Housing valuations: no bubble apparent

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This analysis focuses on cross-country comparisons of housing valuations. Our main findings are:

- Housing markets have been generally strong, and in the case of the United States, a major countercyclical force. Asia shows a weaker profile.
- There does not appear to be a major misalignment in house values in the United States and the euro area. Recent central bank action in both the United Kingdom and Australia suggests rising valuation concerns. While in the United Kingdom, the economy's structural changes over the last five years should attenuate somewhat this concern (hence a gradual interest rate response), in Australia the housing cycle is seen as the central driver of the domestic economic cycle and thereby monetary policy.
- In the United States and the United Kingdom, if a housing bubble develops, we think it is more likely to be in turnover than in prices.

Housing investment

Housing investment ratios have evolved during the past four decades (see Chart 1). In the United States, low interest rates helped housing investment run countercyclically to the 2001 recession, and in the recovery have been contributing more to gross domestic product (GDP) growth than its historical average. In the United Kingdom, housing investment remains well below its late-1980s peak despite the sharp rise in activity over recent years. The euro area displays relatively high housing investment ratios, although the ratio is lower when Germany is excluded. Germany has seen an ongoing correction from its excessively high rate of housing investment, initially fuelled by the tax incentives in the early 1990s, with the ongoing contraction having resulted in a small negative impact on total euro area GDP growth in the past two years. Excluding Germany, the euro area has received no net contribution to GDP growth from the housing sector.

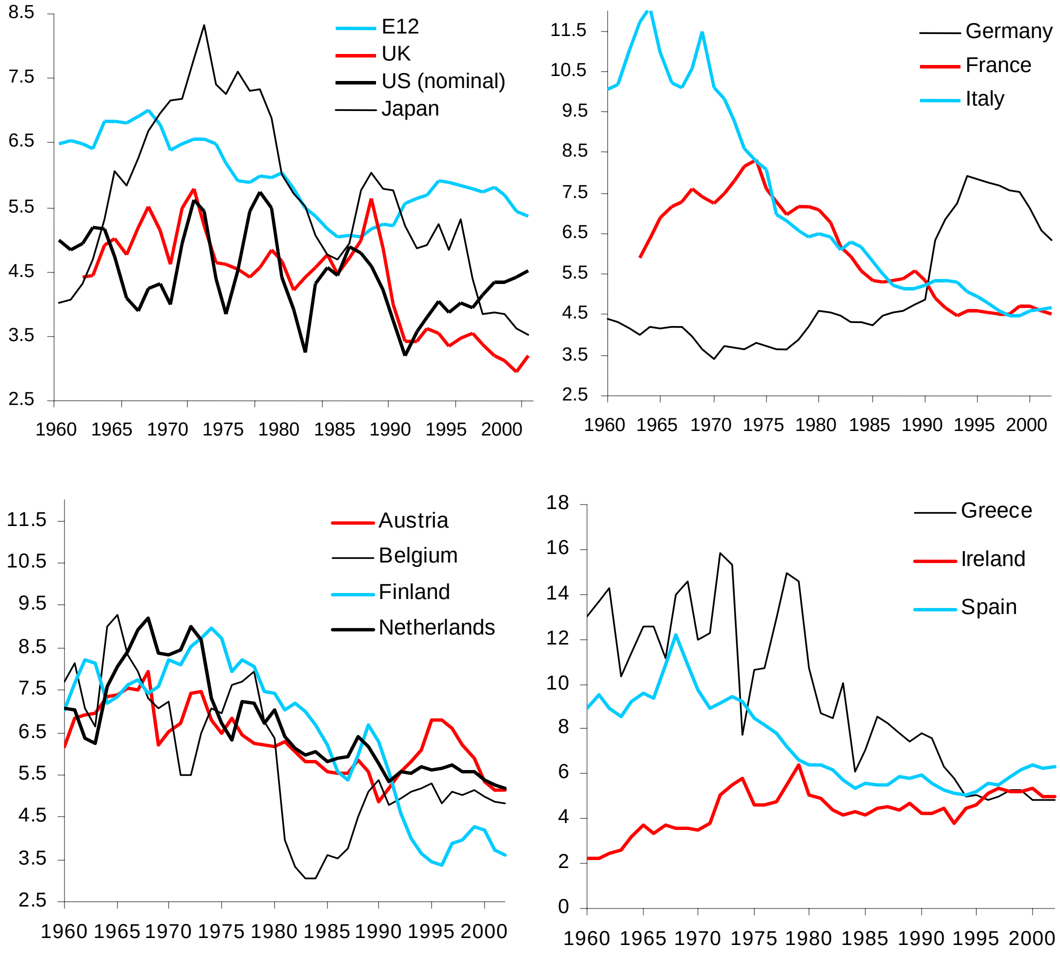
In Japan, housing investment is still adjusting from the boom in the late 1980s. Similarly, in Asia ex-China and Japan, housing investment is by and large below its share-to-GDP reached prior to the 1998 Asian crisis, with the exception of Hong Kong SAR, where the peak occurred in 1999 (see Chart 2). In Australia, dwelling investment has been a positive contributor to the domestic cycle.

