



BANK FOR INTERNATIONAL SETTLEMENTS

# What drives housing price dynamics: cross-country evidence

By

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Bank for International Settlements

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## Housing finance and house price dynamics

- Main question:
  - Do the institutional characteristics of housing finance have an impact on house price dynamics?
- Why do we care?
  - **Macro stability:** Housing market affects the budget constraint of households and aggregate demand
  - **Financial stability:** Banks are intimately involved in origination and holding of mortgages



## Housing finance and house price dynamics

- **Methodology:** Exploit cross-country institutional diversity in a common empirical framework:
  - Explain house price dynamics by reference to a VAR (common specification)
  - Relate different dynamic patterns to aspects of the financing structures



## The VAR (1970 – 2003)

### Variables:

- Real GDP growth
- Inflation
- Short rate
- Term spread
- Bank credit
- House prices

### Countries:

- BE, DK, FI , FR , DE , IE ,  
IT , NL , NO , ES , SW ,  
CH , GB
- CA , US
- AU , JP



## SVAR framework

- Assumptions on the endogenous linkages among those variables (whether row variables respond to innovations in column variables)

	GDP	Credit	HP	IR	Spread	Inflation
GDP	--	No	No	No	No	No
Credit	Yes	--	Yes	Yes	Yes	No
HP	Yes	Yes	--	Yes	Yes	Yes
IR	Yes	No	No	--	No	Yes
Spread	Yes	No	No	Yes	--	No
Inflation	Yes	No	Yes	No	No	--



## Summary of results across all countries

- Variance decomposition of housing price movements (5 years)

GDP	Bank credit	Housing prices	Short rate	Term spread	Inflation
7.6	11.4	7.4	10.8	9.8	53.0



## Housing financing structures

- Contract characteristics:
  - Fixed vs floating rate, maturity, refinancing, equity extraction
- Market:
  - Securitisation
- Prudential:
  - Loan-to-value , valuation of property



## Three groups of countries

- **“Conservative”**: Dominance of fixed rate mortgages, no equity extraction, low LTV
- **“Aggressive Fixed”**: Dominance of fixed rate mortgages (five years or more), market valuations used, high LTV, equity extraction possible
- **“Aggressive Float”**: Dominance of floating rate mortgages, market valuations used, high LTV, equity extraction possible



