

# Fuel Poverty Conference

DATE

19<sup>th</sup> June 2023

VENUE

The Economic and Social  
Research Institute  
Whitaker Square  
Sir John Rogerson's Quay  
Dublin 2  
Ireland  
D02 K138



# Research Program on Energy Poverty

[EPRC](#) at [ESRI](#); Department of Environment, Climate and Communications

# What is Energy Poverty?

- A situation where individuals or households are unable to adequately heat or acquire energy services in their homes at an affordable cost. (Pye et al. , 2015)

# Why do we care?

- Implications on social welfare.
- Health impacts. (Mohan, 2021; Casquero-Modrego and Goni-Modrego, 2019)
- Improved targeting of subsidies.
  - Effectiveness of transfers to vulnerable HH to reduce energy poverty.
  - In Ireland, fuel allowances reduce HH under fuel poverty (Pillai et al. 2022)
  - Targeting the income poor but not the energy poor. (Kyprianou et al., 2019)
  - Measuring efficacy of policy horizontally and vertically. (Simshauser, 2021)
- Increasing relevance as energy prices rise (Tovar, 2021)

# How do we measure Energy Poverty?

## Competing definitions and measurements of fuel poverty

- Indicators:

- The expenditure-based measures (EBMs) that include the 10% threshold of fuel expenditure out of household income (Boardman, 1991). Low income-High cost (LIHC) indicator (Hills, 2011). Twice the national median indicator of European Commission etc.

- Self reported:

- Difficulty paying bills. Inability to afford energy. Inability to keep house warm. (Watson and Maitre, 2015, Lyra et al., 2022).

- Multidimensional:

- Include several dimensions of deprivations (Charlier and Legendre, 2021 and Tovar and Lynch 2022).

# Can we do better?

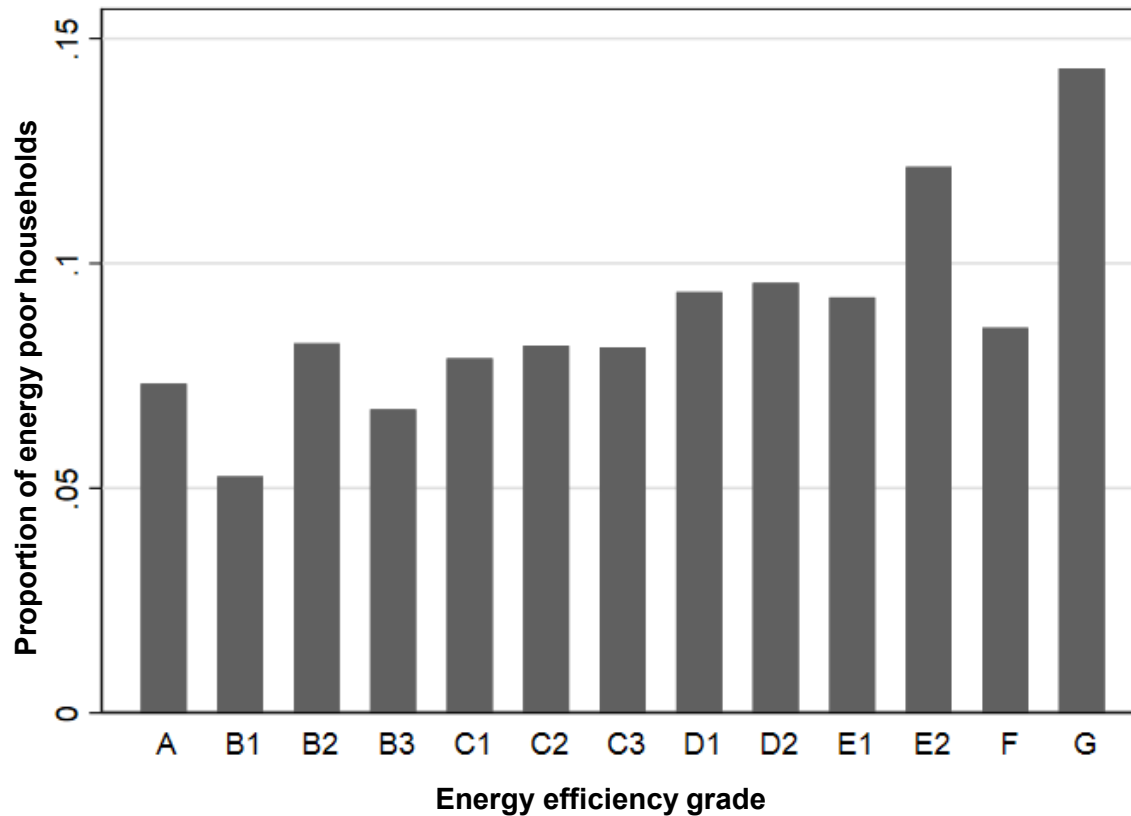
- Limitations

- Data
- Poverty often defined based on only two variables: disposable household income, and energy expenditure (Heindl and Schuessler, 2015). No data on expenditure or efficiency in EU\_SILC.
- Accounting for demand shocks.
- Fuel poverty measured using heating fuels — neglecting electricity consumption.
- Measuring levels of energy poverty, not the intensity.

