

Monthly Economic Review

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Oil prices and the world economy

Is the oil price surge deflation-ary or deflection-ary?

Big switch of spending implied by \$50-a-barrel oil price

Rising oil prices have inflicted another shock to the world economy. It is easy enough to work out that - assuming that world "gross domestic product" is \$40,000b. (which is about right, although it depends on how the calculation is done) - the value of world oil production at \$25 a barrel is slightly less than 2% of world GDP and at \$50 a barrel it is about 3 3/4% of world GDP. The oil price was roughly \$25 a barrel in 2002. So - if the \$50 a barrel oil price holds - the global boom since spring of 2004 has stimulated an increase in energy demand large enough to divert almost 2% of spending from oil consumers to oil producers. Much of the damage has come through in recent months. The oil price started 2004 at about \$30 a barrel, while as late as July it was under \$35 a barrel on several days.

The oil price rise may appear deflationary,

A common argument is that the jump in oil prices is deflationary. The point seems to be obvious, that people have to spend more on oil (for which the short-run demand is price-inelastic) and so have less to spend on other items. The impact on demand for non-oil products, which dominate output in most advanced industrial countries, is plainly negative. Recent business surveys in the USA, Europe and Japan have been less enthusiastic than in early 2004. According to the newspapers, commentators are shading down their growth figures for 2005. Whereas 2004 will enjoy 5% growth (the highest since 1973), 2005 might see a 3 1/2% figure. The pessimists may be right, but it is important to clarify the true effect of the oil price change.

but that is not necessarily so

A development is correctly described as "deflationary" if it reduces the growth rate of nominal demand. In 2004 it seems plausible that world nominal demand will increase by 7% - 8% in dollar terms (i.e., 5% output growth, 2% - 3% dollar inflation). The oil price surge is deflationary if it causes the increase in nominal demand to be lower in 2005. But the oil price surge - by itself - has no clear message for the behaviour of nominal demand next year. Of course the incomes of oil consumers will lose out in the way already described, but the incomes of oil producers will benefit by the same amount. The view trotted out in the oil shocks of the 1970s and 1980s was that "the marginal propensity to spend of oil producers is less than that of oil consumers", which did imply that the oil price rise was deflationary. But that is hardly tenable nowadays, when most oil-consuming nations had high and rising public expenditure before their recent windfall. A case can be made that the oil price increase will not deflate the world economy in 2005, but deflect expenditure between countries and industries. Ultimately the key influence on the growth of nominal demand will be the behaviour of the monetary aggregates and, at a deeper level of causation, the growth of bank credit and the health of the international banking system. The current slow rate of US money supply growth is difficult to understand, but it will act as a constraint on the world's largest economy in 2005. (In the year to late October US M3 rose by only 4.7%.)

Professor Tim Congdon

29th October, 2004

Summary of paper on

'Double-digit money growth'

Purpose of the paper

Annual money growth touched 10% in August, for the first time in six years. With apparently still widespread uncertainty about how excess money causes inflation, this research paper considers some of the key mechanisms involved.

Main points

- A rough-and-ready relationship can be identified between the growth rate of real money (i.e., the increase in money adjusted downwards for inflation) and that of private sector domestic demand. (See p. 4.) At present the growth rate of real money is extremely high, arguing against a slowdown in domestic demand growth in early 2005. (See pp. 4 - 5.)
- Households' demand to hold money balances is a fairly stable function of personal incomes. With personal incomes currently growing at 5% - 6% a year, a 10%-a-year money supply growth rates implies (by simple subtraction) very high growth rates of non-household money (i.e., money held by companies and financial institutions). (See p. 6.)
- Companies and financial institutions are particularly important in the determination of asset prices. (The May 2004 *Monthly Economic Review* showed the linkages over the last 40 years between, on the one hand, money held by pension funds and life offices, and, on the other, asset price inflation, notably increases in UK equity prices.)
- With the annual rate of non-household money growth in the high teens (as implied by 10% M4 growth), asset prices in the UK are likely to remain buoyant. (See p. 7) (A key uncertainty is whether excess money will affect UK domestic assets or the exchange rate.)
- The current level of the corporate liquidity ratio (i.e., companies' M4 balances divided by their M4 borrowings) implies well above-trend growth in domestic demand in early 2005, although this should not be translated mechanically into a forecast. (See pp. 8 - 9.)
- At current interest rates, mortgage lending will continue to grow too rapidly. (See p. 12.)

This paper was written by Professor Tim Congdon and Stewart Robertson

Double-digit money growth

What does it mean?

10.1% M4 increase in year to August

In the year to August M4 increased by 10.1%, the first double-digit rate of money growth since early 1998. Although the rise in M4 in September was small and the annual increase fell to 9.3%, recent monetary trends are interesting and need to be monitored. A considerable body of economic logic and experience argues that a double-digit annual rate of money growth cannot be reconciled with a 2% inflation target in an economy with a trend growth rate of real output of about 2½% a year.

Transmission mechanism from money to inflation works via changes in spending behaviour and portfolios

The sceptics ask, “what is the transmission mechanism?”. This subject has been discussed in numerous Lombard Street Research publications, including (at some length) the May 2004 *Monthly Economic Review*. In essence, an unexpected increase in money growth causes agents (people, companies and financial institutions) to have excess money. They may all individually try to get rid of the excess money by spending above income or by purchasing non-money assets, but in the aggregate they cannot get rid of excess money in this way. The explanation is that they are making purchases and sales (of goods and services, and assets) between themselves in a closed circuit of payments. The excess money is eliminated not by the disappearance of unneeded money balances from the economy, but by changes in the rate of increase of incomes and asset values, and (if high money growth persists) by changes in inflation.

