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An interesting moment

Signs of a better late 2005 after a mini-slowdown in early 2005

Dominant school of economic thought in the UK sees case for cut in interest rates

So far 2005 has seen a fascinating debate between rival schools of thought about the determination of national income. The dominant eclectic approach is undoubtedly well-represented at the Bank of England. Its devotees "look at everything", but typically take the ideas of the circular flow of income and the related income-expenditure model as their starting points. They have focussed on the adverse impact on demand of the rise in base rates to 4¾% last year. As the rise in interest rates is taken to explain the housing slowdown and rather feeble numbers for retail sales so far in 2005, and as the housing and retail weakness are expected to ramify through the rest of the economy, they favour cutting interest rates. But another point of view - which emphasizes the role of money supply growth in national income determination - reaches a quite different conclusion. Over the past year the broadly-defined M4 measure of money has grown by about 11%. This is the fastest rate of increase since 1997 and early 1998. Because the growth rates of money and nominal GDP are undoubtedly related in the long run, the high money growth rates seen in 1997 and 1998 were part of the justification for the Bank of England's decision to raise base rates from 6¼% in May 1997 (when it received independence) to 7¼% in November 1997 and eventually to a peak of 7½% in June 1998. In some moods the Bank's officials say they continue to look at money supply trends. If so, the 1997/8 precedent argues that they should not be in any hurry to cut interest rates at present.

But money growth has been high and asset prices buoyant

The money supply numbers gave a bad steer on the behaviour of demand in early 2005. High money growth ought to have been associated with above-trend growth in private sector demand, but instead it was beneath-trend. However, some powerful negative special influences were at work, notably the effect of rising oil and gas prices on household spending power. Moreover, one normal pattern - a link between high money growth and buoyant asset prices – was found. As noted in the June/July issue of this *Review*, the money holdings of financial institutions surged at an annualised rate of 30% in the five months to May, which propelled a good run in share prices. The prices of similar assets - such as equity traded between private equity funds, management buyout teams and rich private investors - have moved up in sympathy. Meanwhile 2005 will again see excellent returns in commercial property, with yields falling to the lowest levels for 15 years.

Cut in base rates not needed

Just as there are fairly good long-run relationships between money and demand, and between money and asset prices, so there are useful relationships between asset prices and demand. The strength of asset prices in 2005 is one reason for expecting a bounce-back in spending in the second half of 2005. Some signs of a better late 2005 are emerging, such as rises in mortgage approvals and increasingly satisfactory business surveys. The world economy - which was also hit in late 2004 and early 2005 by the big switch in spending power to oil producers - seems to have perked up in recent months. The prospect is for at least trend UK demand growth in late 2005 *with current interest rates*. The cut in base rates to 4½% was not needed.

Tim Congdon **5th August 2005**

Summary of paper on

'What is happening to the US money supply?'

Purpose of the paper

US money growth has been markedly less since early 2003 than in the previous two years. Given the long-term link betwen money and nominal GDP in the USA and the importance of the US economy to the world economy, this research paper analyses the significance of the US money slowdown.

Main points

- In the two years to spring 2005 the growth rates of the US broad money measures, M2 and M3, were roughly half those in the previous two years.
- The decline in US broad money growth is *not* to be explained by a fall in the growth rate of bank credit. On the contrary, bank credit is at present growing more rapidly than on average in the last 30 or 40 years. (See pp. 4 - 6.)
- Indeed, the American banking system is unusally well-capitalised and profitable by the standards of recent decades (and particularly so compared with a period of weak money growth in the early 1990s). (See pp. 7 - 8.)
- The US money slowdown is instead to be explained by, first, a change in the way that banks fund their asset growth (with much greater reliance on non-deposit sources) and, secondly, a contraction in units issued by money market mutual funds (which are regarded as "money"). (See pp. 8 - 9.)
- A close relationship between changes in broad money and changes in private domestic demand (of a similar kind to that first identified by Milton Friedman and Anna Schwartz in the 1950s) prevailed in the USA until the 1990s, when it broke down. (See pp. 11 - 13.)
- The increase in the proportion of interest-bearing deposits to all deposits, and large shifts in real interest rates (see chart on p. 15), may have caused changes in the desired ratio of money to income. Money growth therefore remains of great importance, but needs to be interpreted carefully.
- The decline in money market funds has been offset by fast growth in bond funds and funds specialising in collateralised debt obligations, which are also quite "money-like". (CDO and bond funds sometimes buy non-deposit instruments issued by banks.) The verdict has to be that the US money slowdown does not justify a forecast of a weakening American economy in late 2005 or 2006. (See pp. 14 - 16.)

This paper was written by Tim Congdon.

What is happening to the US money supply?

The enigma of slow American money growth

In long run growth rates of US M2 and M3 similar to that of nominal GDP

One of the most important puzzles in the current international economic scene is the low rate of US money supply growth. In the year to June US M2 increased by 3.5% and M3 by 4.7%. Both aggregates have over the long run had a rate of increase similar to that of nominal gross domestic product. In the forty years from 1959 to 2004 the compound annual growth rate of the USA's nominal GDP was 7.2%, of M2 7.1% and of M3 8.0%. (For the components of the two money measures, see footnote (1). In the rest of this paper the focus is principally on very broad measures, such as the M3 measure and the International Monetary Fund's concept of "money plus quasi-money".) If the 1959-2004 pattern is maintained and if monetary expansion stays at about its present rate, the pace of growth in the USA's nominal GDP - which was 6.6% in 2004 - has to slow down sharply. That would have powerful effects on the world economy as a whole, as well as going some way to justify the remarkably low levels of dollar bond yields. The subject will be discussed by trying to answer two questions, "why has the money slowdown occurred?" and "does the money slowdown matter?".

I. Why has the money slowdown occurred?

A broad money measure represents the bulk of the banking system's liabilities, while assets are of course equal to liabilities. It follows that a money slowdown of the type now being seen could be explained, in accountancy terms, in one of the following two ways:

1. The assets of the banking system might be expanding more slowly than before, constraining the growth of total liabilities, or

2. The assets of the banking system might be expanding at roughly the same rate as before, but the banks' non-deposit liabilities might be increasing more quickly which would limit the growth of banks' deposit liabilities.

Is the money slowdown, like that in Japan and Germany, due to fall in bank credit?

