The Housing Bubble

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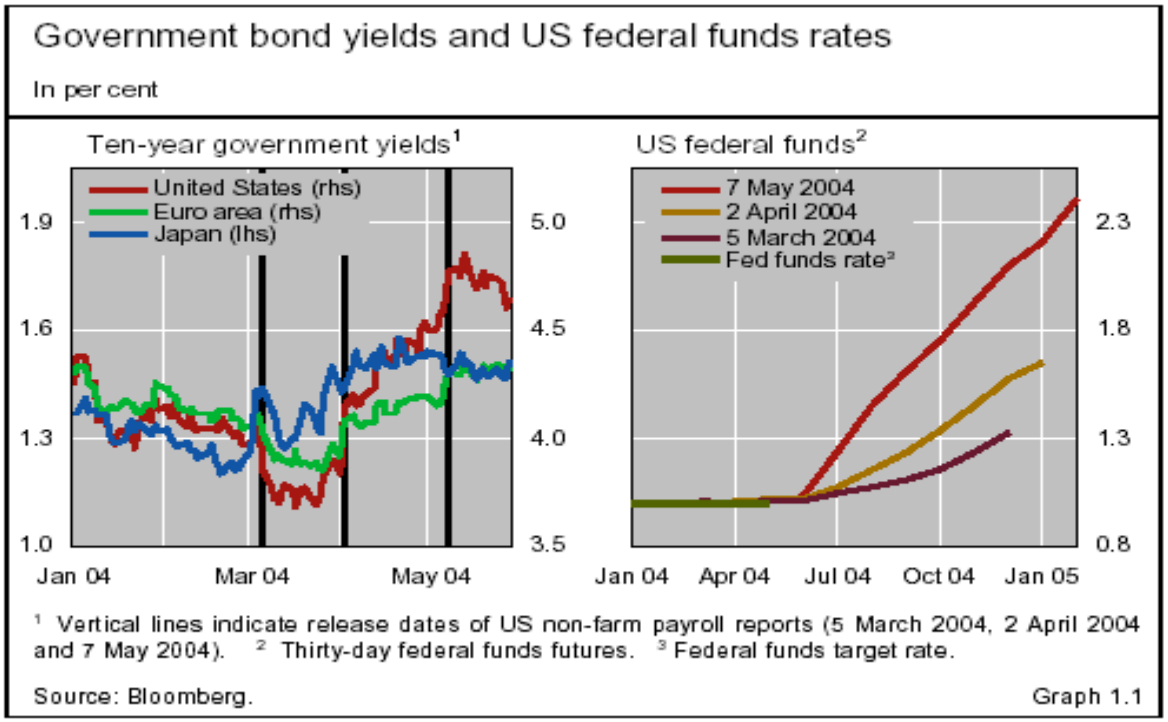
cheap money is on the way out

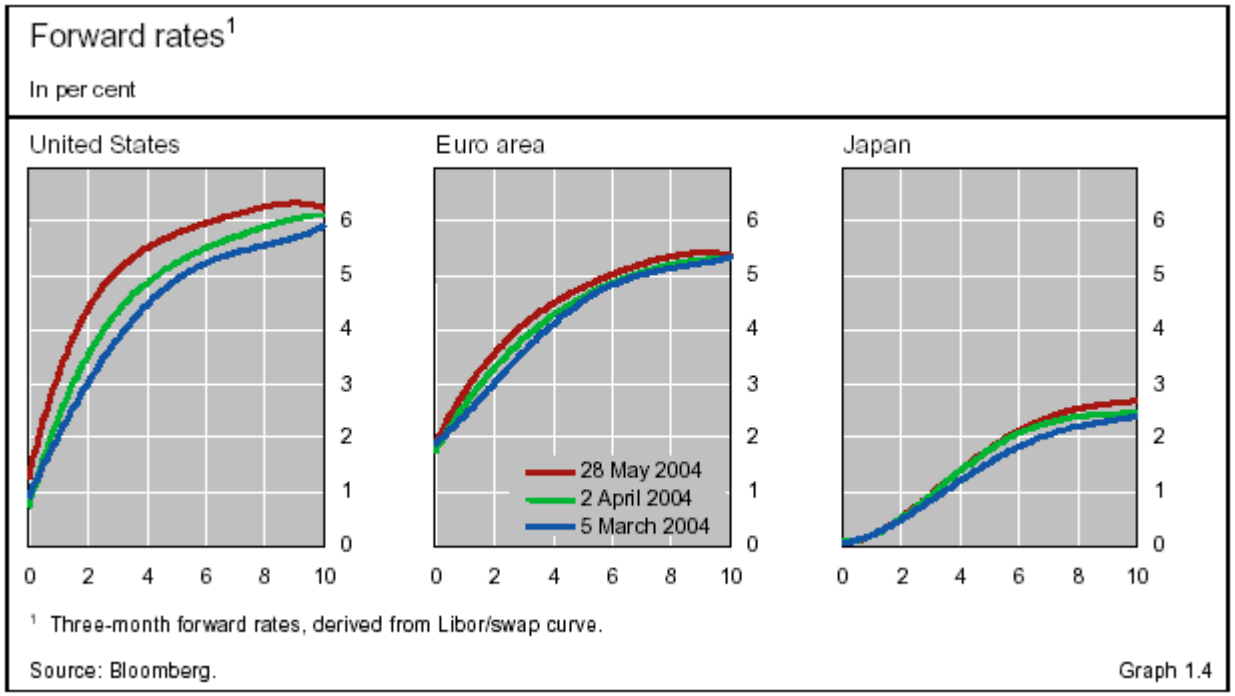
- World monetary policy has been extraordinarily relaxed since 2000, with interest rates of around 0% in Japan, 1% in the USA and 2% in Euroland.
- In the USA, M3 has risen by 11% in the past year and 41% since January 2000.
- But short-term interest rates are now rising in the UK, USA, Australia and Canada, with the markets predicting further monetary tightening over the next two years.
- Meanwhile, in Japan and Europe, limited signs of economic recovery have not yet led to any decisive moves in monetary policy.

fears of monetary tightening grow...



