

Energy Labels and Property Values

Going Dutch

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Data Laboratory



- Early adopters
- Financially minded
- High Gas bills
- Rich datasets

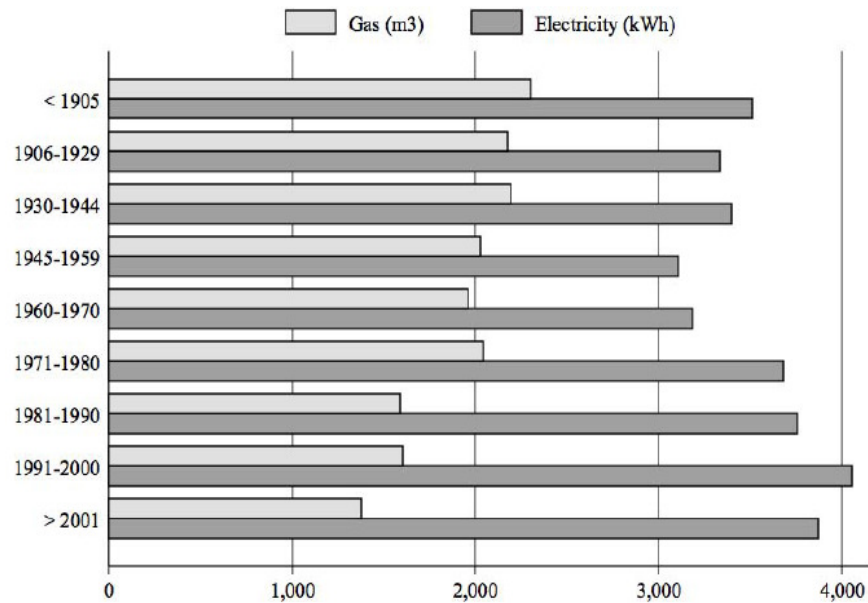
- 344,521 home sales Jan.'08 – Dec. '10
- Detailed broker information on dwellings (NVM)
- Energy performance certificates (AgentschapNL)
- Energy bills (Central Buro of Statistics)
- Household demographics (CBS)

Research Agenda

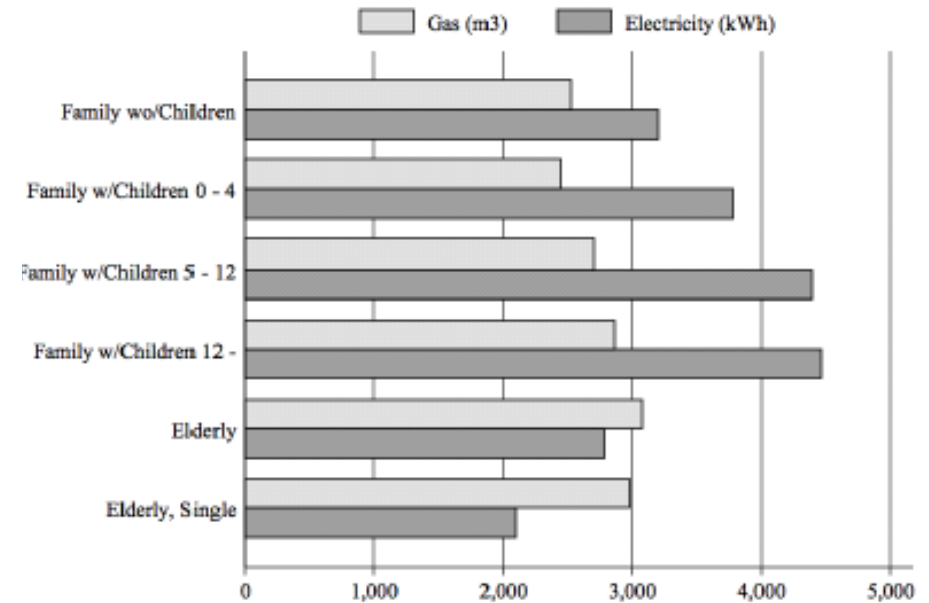
- On the Economics of Energy Labels in the Housing Market
Brounen, Kok
- Residential Energy Use and Conservation
Brounen, Kok, Quigley
- Energy Labels and Energy Use, Noise and Signals
Brounen, Kok, Quigley
- Energy Efficiency and Financial Literacy
Brounen, Kok, Quigley

