



BETTER POLICIES FOR BETTER LIVES

Housing, the NZ Business Cycle and Macro Imbalances

Peter Jarrett

OECD Economics Department

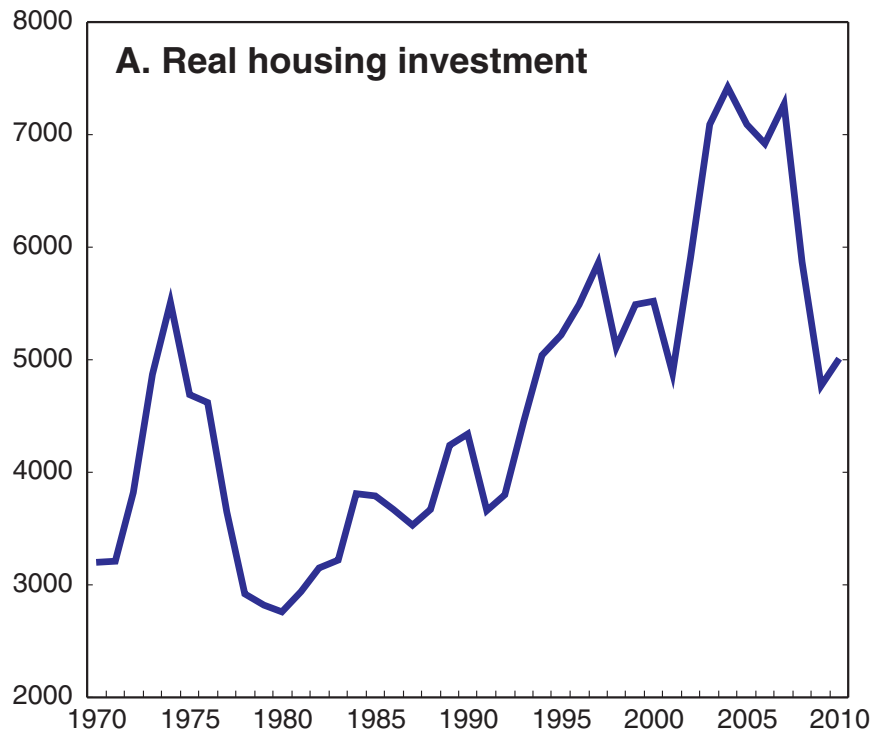
23 June 2011

Outline

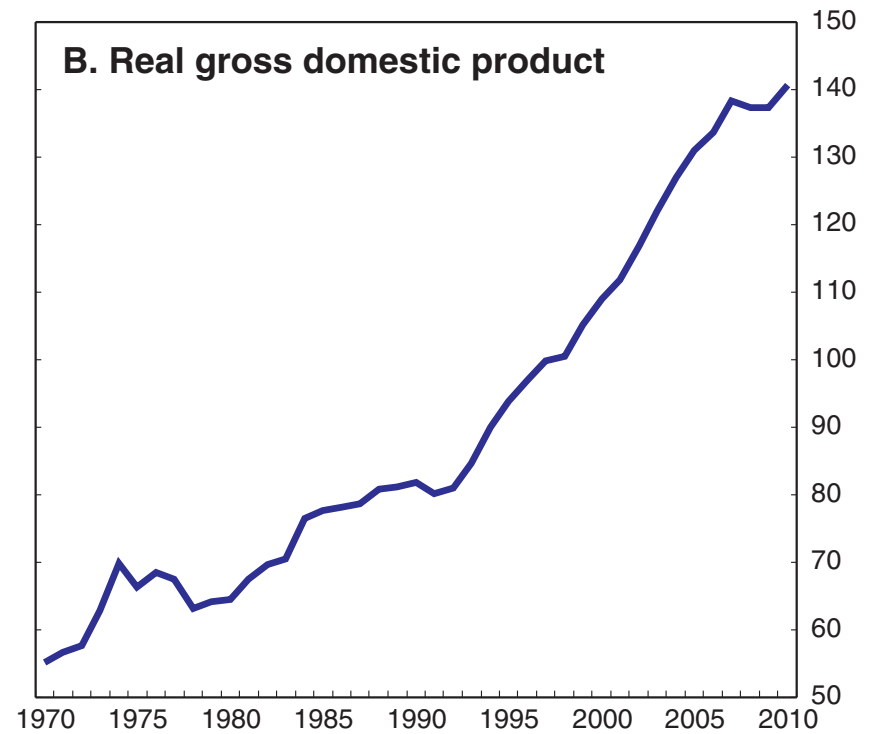
1. Features of the most recent NZ housing boom
2. How NZ housing cycles compare with those in other OECD countries
3. Role of housing in NZ macroeconomic cycles and imbalances

Housing investment and GDP over the longer term

Billions of NZD



Billions of NZD





1. Features of the most recent NZ housing boom

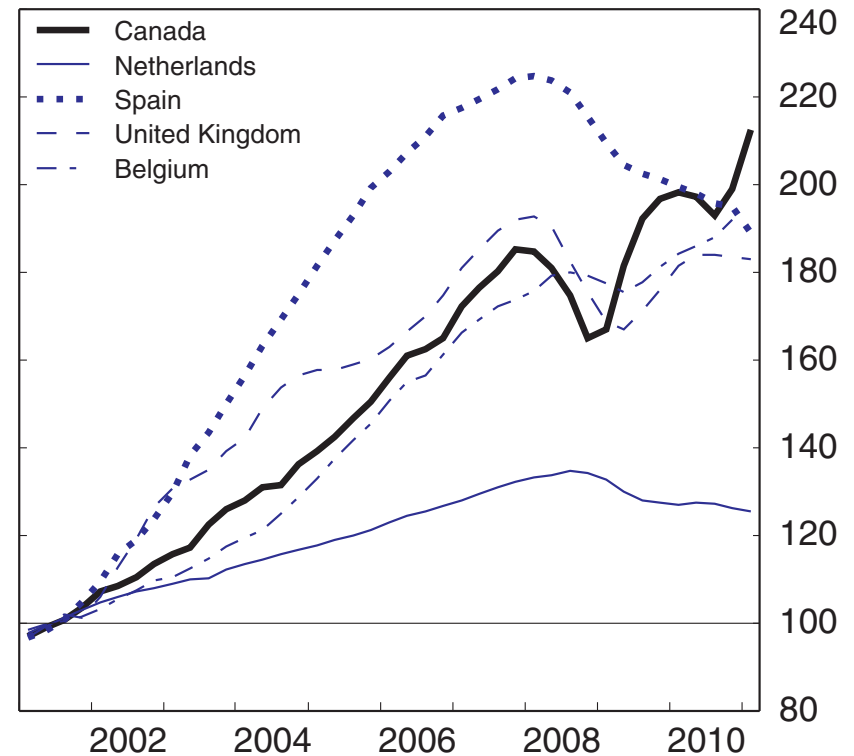
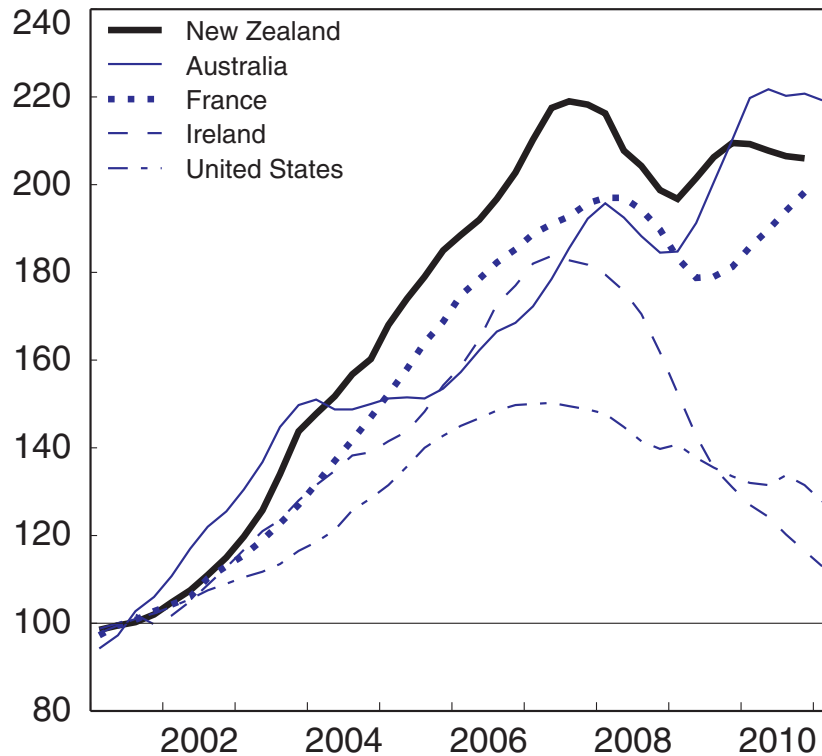
2. How NZ housing cycles compare with those in other OECD countries
3. Role of housing in NZ macroeconomic cycles and imbalances

From 2000-2007, house prices increased in NZ more than in most other OECD countries

