy sources, encourages their production and consumption, and stimulates the related investment, research, and job markets. In addition, funneling revenues raised from eco-taxes into social security system makes labor cheaper, thus increasing the economy’s international competitiveness. This double dividend is however still less obvious for developing countries such as China. The fear for eco-taxes stifling the much needed economic development makes countries hesitant with adopting eco-taxes. Will eco-taxes also allow developing countries to reduce their economic activities’ environment and climate impacts without halting their much needed economic development? A recent study examined the relationship between China’s selected taxes and its environmental and climate problems and found remarkable correlations between them. These findings provide a new justification of replacing the existing taxes with eco-tax to gradually transition from the current coal dependent economy to a low carbon economy. This article will discuss the results of this study and their implications for eco tax reform.

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1. Introduction

A number of studies of the EU experience with ecological tax reform found that eco-taxes have generated a double dividend for developed countries such as Germany (Knigge and Görlach, August 2005; Mendonça, 2007; van Erck 2008, Speck, 2009). Fossil fuels are taxed to become more expensive and less affordable, which discourages their consumption. At the same time, taxing fossil fuels reduces the relative prices of renewable energy sources, encourages their production and consumption, and stimulates the related investment, research, and job markets. In addition, funneling revenues raised from eco-taxes into social security system makes labor cheaper, thus increasing the economy’s international competitiveness.

This double dividend is however still less obvious for developing countries such as China. The fear for eco-taxes stifling the much needed economic development makes countries hesitant with adopting eco-taxes. Will eco-taxes also allow developing countries to reduce their economic activities’ environment and climate impacts without halting their much needed economic development?

2. Relationship between the Current Taxes and Environmental and the Climate Problems

A recent study (Yang, 2009) examined the relationship between China’s selected taxes and its environment and climate problems and found that the value added tax (VAT) was most significantly correlated (.70) with environment pollution and degradation, even more significantly than GDP (.67). Although this finding cannot be used to suggest that the VAT caused pollution and resource degradation in China, they do provide justifications for eco-tax reforms for the following reasons.

First, since the findings inform with certainty what kind of economic activities generated the biggest tax revenue in China, such questions can be further asked as what role VAT plays in regulating economic activities that have most environmental and climate impacts.

Second, the significant correlations between the public finance and pollution reveal that over time, the existing major taxes in China, especially VAT, Business Tax, and Company Income Tax, did not appear to have the functions of protecting the country from the high external costs of its rapid economic growth, instead these taxes considerably benefited from the production and consumption that led to pollution and degradation, even more so than the rapid economic growth itself. The significant link between the public finance and environment problems makes a strong case for the public finance to transform its function from the beneficiary of polluting economic activities to playing a more responsible and more proactive role in combating environment pollution and degradation.

3. Justifications for Eco Tax Reform

The most significant correlation of VAT with pollution suggests that this tax is most pollution related, and should be the first and major target of an ecological tax reform. Since the VAT taxes value added, or output, it turns a blind eye on environmental and climate pollution. Its ecological replacement, eco tax, taxes the input of economic activities, and takes the economic activities’ environmental and climate impact in consideration. It internalizes their external costs,” makes “polluters pay,” and thus influences much more directly the input of production and consumption toward increased energy efficiency and decreased carbon intensity to reduce environmental and climate pollution and degradation (Matschoss 2002, Lawn 2006). Since the external costs of these economic activities are internalized before production and consumption, rather than posthumously as a result of such activities, the producers and consumers will take into account the associated environmental taxes as part of the overall price signal of scarce energy sources and resources on the markets what energy sources and resources to consume and how to more efficiently consume them. According to this tax reform option, environmentally neutral economic activities should be taxed at a zero tax rate. To further optimize this public finance leverage, negative tax rates (or tax credit) should be applied to the production and consumption of environmentally friendly energy sources, such as solar, wind, and other renewable energy sources. This tax credit can promote investment and job creation in the related innovative
technologies and accelerate the pace of the development of the low carbon energy structure and low carbon economic development strategy. Therefore, eco taxes will be a much more “market-orientated, cost-effective” solution to environmental problems as it corrects the market distortions of energy sources and resources.