Energy Use Variations

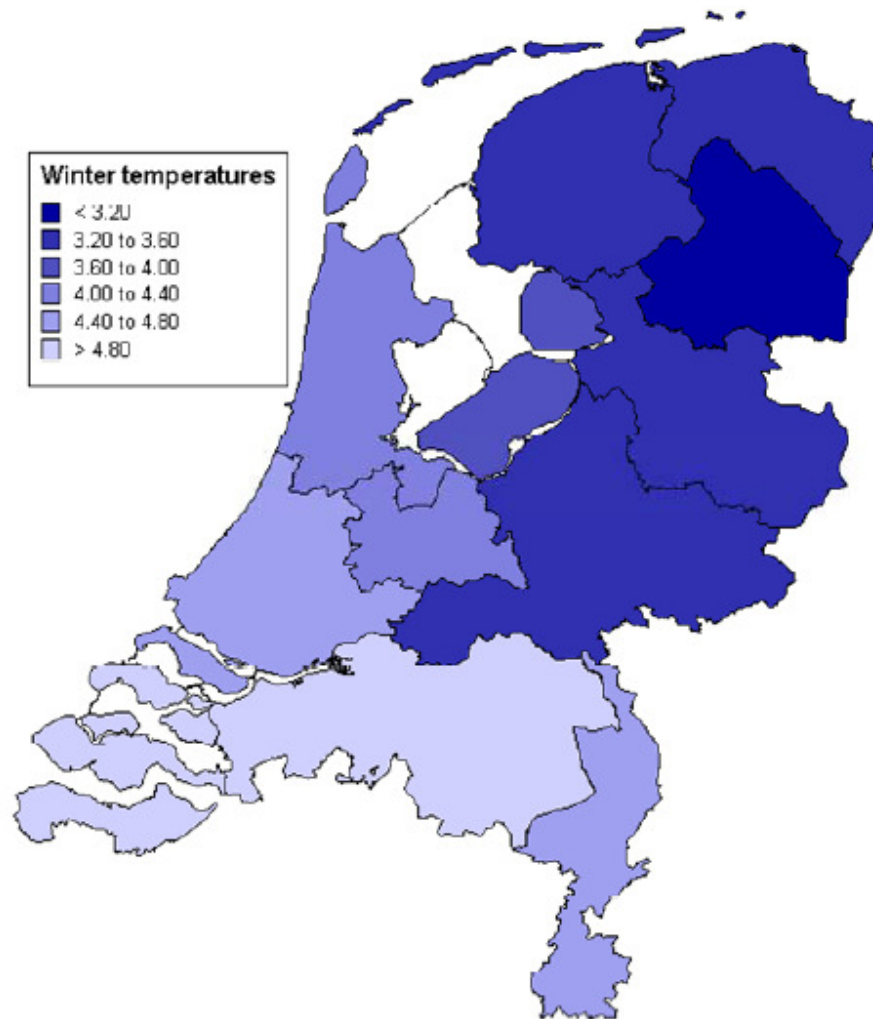
Dwelling Age