Features of the recent housing boom

Housing price indexes across countries

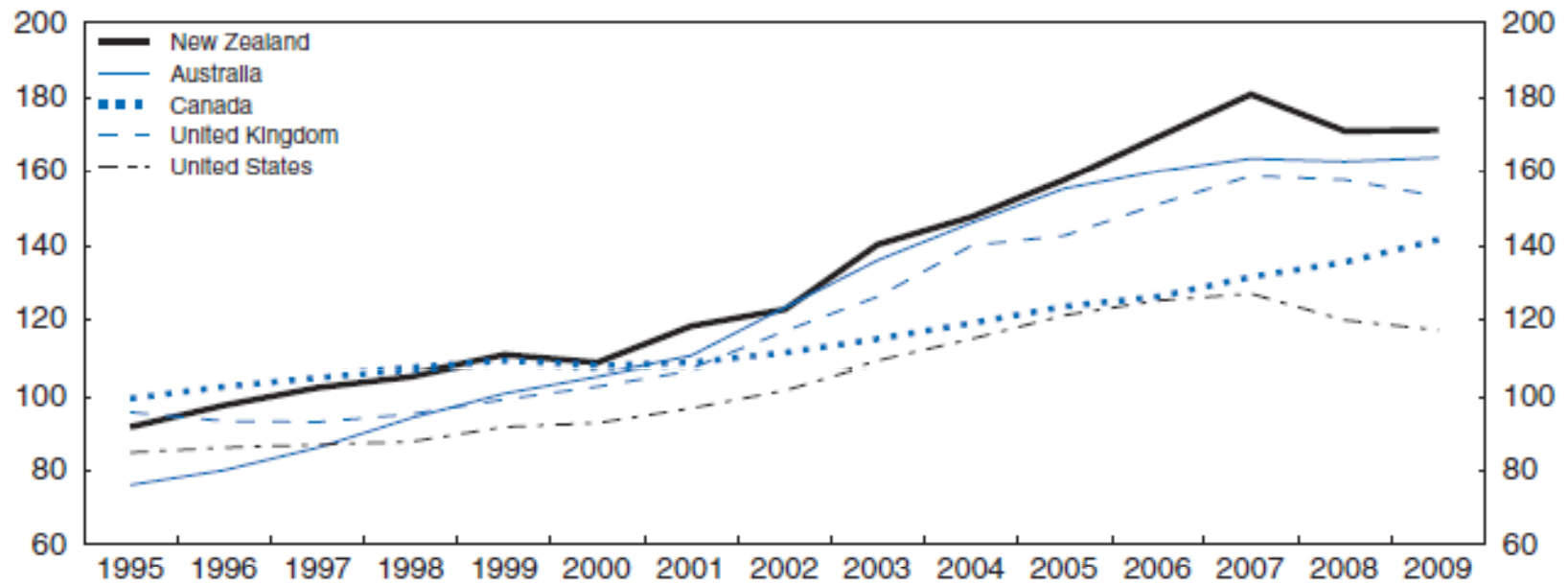
Index 2001=100



...as did household debt

Household debt

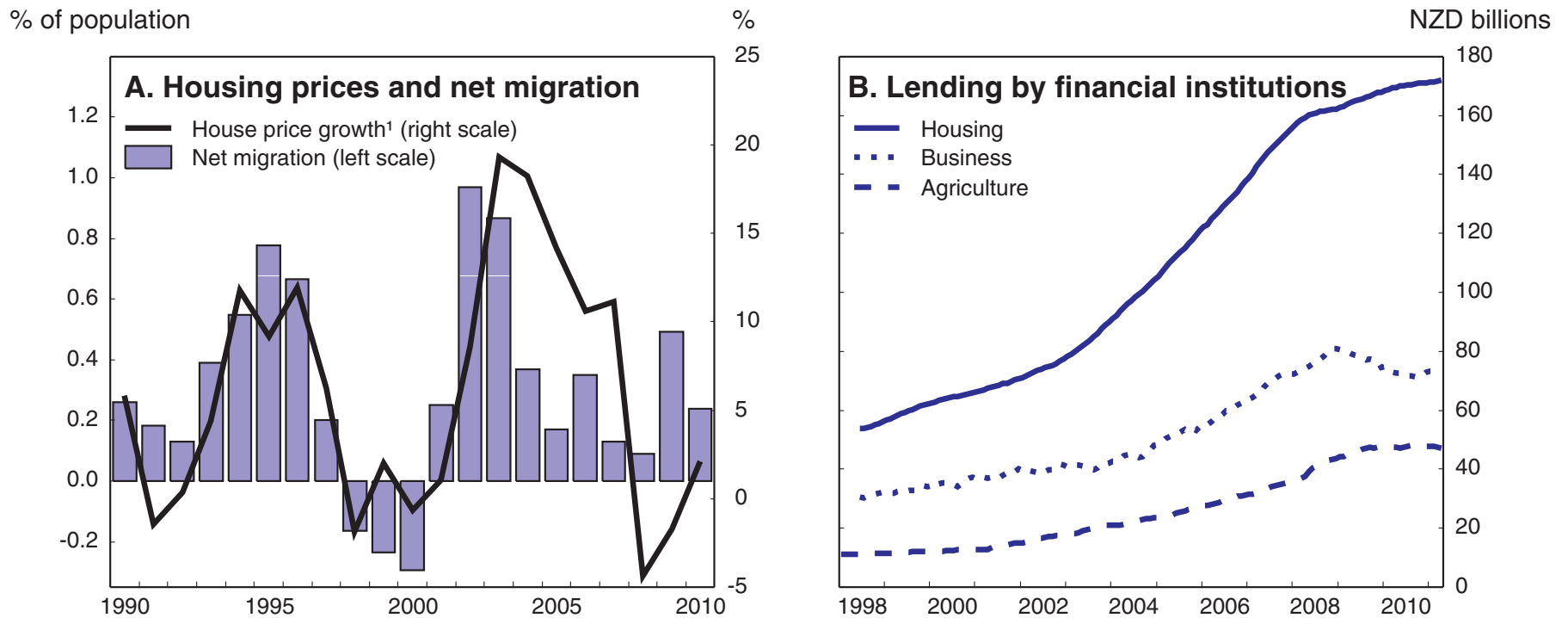
As a percentage of gross disposable income



1. Short- and long-term loans.

Source: Statistics New Zealand and OECD National Accounts Database.

Strong net migration and easy credit conditions were major drivers



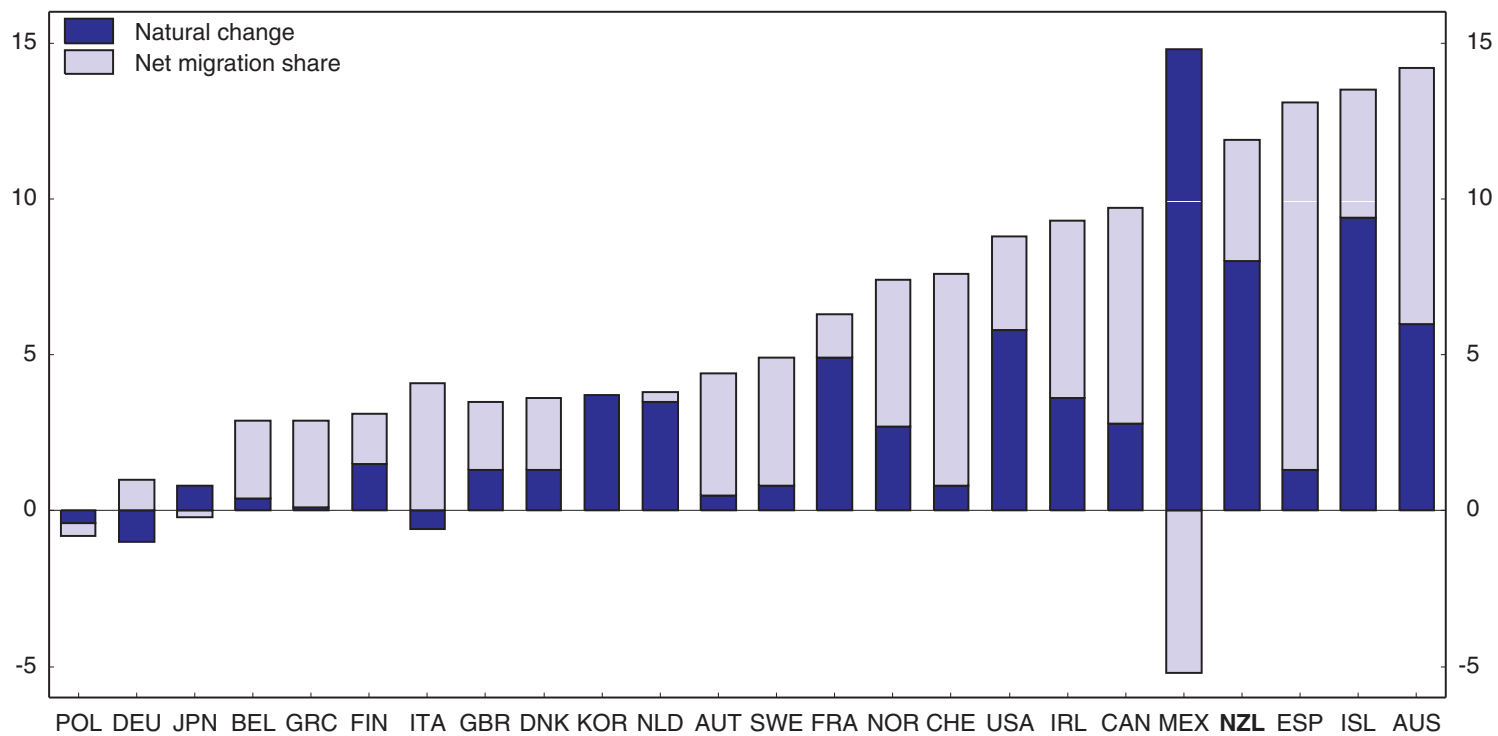
1. House prices measured by the Quotable Value house price index, house only; % change from previous year.

Source: ANZ; Reserve Bank of New Zealand; Statistics New Zealand; and OECD Economic Outlook 89 database.

NZ has experienced one of the OECD's highest population growth rates

Features of the recent housing boom

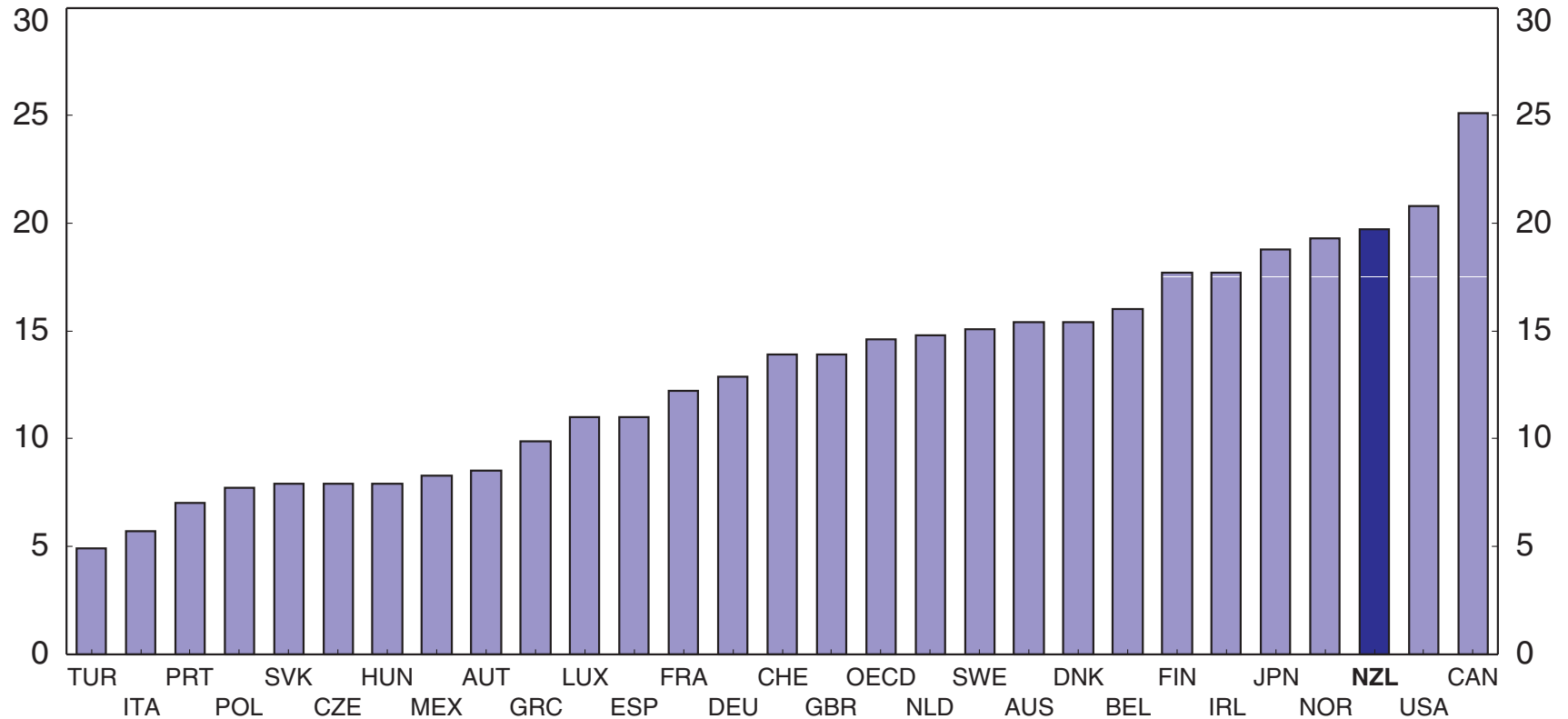
Percentage population change 2000-2009



NZ migrants tend to be highly skilled

Share of migrants that are highly skilled and employed

Percent



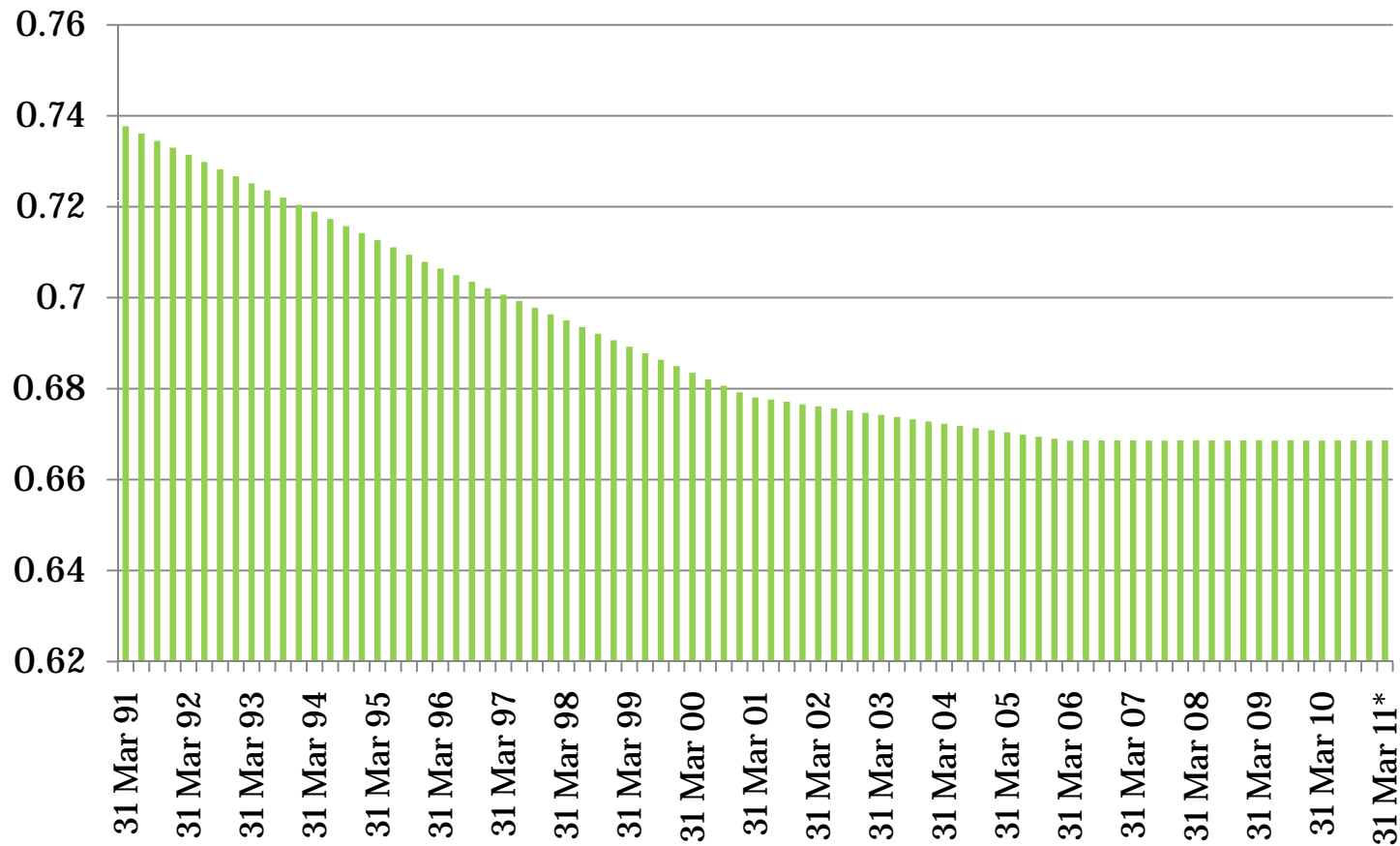
Features of the recent housing boom

...yet owner-occupancy rates continued their long-term decline over the boom period