A fair comment is that the first of these explanations would be the more worrying for the US economy's future. Marked decelerations in credit growth (and, hence, also in money growth) have been reported in Japan and Germany in recent years, with strong dis-inflationary impacts on the economies of both themselves and their neighbours. The processes at work have had much attention from economists and the media, and are reasonably well-understood. Adverse loan loss experience (often due to the bursting of an asset price bubble) has undermined banks' capital. In order to keep capital/asset ratios at a reasonable level and satisfy the regulators, banks have had to curtail new lending or even to shrink their loan portfolios. Money growth slows or comes to an end, reducing the equilibrium growth rate of nominal GDP. If that were the story in the USA at present, with the banks taking heavy losses on their loan books and suffering from a shortage of capital, fears might be expressed that the slowdown in money growth is deeply entrenched. Indeed, in early 2003 Professor Ben Bernanke mused on the possibility that - if the American banks were to slide into the same sorry condition as their Japanese counterparts -

the Federal Reserve would have to engage in unconventional open market operations in order to revitalize the economy. (2)

IMF data facilitate analysis of credit counterparts to money

A useful framework of analysis is provided by the IMF's assets-and-liabilities data for various concepts of the banking system. It compiles such data for all its member countries, including the USA. At the end of 2004 the liabilities of what it termed "the banking survey" (i.e., the US banking system, more or less in its entirety) totalled $10,394b., while domestic credit was $10,444b. and the banks' net foreign assets *minus* $50b. (The sum of domestic credit and net foreign assets was therefore identical to liabilities, just as it ought to have been.) Money plus quasi-money – an IMF money definition which lies roughly half way in size between M2 and M3 - stood at $7,682b. and the banks' remaining liabilities at $2,712b. Domestic credit was split between claims on the private sector of $9,387b. and claims on general government of $1,057b. (For comparison the USA's gross domestic product in 2004 was $11,728b.)

Approximate halving of US money growth in last two years cf. previous two

The slowdown in US money growth began in early 2003. In the following two years and five months to end May 2005 the compound annualised growth rates of M2 and M3 were 4.6% and 5.0% respectively, whereas in the two years to December 2002 the compound annualised growth rates of M2 and M3 had been 8.5% and 9.7% respectively. IMF data have not yet been published for the opening months of 2005, but many interesting clues are given by comparing the money supply trends in the two years to end-2004 with the two preceding years. The key information is set out in Table 1 below.

Table 1: How is the US money slowdown to be explained?

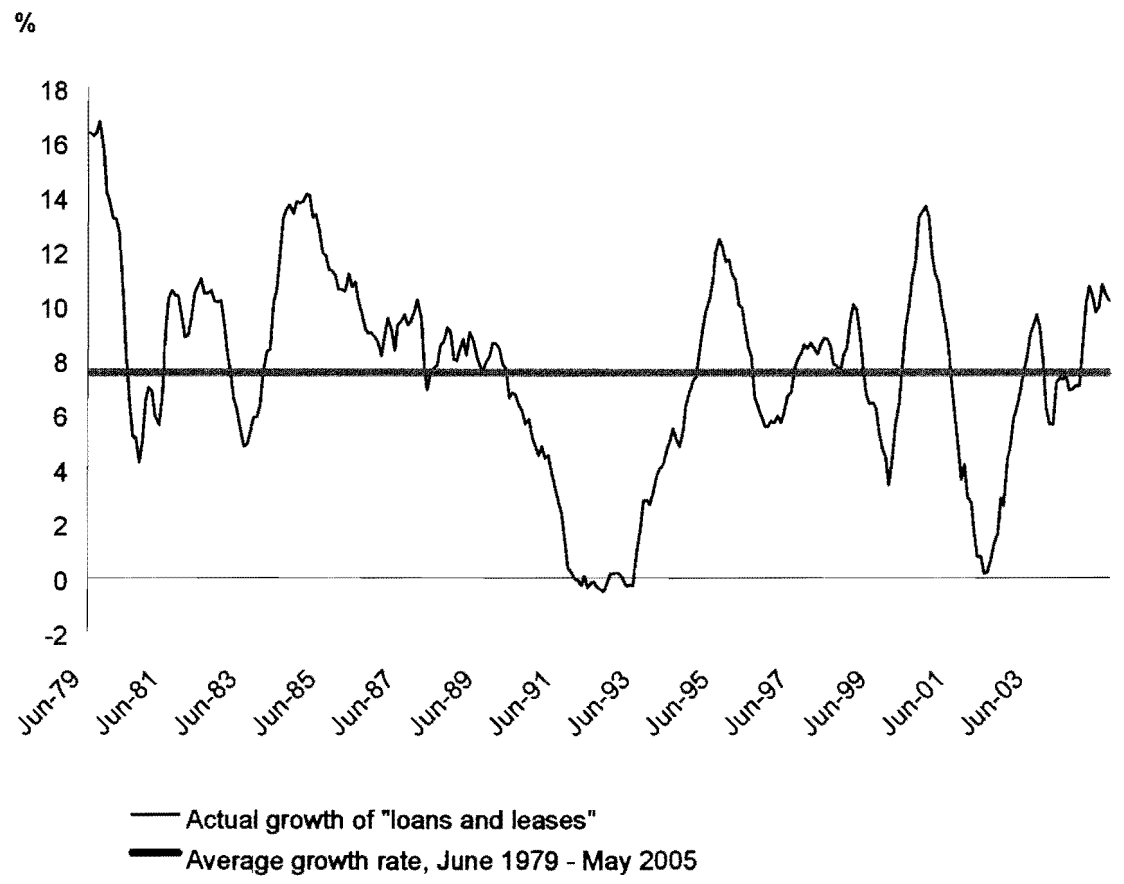
	Differences between the two-year period to end-2004 and the previous two year period **$b.**
Growth of "money plus quasi-money"	**- 747**
Growth of banks' non-money liabilities	**737**
Difference on liabilities side of balance sheet	**- 10**
Domestic credit expansion	**40**
Change in banks' net foreign assets	**- 50**
Difference on assets side of balance sheet	**- 10**

Source: IMF *International Financial Statistics*

Bank credit in the USA

Now growing faster than the 36-year average

Chart shows % annual growth rate in "loans and leases" at US commercial banks, monthly seasonally adjusted data.



