Help or Hindrance? Does energy efficiency in general, and product policy specifically, even up income disparity or make it worse?

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european
council for an
energy efficient
economy

Overview

- Income inequality – an issue?
- Evidence from EE and climate policy
- Evidence from product policy
- Gap? How to better assess? Approaches?
- Research questions?

Income inequality – an issue?

Is it an Issue?

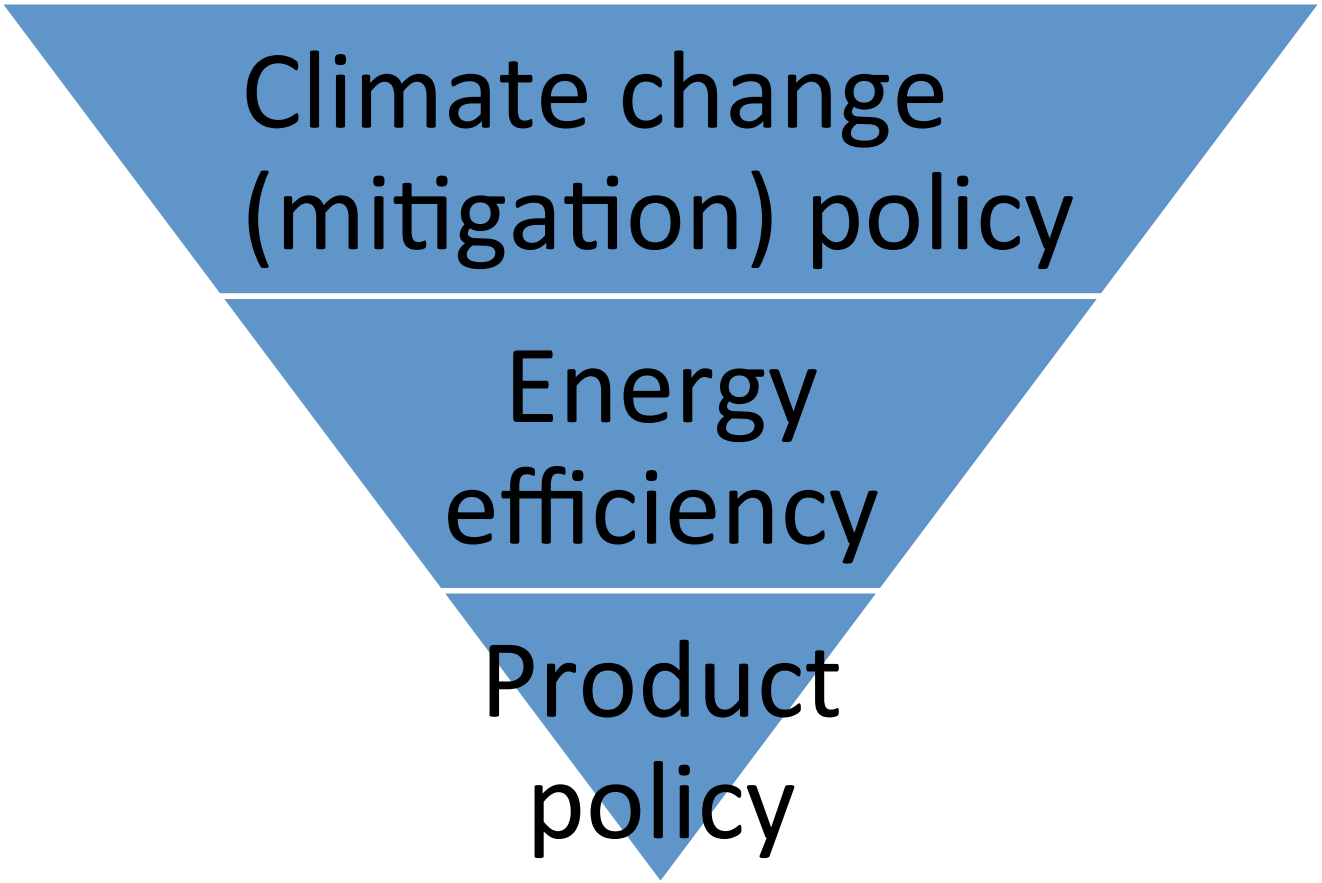
- Substantial evidence of increasing income inequality over last 30+ years
- "…the largest risk in the global economy over the next decade, as income and wealth disparity continue to rise" WEF (2017)

Effect of policies on income equality

- Progressive
  - More +ve for lower income
  - Reduces income inequality
- Neutral
- Regressive
  - More +ve for higher income
  - Increases income inequality

How does energy policy effect income inequality?

