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Money conundrum in the USA

Rapid US money expansion argues for better economy in 2002

**Long-run
similarity of
growth rates of
broad money and
nominal GDP in
the USA,**

In the 41 years to the fourth quarter of 2000 the USA nominal gross domestic product rose at a compound annual rate of 7.5%. Meanwhile its money supply - as measured by the very broad M3 measure - increased at a compound annual rate of 8.1%. A compelling demonstration of the power of the underlying relationship is the infrequency of large differences between the increases in nominal income and money. The mean value of the gap between the annual growth rates of nominal GDP and money in the 164 quarters contained by the 41 years was of course 0.6% (i.e., 8.1% minus 7.5%). In over 100 quarters the gap was between minus 2% and plus 4%. In only 10 quarters was the gap more than plus 6%. Knowing these numbers, what would be the logical expectation for the increase in the USA's nominal GDP in 2001 if one had been told - back at the start of the year - that M3 would grow by 13% between Q4 2000 and Q4 2001? Obviously, the mean answer would be about 12 1/2% and the probability of values of 4% or less would be very low. However, M3 growth in the USA this year will be about 13% and the outcome for nominal GDP will be an increase of only 3%. Plainly, the divergence between the USA's growth rates of money and nominal GDP is one of the most unusual ever.

**but marked
divergence in 2001**

**Does that make
broad money
irrelevant?, or**

Critics of the monetary approach to national income determination might comment that they were right all along. In their view, the 2001 data show the irrelevance of broad money to macroeconomic analysis. But it would be a brave soul who would override over 40 years of relevant US experience (and in fact hundreds of years of experience in many countries) because of one aberrant observation. The questions become, "how is the big difference between money and income growth to be explained?" and "what are the messages for the future?". Some insights on the first question come from the Federal Reserve's flow-of-funds data. These show very large increases in the money market mutual funds held by individuals, companies and some financial institutions (notably insurance companies) in recent quarters. MMFs in the hands of "nonfinancial business" jumped from \$203.0b. in Q3 2000 to \$315.0b. in Q3 2001 (i.e., by over 55%). The motive for this behaviour no doubt varies from company and to company, but a plausible general hypothesis is that managements have been scared. They have been upset by the collapse of the high-tech bubble and more recently they have been traumatized by the events of 11th September. The rise in the ratio of money to both income and wealth reflects a genuine change in liquidity-preference (as Keynes would call it).

**Has there been a
Keynesian shift in
"liquidity
preference"?**

**Growth of US
GDP will revive
in 2002**

What of the future? There is ample evidence (from the past 40 years and longer) that changes in liquidity-preference do not last. In the end money, incomes and wealth grow together. Next year either money growth will decelerate or income growth will accelerate. Given Mr. Greenspan's aggressive easing of monetary policy, the probability is that income growth will accelerate. As inflation is not an immediate problem, the larger conclusion is that the American economy will revive. Japan remains a deflationary threat to the world economy, but its problems will have to be very serious to outweigh the stimulus from high US money growth.

Summary of paper on “High money growth in the UK”

Purpose of the paper

Rather high UK money growth has been recorded in 2001, partly as a by-product of the Bank of England's interest rate cuts. In the long run M4 growth above 7% a year is unlikely to be consistent with 2 1/2% inflation. The paper considers prospects for 2002.

Main points

- * Over the last five decades the growth rates of the M4 money measure and nominal gross domestic product have been similar. In the 1990s M4 grew about 1 1/2% a year faster than nominal GDP.
- * If it is assumed that the demand to hold broad money balances will continue to increase about 1% - 2% a year faster than nominal GDP, M4 growth needs to be between 5% and 7% a year to be consistent with 2 1/2% inflation in the long run.
- * In the ten months to October 2001 M4 grew by 8.1%. The annualised growth rates in recent months have been somewhat higher. These figures are “too high”, although not markedly so. The easing of UK monetary policy has nevertheless been understandable given the international background. (See pp. 3 - 5.)
- * Buoyant mortgage credit and a large stock of unused bank credit facilities for companies (see pp. 8 - 9) argue that banks and building societies will be able to expand their loan portfolios at roughly double-digit annualised rates in early 2002, at current interest rates.
- * The public sector contribution to money growth - heavily negative in 2000 because of the vast budget surplus - has been positive so far in 2001. (See p. 10.) This reflects official decisions in late 2000 to reduce the Government's deposit with the commercial banks. (See p. 11.)
- * With the likelihood that bank lending to the private sector will be above £100b. in 2002 and that the public sector contribution to money growth will be positive, M4 growth may well remain close to double digits next year.

This paper was written by Professor Tim Congdon, with help from Mr. Jonathan Randall in the preparation of charts.

High money growth in the UK

Domestic demand growth to remain buoyant in early 2002

Healthy growth in UK domestic demand in 2001, despite fragile world economy

Domestic demand has grown well in the UK in 2001, despite a sluggish world economy, weak share prices and foot-and-mouth disease. Final numbers are of course not yet ready, but it seems plausible that domestic demand will have been 3% higher in the last quarter of 2001 than in Q4 2000, and that it will also have been 3% higher in 2001 as a whole than in 2000. Various explanations might be proposed for the resilience of domestic spending, but important in the background have been rather high money growth and satisfactory balance-sheet positions for most agents in the economy. (Share prices have gone down, but house prices have advanced quite briskly.) The Bank of England has worried in public about the persistence of high domestic demand growth and acknowledged that unsustainable “imbalances” have emerged. Nevertheless, it has cut interest rates seven times in 2001 and is widely expected to cut them again in early 2002.

