Choosing Corrective Pricing

in the Presence of Other Distortions

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Abstract

This paper compares the efficiency of different corrective tax instruments in a general equilibrium model with externalities and transaction cost. Our model not only allows for separability between inputs and abatement but also for both upstream and downstream firms. We derive a simple general formula that allows to evaluate social welfare impacts of different corrective tax instruments or combinations of tax instruments on their own tax base as well as other (indirect) tax bases in the presence of administrative costs. This formula guides Pigovian rules for specific taxes in a second best setting as well as cost-effectiveness of marginal tax reform of specific taxes on emissions, inputs or outputs, in the presence of other taxes. The paper contains important lessons for tax design of environmental externalities such as carbon pricing. We find that life cycle consumption taxes nor input taxes are good substitutes for emission taxes if linkage between emission and inputs is relatively weak and administrative cost are not too large. Mixed systems of taxes are also considered. Upstream input taxes are not always a good substitute for emission taxes, in particular if abatement for downstream firms is easier relative to the associated administrative costs.

Key words: Externalities, Corrective Taxation, Transaction Costs, .Carbon Pricing, Multiple Instruments, Instrument Packages