..suggesting reduced affordability and an increasing role for rental property investments

Features of the recent housing boom

NZ Owner-occupancy rates



Source: Statistics NZ

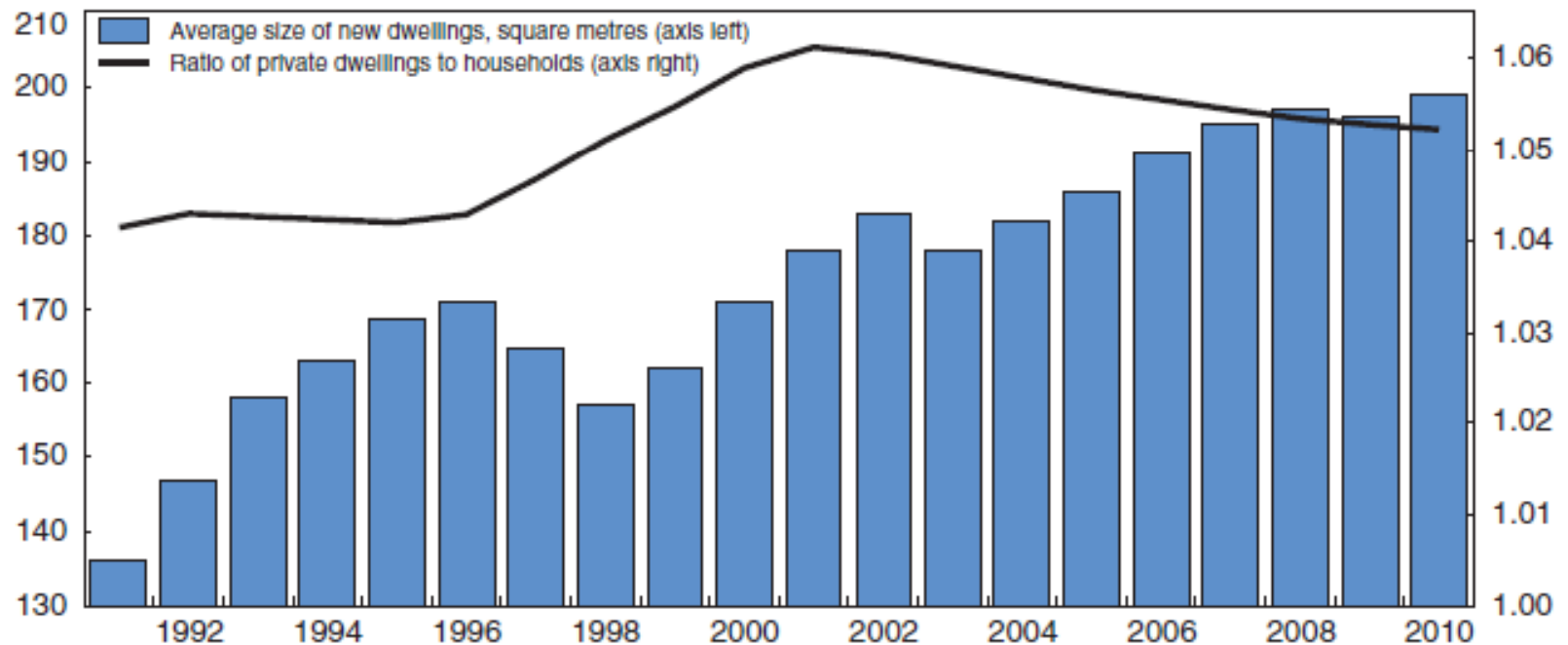


Housing supply lagged

...Number of dwellings per household began to fall in 2002; average house size is still trending up

Features of the recent housing boom

Number and size of private dwellings



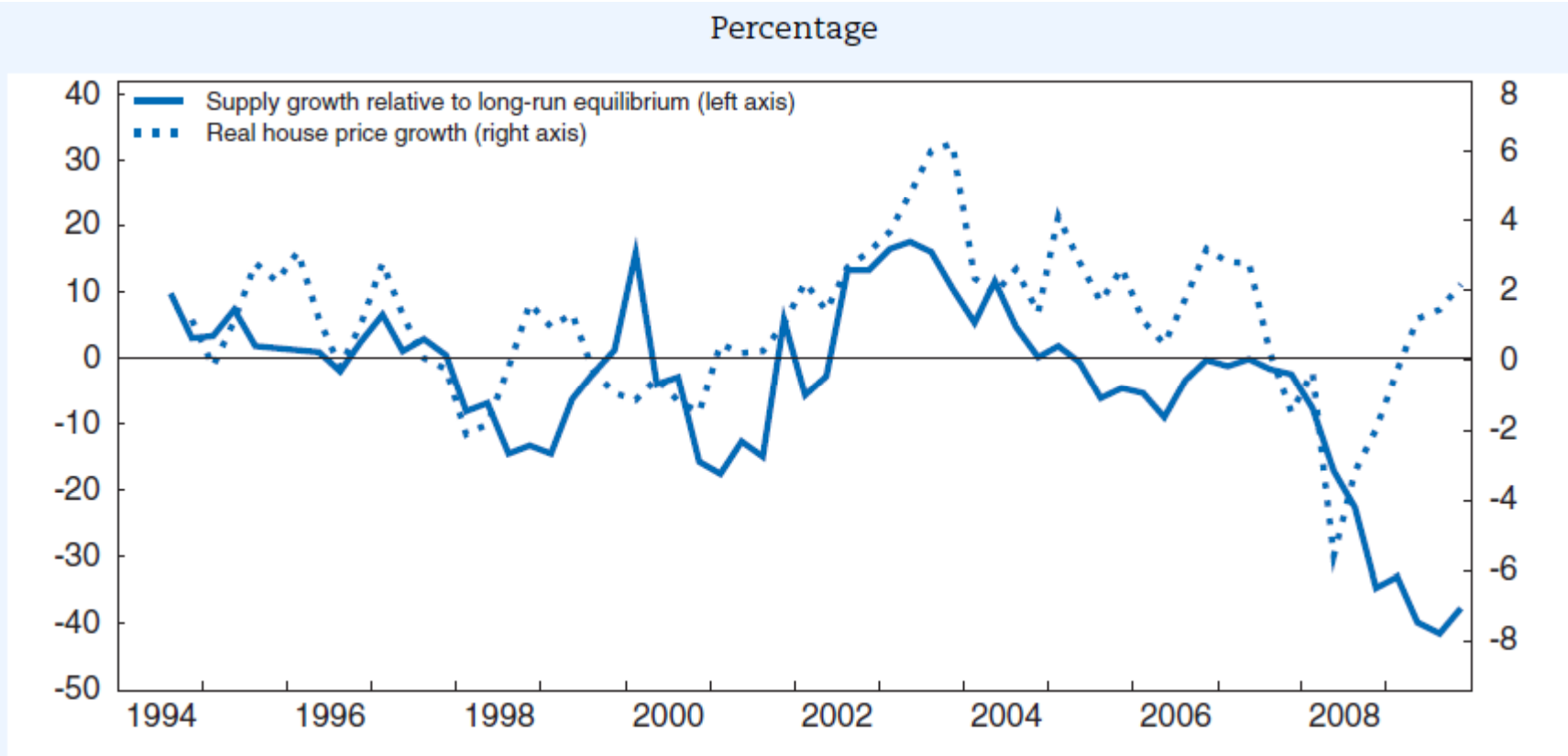
Source: Statistics New Zealand.

The response of real residential investment was short-lived and eventually fell well below long-run equilibrium levels

...based on OECD estimates presented in:

→ Caldera Sanchez and Johansson (2011): panel SUR estimations, ECM

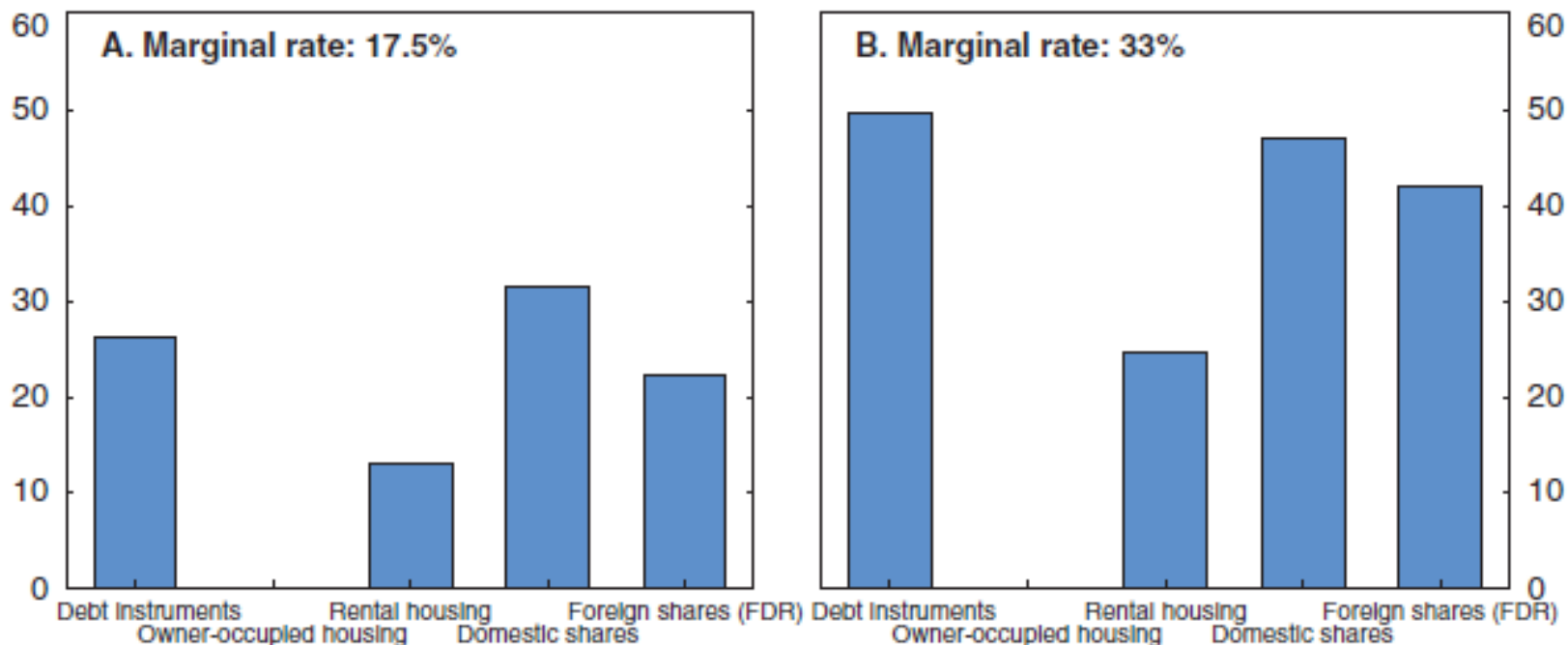
Features of the recent housing boom



Source: Statistics New Zealand, QVNZ, OECD calculations.

Housing is tax-preferred

Real effective tax rates on different investment vehicles¹



1. These calculations assume a 6% rate of return on all assets. For shares, it is assumed that 66.6% of the return was paid in dividends, 33.3% was retained. For rental housing 50% of the return is assumed to be in the form of rental income and 50% in the form of capital gains.

Source: The Treasury (2010), *Savings in New Zealand, Issues and Options*, September.

1. Features of the most recent NZ housing boom
- 2. How NZ housing cycles compare with the international experience**
3. Role of housing in NZ macroeconomic cycles and imbalances

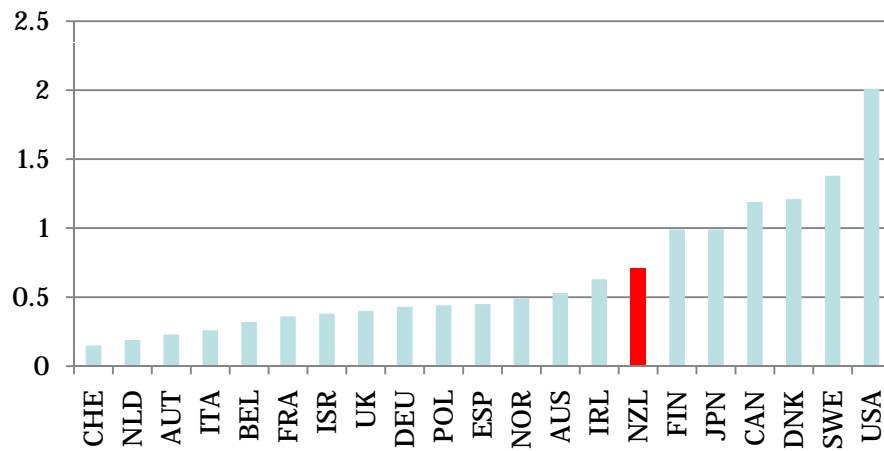
Does NZ face greater restrictions on housing supply?