Easing of monetary policy in the UK justified by parlous state of world economy,

The easing of monetary policy may seem to have been providential, as both foot-and-mouth disease and the terrorist attack on 11th September have hurt economic activity. But that raises the issue of whether the drop in interest rates would have been appropriate, if these two shocks had not occurred. In the long run the two shocks will make little difference to the trend behaviour of real output, which depends on such factors as social institutions, technology and demography, while the change in the price level will depend predominantly on the growth of the quantity of money compared with the growth in trend real output. As discussed in the June 2001 issue of this *Review*, over the 1948 - 2000 period the growth rates of nominal GDP and the M4 measure of money were virtually identical, at 8.9% and 9.2% respectively. Given the long-run background the pace of money supply growth in 2001 and the prospects for 2002 need to be reviewed.

but is M4 growth too high to be consistent with 2 1/2% inflation in the long-run?

Over the year to October 2001 M4 rose by slightly above 8%, while in the three months to October M4 advanced at an annualised rate of over 11%. In the 1990s the ratio of M4 to nominal GDP increased by 1% - 1 1/2% a year, much less than in the 1980s when the demand to hold broad money was boosted by higher real interest rates on interest-bearing money balances, financial de-regulation and the associated intensification of competition in the banking system, and privatisation. (See the note to p. 7. Privatisation increased the money supply, because companies in the private sector maintain money balances in the banks whereas in the state sector their finances were largely controlled by the Treasury.) If over the medium term money continues to grow 1 1/2% a year faster than nominal GDP, 8%-a-year M4 growth implies that nominal GDP will go up by over 6% a year. But - assuming trend output growth of 2 1/2% a year - the rate of nominal GDP growth consistent with 2 1/2% retail inflation is 5%. So 8%-a-year money growth is rather high and annualised money growth rates in the double digits are unacceptable.

Need for analysis of credit counterparts

This raises the question of whether money growth will accelerate or decelerate in 2002. The analysis can proceed by considering the likely behaviour of the “asset counterparts” to broad money. (The behaviour of these counterparts since 1970 is

set out in the chart on p. 10.) Two considerations are particularly important. The first is the outlook for bank lending to the private sector. (When a bank makes a new loan, it adds identical sums to its loan assets and its deposit liabilities, and the new deposit liabilities are money.) The charts on pp. 8 - 9 help in forming a judgement here.

i. Outlook for M4 lending

The salient feature of the chart on p. 8 is that the UK is in the midst of another great mortgage boom. In real terms the value of mortgage commitments is in fact higher than in the late 1980s. But mortgage commitments include agreements to lend to people who are repaying old mortgages and do not necessarily lead to an increase in banks' mortgage assets. The relevant concept for tracking the growth in bank balance sheets is "net mortgage lending", which this year will probably approach £50b. This would be an all-time peak in nominal terms, but markedly less in real terms than the 1988 total of £47.5b. Given the low interest rates prevailing at present, continued buoyant mortgage credit is to be expected in early 2002. Net mortgage lending in 2002 could reach or even exceed £60b.

Mortgage lending at all-time peak in 2001

(Note that the structure of housing finance has changed profoundly since the late 1980s. Whereas the building societies were dominant then, banks as such are now much more important. A major role is also played by specialist institutions. The liabilities of the specialist institutions are different from banks and building societies, and do not typically include retail deposits. However, insofar as the specialist institutions finance themselves by bank borrowings, the resulting bank assets are matched ultimately by deposit liabilities. The bulk of new mortgage lending is still associated with monetary expansion, as in the late 1980s.)

Large stock of unused credit facilities

The chart on p. 9 relates to banks' "unused credit facilities". These are partly mortgage commitments, but are predominantly arrangements to lend to the corporate sector. As with the mortgage commitments chart, there are two humps - one in the late 1980s and the other more recently. Again, at current interest rates a wide variety of corporate transactions become interesting and worthwhile. According to the Investment Property Databank, the initial yield on "all property" in the UK is 7.1%, which is above the cost of money to a good-quality borrower. (With five-year swap rates in the 5 1/4% - 5 1/2% area, a good-quality borrower should be able to obtain bank finance at under 6 1/2%.) Bank lending to "real estate" rose by 22.2% in the year to Q3 2000 and by another 23.8% in the year to Q3 2001. Taking mortgage lending and other types of lending together, new bank lending in 2002 could be higher than £100b. and may exceed the peak figure of £111.2b. recorded in 2000.

ii. Outlook for "public sector contribution" to M4 growth

The second important domestic credit counterpart to M4 is bank-and-building-society lending to the public sector, which is equal to the public sector's net cash requirement minus non-bank-and-building-society financing. As discussed in the December 2000 issue of this *Review*, last year the Government remained keen to sell long-dated gilts to pension funds and insurance companies, because of the nature of these institutions' liabilities. (In particular, the pension funds had to meet their

obligations under the Minimum Funding Requirement.) As a result, heavy non-bank financing continued. With the Government enjoying a bumper surplus from strong tax revenues and the 3G auction proceeds, “over-funding” was on a record scale. In 2000 the public sector contribution to M4 growth was negative by £20.1b. This was by far the most negative public sector contribution to M4 ever in nominal terms. Even as a share of GDP it exceeded the figures seen in the early and mid-1980s (see the chart on p. 10), when so much fuss was made about the associated “bill mountain” at the Bank of England.