If household money grows in line with recent patterns, 10% money growth would lead to non-household money growth in high teens, and buoyant asset prices and spending

The following pages survey recent monetary developments in the UK. One surprising feature in the early years of this decade was that household sector money grew strongly, while the money balances of financial institutions (which had boomed in the 30 years to 2000) were flat. In the past the growth of household money has been closely correlated with personal incomes and the real return on deposits (i.e., the attractiveness of money relative to goods and other assets). The chart on p. 6 shows the likely growth of non-household money (i.e., money held by companies and financial institutions), given aggregate M4 growth rates of 8% and 10%, and on the assumption that household money conforms with past patterns. With continued 10% M4 growth, non-household money in 2005 and 2006 would boom at rates in the high teens. If that were to happen, there would be echoes to previous boom-bust cycles. (High-teen growth rates of non-household money would be consistent with asset prices in general rising at about 10% a year, from already high levels. See p. 7.)

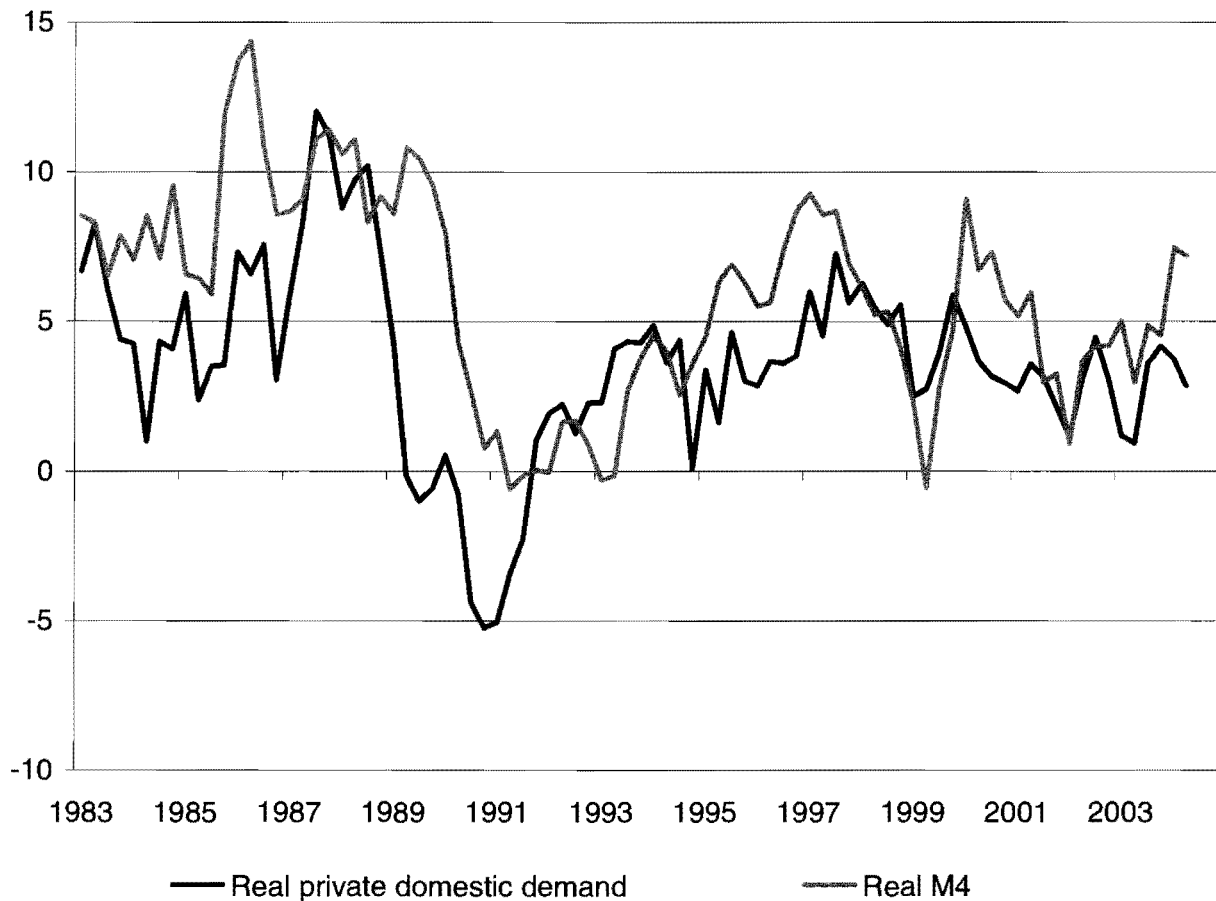
Credit boom too strong to be controlled by 5% base rates

The crucial question arising from the analysis is, “will money growth slow down (to, say, 5% - 7% a year) at current interest rates?”. This seems unlikely. In the usual course of events the growth rates of bank credit and money are similar. But in the year to September M4 lending (i.e., lending by banks and building societies) would have soared by 13.7%, if it had not been for banking institutions’ ability to securitise loans. Base rates of about 5% will not control a credit boom of this vigour. (See pp. 10 - 12.)

Money and demand

A useful rough-and-ready relationship

Chart is of annual changes in real private domestic demand and real M4, using quarterly data. (Three-quarter moving averages are used because of marked quarter-by-quarter volatility).



