

# Housing bubbles: what are their causes and can we get rid of them?



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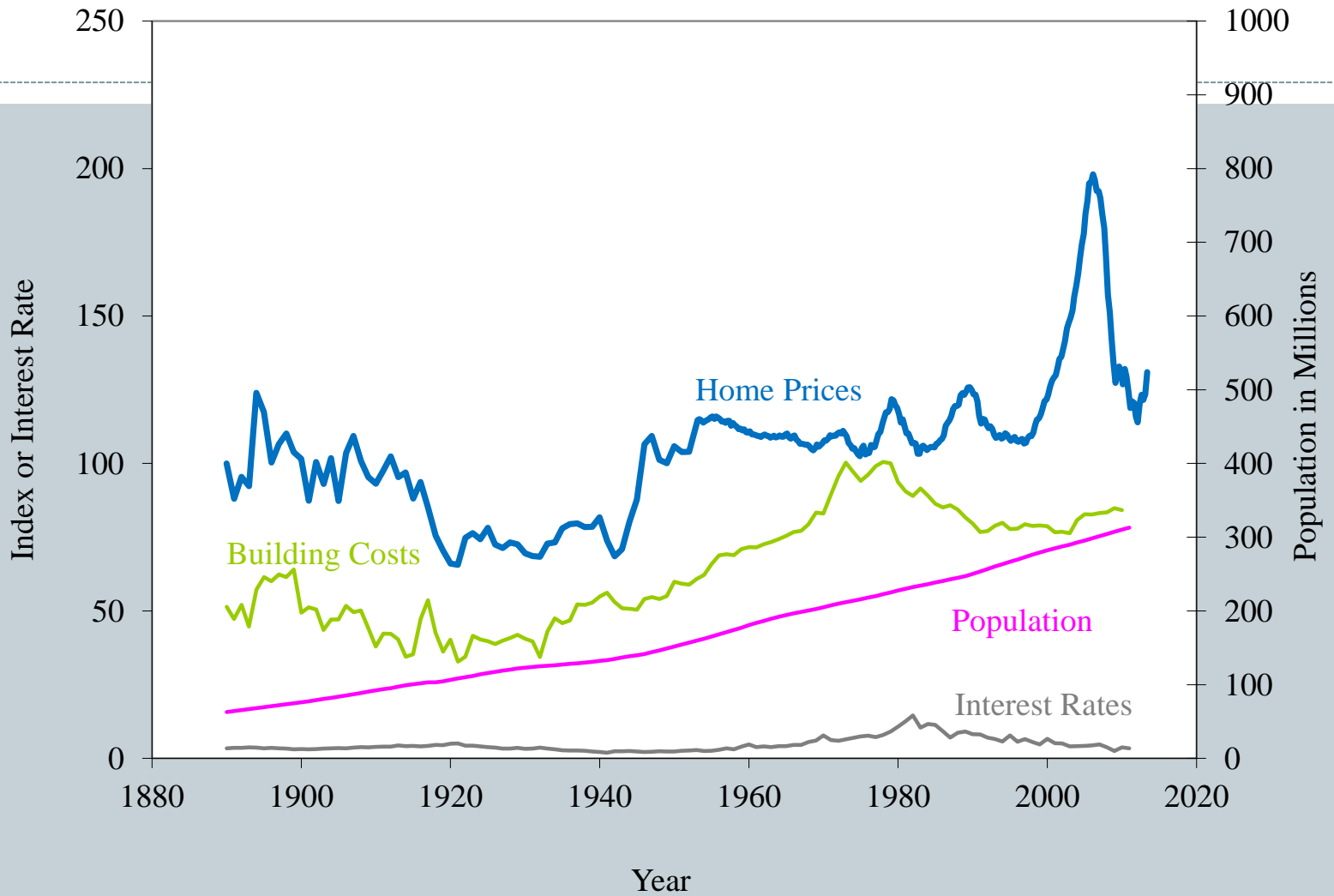
\*AUTONOMY CAPITAL, LONDON  
**THIS PRESENTATION REPRESENT MY  
PERSONAL VIEWS AND NOT THOSE OF  
AUTONOMY OR ITS STAFF**