Source: Federal Reserve

Over the period covered by the chart the growth rate of banks' "loans and leases" has been similar to that of broad money, but - as the chart shows - the growth has been uneven over time. In the early 1990s and again, much more briefly, in 2002 banks' loan portfolios were static. In the early 1990s the cause was principally the shortage of capital in the banking system, following the writing-off of bad loans to the Third World and the USA's own real estate sector. In 2002 banks were not short of capital. The slump in credit growth instead reflected heavy repayments of bank loans by American companies which had over-borrowed in the tech bubble and stock market mania of the late 1990s. The initiative in seeking loan repayments came from companies, not from the banks. At present the USA is in the midst of a big real estate boom. In the year to June 2005 "loans and leases" to the real estate sector were 13.0% up on a year earlier.

US money slowdown *not* due to weakness in credit

The central message is clear. The US money slowdown is *not* due to weakness in domestic credit expansion. In fact, DCE was *higher* in the two years to end-2004 than in the previous two years. The explanation for the money slowdown is to be sought almost wholly on the liabilities' side of US banks' balance sheets, not on the assets side. In the last two years US banks have been financing the increase in their assets to an unusual extent by incurring extra non-deposit liabilities, not by issuing more deposits (i.e., by creating more money).

Credit growth was stimulated by cut in interest rates

The buoyancy of credit in the USA is corroborated by other items of information. The Federal Reserve has for many years prepared data on the composition of banks' assets, differentiating between holdings of securities and loan assets, which are categorised as "loans and leases". A reasonable generalisation is that loans grow rapidly and holdings of securities are restrained when banks' customers have a strong demand for credit, but banks expand their holdings of securities when credit demand is weak. Credit demand was very weak in 2002, as companies repaid part of the excessive bank debt they had run up in the bubble years of the late 1990s. The Fed reacted by slashing Fed funds rate to only 1% and, as the chart on p. 5 demonstrates, credit responded vigorously to the price signal. The annual growth rate of "loans and leases" was virtually zero in mid-2002, but was almost 10% a year later and in the last two years it has consistently been between 6% and 11%. The latest figure - for May - was 10.2%. Moreover, the increase in Fed funds rate to 3 1/4% has so far failed to curb the pace of credit expansion. (The annualised rates of growth in the three months and six months to May were 10.7% and 10.8% respectively.)

The USA is *not* suffering from the Japanese *malaise*

The vitality of credit demand refutes the fears of early 2003, that the USA might suffer from the Japanese *malaise* of inadequate bank capital and a prolonged agony of credit stagnation. Indeed, the American banking system is at present well-capitalised and profitable, and most banks are undoubtedly keen to add assets. The chart on p. 7 provides a synoptic overview of the US banking system from the mid-1930s, when it was starting to recover from its traumas during the Great Depression, to today. (Note that it uses data from the website of the Federal Deposit Insurance Corporation, which may not be fully comparable with similar series from the Federal Reserve.)

Banking system has i) ample *level* of equity capital, and

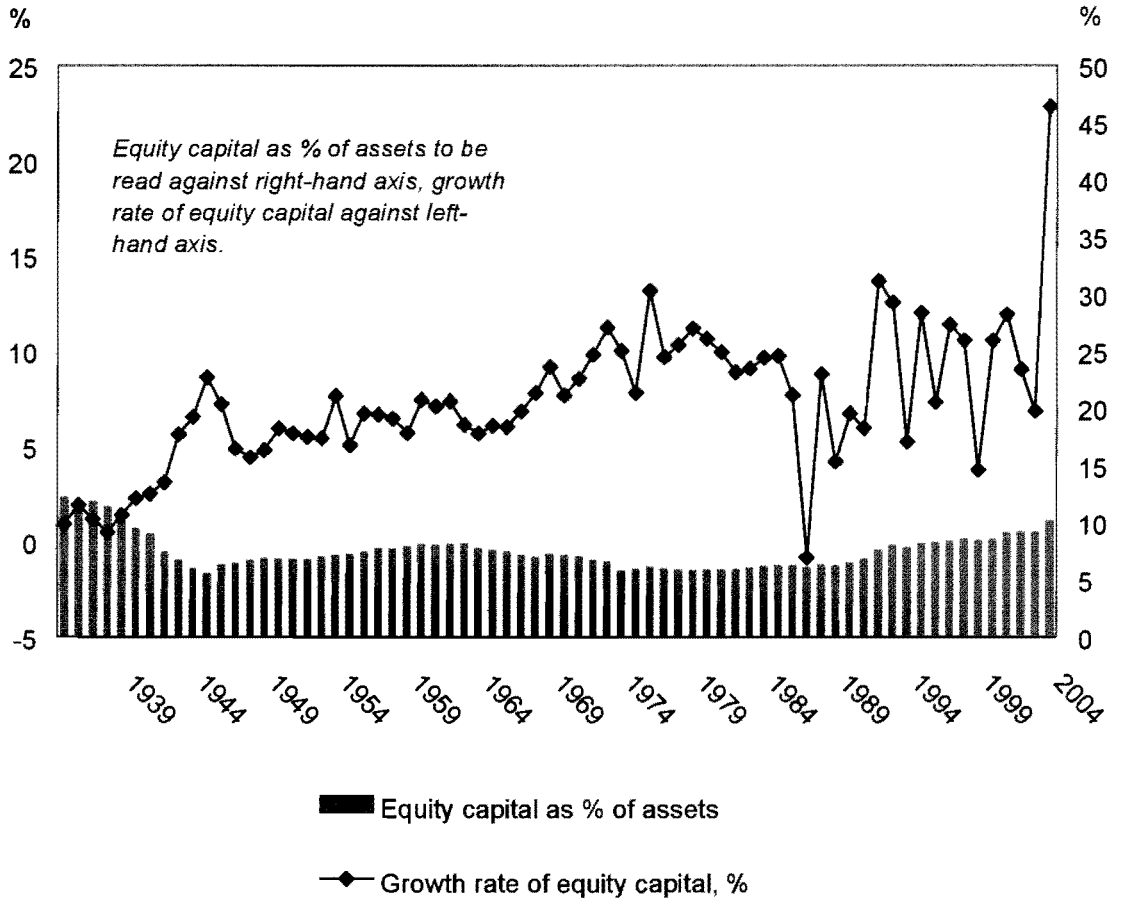
ii) strong *growth rate* of equity capital