A core principle of macroeconomic theory is that in the long run the demand to hold real money balances depends predominantly on real variables. So, if nominal money growth runs at rates well in excess of the trend rate of growth of real output, the result will be inflation. One way of checking this idea (much favoured by Friedman) was to regress the quantity of money on incomes and other variables, such as the return on money balances. Professor Hendry of Oxford University protested that many variables had a clear correlation with national income, but were not accorded the same importance as money. He suggested that it would be more appropriate to regress the change in money on the change in national income. However, monetary theory argues that private-sector demand - not national income or expenditure - should be influenced by changes in agents' money holdings. The chart shows a rough-and-ready relationship between changes in money and private domestic demand.

5% - 8% real money growth signals buoyant demand

Matrix shows annual growth of real private domestic demand implied by different real M4 growth rates, using the relationship between the two variables shown on the page opposite.

Real M4 growth rate, %	Growth rate of real demand, %
0	0.6
1	1.1
2	1.6
3	2.1
4	2.6
5	3.2
6	3.7
7	4.2
8	4.7

The equation for the relationship in the chart on p. 4 is, all in % p.a.,

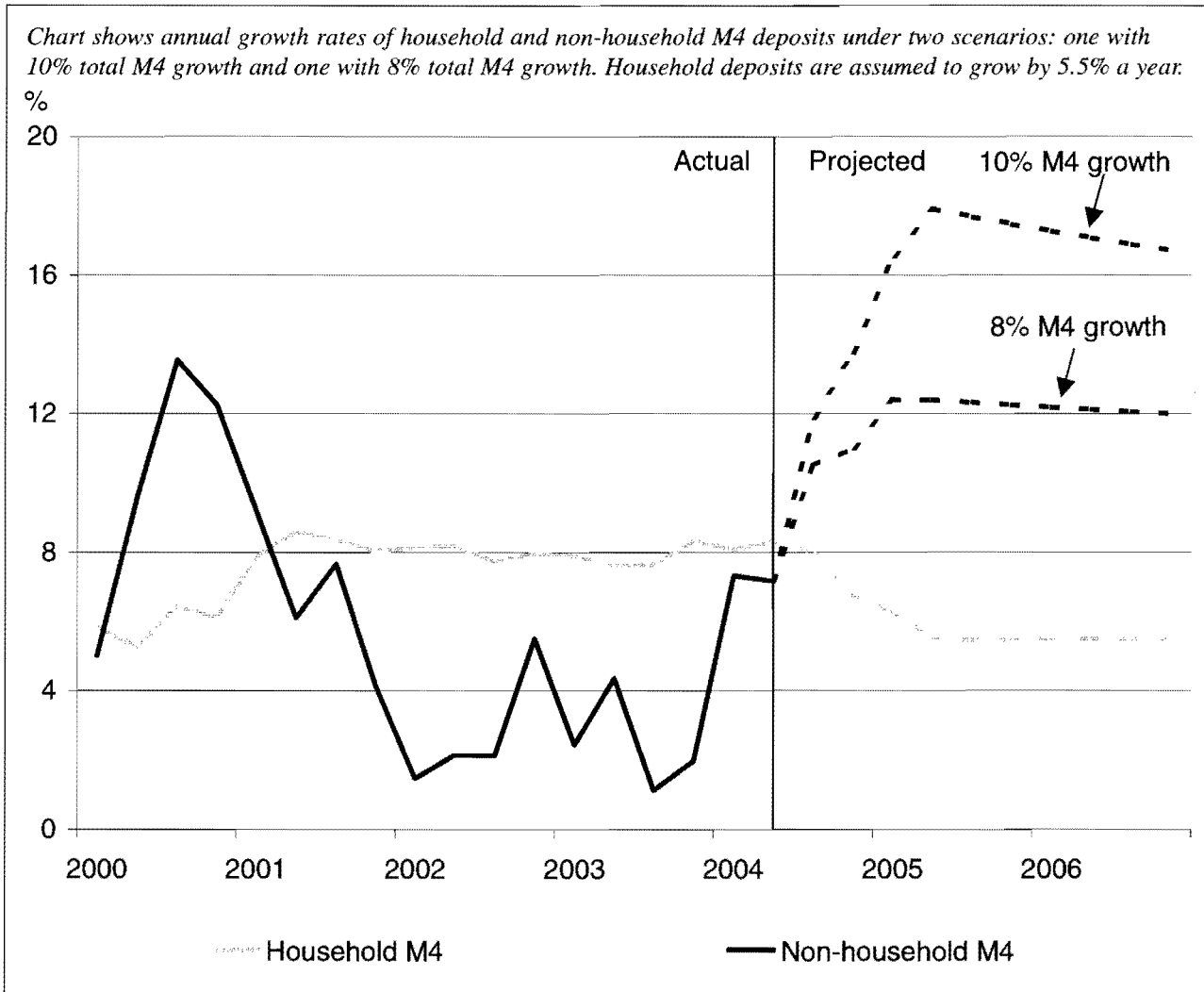
$$\text{Change in real private domestic demand} = 0.572 + 0.51 \text{ change in real M4}$$

r squared	0.318
standard error for intercept term	0.567
standard error for regression coefficient	0.083
t - statistic for intercept term	1.010
t - statistic for regression coefficient	6.261

The relationship between the two variables in the chart on p. 4 can be estimated econometrically. The result is not brilliant (with the r squared at 0.318), but - at this level of aggregation and simplicity - a closer correlation would be surprising. At present M4 is growing at annual rates of about 9% - 10%, while retail inflation is at 1% - 2% a year. The implied 7% - 9% annual growth rate of real M4 is extremely high by long-run standards and, as the above matrix shows, would normally be associated with private domestic demand growth of about 4% a year. Given all the complications in any real-world economic situation, this should not be translated mechanically into a macroeconomic forecast. Nevertheless, a fair conclusion is that - while M4 growth remains at a virtual double-digit rate - it is most unlikely that private domestic demand growth will decrease to under 2% a year. The outlook for M4 growth will depend heavily on the strength of the demand for credit, particularly mortgage credit.

