

GERRARD & NATIONAL

Monthly Economic Review

No. 85, July 1996

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Can monetary growth be reduced with current interest rates?

Acceleration in monetary growth to 10% a year

Clear upturn in M4 growth in early 1995

A clear change in the trend rate of monetary growth occurred in early 1995. From mid-1991 to the end of 1994 M4 growth ran at an annual rate of 4% to 6% and for much of the time it was under 5%. But at the start of 1995 monetary growth accelerated. Instead of increasing typically by 1/4% to 1/2% a month, it began to rise by 1/2% to 1% a month. In terms of annual rates this was equivalent to almost 10%. The monetary data for early 1996 suggest that the 10% or so rate of broad money growth is continuing. In May itself M4 went up by 0.8% and its six-month annualised rate of increase was 10.5%.

10%-a-year growth of broad money not consistent with inflation of 2 1/2% or less

The acceleration in the trend rate of monetary growth - roughly from 5% a year to 10% a year - is very important to the UK's macroeconomic outlook. Whereas 5%-a-year broad money growth was consistent with the Government's inflation target of 2 1/2% or less, 10%-a-year broad money growth is not. The damage will not come through immediately, as the inflation prospect over the next few quarters remains benign. But above-trend output growth will resume in late 1996, with high money growth, buoyant corporate liquidity and strong asset prices acting as key positive influences on demand. By mid-1998 the level of output, as well as the rate of growth, could again be above-trend. Inflation would then take off. All past experience is that - when the level of output is well above-trend, inflation expectations are on the rampage and credit demand is out of control - the task of combatting inflation becomes extremely painful. (Look at the UK's inglorious macroeconomic performance in 1974 and 1975, in 1980 and 1981 and, most recently, in 1990 and 1991.)

But reviving mortgage demand argues that money growth will remain high, unless interest rates rise

So excess money growth needs to be tamed. Unhappily, the Conservative Government are not bothered by the danger of rising inflation in 1999 because they want to win the general election in the spring of 1997. Could monetary growth decline without corrective action in the form of higher interest rates? The recent behaviour of credit demand suggests not. The acceleration in monetary growth last year was mainly due to a swing in company behaviour, from repaying bank debt in 1994 to quite heavy borrowing to finance take-overs. Personal sector borrowing remained subdued. (The stock of banks' and building societies' lending to persons rose by only 5.3% in the year to December 1995.) But personal sector credit demand is reviving. The value of new mortgage loans approved in three months to May was £18.1b., compared with £15.1b. in the same three months of 1995. Newspaper reports are of renewed house price inflation in many parts of the country, which will give further impetus to mortgage demand. At current interest rates, broad money growth will stay at about 10% a year. The Government's inflation target is in jeopardy over the medium term.

Summary of paper on

'An Open Letter to Professor Minford'

Purpose of the paper

At present there is a wide divergence of view about the UK economy between two members of the Treasury Panel, Professor Tim Congdon and Professor Patrick Minford. The purpose of this Open Letter from Professor Congdon to Professor Minford is better to understand the reasons for the gap in interpretation, by challenging some of Professor Minford's arguments.

Main points

- * Congdon believes that broad money is crucial as a determining influence on national income; Minford denies this, emphasizing narrow money (especially M0) as "the true monetary fuel of spending".
- * Minford claims that broad money is "volatile", changing as people switch between it and other assets; Congdon denies that *individual* decisions to change money holdings alter the *aggregate* quantity of such holdings. (See pp. 3-4.)
- * Minford says that financial deregulation ended the relationship between broad money and money national income in the early 1980s; Congdon shows that the personal sector's demand-for-money function money has been stable since the early 1960s (if not earlier) and was unaffected by financial deregulation. (See pp. 6-7.)
- * Congdon denies that M0 is of much interest because a. it is determined by the economy (not the other way round), b. it is irrelevant to large capital transactions which are a source of macroeconomic instability and c. it is largely held in the black/criminal economy. (See pp. 7-8.)
- * Minford, echoing the American economist, Professor Eugene Fama, denies that banks play a special role in macroeconomic fluctuations; Congdon urges, on the contrary, that banks - as issuers of monetary liabilities - are different from other types of company, and so their behaviour has a profound impact on the macroeconomy. (See pp. 9-11.)

