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

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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

**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

\[ H^d = \dot{H}^d(p_H, \Delta p_{H(t-1)}, ...) \]
\[ H^s = \dot{H}^s(p_H, H_{(t-1)}, ...) \]
\[ H = \dot{H}^s = \dot{H}^d \]

where:
\[ \frac{\partial H^d}{\partial p_H} < 0, \quad \frac{\partial H^d}{\partial \Delta p_{H(t-1)}} > 0, \quad \frac{\partial H^s}{\partial p_H} > 0, , \quad \frac{\partial H^s}{\partial H_{(t-1)}} > 0 \]

\[ p_H = f(\Delta p_{H(t-1)}, H_{(t-1)}, ...) \]
Fig 3. Simulated real house price level

\[ PH = 1.14 \times (PH(-1) - PH(-2)) + 0.0175 \]
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

House-price volatility

Tax subsidy

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