House prices/values

Aggregate house prices have risen strongly in the United States, the United Kingdom (see Chart 3) and Australia (see Chart 4) for several years now, while they are still declining in Japan and Germany, reflecting the ongoing housing investment adjustment in these two countries. The stronger housing market performances have led some observers to express the concern that housing may be in a "bubble". The concept of an asset bubble has a meaning only if there is some disparity between the price of capital and some measure of its underlying value. An international comparison of whether house prices are "appropriately" valued shows cross-country disparities, with the underlying difficulty being the availability and comparability of data. For example, property prices in Asia pertain to a narrow segment of the housing market and thus tend to be vulnerable to wide swings (see Charts 5 and 6). Corrections from 20%-plus value growth rates have occurred in the aftermath of the Asian crisis, with the exception of Indonesia, where the correction occurred more recently. Most Asian markets remain sluggish. In Australia, strong incentives during 2000-02 have contributed to a sharp rise in demand.

Chart 1

Real housing investment as a percent of real GDP



Sources: CSFB; OECD; national statistics.

P/E ratios

CSFB's US economics team has used the concept of price-earnings ratio (P/E) for America's residential housing stock that is calculated by combining the flow-of-funds data on residential real estate values with the national income accounts data on the consumption of housing services. The latter is measured as actual rents paid by renters and imputed rents of homeowners. These rental payments can be thought of as the earnings of the housing stock.

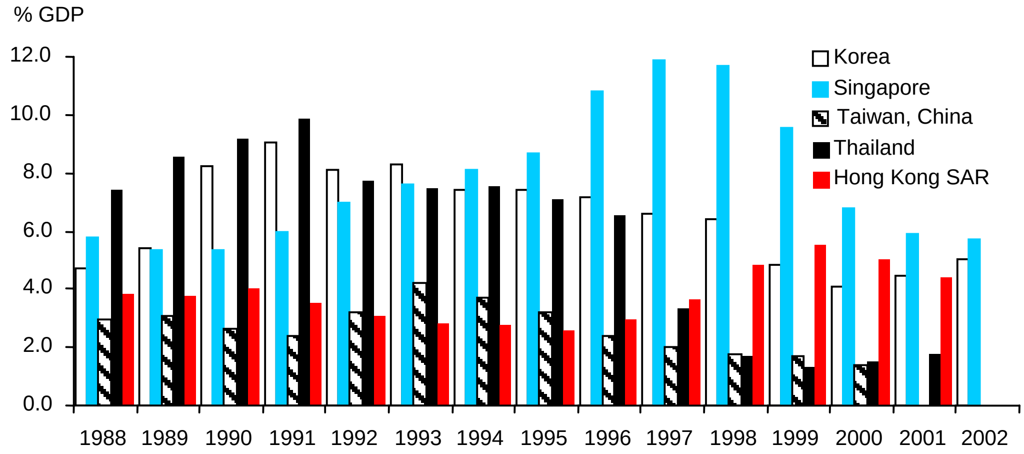
The main findings of our analysis are:

1. The moon-shot that began in 1995 shows no signs of being over just yet. Foreign capital inflows, falling interest rates, and mortgage market financial innovations have raised the residential sector's P/E ratio from 13.5 in 1995 to a new record of 16.1 as of second quarter 2003 (see Chart 7).

Chart 2

Asian residential construction

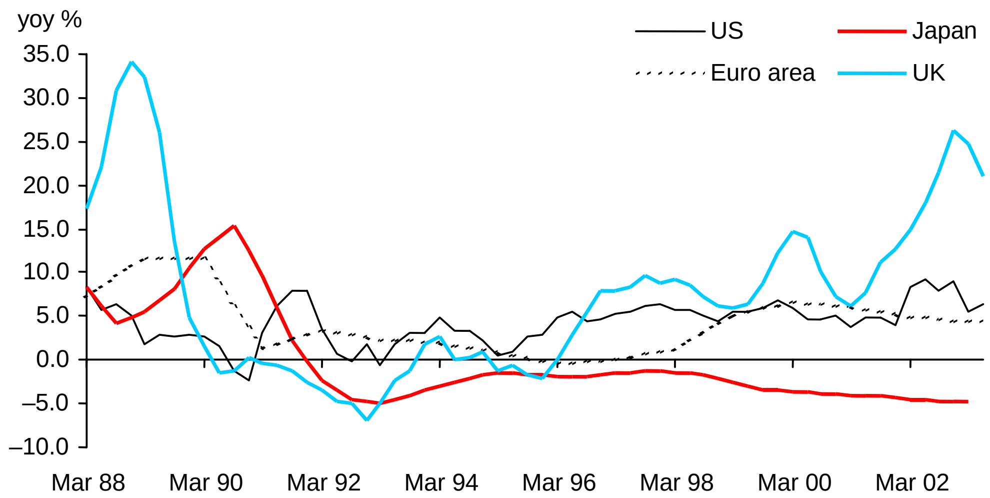
% GDP



Sources: CEIC; CSFB.

Chart 3

House price growth in the G3+



Sources: Central banks; CSFB estimates; Datastream International Limited; BIS.