Excess money, buoyant demand

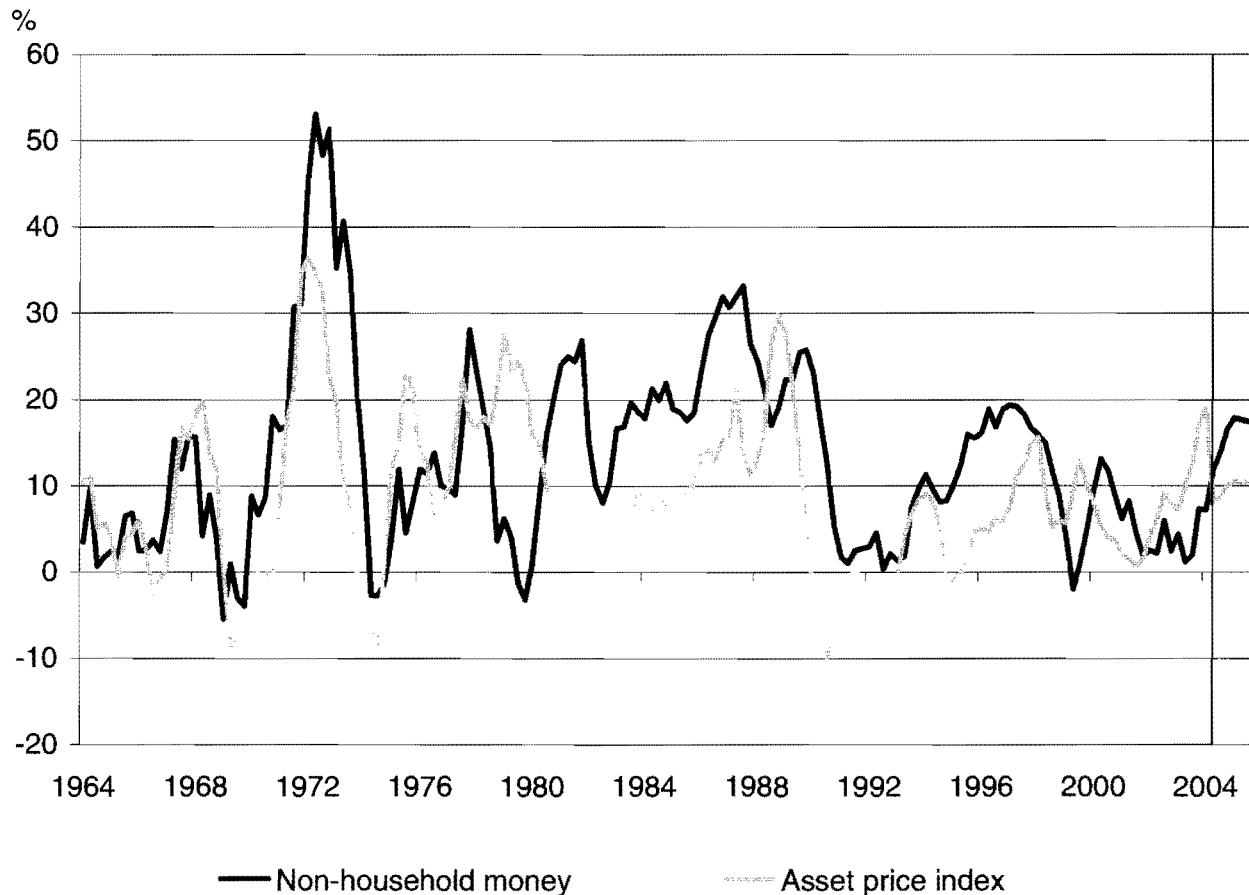
With 10% M4 growth, non-household money will boom



Over the long run, households' holdings of money balances have tended to grow in line with the growth rate of personal incomes. Indeed, a reliable econometric model suggests a one-for-one relationship. In other words, if disposable incomes double, then so too do households' desired holdings of money (currency and deposits). But between 2001 and early 2004 deposits held by households grew at an average annual rate of over 8%, considerably above the rate of increase of personal incomes - around 5% a year. With total money growth running at an average annual rate of less than 7% over this period, there was a mild squeeze on the money holdings of companies and financial institutions. The deposits of "other financial corporations" (OFCs) were almost static between 2001 and the start of this year. But the rise in aggregate money growth has meant that the 8% a year increase in household deposits can now be reconciled with higher money growth elsewhere. If in the future households' M4 holdings grow in line with personal incomes, then 10% total M4 growth will mean that non-household deposits grow in the high teens. Even if M4 growth slows to 8%, such deposits will tend to rise by around 12% a year, noticeably higher than over the last three or four years.

And what would it mean for asset prices?

Chart compares % annual changes in non-household money and a composite asset price index (with 40% weights for house prices and share prices and a 20% weight for commercial property prices). Values from 2004 Q3 are projected, using increase in non-household money implied by 10% M4 growth on opposite page.

