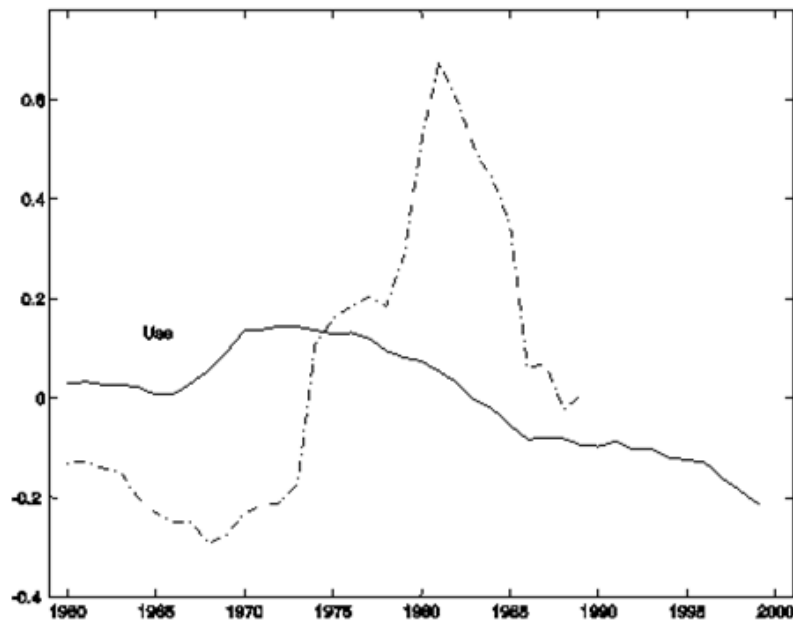


Do we care about the end of the (easy) oil era? This paper explores the answer to this question by use of two macroeconomic models of energy use at the plant level. These models have been found useful to address the observed response to energy price shocks in recent years. This response can be described as follows. In time series data, energy use does not change much with energy price changes. However, energy use is responsive to international differences in energy prices in cross-section data across countries.



To address these patterns of the data both of the models incorporate a form of capital heterogeneity at the plant level. The main difference among them is in certain technological assumptions. In particular, in this setting, adopting an energy saving technology has different cost under the alternative assumptions on the technology. First, we illustrate the connections between the different technological assumptions in these models. Then we show how to reinterpret both specifications of the models at the plant level in terms of vintage capital, and thus, obsolescence.

Within this framework we evaluate the response of the two models to alternative scenarios for energy price shocks in the years to come. These scenarios correspond to a highly persistent stationary process for the shock versus the occurrence of big energy price shocks with a small probability. We do find remarkable differences in the response of the capital to energy ratio between the two models under the alternative scenarios that can be related to obsolescence costs.