

Im Rahmen der öffentlichen Vortragsreihe

Economic Theory and Policy

der Forschungsgruppe Ökonomie

am Institut für Stochastik und Wirtschaftsmathematik der TU Wien

hält

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einen Vortrag

mit dem Titel

Decomposition of global energy intensity trends: A new approach using the Environmentally Extended Input-Output Analysis

Abstract:

This paper analyses recent energy intensity trends of 40 major economies. Our main focus lies on the question whether improvements in energy efficiency were due to structural change towards a greener economy or a consequence of technological improvements. In contrast to previous studies, we account for intersectoral trade by using the World Input-Output database and adjust sector-specific energy use via the environmentally extended input-output analysis. We find strong differences between adjusted and unadjusted energy consumption across sectors, particularly in the construction and electricity industry. Using the three factor Logarithmic Mean Divisia Index method, our decomposition analysis shows that recent energy intensity reductions were mostly driven by technological advances. Structural changes within countries played only a minor role, whereas international trade by itself even increased global energy intensity. Compared to previous studies that used unadjusted sectoral energy data, we find structural effects on energy intensity reductions to be systematically weaker under adjusted data. The differences are particularly striking on a country-level, e.g. for Japan and Turkey.

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