



BANK OF ENGLAND

# Speech

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## **Credit Conditions and Monetary Policy**

Speech given by

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## CREDIT CONDITIONS AND MONETARY POLICY

Many thanks to the Leeds Financial Services Institute for the opportunity to speak to you today. Many thanks also to Mark Pratt, the Bank of England's Agent for Yorkshire and the Humber, for helping to arrange today's event. Perhaps I can take this opportunity to pay tribute to the work of the Bank's Agents around the country, whose contributions to UK monetary policy I have certainly come to appreciate in the year or so I have been on the Monetary Policy Committee. The Agents play a vital role in ensuring that the Committee does not drift away from the real-world experience of businesses operating in the economy. We are really very grateful for all the help that you and other contacts around the country give to Mark and his colleagues.

Your group - comprising local bankers, brokers, fund managers and advisors - is especially appropriate for exploring my view of one particular dimension of the challenges currently confronting monetary policy here and abroad: the interactions between the financial economy and the real economy.<sup>1</sup> Those challenges are not immediately apparent from most headline economic forecasts, or indeed from the Monetary Policy Committee's own central projections. Broadly, our *August Inflation Report* has the UK economy operating at pretty close to potential over the next few years, and inflation close to the 2½% target. And just below those main headlines, we have growth in both the US and the Euro area recovering strongly - to trend, in fact - so that, from a UK perspective, net trade moves from subtracting from output growth to broadly neutral. That, along with some recovery in business investment and sustained robustness in government spending, helps to fill a gap prospectively left by a projected slowdown in consumer spending growth - leaving, as I said, aggregate demand broadly in line with supply.

That apparently benign story belies some complex risks not too far beneath the surface. Assessing many of them calls for an examination of financial market:real economy interactions, especially in the US and the UK. Since that is where a central

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<sup>1</sup> With many thanks to Fergal Shortall and Peter Andrews; to Colin Miles, Alex Bowen and David Rule for continuous discussions over recent years on financial conditions and risk; and to Michelle Morris and Jane Jones for secretarial support.

bank's monetary policy and financial stability missions meet, it should be familiar territory. In fact, the route by which we got here has been anything but familiar.

To recap: since the summer of 1996, net trade has persistently reduced output growth. Quite apart from the effects of the pound's 25% appreciation in the mid-'90s, over the past three years or so this has also been down to a series of adverse shocks to world economic growth. Faced with that, UK interest rates have been progressively reduced - from 6% in February 2001 to 3.5% now - to support domestic demand growth. Since 1996, annual consumption growth has averaged over 4% - well above trend. And it has remained stronger than expected, as underlined by last Friday's data for Q2, which estimated quarter-on-quarter consumption growth at 1.3%. This has, of course, been accompanied by rapidly rising debt. Stimulating demand has worked nicely in terms of keeping inflation broadly in line with the 2½% target. The question has been whether there are limits to a strategy of a small, open economy seeking to offset adverse developments from overseas that are well beyond its control.

Answering that question in the abstract is straightforward: yes. Of course there is a limit: for example, it would make no sense to induce households or firms in aggregate to accumulate debt beyond their means. The subsequent balance sheet adjustment would complicate the operation of monetary policy in ways that are hard to anticipate. It will not do to argue that faced with such retrenchment, the Bank could reduce interest rates, since we do not know very much about how much purchase monetary policy would have in such circumstances. Rather than elaborate on that today - except to say that the possibility of complicating the future operation of policy should be weighed - I want instead to trace through just a few of the practical challenges in assessing those risks. In doing so, I want to stay faithful to the interests of this audience. So I will focus on household and corporate balance sheets in the US and the UK, and on the financial conditions they face.

### **Financial conditions in the US**

There can be no apology for spending time on the US economy. It has been centre stage, and remains so. Of course, the Euro area accounts for a greater share of UK trade. But with domestic demand there - especially in the three largest continental

economies - anaemic, which is a subject for another day, global prospects and financial market confidence continue to depend disproportionately on the US.

But the US continues to work through the legacy of the late '90s. Buoyed by evidence of a fairly remarkable improvement in measured productivity growth, based at least in part on efficiency gains from the new technologies, investment and equity prices boomed from the mid-90s. Many of the ill-fated dot.com ventures were equity financed. But across the economy as a whole, equity was retired (net), and much of the investment boom was in fact financed by debt (see Chart 1): telecom is just the most infamous example. Capital gearing (valuing assets at replacement cost) and income gearing rose.

Household borrowing accelerated too. At one level, this all made sense. On a benign view, companies and households, taken in aggregate, were simply borrowing against the higher future incomes that higher trend productivity growth appeared to promise. With overall national saving below investment, the external counterpart was a growing US current account deficit. But with demand for US assets supported by a belief in high prospective returns, the dollar rose. That broadly was the story until the party ended in the early months of 2000.

#### *US corporate sector adjustment*

From their high point in March 2000 to a low point roughly three years later, world equity markets fell by almost 50%. For US businesses, the subsequent slowdown in demand had two direct implications. They were carrying excess capacity, and too much debt. But the indirect effects were as potent. The darker underside of the boom years began to become apparent in a series of corporate scandals, denting confidence in published accounts and business ethics generally. While the number of business bankruptcies had up to that point only ticked up slightly, the value of defaults reached record levels following the scandals (see Chart 2). Some banks announced large credit losses. Borrowing conditions deteriorated. According to the Federal Reserve's quarterly Senior Loan Officer Survey, bankers had already been tightening lending conditions - in some cases following recognition that loan underwriting standards, especially for leveraged loans, had been overly relaxed in 1997/98. Debt-market investors now started to focus on corporate liquidity risk, concluding that there was

over-reliance on short-term debt. For a while, there was a generalised retreat from risk.

This heady cocktail could be seen in market indicators of corporate credit risk: the spread of corporate bond yields over risk-free bond yields rose, for all ratings. By the autumn of 2002, the atmosphere in credit markets was febrile, with anxiety briefly even affecting some well-capitalised financial sector firms.

Against this background, it is perhaps not surprising that corporate boardrooms - throughout the industrialised world, but perhaps especially in the US - focused on two main objectives: better governance and strengthening their balance sheets.

The latter is easier to measure. Although pressures remain in some sectors, US balance sheets have been strengthened somewhat. Commercial and industrial companies have for a while been repaying bank loans. And there has been a significant extension of debt maturities, reducing any incipient liquidity risks, although there has not been much change in total debt relative to equity (at replacement cost) (see Chart 3). Debt-servicing obligations are down relative to operating profits, although that is probably unremarkable given the sharp reductions in dollar interest rates. One concrete diagnostic of the market's view is the substantial fall in credit spreads since last autumn. No doubt that partly reflects some unwinding of an overshoot then, and some market participants believe that this year spreads have overshot on the downside, reflecting a so-called 'search for yield' in an environment of low nominal returns from government bonds and uncertainty about future equity returns.<sup>2</sup> But it is striking that credit spreads have not risen with the recent sharp increase in government bond yields. And the most recent Senior Loan Officer Survey suggested that fewer domestic banks were tightening credit conditions. So I am inclined to take a degree of encouragement that market perceptions of credit risk have improved somewhat this year.

