LOMBARD STREET RESEARCH

Monthly Economic Review

No. 155, May 2002

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Is the economy off the boil or over-heating?

First quarter data add to the puzzles

Many puzzles in Q1 GDP data,

The UK's national output was static in the final quarter (Q4) of 2001 and 2002 Q1, according to official statisics. Recent GDP figures prepared by National Statistics show no change in national output in both quarters, after almost ten years of uniterupted expansion since Q2 1992. On the face of it, the ending of growth is an important change which justifies both the low interest rates set by the Bank of England and the expansion in public spending announced in the Budget. On closer inspection, the GDP data are full of puzzles and raise as many questions as they answer. It is far from clear that the economy has come off the boil.

Labour market not as weak as implied by GDP data

The first item of evidence is that employment continued to grow, while unemployment was unchanged. According to the Labour Force Survey, the total number of men and women in employment in the three months to March was 28,420,000, compared with 28,317,000 in the three months to September. According to the claimant count measure, the national rate of unemployment was the same (at 3.2%) in April 2002 as in September 2001. Normally a six-month period of flat output would be accompanied by falling employment and rising unemployment. But, evidently, the labour market exhibited neither feature, hinting that the GDP figures may be wrong. (In the last few years National Statistics has frequently revised up its initial estimates of Q1 growth. An article in the March 2001 of *Economic Trends*, on "Revisions analysis of initial estimates of annual constant price GDP and its components", conceded that initial estimates of GDP were "too low", with "a mean upward revision in the initial estimate of GDP growth of 0.2%" in the annual *Blue Books*.)

and export and import price movements were surprising

Doubts about the reliability of the recent data are reinforced by sharp divergences between price trends in the UK's imports and exports. Between Q4 2001 and Q1 2002 the money value of exports and imports of goods and services increased by 0.6% and 0.5% respectively. As many of the products the UK sells are similar to those it buys, a reasonable expectation might be that the prices of imports and exports would move together. In the very long run that is more or less what happens. But between Q4 2001 and Q1 2002 export prices are estimated to have risen by 1.2%, whereas import prices fell by 1.2%. When the value figures are deflated by these price movements, the volume of exports fell by 0.6%, whereas the volume of imports jumped by 1.7%. So "net exports" (i.e., exports minus imports) suffered a decline which has to be deducted from GDP. In fact, the decline in net exports took about 0.6% - 0.7% (i.e., almost 2 1/2% - 3% at an annualised rate) off GDP in Q1. It follows that *all of the gap between the stagnation of GDP reported in Q1 and a slightly above-trend growth rate can be attributed - arithmetically - to the divergent export and import price trends estimated by official statisticians.* This is not to say that the statisticians are wrong; it is to emphasise the importance of checking and re-checking the data. Much other information - notably the surge in house prices and the buoyancy of consumption - argues that the economy is close to over-heating at present. The accompanying research paper says that the housing market, in particular, looks over-extended.

Professor Tim Congdon **31st May, 2002**

Summary of paper on

'Is the housing ladder wobbling?'

Purpose of the paper

House price gains in 2002 resemble those in previous booms. The paper asks whether the Bank of England is right to be complacent about the macroeconomic implications of recent house price developments.

Main points

* **House prices have increased by over 15% in the latest twelve-month period, according to indices prepared by Nationwide and Halifax. (Note that an index prepared by the Department of Transport, Local Government and the Regions shows a smaller and less alarming increase.)**

* **As a result, the house price/earnings ratio ("the HP/E ratio") - which was very low in 1994 - has moved above the long-term average. (The long-term average may be somewhat above 3 1/2, compared with a current value of about 4 1/4, although the precise numbers depend on the index and time-period chosen for the analysis.)**

* **A reasonable generalisation is that the HP/E ratio is about 20% above the long-term average. (See p. 7.)**

* **The HP/E ratio has the characteristic of "mean reversion" (i.e., it tends to return to a long-run average value if - for any reason - it is disturbed). (See p. 4.)**

* **So a period must follow - sooner or later - in which earnings increase faster than house prices. The matrix on p. 12 sets out some possibilities. If earnings growth were in line with the 4 1/2% figure usually assumed consistent with 2 1/2% retail price inflation, it would take almost a decade of annual 2 1/2% house price increases to restore the long-run average HP/E ratio.**

* **A more likely outcome is that house prices fall.**

This research paper was written by Professor Tim Congdon, with help from colleagues in Lombard Street Research's UK Service in the preparation of the charts.

Is the housing ladder wobbling?

House price inflation to be lower than pay growth for a few years

Mr. Clementi's comments on the housing market

Should economic policy-makers worry about the housing market? A lively debate has recently opened up about the oulook for house prices and their relationship to the wider economy. The official verdict is that the high rate of house price inflation in the last few years is not a serious concern for policy-makers. In a speech to the Chartered Surveyors Livery Company on 29th April Mr. David Clementi, deputy governor of the Bank of England, accepted that the the UK's housing market might be exuberant, but he denied that it was irrational. He said that was "not convinced" that a "dangerous" house price bubble had emerged. While conceding that the economy was marked by imbalances, he did not believe that the resolution of the imbalances "need...necessarily involve a sharp correction to residential property prices".