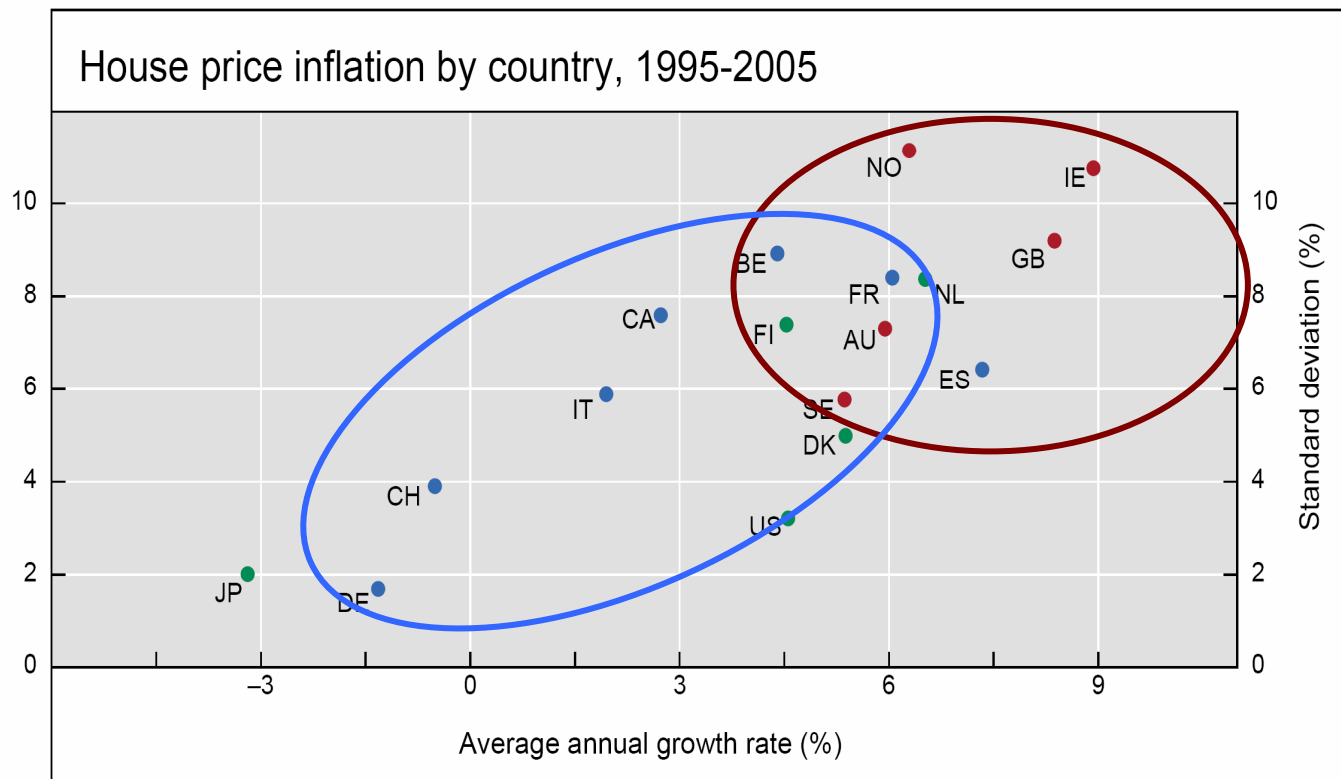


## Three groups of countries

		<b>Mortgage rate</b>	<b>MEW</b>	<b>Maximum LTV</b>	<b>Valuation method</b>
<b>Group 1</b>	BE, CA, FR, DE, IT, ES, CH	Mostly Fixed	No	Low	Mixed
