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Can Tax Reforms Help Achieve Sustainable Development?

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Abstract

This paper focuses on reforms that offset government revenue loss from a decrease in capital income taxation with an increase in a tax on dirty goods or a tax on pollution emissions. We build an overlapping generations model with age-dependent mortality rates. We numerically assess environmental and non-environmental welfare effects that existing and future generations experience over a lifetime. First, when the reform involves the dirty goods tax, we find that individuals older than 65 years old and future generations do not experience a double dividend. When the reform involves the pollution emissions tax, we find individuals older than 25 years old and future generations do not experience a double dividend. Second, contrary to the reform relying on the dirty goods tax, the reform relying on the pollution emissions tax has larger negative non-environmental welfare effects and larger positive environmental welfare effects for future generations. Third, we compare our results to those of the perpetual youth model. We show that the two models yield a different qualitative and quantitative assessment of the double dividend. Furthermore, the perpetual youth model tends to overstate the potential of the reforms for Pareto improvements and understate their adverse effects on net intergenerational distribution. Thus, our analysis suggests that those tax reforms alone cannot help achieve sustainable development as they redistribute welfare unequally across generations. Modeling a realistic demographic process is key in assessing intergenerational welfare distribution.

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