Government’s decision on size of its bank deposit crucial

The Government used the influx of payments to build up a large balance with the commercial banks. Indeed, the December 2000 issue of this *Review* argued that a substantial semi-permanent Government balance with the commercial banks might have to become an accepted part of the UK’s monetary control arrangements. Debt management might need to be harnessed to neutralise the expansionary monetary effects of bank credit to the private sector, which still threatens to climb at double-digit annualised rates. The argument had no impact on policy whatever. Perhaps this was not surprising as there are numerous official statements that debt management plays no role in monetary policy. The Government’s bank balance has fallen this year and the public sector contribution to M4 growth has been slightly positive. (See pp. 10 - 11.) The Treasury, the Debt Management Office and (probably) the Bank of England are totally indifferent to the effect of debt management decisions on the quantity of broad money, just as they appear not to care about the growth rate of broad money itself.

Public sector contribution to M4 growth likely to be positive in 2002

In the event, the expansionary shift in debt management operations may have been fortunate, because the world economy has been so weak, and there have been the foot-and-mouth-disease and 11th September shocks. A fair deduction for 2002 is that the public sector contribution to M4 growth will again be positive. The Government’s bank balance may still be above the desired level (see p. 11), while the public finances are returning to deficit.

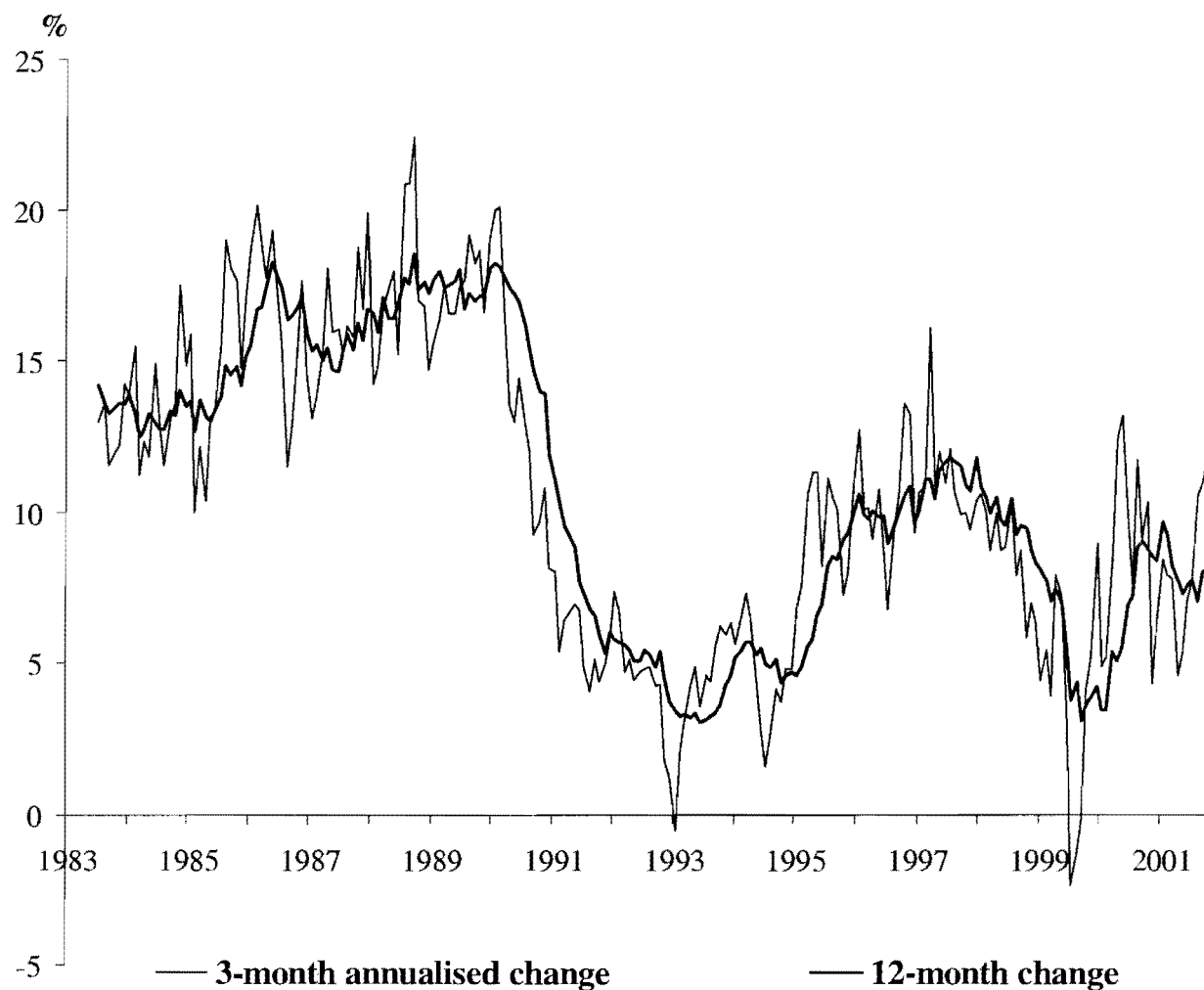
Little or no official interest in this type of analysis

The final page of the research note reviews alternative outcomes for M4 growth in 2002. If bank lending were to grow by 9% - 10% and the public sector contribution to M4 growth were to be positive by £5b., M4 would probably increase by 8% - 9%. This would not be an inflationary disaster, but it would raise issues about the attainability of the 2 1/2% inflation target in 2003 and later. Further, it is most unlikely that such high money growth in 2001 and 2002 would be followed by falling prices in 2002 and 2003, as some economists have suggested. Financial market participants also need to be warned that there is little evidence that Bank of England economists and officials are in the least bit bothered about the medium-term relationship between money and inflation. Treasury officials are even more dismissive of the subject. (See C. Bean, J. Larsen and K. Nikolov ‘Financial frictions and the monetary transmission mechanism’, paper prepared for conference at European Central Bank, 18th - 19th December 2001, available on the Bank of England’s website, and Ed Balls and Gus O’Donnell [eds.] *Reforming Britain’s Economic and Financial Policy* [Palgrave, 2001].)