Two features are striking. First, the ratio of equity capital to assets has risen considerably to over 10% at present from post-war lows of under 6% in the late 1970s and early 1980s. (The US Comptroller of the Currency first introduced capital/asset guidelines for banks in the early 1980s, at the time of the Mexican default and related Third World debt crisis.) Secondly, the growth rate of equity capital in 2004 was the highest in the 70 years plotted by the chart! The jump in capital was partly attributable to banks' healthy profitability and strong retentions,

Bank capital in the USA

Strong in terms of *levels* and *growth rates*

Chart relates to a broad concept of equity capital, which includes "goodwill" capitalised in mergers. Data are annual



Source: Federal Deposit Insurance Corporation

Over the 36 years from 1959 to 2004 the average growth rate of banks' equity capital was 7.4%, compared with 7.1% for M2, 8.0% for M3 and 7.2% for nominal GDP. The approximate similarity of these numbers is striking. One interpretation is that banks kept the growth rates of assets broadly the same as that of their capital, so that they were neither under-utilizing their capital nor taking excessive risks. The growth rate of deposit liabilities (i.e., broad money) was close to that of banks' assets. On this view the growth rate of bank capital is an important medium-term influence on the growth rate of nominal GDP, although the mechanisms involved (i.e., the adjustment of asset prices and national income to keep the demand to hold money in line with the money supply) are essentially monetary. The interesting point about the current situation is that banks have ample capital. In fact, the ratio of equity capital to total assets is higher than at any time since the 1930s.

but it was also due to the capitalisation of goodwill in merger transactions. An article in the *Federal Reserve Bulletin* for spring 2005 noted the role of merger accounting in the apparent surge in equity capital, and warned that, "Goodwill and other intangible assets boost reported assets and capital, but are not included in regulatory capital ratios". (3)

Excess competition in credit market?

Nevertheless, banks' capital/ asset ratios were unusually good by past standards during 2004 and remain so today. If banks have high capital/asset ratios and are readily able to boost capital by retentions from profits, worries about their possible reluctance to grow assets look thoroughly misplaced. In fact, banks' financial position goes a long way to account for the boom in residential mortgage lending now under way. Anecdotal reports are circulating that both the Federal Reserve and the Comptroller of the Currency are warning lenders not about the inadequacy of credit growth, but about the deterioration of credit standards as they compete too aggressively in an over-supplied market.

Changing composition of banks' *liabilities* is dominant part of explanation of money slowdown

So - if the US money slowdown is not due weak asset growth - what is the cause? Table 1, drawing on IMF data, suggested that the answer is to be sought in the composition of banks' liabilities, with a greater dependence on non-deposit funding since early 2003. Can this conclusion be backed up by information from the Federal Reserve and other American sources? No doubt the large gains in banks' equity capital are part of the story, but it also appears that US banks have been issuing more money market instruments and engaging in other relatively novel forms of financing in the last two or three years. According to the Fed's flow-of-funds data, in the two years to end-2004 commercial banks took on extra liabilities of $127b. in the form of "credit market instruments" and of $285.2b. in the form of "miscellaneous liabilities". (Credit market instrument liabilities grew at a compound annual rate of 9.9% and miscellaneous liabilities at a compound annual rate of 9.5%, both noticeably faster than deposit liabilities in the period.) The significance of this development for monetary policy is uncertain, as much depends on the degree of liquidity of the non-deposit liabilities that banks have been incurring. Discussion is postponed until later in the paper.

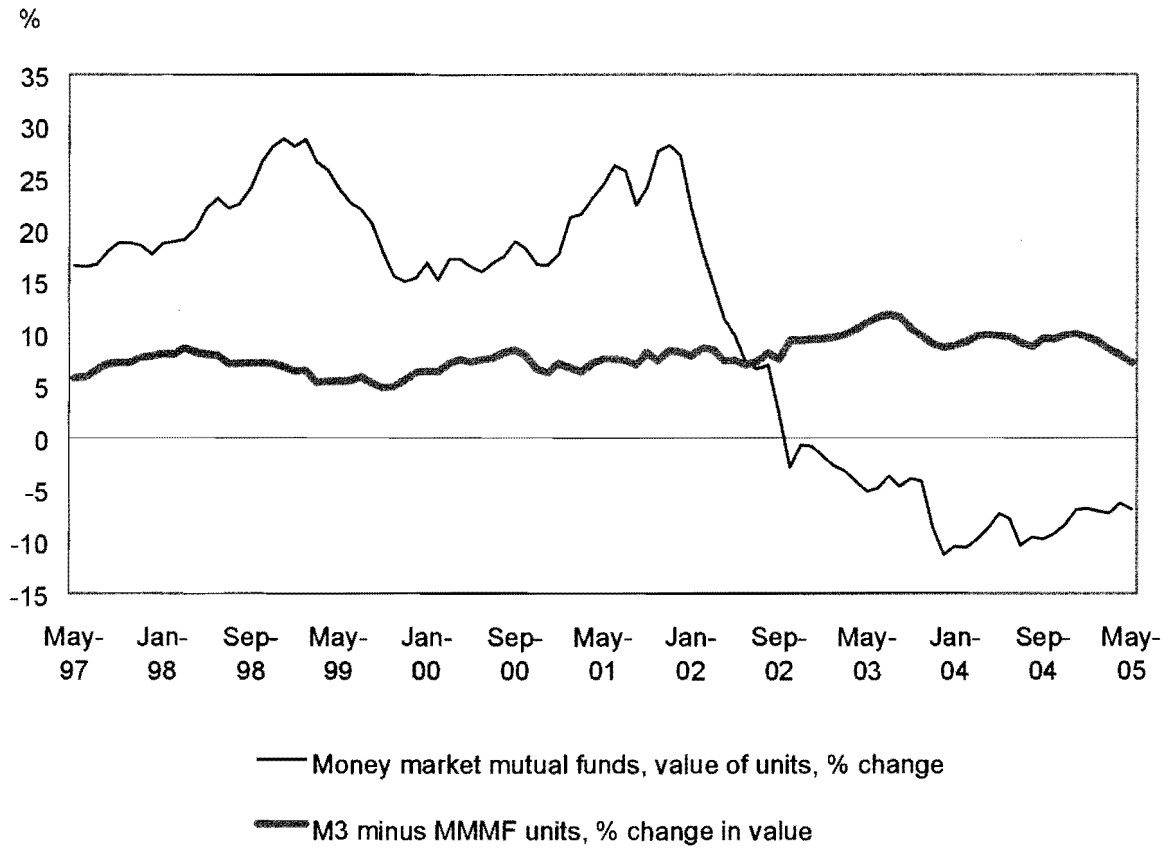
Money market mutual funds have contracted in low-interest rate environment