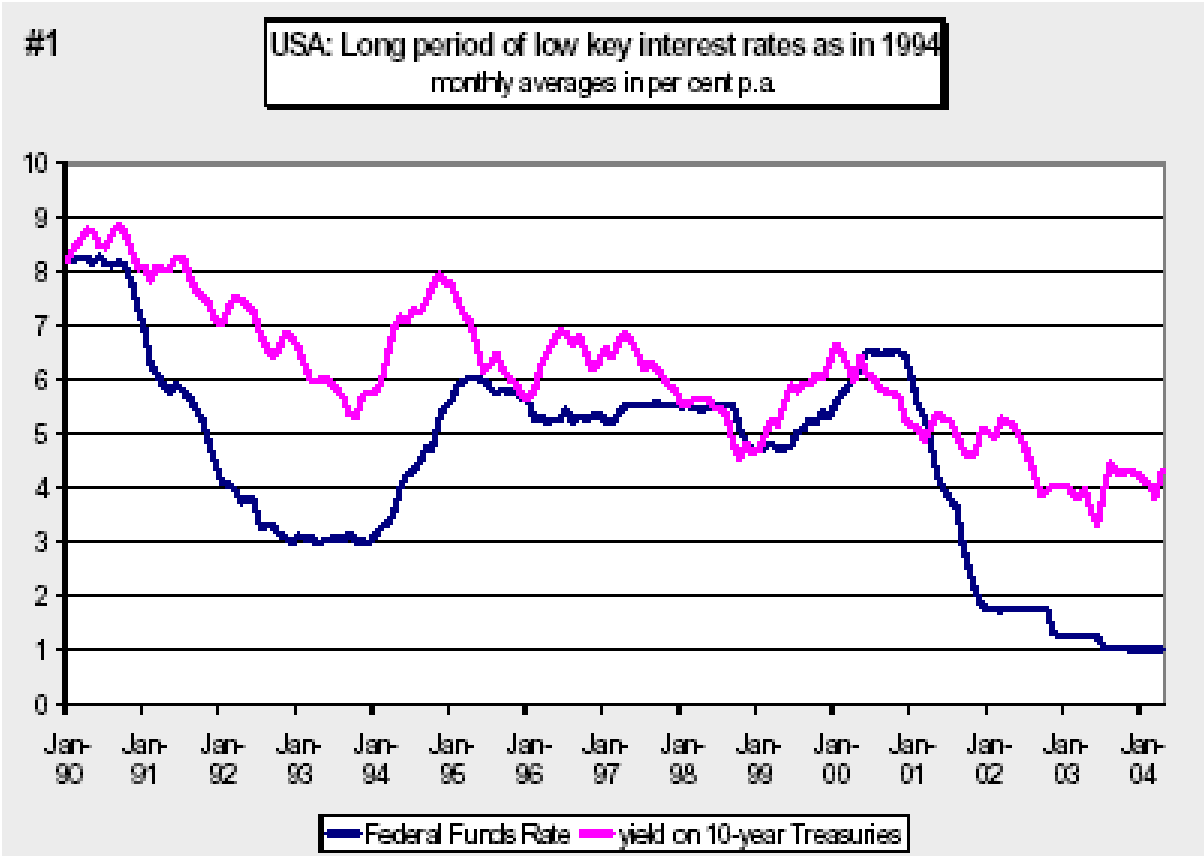
Source: BIS Quarterly Review, June 2004.

the US yield curve gets steeper...



Source: BIS Quarterly Review, June 2004.

just like 1994!



Source: Commerzbank, May 2004.

housing markets are diverse...

Characteristics of mortgage markets in 17 industrialised countries

	Interest rate adjustment[1]	Mortgage equity withdrawal	Maximum LTV ratio (%)	Valuation method[2]	Securitisation (mortgage-backed)
Australia	V	Yes	80	OM	Yes
Belgium	F	No	80–85	OM	No
Canada	F	Unused	75	OM	Yes
Denmark	F	Yes	80	ML	No
Finland	V	Yes	75	OM	No[3]
France	F	No	80	OM	No[3]
Germany	F	No	60	ML	No[3]
Ireland	V	Yes	90	OM	Yes[3]
Italy	F	No	50	OM	No
Japan	F	Yes	80	OM	No
Netherlands	F	Yes	75	OM	Yes
Norway	V	Yes	80	OM	No
Spain	V	Unused	80	OM	Yes
Sweden	V	Yes	80	OM	No[3]
Switzerland	V	No	66	ML	No[3]
United Kingdom	V	Yes	90–100	OM	Yes
United States	F	Yes	75–80	OM	Yes

[1] F = fixed mortgage rates; V = variable mortgage rates. The classification is based on the majority of mortgage loans. It should be noted that the division is less clear in Japan and Sweden. Moreover, in the United States and Denmark, the very low cost of refinancing actually allows borrowers to adjust mortgage rates when interest rates fall. [2] OM = open market value; ML = mortgage lending value. [3] Securitisation was introduced at a certain stage but remained very limited.

Sources: Borio et al (2001); ECB (2003); HM Treasury (2003); OECD (2001). Table 1

Source: BIS Quarterly Review, March 2004.

but also similar!