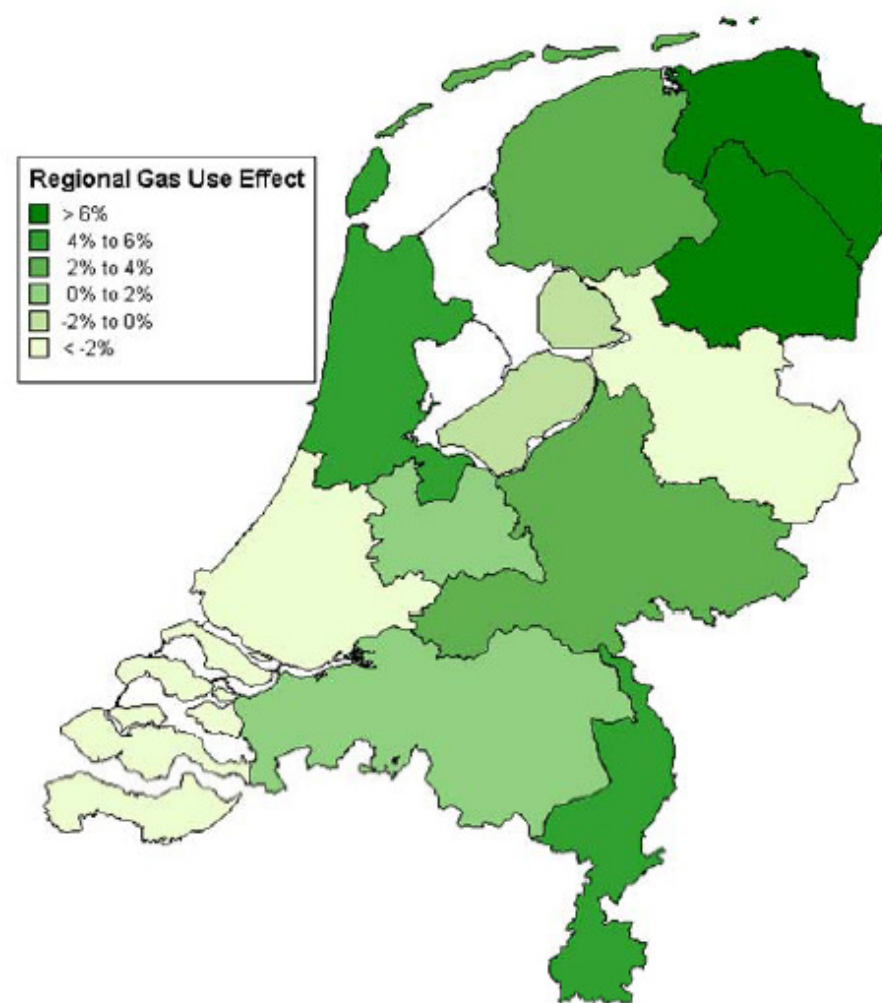
By Family Cycle



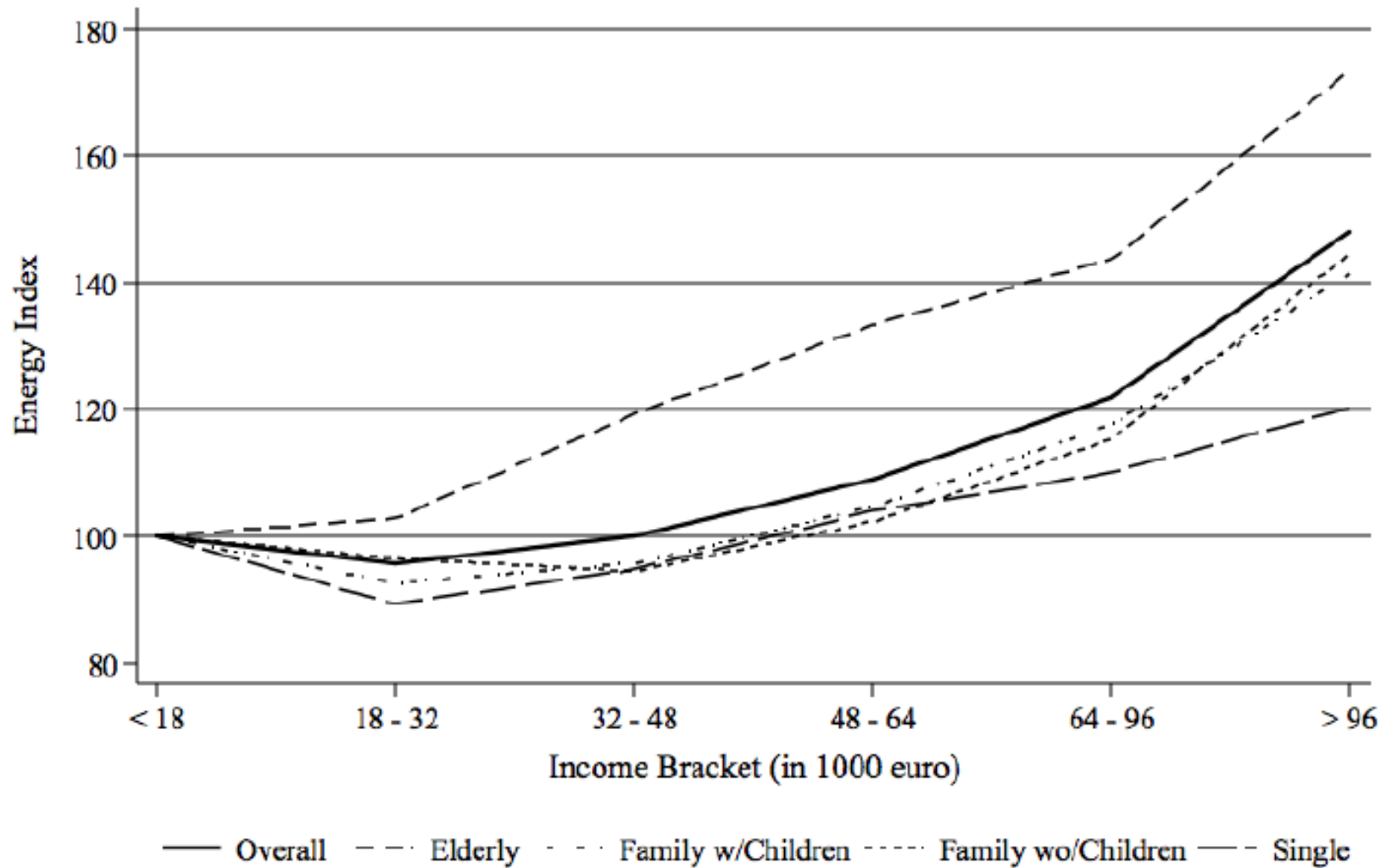
