

Abstract

In the thesis, we examine the necessity and impacts of measures adopted under the greenhouse gas emissions target in the Europe 2020 growth strategy in the EU-15 states. For testing the necessity of the measures, we use the Environmental Kuznets Curve (EKC) hypothesis for carbon dioxide (CO₂) emissions as the theoretical framework, the Autoregressive distributed lag model as the econometrical technique and annual data from 1970 to 2010 (1991 to 2010 in the case of Germany). The existence of the EKC is detected in Belgium, Denmark, France, Germany, Netherlands, Spain, Sweden, and the United Kingdom. However, only in Denmark the EKC hypothesis is supported significantly (on ten percent level of significance). Following the main implication of the EKC hypothesis, only in Denmark is the economic development sufficient enough to safeguard environmental quality; therefore, no additional measures are needed. In the remaining states, we tested Granger causality using the Toda-Yamamoto procedure to inquire about the impacts of the measures on gross domestic product (GDP). Our results indicate that only in Austria, Germany (with caution due to a limited number of observations) and Ireland, the measures may impede economic development. In the remaining states, no causality or only a causality running from GDP to CO₂ emissions was found. For the sake of completeness, the EKC hypothesis was also tested in two panels of the EU-15 states, and the results support its existence in both panels on one percent level of significance.

JEL Classification

O130, O440

Keywords

Environmental Kuznets Curve, European Union, EU-15, carbon dioxide emissions, environment, economic development