

Peeling the Onion: Analyzing Aggregate, National and Sectoral Energy Intensity in the European Union

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One of the most promising measures to meet targets set by climate policy is the improvement of energy efficiency, i.e. using scarce and polluting resources less extensively to produce a certain amount of output. In this study we will employ the WIOD database, a harmonized and consistent dataset consisting of timeseries of input-output tables and accompanying environmental satellite and socioeconomic accounts in order to carry out an interesting empirical exercise which consists of two parts: In a first step, we will present a very aggregated picture of EU27 energy intensity and its development between 1995 and 2009. Then, we will dig deeper and introduce sectoral detail in order to see composition differences for the same timeperiod. Subsequently, we will disaggregate the EU27 block into its consisting countries to see regional differences. The final step will be to introduce also a sectoral disaggregation for the individual countries to give a fine-grained picture of the energy-intensity development in Europe. The second part uses the obtained results from the index decomposition by using panel estimations following Metcalf (2008) for the United States. By doing so, we want to control for potentially influential factors of the development in the European Union. In particular, we investigate the impact of technological change, structural change, trade, environmental regulation and country specific characteristics.