*"And we will never return to the  
old boom and bust."*

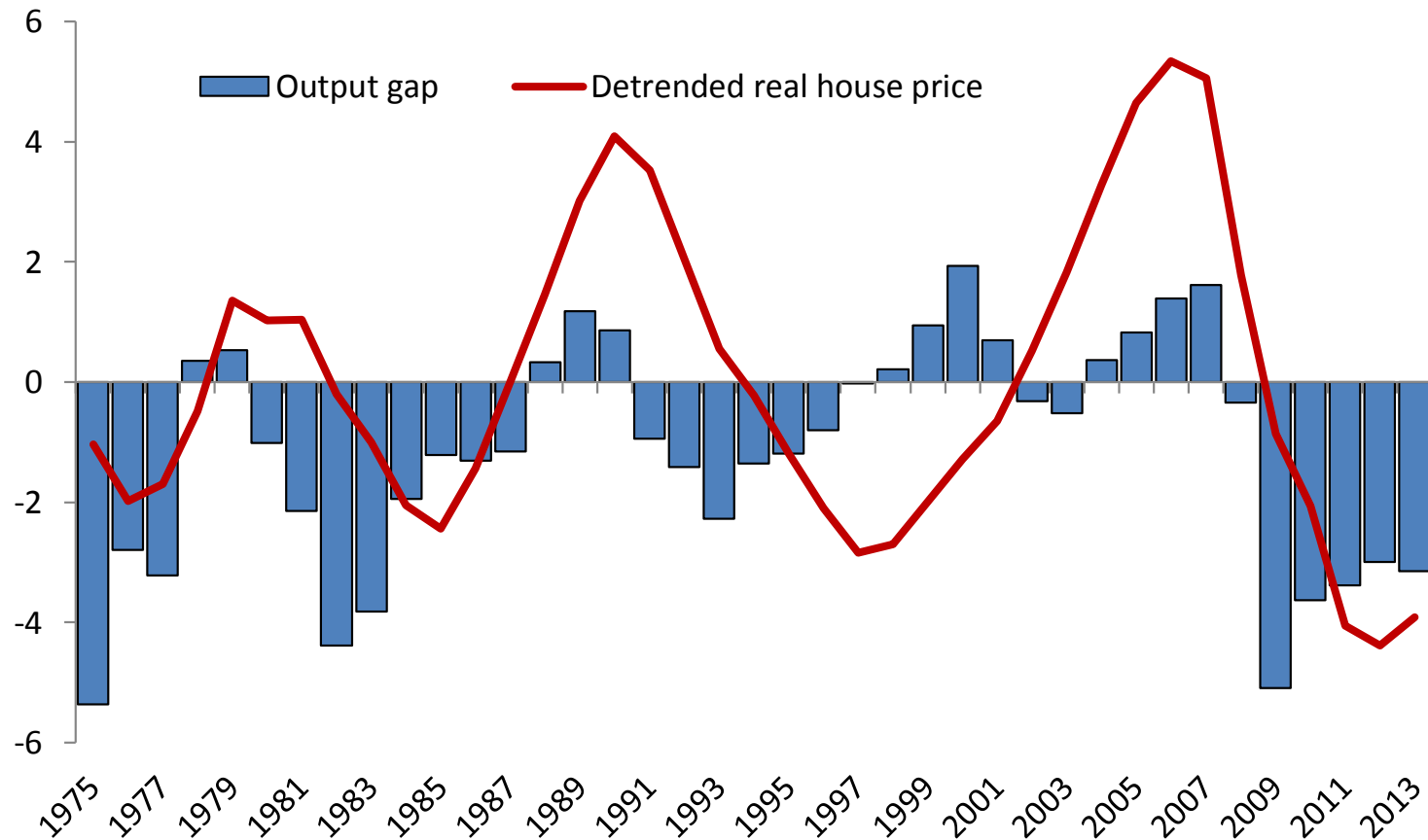
Gordon Brown, Budget Statement,  
21 March 2007

**Fig 1.** Long-run US housing data



Source: Robert J. Shiller, *Irrational Exuberance*, 2nd. Edition, Princeton University Press, 2005, 2009, Broadway Books 2006, also *Subprime Solution*, 2008, as updated by the author.

**Fig. 2** The real house price cycle and the output gap



*Note:* Real house price as a per cent difference from (a log-linear) trend, weighted average of the G7 countries, using purchasing power-adjusted GDP weights, output gap as a per cent of potential GDP using the same set of weights, numbers for 2013 refer to the first half of the year.

