

# Is energy efficiency a driver or an inhibitor of energy consumption changes in Spain? Two decomposition approaches

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The 2000-2008 expansion period of the economy was accompanied by an important increase of energy consumption. The desire of decoupling has led us to analyse the driving forces behind the energy consumption changes during this expansion period through a structural decomposition analysis (SDA) based on the Spanish input-output tables. Previous decomposition has been supplemented by a Logarithmic Mean Divisia Index (LMDI) analysis of the energy consumption changes during a longer period: 2000-2013. The results show that the energy intensity was the main inhibitor effect of the energy consumption changes of sectors of production, not only during the recession but also during the expansion period. Secondly, the energy intensity was a driver of the energy consumption change of households during the expansion period. However, during the recession period, the energy intensity of private transport contributed to reducing energy consumption, having an inhibitor effect. Therefore, if the activity effect is still the most important driver, the energy intensity effect has become the main inhibitor of energy consumption changes. The energy policy recommendation is to focus on household energy consumption in the future if the Spanish Government aims to attain the EU energy efficiency objectives. © 2018 Elsevier Ltd

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