One crucial aspect of the US money slowdown remains to be discussed. Until the 1970s banks dominated the related businesses of deposit-taking and money transmission (i.e., the safe-keeping of cash, cheque clearing and the associated activities) in the USA, even though they had long been heavily regulated compared with banks in other countries. Regulatory controls had been particularly harsh on the payment on interest on certain types of deposit. (These controls originated in the Great Depression, when some banks tried to halt deposit runs by offering interest on deposits, but then went bust anyway.) In the 1970s a new type of institution - a so-called "money market mutual fund" - emerged to exploit a resulting gap in the market. They sold units (i.e., effectively they issued deposits) and paid interest on

Fall of the money market funds

Non-MMMF money growing *faster* than before

Chart shows % ammual change, monthly data, for sum of institutional and retail money market funds and that sum deducted from M3.



Source: Federal Reserve

This chart needs to be read in conjunction with the chart on real interest rates on p. 15. MMMF units had been gaining market share against bank deposits from the 1970s onwards, but their growth was much more volatile than that of bank deposits. MMMFs find it difficult to compete when interest rates are very low (or even negative in real terms), since the essence of their advantage over banks is that they pay a better interest rate on units to outweigh their inability to conduct cash transmission business. When nominal and real interest rates were very low in the early 1990s (with Fed funds rate at 3% from October 1992 to January 1994), MMMF units lost ground to conventional bank deposits. As the chart on p. 15 demonstrates, real interest rates are even more unfavourable for the MMMFs today than they were in the early 1990s. The other, non-MMMF types of balance in M4 - which would be mostly bank deposits - have in fact been growing at about 10% a year since 2003.

the units, so overcoming the restrictions on interest payments. The interest paid was covered by interest received on relatively safe assets, such as short-dated bonds with a high credit rating. While the MMMFs were not involved in the handling of cash (and in that sense were not strictly banks), units in MMMFs could be easily converted at minimal cost into sight deposits at banks. Indeed, bank holding companies often had a MMMF subsidiary, and the difference between units their customers held in the MMMF and deposits maintained at the bank proper was marginal. Since MMMF units were so "money"-like, they came to be included in both the M2 and M3 money measures. Money market funds took two forms, retail and institutional. At the end of 2001 retail MMFs reached $981b. and at the end of 2002 institutional MMFs had climbed to $1,251b. The peak value of the two types of fund combined was $2,180b. in December 2001, when they represented over a quarter of M3.

At end of 2001 MMMF units were a quarter of M3

Since the end of 2001 retail money funds have declined in value and since the end of 2002 institutional money funds have also been falling. At May 2005 the two types of fund combined were worth $1,756b. So they have dropped from their peak, over a period of about three and a half years, by almost 20%. The chart on p. 9 shows the growth rates of MMMFs and the non-MMMF M3 money balances over the last eight years. The non-MMMF money in M3 has in fact tended to grow more rapidly since early 2003 than before. Clearly, the US money slowdown can be attributed - in terms of composition - entirely to the fall in money market funds.

Growth rate of non-MMMF M3 has *risen* in last few years

The main reason for the drop in MMMF assets since 2002 has undoubtedly been low interest rates. Their advantage over the banks in the 1970s was they were not subject to interest rate regulations. This was largely removed by the Monetary Control Act of 1980, but in the 1980s they continued to gain market share because inflation and interest rates remained high, and their units were attractive relative to, for example, bank deposits paying no interest at all. But in the last few years the banks have competed head on with the MMMFs. Because real interest rates are so low, because the MMMFs are not involved in cash handling in the same way as the banks and because they are not covered by deposit insurance, MMMF units have been one of the least attractive assets in the American financial scene. (On 19th May last year the FDIC published a 'For your information' note which discussed the possibility that a MMF might "break the buck", i.e., fail to repay a dollar of units saved with a dollar at redemption.)

II. Does the money slowdown matter?

American economists - like their British counterparts - have sharply diverging views about the significance of money supply trends for national expenditure and income. While the majority do not dispute the long-run similarity of the growth rates of money and national income, there is little agreement about the role of money in national income determination over short-run periods of one or two years. In their celebrated empirical work in the 1950s and 1960s Milton Friedman and Anna

Role of money in US economy very controversial

Schwartz claimed that

> For major movements in income, we concluded that there is an extremely strong case for the position that sizable changes in the rate of change in the money stock are a necessary and sufficient condition for sizable changes in the rate of change in money incomes. (4)

Friedman and Schwartz claimed a strong relationship between *large* movements in money and income

The position was less clear-cut for minor movements in income, partly because of the complexity of the evidence and the difficulty of identifying turning points from very erratic series. Friedman and Schwartz dated turning points in the rate of change of money in two ways, by a step function and by use of the specific cycle methodology developed by the National Bureau of Economic Research. Their conclusion - which related to the period 1867 - 1960 and used a broad money measure including time deposits - was that "For step dates, the average lead [of the rate of change of money over the rate of change of indicators of business activity] for all cycles is 7 months at the peak and 4 months at the trough." In other words, money's lead over spending was roughly two quarters. (5) The chart on p. 12 shows the relationship between the annual rates of change in real money plus quasi-money, lagged two quarters, and real private domestic demand, using quarterly data over the period 1957 to 1990. Plainly, the Friedman-Schwartz relationship survived in the 30 years from the date at which they published their work. Even commentators unsympathetic to the monetary approach to macroeconomic analysis must concede that – for well over a hundred years – the link between money and GDP in the USA was one of the most impressive regularities in economics. On the face of it, the importance of money for subsequent developments in income ought to be compelling. If the slowdown in money growth in the last two years is deemed a "major" development, it ought to have a powerful bearing on future levels of US national income.