Gauging the temperature in corporate boardrooms about governance is more difficult; it is probably not even the kind of thing that our statistical models can track. Although only indirect evidence, some mild encouragement can probably be taken

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<sup>2</sup> See June 2003 *Financial Stability Review*, pages 11 and 15-17.

from stirrings in the mergers and acquisitions market in the US, although M&A does not equate to capital expenditure. And I would guess that the recovery in equity markets since March will help to buttress boardroom confidence. More concrete was the reported rise in business investment in Q1 and the improvement in business surveys. But we will need to see more hard evidence of an investment recovery in the official data before concluding that the corporate sector's problems are behind us.

#### *US household sector financial conditions*

The key question, of course, is whether business investment will stage that recovery before US household consumption decelerates. The most tangible threat to household spending has come from adjustment by the corporate sector itself: cost cutting. Over 2½ million jobs have been lost since February 2001, and unemployment has risen from 3.9% to 6.2% on the latest reading. Perhaps ironically, given the unusual strength of productivity growth during the economic slowdown, businesses have not needed to add to the workforce in order to meet growth in demand. Consumer confidence surveys suggest that there is anxiety about job prospects. But so far at least, this does not seem to have had much effect on aggregate consumer spending, although there must surely be a downside risk looking ahead if labour market conditions continue to deteriorate.

What explains the robustness in consumption, bearing in mind that, reflecting lower equity prices, US household financial wealth is 25% lower than 3 years ago? Most obviously, the substantial easing in monetary policy. That has probably supported housing market conditions. House prices have risen by around 7% per year on average over the past three years, and mortgage equity withdrawal has risen sharply (see Chart 4). Households have also been refinancing their mortgages on a record scale. This has been made possible by the distinctive features of the US mortgage market: namely, the prevalence of long-maturity fixed-rate mortgages with a pre-payment option that enables households, for relatively small transactions costs, to lock into lower debt-servicing costs as long-term mortgage rates fall.

Bond yields reached a low in June, having fallen pretty well steadily for over 3½ years. Most of that decline was simply a reflection of cuts in official interest rates as the economy slowed, coupled with a growing market expectation that they would

remain low for a prolonged period. It is not obvious, however, that expectations of the path of short-maturity rates can explain the sharp drop in medium-to-long-term yields around the middle of this year. But as a borrower, you don't much care why your mortgage rate has fallen, and so many American households were able to refinance at record low mortgage rates.

Recently, US mortgage rates have risen by about 1 percentage point. On some estimates, that has reduced the proportion of mortgages that can profitably be refinanced from around 90% in June to under 20% now. Of course, if bond yields stay where they are or even if they were to rise further, probably millions of US households will have locked in exceptionally low financing costs. Other things being equal, that will have strengthened their cash flows and balance sheets, against a background of record debt-to-income levels; debt-to-net worth having shot up following the fall in equity prices; and a historically high debt-servicing burden. Such balance sheet strengthening would tend to support the economy going forward. To the extent, though, that households took out more debt when refinancing their old debt, their balance sheets may not have been strengthened. We will not know until we see the Federal Reserve's Q2 Flow of Funds data in September. What we can be more confident of is that, given the substantial recent rise in bond yields, the US economy is now less likely to enjoy extra injections of demand from mortgage refinancing. Cumulative rises in house prices across the nation will, though, probably provide scope for continuing mortgage equity withdrawal going forward.

### **The US fixed-rate mortgage market**

Given the important role that mortgage financing has played in this US cycle, and the debate in this country about fixed-rate mortgages, it is worth pausing at this point to pick out two consequences of the distinctive structure of the US market: the volatility and complexity of dollar interest-rate markets, and the path dependency of part of the monetary transmission mechanism.

First, US bond yields are more volatile than bond yields in other industrialised countries (see Chart 5), because of the US financial sector's need to manage its

interest-rate exposures.<sup>3</sup> The right to repay early enjoyed by US mortgage borrowers is a financial option, i.e. a derivative. The option writers - largely owners of mortgage-backed securities (MBS) - need to hedge their exposure to the probability of exercise of the option, the value of which changes as market yields move closer to or away from the interest rate charged on the underlying mortgages. The US household sector is on one side of this option - in the jargon, households are 'long'; and the US financial sector is on the other side, or 'structurally short'. But the household sector does not otherwise participate materially in the interest-rate options market, so financial firms are left to sort out their risk management problem without a complete hedge being available for the sector as a whole. Precisely what they need to do depends on the interest-rate structure of their liabilities relative to that of their assets. And that is affected by a peculiar property that the prepayment option gives to US mortgage-backed bonds.

For normal bonds, when yields fall, their price rises; and the greater the rate at which yields fall, the greater the rate of increase in the bond's price. It is the opposite for US mortgage-backed securities (at least across a certain yield range, where the prepayment option is 'close to the money'). This is referred to as having negative convexity.<sup>4</sup> Indeed for some mortgage products, the price of the security falls as yields fall! In the absence of a complete hedge for the financial sector, mortgage investors are left having to hedge the risks arising from option prepayment *dynamically*, which means that they continuously adjust other elements of their bond and derivatives portfolios as yields fluctuate. In very broad terms, this involves the following. As bond yields fall, a faster pace of mortgage pre-payment typically reduces the average maturity of the expected cash flows from mortgage assets relative to a firm's liabilities, prompting them to buy medium-to-long maturity fixed-rate securities in order to rebalance their asset-liability mismatch. When the amounts concerned are very large, as they can be since the US mortgage market is very large and mortgage investors have similar positions, these bond purchases can push yields down still further, reducing mortgage rates and triggering more pre-payments etc. So

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<sup>3</sup> See June 2002, *Financial Stability Review*, pages 36-37 and 70-72.

<sup>4</sup> For an explanation of convexity, see page 72, June 2002 *Financial Stability Review*.

convexity hedging tends to reinforce, or exaggerate, falls in bond yields. The same applies in reverse.