Robust money growth

Money growth running at virtually double-digit annual rates

Chart shows the growth rate of M4, on a monthly basis, from October 1983 to October 2001.



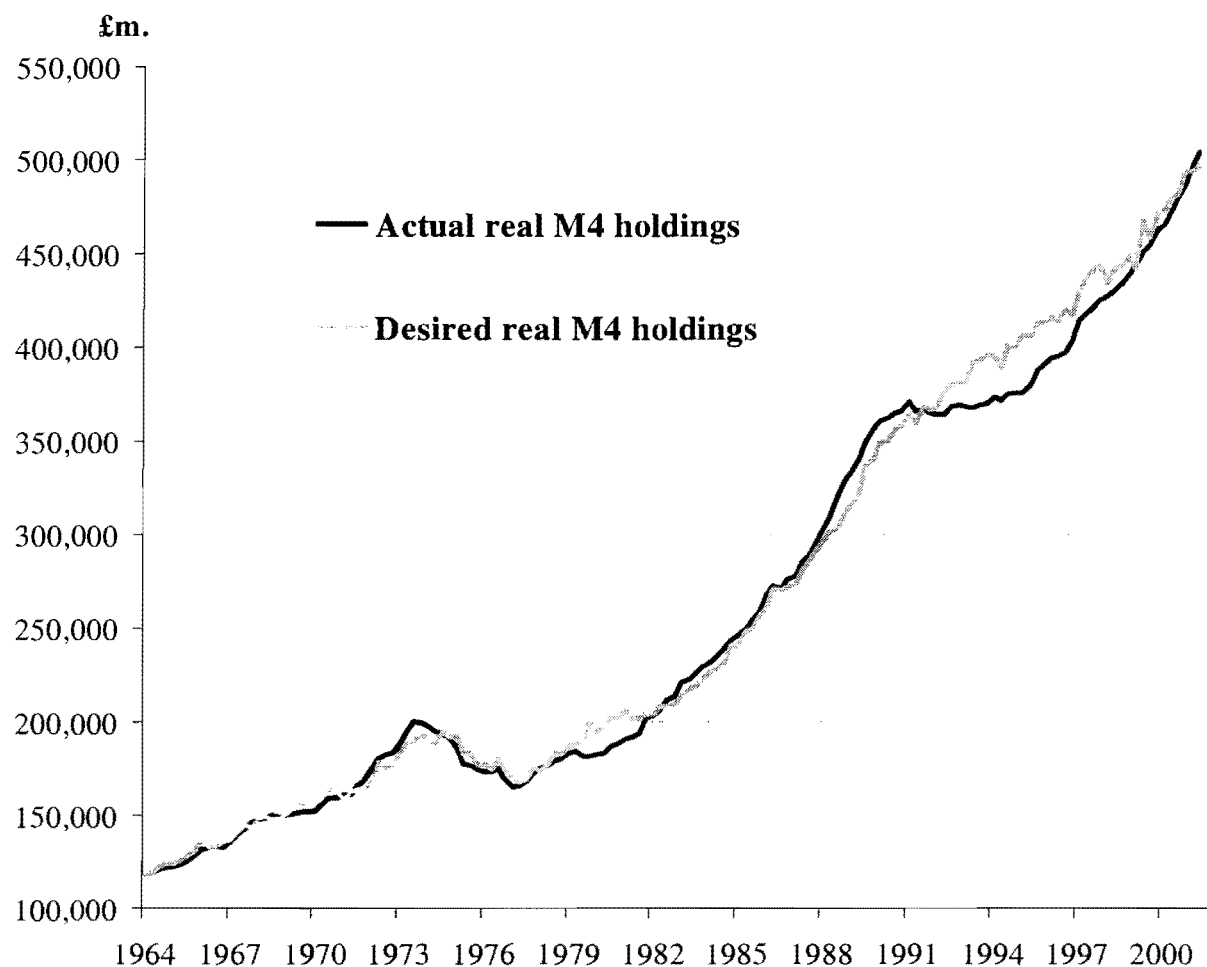
Source: Bank of England, *Statistical Abstract*

As noted in the June 2001 issue of Lombard Street Research's *Monthly Economic Review*, over the 52-year period to 2000 the annual growth rate of the M4 money measure was just above 9% a year, virtually identical to the annual growth rate of nominal GDP. But this similarity is misleading, because it hides a sharp break from the late 1970s. From the late 1940s to 1980 the ratio of money to GDP was falling, whereas after 1980 it rose considerably. The explanation for the big increase in the ratio of money to GDP in the 1980s is a matter for debate (see the note on p. 7), but the key forces of work - higher real interest rates, financial deregulation and privatisation - were largely played out by the end of the decade. In the 1990s M4 increased on average by only 1% - 1 1/2% a year more than nominal GDP. If the money/GDP ratio were to go up by 1% - 1 1/2% a year in the current decade, M4 growth of about 6% - 7% a year would be consistent with the Government's inflation target. Recent M4 growth rates of nearly 10% a year are too high.

Stable household money balances

Excess money to boost asset prices in 2002?