Relative to 21 OECD countries:

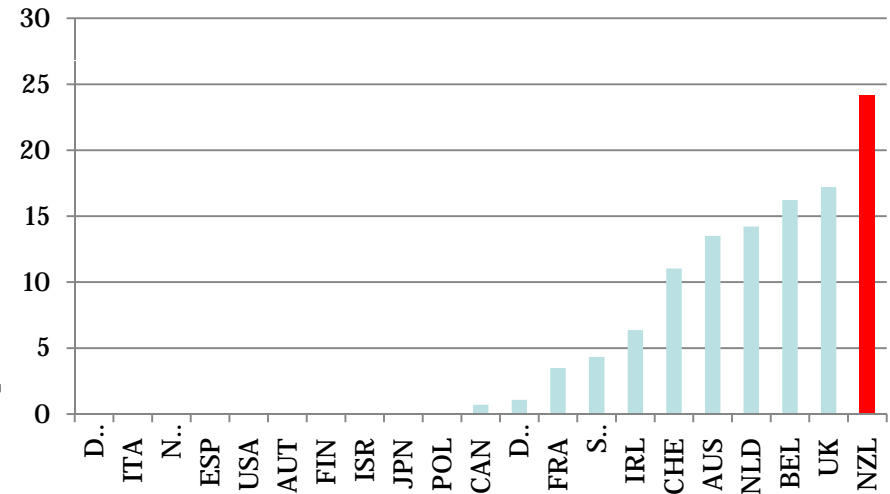
- Residential investment responds to house prices at an average pace
- But population changes have a much larger impact on long-run house prices in NZ than elsewhere

NZ housing versus OECD

Estimates of LR Housing Supply Response to Price
(Caldera Sanchez and Johansson, 2011)



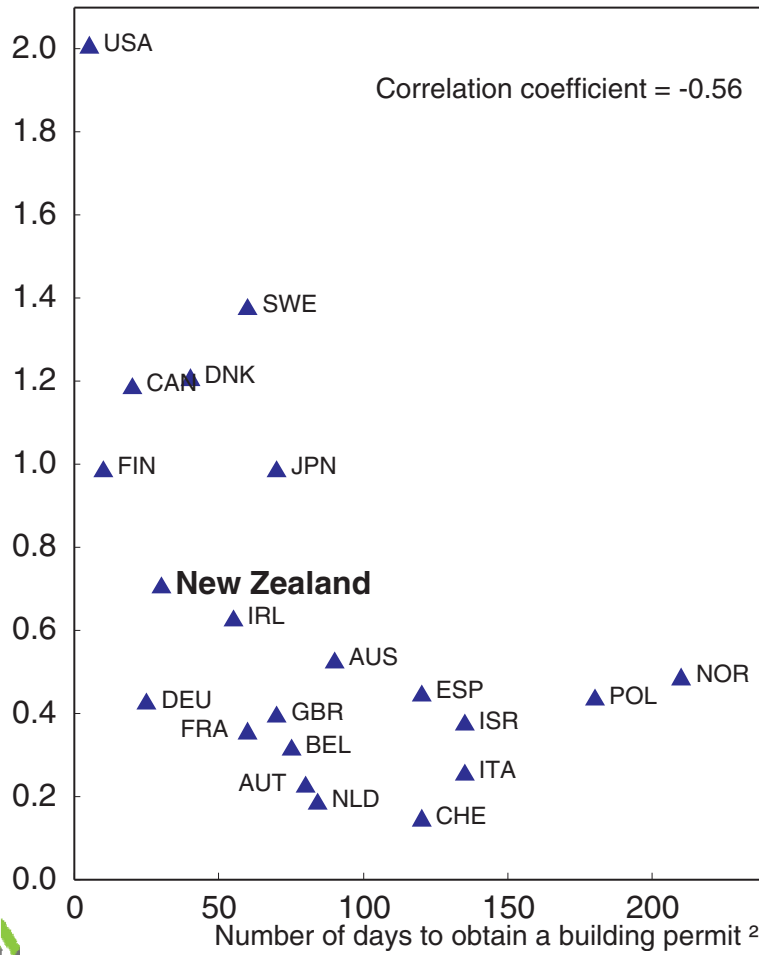
LR House Price response to Population
(Caldera Sanchez and Johansson, 2011)



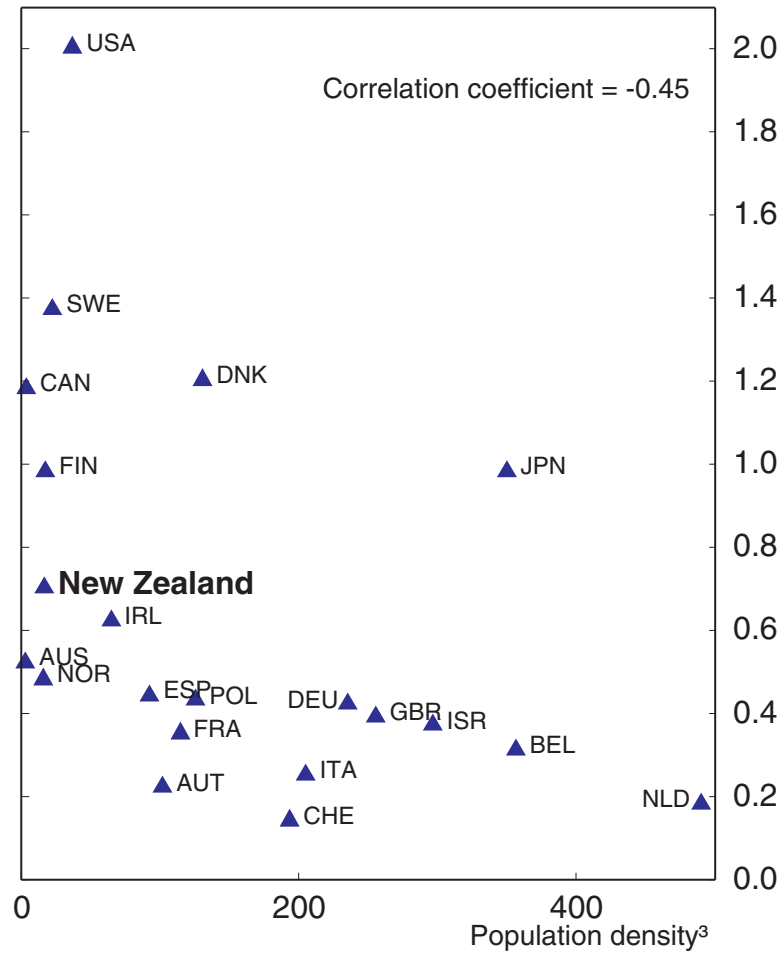
Does NZ face greater restrictions on housing supply?

NZ housing versus OECD

Supply responsiveness ¹



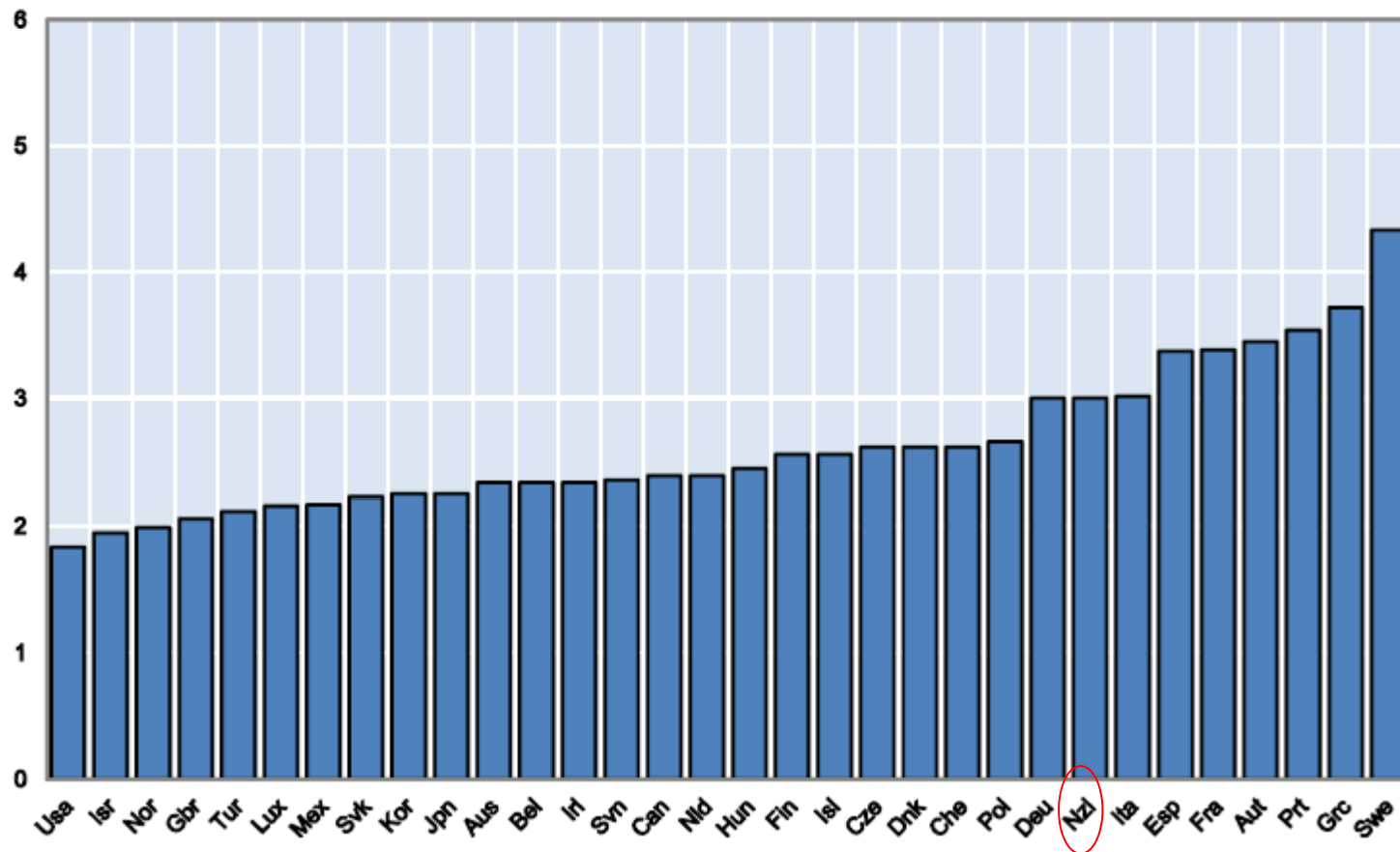
Supply responsiveness ¹



But regulation may be discouraging buy-to-let investment

Tenant-landlord regulations in the private rental market,¹ 2009

Scale 0-6: Increasing in protection for tenants



1. The indicator measures the extent of tenant-landlord regulation within a tenancy. It includes the ease of evicting a tenant, degree of tenure security and deposit requirements. See Johansson (2011) for details.

Source: Calculations based on OECD Housing Market questionnaire.

How do NZ housing cycles compare with OECD experience?