Most commentators agree we saw precisely that recently when dollar bond yields ticked up. The initial trigger was probably an improved perception of the US economic outlook accompanied by changed expectations of the path of FOMC rates and possibly reduced expectations of 'unconventional' monetary policy in the future (ie of the Fed buying long-maturity bonds to increase the supply of base money). But the violence of the move was down to so-called mortgage convexity hedging. (An independent diagnostic is provided by a very sharp widening in swap spreads – broadly, the spread between the fixed rate at which banks borrow and the rate at which the US government borrows. That is because a lot of the hedging was effected via the swaps market; as MBS-holders found themselves with more medium-long maturity fixed rate assets than expected, they will have entered into swaps transactions to pay fixed and receive floating-rate streams of cash.) This is a pretty sophisticated business, which complicates risk management in dollar interest rate markets, as the Bank has for some time discussed in various *Financial Stability Reviews*.<sup>5</sup>

A second implication of the structure of the US mortgage market concerns the way in which monetary policy is transmitted. Crucially, it makes the transmission mechanism *path dependent*. By that, I mean that for any small change in medium-to-long-term yields brought about by, say, changed perceptions of the path of monetary policy, the impact on consumption will depend on where the level of current mortgage rates is relative to the distribution of *historical* mortgage rates being paid by existing borrowers. So, for example, once US mortgage yields had reached near record low levels during 2002, any further falls were likely to bring forth a lot of refinancing. In fact, mortgage rates fell to progressively lower record levels, and it seems that some households did indeed refinance twice or more as borrowing costs fell. But US mortgages are long maturity loans, so if yields were to back up a long way, small falls thereafter would have little or no effect on the probability of the existing stock of

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<sup>5</sup> See, for example, page 16 of the June 2003 issue.

mortgages being refinanced, making incremental small falls in yields a less potent part of the monetary transmission mechanism.

Neither of these features of the US mortgage market is inherently good or bad,<sup>6</sup> but they are the kind of thing that I am sure will be considered in depth in the review of the structure of the UK mortgage market commissioned by the Government from Professor David Miles.

### **UK financial conditions**

#### *Changes in the supply of credit to households*

Although the structure of the UK market is different, there have been important changes in the availability of finance to households. Most obviously, the fixed-rate mortgage market has grown, especially for 2 and 3 year mortgages. Over 50% of new mortgage borrowing this year has been at fixed rates. Reflecting changes in money market rates, the cost of such mortgages fell in the early months of the year, but has risen more recently. Other things being equal, I view that as a loosening followed by a tightening of credit conditions, which I took into account in my votes in February and July/August. Given that this market is still relatively new, I am not sure that our econometric models fully capture its influence on household finances and spending. We may be able to revisit that as a longer time series becomes available.

If access to fixed-rate mortgage finance has increased, that probably owes something to the more stable macroeconomic environment and to increased liquidity in the swap market. These developments reduce the risks to banks of carrying fixed-rate assets on their balance sheets and increase their ability to hedge any consequent interest-rate risk in the money markets.

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<sup>6</sup> This account has abstracted from who are the main investors in MBS, which is another distinctive feature of the US market. Part of the impetus for securitisation comes from mortgage originators not wanting, or being able, to manage the embedded interest-rate risk. Unlike in the UK, mortgage origination, servicing (collecting the interest and principal repayments) and investment are unbundled. Securitisation is facilitated by - although it is not clear to what extent it depends on - mortgage credit risk being homogenized via guarantees from so-called government-sponsored agencies. The largest such agencies (Fannie Mae and Freddie Mac) are not guaranteed by the Federal Government, although the credit markets perhaps behave as if they were. They are amongst the largest holders of the MBS that they guarantee.

Greater stability in the economy, and in particular the much reduced risk of lurching from boom to bust, has probably also helped to foster increased competition in consumer credit markets by reducing fears of exaggerated cyclical rises in defaults. The spread on the interest rates charged on credit card and personal loans over 'base' rate has been drifting down since the mid-1990s (see Chart 6). In the mortgage market, it has become easier to negotiate new terms and cheaper to unlock housing equity. That may help to explain the rise in the share of gross mortgage advances accounted for by re-mortgaging; from around 20% a few years ago to nearly 50% now.

#### *UK household sector balance sheet*

Those more or less structural changes in the supply of credit have been occurring during a period in which borrowers and lenders have also been adjusting to a low inflation-low nominal interest rate environment, and during which official interest rates have been cyclically low. The upshot has been lots of borrowing. Some commentators have tended to focus on the degree to which the household sector has been in financial deficit, ie the extent to which investment in housing has exceeded savings out of income or, equivalently, to which the accumulation of debt has exceeded the acquisition of financial assets. But this measure of household financial flows cannot provide an adequate basis for assessing risk, which depends on the household sector's overall balance sheet - a stock concept. Where the flow data can help is in tracking the extent to which households are adjusting, eg whether or not the sector is moving back towards surplus to strengthen its balance sheet.

One way of thinking about the household sector's balance sheet is to draw on a framework used to assess the risk of company default;<sup>7</sup> it is no more than an analogy, since households may be more credit constrained than companies and the analysis of a sector is different from the analysis of an individual borrower, but I think it is potentially illuminating. For a company, the risk of default depends, in broad terms, on three variables: the value of its assets, ie the net present value of its future income

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<sup>7</sup> See Merton, RC (1974), 'The pricing of corporate debt', *Journal of Finance*, Vol 29, No 2, May, pages 449-470; and Tudela M and Young, G, Bank of England 'Predicting default among UK companies; a Merton approach', *Financial Stability Review*, June 2003, pages 104-113.

streams minus its costs; the variability of its asset value; and the amount of debt it carries. In the current context, the key point is that the greater the volatility of a firm's asset value, the more likely it is to default for any given level of debt. So, conversely, the risk of default is reduced if the volatility of the value of the borrower's assets is reduced. Something broadly analogous to that may have happened to the UK household sector taken as a whole.

The improved policy regime progressively put in place since the early 1990s is designed to deliver greater macroeconomic stability. During the 1970s and 80s, inflation was not only higher on average, it was also considerably more variable. In consequence, nominal interest rates were highly variable. But not only that. *Real* interest rates were also more variable than now, as the economy swung from boom to bust. A benefit of the current regime should be that households are less likely to have their balance sheets torpedoed by rocketing official interest rates as the authorities belatedly struggle to correct past policy mistakes. In parallel, changes in the real economy seem to have brought about a gradual reduction in the sustainable level of unemployment. That, taken together with a more efficient labour market more generally and a lower risk of boom-bust, may have helped to improve job security. If household finances - and, in particular, their cash flows - have become less volatile for these or other reasons, then households can probably prudently carry more debt than in the past.

Stepping away from that framework, households' capacity to carry debt will also have increased to the extent that they can substitute from expensive unsecured debt to cheaper - because, for the lender, less risky - secured debt, on account of the rise in house prices and increased availability of secured lending products.<sup>8</sup> Given the continued robustness of unsecured borrowing, it is difficult to know whether such 'debt consolidation' is material; anecdotally it is.

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<sup>8</sup> See Aoki, K., et al. (2002), *House prices, consumption and monetary policy: a financial accelerator approach*, Bank of England working paper no. 169, for a more formal treatment. The key reference in this area, for the corporate sector, is Bernanke, B., et al. (1999), "The financial accelerator in a quantitative business cycle framework", in Taylor, J and Woodford, M. (eds.), *The Handbook of Macroeconomics* Vol. 1, North Holland, Amsterdam.