Profiles of mortgage finance systems[1]					
		Mortgage rate[2]	MEW[3]	Maximum LTV[4]	Valuation method[5]
Group 1	Belgium, Canada, France, Germany, Italy, Spain, Switzerland	0.29	0.00	0.43	0.71
Group 2	Denmark, Finland, Japan, Netherlands, United States	0.20	1.00	0.60	0.80
Group 3	Australia, Ireland, Norway, Sweden, United Kingdom	1.00	1.00	1.00	1.00
All countries		0.47	0.59	0.65	0.82

[1] Calculated based on the dummy variables defined below. [2] Floating mortgage rate arrangement = 1; fixed mortgage rate arrangement = 0. [3] Mortgage equity withdrawals. 0 = non-existence or negligible use of such an arrangement; 1 otherwise. [4] 1 = maximum LTV ratios above 75%; 0 otherwise. [5] 1 = use of market value; 0 = use of mortgage lending value.

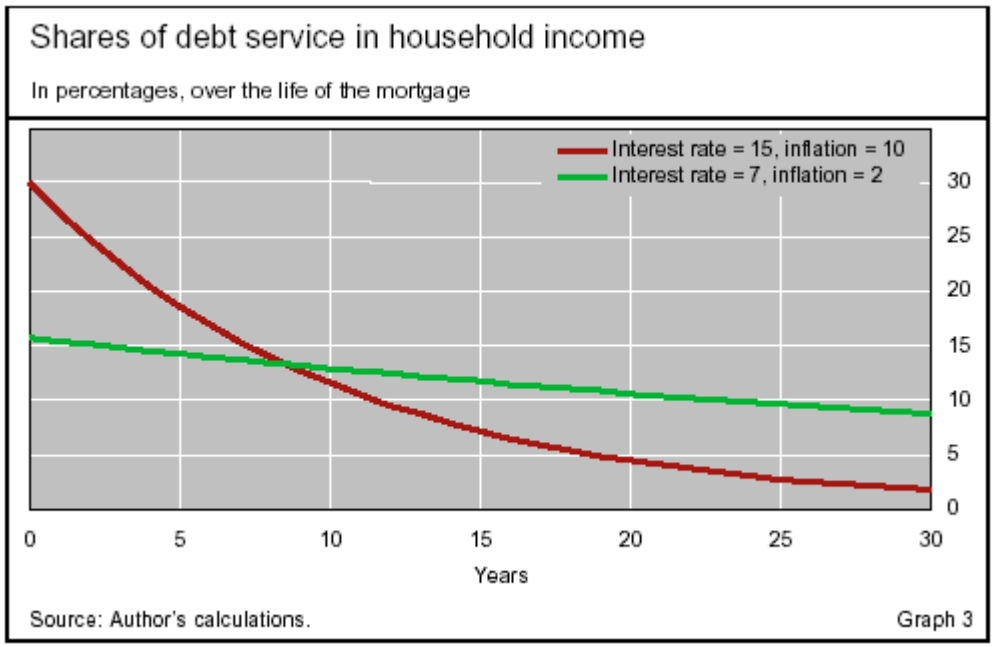
Sources: BIS; authors' calculations. Table 2

Source: BIS Quarterly Review, March 2004.

what determines house prices?

- Short-term interest rates are not very important in German-style markets, but more important in US and UK-style markets.
- In addition, in US-style markets, the spread between short-term and long-term interest rates is also important due to its rôle in re-financing.
- Most models of house prices find strong positive effects from recent rises in house prices (the so-called 'bubble-builder' effect) and negative effects from high levels of real house prices (the so-called 'bubble-burster' effect).
- What this tends to mean is that it is quite hard for a bubble to get started in German-style systems because the market is not very sensitive to interest rates.
- In contrast, in US- and UK-style systems, low interest rates can provide the initial impetus towards a bubble, and the bubble is then propagated through expectations of future price rises.

low rates backload repayments



Low nominal interest rates do not drive house prices in the long-run, but do matter in the short-run.

This is because they shift the burden of repayments to the future.

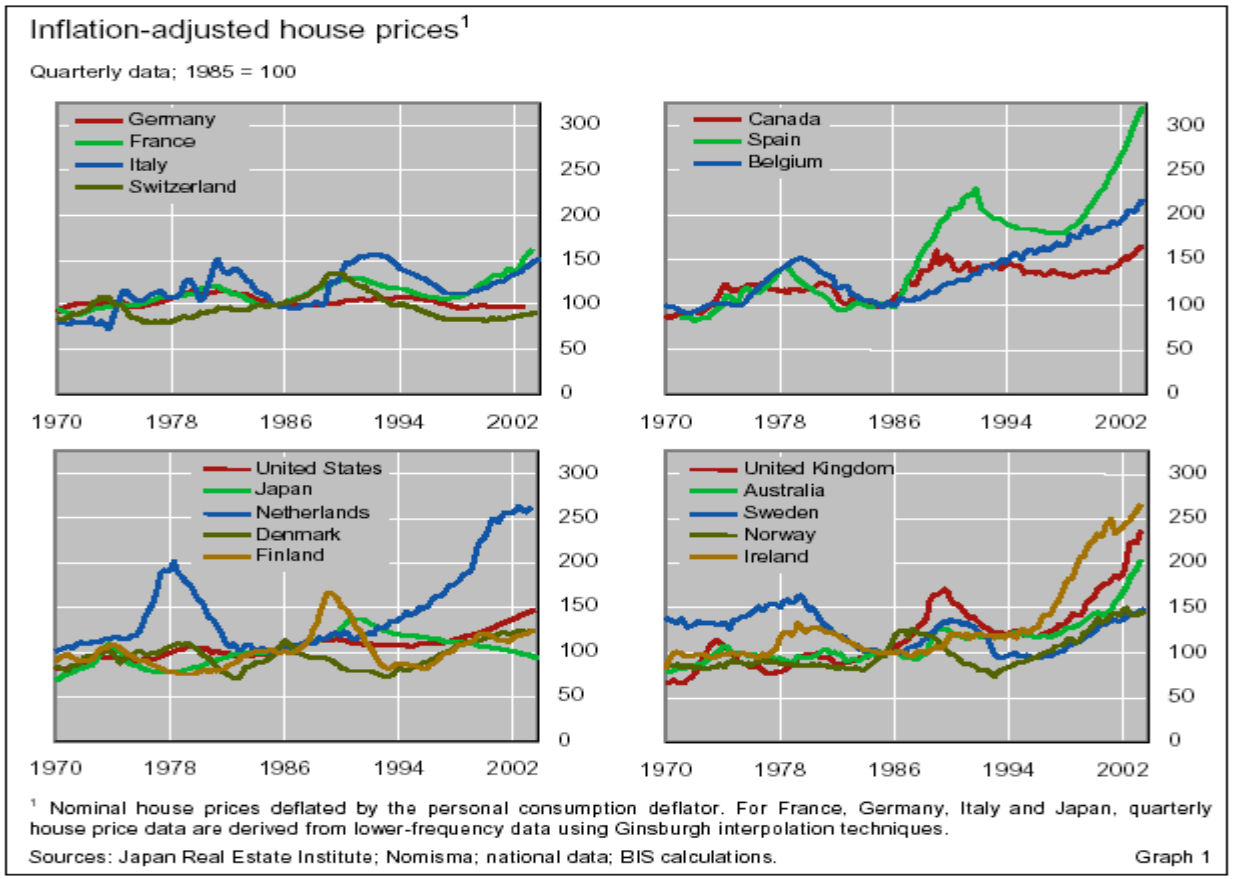
Notice how the debt service burden shifts as the nominal rate falls.