2. E (ie, Earnings P/E) has a very strong tendency to grow. As long as the population is growing and the economy avoids a catastrophic depression, the amount we spend on housing (outright and by imputation) continues to go up. The speed of that rise seems to be related to inflation, but the record of the last 43 years shows not a single quarterly decline in the housing E.

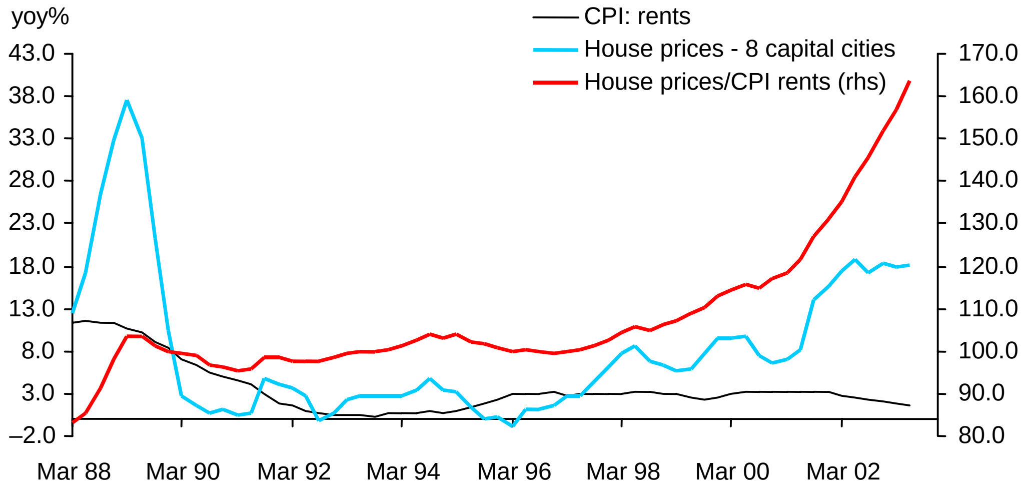
3. P (ie, Price in P/E) has been, remarkably, almost equally reliable. In only three calendar quarters out of the last 43 years of data did the aggregate market capitalisation of the housing stock go down. The most severe decline in dollar terms was $35 billion in the first quarter of 1993. This represents a mere 0.4% of the starting value. Even that dip was more than made up by a very substantial $115 billion increase the following quarter, suggesting the possibility that the decline itself involved measurement error.

4. The evidence suggests that when P/Es in housing on an economy-wide basis get “too high” and “need to come down” the adjustment occurs by rising E’s growing into a level of P that itself is still going up, albeit at a slower pace. The adjustment is much more visible in the volume of housing turnover than in house transaction prices.

5. Local markets have shown much greater cyclical fluctuation in price than the national figures reported here.

Chart 4

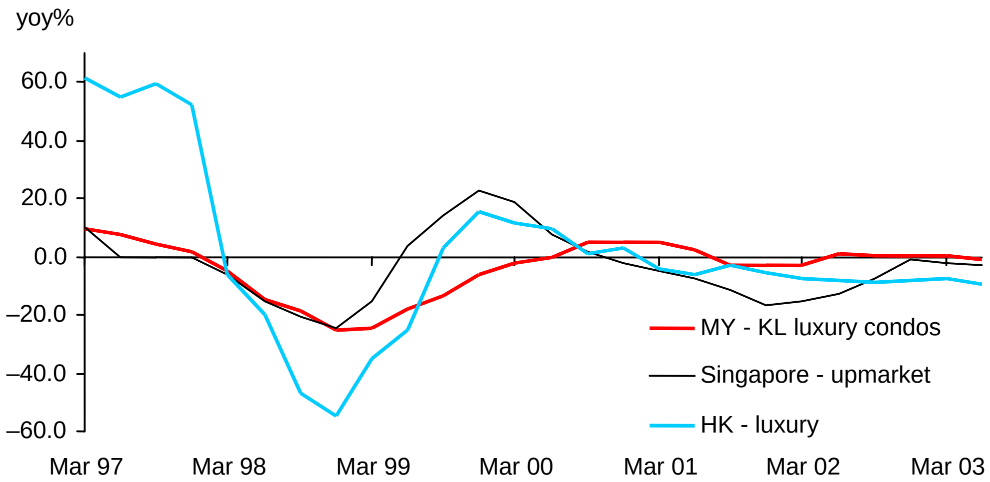
Australia: house price environment



Sources: ABS; CSFB; Datastream International Limited.