No doubt reflecting each of these factors in varying degrees and also simply that houses cost more today, households have increased their debt. The sector's debt-to-income ratio has risen 25 percentage points over 5 years, to record levels. The difficulty is knowing how much is safe, or how much is too much. Nobody is going to be able to answer that with confidence for the sector as a whole, and it would be dishonest to pretend that I can.

There are two quite different ways into the question. One is to ask whether the household sector might exceed its budget constraint, ie borrow more than it will be able to repay from its expected future incomes. Some commentators suggest that this is prima facie unlikely since households would have to be 'irrational' in order to find themselves in that position. Although I do not think that is terribly likely on an aggregate scale, I would not completely rule out that scenario, as complete sectors can find themselves forming mistaken expectations about the future. The developments I described earlier in the US corporate sector in the mid-to-late 1990s may provide an example; large US corporates are hardly unsophisticated. Another is the UK household boom the late '80s: while aided and abetted by policy mistakes, borrowers and lenders were not forced to behave as they did. The current risk - rather less dramatic than those two examples - is that households, and conceivably lenders, extrapolate forwards two features of the past few years. The first would be to assume that real personal disposable incomes will continue to grow as rapidly (see Chart 7). It is unlikely that they will. Recent years were unusual as household spending power was buttressed by a fall in the price of imported consumer goods and services relative to our exports. And going forward, disposable income growth will be reduced by the increase in National Insurance contributions and, most likely, by employment growing less rapidly than over the past decade. The second risk is that it will not be appreciated that the current low level of debt-servicing costs, and possibly also the record low level of mortgage arrears (see Chart 8), owes something to official interest rates needing to be set below their likely long-term average level in order to support the economy. I do not think we have the data to assess those various risks quantitatively. Probably the best we can do is to talk about them. Ultimately it depends on individual households, and their lenders, reaching their own view in the light of their particular circumstances.

Even if households are not affected by either of those possible misperceptions, more debt unavoidably leaves them more vulnerable to bad luck, eg adverse economic shocks. Returning to my analogy with firms, this is saying no more than that a highly geared borrower is exposed to more risk than a borrower with low gearing. Bankers emphasise that significant household sector defaults have in the past occurred only in the face of a rise in unemployment and a rise in interest rates. And, of course, in the past the monetary authorities managed to produce precisely that potent combination by allowing inflation to get out of control to the point where a sharp rise in interest rates was required, effectively pushing the economy into recession, with a consequent loss of jobs. That seems considerably less likely today. Even though we have had very rapid house price inflation, that has not been accompanied by rising consumer price inflation, which on the contrary has stayed close to the 2½% target.

For me, one worry has rather been that the economy would suffer a supply shock - say a large rise in oil prices - that was expected to persist and had the effect of dislodging medium-term inflation expectations away from the 2½% target. In those circumstances, the MPC might not be able to reduce interest rates to offset the demand effects of the shock, and might conceivably even have to raise them. It was therefore a relief that the risk to oil markets from the Iraqi war passed without that kind of event, which I believe remains a low probability. (I shall return to the vital importance of inflation expectations in concluding.)

If increased debt entails increased risk for households, a key question is whether they - rather than the monetary authority - have the wherewithal to manage it. Setting aside their ability to cut back on spending/increase saving, that depends on whether they can draw on a pool of liquid assets and on whether they have surplus collateral that they could pledge to lenders in the face of adverse developments.

The sector's liquidity position is, frankly, ambiguous. On the one hand, taken as a whole, households' liquid assets appear to be high relative to income and relative to scheduled debt-servicing payments (see Chart 9). On the other hand, liabilities have been growing rapidly relative to liquid assets (see Chart 10). Those aggregate data do, of course, mask considerable variation across households. Analysis of what little disaggregated data we have suggests that more-heavily indebted households do not

carry more liquid assets than the less indebted, although the latest data are now three years old.<sup>9</sup>

By contrast, subject to one important proviso, the collateral position is clear. The sector has a lot of 'equity' in housing against which it has not borrowed (see Chart 11). And even for new mortgage business, loan-to-value ratios do not seem to have increased as they did in the late-1980s. So there appears to be a cushion that, relative to past cycles, may well increase the capacity of households to smooth their consumption.

The proviso, of course, is whether or not house prices will hold. I do not want to get into that today, other than to make three observations. First, the current regional variation in house price inflation is quite striking, with the market still apparently robust in parts of the North of England and Wales (see Chart 12). In previous cycles - and notably so in the late-1980s - house prices in London and the South East rose strongly before prices elsewhere. Prices outside the South East belatedly shot up, only to be squashed as official interest rates were ratcheted up to slow down the economy and restrain general price inflation. This time round the possible process of 'catch up' outside London is not being dampened by moves to a contractionary monetary policy. This is another novel feature of the current cycle - the first we have been through since the 1997 change in the monetary regime.

Second, although it has been coming out slightly stronger than assumed in the MPC's central projections, house price inflation in the country as a whole has slowed down since last year. It is too early to conclude that it is reaccelerating or that adjustment is not taking place. Third, there seems to be less immediate risk of severe weakness in house prices. The surveys of the Royal Institution of Chartered Surveyors have not proved terribly good predictors of house price inflation, but they do plausibly give a reading on the mood in the country about downside risks. The balance of estate agents expecting prices to rise has moved from -47 in March to +14 on the most recent reading (July).

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<sup>9</sup> See Pru Cox, John Whitley and Peter Brierley, 'Financial pressures in the UK household sector: evidence from the British Household Panel Survey', *Bank of England Quarterly Bulletin*, Winter 2002.

Earlier in the year, my own view was that, relative to our then central projections, the balance of risks to house prices was on the downside; but that if those risks receded, the balance of risks to consumption was on the upside on account of the greater capacity of households to absorb adverse shocks to their income - ie to smooth their consumption over time - by increasing secured borrowing, effectively mortgage equity withdrawal. I believe that the downside risks to house prices have since receded, but certainly not disappeared, and that the risks to consumption are (slightly) to the upside, even after the Committee agreed a higher central projection for consumption in August.

#### *UK corporate sector adjustment*

The UK corporate sector could hardly have been in a more different position from households over recent years. In contrast to strong household income growth, corporate profitability has been under pressure - across almost all sectors, but especially so in manufacturing, which since the mid-90s has been adversely affected by sterling's strength and weakening external demand (see Chart 13). At an aggregate level, that has not stood in the way of debt accumulation (see Chart 14). But given the imbalances in the economy, it is misleading to look at aggregate data.

Fortunately, plenty of disaggregated data are available - for individual firms,<sup>10</sup> and by type of business. For example, much of the recent increase in bank debt has been in the real-estate sector. But, again in contrast with the household sector, the data on bank borrowing are not sufficient to get a clear picture, as many public companies make extensive use of the capital markets to raise external finance.