and this survived to about 1990,

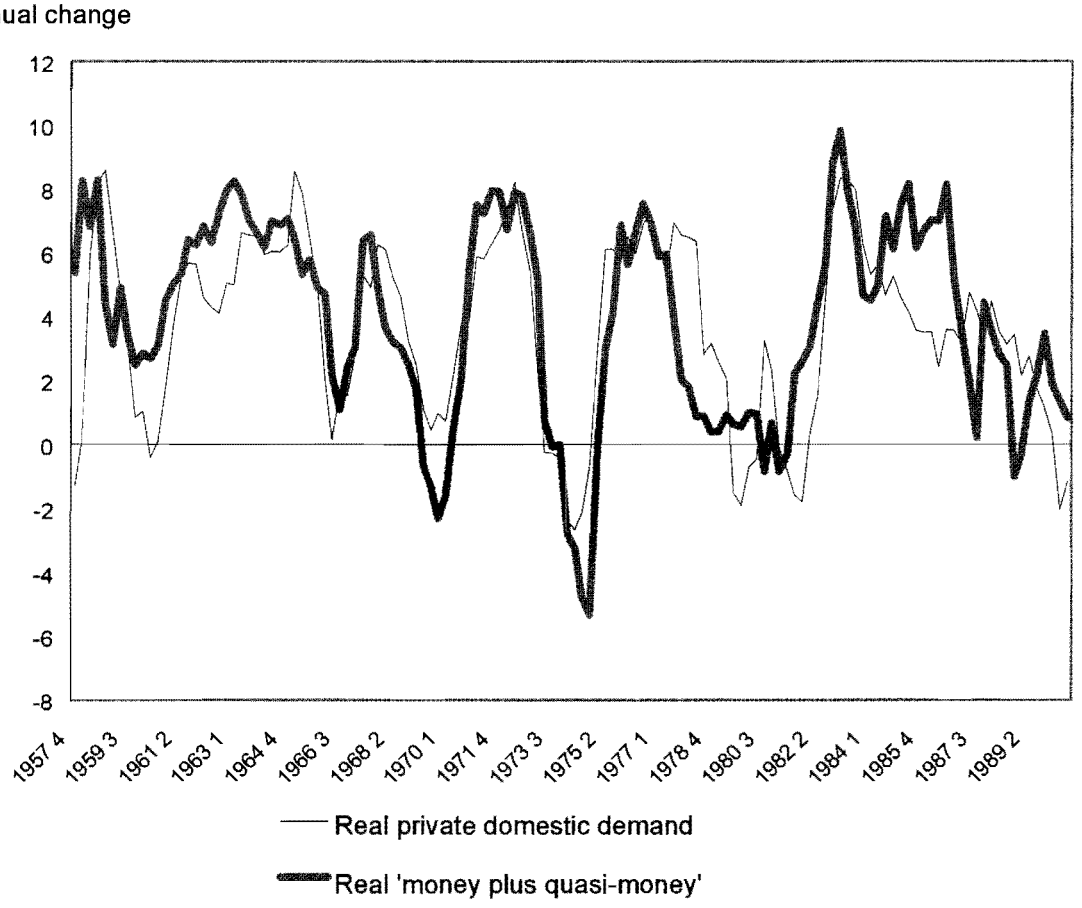
but not afterwards,

Unfortunately, the relationship between broad money and national income has been of much worse quality in the 15 years to 1995 than in the preceding 135 or so years. The chart on p. 13 compares the changes in the annual rates of change in real money plus quasi-money and real private domestic demand from the first quarter of 1991 to the fourth quarter of 2004. It appears that there is no relationship at all. However, this does not necessarily mean that the growth rate of money had no influence on that of demand or that the behaviour of money can now be ignored. The explanation may that some of the determinants of the ratio of money to expenditure were far more volatile in the 15 years from early 1991 than in the previous very long-run period when a simple money/demand link was clear. For example, as the majority of US banks' deposit liabilities are now interest-bearing, changes in the level of interest rates will affect the desired ratio of money to expenditure. (At the end of 2004 US banks' interest-bearing deposits were $4,540.1b. and their non-interest-bearing deposits were $1,052.7b., according to the FDIC website. By contrast, in 1970 non-interest-bearing deposits at $247.2b. were

Money and demand in the USA

1957 - 90: a robust and close relationship...

Chart shows % annual change, quarterly data. Private domestic demand is final sales minus government consumption. "Money plus quasi-money" is a broad money concept derived from IMF data. Both series were deflated by the GDP deflator. Money is lagged two quarters.