Professor Patrick Minford is to address Lombard Street Research's next quarterly seminar on 17th July, where he will talk on "The economic prospect for the UK".

An Open Letter to Professor Patrick Minford

Money and banking, and their relevance to boom and bust

Dear Patrick,

4th July, 1996

Current sharp divergence of view between the Liverpool Group and Lombard Street Research on the UK economy

I am very glad that you can talk to Lombard Street Research's quarterly seminar on 17th July. At present we disagree profoundly about the macroeconomic outlook for the British economy. With unchanged interest rates, Lombard Street Research expects a return to above-trend growth and, eventually, the resurgence of inflationary pressures. On the other hand, the Liverpool Research Group is concerned that - unless interest rates are cut sharply - the UK economy could enter another recession. It will be interesting and useful to understand the source of our disagreement, and I am most grateful to you for accepting the invitation to speak.

As is well-known, the differences between us stem in large part from contrasting interpretations of the importance of broad money. I am therefore writing to you in advance of the seminar to set out a critique of your views. I will cover two main sets of issues. I hope you can address them on 17th July.

1. The determination of the quantity of money ("the money supply"), and the relationship between the quantity of money and national income

May I suggest that the central question in the current debate between us is "how is the money supply, on the broad definitions, determined?"? In your recent paper from the Liverpool Research Group you assert

The Liverpool view of money supply determination

How much is held on deposit depends on investors; and whether they hold these deposits in banks, building societies or other close competitors will depend on their relative terms - interest rates and service. However much you change the definition of money it will be a volatile quantity, as depositors switch from markets to cash and between institutions outside and inside the definition.

I regard this statement as wrong and misleading. Let me explain.

But individual decisions to buy and sell do not change aggregate broad money

The key feature of broad money is that it includes (nearly) all the relevant deposit liabilities of banks alone (with M3) or banks and building societies combined (with M4). This has a crucial consequence. *If I make a payment from my deposit by writing out a cheque to another person, I do not change the total quantity of deposits. I merely reduce my deposit and increase the deposit of the person to whom I am making the payment.* Because broad money is an all-inclusive measure of money, payments from one account are receipts for another account. More generally, attempts by individuals to change their broad money holdings have no effect on the aggregate quantity of broad money.

(There are two qualifications to this statement. They arise because of the possibility of changing bank deposits by repaying or increasing bank borrowing and because of external transactions. Thus, people can get rid of excess money holdings not by making payments to another resident but, first, by repaying a bank loan and, secondly, by making payments to foreigners. I do not deny the importance of these qualifications, but they are not relevant to the criticism I am making of your position. I have discussed them at more length in the research paper 'What is British monetary policy: 1. The transmission mechanism of monetary policy' in the December 1993 issue of the *Gerrard & National Monthly Economic Review*.)

The "individual experiment" cf. the "market experiment"

So the quantity of broad money does not depend "on investors", as you believe. Indeed, may I suggest that you are confused between the "individual experiment" and the "market experiment", to borrow from Patinkin's distinction in his *Money, Interest and Prices*? The outcome of any one individual's behaviour is different from the outcome of all individuals' behaviour taken in the aggregate (i.e., the market's behaviour). What instead is the correct theory of the determination of the quantity of money?

Growth of broad money driven by growth of bank assets

Broad money is dominated by bank deposits. So, unsurprisingly, the quantity of such deposits depends on the actions of banks' managements and customers. Banks' managements are trying to maximise the return on the equity capital invested in the business, subject to a risk constraint. I suggest that they try to expand their assets to as high as possible a multiple of their equity capital, by expanding their portfolios of loans and bonds. The phrase "as high as possible" is, of course, very imprecise, but UK experience over long periods is that banks maintain equity at about 5% of assets. Clearing banks are able to add simultaneously loans to the assets side of the balance sheet and deposits to the liabilities side, just by "a stroke of the pen". The creation of new money is as simple as that. Roughly speaking, the increase in broad money is equal to banks' credit expansion.