Source: BIS Quarterly Review, March 2004.

is there a bubble?

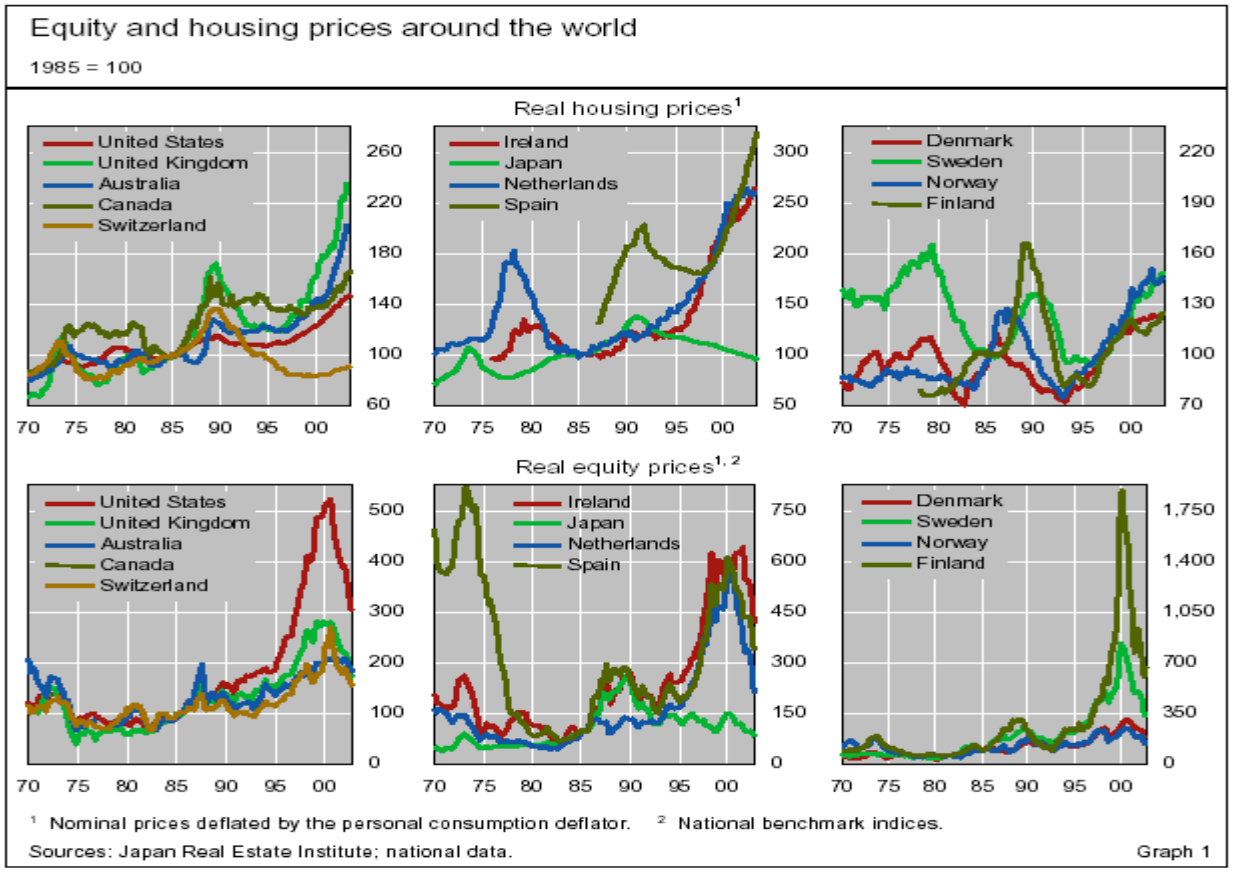
- Despite the 2001 global slowdown and sharp falls in world equity markets, house prices have been buoyant in many countries.
- UK house prices have doubled since 1999, and continue to rise at double-digit rates. US house prices have risen 20% since 2001, with much higher growth in hotspots like California and Massachusetts.
- In Australia the market shown signs of having peaked -- prices fell in the first half of this year, especially in Melbourne and Sydney, following two 25-basis-point interest rate rises in the fourth quarter of 2003.
- Bank for International Settlements (BIS) research shows that peaks in equity markets are usually followed by peaks in housing markets with a lag of around two years.
- Continued strength of house prices in Canada, Ireland, Spain, Sweden, the United Kingdom and to some extent the United States is hence rather surprising.

real house prices since 1970



Source: BIS Quarterly Review, March 2004.

twin peaks in equities and housing



Source: BIS Quarterly Review, March 2004.

how long is the lag?