Chart shows the actual and desired household sector M4 holdings, on a quarterly basis. "Desired" real M4 holdings are values estimated from a best-fitting equation described in text.

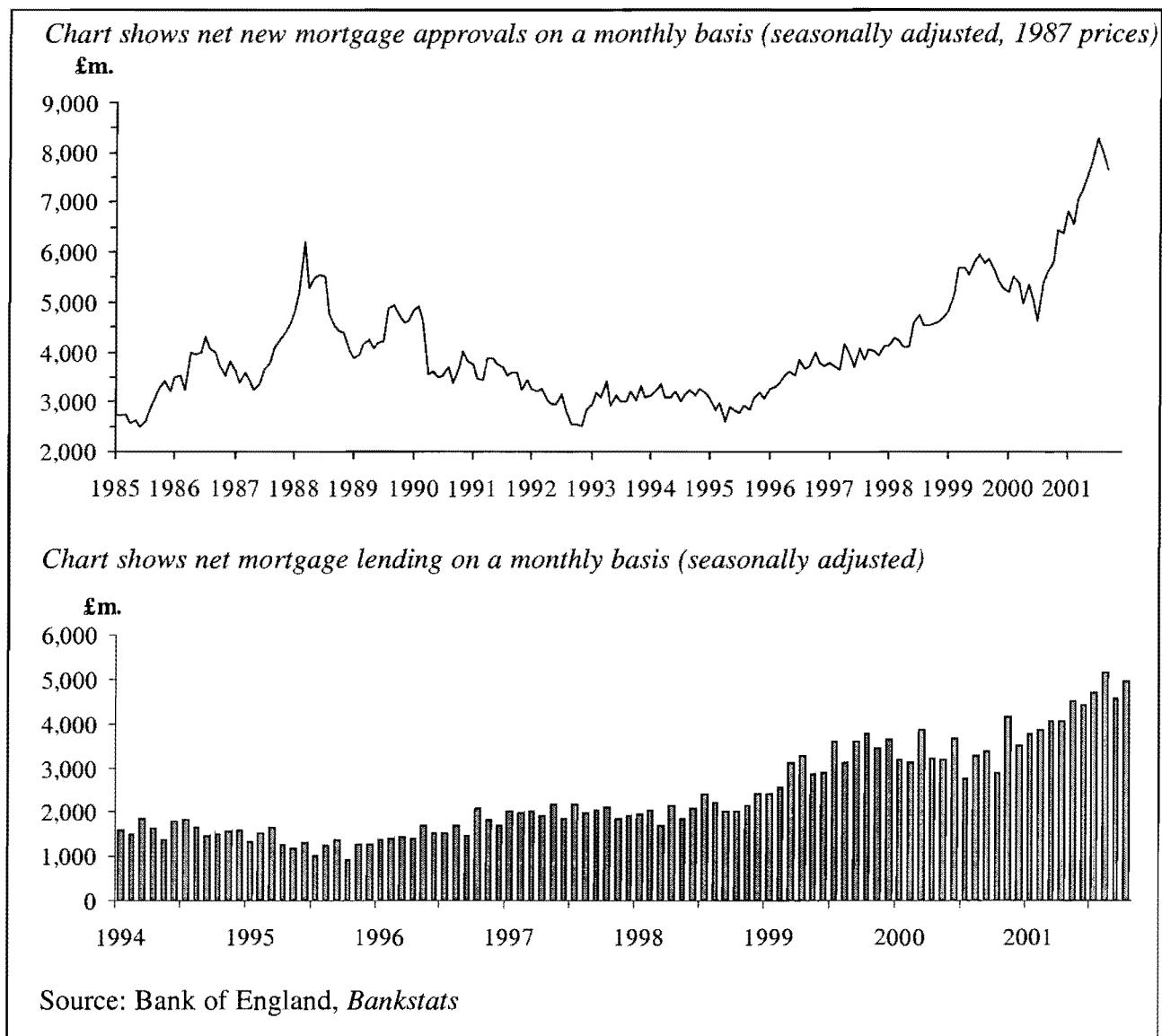


Source: Bank of England and Lombard Street Research calculations

The increase in the ratio of money to GDP in the 1980s was a serious embarrassment to advocates of monetary control and prompted Professor Goodhart's famous so-called "law", that any statistical relationship breaks down once it is used for policy purposes. But an equation for household sector money holdings has worked satisfactorily for the last four decades. (The increase in the household money/GDP ratio in the 1980s seems to have been attributable to a move to higher real interest rates [which made the interest-bearing balances in M4 more attractive to hold] and intensified competition in the banking system following financial deregulation [which stimulated the banks to offer interest on a wider range of deposits, again making them more attractive to hold].) At present household sector money balances seem to be almost exactly in line with the level predicted by the best-fitting equation over the Q1 1964 – Q1 2001 period. Continued fast growth of M4 as a whole is likely to be concentrated in the corporate and financial sectors, where it will support asset prices.

Buoyant mortgage credit

Current boom greater than that in the late 1980s?