Given the challenges in interpreting the raw data in this area, the Bank has for some years been holding six-monthly 'credit conditions' meetings with the major banks - in the run up to the May and November *Inflation Reports* and the June and December *Financial Stability Reports* - covering both corporate and household sector lending. This talk has drawn on those meetings, which I lead, working with colleagues from the monetary and financial stability teams in the Bank.

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<sup>10</sup> Benito, A., and Vlieghe, G., (2000) "Stylised facts on UK corporate financial health: evidence from micro-data", *Financial Stability Review*, June, is one such study.

It has been clear from these discussions that competition for middle-market corporate loan business is fairly intense, perhaps partly reflecting mergers in the UK banking sector. Indeed, conditions in this market have occasionally seemed independent from those in public bond and wholesale loan markets, which have been more affected by the global developments - and so at times by the reduced risk appetite - that I described earlier.

But if they have escaped the generalised tightening of credit conditions prevailing in US banking markets over the past few years, UK companies have, nevertheless, needed to adjust given earnings (outside the oil sector). For example, an increasing proportion of dividend-paying companies have cut dividends (see Chart 15). And manufacturing companies have, in aggregate, been repaying bank debt (net) in recent years, as well as cutting jobs. Indeed, hours worked have fallen across the private sector as a whole, although it is difficult to gauge how much that reflects employee preferences and how much financial pressure on businesses.

Perhaps reflecting these various steps, while it remains high by historical standards, capital gearing (measured on a replacement cost basis) has come off its 2001 peak, and most measures of sectoral liquidity appear strong. The insolvency rate remains low.

So, compared with the US, it is not obvious therefore that balance sheet pressures, or governance concerns, do as much to explain the persistent weakness in capital expenditure here. It seems just as plausible that many businesses have simply deferred investment in the face of uncertain demand prospects, including externally, and uncertain profitability. The MPC's August central projection has a gradual recovery in business investment. There are risks on either side of this. In the near term, it may well remain weaker than projected while the outlook for demand remain uncertain, but it could increase more sharply than assumed once demand palpably improves and deferred projects are brought on stream. The timing, though, is anyone's guess, so that the central projection is a sensible 'average' of different states of the world.

## **Credit conditions, money and inflation expectations**

Much of this talk has revolved around *credit conditions*. I have concentrated on the US and UK, although credit conditions would be central to any analysis of Japan, and integral to most analyses of the euro area.

An observer at the Bank of England's briefings for the Monetary Policy Committee, and any reader of the minutes of our meetings, would indeed find that we have been devoting more time to credit than to money. And the emphasis has shifted since the 1980s, when bank lending was analysed as a counterpart to broad money (the assets that back banks' deposit liabilities). The stress now is rather on credit conditions as an identifiable element of the monetary transmission mechanism in their own right; one that often requires us to use analytical models alongside market intelligence on what is going on.

Some commentators would not be surprised by this, on the grounds that since the Bank of England (and other central banks) implement monetary policy by setting the price of base money (the official interest rate), its quantity is endogenous; and that the quantity of broad money is also demand determined. On that view, there is no incremental information from the monetary data; they merely have the advantage of being available early and of rarely being revised. There are perhaps at least two drawbacks with this account. First, it seems overly simplistic to assume that, in terms of financial prices, money demand is determined just by a two-week risk-free interest rate and expectations of its future path. It is surely more likely that money demand turns on a whole host of relative asset prices, ie not just on the risk-free rate set by the monetary authority but on relative risk premia too.<sup>11</sup> But we cannot observe risk premia and do not understand much about how and why they vary over time. So interpreting the monetary data remains an important challenge.

Second, and rather more importantly, credit conditions as I have discussed them - eg credit spreads to compensate for risk, balance sheet robustness - are real rather than nominal economic variables. But inflation - the focus of monetary policy - is a

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<sup>11</sup> This way of thinking about money dates back at least to Brunner and Meltzer's work from the 1960s onwards, summarised in 'Money and the economy; issues in monetary analysis', the 1987 Raffaele Mattioli Lectures.

nominal, or monetary, variable. Although successful monetary policy relies on keeping aggregate demand in line with aggregate supply, that leaves the steady-state inflation rate indeterminate as it is consistent with any stable rate of nominal expansion. The assessment of the inflation outlook cannot depend on real indicators alone, credit conditions included. Effective policy also relies on keeping medium-term inflation expectations in line with the 2½% target; and the credibility of policy is, therefore, itself the nominal anchor. That underlies the Bank of England's attention to measures of inflation expectations, which are derived from the difference between nominal and real (ie, strictly RPI-indexed) bonds and tracked by a battery of surveys.

So long as inflation expectations are so anchored, we can afford to focus on the balance of real demand and supply. But that expectations do appear to have been anchored should not seduce us into ignoring monetary (or nominal) barometers. Analysis of credit conditions is a complement to that, not a substitute for it. Credit conditions feed into the assessment of prospective demand pressures, and into gauging how any policy changes will be transmitted in the economy.

If the distinct role of nominal magnitudes and expectations is one vital point about the operation of policy, a second is the priority of getting the 'sign' of policy right. By that I mean that we are stimulating (or restraining) spending in the economy when we mean to. Our de facto instrument for doing so is the short-term real-interest rate, ie the short-term nominal interest rate adjusted for expected inflation. Given that prices - and so expectations of short-term inflation - are sticky, we can more or less control the short-term real rate by setting the nominal interest rate in the money markets. By moving the short real rate above or below its 'natural' rate, we can bear down on or stimulate demand<sup>12</sup> depending on the policy stance we wish to adopt given the outlook for inflation. So it is crucial to be able to gauge whether the short-term real interest rate has moved in the direction intended. Like lots of interesting and important economic variables, the 'natural' real interest rate cannot be directly observed and may itself vary in the face of demand or supply shocks. But on an

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<sup>12</sup> This analysis goes back to Wicksell's *Interest and Prices* (1898) and *Lectures on political economy, volume II: money* (1906).

assumption that such variation is small,<sup>13</sup> reasonable proxies exist, including the long-run average ex post real rate and the yield on long-maturity indexed-linked gilts.

Right now, and over the past couple of years, policy has, as intended, been accommodative on this measure. And judging by the price of short-maturity yields relative to long-maturity yields on inflation-linked bonds, policy is expected by the market to remain supportive for a while longer - but perhaps less so than expected a few months ago. The shift probably reflects an improved view of the outlook over recent months (see Chart 16).

In reaching month-by-month decisions, it is important to place some weight on simply getting the sign right! In that way, we should be able to avoid big policy mistakes.

## **Conclusion**

To conclude, the world economy remains delicately poised, with risks on the upside and downside relative to the MPC's August central projection. For some of those risks the assessment of credit conditions and sectoral balance sheets plays an important role. I have focused on that today rather than a broad overview of the outlook.