Different types of energy policy examined for inequality impact



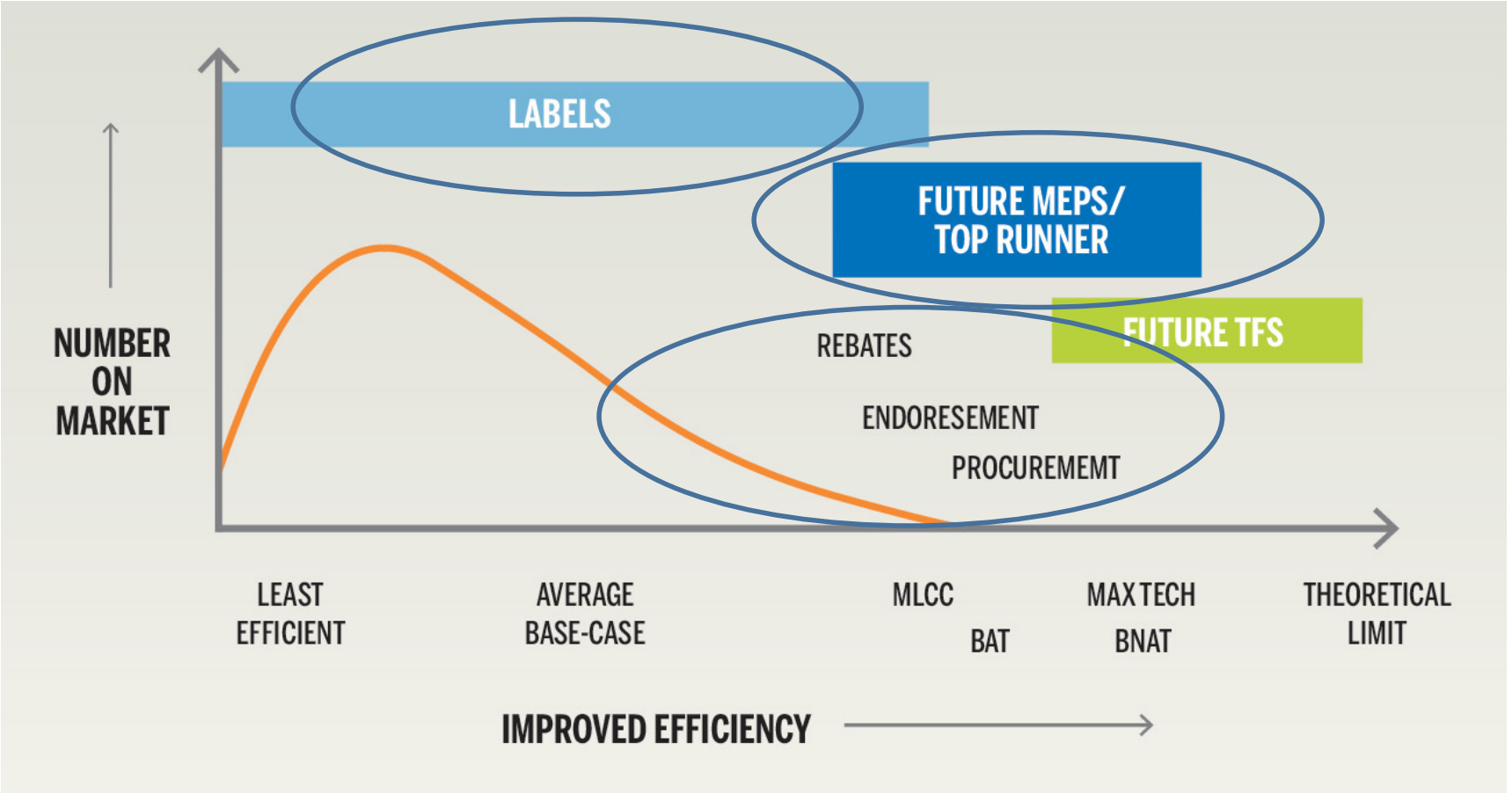
Evidence of climate policy impact

- Evidence of regressive impact for various climate policies (carbon permits, taxes, obligations). Support for small scale renewable energy particular issue.
- With good policy design (targeting and policy combination) can be neutral or positive:
  - Climate policy combination – e.g. Germany (regressive renewables balanced by income targeted efficiency)

Energy efficiency policy

- Mixed picture - generally found to be regressive (wealthier can afford investment more easily)
- Can be progressive with careful design? (opinions on UK EEOs differ)