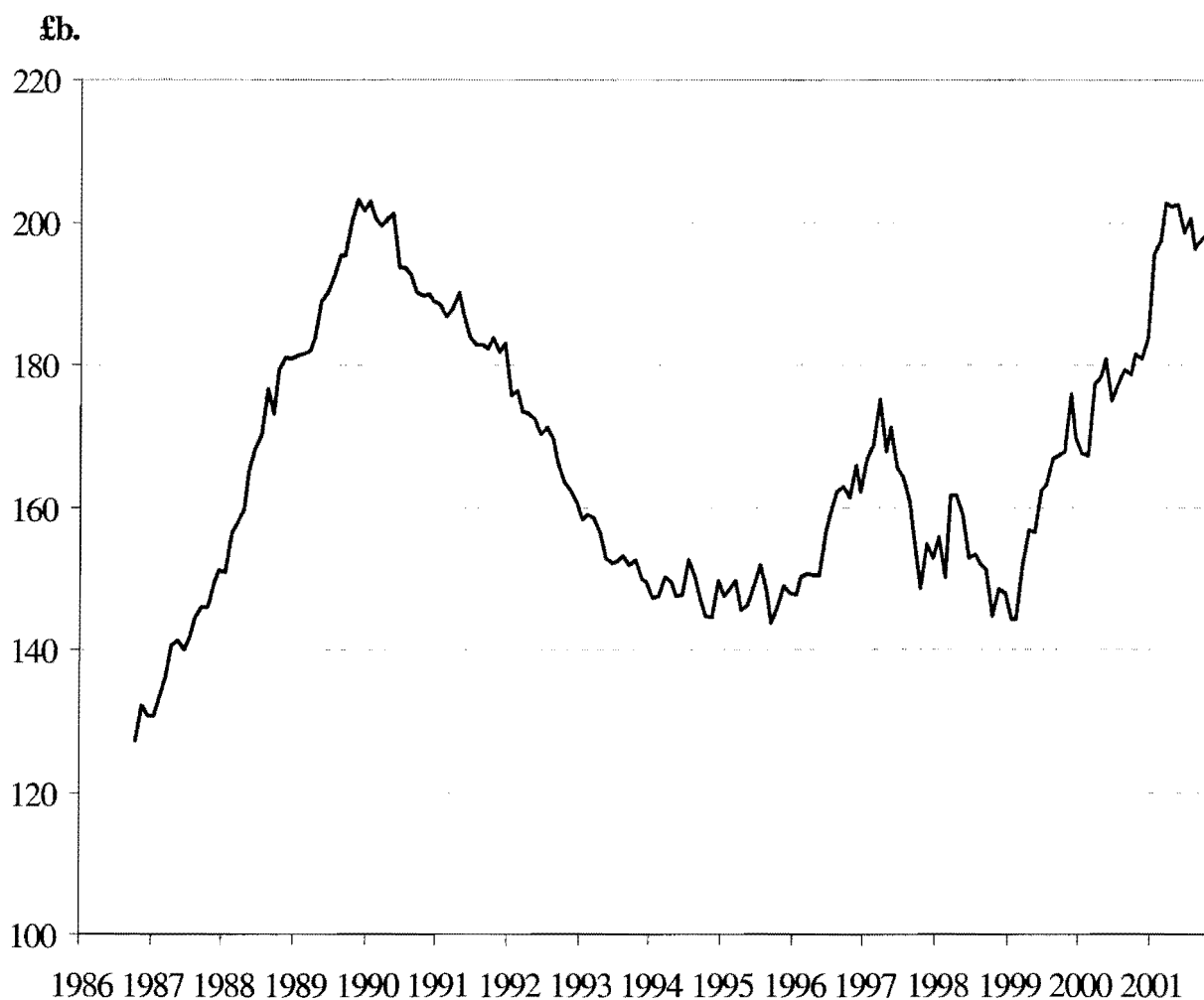


M4 grows when banks extend new credit to other sectors of the economy and do not match these extra assets with non-monetary liabilities (such as bonds). In recent decades most new bank credit has been to the private sector. The behaviour of mortgage credit is particularly important to the monetary outlook, since it constitutes roughly half of banks' loan portfolios. The first chart on this page shows that the UK is in the midst of a mortgage boom similar in scale to that in the late 1980s. It relates to commitments to lend by banks and building societies, and adjusts for inflation. It includes commitments to lend where the borrower repays an old loan before taking out a new one. By contrast, the second chart - which covers a shorter time-scale - refers to actual lending and is a net figure (i.e., it is the change in banks' mortgage assets, increasing when new loans exceed repayments). With today's low interest rates, net mortgage lending in early 2002 is likely to run at £4 1/2b. - £5b. a month or at an annual rate of £50b. - £60b.

Corporate loan demand resilient

Well-capitalised banks again keen to do business

Chart shows value of sterling unused credit facilities from October 1986 to October 2001.