<b>Group 2</b>	DK, FI, JP, NL, US	Mostly Fixed	Yes	Medium	Mixed
<b>Group 3</b>	AU, IE, NO, SE, UK	Variable	Yes	Very high	Market value



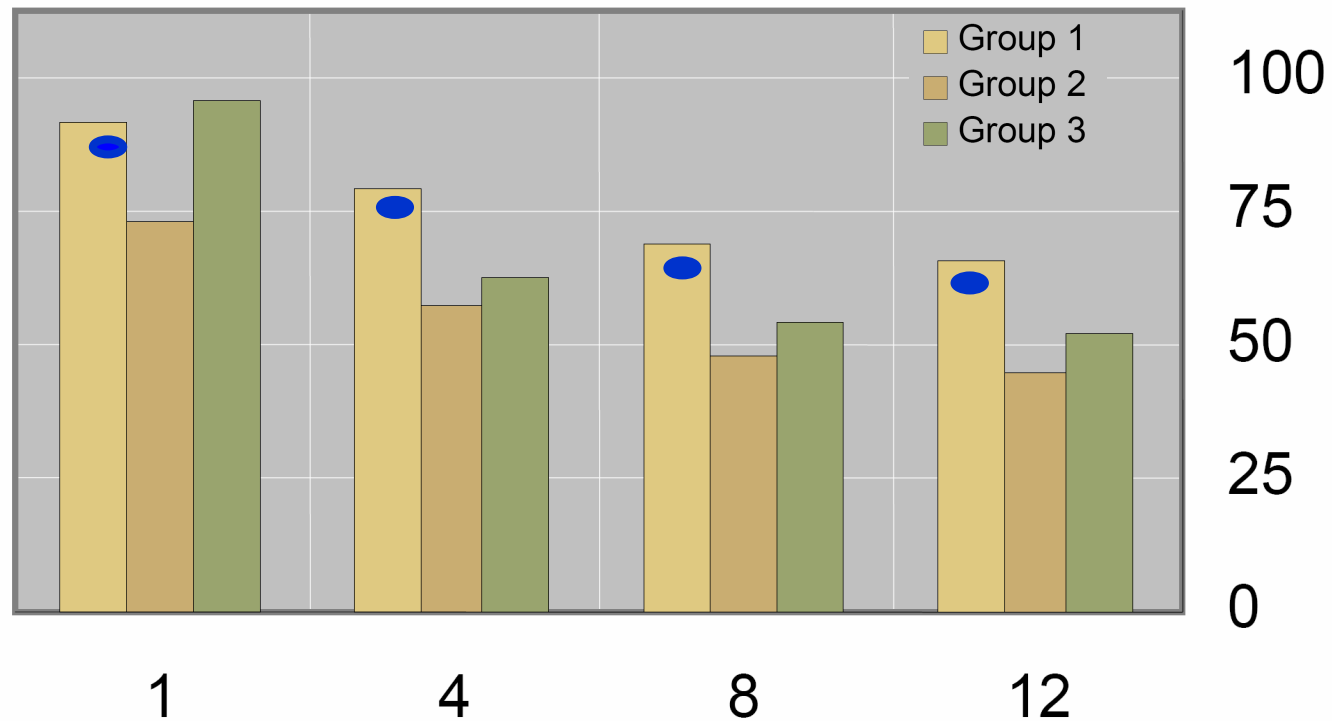
## Recent house price growth strongest in Group 3