Against the background of central projections in which growth in both the US and the euro area return to trend from well below, I place the balance of risks to external demand for UK goods and services on the downside, in the near-term at least. In the US, because of the burden of adjustment - financial and, for want of a better term, cultural - on corporate America, I will not feel confident about a recovery in business investment spending until I see it in the data. Once it begins, though, I believe that it could be quite pronounced given the deferral of projects over the past couple of years. Meanwhile, there may be downside risks to US consumption - from continued labour shedding and from higher mortgage rates - although arguably balanced by the effects of substantial monetary and fiscal stimulus. The race between US investment and consumption remains unresolved. In the euro area, which I have not discussed today, I again see the near-term risks on the downside, partly because of the risks to

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<sup>13</sup> See Neiss, K., and Nelson, E., (2001) *The real interest rate gap as an inflation indicator*, Bank of England working paper no. 130.

global demand and partly because domestic demand prospects remain clouded by structural issues and a still-evolving macroeconomic policy framework.

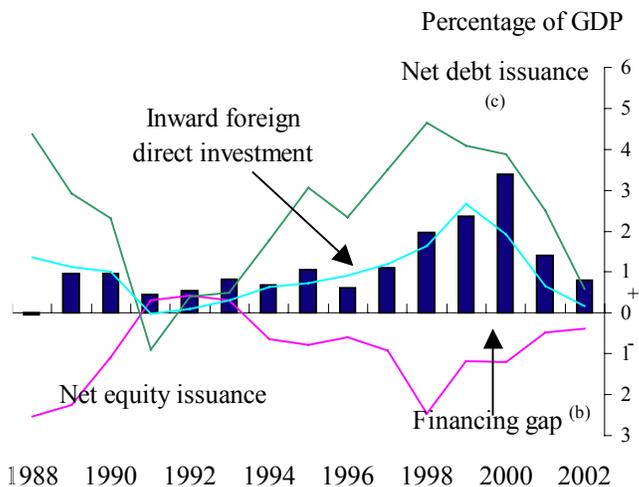
If I continue to see the balance of risks to external demand for UK goods and services on the downside in the near-term, I see upside risks to UK domestic demand, viz consumption, also in the near-term. In particular, there is the possibility that households will borrow more against their homes in order to shield themselves against decelerating disposable incomes, although the recent rises in fixed-rate mortgage rates may dampen that somewhat.

That leaves UK monetary policy finely poised. At the MPC's August meeting, I was one of those who explored arguments for a rise, as well as those for a further cut, before concluding that 'no change' was the best place to be given the outlook for inflation.

But, given the debate about household debt, it is worth bearing in mind that the current level of short-term interest rates is most likely below their long-term average, so that personal finances would prudently be managed on the basis that rates are likely to be somewhat higher on average in the medium term. It is impossible to say when; we set rates a month at a time, and policy is rightly now supporting demand in order to keep inflation on track to meet the 2 ½% target.

Meanwhile, I am clear that the Committee will continue to need, as a matter of routine, to assess indicators of credit conditions and to draw on intelligence from the financial community, alongside the various other macroeconomic indicators, to which I can turn another day.

**Chart 1:**  
**Sources of corporate finance<sup>(a)</sup>**



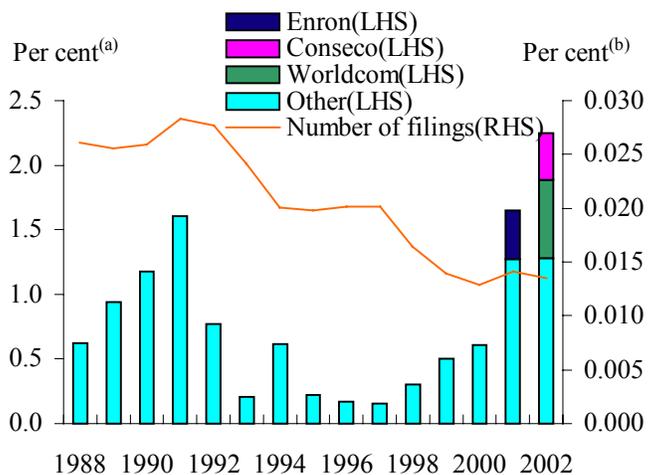
Source : Board of Governors of the Federal reserve system: 'Flow of Funds Accounts of the United States', 2002 Q4.

(a) Data are annual.

(b) Capital expenditure less the sum of US sourced internal funds and inventory valuation adjustment.

(c) Loans, bonds and commercial paper.

**Chart 2:**  
**Business bankruptcy filings**

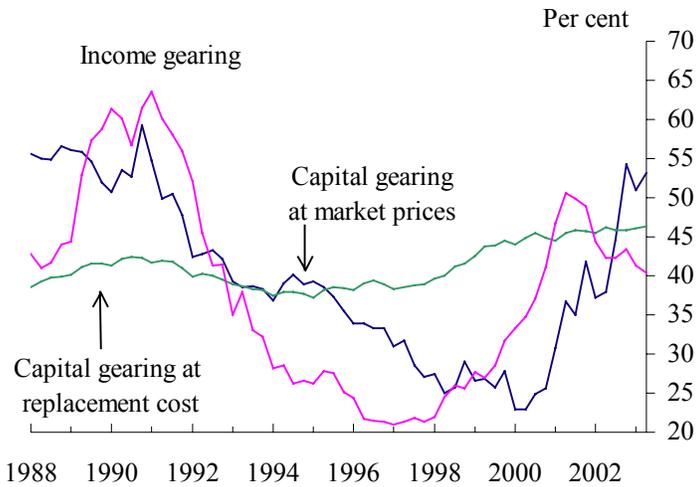


Sources: Thomson SDC Platinum, International Monetary Fund, Board of Governors of the Federal Reserve System: 'Flow of Funds Accounts of the United States', 2003 Q1 and Administrative Offices of US Courts.

(a) Chapter 11 filings as a percentage of total assets of non-financial companies at historical cost.

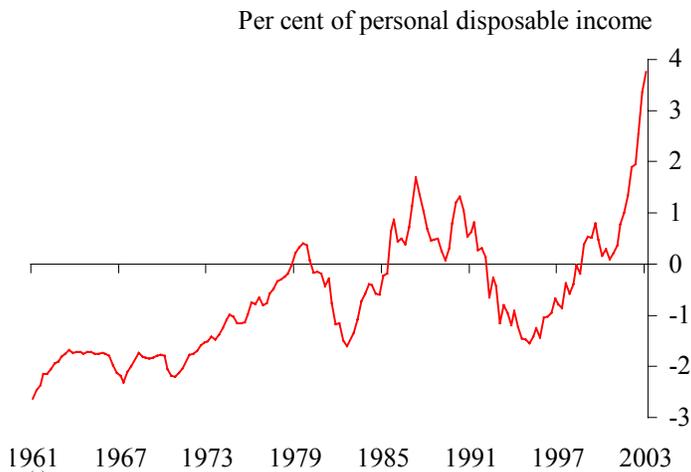
(b) Total business filings as a percentage of total population.