Clementi denies that a sharp correction to house prices will be necessary

The argument of this research paper is that the official verdict - as expressed in the Clementi speech - is wrong. The housing market suffers from speculative froth, with many resemblances to previous house price booms. While the divergence from long-run norms is less severe at present than at the peak of the disequilibria in the early 1970s and late 1980s, house prices may continue to rise faster than pay in late 2002 and (at current interest rates) in early 2003. Because of official complacency, there is a risk that the ratio of house prices to earnings ("the HP/E ratio") will move towards the levels seen in earlier bubbles. In any case, even if the HP/E ratio were to stop rising now, a return to the long-run average value implies either a big house price fall (i.e., exactly that "sharp correction" which Clementi said was unnecessary) or an extended period in which house price inflation lags behind pay growth. An extended period is to be understood here as one of between five and ten years. Clementi is right that - if the period of adjustment were extended in this way - the macroeconomic implications would not be all that drastic. A decade of negligible house price inflation would nevertheless come as a profound disappointment to the home-buyers (and mortgage lenders) of 2000, 2001 and 2002.

House-price-to-earnings ratio about 20% above the long-run average

Some key facts are not in dispute. In his 29th April speech Clementi acknowledged that house prices have risen quickly over the past year. The various house price indices do not agree precisely, but "both the Halifax and Nationwide measures suggest that annual house price inflation is currently running at levels in the mid-teens". (See the chart on p. 6.) In fact, house price gains have outpaced the increase in pay for most of the period since 1994. As a result the HP/E ratio (using the Nationwide index) has climbed from a cyclical low of about 2 3/4 to a value of approaching 4 1/4 today. (It was 4.1 Q1 2002, according to Nationwide, but house prices have risen again subsequently.) It is also uncontroversial that the latest value of the HP/E ratio is above the long-run average. The extent of the divergence from the long-run average is more open to debate, as it depends on the period and the index chosen for the analysis. But - in broad terms - the HP/E ratio is about 20% above the long-run average. (See the chart on p. 7.)

Does the HP/E ratio revert to a long-run mean value?

So much is clear, but two important issues are contentious. The first is the long-run behaviour of the HP/E ratio and the second is the outlook for the HP/E ratio over the next six months to a year, on unchanged monetary policy (i.e., with no change in interest rates). On the first issue, a reasonable claim is that the HP/E ratio is characterised by "mean reversion". In other words, despite occasional large fluctuations, the HP/E ratio has a tendency to revert to a long-run average value which is much the same whatever "the long run" chosen for consideration. A judgement on this question could be based on elaborate statistical tests, but a brief glance at the chart on p. 7 may be enough to persuade many observers.

Some possible explanations for mean reversion

A robust long-run link between the level of house prices and the size of pay pockets seems plausible, because of the nature of the demand for housing. House prices must depend largely on the proportion of their incomes that people are prepared to invest in housing equity, and that proportion probably does not vary much from year to year or indeed from generation to generation. If the proportion of personal income committed to acquiring equity in the housing stock is stable, it makes sense for the HP/E ratio also to be stable. Further, there must be some connection between the prices of existing and new houses, and between the prices of new houses and the cost of construction. If labour costs are a major part of the cost of construction, a long-run relationship between house prices and earnings is again logical.

Mean reversion implies that earnings must rise faster than house prices, over some period

A crucial point follows. The argument of the last two paragraphs is that - if the HP/E ratio is above the long-run average - there must sooner or later be a sequence of years in which the HP/E ratio falls. In other words, there must be a sequence of years in which earnings rise faster than house prices (or in which, if earnings are growing very slowly, house prices fall). The matrix on p.12 shows the length of time required to bring the HP/E ratio back from its level at present (i.e., 4.25) to the long-run average (i.e., 3.60), for various combinations of the annual change in earnings and house prices. It generates a large number of possible "scenarios" for the housing market over the next few years, subject to the constraint of the long-run stability of the HP/E ratio.

With 4 1/2% pay growth, what are the house price trends required to restore the long-run average HP/E ratio?

Of course, the longer the period allowed for the HP/E ratio to revert to its long-run average, the smaller is the required gap between the rates of increase of earnings and house prices. Particularly interesting and important is the row in the matrix which shows the outcomes with a 4 1/2%-a-year increase in average earnings, as this is generally regarded as the rate of pay growth consistent with the official 2 1/2% inflation target. It should go without saying that - were house prices to continue rising by 5% a year or more (i.e., faster than the rate of pay growth) - the HP/E ratio never returns to its long-run average. But - with 2 1/2%-a-year house price gains - almost a decade is needed for house price equilibrium to be restored. The long-run average HP/E ratio could be brought back more quickly, but only if house prices were static or falling. A fall of 5% a year would be enough to cut the HP/E ratio to 3.6 in under two years.

Possible further rise in the HP/E ratio in late 2002 and early 2003

Readers must judge for themselves the validity of Clementi's assertion that "a sharp correction" in residential property prices is unnecessary. On the face of it the assertion is, at best, rather provocative. Further, there has to be a risk that house prices continue to advance more rapidly - perhaps much more rapidly - than earnings in late 2002. The buoyancy of mortgage credit (see p. 9) suggests that the demand for housing remains robust. By spring 2003 the HP/E ratio might exceed 4 1/2, as it did in the two previous big housing market booms. Were the HP/E ratio to reach 4 3/4, a significant fall in house prices would be a quite likely outcome. With earnings growth of 4 1/2% a year and an assumption of stable house prices, the HP/E ratio would take seven years to fall back to 3.6. The HP/E ratio could revert to its long-run equilibrium in a shorter period only by a decline in house prices.