The Lombard Street Research view of money supply determination disliked by the "monetarists"

This view of money supply determination - that banks' deposit liabilities are roughly equal to banks' assets, and that the growth of banks' assets is motivated by the growth of banks' capital - is widely held in some banking circles, although it is rarely stated as bluntly as here. It is clearly different from the standard textbook account in which broad money is a multiple of the monetary base. It annoys many "monetarist" economists, including Professor Milton Friedman and Sir Alan Walters, and I am sure you don't like it. Whether this theory of money supply determination is right or wrong is nevertheless an empirical matter, not a matter of personal preferences and hunches. I take some comfort from the fact that, over the last 25 years, there has been a large fall in the ratio of base assets held by UK banks to their total deposits, while their capital/asset ratios have been fairly stable.

What about national income? We both agree that the equivalence of the demand to hold money and the supply of money balances is a condition of macroeconomic equilibrium (i.e., we believe in something like Hicks' LM

If demand for money equals the money supply in macroeconomic equilibrium, the money supply determines national income

curve). We also surely agree that the demand to hold money is a function of incomes and the attractiveness of money relative to other goods and assets (i.e., the inflation rate, an interest rate, a differential between the return on holding money and the return on the nearest competing asset or whatever). Crucially, one argument in the aggregate demand-for-money function is national income. If the quantity of money is fixed by banks and their customers in the way I have described, and if national income is in equilibrium only if the demand to hold money equals the supply, then the money supply can be said to determine national income.

This is - I believe - the correct understanding of the monetary theory of the determination of national income. Some such theory was widely accepted by British economists in the 1920s and 1930s, but - largely because of the prestige enjoyed by Keynes *General Theory* - it was forgotten by British economists in the 1950s and 1960s. This collective amnesia had a catastrophic effect on British macroeconomic policy in the 1970s and 1980s, with a huge cost in unnecessary human misery. It is still far too early to judge whether the lessons have been re-learned. (In fact, I have to say that my membership of the Treasury Panel and my continuing debates with you have persuaded me that a great deal of "social learning" - or "re-learning" - still has to be done.)

If demand for money differs from the money supply, spending on assets, and on goods and services (i.e. national income) changes until they are brought back to equivalence

What happens if the quantity of money differs from the demand to hold it? The answer is that people, companies and financial institutions take action to bring the quantity of money into line with the demand for it. If they have excess money balances, they purchase more assets and/or goods. But - in the aggregate - they can buy and sell mostly from each other, and the money flows within a closed circuit. Equilibrium is restored by a rise in national income which eliminates the excess of money holdings over the desired level. Conversely, if they have deficient money balances, they reduce their expenditure on goods or sell assets, and equilibrium is restored by a fall in national income. So national income is determined by the quantity of money, which in turn depends on banks and their customers, and in particular on banks' capital adequacy and credit growth.

In your Liverpool piece you claim that M4 was "an unreliable predictor of inflation" in the 1980s and that the main explanation for its unreliability was the "deregulation of financial markets". May I make one point clear? I do not believe, and never have believed, that a $x\%$ increase in M4 (or any other measure of broad money) is likely to lead - reliably and consistently - to a $y\%$ increase in the price level at some predictable coincident or future date, where y is x minus the trend percentage per annum increase in national output. It is perfectly consistent to reject such a naively mechanistic view of national income determination and yet to believe that the course of national income is still strongly influenced by the money supply. Again, let me explain.

In the 1980s the equilibrium demand to hold money balances rose more rapidly than national income for a number of reasons. Financial deregulation was certainly one of these reasons, because it reinforced competition in the banking system and so increased the proportion of bank deposits which paid interest.

Changing equilibrium ratio of broad money to national income does *not* invalidate the argument

But other influences can be cited, including a sharp increase in real interest rates (which made money more worthwhile to hold) and privatisation (the government does not hold money for portfolio reasons, whereas the private sector does). At any rate, because of the greater attractiveness of money, M4 could rise much more rapidly than equilibrium national income. But this does not mean either that M4 could have risen at any figure whatsoever without inflationary effect or that movements in M4 during the decade were irrelevant to the inflation outturns actually recorded.

Financial deregulation did *not* alter the personal sector's demand-for-money preferences

A strong case can be put together to refute your claim that the demand to hold broad money has been destabilized by financial deregulation. My colleagues at Lombard Street Research have estimated an equation for the personal sector's demand to hold M4 balances for the period 1965 to 1995. The independent variables in the equation include the real building society share and the interest-bearing proportion of personal M4 balances, which were of course affected by financial deregulation. This equation meets all the standard tests. The worst result - from your standpoint - is that the residuals were much the same during the period of greatest deregulation (i.e., in the early 1980s) as at other times. So deregulation had an effect on the actual quantity of money people wanted to hold, but it did not disturb their underlying demand-for-money preferences. (See chart on opposite page.)