*Source:* OECD, author's calculations.

# A naïve model




$$H^d = H^d(p_H, \Delta p_{H(t-1)}, \dots)$$

$$H^s = H^s(p_H, H_{(t-1)}, \dots)$$

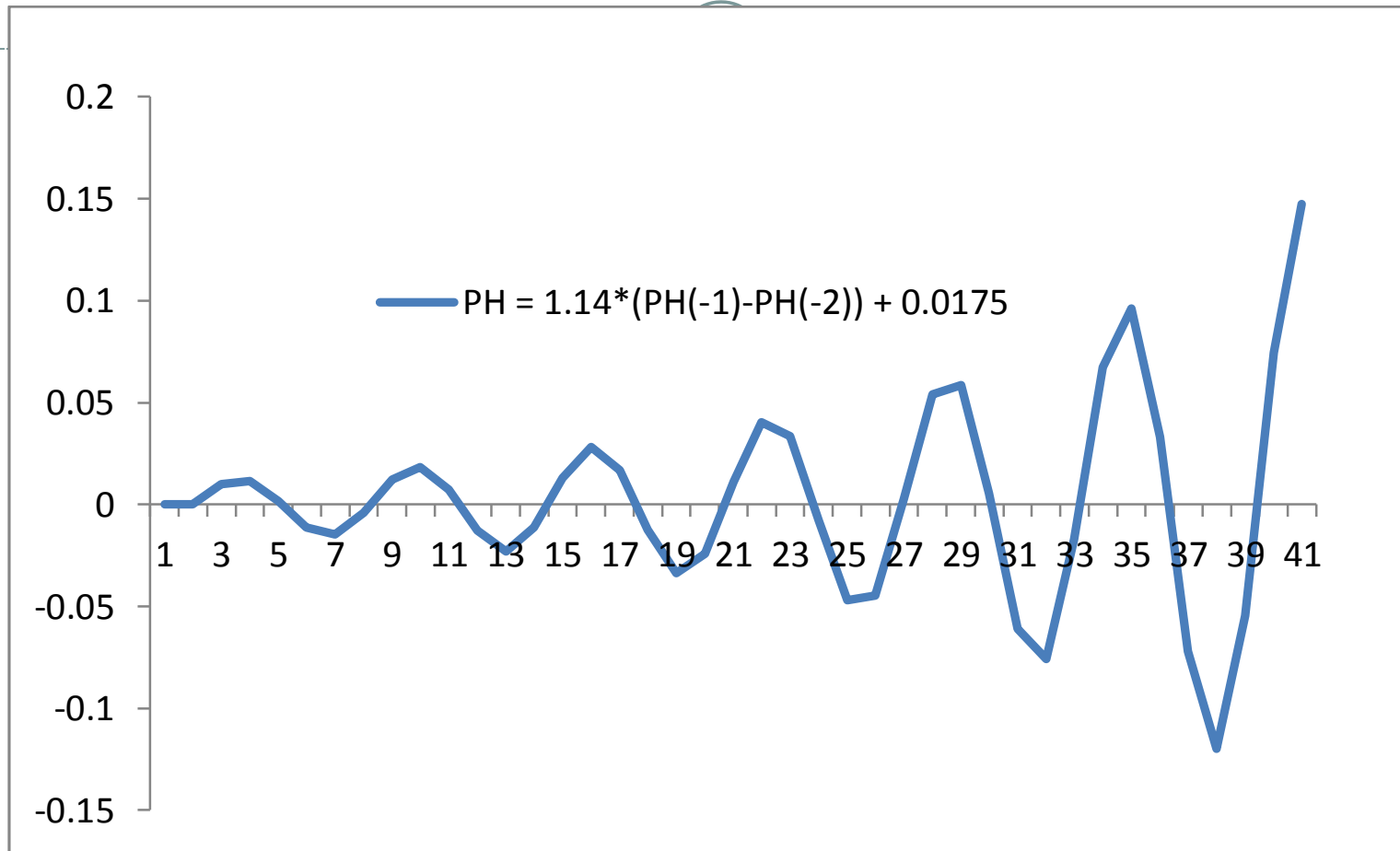
$$H = H^s = H^d$$

where:

