ENERGY POVERTY IN THE EUROPEAN UNION: TEMPORAL AND SPATIAL PATTERNS

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Starting points

The inability of many European households to achieve or afford an adequate level of energy services in the home – a condition referred to as fuel or energy poverty – is gaining increasing academic and policy attention. Efforts to study the dynamics of energy poverty at the scale of the EU (Bouzarovski 2013; Braubach and Ferrand 2013; Healy 2004; Healy and Clinch 2004; Thomson and Snell 2013) have identified a number of factors that influence the likelihood of experiencing domestic energy deprivation at the household level. However, a more detailed investigation of the spatial patterns of energy poverty at the scale of member states is still missing. In particular, its relationship with the substantial differences among mean domestic energy prices in the EU is yet unclear. Gaps of knowledge also exist with regard to the differentv ways in which patterns of domestic energy deprivation at the country level are influenced by processes of policy reform and institutional change. This is particularly pronounced in the context of Eastern and Central European countries, which have seen dramatic dynamics of upward price rebalancing and general poverty expansion.

Methods

Based on a comprehensive and comparative analysis of national-scale and Eurostat datasets on prices, welfare, monetary and material deprivation and energy poverty, this paper provides a quantitative investigation (mainly via a series of correlation analyses) of the relationship between spatial and temporal patterns of energy poverty in Europe, on the one hand, and energy price and general income poverty dynamics, on the other. We propose a regionalization of the EU in three clusters of member states with the aid of an *ad-hoc* energy poverty index inspired in previous examples from the literature (Buzar 2011; Healy 2004; Thomson and Snell 2013). These three territorial categories are later applied to the analysis of differences in energy prices and poverty and social exclusion rates, thus contributing to the debate about cross-country disparities in the incidence of energy poverty in the EU. A large part of our paper is devoted to exploring the policy underpinnings of energy poverty, especially in terms of the main decision-making pathways that tip vulnerable households into conditions of domestic deprivation. This is based on interviews with key informants in several Eastern and Central European (ECE) countries, and a survey of the secondary literature.

Main findings

The results of our work have revealed that:

- Domestic energy prices, often seen as a key driver of energy poverty, have consistently increased at faster-than-inflation rates for the EU as a whole since the mid-1990s. The same pattern is repeated at the scale of individual member states, as domestic energy prices have grown at a quicker pace than inflation rates in all EU countries since 2004;
- EU member states with lower welfare levels and higher monetary and material deprivation rates consistently report a higher incidence of energy poverty as measured by indicators of the EU Survey on Income and Living Conditions (EU-SILC), i.e. the inability to keep the home

adequately warm, arrears in the payment of utility bills and presence of dampness, rot and leaks in the dwelling);

- The three regional clusters in which EU member states can be sorted into (Southern, North-Western and ECE countries) according to previous research are internally consistent in terms of the scores of individual member states for the poverty rate and the *ad-hoc* energy poverty index based on EU-SILC indicators;
- In ECE countries, it is possible to discern a clear relationship between policy measures in the energy, housing and social welfare sectors and the spatial and temporal distribution of vulnerabilities to energy poverty. The ability of the state to institute wide ranging energy efficiency measures in the housing sector is a key factor in this process.

Conclusions

When placed in the broader context described above, the results of our work indicate that domestic energy prices are acting, at the scale of member states, on top of a more significant piece of the domestic energy deprivation puzzle – the poverty rate measured as the percentage of the population at risk of poverty and social exclusion. Thus, high or rapidly increasing energy prices can be deemed as drivers of energy poverty when occurring in combination with high or increasing percentages of population at risk of poverty and social exclusion. Such findings underline the heterogeneity of the EU from an energy poverty perspective. They also highlight the particular vulnerability of ECE states to the problem, and the importance of policy and institutioinal contexts in determining patterns of inequality and deprivation.

From an applied policy viewpoint, the outcomes of our research call for an explicit recognition of this spatial diversity in all energy affordability-relevant decision-making at the EU and member state level, and for a careful consideration of the risks posed by the transition to a low-carbon economy, and the broader restructuring of the energy sector.

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