Residential Energy Efficiency

Market Transformation of Financing

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ACEEE/CEE National Symposium on Market Transformation
Washington, DC
April 12, 2011
What does *Market Transformation* mean in the context of financing energy efficiency in residential housing?
Well-functioning market must include proper valuation of the asset – here, future savings

Building Energy Codes

Codes for Appliances and Systems

Decisions based on Energy Savings

Add-on Incentives & Rebates

Marketing & Education

Present value of expected energy savings incorporated into asset values & decisions
Loan “eco-system” actively inhibits homebuyer from paying premium for future energy savings

- Sets maximum loan payment from borrower income without energy expenses or savings.
- Sets maximum sales price from appraised value.

Results
1. Difficult for homebuyer to finance premium for more efficient house.
2. Suppresses incentive to invest in efficiency improvements.

- Buyers snap
- Appraisers find comparables
- Does not include energy expenses

- Looks to comparable homes to value, but no info on relative efficiency.
- Rarely counts lower energy expenses.
Mortgage lenders assume everybody will have average energy expenses. But, in reality….

Maximum loan amount is set by total expected expenses for defined items.

- **Max. Back-End DTI 35%**
- **E&T 15% -20%**
- **All other expenses**

Certain expected expenses are measured:
- New Loan Payment
- Property Taxes
- Hazard Insurance
- Student Loans
- Credit Card Minimums
- Auto Loans

Everything else is handled in the remainder, including:
- **Full Transportation**
- **Utility / Energy**

Bottom 10% have more than 5x the costs of bottom 10% 
"Consumer Expenditure Survey, BLS."
DTI formula without energy is standard, but it’s not “traditional,” universal, or sacrosanct.

1. **FHA (1938 to 1960s).**
   
   Lenders were required to include utility expenses in underwriting. Why did FHA drop this process? Was it to reduce lender work in era of manual underwriting?

2. **Commercial Loan Underwriting.**
   
   The touchstone of good underwriting is the Debt Service Coverage Ratio, which includes building owner’s utility expenses.

3. **US Veterans Administration Mortgages.**
   
   Loan program includes an assessment of borrower’s utility expenses based on square footage of the house. Loan performance in crisis exceeded expectations.

4. **Administration’s Loan Modification Program.**
   
   Servicers collect borrower’s entire household budget to determine affordability, including utility bills and transportation expenses.
Financing markets require consistency and data

**Conventional mortgage products**
- Approximately $1.4 Trillion market in 2010
- 3 very, very large players (GSEs and FHA) funnel borrowers and investors
- High degree of uniformity among loans and documents
- Standard products
- Powerful systems that enable consistency and data management

**Financing Energy efficiency improvements**
- Over 200 state, local, and utility loan programs. Varies state by state, loan by loan.
- Recovery Act funded ~$670 Million in revolving loan funds and LLR
- What are differences between an “efficiency” loan and a conventional home improvement loan?

**Investors need flow of conforming products**

Array of incentives, rebates, credits can be bewildering to consumers
Systematic access to reliable information will enable assessment of efficiency for financing.
What does market transformation mean in financing energy efficiency?

1. Borrower/buyer must be able to incorporate present value of future energy savings into housing finance decisions and transactions.
   - Home purchase
   - Financing home improvements

2. Existing infrastructure to reach borrowers and investors must adopt & embrace value of energy savings

3. Systematic access to reliable information on energy usage
Developments

• FHA’s new PowerSaver pilot program.

• Legislative effort supported by builders and host of other interests (“SAVE Act”)

• Fannie Mae appears to be interested.
  o Multi-family Energy Star
  o Some residential inquiry

• Dodd-Frank Act.
  o Residual Income.
  o Opportunity to do Data Collection.

• Better Buildings programs in cities/states.
  o Various loan programs
  o Data collection requirements

• Opportunity for data analysis – First mortgage performance connected to efficiency
Thank You

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