Problems in interpreting the economy,

Admittedly, the Bank of England has a difficult job. The macroeconomic data for early 2002 have been very mixed. While consumer spending keeps on climbing at an above-trend rate, the GDP statistics - which are arguably the most comprehensive guide to the state of the economy - have indicated a slow economy. Further, a good case can be made that the broader macroeconomic background is quite different from that in the last two big housing booms in the early 1970s and late 1980s. Both of these were accompanied by fast money supply growth and could be readily explained as part of a general asset price bubble. By contrast, the annual rate of M4 growth in the year to April 2002 was 5.7% and in the three months to April M4 increased at an annualised rate of only 3.7%, while share prices struggle to make headway after a two-year bear market. Money growth is moderate and asset prices apart from housing are restrained. It is easier for the Bank of England to say that the house price excesses of 2002 are a microeconomic and sectoral maladjustment than in superficially similar circumstances in the early 1970s and late 1980s. By implication, there is less need for a macroeconomic response (i.e., higher interest rates).

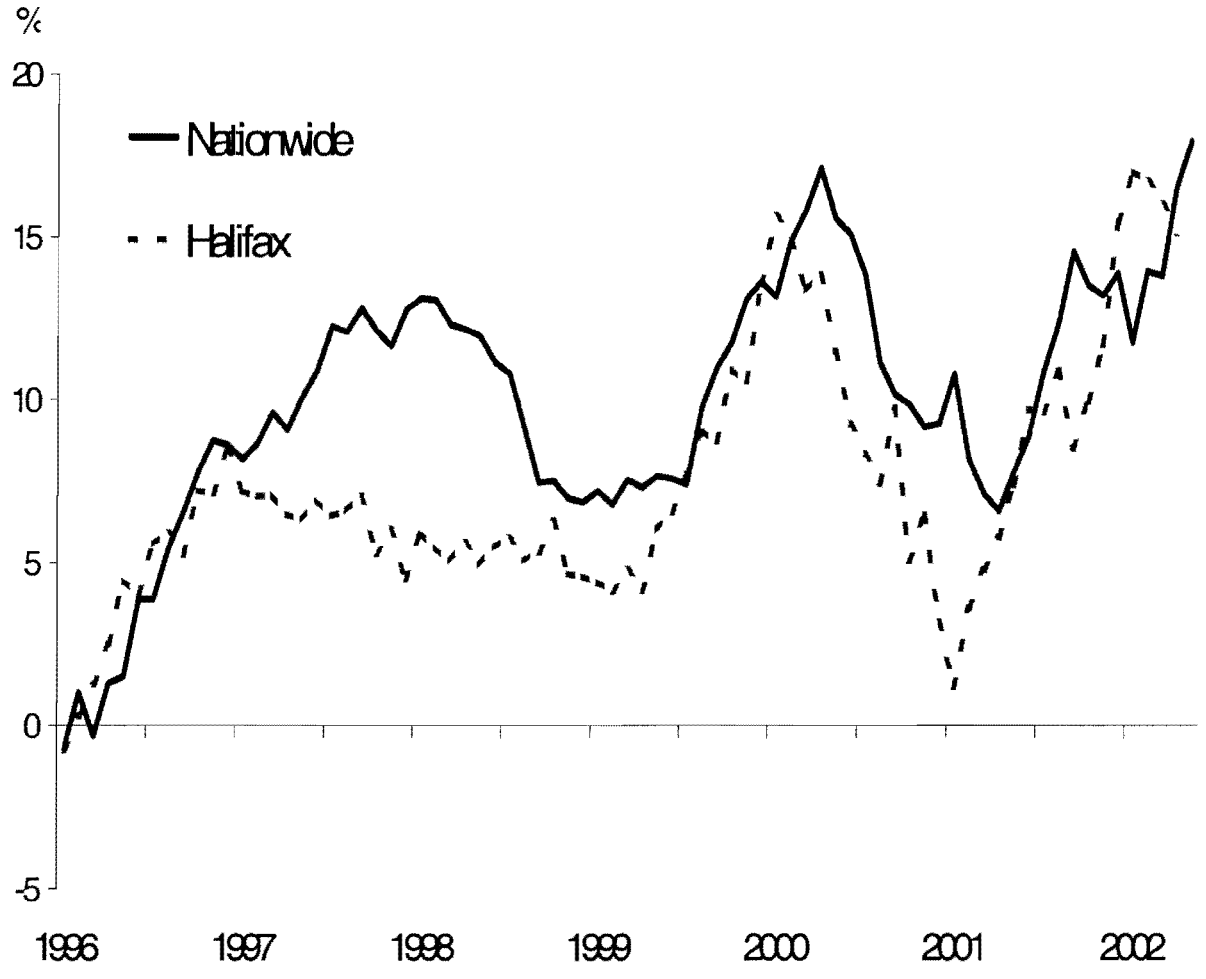
but the Bank of England is too complacent

At any rate, the house price excitements of the last few months have aggravated the imbalances in the UK economy and have therefore worsened the problems of restoring balance over the next few years. In that sense the Bank of England's apparent complacency has been unfortunate, if understandable.