Housing and equity price peaks: stylised facts

Pairs of equity price and housing price peaks

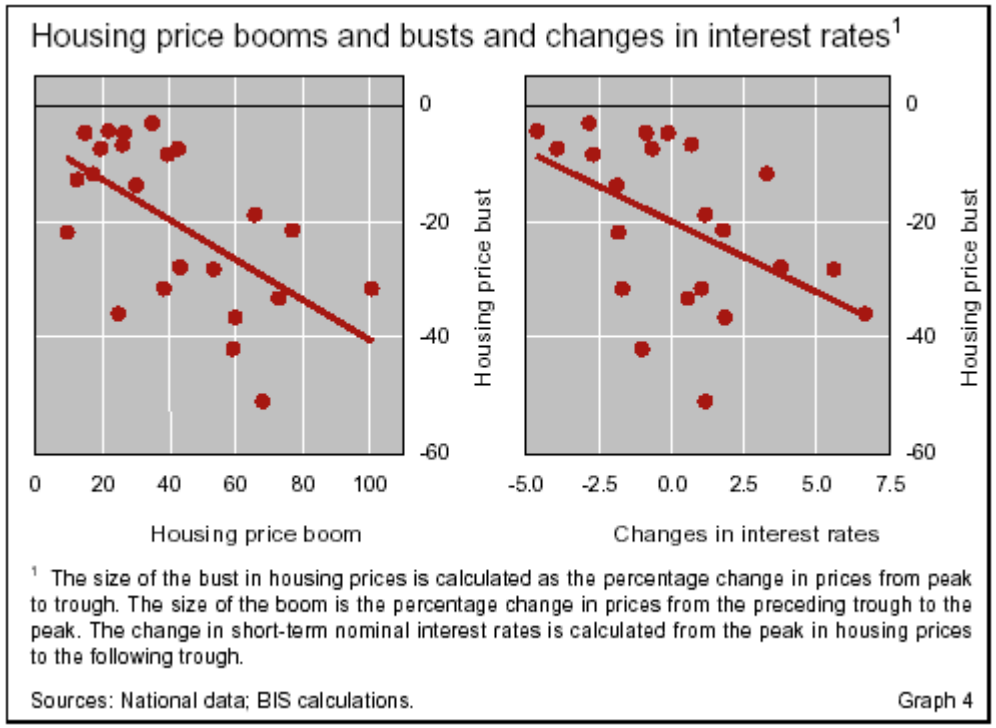
Period[1]	Country	Housing price peak		Period[1]	Country	Housing price peak	
		Date	Lag			Date	Lag
1970–74	Denmark	1973 Q3	2	1985–91	Finland[2]	1985 Q1	45
	United Kingdom	1973 Q3	5		Denmark	1986 Q1	9
	Japan	1973 Q3	2		Norway[2]	1987 Q2	30
	United States	1973 Q4	4		Canada	1989 Q1	6
	Canada	1974 Q2	5		Australia	1989 Q2	7
	Norway	1974 Q4	5		Finland	1989 Q2	0
	Average lag length		3.8		United Kingdom	1989 Q3	8
1979–82	Denmark	1979 Q2	11		Switzerland	1989 Q4	9
	Ireland	1979 Q2	2		United States	1989 Q4	9
	United Kingdom	1980 Q3	5		Sweden	1990 Q1	2
	Canada	1981 Q1	1		Netherlands	1990 Q2	3
	Australia	1981 Q2	2		Ireland	1990 Q3	2
	Switzerland	1982 Q1	12		Japan	1991 Q1	5
	Average lag length		5.5		Spain	1991 Q4	17
					Average lag length		10.9

Source: BIS Quarterly Review, March 2004.

an unusually long lag

- The typical lag between equity market peaks and housing market peaks is eight quarters.
- This lag reflects the fact that, although the housing market benefits in the short term from people switching out of equities (‘pension refugees’ for example), eventually the monetary tightening and weakening economic conditions that caused the fall in equities hit the housing market too. It is worth recalling that the US Fed Funds rate rose 175 basis points from November 1998 to reach 6.5% in May 2000.
- In contrast, the bursting of the equity market bubble in 2000 was accompanied by a vast monetary easing, led by the United States. This was possible because unlike previous equity market crashes, there was no danger of runaway inflation. Quite the opposite: reasonable people by 2003 began voicing concerns over deflationary threats.
- The most recent equity peaks are: Australia 2002q1, Canada 2000q3, Denmark 2000q4, Finland 2000q2, Ireland 1998q2, Netherlands 2000q1, Norway 2000q3, Spain 2000q1, Sweden 2000q1, USA 2000q3, UK 1999q2.

booms, busts, and interest rates



Source: BIS Quarterly Review, March 2004.

house prices will decline

- A recent paper by the BIS argues that a 1 percentage point rise in the short-term real interest rate reduces prices over a five-year period by more than 1.25% in German-style markets, 1.8% in US-style markets and 2.6% in UK-style markets. However, this likely understates the risks in those countries that are currently overvalued, for two reasons:
  - Expectations: In overvalued markets, there is the possibility of a major change in perceptions of future house price appreciation and a consequent correction.
  - Credit Conditions: In US- and UK-style markets, there are strong links between bank credit expansion and house prices, so there is a risk that falling house prices and shrinking bank credit will be mutually reinforcing.

how will this affect the economy?

