Household Property Results – Ireland

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CONSEED

CONSumer Energy Efficiency Decision Making

Property Really Matters!

- **High consumption**
- **High variation**
- **High energy saving potential !**

The Household Energy Efficiency (EE) Decision

Upgrade Efficiency if Benefits > Costs

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The Financial Decision

$$\sum_{i=1}^{T} \delta_i S_i + \Delta HV > I$$

Energy Savings *House Value* *Investment Cost*

Upgrade Efficiency if Benefits > Costs

+ non-monetary economic factors

$$W\_Glow + Health + Conv + Stat + Comf + \sum_{i=1}^{T} \delta_i S_i + \Delta HV > I + Tran + Adop$$

Warm Glow

Improved Health

Convenience

Status

Comfort

Transaction Costs

Adoption Costs

Upgrade Efficiency if Benefits > Costs

Potential Market Failure: **Credit Rationing**

$$W\_Glow + Health + Conv + Stat + Comf + \sum_{i=1}^{T} \delta_i S_i + \Delta HV > I + Tran + Adop$$

Upgrade Efficiency if Benefits > Costs

Potential Market Failure: **Imperfect/Biased Information**

$$W\_Glow + Health + Conv + Stat + Comf + \sum_{i=1}^{T} \delta_i S_i + \Delta HV > I + Tran + Adop$$

Upgrade Efficiency if Benefits > Costs

Behavioural Factors: **Present-Bias and Inattention**

$$W\_Glow + Health + Conv + Stat + Comf + \sum_{i=1}^{T} \delta_i S_i + \Delta HV > I + Tran + Adop$$

Upgrade Efficiency if Benefits > Costs

Behavioural Factors: **Peer Effects and Social Norms**

$$W\_Glow + Health + Conv + Stat + Comf + \sum_{i=1}^{T} \delta_i S_i + \Delta HV > I + Tran + Adop$$

Upgrade Efficiency if Benefits > Costs

Behavioural Factors: **Loss Aversion and Status-Quo Bias**

$$W\_Glow + Health + Conv + Stat + Comf + \sum_{i=1}^{T} \delta_i S_i + \Delta HV > I + Tran + Adop$$

Upgrade Efficiency if Benefits > Costs

Behavioural Factors: **Biased Experience Forecast**

$$W\_Glow + Health + Conv + Stat + Comf + \sum_{i=1}^{T} \delta_i S_i + \Delta HV > I + Tran + Adop$$

Upgrade Efficiency if Benefits > Costs

Behavioural Factors: **Bounded Rationality and Information Overload**

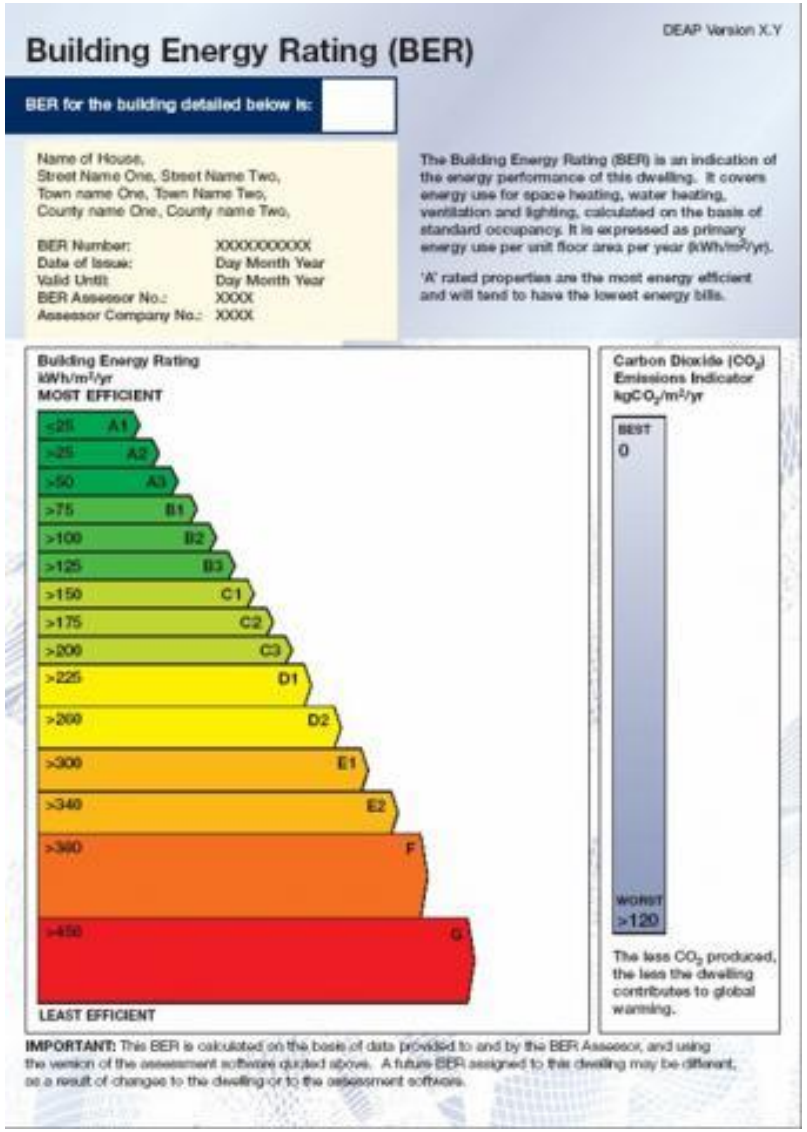
$$W\_Glow + Health + Conv + Stat + Comf + \sum_{i=1}^{T} \delta_i S_i + \Delta HV > I + Tran + Adop$$

