

Determinants of energy poverty: Trends in Spain in times of economic change (2006–2021)

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1. Motivations underlying the research

Energy poverty, a situation in which households struggle to keep their homes warm and to afford other energy goods and services required for individual welfare, is by no means a new phenomenon in Spain or, for that matter, in many other countries of Europe. According to Eurostat data, 6.5% of Spanish households in 2011 were unable to keep their homes adequately warm; ten years later this figure has risen to 14.2% (2021), well far of the 4% target set for 2025 by the Spanish National Strategy against Energy Poverty.

During the last decade, a large part of the academic literature has focused its efforts on understanding the concept and on proposing metrics of energy poverty; however, the identification of its drivers is still widely debated with conflicting and heterogeneous results. Indeed, while many studies have been attempted, they tend to present a somewhat static account of energy poverty in a given period and, as such, fail to provide a complete picture of the overall problem.

2. A short account of the research performed

The study undertakes an analysis of the critical drivers of households falling into a situation of energy vulnerability and seeks to identify new dimensions and profiles affected by this structural problem. To achieve these objectives, we undertake an econometric analysis, based on an exhaustive sample of more than 300,000 households taken from the Spanish Household Budget Survey (HBS) for the period 2006–2021. The HBS database allows us to use different energy poverty indicators based on the expenditure approach, where domestic energy expenditure is compared and distinguish different economic periods between the years 2006 and 2021, including the initial impact of the COVID-19 pandemic and the global energy crisis.

3. Main conclusions and policy implications of the work

Our empirical results confirm that energy poverty in Spain remains a chronic problem with a tendency to worsen during periods of economic crisis, such as the global recession caused by the COVID-19 pandemic. Average energy poverty increased during the 2008 crisis and in the period of austerity between 2009 and 2014, but as the economy recovered there was a gradual decrease in energy poverty in Spanish households, a trend that would be interrupted by the outbreak of the COVID-19 pandemic.

Our results suggest that the socio-economic characteristics of a household are the main drivers of being energy poor in Spain. In particular, the retired and women living alone are at high risk of finding themselves trapped in energy poverty. In contrast, being highly educated is associated with less exposure to energy vulnerability, meaning that measures taking an eminently behavioural approach (provision of information and training of consumers by means of energy schooling, energy audits, tariff comparators, etc.) can improve problems related to energy poverty. Our empirical results also highlight the importance of the economic activity performed by household members in determining the probability of being energy poor, especially during periods of crisis.

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The results reported here should be of great use to politicians for understanding how the main drivers of energy poverty have evolved in recent distinct economic periods and for helping them to implement appropriate policy measures. First, in order to maximize the scope of their policies, it is essential that the target audience be more precisely defined and that the mechanism via which vulnerable households might obtain aid be suitably designed. Second, to address the effects of the pandemic and the current energy crisis, a series of emergency measures have been adopted, but these are only temporary measures. This means that once these temporary measures are withdrawn, an increase in the incidence of energy poverty might well be seen. Then, it is thus critical to address the roots of the problem of energy poverty, which means designing new tools that can have a real impact in the medium and long term. Finally, the need to ensure a fair, decarbonized, sustainable energy transition requires the participation of all economic agents (that is, firms, social entities, administrations, universities, and citizens alike). Indeed, the challenge of identifying ways in which the quality of life of the most vulnerable households can be improved needs to be addressed by working in a network made up of representatives of these various actors. Such collaboration should give rise to far-reaching policies that manage to reach that part of society at greatest risk.