**Chart 3**  
**Capital and income gearing of non-financial corporate sector**



Sources : Board of Governors of the Federal Reserve System: 'Flow of Funds Accounts of the United States', 2003 Q1 and Bureau of Economic Analysis, Department of Commerce.

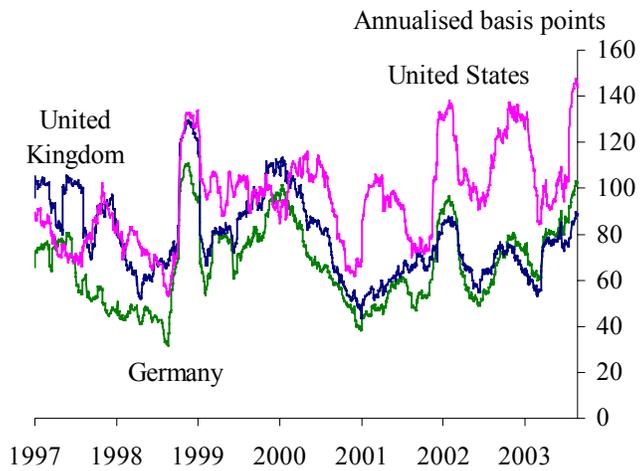
**Chart 4**  
**Mortgage equity withdrawal by the US household sector<sup>(a)</sup>**



<sup>(a)</sup> Four quarter moving average of secured lending to the household sector less housing investment.

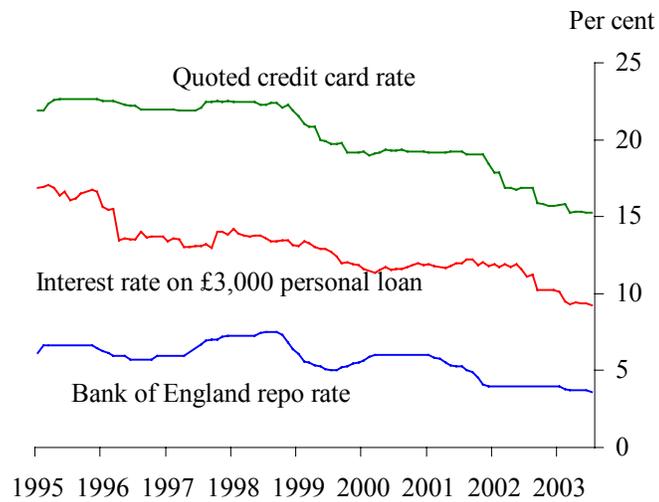
Source: Board of Governors of the Federal reserve system: 'Flow of Funds Accounts of the United States', 2003 Q1.

**Chart 5**  
**Three-month historical volatility of 10-year government bond yields**



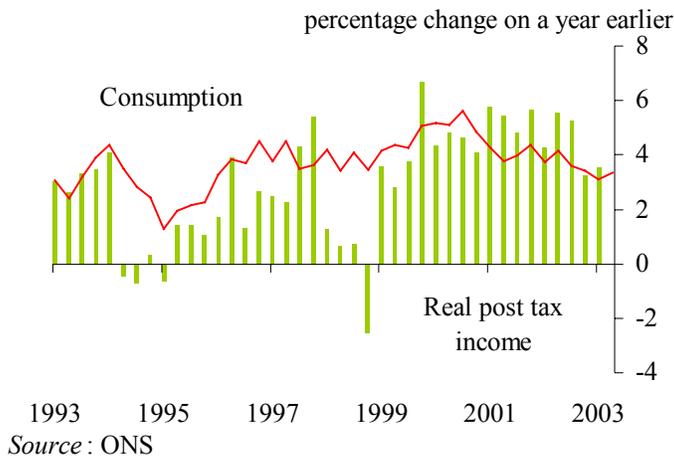
Source: Bank of England

**Chart 6**  
**Interest rates for unsecured credit**

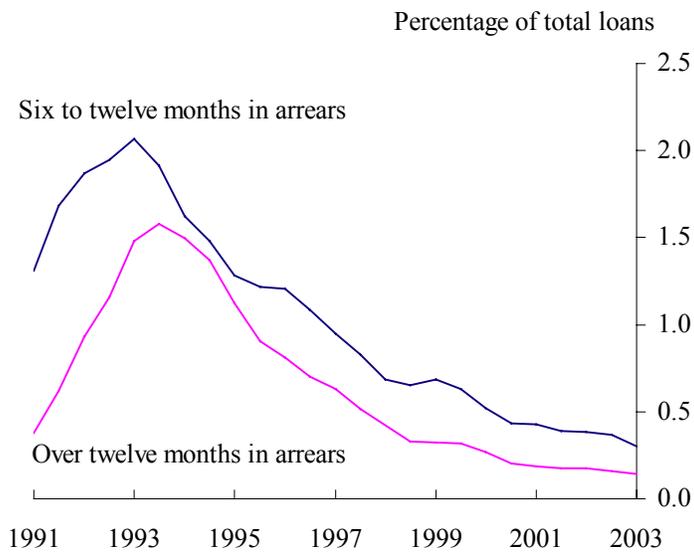


Source: Bank of England

**Chart 7**  
**Household real post tax income and consumption**

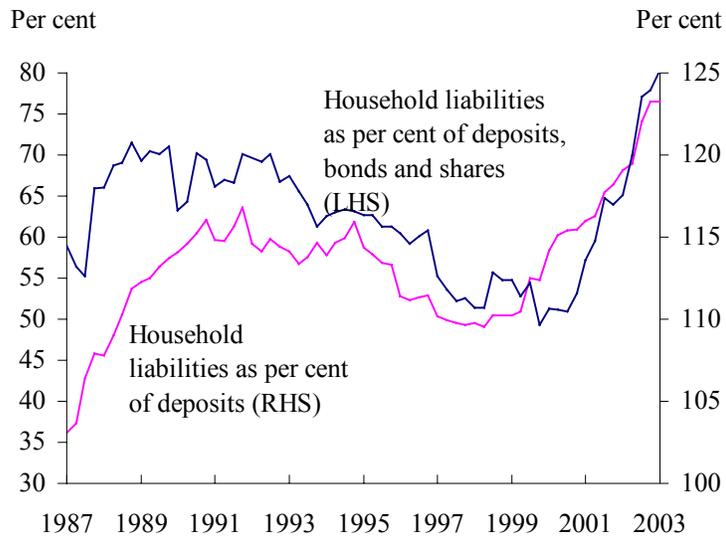


**Chart 8**  
**UK-resident financial institutions' arrears on UK mortgage lending<sup>(a)</sup>**



<sup>(a)</sup> UK-resident financial institutions are those banks, building societies and other lenders who are members of the CML and who, together, undertake around 98% of all residential mortgage lending in the UK.