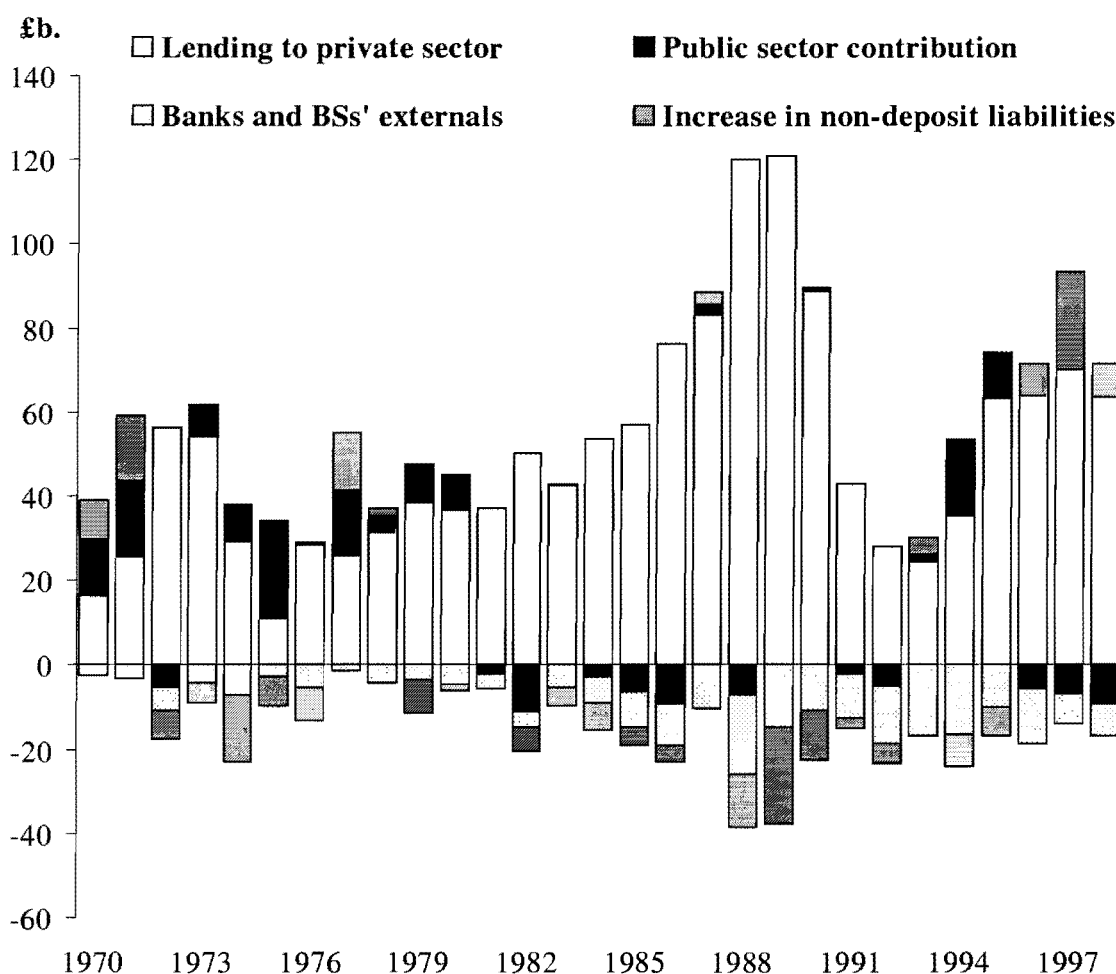
Source: Bank of England, *Bankstats*

This chart is on a somewhat different basis from the previous one. It relates to the stock of banks' unused credit facilities, whereas the chart on p. 8 referred to the flow of new mortgage commitments. Assuming that mortgages take three months to process (which seems reasonable), a monthly mortgage commitment figure of almost £15b. might imply a stock of unused residential mortgage commitments of about £45b. The value of all unused credit facilities is much higher, reflecting the importance of the banking system's loan agreements with the corporate and financial sectors. The striking feature of the chart is the similarity of the run-up in unused facilities between mid-1999 and early 2001 to that in the late 1980s. Notice, however, that the data are not adjusted for inflation. In real terms unused credit facilities are still significantly lower than in late 1988 and 1989. There is no mechanical link between unused facilities and actual lending growth, but the chart warns that bank lending to the private sector is likely to grow rapidly in early 2002.

The role of debt management

Over-funding in 2000 followed by under-funding in 2001

Chart shows credit counterparts to M4 growth at 1997 prices. Data are annual and deflated by GDP deflator.



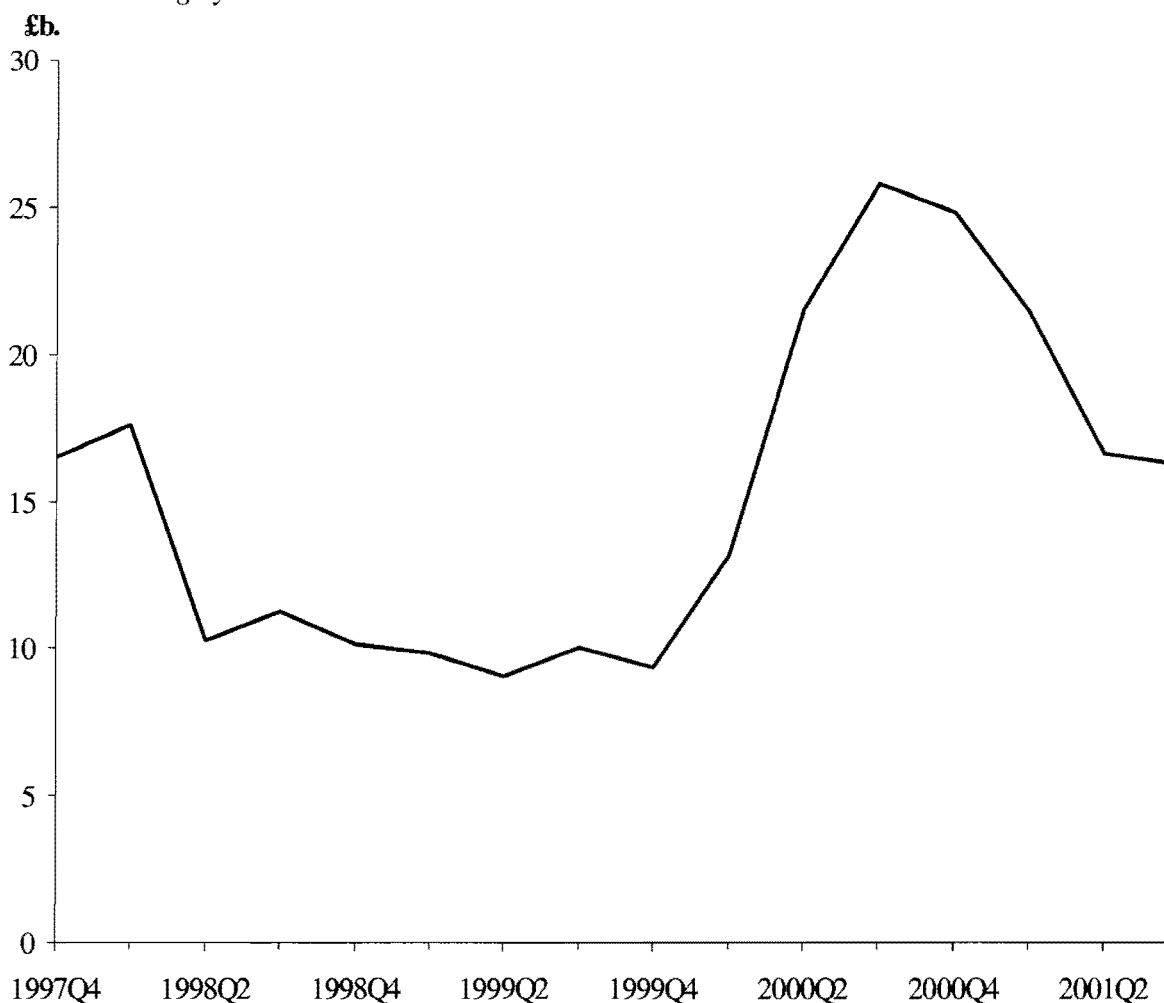
Source: Bank of England, *Statistical Abstract* and ONS, *Financial Statistics*