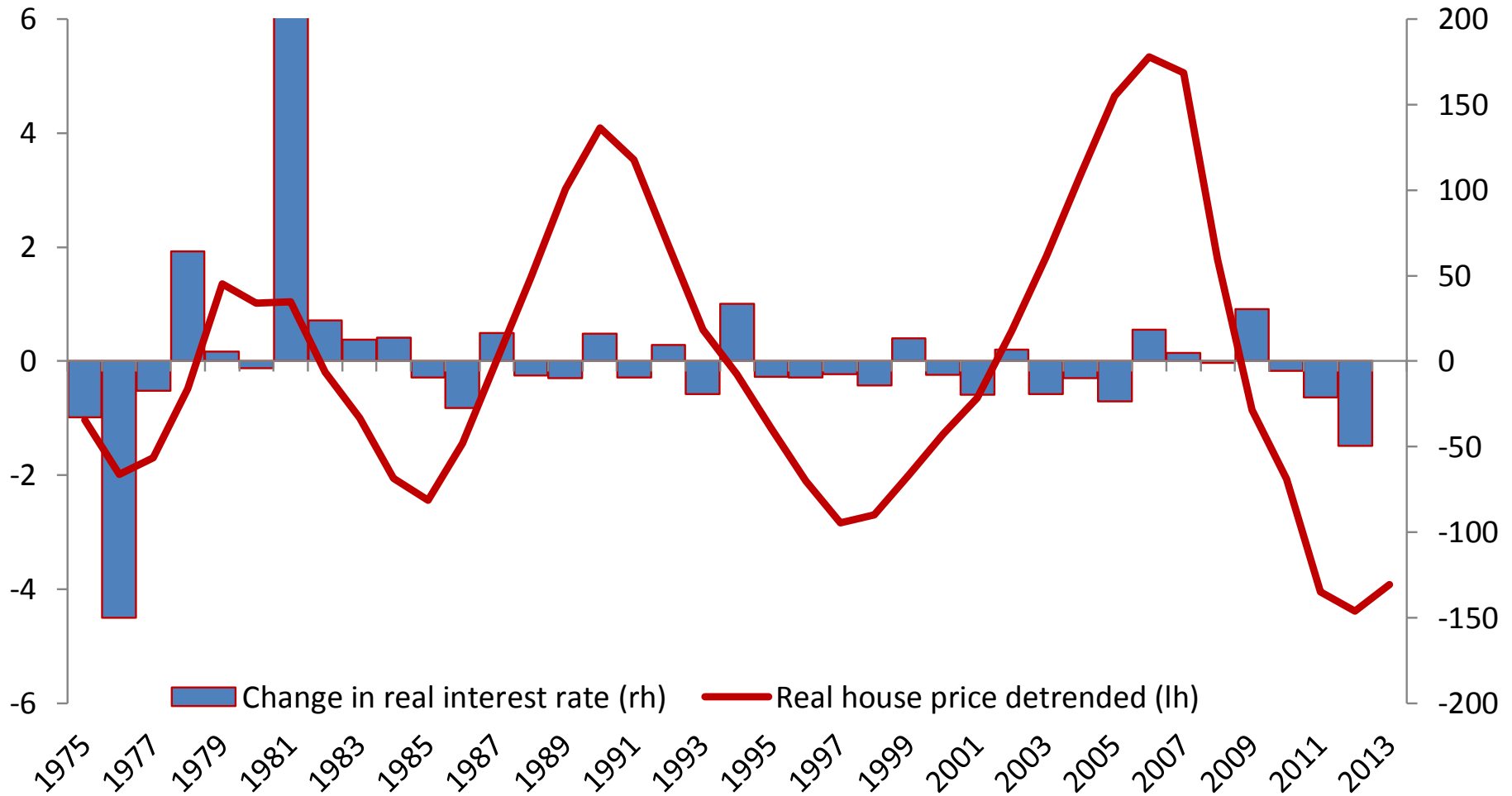
$$\frac{\partial H^d}{\partial p_H} < 0, \frac{\partial H^d}{\partial \Delta p_{H(t-1)}} > 0, \frac{\partial H^s}{\partial p_H} > 0, \frac{\partial H^s}{\partial H_{(t-1)}} > 0$$