Chart 5

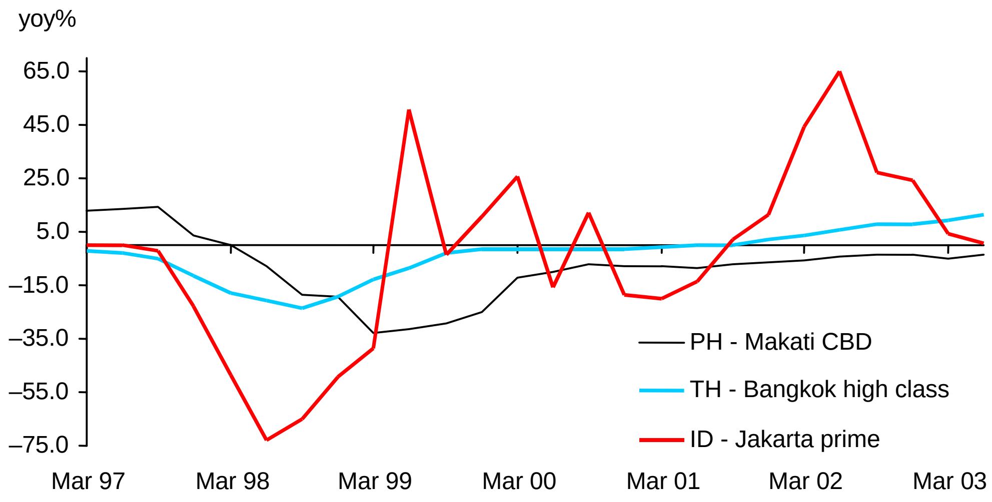
Asia: residential property prices - Malaysia, Singapore and Hong Kong SAR



Sources: CEIC; CSFB; Datastream International Limited.

Chart 6

Asia: residential property prices -
Philippines, Thailand and Indonesia

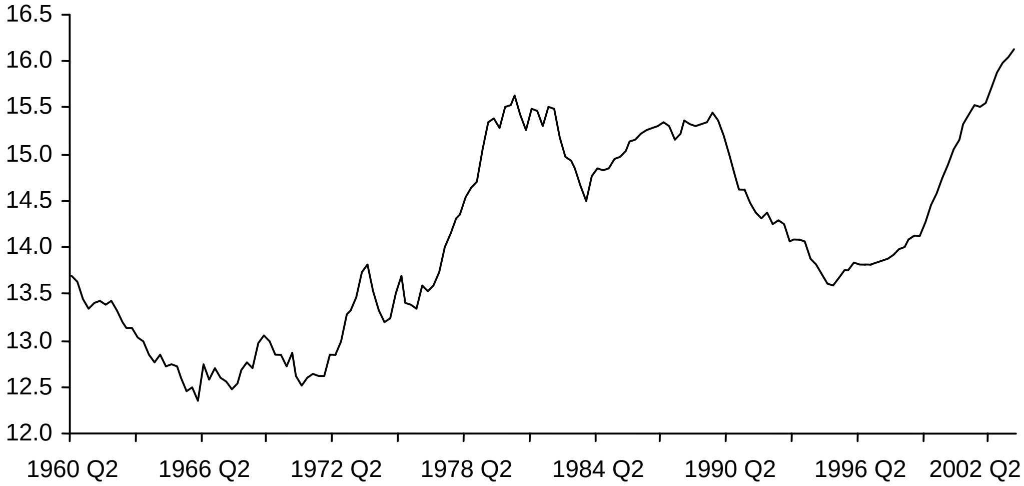


Sources: CEIC; CSFB; Datastream International Limited.

Chart 7

A US P/E ratio for housing

Market value of residential real estate divided by
personal consumption of housing services



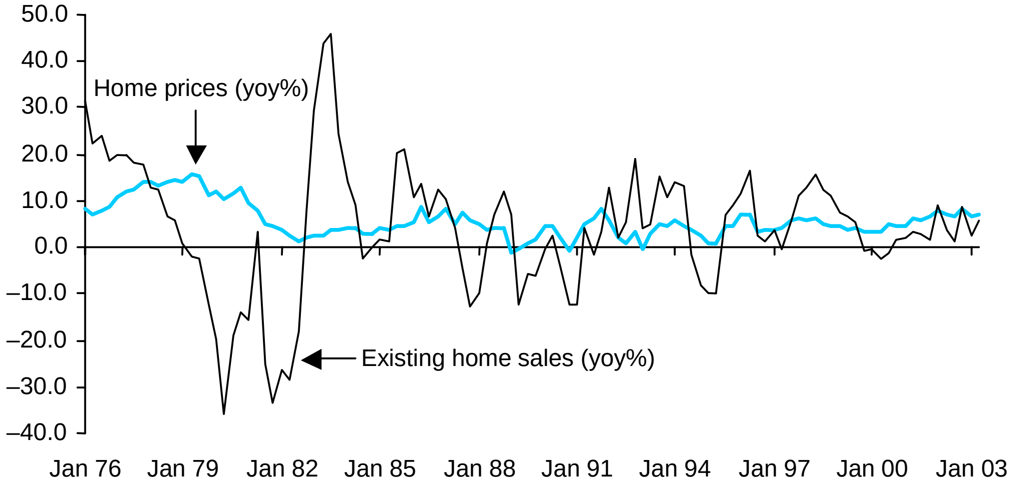
Sources: Bureau of Economic Analysis; CSFB; Federal Reserve.

6. The US housing market is distinctive in the sense that volume tends to be much more sensitive than price to changing economic conditions. There are plenty of episodes during postwar business cycle experience when housing turnover fell outright, sometimes dramatically. When interest rates rise or incomes fall, housing turnover tends to get hit hardest. Price adjustments are much less noticeable, particularly at the national level (see Chart 8).

Chart 8

US housing turnover and home prices

yoy%



Sources: Credit Suisse First Boston; OFHEO; National Association of Realtors.