A key task of monetary policy is to control the pace at which bank balance sheets expand, so that the quantity of money in the economy (dominated by banks' deposit liabilities) is consistent with wider macroeconomic objectives. This chart shows how the task has changed over the last three decades. Almost continuously throughout the period bank lending to the private sector has been buoyant, and its too rapid expansion has threatened excessive money growth and inflation. (The exception was in the early 1990s, when banks were short of capital.) In the 1970s - when public sector borrowing was typically between 5% and 10% of GDP - the public sector financed itself heavily from the banks, but this changed with the return of sound finance in the 1980s. In the last few years the public sector's net cash requirement (the old "public sector borrowing requirement") has generally been "over-funded" (i.e., it has been exceeded by non-bank financing). But in 2001 - as a deliberate act of policy - the Government has run down its bank balance and "under-funded" the PSNCR.

Where to put the surplus?

Government reduces its bank deposit in 2001

Chart shows the nominal sterling value of “public administration and defence” deposits in UK banking system.



Source: Bank of England, *Monetary and Financial Statistics*

In 2001 the Government had a remarkably strong surplus, partly because of the unexpected scale of receipts from the auction of 3G mobile phone licenses. As private sector agents made net payments to the Government, their bank deposits (and so M4) fell whereas the Government's deposit rose. For reasons discussed in the December 2000 issue of Lombard Street Research's *Monthly Economic Review*, the Government (or, at any rate, the Debt Management Office) decided to keep the deposit with the commercial banks rather than the Bank of England. At the time of the 2000 Pre-Budget Report the DMO announced that the Government's deposit - which can be tracked under a category "Public administration and defence" in the monetary statistics - would be lowered in 2001. The chart shows that this has indeed occurred. The effect has been to raise M4 growth. (Note the contrast on p. 10 between the heavily negative "public sector contribution" to M4 growth in 2000 and the slightly positive such contribution in 2001.)

High money growth again in 2002?

M4 likely to rise by 7% -10%

Matrix shows % annual rate of M4 growth in 2001 associated with various combinations of bank lending to the private sector and the public sector contribution to M4 growth. The analysis is based on the traditional "credit counterparts identity". It assumes that at end-2001 M4 will be £955b. and M4 lending £1,180b., and that banks' and building societies' "net external counterparts" and the change in non-deposit liabilities will reduce M4 by £40b.*

Increase in bank lending, %	Public sector contribution to M4 growth (£b.)			
	-15	-5	+5	+15
6.5%	2.3	3.3	4.4	5.4
8.5%	4.7	5.8	6.8	7.9
10.5%	7.2	8.3	9.3	10.4
12.5%	9.7	10.7	11.8	12.8

** Change in M4 = Public sector contribution to M4 change + Bank lending to private sector - Increase in banks' non-deposit liabilities - Banks' and building societies' external counterparts*

Source: Lombard Street Research estimates

The official decision to run down the Government's bank deposit has led to a positive public sector contribution to M4 growth in 2001, but – as shown by the chart on p. 11 – the deposit remains sizeable. It may be reduced further in 2002, which would imply another positive public sector contribution to M4 growth. The table shows that – if it were positive by £5b. and bank lending to the private sector grew by 8 ½%, and if other M4 counterparts were negative to the tune of £40b. – M4 would grow by 6.8%, somewhat less than seems likely in 2001. But it is not difficult to arrive at outcomes with faster M4 growth. Indeed, the likely vigour of credit demand in early 2002 (see pp. 9 – 10) argues that bank lending to the private sector may increase at a double-digit annualised rate. If bank lending were to grow by 10 ½% in 2002, M4 growth would easily be 8% or 9%. There is room for debate about how the money/GDP ratio will behave in future, but – if it were to advance by 1% a year over the medium term – 8% M4 growth would be consistent with a 7% growth rate of nominal GDP.