A. Winter Temperature Across Provinces



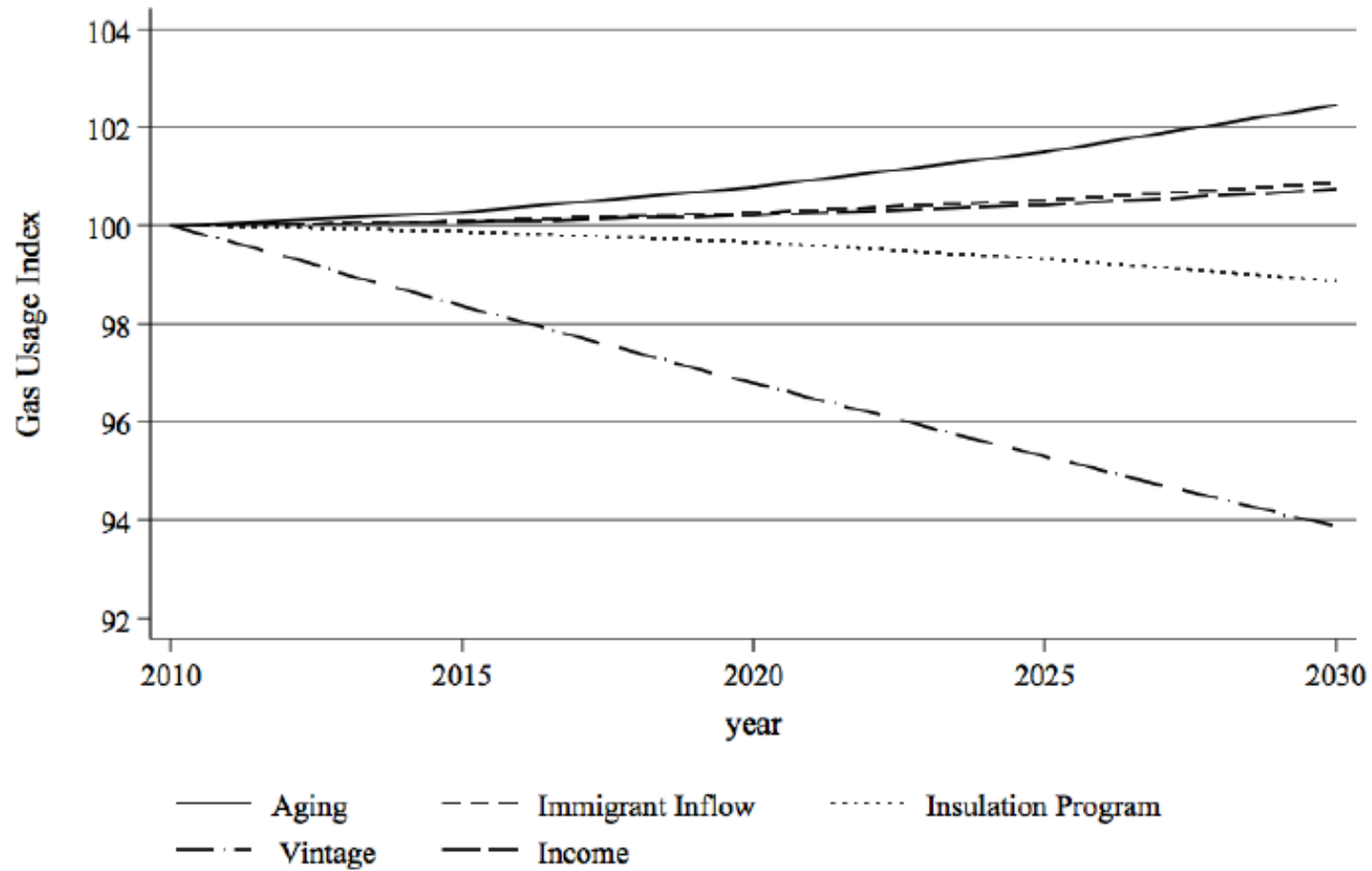
B. Regional Gas Consumption