Housing inflation again in the teens

Large positive "wealth effect" on consumption

Chart shows % annual increase in house priceds, on a monthly basis, according to the Nationwide and Halifax indices. Final values in May for Nationwide and in April for Halifax.

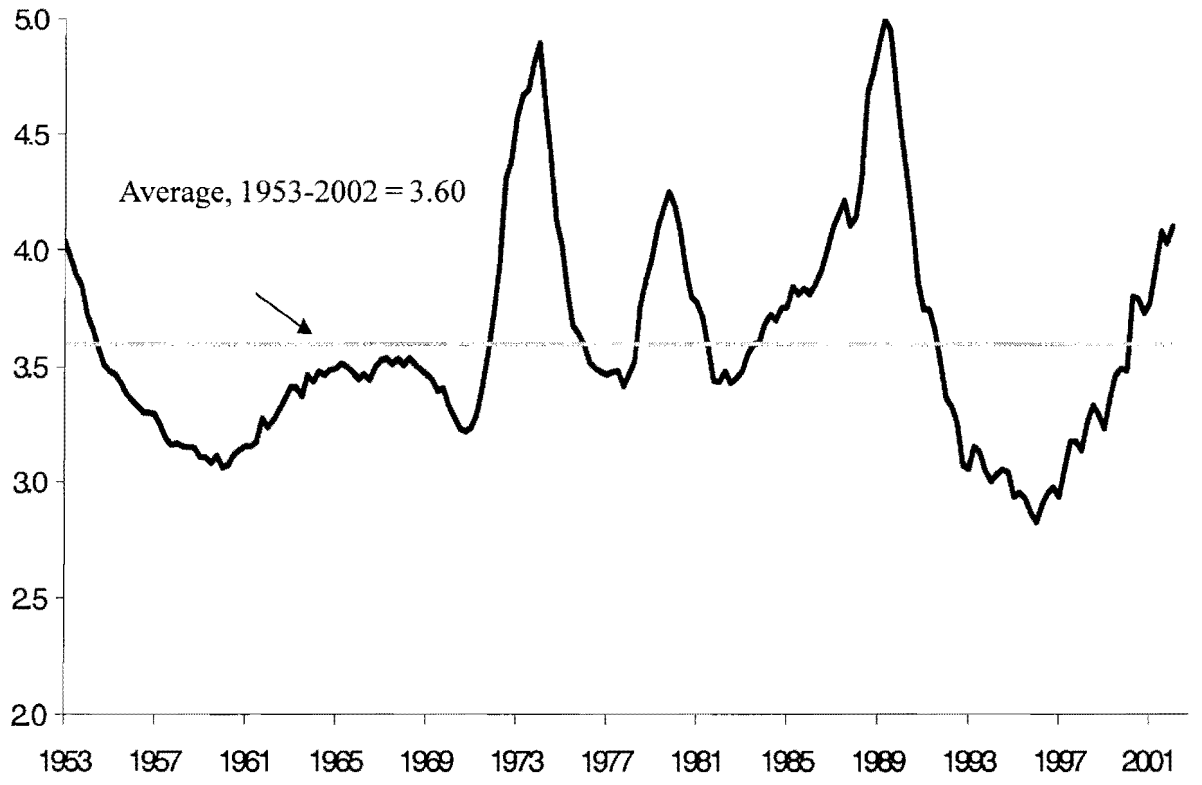


The latest burst of house price inflation has taken the annual increase to 15.9% on the Halifax index (year to April) and to 17.9% on the Nationwide index (year to May). This is less than the peak rates of house price inflation in the two previous big booms, but general inflation expectations were then much more deeply-entrenched. (In late 1972 the annual increase in the Nationwide index exceeded 40%; in early 1989 the annual increase in both the Nationwide and Halifax indices went above 30%.) As the chart on p. 7 shows, in the very long run house prices move in line with earnings. Assuming that productivity growth runs at 2% a year, the implication is that house prices also rise about 2% a year more than retail prices. In other words, the long-run "equilibrium" annual rate of house price inflation consistent with 2 1/2% retail price inflation is 4 1/2%. Plainly, recent experience is very much at variance with this guideline. Notice that house price increases have run ahead of pay for over five years, a state of affairs which is increasingly being regarded as normal.

Do house prices mean-revert?

Ratio of house prices to earnings stable in long run

Chart shows ratio of average house prices to average annual earnings, on a quarterly basis. Series is from Nationwide from Q1 1972. Earlier data are mostly from Building Societies Association/Council of Mortgage Lenders, with series spliced onto Nationwide numbers in Q1 1972 for consistency. Final value relates to Q1 2002 and is 4.1.