- Examine all major upturns and downturns in 18 OECD countries since 1970
 - André (2010): defined by real house price change > 15%
- New Zealand episodes identified:

Upturns

1970Q1-1974Q3: +73%
1980Q4-1984Q2: +33%
1986Q4-1989Q1: +15%
1992Q1-1997Q3: +40%
2000Q4-2007Q3: +98%

Downturns

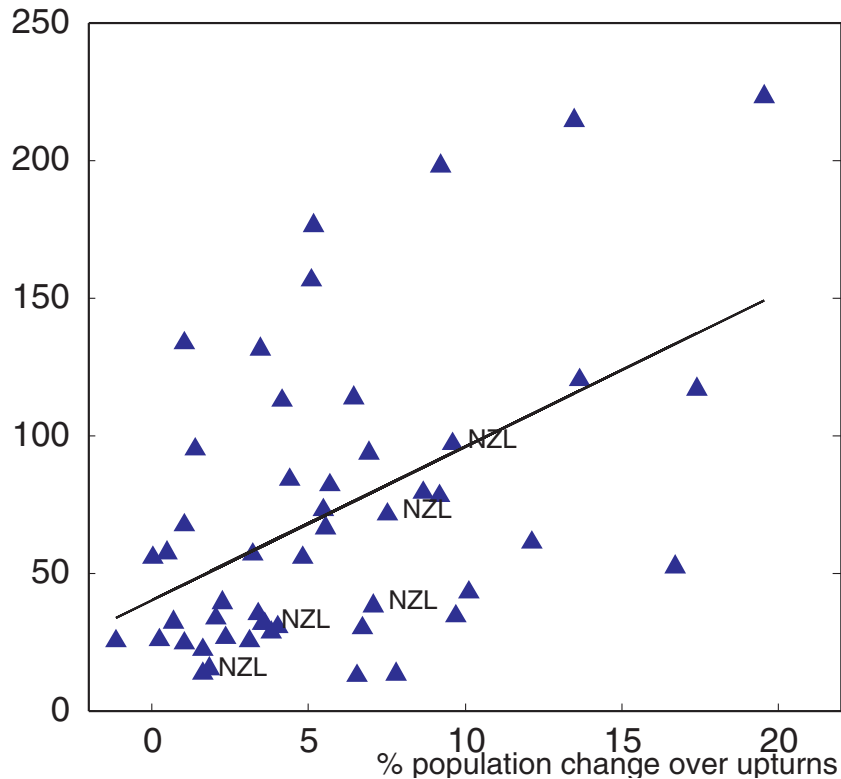
1974Q3-1980Q4: -38%

Real house price appreciation in upturns has tended to be positively associated with population growth across countries

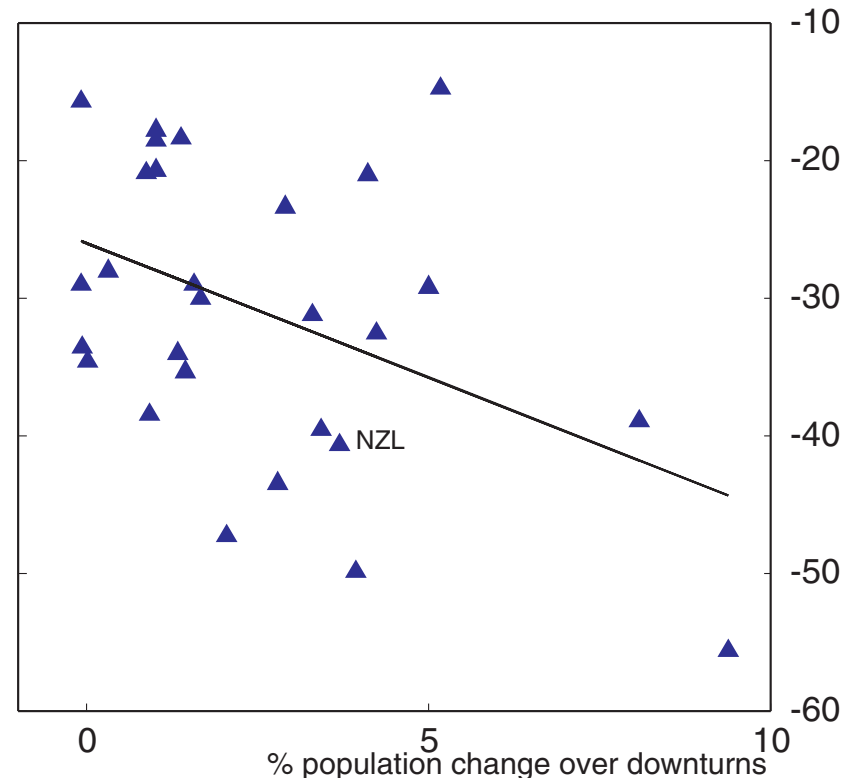
House price changes vs. population changes

NZ housing versus OECD

% change in real house prices over upturns



% change in real house prices over downturns

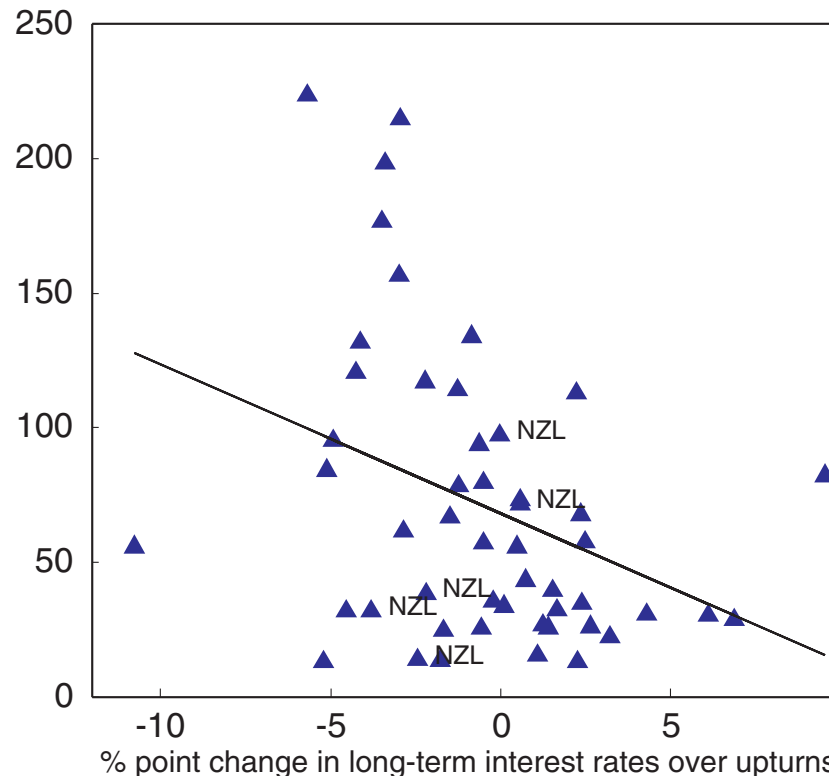


... and negatively with LT interest-rate changes

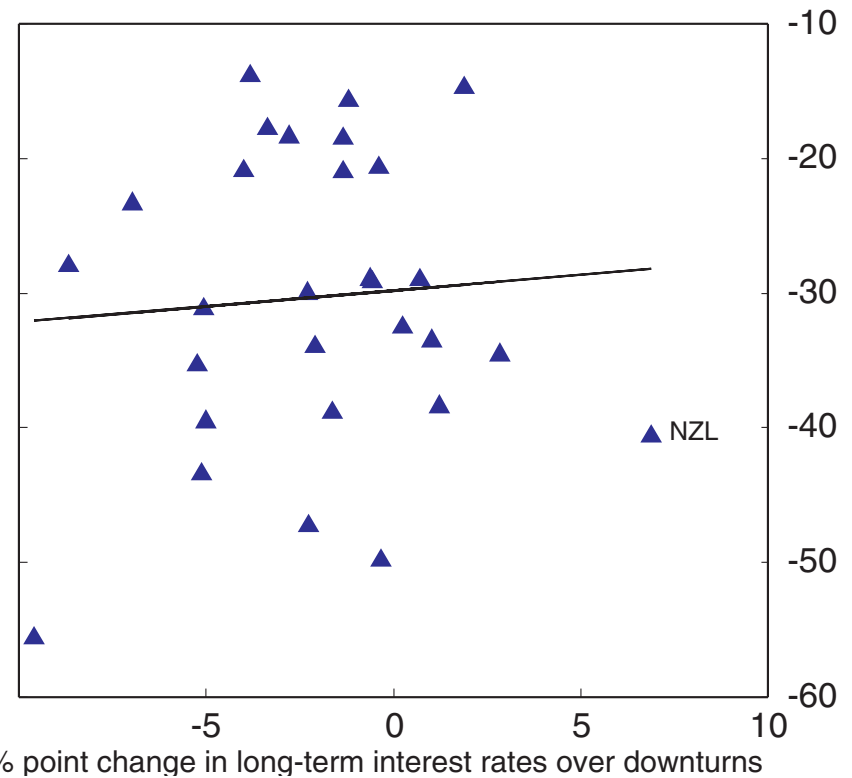
House-price changes vs. interest-rate changes

NZ housing versus OECD

% change in real house prices over upturns



% change in real house prices over downturns

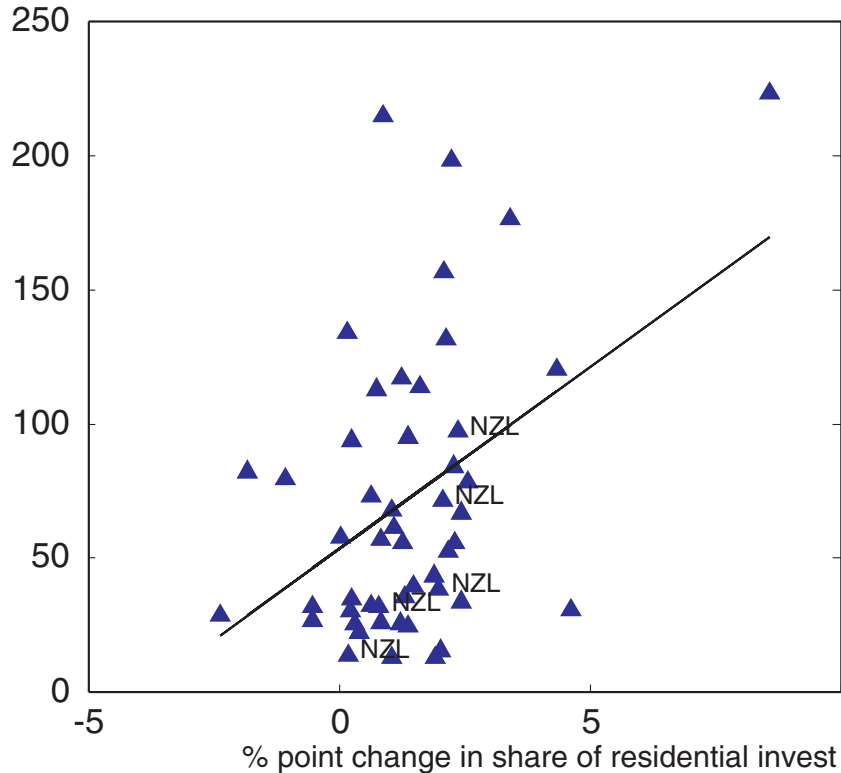


During upturns, the share of residential investment in GDP has tended to increase more in NZ than elsewhere

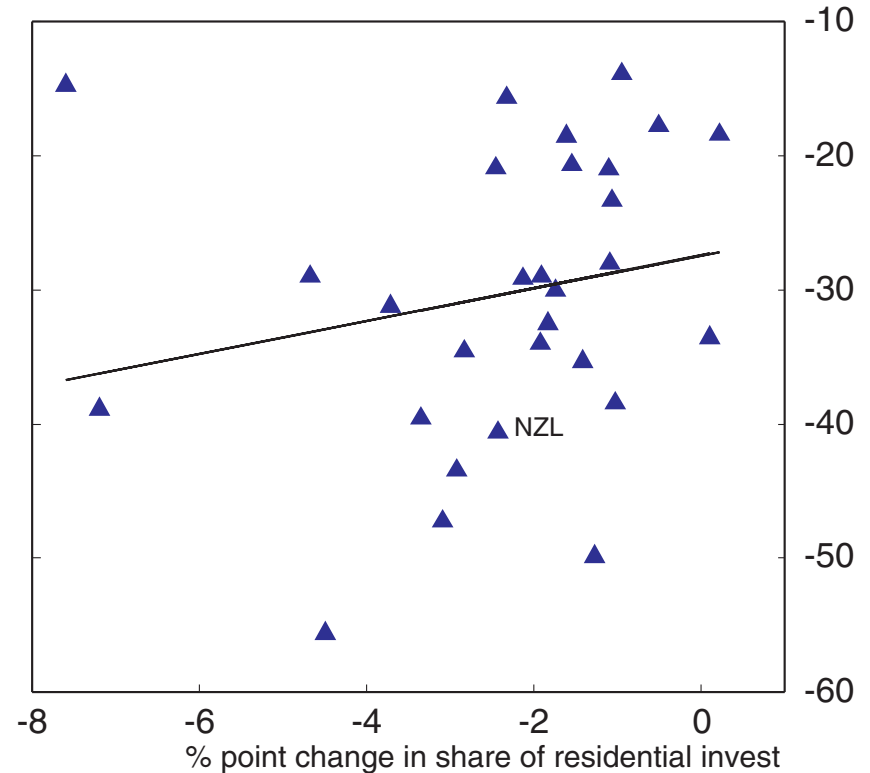
House price changes vs. change in residential investment (% GDP)