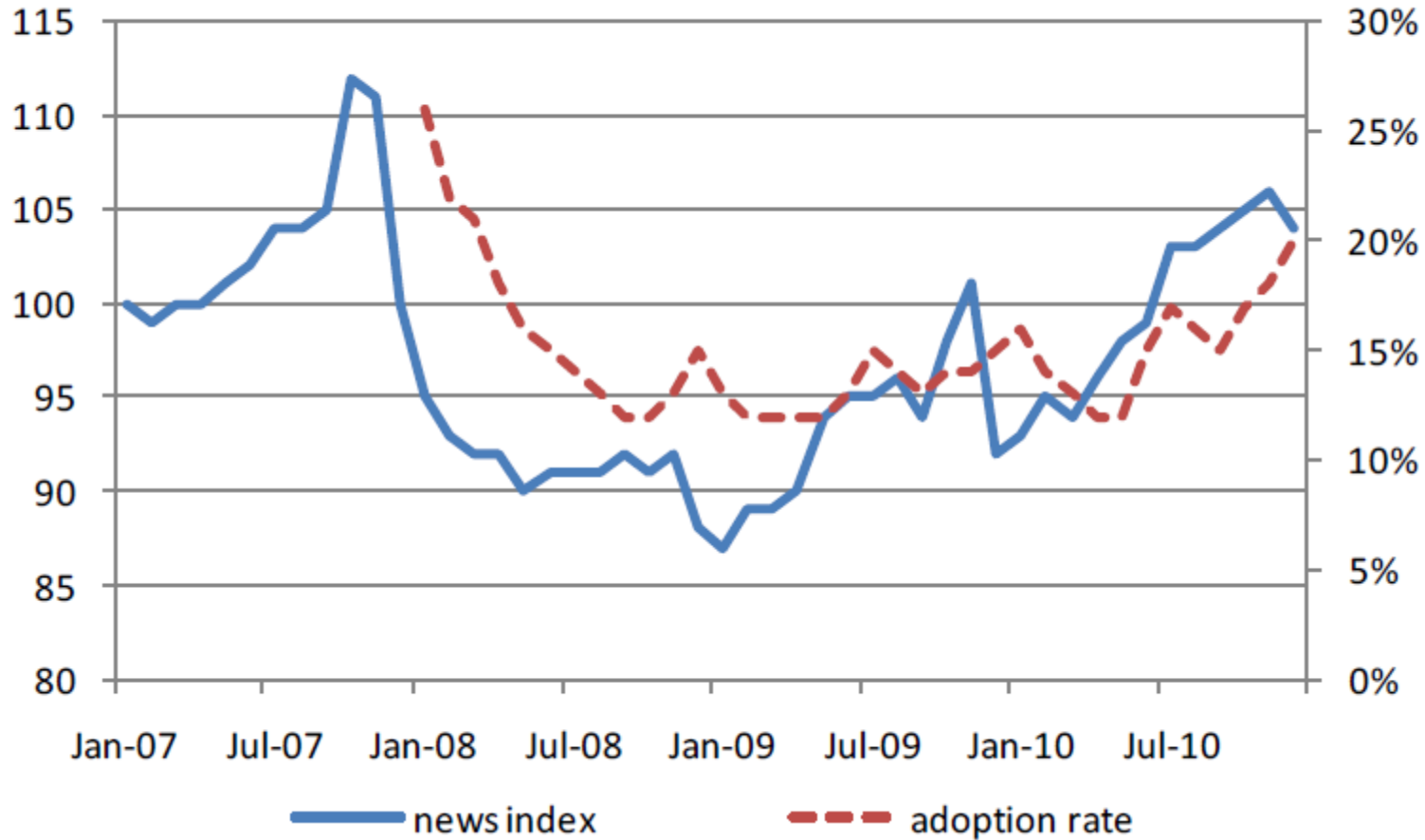
A. Gas (Income - Family Type Interactions)