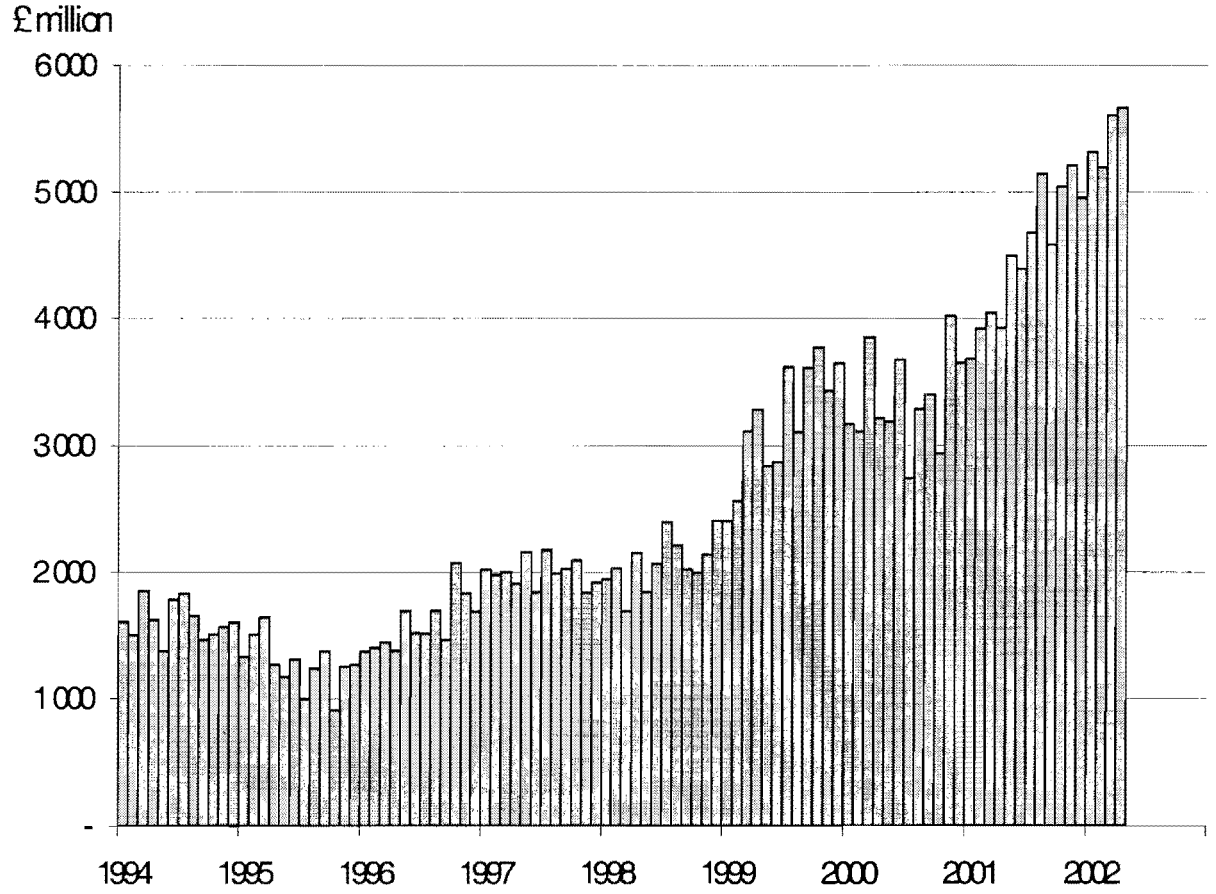
Source: Nationwide Building Society

As the value of the housing stock in early 2001 was over £2,000b., house price inflation over the last year has delivered capital gains of about £300b. to the British home-owning public. The scale of this effect can be readily appreciated by comparison with household disposable (i.e., post-tax) income, which was £675.9b. in 2001. In effect, home-owners have secured an effortless capital gain equal to over half of their annual income. (Remember that non-home-owners also have disposable income. Home-owners' disposable income was probably closer to £500b. than the national total.) The chart here demostrates the stability of the HP/E ratio and the implied mean reversion of this ratio to its long-run average value. One implication needs to be emphasised. It is that - contrary to a view which may now be widely held among home-owners (see p. 6.) - house prices will, from now on, have either to increase at a slower rate than earnings or actually to fall. The matrix on p. 12 describes some possibilities.

Mortgage lending more than doubles

Stock of personal borrowing growing too fast for 2 1/2% inflation

Chart shows net lending by all UK mortgage lending, on a seasonally adjusted monthly basis. Note that some mortgage lending is by non-bank intermediaries and has no money supply expansion effect. The lending is net of repayments and implies balance-sheet expansion by the lenders.