Calculating the volatility of transaction volume and transaction prices reveals that turnover is almost 25 times as volatile as price. Regression analysis suggests that housing turnover is at least twice as sensitive as housing prices to fluctuations in interest rates and cyclical variables like unemployment.

If there is a housing bubble, then, it is more likely to be in turnover than prices, at least in the United States. This suggests that any eventual housing downturn would not be associated with a mortgage credit loss catastrophe on a national scale. Losses from interest rate risk are a much bigger issue at the aggregate national housing market level.

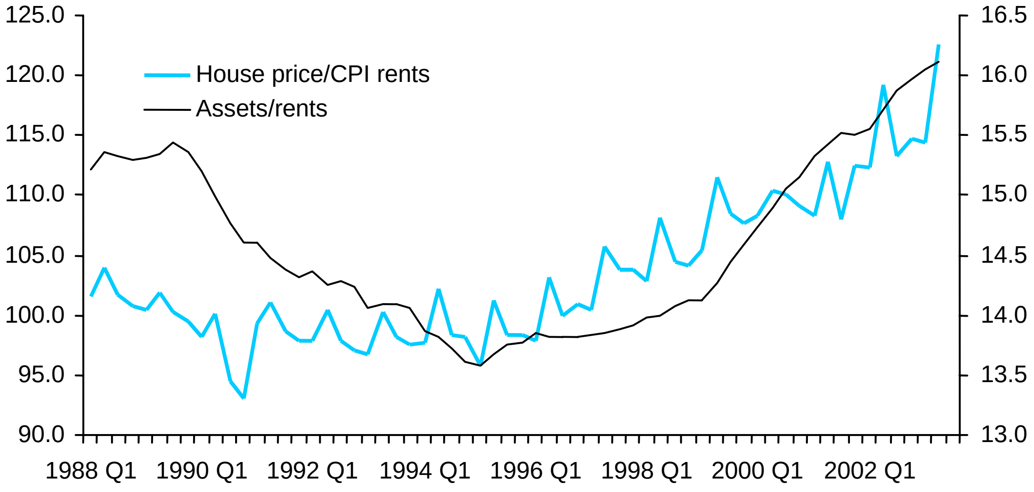
For international comparisons, data on consumption of housing services are not readily available. Tracking the long-term affordability of homes and assessing whether house prices are appropriately valued may be achieved with additional measures, one being the ratio of house prices to rents and one being the ratio of house price levels to national per capita disposable income. A P/E ratio can be calculated on the basis of house prices as a proxy for the asset values and the rent component of the consumer price index (CPI) as the proxy for earnings on the housing stock. For the United States, a similar profile to the P/E ratio derived from asset values and consumption data emerges (see Chart 9), even though the CPI data for rents (rent of primary residence), which represents a very small portion of the CPI (6% weight), have not been consistent over time, given changes in the samples used. (In 1997, the BLS started to develop a new housing sample to replace the one that had been in use since 1987, and began using it with the index for January 1999.)

Internationally, the ratio of house prices to rents has risen over time, with the exception of Japan where the ratio is declining. In the euro area, the rental market is heavily regulated and, as a result, may skew the P/E ratio based on rents as a proxy for earnings. Chart 10 does not show any major distortion in the euro area ratio, but that is because in two of the largest economies house prices are either below the rental price series (Germany) or in line (Italy). For the remainder, house prices have moved well ahead of rental prices.

The rise registered in the UK P/E ratio has been spectacular, attesting to the Bank of England's concern about overvaluation, particularly taken in conjunction with their concern that there is not a significant amount of spare capacity in the UK economy as the global economy starts to accelerate. However, structural changes in the UK economy would argue against the notion of a speculative bubble. Over the last five years, the UK economy has moved from a high inflation/high short-term interest rates economy to a low inflation/low short-term interest rate economy. The Bank of England has suggested that demand for housing has risen thanks to sustained low inflation and rising housing affordability. In a high inflation/high interest rates environment the burden of mortgage payments as a share of income tends to be tilted toward the early years of the mortgage. Admittedly this burden falls over time as inflation erodes the real value of the debt, but could bring cash flow problems for some households during the early years of the mortgage, thereby inhibiting households taking out large mortgages. A low inflation/low interest rate environment reduces this initial burden and set the stage for increased demand for mortgages. This being said, the Bank does acknowledge that not all is positive with low inflation. For example, tax advantages of owning a house relative to other assets are reduced under low inflation, as the primary residence of households is not subject to capital gains tax, a form of taxation that is more attractive when inflation is high.