M0 is of little interest, as

In your final paragraphs you propose that inflation "depends on spending relative to the supply of goods" and that spending "depends partly on short term interest rates which are set by the Bank of England's supply of cash". This "supply of cash" is M0, which then becomes - in your view - "the true monetary fuel of spending". I am staggered by this assertion and continue to be puzzled by your enthusiasm for M0. In my work, I have developed at least three avenues of criticism. Let me run through them again here.

1. it is *not* an all-inclusive quantity of money, individual decisions can change aggregate M0,

First, unlike M4, M0 is *not an all-inclusive definition of money*. Indeed, M0 represents only a small part of the money supply, broadly understood. As a result, people can switch between M0 and deposits, without any effect on spending on goods and assets. If I have too much M0, I simply put the excess into a bank deposit, with no implications for aggregate demand or national income. The contrast with my reaction to an excess holding of broad money - where I can get rid of it only by changing my expenditure on goods and/or assets - is very marked. Because of the scope for such "money transfers", M0 is determined by national income and other variables. Unlike broad money, it does not play a significant role in the determination of national income. (See my article 'Broad money vs. narrow money' in the autumn 1995 issue of *The Review of Policy Issues*.)

2. it is irrelevant to volatile capital expenditures, and

Secondly, M0 is used to settle only a tiny proportion of the transactions of a modern economy with a banking system. Notes and coin are almost never used to pay for capital items, such as houses, buildings, ships, planes and so on, or for financial assets, like shares or bonds. But macroeconomic fluctuations in a modern economy emanate, predominantly, from volatility in expenditure on

capital items and from various instabilities in financial markets. How can M0 be relevant to understanding such fluctuations?

3. it is held largely in "black economy"

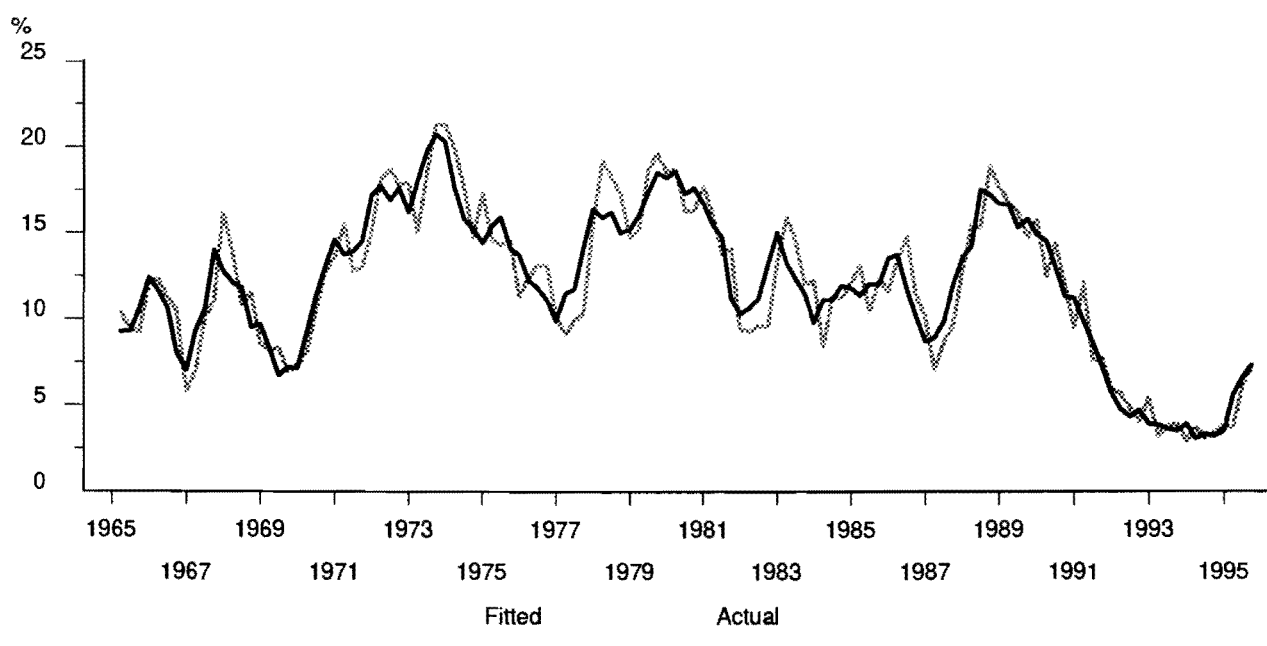
Thirdly, for most people M0 is used only in trivial day-to-day transactions, like buying groceries, newspapers and such like. The average M0 holdings of the great majority of individuals at any one time must be less than £100. But the average M0 holding of UK households at end-1995 was the amazing figure of over £800. What accounts for the discrepancy? The answer is that a high proportion of M0 is held in the black economy and has no implications for behaviour in the official economy, which is of course much larger. I don't think it is sensible to base macroeconomic policy on a monetary aggregate which is held, to a disproportionate extent, by tax-evaders and criminals.