- A rise in interest rates affects the economy through a number of transmission mechanisms:
  - The direct effect on consumption and investment;
  - The indirect effect through a real exchange rate appreciation;
  - The indirect effect through the effect of collateral and cashflow on the availability of bank credit and external finance.
- A fall in house prices affects the economy through two main transmission mechanisms:
  - A wealth effect: households feel less wealthy and consume less;
  - A collateral effect: households face a higher cost of external finance.

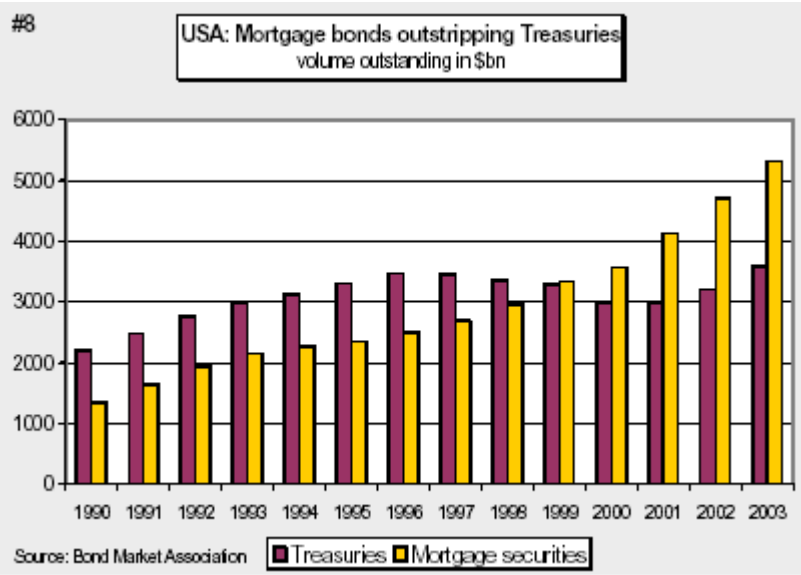
a worst case scenario

- What might a house price crash mean for real consumption in the UK and the USA?
  - UK scenario: 30% real fall in house prices over two years with a 100 basis point monetary tightening might knock ½-¾ of a percentage point off growth during that period.
  - US scenario: 10% real fall in house prices over two years with a 200 basis point monetary tightening might achieve about the same in the USA.
- However, there is scope for monetary easing in both countries, but central banks should beware creating expectations that they are underwriting asset prices indefinitely (the 'Greenspan put').

a Japan style meltdown?

- One possibility is the risk that the bursting of housing bubbles will lead to a repeat of the economic meltdown experienced by Japan in the 1990s.
- Fortunately for the slow-growing Euroland economies, given their general lack of housing bubbles, the ECB should not face too many problems.
- US-style markets are rather more risky since the housing bubble has allowed households to become highly geared. When house prices fall, it is likely that households will want to rebuild their balance sheets and that real consumption will be affected. However, mortgage-backed securities (MBS) tend to spread the risk of house price falls throughout the financial system, although in the USA there are question marks about the roles played by the two federal institutions – Fannie Mae and Freddie Mac.
- The most exposed markets are those, like the UK, where households typically hold a great deal of floating rate debt. The joint consequences of rising mortgage payments and falling house prices could be severe, especially if the financial system itself comes under stress due to the link between falling house prices and shrinking bank credit.

mortgage backed securities

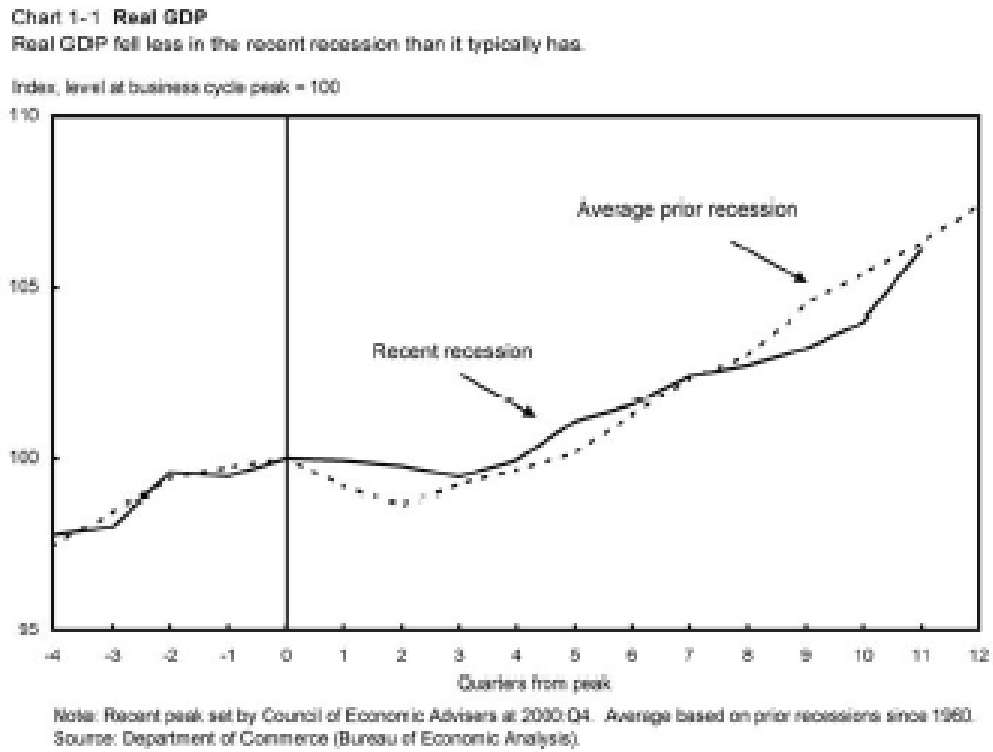


- When international banks find that they have less collateral and face higher borrowing costs in their largest market, they may well contract their lending not just in the USA but in the rest of the world too. Consequently, any monetary tightening in the US could have major consequences elsewhere.

