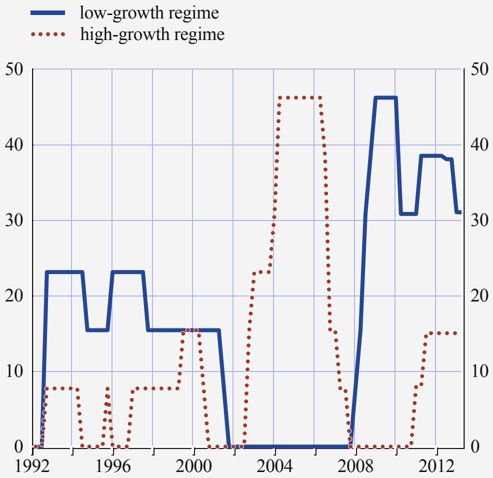
Box 3

### HOUSE PRICE CYCLES ACROSS EUROPE

Housing markets are prone to boom and bust cycles. Within the euro area, striking recent cases include the Irish and Spanish housing markets, where a prolonged strong rise in house prices with origins over 15 years ago was followed by a marked downturn which is still affecting

**Chart A European countries in a high- and low-growth housing market regime**

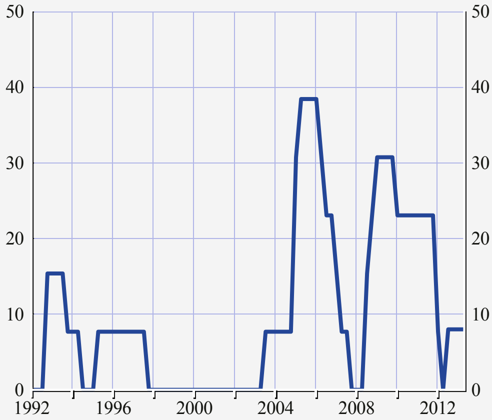
(Q1 1992 – Q2 2013; percentage of total number of countries)




Sources: ECB and ECB calculations.

**Chart B European countries with house prices persistently above the long-run trend**

(Q1 1992 – Q2 2013; percentage of total number of countries)




Sources: ECB and ECB calculations.

these economies. These two country cases illustrate an implicit asymmetry in housing market dynamics: booms tend to build up gradually, but busts occur swiftly. Given the tight link between housing market developments and lending activity, the early detection of costly booms is key to avoid house price bust episodes with financial stability consequences in the form of increasing mortgage default risk.

One means of capturing these dynamics in house prices is a regime-switching model which screens out those housing market phases in which house prices differ markedly from what would be implied by underlying economic fundamentals. To this end, a model is applied to 13 countries in the European Economic Area (including eight euro area countries) in which the mean rate of house price growth switches between three regimes (high, medium and low growth).[1] The model first establishes a long-run equilibrium relationship between house prices and macro-fundamentals at the country level, while the various regimes apply to the short-run dynamics of house price changes around these long-term relationships. The country-specific factors influencing house prices include affordability (disposable income), the cost of financing house purchases (long-term interest rate) and the general economic climate (unemployment rate).

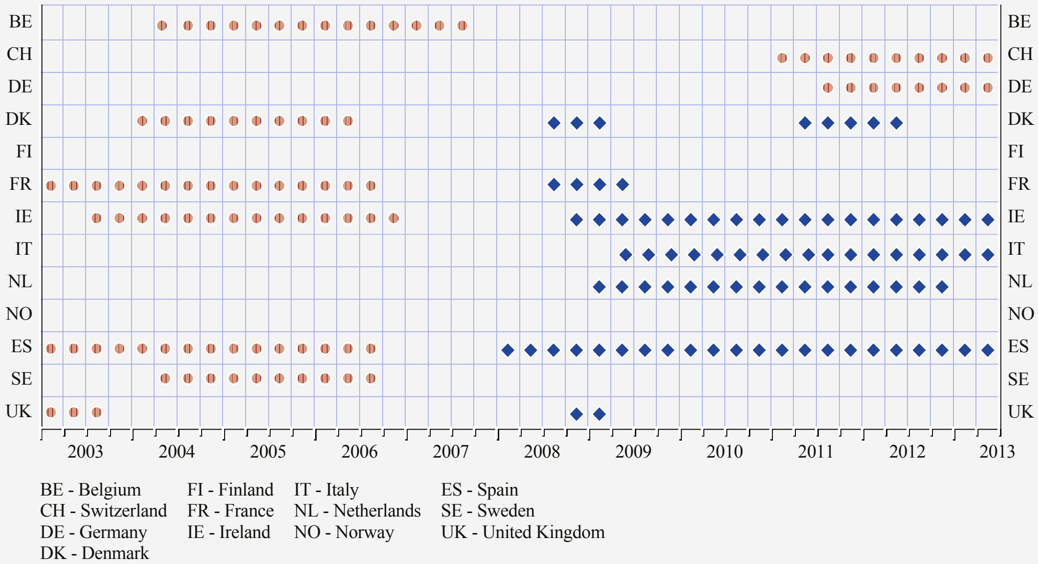
The model produces estimates of the time-varying probabilities of being in a given regime at each point in time and it allows the housing market cycle to be identified. Based on this probability for each country, the model allows for a construction of indicators aiming to measure to what extent the high- and low-growth phases of housing markets across Europe are synchronised with each other.

An application of this approach suggests considerable synchronisation of both booms and busts across countries. In particular, housing markets in Europe seem to have become more

1 The sample comprises those countries for which a complete dataset is available: Belgium, Denmark, Finland, France, Germany, Ireland, Italy, the Netherlands, Norway, Spain, Sweden, Switzerland and the United Kingdom. For model set-up details, see Corradin, S. and Fontana, A., "House price cycles in Europe", *ECB Working Paper Series*, forthcoming.

**Chart C European countries in a high- and low-growth housing market regime**

(Q1 1992 – Q2 2013)




Sources: ECB and ECB calculations.
Note: Red indicates a high-growth regime, while blue indicates a low-growth regime.

synchronised with each other since the 2000s – a trend equally applying to the pre- and post-global financial crisis phases (see Chart A). First, in the run-up to the global financial crisis (between June 2004 and September 2006) European housing markets were generally on an upward trend. Approximately 46% of the countries were in a high-growth regime and the remaining countries were in a medium-growth regime.[2] In this period, Belgium, Denmark, France, Ireland, Spain and Sweden were in the same high-growth regime (see Chart C). Second, during the global financial crisis (between December 2008 and June 2012), approximately 41% of the countries were in a low-growth regime and the remaining ones in a medium-growth regime. In this period, Denmark, Ireland, Italy, the Netherlands and Spain were in the same low-growth regime (see Chart C).

The approach also allows for an estimation of housing market valuation with respect to its modelled fundamental. The results suggest that high-growth phases typically coincide with overvaluation between June 2004 and September 2006 (see Chart B). Finally, low-growth phases also tend to be characterised by overvaluation at the beginning when a downturn follows after a prolonged rise in house prices.

In sum, the analysis suggests that almost half of the 13 European countries analysed experienced a housing market boom over the period leading up to 2006, which was indeed unusual compared with the more regular house price dynamics observed in those economies. This situation eventually led to the – in some cases still ongoing – phase of house price corrections in most of the countries that experienced a prolonged period of house price appreciation. Such findings further reinforce the need for judicious use of policies to combat such country-specific build-ups of imbalances – notably country-specific policies in the macro-prudential area.

2 The percentage of European countries in the low-growth regime is zero.