

How large is the Owner-Renter Divide in Energy Efficient Technology? Evidence from an OECD cross-section

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The objective of this paper is to evaluate empirically the importance of “agency effects” in household electricity consumption. More specifically, an investigation is carried out to evaluate if, when the home owner makes many technology choices (e.g. appliances and insulation), occupants who own the home they live in invest more in energy efficiency than occupants who are renters. This is an important issue in the overall context of understanding the puzzlingly slow adoption rate of energy efficient technology by households. This is important, too, from a policy perspective, since if the effect is significant, it represents a potentially cost-effective way of reducing energy consumption via policy actions.

In this study, we focus on the scenario wherein the owner makes an appliance or technology choice for the tenant who bears the energy costs. The owner's decision leaves the tenant with potentially higher electricity costs, an inefficient outcome for society. Two plausible reasons for this inefficiency are: first, tenants do not have reliable information regarding energy efficiency and second, owners are unable to charge a premium for energy efficiency. Empirically, this can be observed in the data in the form of fewer energy efficient devices/technologies to which the tenant has access.

Two unique aspects of this study are: wide geographic coverage (data are drawn from a 2011 survey of households in eleven OECD countries), ensuring that observed effects are not restricted to narrow geographies or circumstances, and addressing virtually all energy consuming technologies, both appliances (Refrigerator, Freezer, Washing machine, dryer and oven) and heating/cooling (insulation and household-level energy generating technologies such as solar panels).

Using this dataset, we report substantial differences between owners and renters in access to energy efficient technology, varying by technology type, after controlling for differences in observed characteristics (e.g. income). These differences range from a high of 50% for energy efficient bulbs, (and 45% for appliances) to a low of 2.5% for solar panels. These effects provide strong evidence for the presence of inefficiencies in the (hypothetical) market for “energy efficiency”. This inefficiency implies increased usage of electricity, and associated greenhouse gas emissions. These results point to increased scope for energy policy to enhance penetration of energy efficient technology and call for detailed country-specific studies quantifying the magnitude of agency effect, in linking them to emissions and on formulating appropriate policies.