Results – Key Household Property Survey Findings

Category	Question		IE
Overall	Energy Efficiency (EE) is important when buying (SA %)		57%
Labelling	Aware of the labelling system (Yes %)		72%
	Influenced by label (Yes %)		30%
Benefits	EE reduces my environmental impact (SA %)		62%
	EE improves comfort (SA %)		56%
	EE improves property value (SA %)		58%
Knowledge	Understand property energy consumption (SA %)		33%
	Understand money saved if upgrade (SA %)		29%
Technical Attitudes	EE appliances are less reliable (SA %)		17%
	Willing to take a chance on new technologies (SA %)		39%
	EE does not vary across properties (SA %)		24%
Finance	Loan access is limiting investment (SA %)		26%
	I cannot afford to invest in EE (SA %)		36%

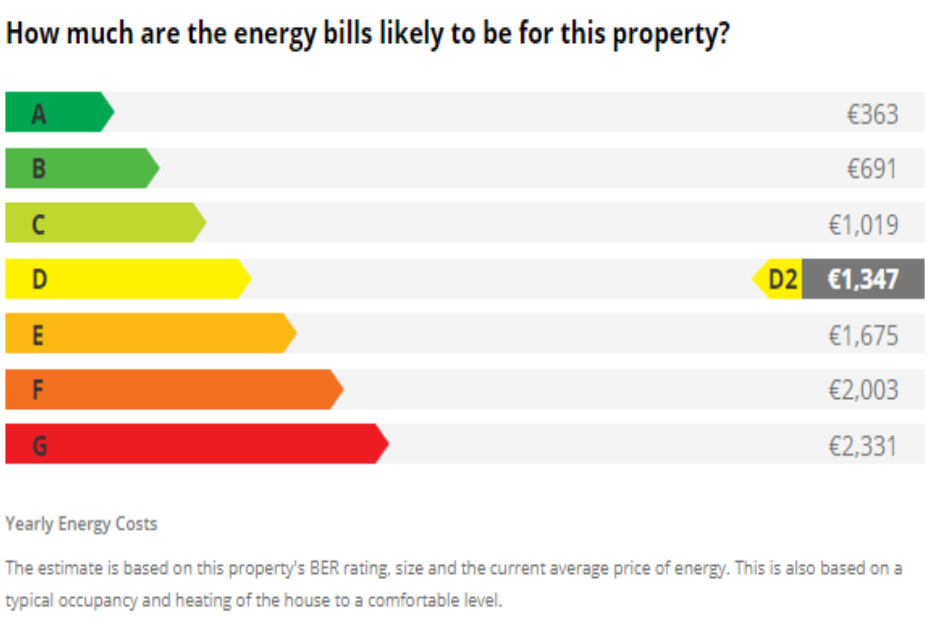
CONSEED Household Field Trial

- Core Hypothesis:
  - Energy cost differences are missing/biased from/in property investment decisions
- Treatment:
  - Energy cost label (annual)
- Design:
  - IE: Randomized Controlled Experiment with daft.ie (National Trial)



Treatment Label

Treatment Label



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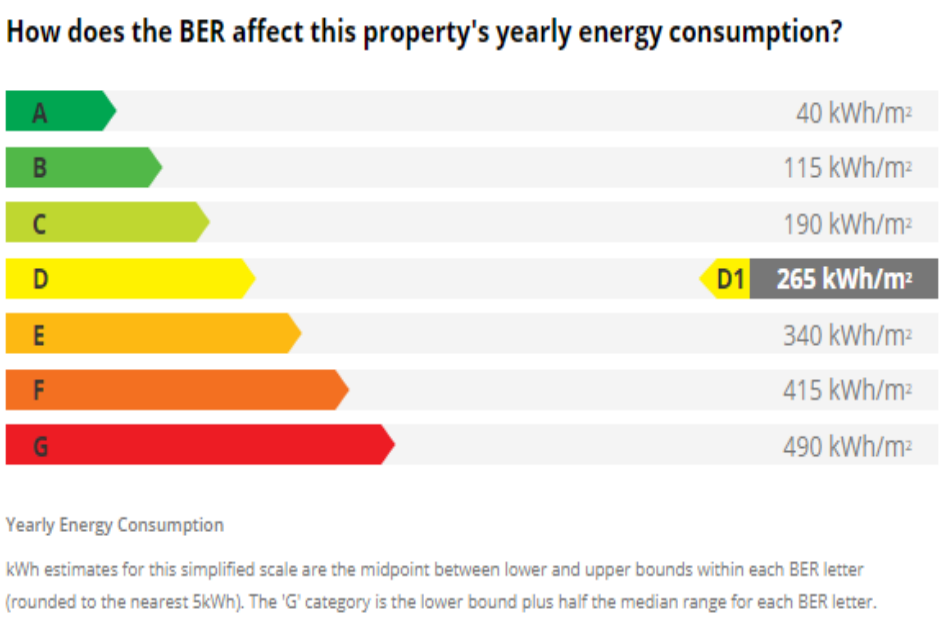

Results – Ireland RCT

- Estimation Methods:
  - RCT: hedonic regression with trial-period/efficiency/treatment interactions (diff-in-diff)
- Results:
  - Control group: large EE premium pre-trial (4%) which declined by about 1 percentage point during trial
  - Treatment group: EE much lower pre-trial (2%) but general market decline offset by treatment

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Questions?

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