  $p_H = f(\Delta p_{H(t-1)}, H_{(t-1)}, \dots)$

**Fig 3.** Simulated real house price level



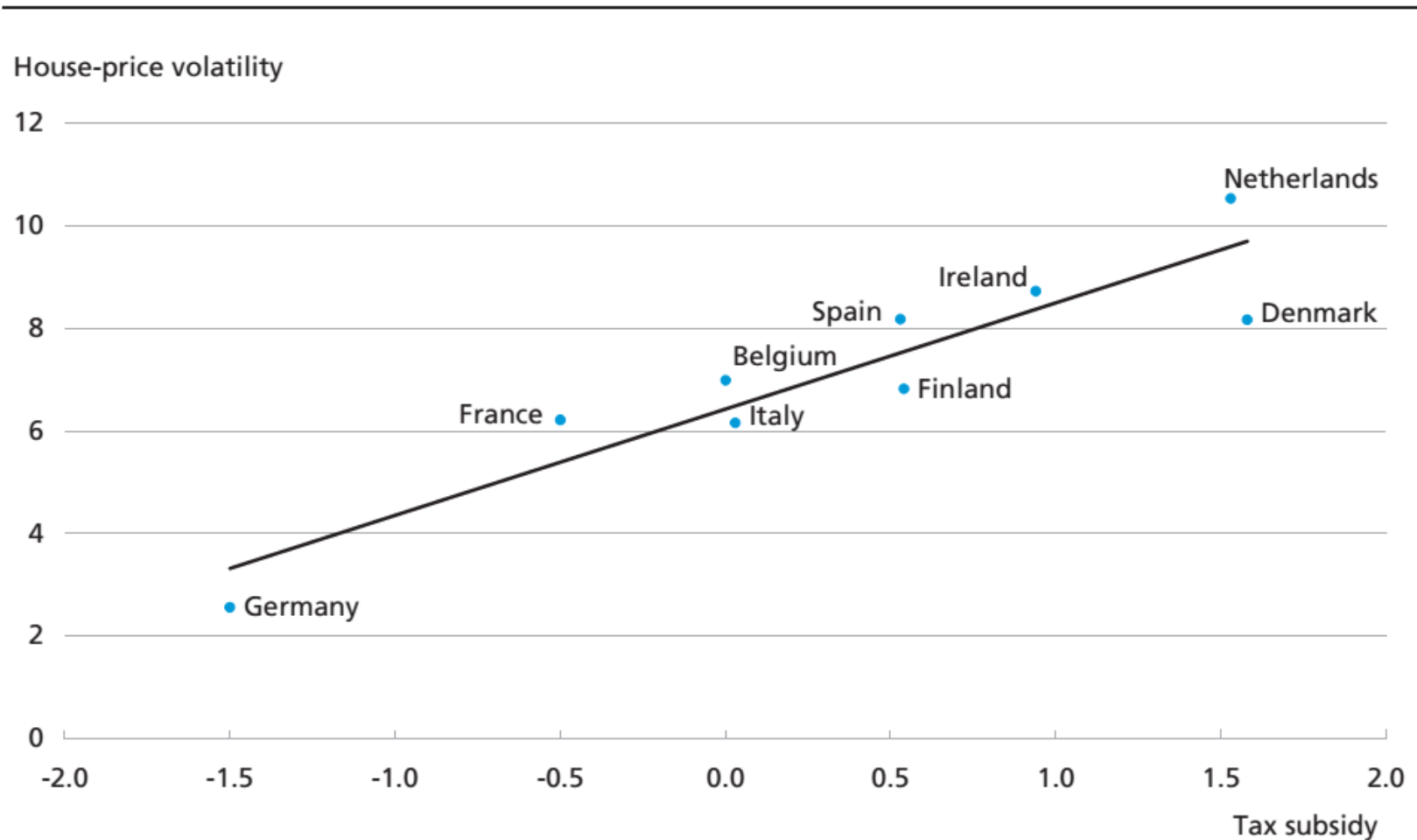
**Fig. 4** The real house price cycle and the real interest rate



*Note:* Real house price as a per cent difference from (a log-linear) trend, weighted average of the G7 countries, using purchasing power-adjusted GDP weights; numbers for 2013 refer to the first half of the year. Real interest using the same set of weights and shown as per cent changes from previous period.

*Source:* OECD, author's calculations.