## Inflation impact strongest in Group 1

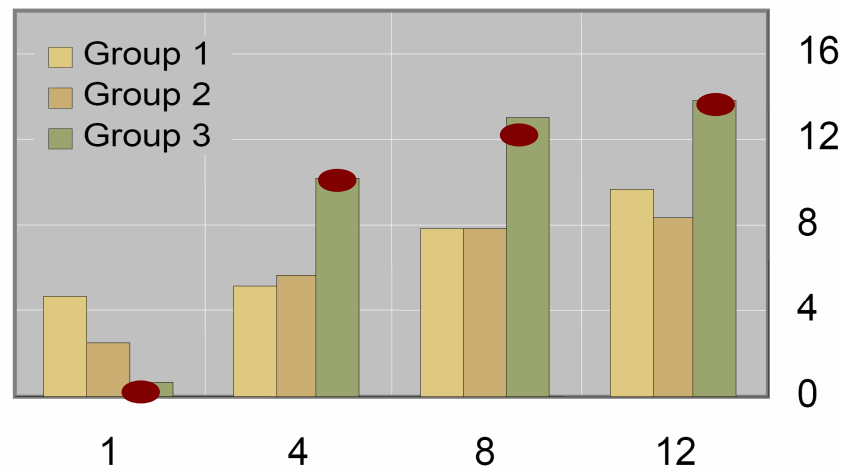
### Inflation to housing prices



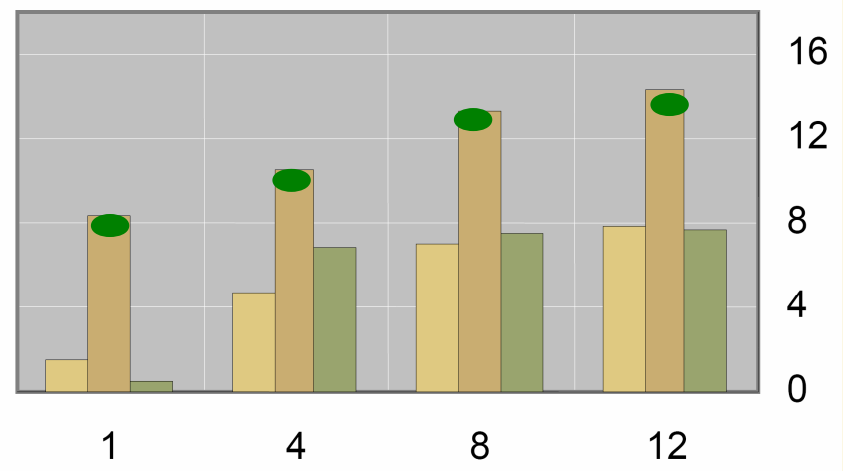


## Term structure effects

### Short-term rates to housing prices

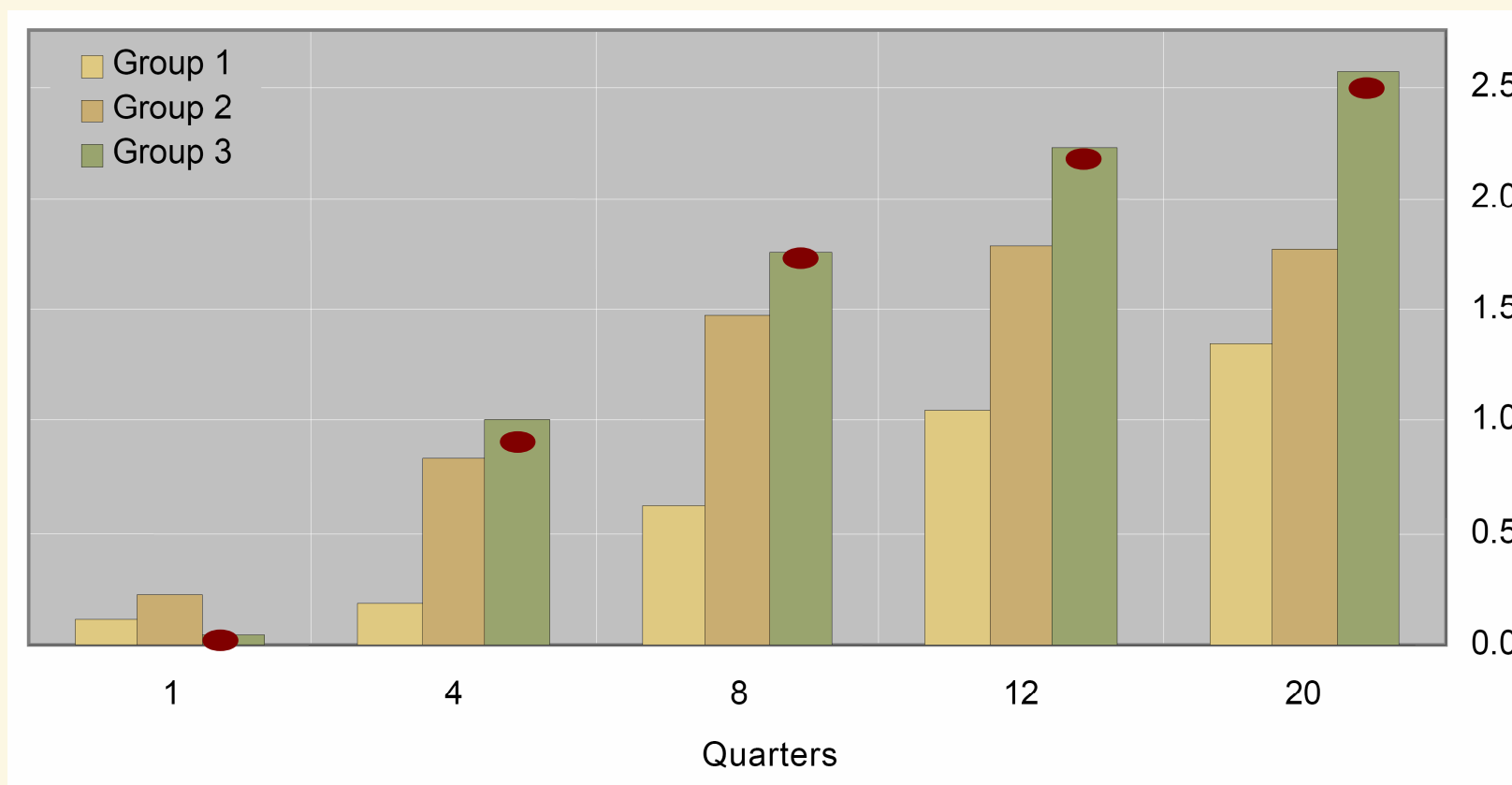


### Interest rate spread to housing prices





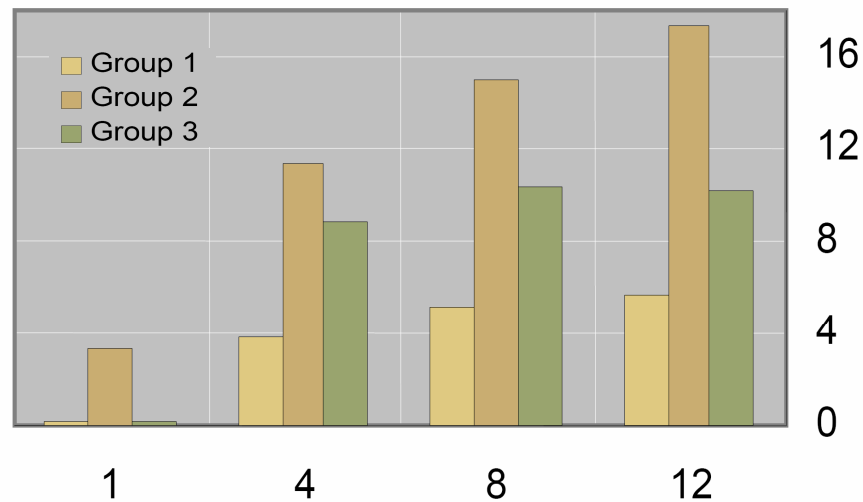
## Impulse response to a change in short rate



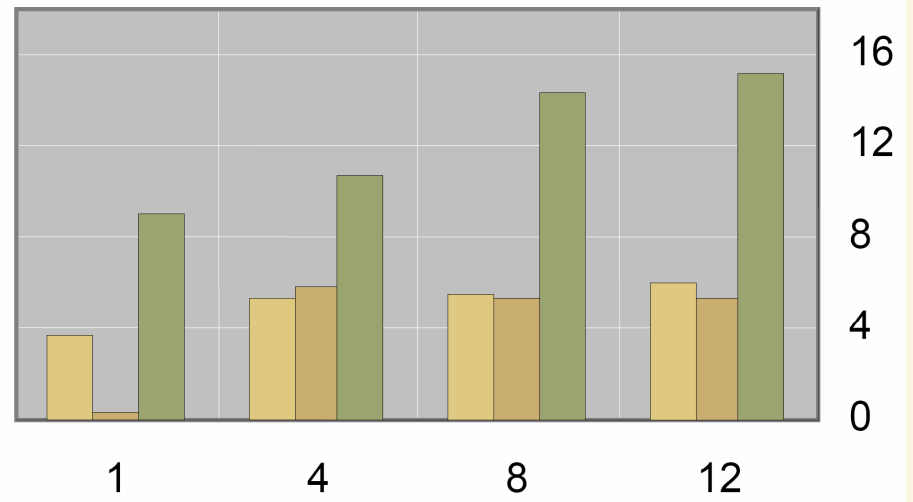


## Two-way interaction with bank credit

Private sector credit to housing prices



Housing prices to private sector credit





## Summary

- House prices depend on inflation, the yield curve and bank credit, but national differences in the mortgage markets also matter
- House prices are more sensitive to short-term rates when floating rate mortgage is prevalent
- The feedback effect from house prices to bank credit is the strongest in those countries with more aggressive lending practices