

Abstract

Recent empirical research has examined the relationship between certain indicators of environmental degradation and income, concluding that in some cases an inverted U-shaped relationship, which has been called an environmental Kuznets curve (EKC), exists between these variables. Unfortunately, this inverted U-shaped relationship does not hold for greenhouse gas emissions. One explanation of the absence of EKC-like behavior in greenhouse gas emissions is that greenhouse gases are special pollutants that create global, not local, disutility. But the international nature of global warming is not the only reason that prevents de-linking greenhouse gas emissions from economic growth. The intergenerational nature of the negative impact of greenhouse gas emissions may have also been an important factor preventing the implementation of greenhouse gas abatement measures in the past. In this paper we explore the effect that the presence of intergenerational spillovers has on the emissions–income relationship. We use a numerically calibrated overlapping generations model of climate–economy interactions. We conclude that: (1) the intertemporal responsibility of the regulatory agency, (2) the institutional capacity to make intergenerational transfers and (3) the presence of intergenerationally lagged impact of emissions constitute important determinants of the relationship between economic growth and greenhouse gas emissions.