**Fig 5. House price volatility and tax subsidies**

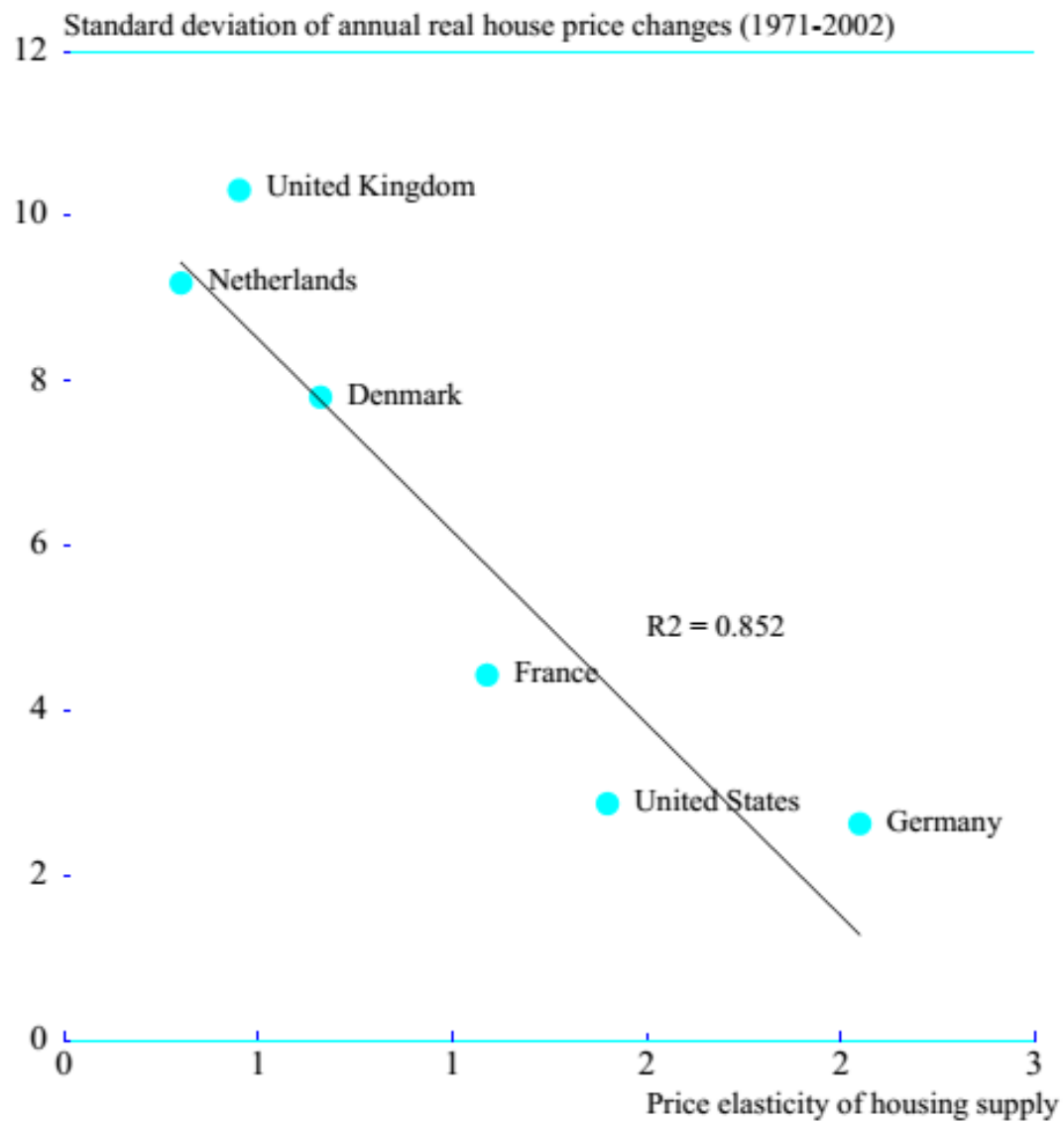


Note: The tax subsidy for owner-occupied housing consumption is calculated in accordance with the tax rules and levels of interest rates in 1999. The regression line inserted is estimated using ordinary least squares ( $R^2 = 0.847$ ).

Source: National Bank of Denmark, "Developments in the market for owner-occupied housing in recent years – can house prices be explained?", in *Monetary Review*, First Quarter 2011.



**Fig 6.** House price volatility and the price elasticity of housing supply



Source: Pietro Catte et al. (20 04), "Housing markets, wealth and the business cycle", *OECD Economics Department Working Papers* No. 394.