In addition to saving the planet, eco tax reform can also ensure a sustainable development for developing countries like China, which is new in multiple dilemmas. First, it uses coal, an extremely dirty fossil fuel, as its major energy source and needs to “upgrade” to less polluting fossil fuels, such as oil and gas, but the prices of these fossil fuels and other resources are skyrocketing. Second, China’s further development greatly depends on FDIs from developed countries, but with the developed countries’ outsourcing, China experiences additional pressure on its deteriorating environment. The traditional carbon-based development path would produce too much pollution to the air, land, and water, make its economic development too costly and unsustainable for the environment and human health, and require the population, especially the poor, to suffer and deal with increasing environmental and climate change consequences and costs for too long time in its economic development.

China needs to accelerate its “harmonious” (in both social and environmental terms), green economic development of an alternative energy strategy and structure and switch to renewable energy sources and clean coal without delay, and to start to sustain its economic growth based on this green energy structure in the not distant future. In conjunction with its carbon reduction plan, China has announced that it will introduce carbon tax by 2012 with an initial tax rate of 10 yuan and an increased rate of 40 yuan by 2020 (Report, May 2010).

4. Special Considerations for Eco Tax Reforms in China as a Developing Country

The suggested reform policy option of replacing VAT with eco-tax differs significantly from the predominant option in developed countries such as Germany that focuses on replacing environmentally neutral, direct taxes such as the Income Tax or Social Security Tax with environmental taxes such as pollution tax and carbon tax. While the regressive impact (i.e. putting a greater burden on the poor than on the rich) of these tax reform suggestions are neutralized with a redistribution of the eco tax revenue in developed countries at a grand scale, the replacement of the indirect, regressive VAT with indirect, regressive ecological taxes does not need such a correction for two reasons.

First, personal income tax and social security tax are still relatively small taxes in China. Second, a regressive tax itself, the VAT’s partial replacement, the least equitable of the current taxes, by eco-taxes will be less regressive than the replacement of income tax by eco-taxes. Therefore this option will be a more equitable solution to environmental problems in developing countries. Certainly, with the increase in eco tax rate in the future, part of eco tax revenue can be channel into developing China’s social security system.

China can however also learn some important lessons from the developed countries’ eco tax reforms. First, the eco tax rate should be initially set at a low level and be gradually raised later to allow producers and consumers time to adapt. Second, since the mission of the eco tax is primarily to structurally influence economic activities in relation to their environmental and climate impacts, rather than generating additional government revenues, the eco tax should be revenue neutral and should not create additional macroeconomic burdens on producers and consumers. Therefore, implementing eco tax with a simultaneous reduction of VAT can avoid the implementation’s potential shock effect.
Conclusions

This article discusses the findings of the close relationship between China’s current public finance and its environmental and climate problems in line with a green transformation. It suggests that these results can be used to demonstrate that these major taxes were extremely closely associated with production and consumption of goods that produce pollutants and cause resource degradation. Further, these results tell us that these taxes did not work as fiscal tools to prevent or reduce the production of pollutants and CO₂ emissions, instead benefited more than GDP from economic activities that produce pollutants and CO₂ emissions. The findings indicate the need to green the existing taxes so that public finance can be used as a tool to provide market incentives to develop a greener economy through promoting the research and development of renewable energy sources and facilitating energy efficiency of economic activities both by production and consumption. Such an eco tax reform is necessary to prevent further environment and climate deterioration, ensure the sustainability of natural resources, and establish a “harmonious” relationship between the economic development and the environment in China. The results of this research contribute to identifying the taxes that need to be replaced in future ecological tax reforms to most effectively meet the objectives of environmental and climate protection. Finally, these findings help recognize the central government’s responsibility in pushing forward ecological tax reforms, which are essential in its strategic transition to a green, i.e. clean, efficient, sustained, and equitable economy and society.

References