Can 10% money growth be reconciled with inflation under 2 1/2%?

Before I move on to the second set of issues, I would like to repeat the questions I asked in my letter to *The Daily Telegraph* of 21st March, "do you believe that the annual rate of M4 growth could rise to 15% or 25% (or indeed 55% or 105%) and that inflation would be unchanged?" and "are you really confident that annual M4 growth of above 10% can be reconciled indefinitely with inflation under 2 1/2%?". Or do you view these questions as so wrong-headed in their formulation that they are not worth answering? If so, why so?

The demand for money and financial deregulation

Chart compares the annual % change in the personal sector's actual M4 holdings with the M4 holdings estimated by the equation described in the text. The residuals in the early 1980s (i.e., during financial deregulation) were much the same as over the rest of the 30-year period.



Source: Lombard Street Research

2. The importance of the banking system to macroeconomic outcomes

**Lombard Street
Research approach
to
macro-forecasting
distinctive,**

As I have already noted, Lombard Street Research has a distinctive approach to analysing and forecasting the British economy. In this approach the quantity of broad money plays an important role in influencing macroeconomic fluctuations in the short and medium run (meaning, say, periods of up to four years) and in determining the price level in the long run. (Of course, output is determined by real forces - technology, demography and so on - in the long run.) Further, the quantity of money is nowadays almost entirely a liability of the banking system, because the historical link with a precious metal has been severed. So - in our view - cyclical developments in the banking system are crucial to macroeconomic outcomes.

**especially in
emphasis on
money and banking**

It has become clear to me - from the meetings of the Treasury Panel and indeed many other gatherings - that no other independent research group in this country holds this view. Economists at the National Institute and the London Business School do not see the behaviour of broad money and the banking system as crucial to macroeconomic outcomes. Because of the absence of any causal role for money in these forecasters' analyses, the work carried out at Lombard Street Research is undoubtedly different. (Of course it may still be misguided.) In the academic world the most forthright critique of the macroeconomic significance of the banking system was given in two famous papers by Professor Eugene Fama 'Banking in the theory of finance' (published in the *Journal of Monetary Economics* in 1980) and 'Financial intermediation and price level control' (also in the *Journal of Monetary Economics* in 1983). In fact, you cite these two papers with approval in the article 'Monetary policy in the UK under Mrs. Thatcher' in your book *The Supply Side Revolution in Britain*.

**Cf. Fama's view on
irrelevance of
banks and broad
money,**

**and your own
views in the late
1980s**

That article was originally published in 1988, in the midst of the strongest credit expansion in the post-war period. In it you posed the question "has the credit surge destroyed the credibility [of the Medium-Term Financial Strategy]?" and recognised an argument that the exchange-rate targetting in the year to March 1988 might "have destroyed the MTFs by fomenting a monetary explosion, shortly to become a price explosion". But you dismissed the argument. In your words, echoing Fama, "This view completely fails to understand the role of banks and other financial intermediaries in a freely competitive banking and financial system." You concluded the section, "As for the credit explosion school of thought, it is clearly wide of the mark, using concepts appropriate to a financial environment that has now passed away into the history books." These remarks were undoubtedly of great comfort to Mr. (now Lord) Lawson, who presided with great complacency over the rapid expansion in credit and money, and to his many advisers at the Treasury and the Bank of England, who reassured him that there was nothing to worry about. So Professor Fama was the intellectual architect of the Lawson boom and - if I may say so - you supplied some of the crucial design details. (What was it that Keynes said about madmen in authority and "some academic scribbler of a few years back"?)