- Including physical measurement of dwellings' energy efficiency.

- UK government changing its official measurements.
- Measures should account for energy efficiency.

# Accounting for energy efficiency

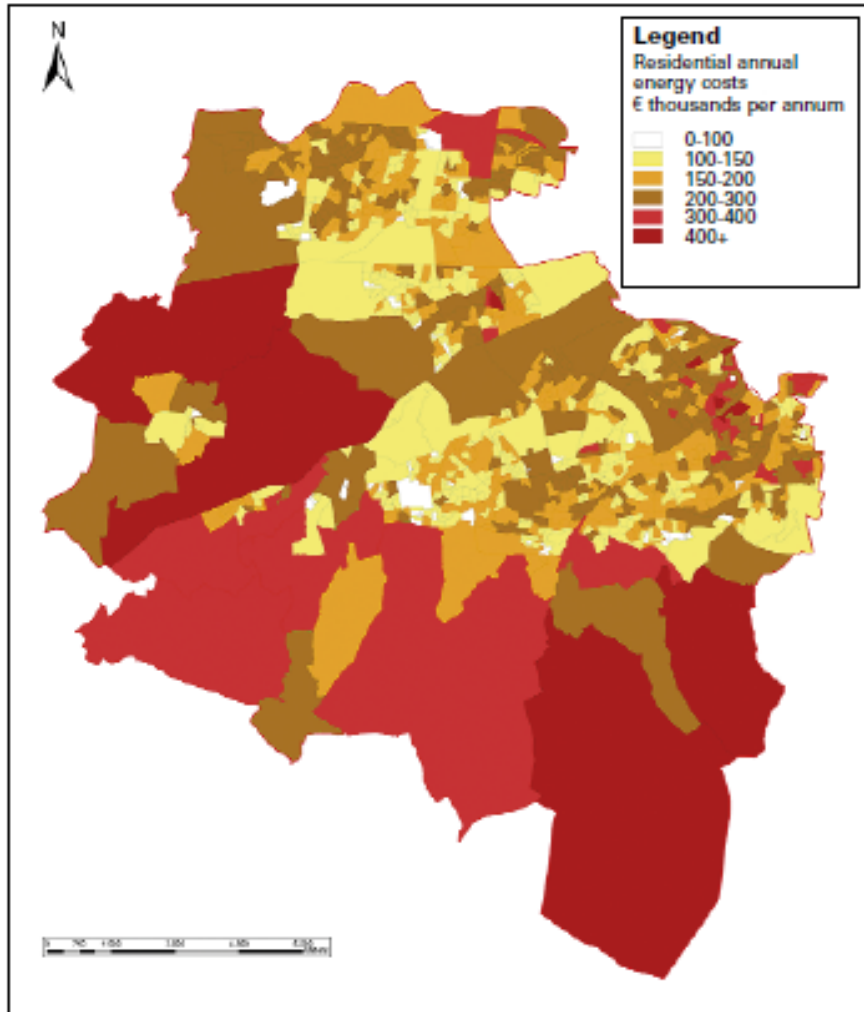


- Measures that do no account for energy efficiency are likely to be biased.
- Negative relationship between dwelling's energy efficiency and self reported energy poverty.

Source: Own calculations  
using SILC-BER merged data.

# Spatial Economic Analysis

Energy costs in South Dublin Area



- Spatial Economic analysis using microdata.
- Account for geographical heterogeneity.
- What factors drive this variation: fuel use, dwelling characteristics, income.
- Visualizing the relationship between energy costs, poverty, health and other issues.

Source: McNamara (2015)



# Energy Poverty research programme

- Tackle gaps caused by data limitations
  - Collaboration with the CSO allows us to match the SILC and BER data.
  - Design and deployment of our own household survey.
- Generate robust evidence for better targeting
  - Identifying factors that determine vulnerability to energy poverty.
- Provide policy relevant information and resources
  - Develop reliable and consistent metrics. Objective and subjective.
  - Policies for sudden and unexpected energy shocks.
  - Who bears the burden? What are their characteristics? Where are they? What makes them vulnerable?
  - Identifying magnitude of the issue. Needs it but does not have it; has it but does not need it.
  - Relationship between different dimensions of poverty, i.e. income and energy.

# Potential workplan and outputs

- Working papers
  - “Shedding Light on Energy Poverty — Evidence from HH level data in Ireland”.
  - “Powering Prosperity — the effects of fuel poverty programs in Ireland”
- Policy Reports
  - Reports: “Shedding Light on Energy Poverty” & “Powering Prosperity”
  - “Best practices: Measuring Energy Poverty”.
  - “Fuelling Equality: better targeting of fuel and energy programs”.
- Visualization tools
  - Periodical publication of energy poverty indicators.
  - Mapping BER and deprivation in Ireland.
  - Interactive visualization of spatial distribution of energy poverty in Ireland.
- Energy Survey

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