

Policy Choices to Promote and Support Energy Efficiency in Housing Buildings

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What is DINAMIC?

- A demanding acronym that means:

Development of Notaries' Information on Property Markets

- DINAMIC is a subsidiary of the French Notaries High Council.
- Missions: DINAMIC is the entity in charge of R & D around the notaries' databases on property transactions.
- We are not specialists of green housing, we are statisticians.
- We have data on EPCs in our databases and try to measure the “green value” of housing units (see below).

Energy Efficiency: Multiple Goals and Multiple Fields

- Three shared objectives:
 - Reduce total energy consumption
 - Reduce GHG emission
 - Increase share of renewable energy
 - Example: The 2020 climate and energy package in EU (20-20-20 targets).
- To be combined with national / regional objectives (economic growth, employment, trade balance, local champions, political parties, etc.)
- Three main sectors share final energy consumption
 - EU 2010: transport (32%), households (27%), industry (25%); next come services (13%).
- Domestic energy uses
 - Depend on climate and wealth: space heating 40% in USA, 66% in UK.

Why EE Housing Policy is a Headache

- Long life expectancy of buildings: dealing with new housing not enough
 - One-year production often less than 1% of stock, demolition less than 0,1%.
- High cost of investment and payback period too long (and random) for owners (and lenders)
 - The cheaper energy price, the longer payback period.
- Public and private (households) budgets under constraints.
- Multiple cases single/multi-family # single owner/condominium # owner occupied/rental # private/public ownership.
- Differences between individuals and companies
 - Rationality (time horizon, preference for present)
 - Demolition / reconstruction can be less costly but is an option for investors only.
- Interference with several local (urban planning) and regional / federal /national laws (condominium, rental and tax).

Policy Choices: Carrot or Stick?

- **Legislative normative and informative instruments**
 - Requirements for energy performance in National Building Codes (thermal regulation); increase prices
 - Implementation of certification systems (energy efficiency class system)
 - Progressive energy pricing, associated with compulsory individual meters in multi-family buildings (French law applicable in 2015).
- **White certificates**
 - Energy savings certificates (ESC), EE portfolio standards (EEPS)
 - Comparable to emission trading (= green tag)
 - Energy producers/suppliers/distributors required to assist their customers to take energy-efficiency measures ; Receive tradable certificates (UK, Italy, France) when they reach their target, purchased by those who do not.
- **Informational and educational measures**
 - Promotion of EE usage through campaigns
 - Exemplary role of public housing: 800,000 "energy-hungry" French HLM to be thermally renovated until 2020.