Chart 9

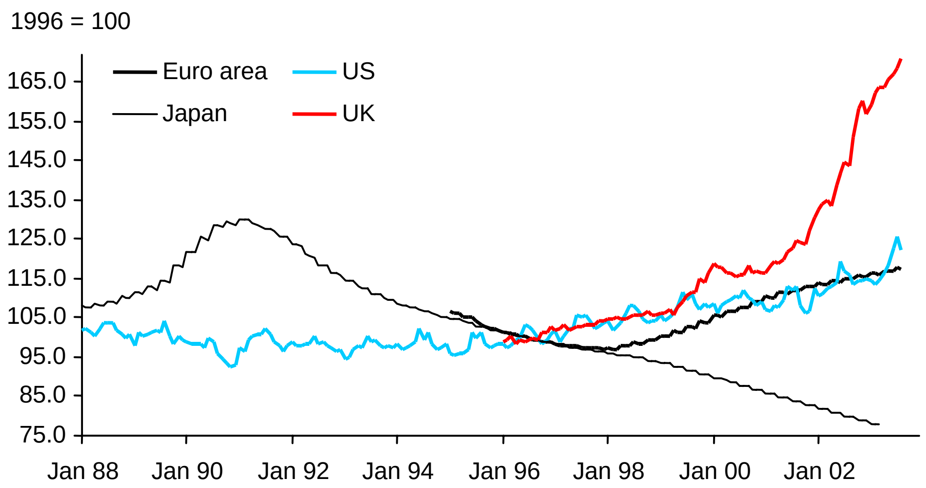
US comparison of P/E measures



Sources: BEA; CSFB; Federal Reserve.

Chart 10

Ratio of house prices to rents



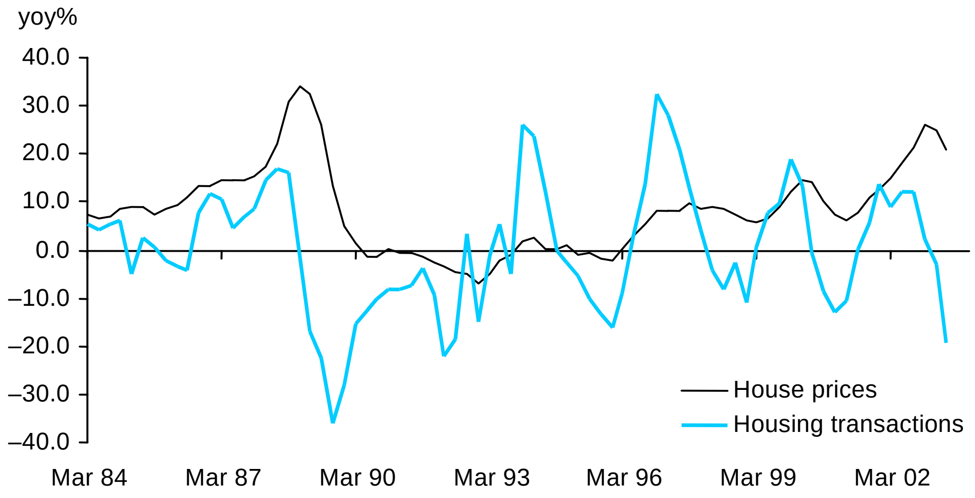
Sources: Central banks; CSFB estimates; Datastream International Limited; BIS.

Other factors, such as increased participation rates and higher employment, also have raised the demand for housing, while supply clearly has lagged. Barring an interest rate or labour market shock, there is little scope for forced selling and falling prices. The P/E ratio, therefore, will likely adjust down by E growing into the level of P that would be growing at a slower rate. And, similar to the dynamics governing the US housing market, the burden of the adjustment lies in turnover rather than in prices. UK housing market turnover has already slumped this year (see Chart 11), suggesting that affordability has become stretched and new buyers are no longer willing or able to come in at these levels.

In Asia, the ratio of house prices to CPI rentals confirms what is depicted in the property values, namely that the housing sector is still adjusting to the Asian crisis shock (see Charts 12 and 13).

Chart 11

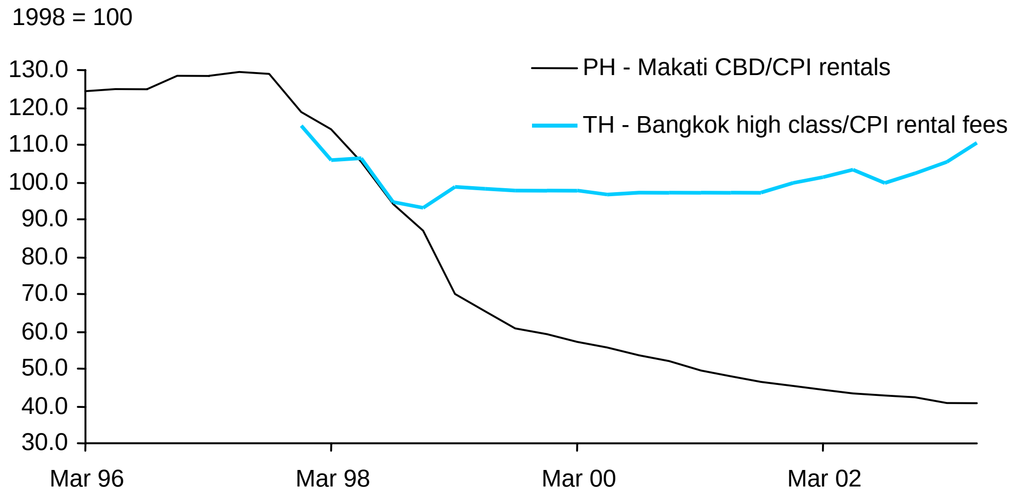
United Kingdom: housing prices and housing...activities



Sources: CSFB; Datastream International Limited.

