

The problem with emission taxes in a small open economy

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The uniform carbon tax is the holy grail of climate policy. In reality, however, this tax is only efficient in a first-best world. When countries face coordination problems, the situation changes. Consider a small open economy with two externality-generating inputs of production in a world with coordination problems. We show that a standard Pigouvian tax is only optimal, when the inputs have equal supply price elasticities. Generally, the optimal tax on a good decreases when the relative supply price elasticity increases. The result holds both when considering overall social welfare and when considering emissions minimisation. In some cases, a uniform tax will contribute to *increased* emissions because of differences in supply elasticities causing a sub-optimal production input mix after the tax. We begin by showing our results in a stylised model of a small open economy. Later, we illustrate the problem in a fully calibrated model of the agricultural sector in a small open economy.