NZ housing versus OECD

% change in real house prices over upturns



% change in real house prices over downturns

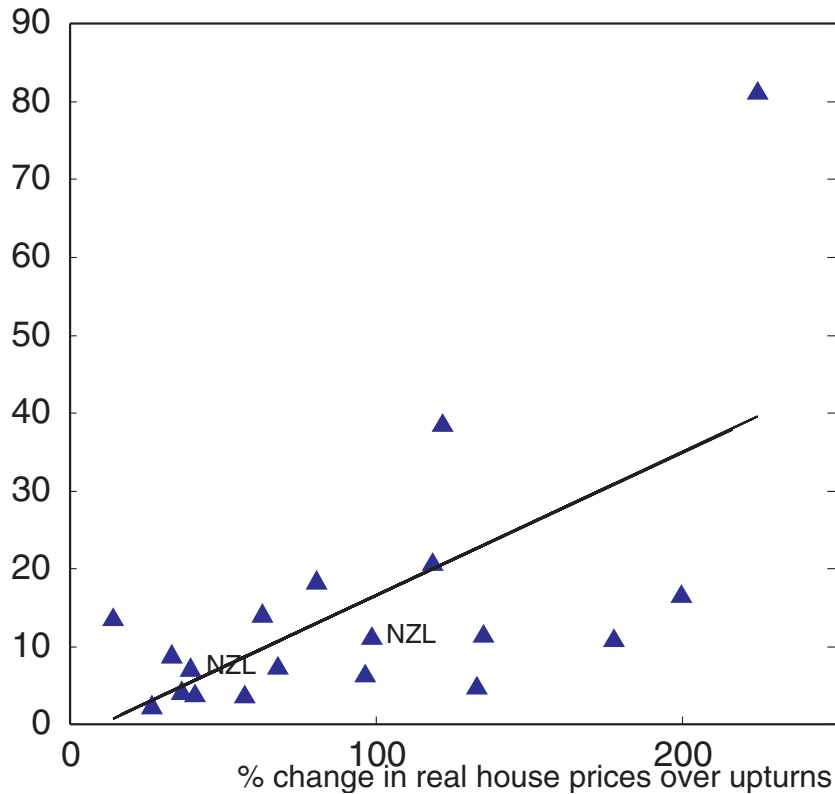


...but its dwelling stock tended to grow *less* than average for each % increase in population

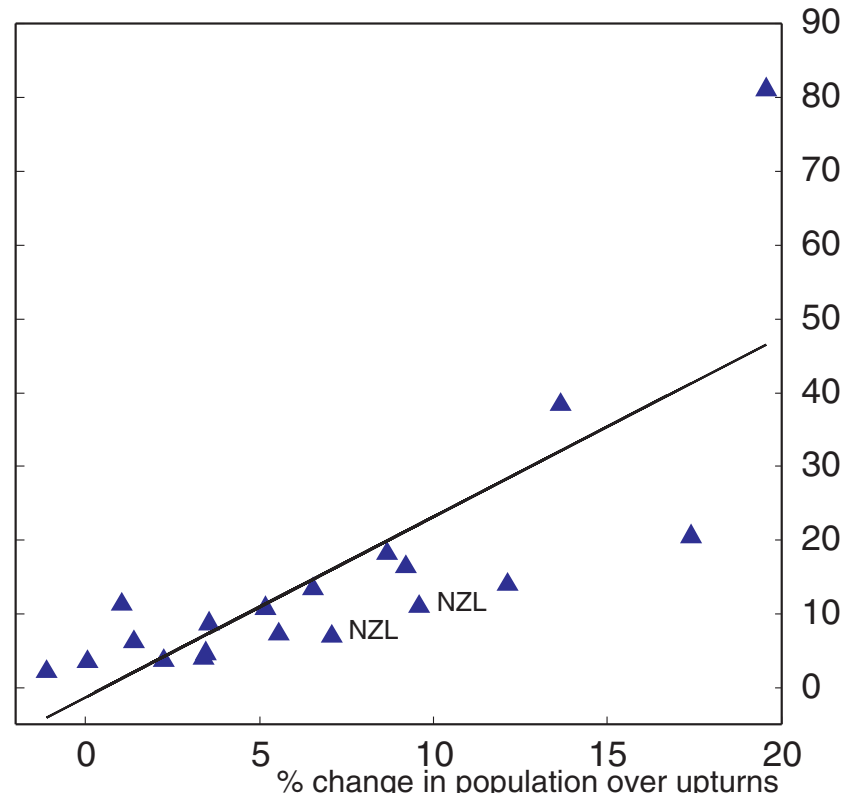
Change in dwelling stock during upturns

NZ housing versus OECD

% change in dwelling stock over upturns



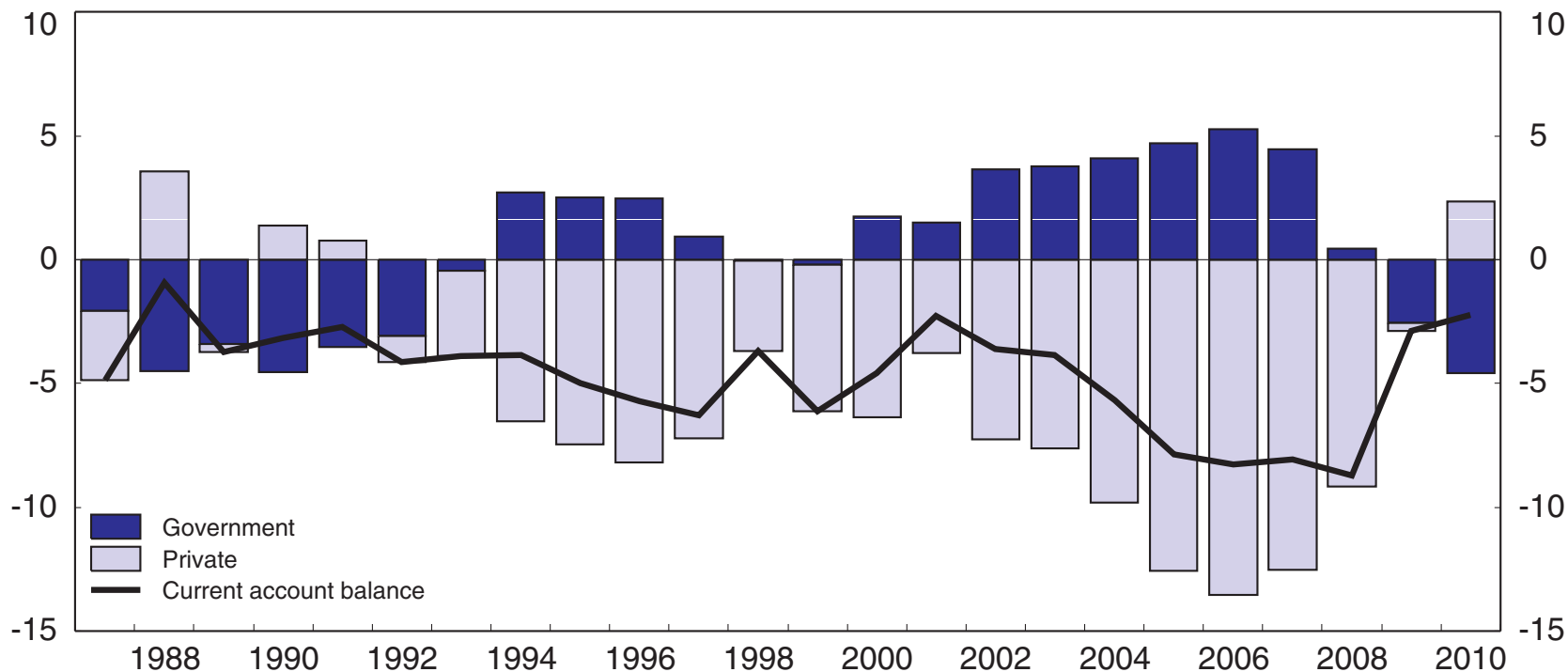
% change in dwelling stock over upturns



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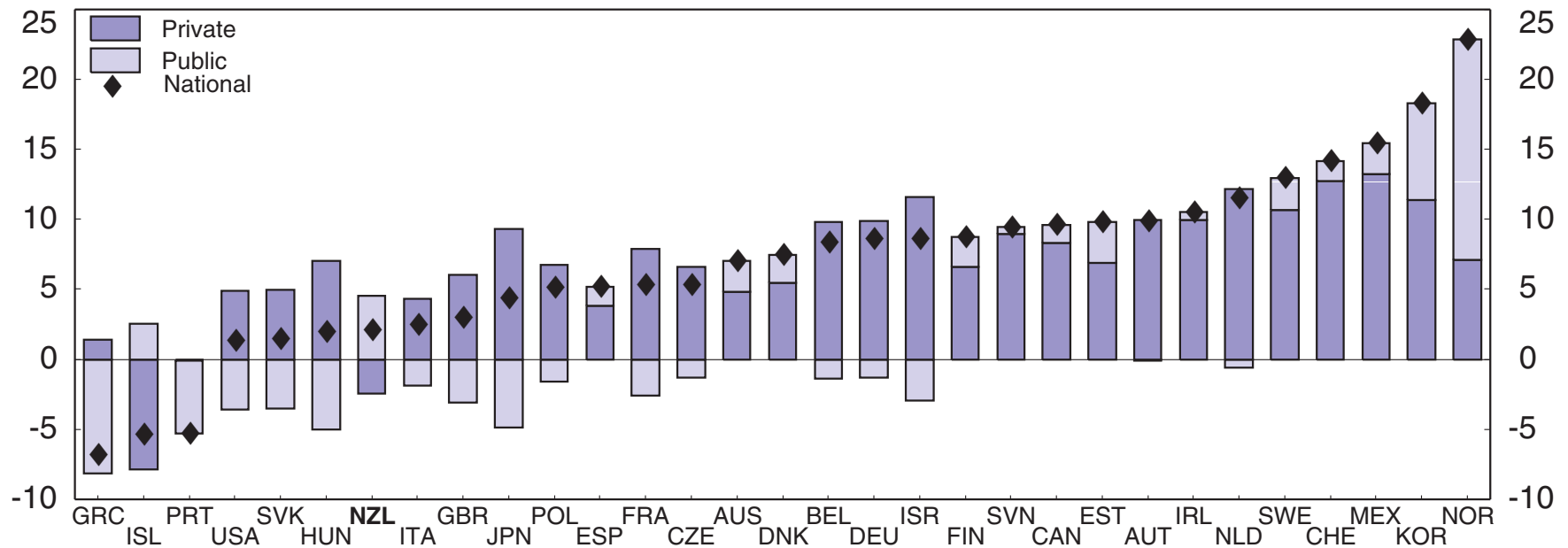
Most of the deterioration in NZ's external imbalance since the early 1990s reflects private-sector outcomes ...

Sectoral contributions to the current account Per cent of GDP



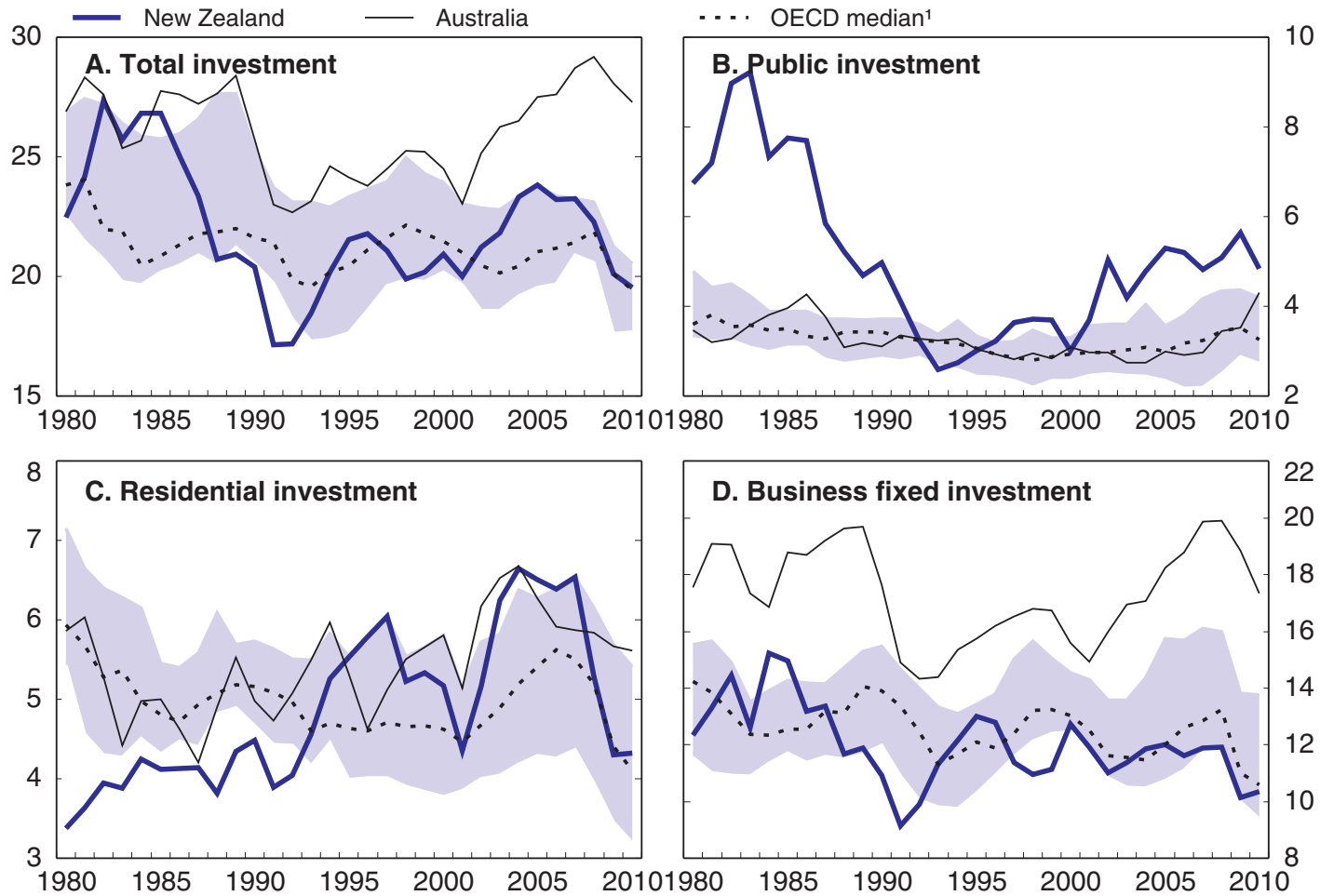
Indeed, it is on the saving side that the distinction lies