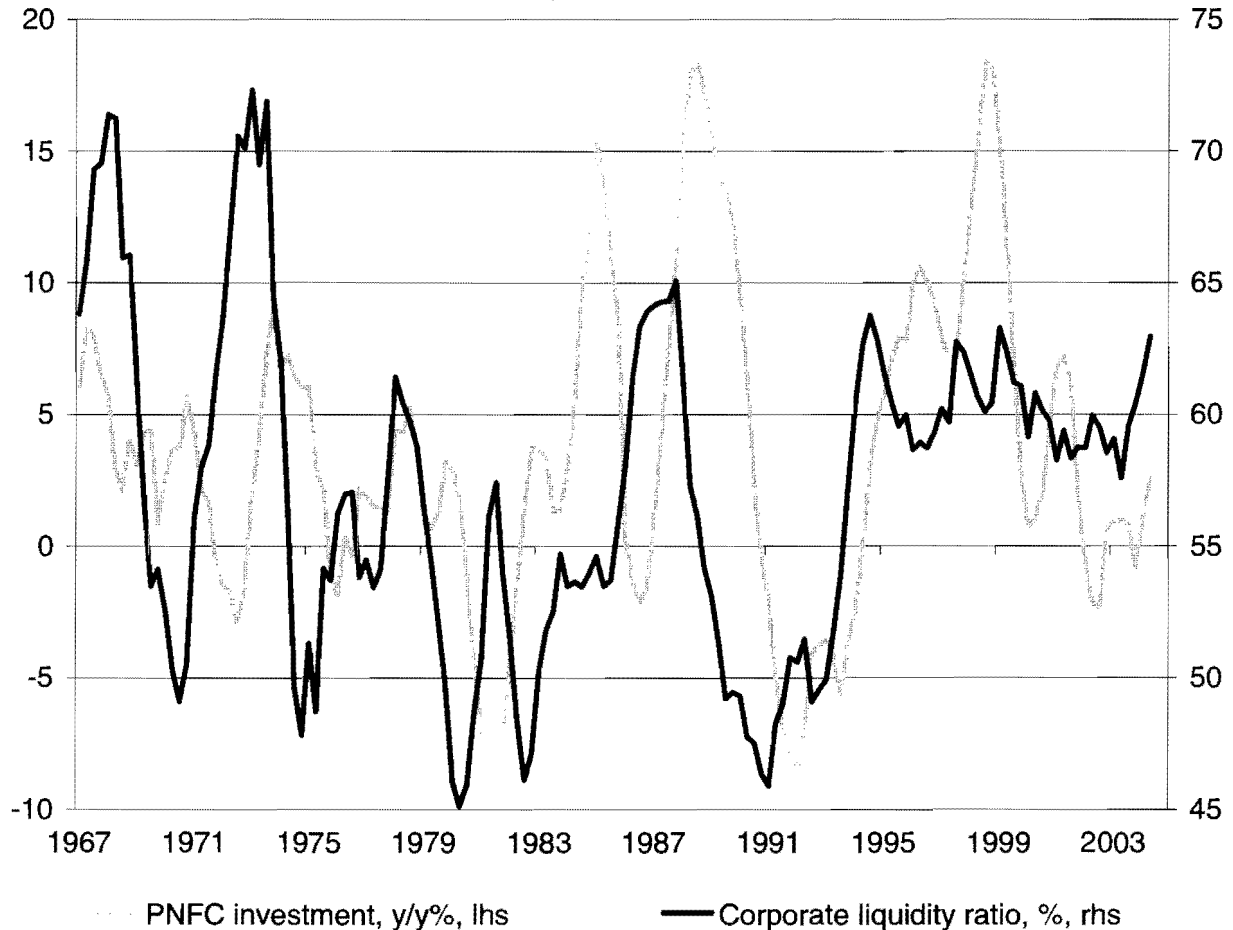


If agents have excess money balances, they try to get rid of them by spending above income on goods and services or by purchasing assets. For the economy as a whole, these efforts will not eliminate the money balances, because people are buying and selling between each other. The disequilibrium in money holdings is removed through a mixture of buoyant demand growth and asset price inflation, and - later down the chain - more inflation in goods and services. Companies and financial institutions (i.e., non-households) are particularly important in the determination of asset prices, because they do not consume anything and instead manage wealth that ultimately belongs to shareholders, policy-holders and so on. The above chart - which extends that on p. 29 of the May 2004 *Monthly Economic Review* - suggests that continued 10% M4 growth will be accompanied by non-household money growth in the high teens (in % p.a.) and asset price inflation of 10% a year.

Companies in the transmission mechanism

Corporate liquidity ratio and investment

Chart shows corporate liquidity ratio (M4 deposits divided by M4 loans) and the annual growth rate of investment by private, non-financial corporations (four-quarter moving average).



Corporate investment is one of the more volatile components of domestic demand and is a key influence on the major turning points of the economic cycle. In general, companies are happy to increase investment spending (and expenditure on stockbuilding) when their balance sheets are in good shape. One of the key measures of the health of corporate finances is the liquidity ratio (M4 deposits divided by M4 loans). Over the last 40 years movements in the corporate liquidity ratio have tracked changes in domestic demand and GDP quite closely. As the chart above shows, all of the significant rises and falls in investment by private, non-financial corporations (PNFCs) have been preceded by or associated with large moves in the liquidity ratio. The logic is simple. When companies are flush with cash, they will be keen to acquire assets - either existing ones (mergers and acquisitions) or new ones (investment). The sharp rise in the corporate liquidity ratio since the start of 2003 - from under 58% to over 63% - argues for continued strong growth of investment spending by companies. Business investment has already revived in late 2003 and the first half of this year. Current trends suggest that this will continue in 2005.