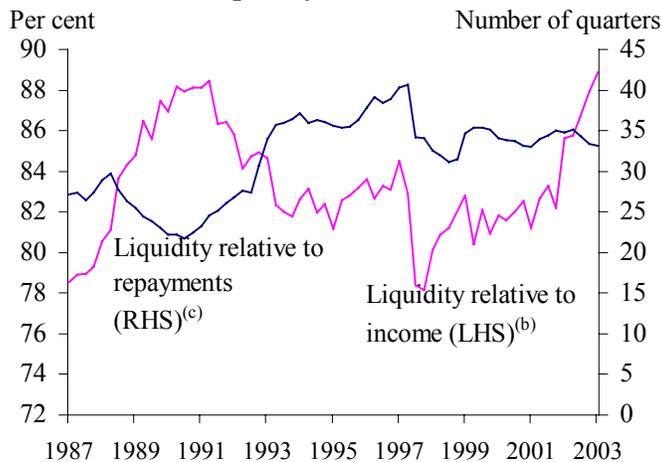
**Chart 9**  
**Household liabilities relative to liquid**  
**financial assets<sup>(a)</sup>**



Sources : ONS and Bank of England.

<sup>(a)</sup> Data are not seasonally adjusted.

**Chart 10**  
**Household M4 liquidity measures<sup>(a)</sup>**



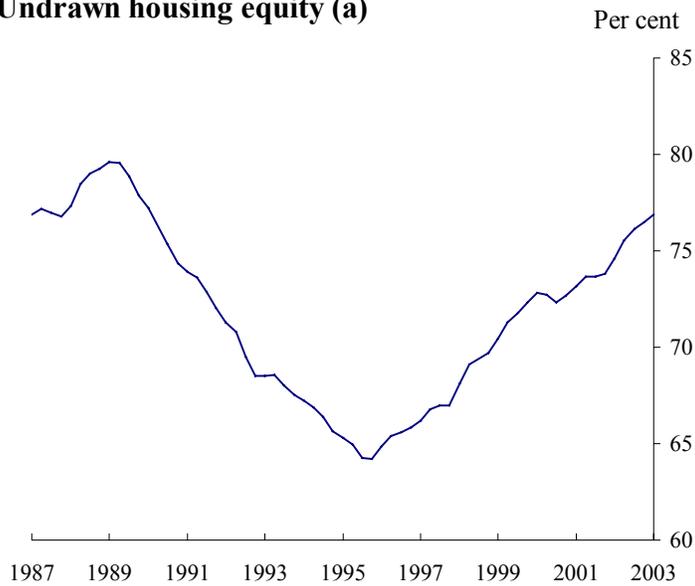
Source : ONS and Bank of England.

(a) Liquid assets are defined as household M4 holdings.

(b) Liquid assets divided by household disposable income.

(c) Liquid assets divided by quarterly interest payments and regular mortgage principal repayments.

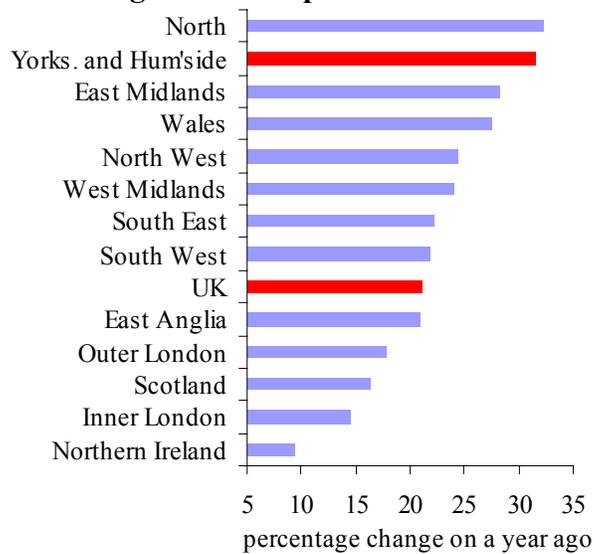
**Chart 11**  
**Undrawn housing equity (a)**



Sources: ONS and Bank of England.

(a) As a percentage of total housing wealth.

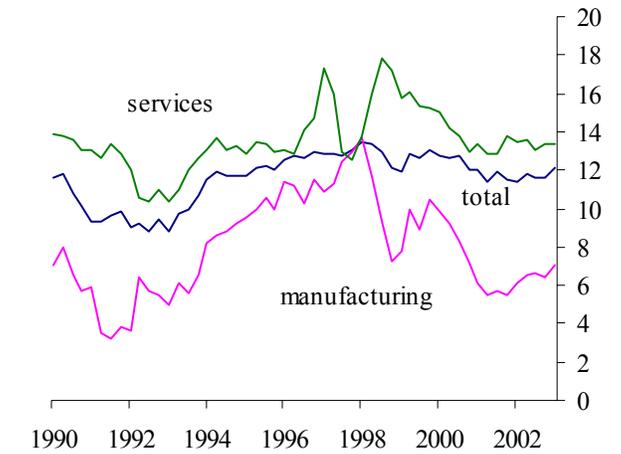
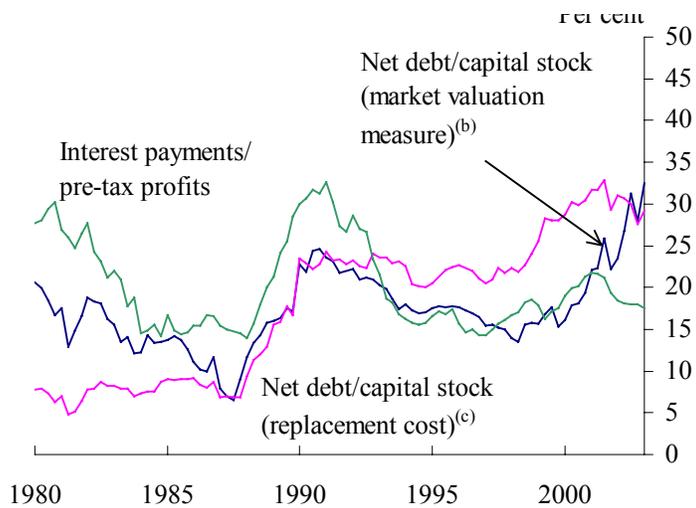
**Chart 12**  
**Annual regional house price inflation**



Source: Nationwide

**Chart 13****Net rate of return on capital**

(net operating surplus/net capital employed) per cent

**Chart 14****PNFCs' capital and income gearing<sup>(a)</sup>**

Sources: ONS and Bank of England.

(a) Seasonally adjusted.

(b) PNFCs' net debt divided by the sum of net debt and their market valuations.

(c) PNFCs' net debt divided by the total value of capital at replacement cost.

**Chart 15**  
**Dividend payers with 2002 accounts**  
**reducing their dividend<sup>(a)</sup>**



Source: Thomson Financial Datastream.

(a) 2002 data contains 1108 accounts, approximately 90% of the expected final number.

**Chart 16**  
**UK short versus long-maturity**  
**forward real interest rates**