Net saving rate
Average 2004-10, per cent of GDP



...private business investment has also underperformed

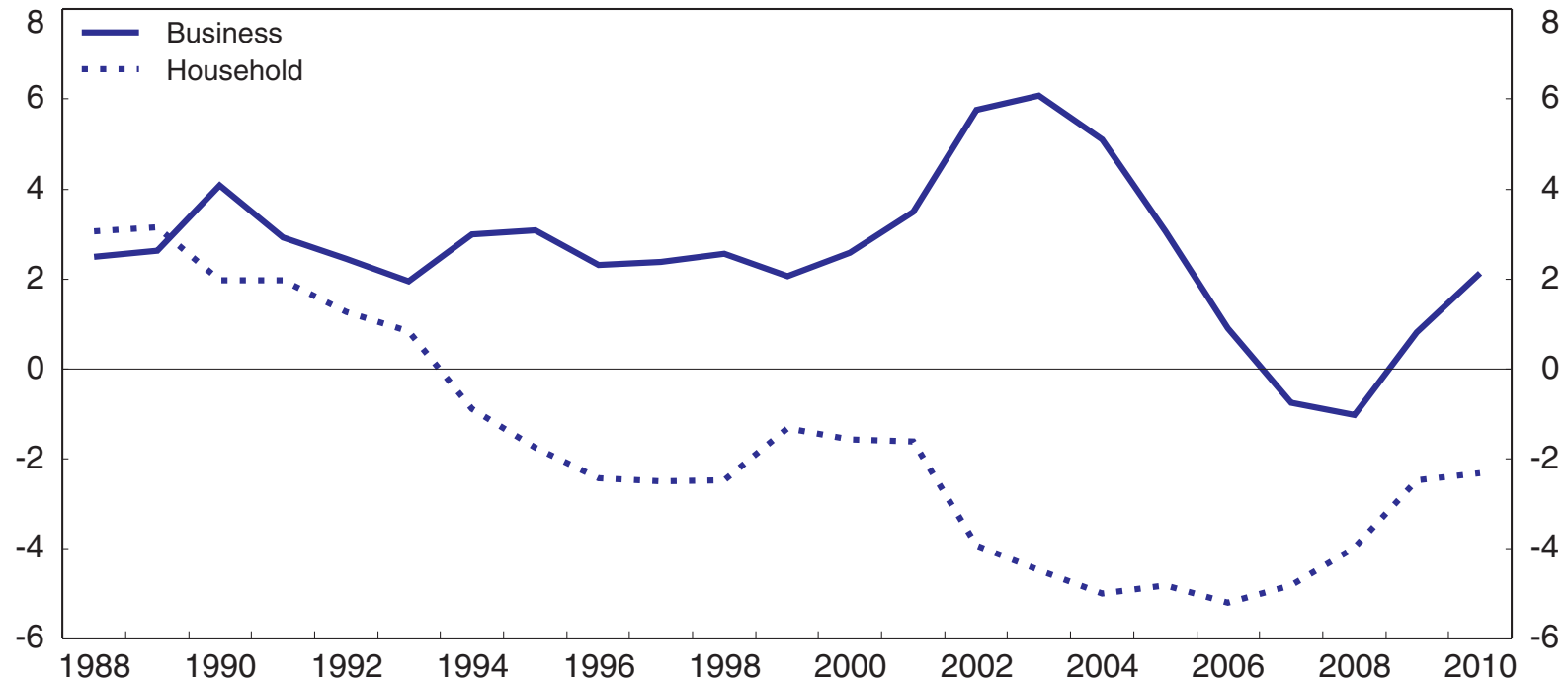
Investment rates Per cent of GDP



Household saving has been negative since the early 1990s

Private-sector saving rates

As a percentage of national disposable income, 3-year average

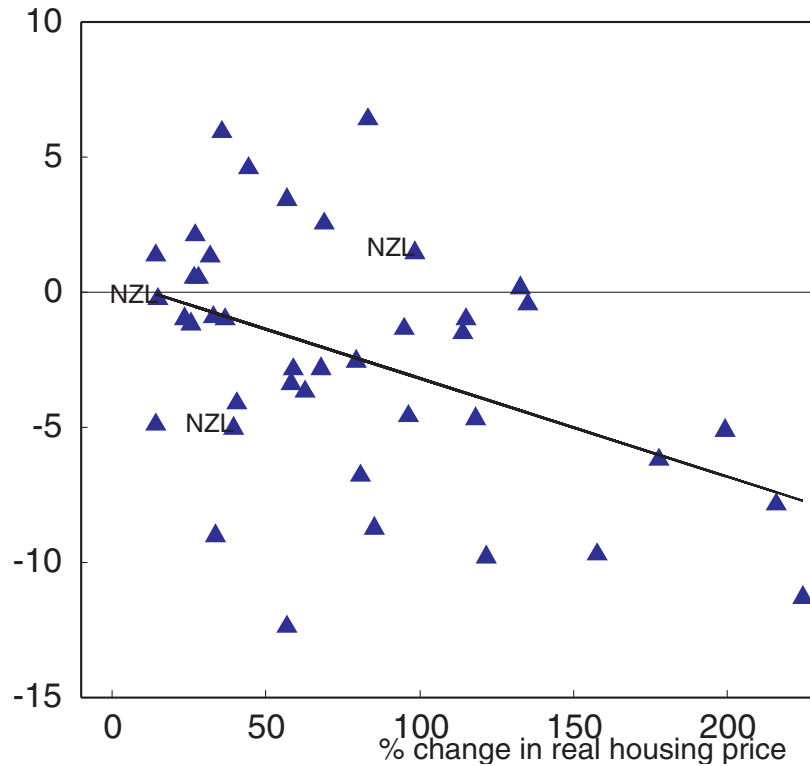


Source: Savings Working Group (2011)

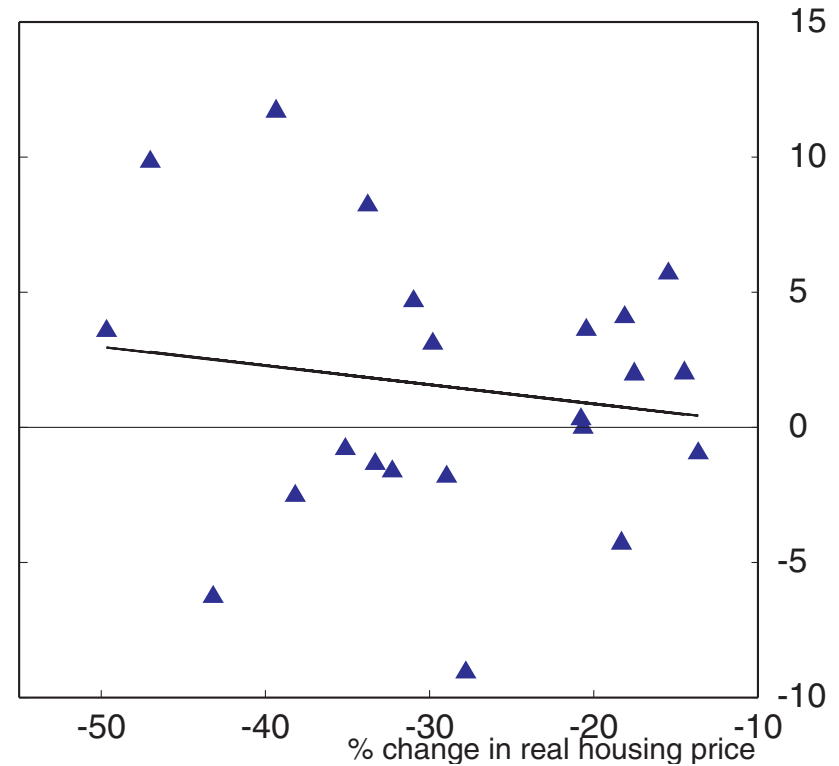
...how much of household saving behaviour can be explained by the housing boom?

House price changes vs. change in household saving rate

% point change in HH saving ratio over upturns



% point change in HH saving ratio over downturns



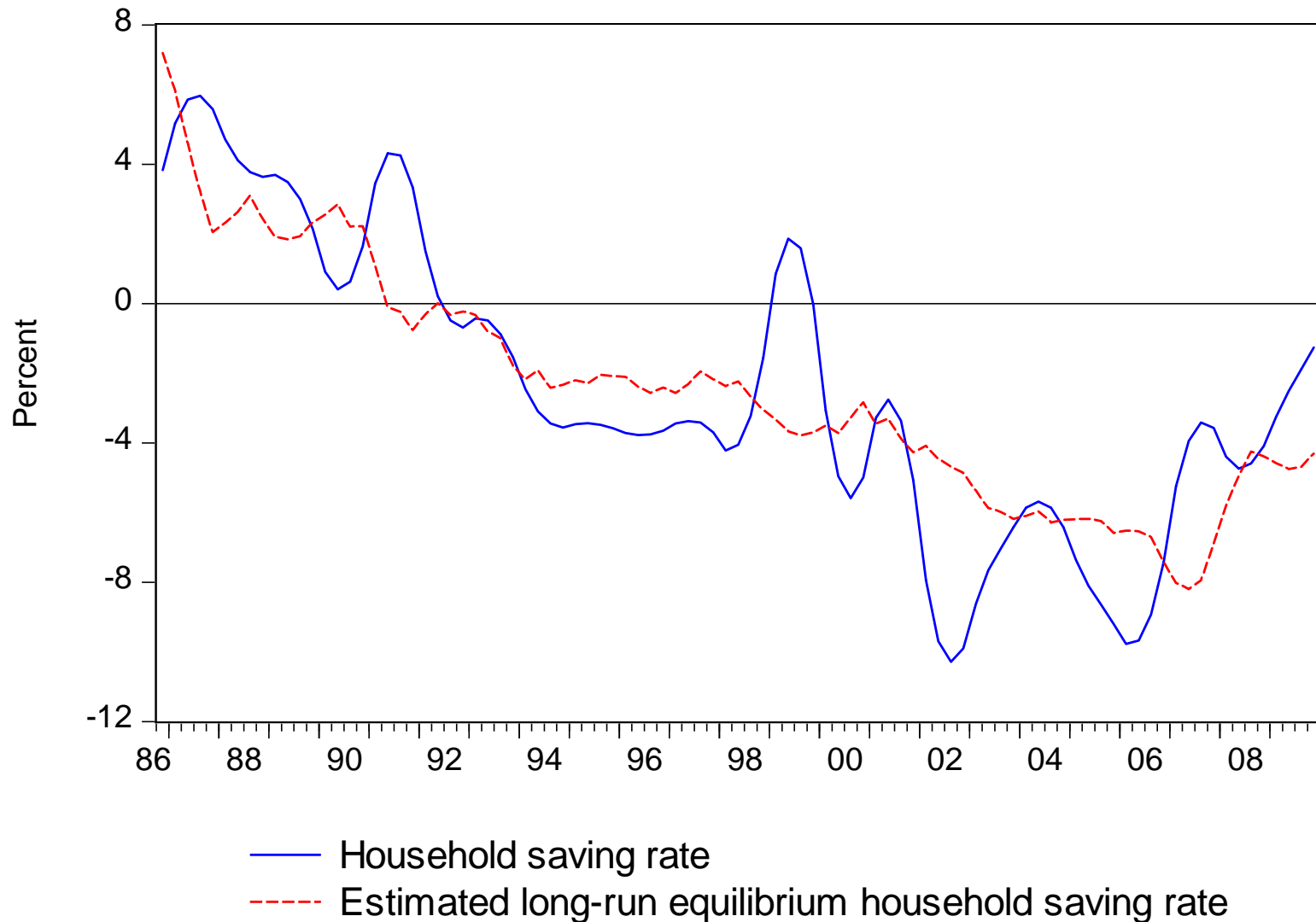
Panel estimations of the household saving rate

Based on the ARDL framework of Roehn (2010)