Strong corporate liquidity signals buoyant domestic demand

Matrix shows annual growth of real private domestic demand implied by different levels of the corporate liquidity ratio

Corporate liquidity ratio, %	Growth rate of real demand, %
46	-0.5
50	0.6
54	1.7
58	2.9
62	4.0
66	5.2

The equation for the relationship in the matrix above is, all in % p.a.,

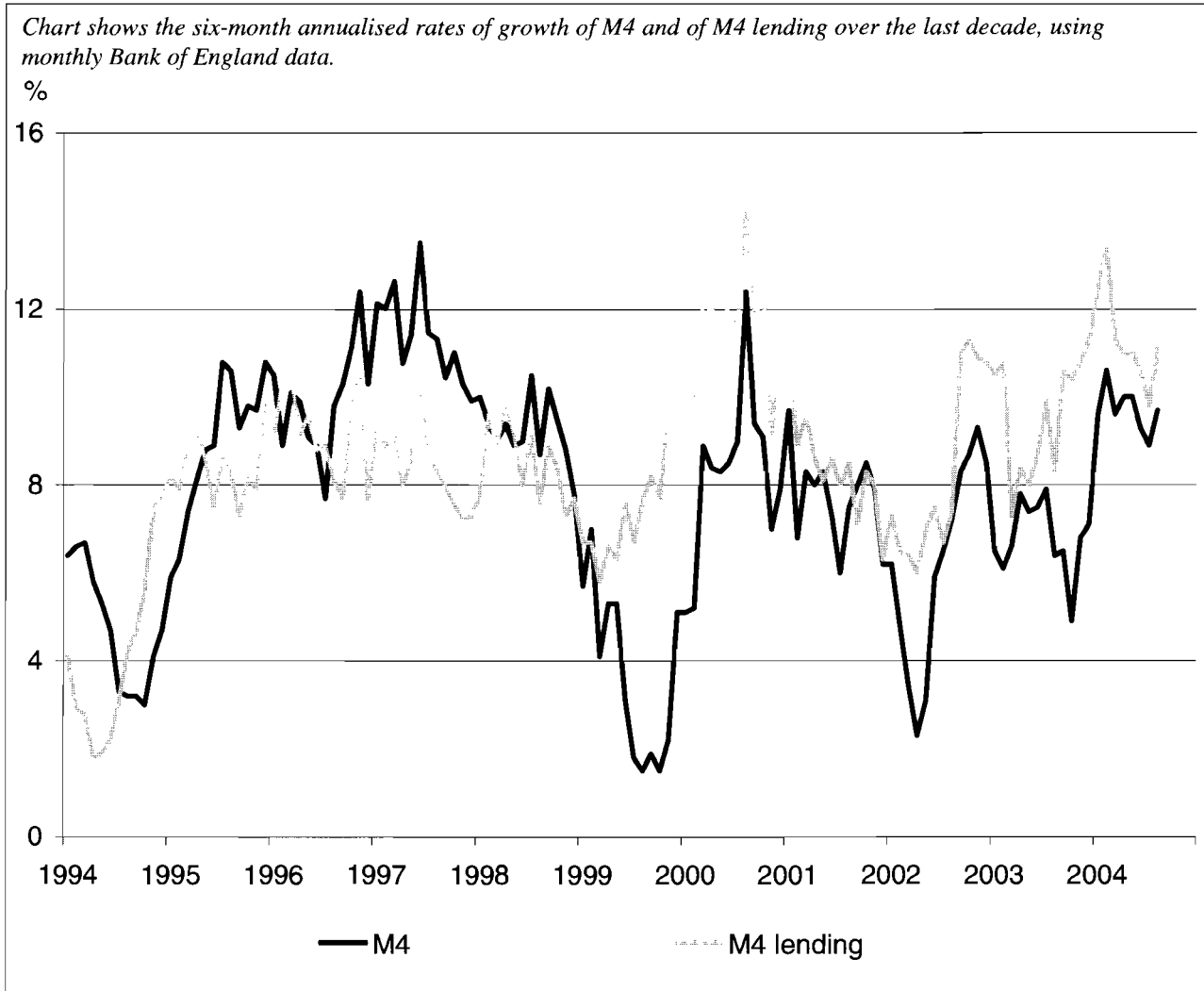
Change in real private domestic demand = -13.7 + 0.286 corporate liquidity ratio

r squared	0.285
standard error for intercept term	2.133
standard error for regression coefficient	0.037
t - statistic for intercept term	-6.419
t - statistic for regression coefficient	7.829

The usefulness of the level of the corporate liquidity ratio can be quantified explicitly by looking at the UK's experience since the early 1960s. The relationship is not perfect, but broadly-speaking a figure of below 50% is consistent with retrenchments of corporate spending as companies attempt to conserve cash. All of the major investment downturns (1971/2, 1975, 1980/1 and 1991/92) were preceded by significant squeezes on corporate liquidity. The most recent dip in business investment in 2001/02 was mild by comparison, but was still anticipated by the slide in the ratio in 1999 and 2000. Conversely, big rises in the liquidity ratio (1972/3, 1986/7, 1994/5) have all been followed by upturns in investment spending and GDP. Any reading above 60% has generally been a reliable signal of above-trend growth of domestic demand. Over the last decade, corporate liquidity has been extremely stable by the standards of the previous 40 years and it is no coincidence that this period has been associated with macro-economic stability in general. The latest reading of around 63% is not alarmingly high, but it does argue for domestic demand growth of perhaps 4% in coming quarters. The current strength of the corporate liquidity ratio is one of the main reasons for believing that 2005 will not see a major economic downturn in the UK.

