



POTENTIAL COUNTER-PRODUCTIVITY OF SECOND-BEST CLIMATE POLICIES

RICK VAN DER PLOEG*

The Green Paradox and the potential counter-productivity of badly designed climate policies have been put forward by Hans-Werner Sinn in his German language book and in an academic article (Sinn 2008a and 2008b). In fact, the ideas go back to much earlier theoretical work that shows that an *ad valorem* tax on fossil fuel that increases over time leads to an acceleration of fossil fuel extraction (e.g. Sinn 1982; Long and Sinn 1985). Characteristically, he has also warned for the Green Paradox in no uncertain terms in the German policy debates. He must have been at least in part motivated by the very high subsidies for solar energy in German electricity generation. Given his excellent track record in both public finance and resource economics it is no surprise that the principle of second-best economics is at the root of the Green Paradox. Politicians hate to implement popular policies such as pricing carbon to fight global warming. Instead, they dither and procrastinate carbon pricing and try to make commitments for their successors instead. Politicians also prefer the stick to the carrot, so rather subsidise renewable energy production over and above what might be necessary to internalize learning-by-doing externalities instead of doing the honest thing and properly price carbon.

Second-best policies such as postponing carbon pricing and subsidising renewable energy have the unintended consequence of pushing down fossil prices, both in the future and *via* the logic of intertemporal arbitrage in the present. As a result, fossil fuel demand and carbon emissions increase in the present, thereby accelerating global warming. This had adverse welfare

consequences in the short run. In the longer run, however, even such second-best policies lock up more fossil fuel in the crust of the earth and thus limit cumulative emissions and thus curb the eventual increase in global warming. These beneficial welfare effects dominate the adverse short run welfare effects if the price elasticity of fossil fuel demand is small, that of fossil fuel supply is large, and the ecological discount rate is small.

If this is not the case, second-best policies are really counterproductive in which case Sinn suggests to tax financial assets held by fossil fuel producers. Such a tax curbs the desire of fossil producers to accumulate financial wealth and has the opposite effects of a postponed carbon tax. The Green Paradox can be seen as an intertemporal version of spatial leakage, which is the notion that pricing carbon in one set of countries depresses fossil fuel prices and thus accelerates fossil fuel demand and global warming in the rest of the world. The Green Paradox effects of postponed carbon pricing induce leakage both in the present and the future.

The Green Paradox has spawned a huge rather technical literature among academics with unfortunately not enough serious applied work with convincing evidence on significant and substantial adverse effects of second-best climate policies in the real world. However, the gravitas of Sinn can be witnessed from the much wider perspective he offers in his book. In it he discusses at times rather provocatively that the efforts of many governments to promote say alternative energy, impose emission controls on cars, and enforce tough energy-efficiency standards for buildings has done nothing to stop the relentless rise in carbon emissions. Quite rightly Sinn emphasises that policies such as diverting agricultural land to produce biofuel make the poorest on our planet hungrier and worse off. His plea is therefore to not try to regulate the demand for fossil fuel but to directly curb the supply of fossil fuel by leaving more of the stuff in the ground and thereby curb cumulative emissions. This gets close to a Coasian approach where suppliers of fossil fuel are bribed not to extract it.

* Professor of Economics at the University of Oxford and Research Director of the Oxford Centre for the Analysis of Resource Rich Economies.

His ambitious proposal is to organise all countries that are net importers of fossil fuel into a global cartel with a credible coordinated cap-and-trade system supported by taxing capital income of the oil and gas sheikhs at source. His passionate plea to tackle global warming at the root of the problem should gain more traction in policy circles and showcases his unique qualities as a policy-driven intellectual and scholar. Although vocal green policy activists in Germany and elsewhere have often taken umbrage with Sinn's unwelcome critiques of badly designed energy and climate policies, they would do well to take his analysis aboard in order to get efficient and effective ways to combat the warming of the planet. Our grandchildren and their offspring would not forgive us if we did not take urgent action for perhaps the most important challenge of our time.

References

Long, N.V. and H.-W. Sinn (1985), "Surprise Price Shifts, Tax Changes and the Supply Behaviour of Resource Extracting Firms", *Australian Economic Papers* 24, 278–289.

Sinn, H.-W. (1982), "Absatzsteuern, Ölförderung und das Allmendeproblem", in: Siebert, H. (ed.), *Reaktionen auf Energiepreisänderungen*, Frankfurt: Lang, 83–103.

Sinn, H.-W. (2008a), *Das Grüne Paradoxon. Pläydoyer für eine illusionsfreie Klimapolitik*, Berlin: Econ.

Sinn, H.-W. (2008b), "Public Policies against Global Warming: A Supply-side Approach", *International Tax and Public Finance* 15, 360–394.