Policy Choices: Lift Obstacles in Other Laws

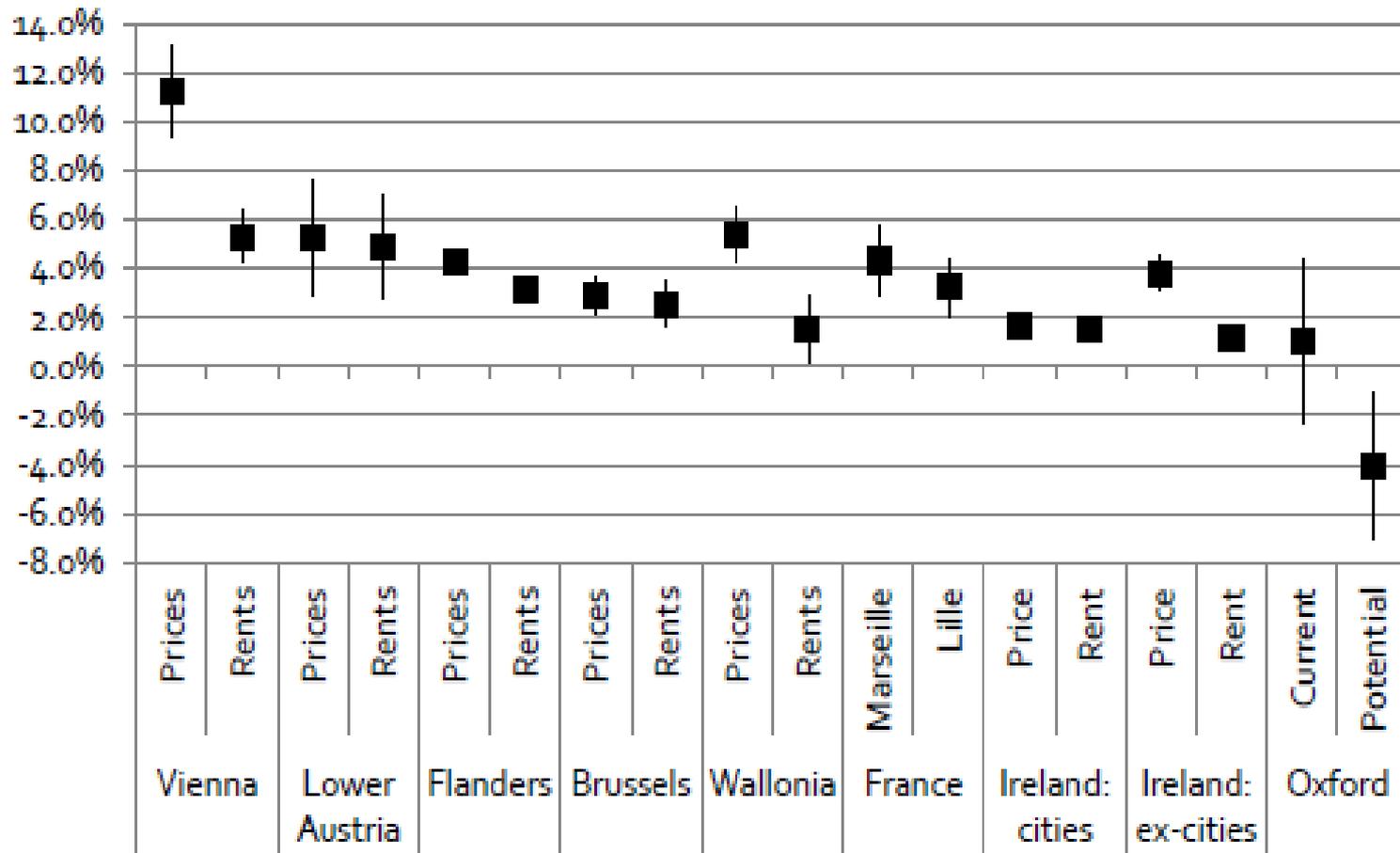
- Rental law: Why renovate if tenants benefit from a cheaper utility bill and lessor may not increase rents?
 - In Germany, rent increase allowed = 11% of EE retrofit cost (tenant may refuse), approx. 12 years payback.
- Tax law: investment cost deductible from rental income? Losses deductible against other income? Possibly carried forward?
- Condominium law
 - Must define who pays what (upkeep of and repairs to common areas and utility networks);
 - Majority rules for major renovation works often too high (down from 2/3 to 1/2 in new French law – lessors often refuse);
 - Provision for works (savings schemes);
- Mortgage law: is lending to home-owners' associations possible?
- Urban planning: is adding floors allowed (maximum legal density)?

Financing: Promote Innovation

- Financial incentive systems
 - Specific or general (for any kind of renovation) grants, tax credit, or soft loans
- Third party investment / financing
 - On-bill financing (USA): loan to utility customer (tied to utility service) administered by a utility company or a State Energy office;
 - Energy Service Company (ESCO): performs an analysis of the property, designs an energy efficient solution, installs the required elements, and maintains the system to ensure energy savings during the payback period; can be commercial, non-profit, semi-public (France).
- The ultimate argument: EE is rewarded by the market
 - “Green value”: Impact on property value of energy efficiency and other environment-friendly features (access to public transportation, etc.),
 - 2013 EC survey: “Energy performance certificates in buildings and their impact on transaction prices and rents in selected EU countries.”
 - Uses a standard hedonic price regression model (an econometric model linking the price of a house to its characteristics – as used to calculate house price indexes).

E.C. Study: Up to 11% in Vienna

Figure 17: Effect of one-letter or equivalent improvement in EPC rating across European property markets (95% confidence interval shown; see also notes in the text)



Concluding Remarks

- In addition to taking constraining (thus unpopular) measures, governments must facilitate energy efficient construction and retrofit of housing buildings by
 - Adapting legislation,
 - Proposing relevant financial incentives (“split incentives” for income properties, where the interests of building owners and tenants are not aligned),
 - Supporting financial innovation.
- Importance of disseminating “culture” of energy efficiency:
 - Media campaigns,
 - Evidence from markets: comparisons of utility bills and property values.

Thank you for your attention

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