Chart 12

Asia: house prices to CPI rentals - Indonesia and Thailand

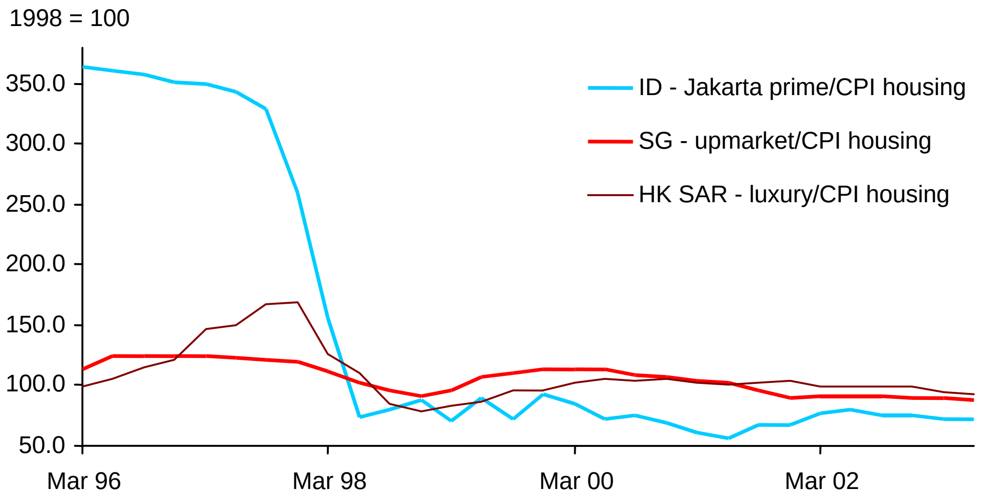


Sources: CEIC; CSFB; Datastream International Limited.

The second P/E measure, namely the ratio of prices to per capita personal disposable income, shows a rising ratio for the euro area but still slightly below its long-term average (see Chart 14). Again, this masks national disparities and arises from the historic downtrend in the German ratio. The Dutch, Irish and Spanish housing markets appear highly valued in relation to personal disposable income, while, in addition to the German market, the Greek market appears inexpensively valued. Belgium, Finland, France and Italy appear moderately valued.

Chart 13

Asia: house prices to CPI housing - Indonesia, Singapore and Hong Kong SAR

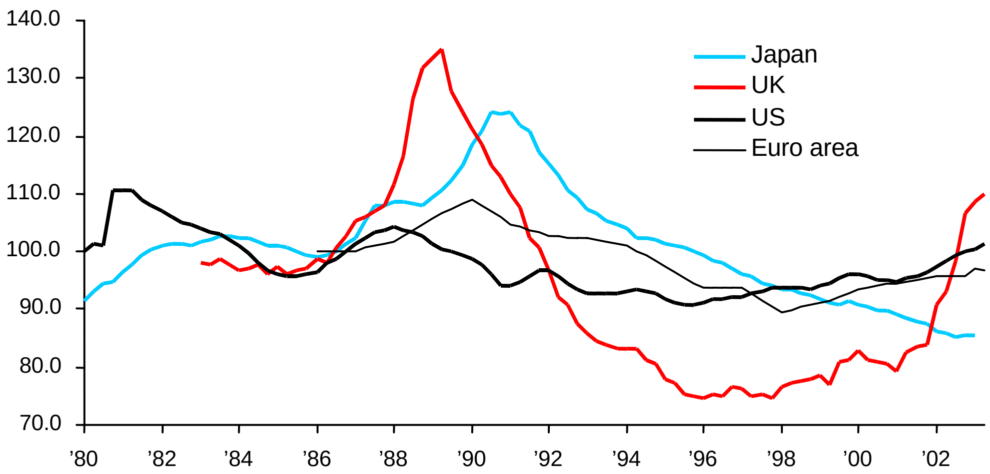


Sources: CEIC; CSFB; Datastream International Limited.

Chart 14

Ratio of house prices to per capita disposable income

1986 = 100



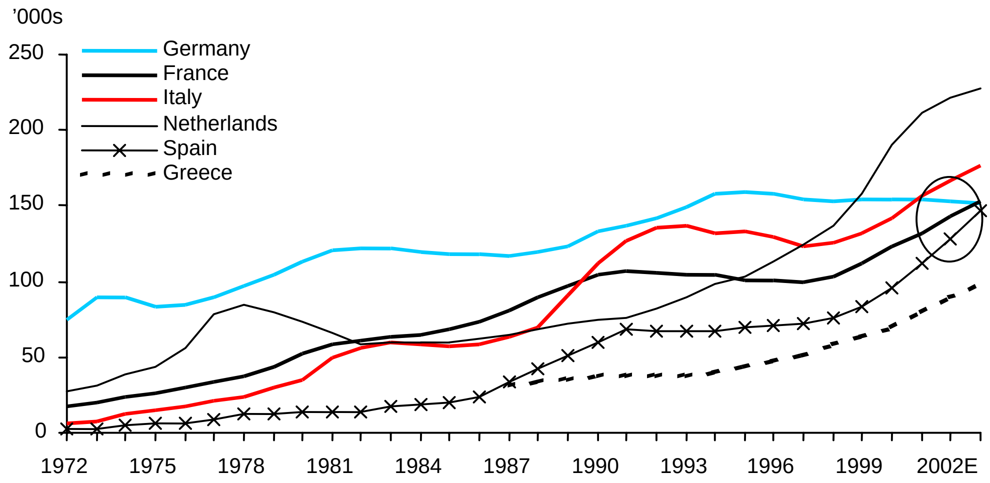
Sources: Central banks; CSFB estimates; BIS.

