



What trends in energy efficiencies? Evidence from a robust test

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A proper modeling of the long-run behavior of energy and oil intensities is crucial in many respects. This paper aims at checking whether this long-run behavior should be modelled as a deterministic or a stochastic trend or both. We first apply a test for a deterministic trend robust to uncertainty about the stochastic trend. Our results indicate that, for the period 1960–2004, energy intensities of only 8 OECD countries out of 25 include a negative deterministic trend, 3 include a positive one and 14 seem to be better modelled by a stochastic trend only. When considering a sample of 73 non-OECD countries on the period 1971–2004, we show that only 22 exhibit a deterministic trend (negative for 15 countries and positive for 7 countries). A similar analysis for oil intensity leads to reject the hypothesis of an insignificant deterministic trend for 7 OECD countries out of 23 for the period 1965–2004 and 11 non-OECD countries out of 40 for the period 1971–2004. In the next step, we apply standard unit root tests and find that the unit root hypothesis is not very often rejected. We conclude that a main feature of energy intensities is the presence of a stochastic trend.

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