

Necessity or Luxury Good?

Household Energy Spending and Income in Britain 1991 - 2007

EPRG Working Paper 1220

Cambridge Working Paper in Economics 1237

Helena Meier, Tooraj Jamasb, Luis Orea

Abstract

The residential demand for energy is growing steadily and the trend is expected to continue for the foreseeable future. Household spending on energy services tends to increase with income. We explore household total spending on energy and on electricity and gas separately. We use an extensive British household panel data with more than 77,000 observations for the 1991-2007 period to explore the determinants of energy spending. We analyse income as a main driver of spending on energy and draw Engel spending curves for these. The lack of household level price data in liberalized retail energy markets is addressed by a new modelling approach to reflect within and between regional differences in energy prices. Also, long run changes in energy spending of households are approximated by exploring unit effects. The main results show the Engel spending curves are S-shaped. Income elasticities for energy spending are U-shaped and lower than unity, suggesting that energy services are a necessity for households. Moreover, the findings show that the income elasticity of energy spending is somewhat higher in the long run. Finally, we find a dynamic link between energy spending and income changes rather than a fixed budget threshold where basic needs are met. Hence, we suggest policy approaches that enable households to find their individual utility-maximizing energy spending levels.

Keywords Household energy spending, Engel, Price modelling

JEL Classification C23, D12, Q41