There has been a convergence in housing prices across the euro area (see Chart 15). This is mainly attributable to the convergence in per capita disposable income but is also the result of the convergence in real interest rates, following the monetary union. In dynamics similar to what we described for the United States and the United Kingdom, the fast rising markets are set to correct, with growth in housing prices slowing (for example, they have already stalled in the Netherlands), while the markets that appear inexpensively valued (eg, Greece) could still post a rise toward the average as economic convergence proceeds. Germany is a special case, as the ratio of average German house prices to incomes has steadily declined during the past thirty years, which has enabled house price convergence to occur at the euro area level.

The ratio appears relatively stable historically in the United States and still adjusting downward in Japan. For the United States, this long-term stability contrasts with the recent rise in the P/E ratios discussed above, but generally supports the conclusion that there is no fundamental valuation problem on an economy-wide scale.

Chart 15

Convergence of euro area house prices

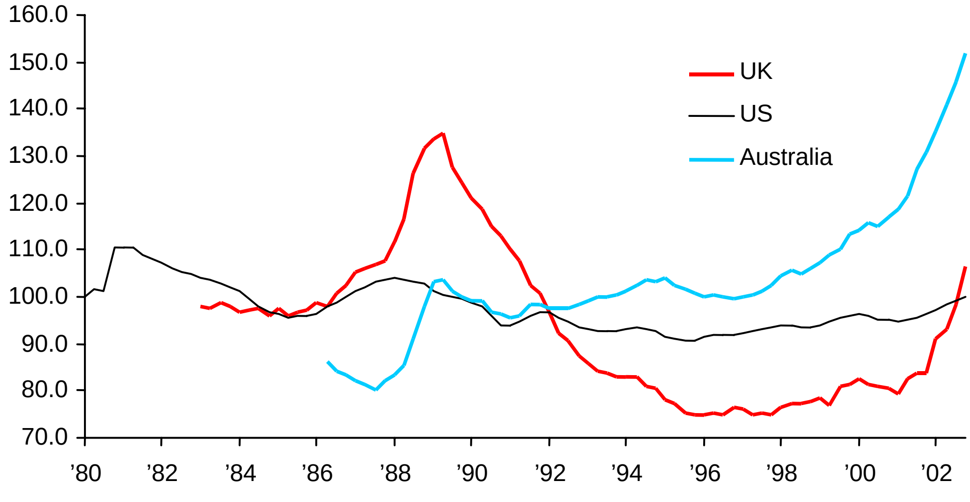


Sources: Central banks; CSFB estimates; BIS.

Chart 16

Ratio of house prices to per capita disposable income

1986 = 100



Sources: CSFB; Datastream International Limited; BIS.

The ratio of house prices to per capita disposable income has posted sharp rises in both Australia and the United Kingdom (see Chart 16). But while affordability had improved in the United Kingdom in the mid-to-late-1990s and is still below the late-1980s peak, in Australia the ratio has risen to a multi-year high and affordability appears very stretched (see Chart 16). This points to a downturn in residential construction, possibly by mid-next year.

Conclusion

In conclusion, housing markets have been strong across major regions. In the United States and the euro area there does not appear to be a major misalignment in house values. Housing values in the United Kingdom suggest some misalignment, were it not for the economy's structural changes over the last five years. More severe signs of value misalignment have emerged in Australia and are a key driver to the shift in the monetary cycle, while Asia is still adjusting from the high pre-1998 valuations. Finally, in the United States and the United Kingdom, if there is a housing bubble, we think it is more likely to be in turnover than prices. Historically, major housing market corrections have been preceded by a sharp rise in interest rates and/or labour market shock, neither of which currently appears to be a strong possibility.

Appendix

Euro area

House prices are sourced as CSFB based on national data and the BIS house price database. The historical data uses the BIS database and it has been updated and extended with national data.

Disposable income per capita (ie, income and population data) is nominal and sourced from the OECD.

United Kingdom

House prices are a simple average of the Halifax and Nationwide indices (UK banks).

Nominal gross disposable income from the household accounts is used.

Japan

Nationwide residential area land prices are sourced from the Japanese real estate institute.

The ratio to rents uses the rent index from the CPI. The ratio is then indexed so that 1996 = 100.

Worker's household disposable income is sourced from the Statistics Bureau of the PM's Office.

United States

The house price series is a three-month moving average of the weighted average (by number of houses sold) of average prices for existing and new one-family homes sold. The houses sold series comes from the Department of Commerce Bureau of Census and the house price series is sourced from the National Association of Realtors.

Nominal disposable personal income is sourced from the Bureau of Economic Analysis.