global imbalances

- According to the IMF, between 2001q3 and 2003q4, US real domestic demand rose 8.9%, UK 6.9%, Japan 2.7%, Euroland 2.0%, Germany -0.7%. GDP has been rising rapidly recently in the US (over 5% at an annualized rate) - this is being driven by higher domestic demand and is being reflected in higher profits but not higher wages.
- US needs a lower real exchange rate, higher real interest rates, and a lower government deficit - this would help to correct the trade deficit and crowd investment and exports back in. The UK needs this to a lesser extent.
- The counterpart of the US situation is that Euroland and Japan will have to accept higher real exchange rates. To some extent they also need lower real interest rates and larger government deficits, although these may be difficult to achieve. It is possible that domestic demand could rise enough to boost European output and stabilize world output.
- China would also benefit from a higher real exchange rate to help combat inflationary pressures.

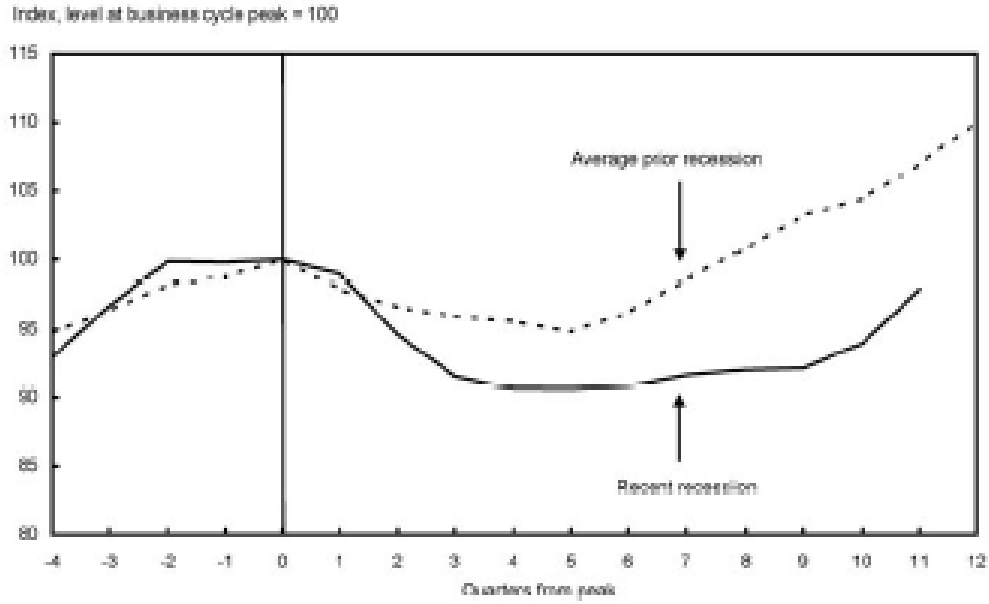
imbalances in the USA - growth



Source: Economic Report of the President, 2004.

imbalances in the USA - investment

Chart 1-2 **Real Investment in Equipment and Software**
Relative to the average prior recession, the weakness in investment in the recent recession occurred earlier, was more pronounced, and persisted longer.



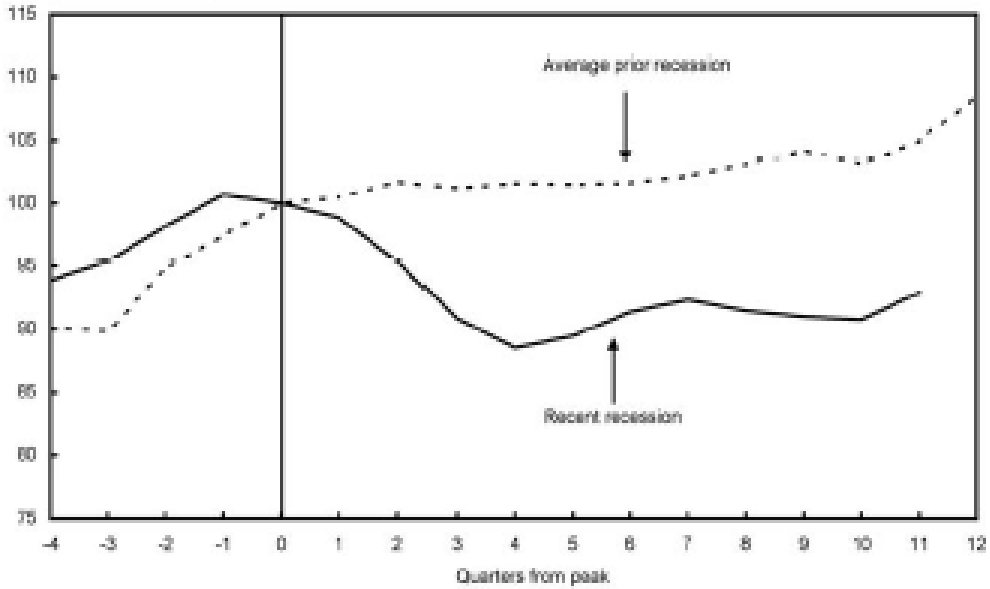
Note: Recent peak set by Council of Economic Advisers at 2000:Q4. Average based on prior recessions since 1960.
Source: Department of Commerce (Bureau of Economic Analysis).