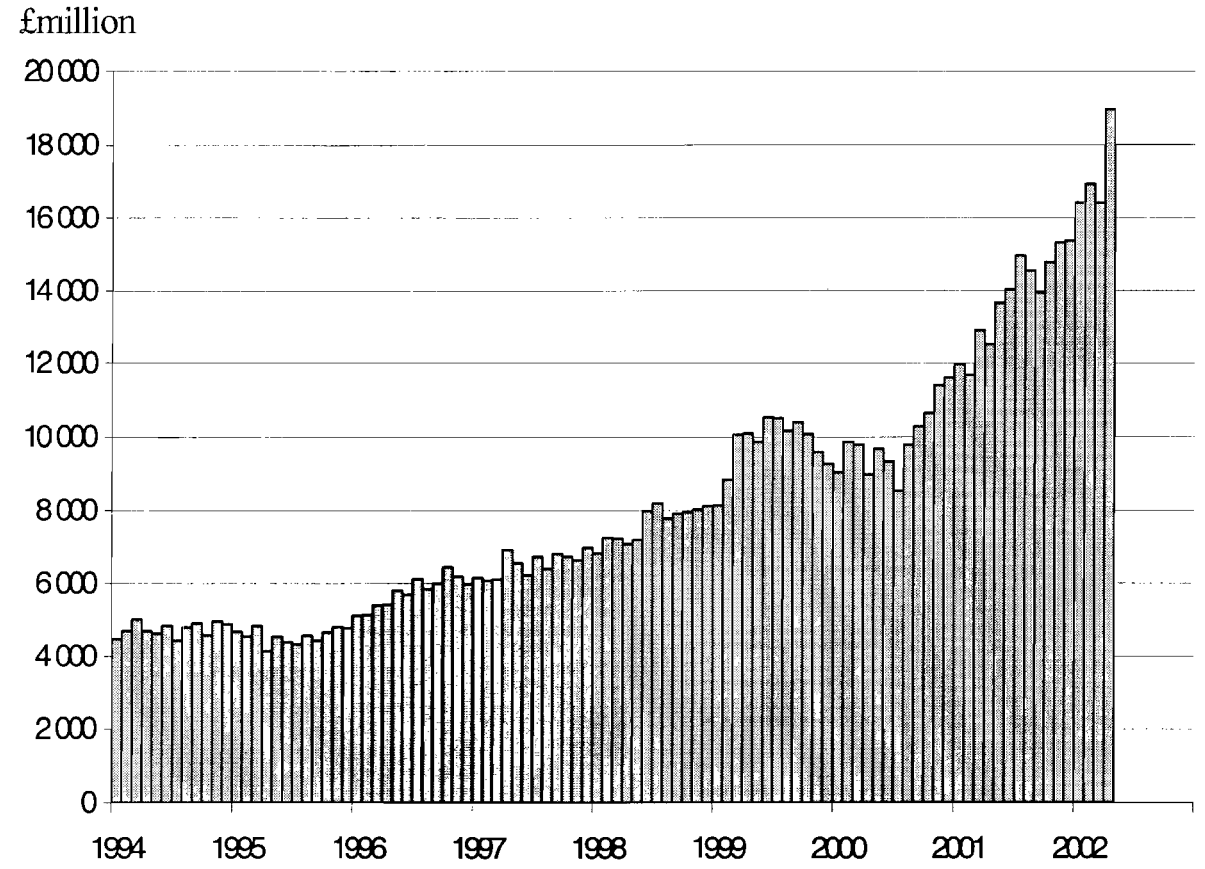
Source: Bank of England

At end-2001 UK monetary institutions' (i.e., banks') loans to the household sector amounted to £646.2b., while their total sterling loans were £1,076.3b. The bulk of the loans to the household sector would have been for mortgage purposes. Evidently, the strength of mortgage demand is basic to banks' expansion plans, and so to the level of both their assets and liabilities. Because most of their liabilities are deposits (and therefore money), the buoyancy of mortgage demand in late 2001 and 2002 ought to have been associated with rapid money growth. (In both of the previous big house price bubbles - of the early 1970s and late 1980s - rapidly-growing mortgage credit was accompanied by rapidly-growing broad money.) But this has not been so recently. In the year to April the M4 measure of money went up at the moderate rate of 5.7%. Indeed, money growth has been so feeble that the money balances of the financial sector have been squeezed, reducing the long-term savings institutions' appetite for new equity issues.

Boom to continue in late 2002

Approvals data signal further housing buoyancy

Chart shows mortgages approved by all mortgage lenders, on a seasonally adjusted monthly basis. The series is "gross", in the sense that it is not reduced by repayments that will accompany the approved morgage loans.