Long run	Estimates for All	Estimates for NZ	Estimates for NZ
<i>Structural Fiscal balance</i>	-0.34* (0.21)	-0.56* (0.3)	-0.59*** (0.18)
<i>Log of real household disposable income per capita</i>	-34.87 (22.34)	-14.93*** (4.83)	-14.70*** (4.02)
<i>Inflation</i>	95.20* (48.99)	38.51** (15.60)	40.00*** (12.64)
<i>Old age dependency ratio</i>	-3.54 (3.70)	-0.26 (1.51)	
<i>Real short-term interest rate</i>	0.09 (0.08)	-0.03 (0.11)	
Short run			
<i>Error correction term</i>	-0.20*** (0.03)	-0.20*** (0.03)	-0.20*** (0.03)
<i>Lagged ΔHH saving rate</i>	0.14* (0.08)	0.85*** (0.06)	0.85*** (0.06)
<i>ΔStructural fiscal balance</i>	-0.27*** (0.07)	-0.34*** (0.12)	-0.25** (0.10)
<i>ΔLog of real GDP per capita</i>	-15.49*** (4.09)	-5.97 (3.95)	
<i>ΔLog of real house price</i>	-3.62* (2.05)	-7.46* (3.87)	-7.98*** (2.79)
<i>ΔLog of real stock prices</i>	-0.26 (0.21)	-0.02 (0.62)	
<i>ΔTerms of trade</i>	0.01 (0.01)	0.02 (0.02)	
<i>constant</i>	20.20** (10.22)	29.32*** (7.39)	28.09*** (7.27)

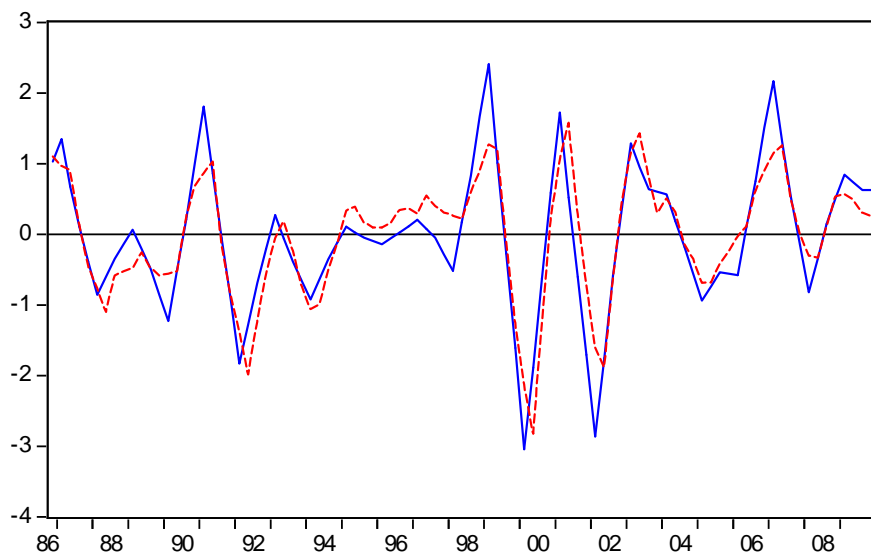
These results suggest NZ's equilibrium household saving rate trended downwards until recently, even without accounting for house prices

Housing and Macroeconomic Imbalances



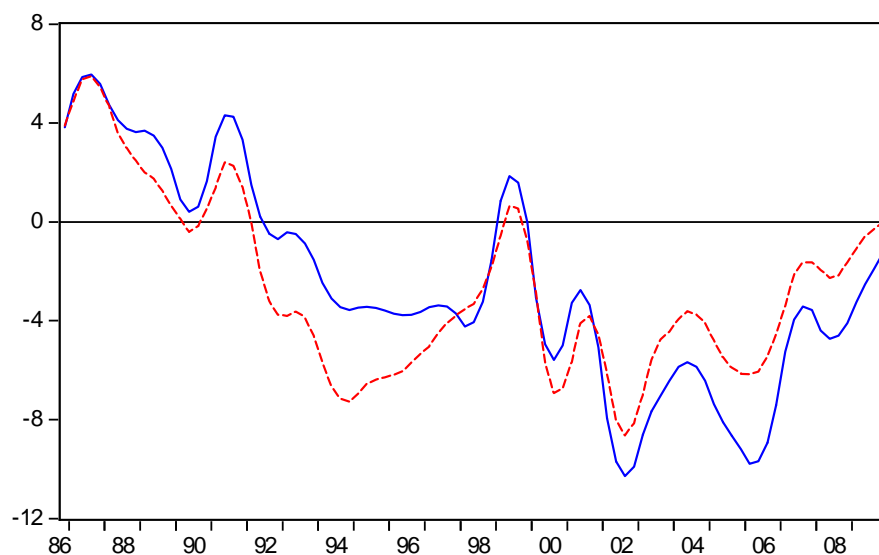
Panel estimations on household saving rate: results for NZ

Percentage points



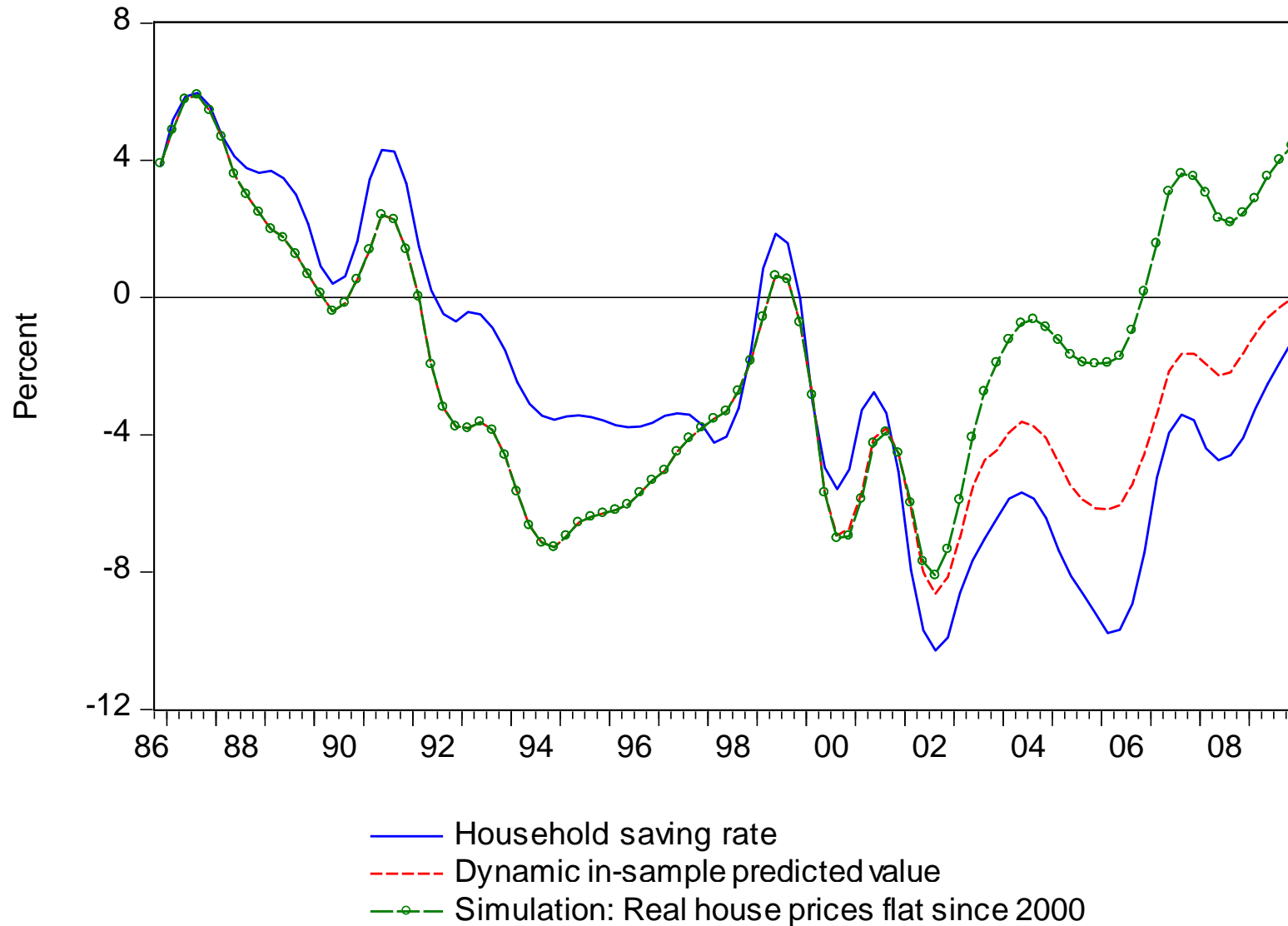
— Change in household saving rate
- - - In-sample predicted change

Percent



— Household saving rate
- - - Dynamic in-sample predicted value

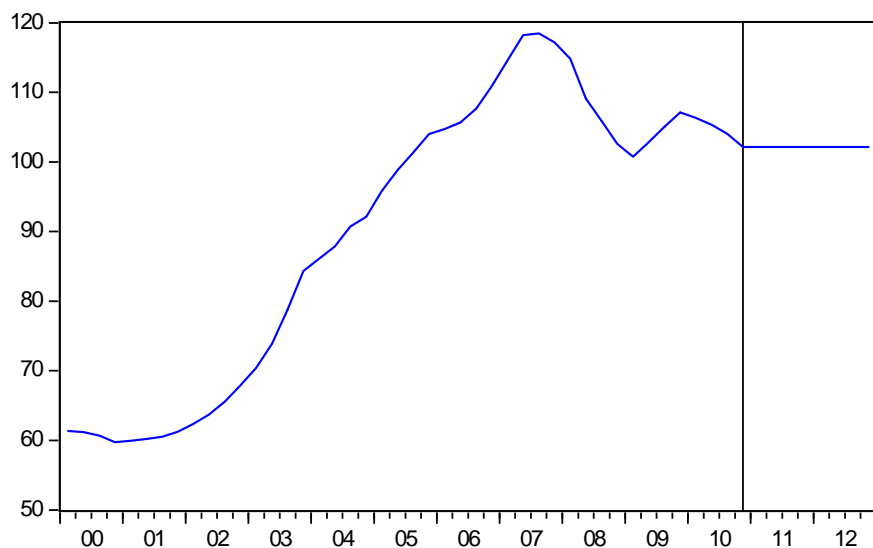
Simulation: How NZ's household saving rate would have evolved if real house prices stayed flat at 2000 values



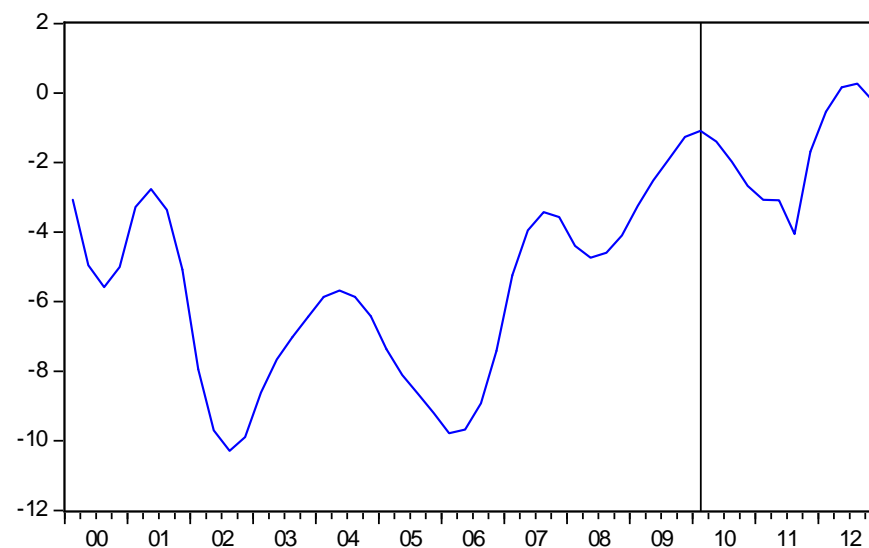
Projecting NZ's household saving rate: a V-shaped pattern

..assuming all input variables follow the path of OECD Economic Outlook projections and real house prices stay flat, the household saving rate would improve in 2012 (though beware of earthquake effects)

NZ Real Housing Price Index



NZ Household Saving Rate



Source: QVNZ up to 2010Q4

A summary

- The 2000-07 boom was led by population growth and easy credit and led to declining owner-occupancy. The dwelling stock per household has fallen steadily, as supply has responded only weakly to the price stimulus, with notable weakness since 2008.
- House prices respond unusually heavily to population more generally; only once prices have risen does supply react. What precisely are the main barriers to supply other than possibly landlord-tenant regulation and zoning restrictions in some areas is not entirely clear.
- NZ's numerous housing price upturns have been characterised by unusually small changes in long-term interest rates, moderate volatility in the share of residential investment in GDP but small increases in the dwelling stock.
- NZ's chronic external imbalance results from weak private and especially household saving and, to a lesser extent, from high public investment.
- Low household saving and its focus on property components is exacerbated by the tax treatment of saving. But low saving can be more fundamentally attributed to trend declines in inflation, improvements in the public finances and gains in real per capita incomes and, indeed, housing price appreciation. The household saving rate should imminently enjoy a fairly sharp rebound, assuming flat house prices.