Money growth and bank credit

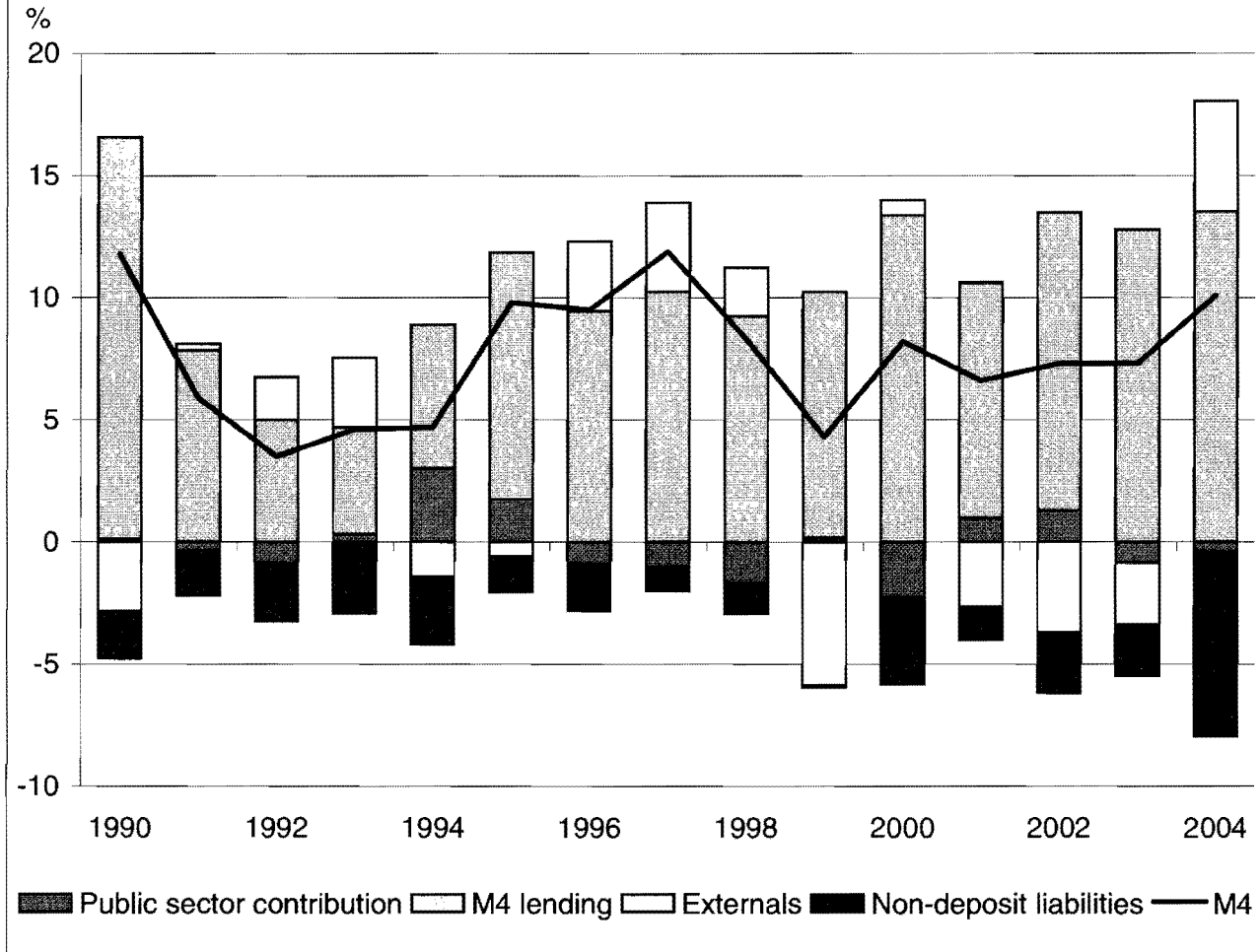
Correlation between credit and money disturbed recently



The dominant influence on the rate of increase of money is the growth rate of credit. As banks (and building societies) grow their assets by extending new loans, their deposit liabilities tend to increase by a similar amount. Between 1963 and 2004 M4 has grown, on average, by 11% a year. The average annual growth rate of M4 lending over the same period was a little higher, at almost 12½%, but the two series have followed exactly the same pattern of ups and downs. Over the last decade money and credit have moved together even more closely, seeing average annual growth rates of 7.8% and 8.6% respectively. But the last few years have seen a change as the growth rates have diverged. Since the start of 2002, M4 lending has risen significantly faster than the rate of increases of M4 deposits. The average discrepancy over that two-year period has been 2.5% points. The explanation is that banks have financed a significant proportion of the expansion of their assets by issuing bonds rather than relying on deposits. (See p. 11.) There must be doubts about whether they will be able to continue to do so in the future on the present scale. Credit growth is currently running at an underlying rate of 12% to 14% and does not seem to be slowing much at current interest rates.