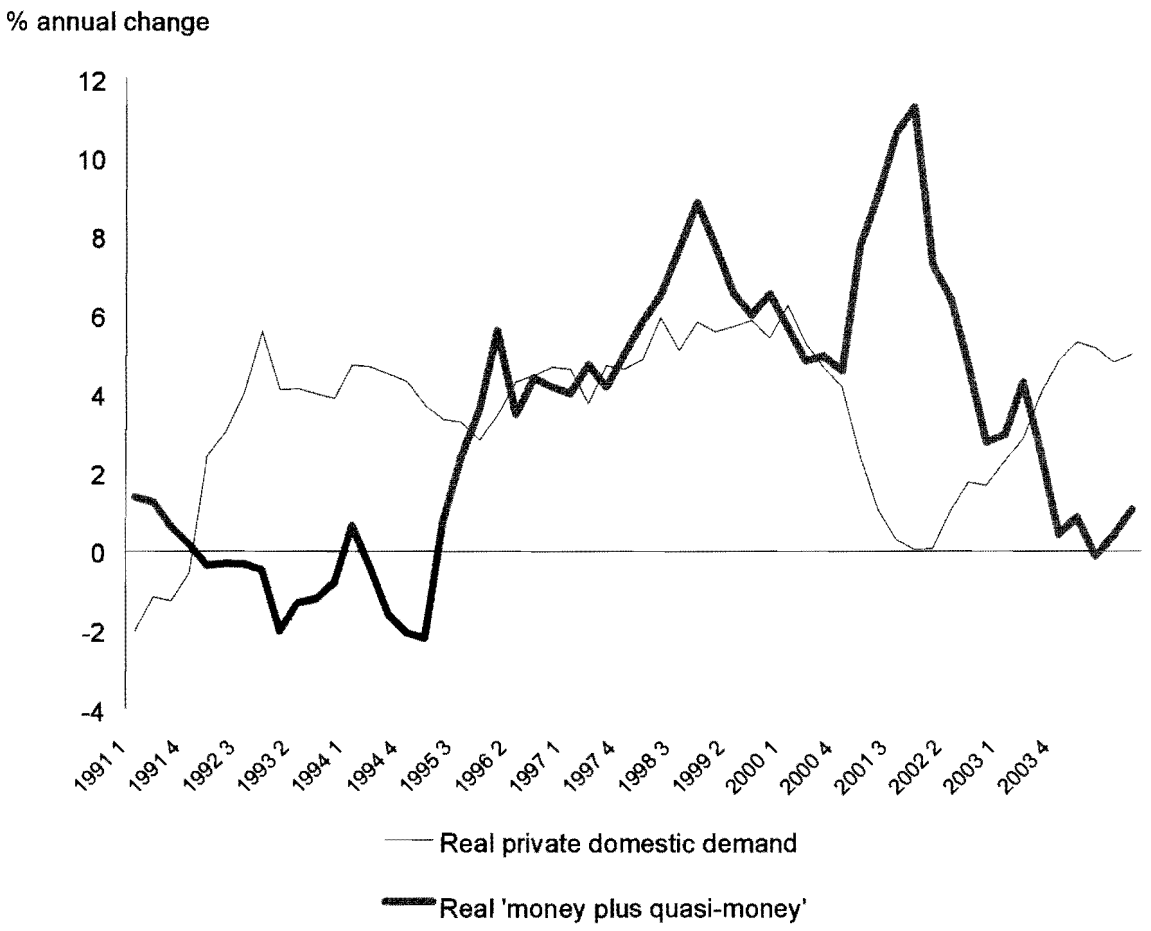


Sources: IMF and US Department of Commerce

In a large body of empirical work carried out in the 1950s and 1960s (and brought together in their classic *A Monetary History of the United States, 1867 - 1960*) Friedman and Schwartz demonstrated a number of regularities between, on the one hand, changes in the money supply and, on the other, changes in output and the price level. Since the government does not hold significant money balances (relative to its enormous expenditure), money supply developments are most relevant to private demand. The chart shows that the Friedman-and-Schwartz findings remained valid for 30 years after their work. The chart compares the annual changes in real private domestic demand with those in real broad money lagged two quarters. (The lagged relationship is clearly superior to the contemporaneous relationship, implying that causality ran from money to income. The r-squared on the simple two-quarter-lagged relationship was 0.48 and no doubt could be raised to 0.75 or so with a more elaborate lag structure. The t statistic on the real money term was a clearly significant 10.8.)

1991 - 2004: which seems to have broken down

For explanation of data series, see opposite page. Money series on this page is not lagged.



In sharp contrast to the 1957 - 90 period, the relationship between changes in money and demand since 1991 has been extremely poor. The chart plots a contemporaneous relationship, not a lagged one, but introducing lags does not rescue it. (Using the same two-quarter lag as in the 1957-90 period discussed on the opposite page, the r-squared in a regression of the change in real private domestic demand on the change in real broad money was 0.003 and the t statistic was minus 0.4.) The reason for the collapse of the simple money-demand relationship in the USA may be the increasing role of interest-bearing balances in broad money and large swings in real interest rates (which alter the desired money/income ratio). Last year interest-bearing deposits of banks insured at the FDIC were more than 4 1/2 times larger than non-interest-bearing deposits, whereas 25 years earlier they had been only twice as large. The breakdown of the simple money-demand link no doubt goes some way to explain why the Federal Reserve no longer pays much attention to money in its policy deliberations.

larger than interest-bearing deposits at $235.3b.) The important feature here is the sharp fall in real interest rates since the 1980s and the low level of real interest rates now prevailing. People and companies may have wanted to cut back on their interest-bearing money balances, as they became a less remunerative way of holding wealth. Of course, if the desired ratio of money to incomes and expenditure is falling, a low rate of money growth may not have a negative message for economic activity. Money growth has in fact been very slow in two periods since 1990, in the early 1990s and since the start of 2003. In the five years to mid-1995 the compound annual growth rate of M3 was 1.9%, while in the 30 months to mid-2005 it was 5.2%. As the chart opposite shows, these two periods have also been ones of unusually low real interest rates.

which may be explained by increase in interest-bearing money and large swings in interest rates

Admittedly, the comments in the last paragraph are conjectures rather than proofs. But there is another reason for not accepting at face value the apparently adverse message of the USA's money slowdown for demand. The earlier analysis of the causes of the slowdown showed that the problem was not a lack of credit demand, but banks' tendency to finance asset growth from non-deposit sources combined with the decline of the MMMFs. But in all likelihood the banks' increased issuance of non-deposit liabilities and the decline of the MMMFs are related. Typical examples of non-deposit liability are money market instruments and bonds. If such instruments are very short-term, slow-risk and easily transacted, and are acquired by non-banks, they form part of their liquidity in just the same way as MMMF units. An interesting wrinkle here is that money market instruments , and bonds issued by banks may be purchased by bond mutual funds. For an individual who does not need to make frequent withdrawals, units in a mutual fund specialising in short-dated bonds are very similar to units in a MMMF. Insofar as bond mutual funds have been gaining market share relative to MMMFs in the American savings market, the macroeconomic significance of the money slowdown is reduced. People and companies may have less M3 money, but – because they have extra assets in fairly liquid bond mutual funds – they feel themselves to have enough money-type assets.

Contraction of MMMFs and increase in banks' non-deposit funding may be related

Funds specialising in short-dated low-risk paper very similar to MMMFs

It has to be said that data published by the Investment Company Institute do not support the notion that bond mutual funds have been expanding with particular rapidity to offset the decline of the MMMFs. In the period from December 2002 to May 2005 taxable bond funds increased in size from $796.6b. to $987.5b. The implied compound growth rate of 9.3% was respectable and well above the growth rate of M3, but it was not enough to outweigh the contraction in MMMF assets. However, new types of fund – such as funds specialising in collateralised loan obligations and highly-rated floating rate notes, often with leveraged structures – are, almost certainly, not included in the ICI's data. Funds of this type have blossomed in Europe in the last five years, but it is well-known that the American market is much larger. If leveraged debt funds were added to bond mutual funds,

their combined growth might well be sufficient to offset the fall in MMMF assets.