Gas (m³) Per Dwelling



EPC Adoption Rate (% , right hand side) versus News Index (left hand side)



Sample Statistics

Sample Size	Labeled Dwellings 50875		Non-Labeled Dwellings 293646	
	Mean	Std. Dev.	Mean	St. Dev.
Transaction Price (€/square meter)	2073.48	6670.28	2565.49	14462.43
Time on Market (days)	111.46	135.23	139.15	149.84
Dwelling Type (percent)				
Apartment	33.18	47.09	32.90	46.99
Duplex	11.06	31.37	13.48	34.15
Row	34.08	47.40	30.46	46.02
Detached	6.98	25.48	11.55	31.96
Corner	14.70	35.41	11.61	32.03
Period of Construction (percent)				
Pre-1930	10.59	30.77	19.06	39.28
1930-1944	5.34	22.48	8.29	27.57
1945-1960	11.45	31.84	7.51	26.35
1960-1970	20.72	40.53	14.49	35.20
1970-1980	23.71	42.53	14.51	35.22
1980-1990	18.58	38.89	12.08	32.60
1990-2000	8.41	27.75	13.08	33.72
>2000	1.20	10.90	10.98	31.27

Time on the Market

	(1)	(2)	(3)
Labeled homes:			
Property controls	yes	yes	yes
Regional fixed effects	yes	yes	yes
Period fixed effects	no	yes	yes
✓sell faster (20%)			
✓sell fastest if labeled 'green'			
a			-18.06** (8.409)
b			1.024 (2.754)
c			-2.532 (1.734)
e			-0.804 (1.750)
f			2.192 (1.988)
g			13.36*** (2.511)
dummyslabel	-22.95*** (0.723)	-23.87*** (0.710)	
Constant	136.5*** (2.640)	149.4*** (2.678)	111.5*** (9.634)
Observations	319,356	319,356	49,475
R-squared	0.049	0.092	0.099

Green premiums

A, B en C labels sell for more:

✓2.98% (full period)

- 3.60% in 2008

- 1.92% in 2009

- 2.55% in 2010

✓Premium is related to label result

	(1)	(2)	(3)	(4)	(5)	(6)
green		0.0298*** (0.00291)		0.0360*** (0.00425)	0.0192*** (0.00484)	0.0255*** (0.00665)
a			0.109*** (0.0158)			
b			0.0628*** (0.00517)			
c			0.0152*** (0.00326)			
e			-0.00996*** (0.00328)			
f			-0.00871** (0.00373)			
g			-0.0382*** (0.00471)			
Observations	319,356	49,475	49,475	25,575	15,526	8,323
R-squared	0.448	0.489	0.491	0.470	0.517	0.498

Conclusions

- Energy Performance Certificates have effects:
 - Sellers of homes need less time for the sale
 - Buyers are willing to pay more if the label is positive

- The Green Premium is material for persuading homeowners
 - You don't just save, you'll also earn