Credit has outpaced money in 2004, perhaps unsustainably

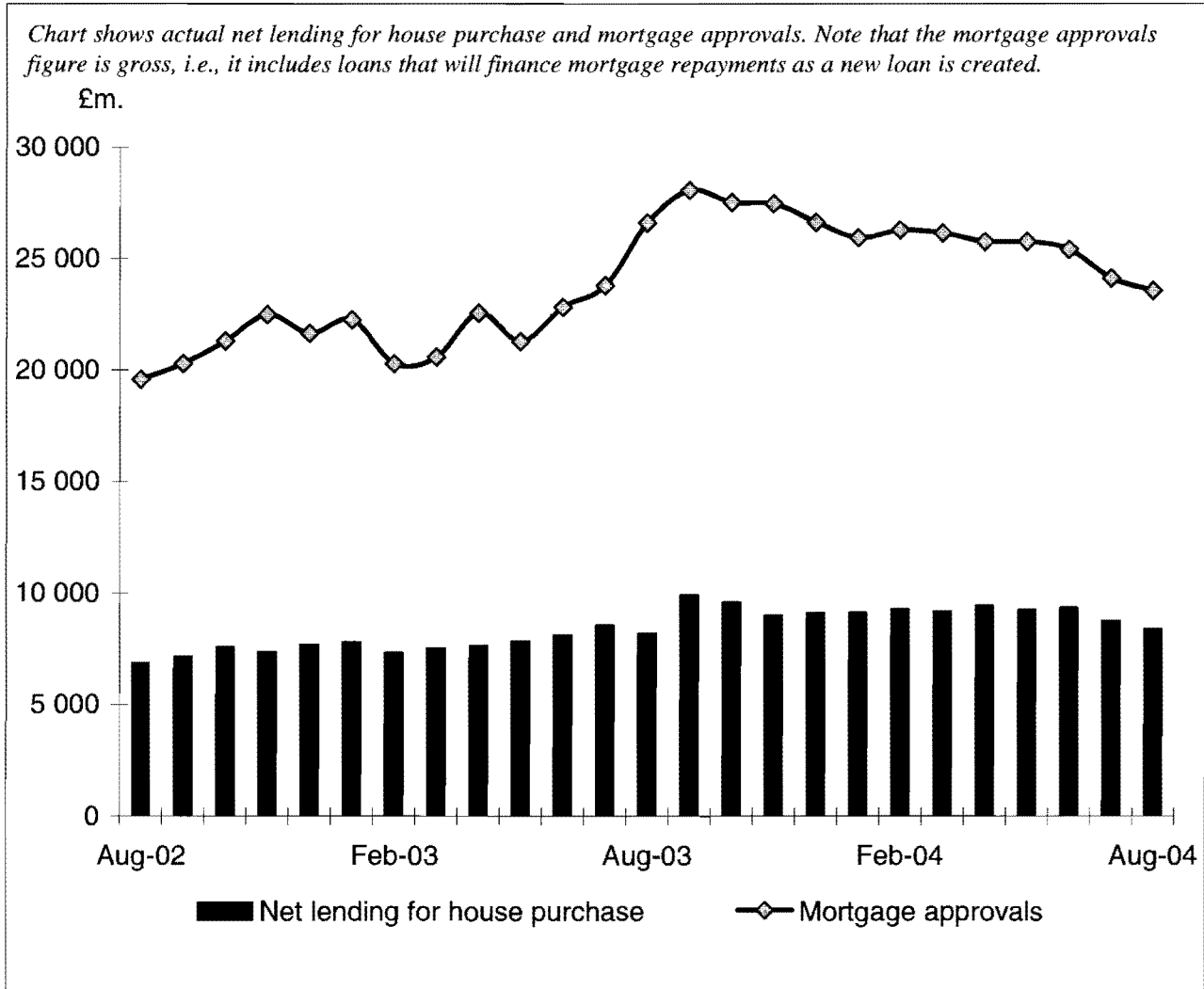
Chart shows percentage contributions of the different credit counterparts to annual (end-year) monetary growth. Figure for 2004 is based on 8 months' data.



Monetary trends have been somewhat odd in recent years. Although lending growth has remained the dominant influence on monetary growth, the other credit counterparts have had highly significant effects. External flows had a mainly negative influence between 1999 and 2003, but have boosted M4 by over £30b. in the first eight months of 2004. Such flows are extremely volatile from year to year, but over the long run they have had only a very small effect on the rate of monetary growth. Between 1963 and 2004, the externals counterpart reduced M4 growth by just 0.4% a year on average. Over the same period non-deposit liabilities have reduced M4 by nearly 2% a year on average. But huge increases in bond issuance this year have had the effect of reducing M4 by an astonishing £55b. in the first eight months of the year. This cannot be relied upon to continue. Had the rise in non-deposit liabilities in 2004 been more in line with the experience of recent years, then M4 would currently be rising by almost 13% a year. To repeat, there must be a danger that M4 growth could now converge on the worryingly high rate of credit growth.

Recent mortgage trends

Approvals are falling, but are they falling enough?



Clear links between interest rates and bank borrowing by companies are difficult to find, but mortgage credit is undoubtedly interest-rate-sensitive. The response of mortgage demand to interest rate changes is therefore one of the most useful measures of monetary policy. When base rates tumbled to 3½% in July last year, mortgage demand soared. The monthly approvals total reached an all-time peak of almost £28b. in September. Base rates have now increased to 4¾% and mortgage demand is weakening. The latest approvals figure (for September) is under £22b., while the number of mortgages being arranged has fallen sharply. But these declines are unsurprising and do not mean that the task of monetary tightening is over. The annual growth rate of the stock of mortgage credit seems likely to fall to about 10% from the recent 14% -15 % level, but - to be confident that monetary policy is on the right lines - it ought to come down to 5% - 7%.