



## Country-specific environmental Kuznets curves: a random coefficient approach applied to high-income countries [

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Analítica

Cross-country estimations of the Environmental Kuznets Curve (EKC) to empirically analyze the relationship between income and pollution have generally assumed a common structure for all countries. Since this latter feature is not supported by economic theory, this paper uses the Random Coefficient Model proposed by Swamy (1970) and empirically estimates EKCs for sulfur dioxide with specific turning points from a sample of 73 high and low income countries. A crucial aspect is that there are large differences between the estimated turning points of the EKCs for the different countries in the sample, which points to the relevance of using the approach employed here since assuming a common structure for all countries erroneously hides this relevant empirical feature. Moreover, the analysis of the structure of the EKCs estimated suggests that regulatory processes resembling market mechanisms could induce the empirical emergence of EKCs. Finally, taking into consideration the most recent concerns in the literature, we econometrically checked, on the one hand, for the validity of the usual theoretical assumption of exogeneity of the per capita income variable in the EKC relationship and, on the other hand, for an eventual structural change causing the sign change in the pollution-per capita income relationship of the EKC. The weak exogeneity and the structural break tests employed rendered plausible that income per capita is really the driver variable determining the EKC relationship found. Key words: Environmental Kuznets Curve, random coefficients

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