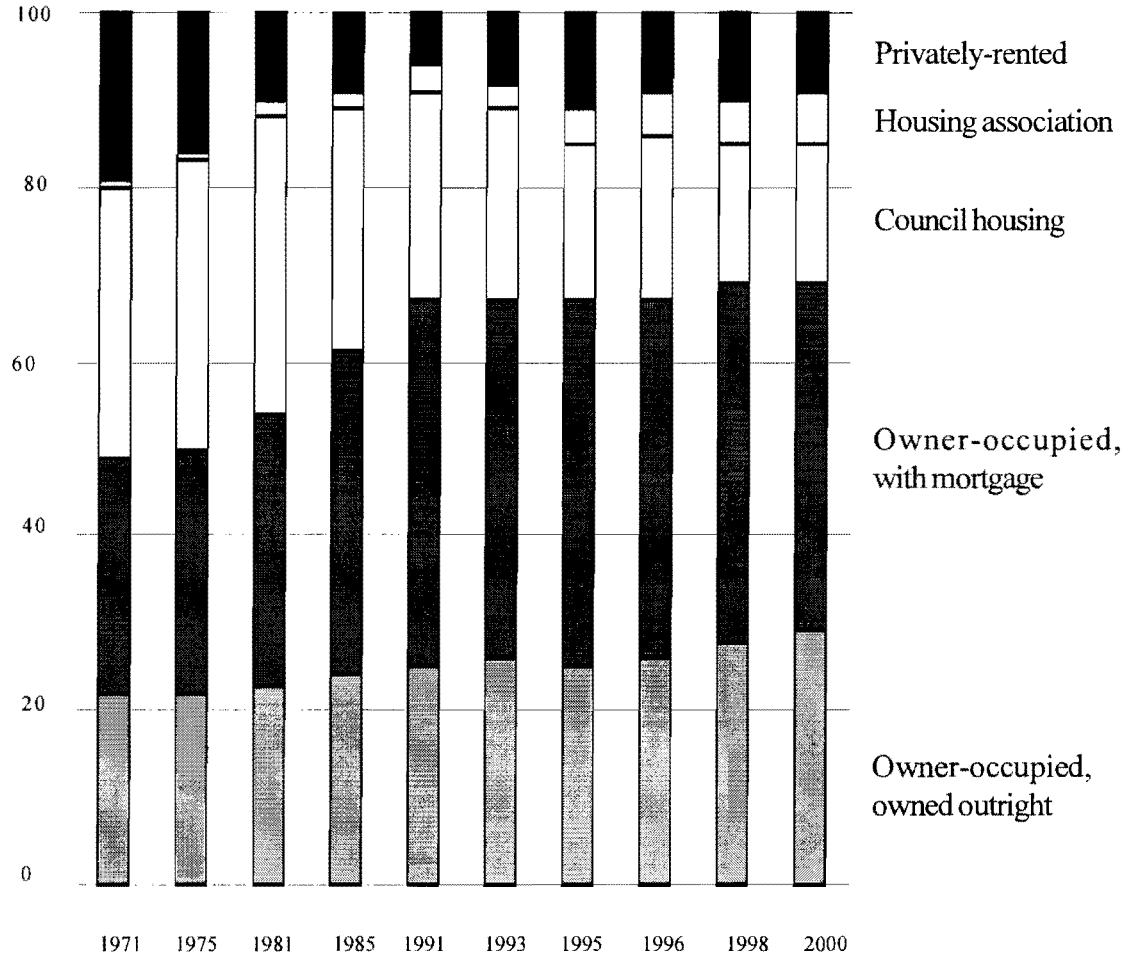
Source: Bank of England

Mortgage approvals have been rising for several years, and have acted as a reliable advance signal of both actual mortgage lending and consumer spending on durables. (When people move into another home - even an existing rather than newly-built home - they typically have a burst of expenditure on consumer durables.) Mortgage lending is undoubtedly interest-rate-sensitive. As the chart shows, the cut in base rates to 4% after the events of 11th September stimulated another burst of mortgage demand. Mortgage approvals in the month of April totalled £19.0b., an all-time record. The £19.0b. figure was more than 30% up on last August's £14.5b. (i.e., the last month before 11th September) and almost double the £9.7b. mortgage approvals figure in April 1999. The surge in mortgage credit, with the associated house price excitements and consumer boom, has successfully fended off recession, but is now raising worries about over-heating. One message of this chart is that money supply growth ought to revive in the summer and autumn of 2002.

Housing just another part of the portfolio

House prices are determined along with other asset prices

Chart shows relative importance (% of total) of different types of tenure in the housing market. The source is the General Household Survey.