Source: Economic Report of the President, 2004.

imbalances in the USA - exports

Chart 1-3 **Real Exports**

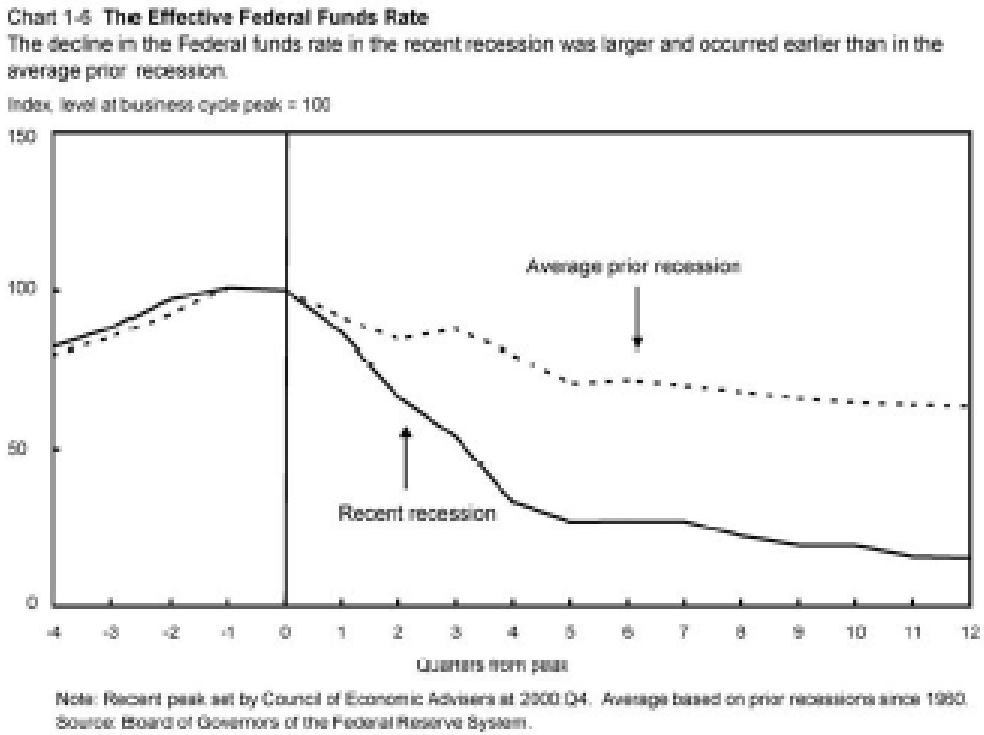
Real exports have also been unusually weak in recent years relative to the average prior recession.



Note: Recent peak set by Council of Economic Advisers at 2000:Q4. Average based on prior recessions since 1960.
Source: Department of Commerce (Bureau of Economic Analysis).

Source: Economic Report of the President, 2004.

imbalances in the USA-interest rates



Source: Economic Report of the President, 2004.

the world's biggest hedge fund

- The US trade deficit is around $600bn, with net foreign investment income of around $60bn, leaving a current account deficit of around $540bn.
- The US finances this deficit by selling domestic assets, a mix of government bonds (around $450bn a year), corporate bonds, equities, and real assets.
- Amazingly, the USA runs a surplus on foreign direct investment of around $150bn - that is, US firms buy more foreign firms than vice-versa.
- Furthermore, the US runs an investment income surplus despite having net foreign liabilities of 24% of GDP. As pointed out by the chief economists of both Goldman Sachs and Morgan Stanley, this is because the cost of finance is so low in the US, that the US acts like a giant hedge fund, borrowing cheaply at home to invest in higher yielding foreign assets (this is sometimes called 'the carry-trade').
- When interest rates go up, the investment income surplus will fall sharply since the US Treasury will be paying more to foreigners to hold its debt.

hubris...

- ‘We are clearly facing a set of forces that should be dampening demand going forward to an unknown extent. In particular, a marked shift in investor psychology away from risk and toward liquidity and safety has exacerbated the problems in foreign markets, where deflationary forces remain virulent and have spread to the financial markets in the United States. We do not know how far it will go or how much it will affect consumer and business spending here at home. This is a time for monetary policy to be especially alert.’ Alan Greenspan, October 1997.

...and nemesis

- ‘By serving as a cheerleader when financial markets are going to excess, the Fed is losing its credibility as an objective observer. It is no longer the tough guy that relishes the role of "taking away the punchbowl just when the party gets going" -- to paraphrase the legendary mantra of former Fed Chairman William McChesney Martin. By condoning excesses, the Fed, in effect, has become a stakeholder in the carry trades it spawns. Investors, speculators, income-short consumers, and financial intermediaries couldn't ask for more. It's the ultimate moral hazard play that that has turned the world into one gigantic hedge fund.’ Stephen Roach, 2004.

summary

- Over-valued housing markets pose substantial risks in a number of countries, especially Australia, Canada, Ireland, Spain, Sweden, the United Kingdom and the United States.
- As interest rates rise over the cycle, there will be downward pressure on house prices and there is a risk that a number of housing bubbles will burst.
- This in turn will pose risks to the financial system and to macroeconomic policy, although given that the inflation outlook is still fairly benign there is scope for appropriate policy responses.
- There are also risks to financial markets. A fall in US asset prices could lead to a credit contraction elsewhere, and a big rise in US bond yields might raise bond yields across the whole world.
- Given the likelihood of a 'flight to quality', this would be especially marked for developing countries and other low grade debt (q.v. the Peso crisis of 1994), even if the effect on the US is only transitory.