Conclusion

The various threads of the analysis can now be drawn together.

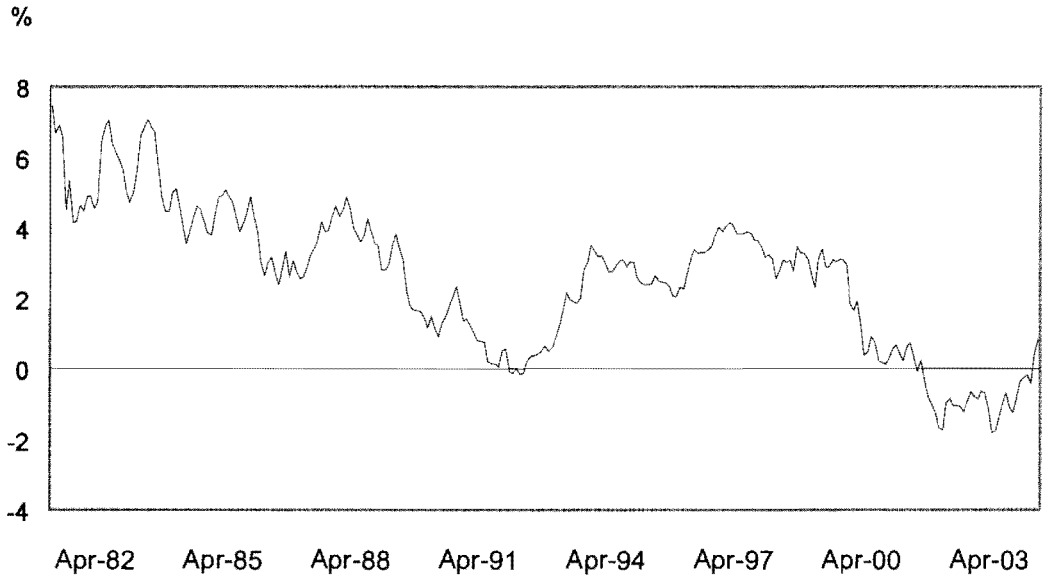
First, the US money slowdown is not to be explained by weak growth in banks' assets or by inadequate bank capital. The USA today is, happily, a long way from the Japanese situation in the early 1990s.

Secondly, the money slowdown is attributable to two developments, banks' recent tendency to finance their expansion to an unusual extent from non-deposit sources and the decline of the money market mutual funds. MMMFs – which originated in the 1970s as a means of bypassing official restrictions on banks' payment of interest on deposits – have lost market share to other savings vehicles because of very low (or even negative) real interest rates on MMMF units.

Thirdly, as in the early 1990s, the negative impact of slow money growth on demand has been mitigated by rock-bottom interest rates. Since the majority of US bank deposits have been paying interest for over 30 years, people and companies are likely to have been disappointed by the very poor returns on deposits in the last three or four years. They have wanted to lower the ratio of money to expenditure and income, offsetting the otherwise unfavourable consequences of low money growth for demand.

Low real interest rates in the USA today

Chart shows rate on 3-month certificates of deposit, deflated by annual increase in consumer prices, monthly data



Source: Federal Reserve

Finally, some evidence can be assembled that the decline in MMMFs has been outweighed by strong inflows into bond mutual funds, specialist collateralised debt funds and other relatively liquid savings instruments. Indeed, banks' increased propensity to issue money market instruments and bonds may have provided such funds with attractive opportunities to invest the inflows. The M3 figures (and the M2 figures also) are therefore understating the growth of money-type assets held by US non-bank private sector agents.

Lowness of M2 and M3 growth exaggerates tightness of US monetary policy

When all these considerations are combined, the conclusion has to be that the US money slowdown does not have a negative message for the growth of American private sector demand in the rest of 2005 or 2006. It needs to be emphasized that the growth rates of both M2 and M3 since early 2003 have been higher and real interest rates lower than in a similar phase in the early 1990s. The American economy made a strong rebound from its difficulties in the early 1990s, when money growth was undoubtedly crimped by a lack of capital in the banking system. The Federal Reserve has been right to raise Fed funds rate to 3 ¼% despite the slowness of money supply growth, while above-trend demand growth is likely for a few quarters yet. Moreover, US monetary policy-makers cannot ignore the relevance of their actions for the wider dollar area. Much of Asia is effectively on a dollar standard (i.e., currencies are linked, with varying degrees of explicitness, to the US currency) and therefore adopts dollar interest rates, even if they may be inappropriate on domestic grounds. For example, wild credit and asset price booms are at present under way in several Middle Eastern economies, as they benefit from booming oil revenues and low interest rates.

Money slowdown does *not* justify forecast of weak economy

As always, US money supply trends need to be watched. A strong and consistent relationship held between money and US domestic demand between the American Civil War and about 1990. But in the last 15 years the relationship has become much less clear. The money slowdown since early 2003 does not – by itself – justify a forecast of demand weakness in the rest of 2005 or 2006.

Notes

(1)M2 consists of M1 (mostly currency and demand deposits), plus savings deposits, small-denomination time deposits and retail money market mutual fund balances. M3 consists of M2 plus institutional MMMF balances, repurchase agreements and Eurodollar deposits held by US addressees.
(2)See the paper entitled 'Remarks by Governor Ben S. Bernanke: deflation, making sure "it" doesn't happen here', given on 21st November 2002 before the National Economics Club in Washington DC, available at the Federal Reserve website under www.federalreserve.gov/boarddocs/speeches/2005.
(3) The quotation is from p. 146 of the spring 2005 issue of the *Federal Reserve Bulletin* (Washington: Federal Reserve), which included an article on 'Profits and balance sheet developments at US commercial banks in 2004'.
(4) Milton Friedman *The Optimum Quantity of Money* (London and Basingstoke: Macmillan, 1969), p. 235. The quotation is from a paper by Friedman and Schwartz on 'Money and business cycles' which had originally been published in the *Review of Economics and Statistics* in 1963.
(5))Friedman *Optimum Quantity*, p. 196.