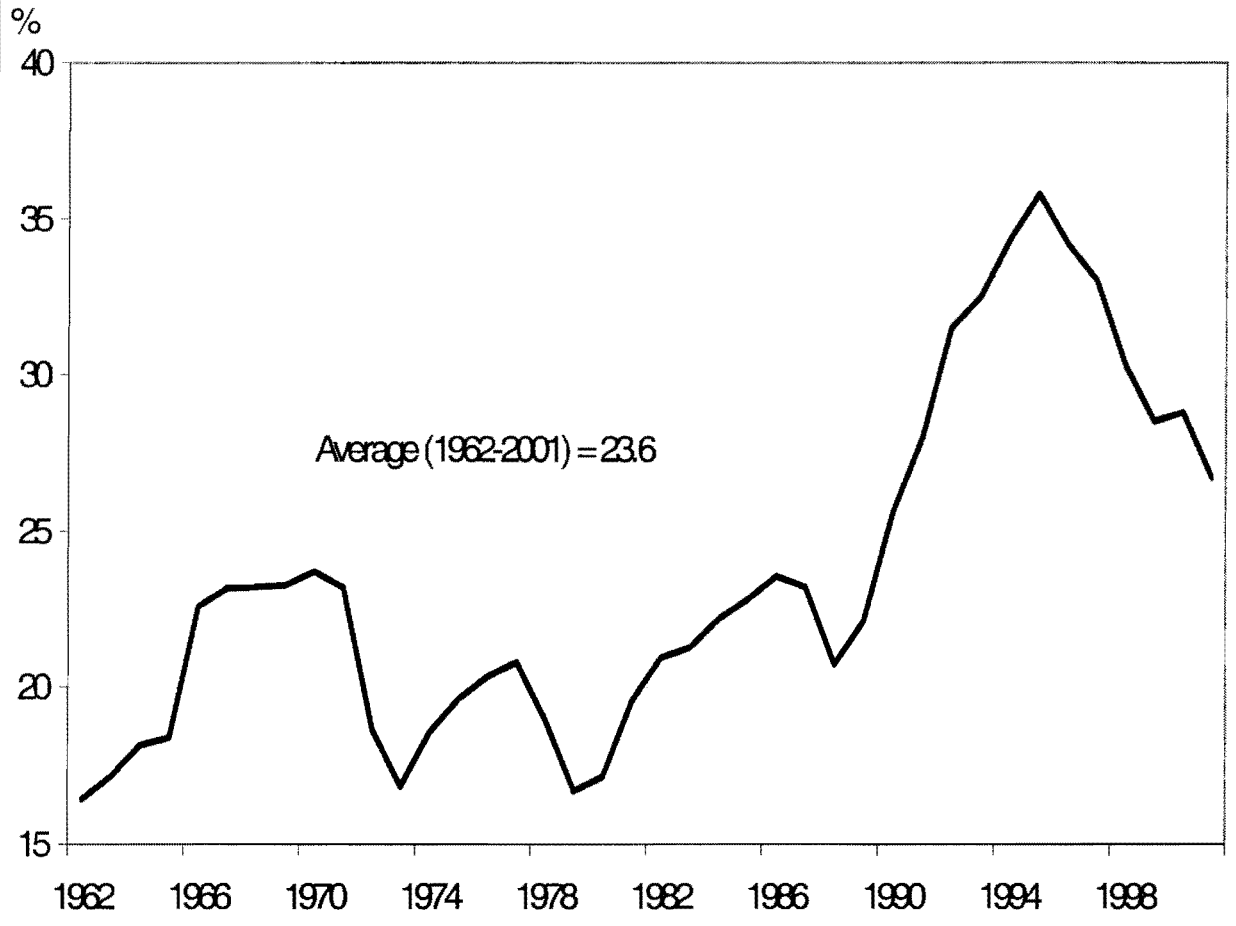


Much commentary on the housing market implies that the extension of new credit is fundamental to house price valuations. The thinking seems to be that mortgage credit and house price inflation are correlated. It needs to be emphasised that - ultimately - houses are just another asset, like equities, gilt-edged securities, corporate bonds, antiques and so on, and that the determination of house prices needs to be seen within the wider context of the determination of all asset prices. As the chart shows, a significant chunk of the UK housing stock (over a quarter) is in the hands of home-owners with no mortgage whatsoever. Such home-owners could in principle sell their dwellings, re-invest the proceeds in income-yielding assets, rent a property and live off the income from their assets. The purpose of this comment is to insist on the importance of money (on the broad definitions) in household portfolios and the need for all asset prices to be consistent with "monetary equilibrium" (i.e., the equivalence of the demand for and supply of money).

Housing inflation to the rescue

Worries about excessive debt misplaced

Chart shows ratio of mortgage debt to gross value of the housing stock (i.e., not housing equity, which is net of debt). Last figure is for 2001. Figures until 2000 from official sources; figure for 2001 is estimated, using Nationwide series for house prices.



The research paper in the July 2000 issue of Lombard Street Research's *Monthly Economic Review* argued that - in contrast to the previous 30 years - mortgage debt ought to grow more slowly than gross domestic product. So far this has been spectacularly wrong. Mortgage debt at the end of Q1 2002 stood at £606.1b., up by 20.3% from its level at end-Q1 2000 (£503.8b.). By contrast, GDP rose only 10.0% between Q1 2000 and Q1 2002. However, in one respect the July 2000 analysis has been vindicated. It was suggested there that the ratio of mortgage debt to the value of the housing stock was unsustainably high and would fall. As the chart shows, this ratio has in fact fallen significantly over the last two years, because house prices have climbed so much more quickly than either mortgage debt or GDP. House prices have risen by over a quarter in the last two years. If house prices had advanced more moderately (say, at the same rate as pay, which is the long-run norm), the British public would have been less keen to incur so much extra mortgage debt.

The dynamics of house prices

Will house prices have to fall?

Matrix shows number of years required to reduce house-price-to-earnings ratio from 4.25 to the long-run average of 3.60, for different combinations of the % annual rate of increase of earnings and house prices.

Increase in earnings % p.a.	Annual change in house prices %				
	-5	-2.5	0	2.5	5
2.5	2.18	3.32	6.72	Never	Never
3.5	1.93	2.78	4.82	17.10	Never
4.5	1.74	2.39	3.77	8.59	Never
5.5	1.58	2.10	3.10	5.75	34.94
6.5	1.45	1.88	2.64	4.34	11.70
7.5	1.34	1.70	2.30	3.49	7.05

Source: Lombard Street Research calculation.

This matrix is fundamental to a discussion of house price trends. Its message conflicts with the Bank of England's comments on house prices in both of the last two *Inflation Reports*. According to the February *Report*, the Monetary Policy Committee had "raised its near-term assumption for house price inflation" since the previous *Report*, but expected "a slowdown to around the trend rate of nominal earnings in the medium term". The May *Report* remained sanguine. The MPC was said to assume "that house price inflation will fall over the next two years though at a gentler pace than in its February projection". One interpretation of these remarks is that the MPC does not believe that the HP/E ratio is characterised by long-run mean-reversion. If the HP/E is characterised by mean reversion (as argued in this research paper), a few months of unexpectedly high house price increases requires a sharper decline in house price inflation (or, indeed, falling house prices) over some later period, not a gentler gradient of decline.