ESTIMATING WELFARE ASPECTS OF CHANGES IN ENERGY PRICES FROM PREFERENCE HETEROGENEITY

P. Pashardes, N. Pashourtidou and Th. Zachariadis

Abstract

The European Union's energy and climate policy package will cause an increase in end-user prices of electricity and fuels. This paper assesses the distributional effects of these price increases in Cyprus by specifying and estimating a household energy demand system with price heterogeneity between households. This novel method allows obtaining robust parameter estimates even when household expenditure surveys are limited. The empirical analysis is conducted both conditional on energy-related household characteristics and unconditionally. We then use the estimated demand system to conduct welfare analysis. We find that the rise in energy prices results in welfare losses (in 2009 prices) of EUR 31 and EUR 101 per household for 2013 and 2020 respectively, or a nationwide welfare loss of more than EUR'2009 33 million in 2020. Price increases will be regressive and will affect small and urban households more strongly than the rest of the population. Furthermore, we find that the largest proportion of welfare loss is due to loss of household's income purchasing power caused by higher energy prices, while the changes in relative prices induce deadweight loss which is a small part of welfare loss because of the limited substitutability of energy with other goods.