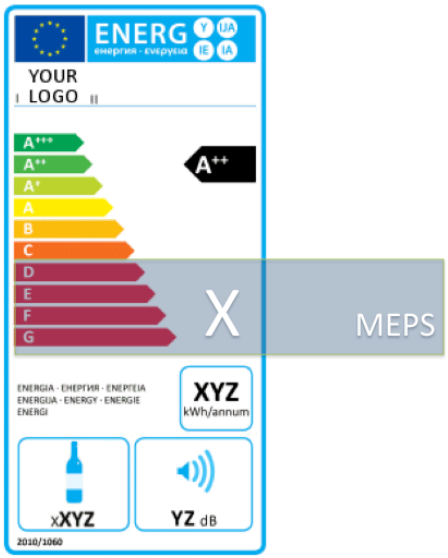
Product policy



Research focus:

MEPS – regulatory, mandatory
Labels – mandatory, voluntary purchase
Rebates – financial incentives

Evidence for MEPS' impact



Summary

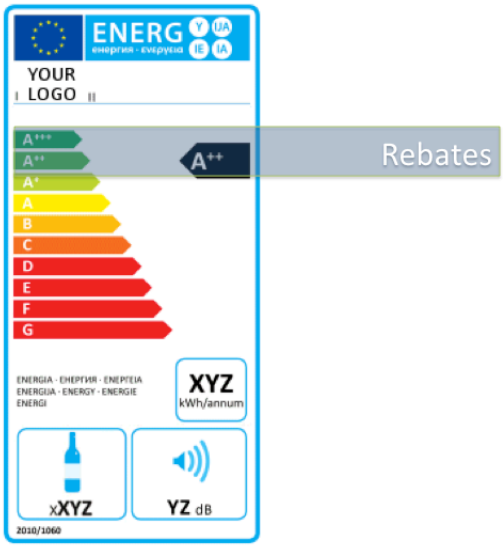
- Proven to be highly effective and cost effective policy on average
- Suggested negative impact on poor from higher purchase prices due to higher discount rates for poorer consumers [Sutherland 2003, Miller 2015].
- However, 'reduced choice set' means lower income benefit more [Tsvetanov and Segerson, 2014]
- Also depends on the market structure. In an imperfect market MEPS will benefit lower income households [Fischer 2004]

Higher purchase prices from MEPS?

- Above analysis based on higher purchase prices (from ex-ante LLCC analyses)
- However, first cost is usually lower!! So lower income could gain more, with higher discount rate?
- Higher MEPS targets (beyond LLC) would then have a first cost impact.

Evidence for rebates' impact

- Rebates – subsidise the (expected) higher upfront cost
- Rebates – some evidence (California) higher uptake by higher income (so regressive)



However, details matter - if 'symbolic', OK.

Targeting to low income can mitigate regression.

The funding mechanism is also important (e.g. general taxation, energy levy, financial recycling)

Evidence of energy labels' impact

- Evidence they are effective at changing market
- Used to address market failure (information)
- Very little evidence on income distribution effect

- If no correlation between purchase price and efficiency then little income inequality impact
- In perfect market, higher efficiency will cost more, and higher income will likely purchase more efficient
- If correlation between purchase price and efficiency, then lower income households likely less access to efficiency
- Labels enable other policy measures and should be evaluated in that context

How to further understand inequality impact, product policy? #1

- Apparent gaps in evidence and understanding
  - Little analysis of income effect by policy type for products

- Information and data sources:
  - Government household surveys (e.g. RECS)
  - Market research panels (e.g. GfK home audit)
  - Product registration data, efficiency and price
  - Automated collection (web crawlers, internet of things, etc.)
  - 'Smart' Metering (coupled with household information)

How to further understand inequality impact, product policy? #2

- Future research approaches and opportunities
  - Additional literature review
  - Improved evaluations of existing regulations (packages), and price impact
  - Link between income and efficiency purchased
  - Price/efficiency range, between countries, between products
  - Value of efficiency and integration with other features (e.g. quality, brand)
  - Integrating data sources (e.g. NEED framework in the UK)

Summary

- Income inequality is increasingly seen as important
- Some evidence of negative income inequality impact:
  - Negative effect for renewables/other rebates observed
  - Impact can be reduced by targeting those on lower incomes, and integrated policy combinations
- Product policy shown to be highly effective and cost effective on average, reducing CO_2, €, etc.
- Lacking robust evidence for income inequality impact product policy (Negative impact mitigated by falling purchase price?)
- Opportunities from new data streams
- Area for future research?

Thank you!

Questions?

- Is income inequality an Energy Efficiency issue?
- What other evidence? Your knowledge and experience?

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