Your 1988 article claimed demand for broad money was "indeterminate", which is difficult to understand,

At any rate, I still don't find the arguments against broad money in your 1988 article at all convincing. There were essentially two such arguments. The first was that, when money balances become interest-bearing, the demand for them ceases to be "determinate". I just don't understand this. The problem of a changing opportunity cost of money balances applies to non-interest-bearing money, just as much as interest-bearing. The opportunity cost of holding notes and coin varies with, one, the interest rate on the nearest competing balance and, two, the inflation rate. The same is true with interest-bearing balances. In both cases the demand is determinate. There is no great difference in principle between the two types of money.

and that simultaneous growth of banks' assets and liabilities could not affect wealth or behaviour

But I concede that your second argument is interesting and of considerable importance in economic theory. The heart of it is that the simultaneous expansion of banks' assets and liabilities does not - by itself - change a society's wealth, because the assets and liabilities are equal, and so cancel out. Because they cancel out, there ought - in your view - to be no effect on economic behaviour. In your words, "There is literally an infinite number of asset-liability combinations in which the private sector can hold its savings; and each is as good as the other from its viewpoint." It follows that, "should banks expand credit and deposits, nothing other than the balance sheet structure will have been affected. Credit and wide 'money' measures will be driven by the supply-side technology of the financial system and be of no significance to consumers' savings and firms' investment plans." (Quotes are from p. 70 and p. 71 of *The Supply Side Revolution in Britain*.)

But people care about the riskiness and liquidity of their portfolios in future periods, not just the expected central value

I think the mistake in this passage is to believe that economic agents care about only one aspect of their balance sheets, namely their net wealth. I submit that this is not so. As Tobin and Markowitz explained in the 1950s, they are also concerned about the riskiness of their portfolios. A great deal of academic analysis has of course been done about the implications for portfolio choice of the variance of returns. Agents often give up return (i.e., expected net wealth) in order to reduce the variance of the return (i.e., risk). But many other dimensions of a portfolio need to be remembered, including the expected volatility of returns over time and "liquidity" (i.e., the ability to sell the assets in future at prices close to current prices with minimum penalty). From the standpoint of monetary policy, liquidity is the crucial characteristic. If we want to understand why you (and indeed Fama) are wrong, we may concentrate on this aspect of portfolios.

Consider the two balance sheets on p. 10. They relate to different property companies, but we may imagine them holding roughly the same portfolios of property assets, i.e., portfolios valued at £275m. at the latest balance-sheet date and with the same marketability. The two companies have the same net worth, i.e., the difference between their assets and their non-equity liabilities is £100m. Company A has to repay its bank loan of £100m. less than a year from now and has no cash; company B has also to repay £100m. less than a year from now, but has £125m. in cash.

Balance sheets of two property companies

1. A property company with extremely high gearing and a cash cushion - Company A.

	Assets	Liabilities	
£275m.	Property portfolio	Loan maturing in July 2006	£200m.
		Loan maturing in July 1997	£100m.
£125m.	Cash in bank	Equity	£100m.
Gearing (debt/equity) = 300% Liquidity ratio (cash/debt) = 42% Current assets, gross = £125m.			

2. A property company with high gearing and inadequate cash - Company B.

	Assets	Liabilities	
£275m.	Property portfolio	Loan maturing in July 2006	£100m.
		Loan maturing in July 1997	£100m.
£25m.	Cash in bank	Equity	£100m.
Gearing (debt/equity) = 200% Liquidity ratio (cash/debt) = 13% Current assets, gross = £25m.			

Companies A and B have the same net equity and the same size of property portfolio. But, because their balance sheet structures are different, they have different business prospects. Company B is under pressure to sell property to repay the loan maturing in July 1997; company A is under no such pressure.

Balance sheets with identical net worth may have sharply contrasting liquidity, with implications for behaviour

The two companies are identical in terms of net worth, but their financial circumstances are quite different. Company B is under pressure to sell properties soon to repay the short-term loan or to secure a new loan, with the outcome depending on the attitude of the company's bank manager and the (stochastic) flow of purchasing interest in the property portfolio. Company A is more highly geared than company B (i.e., debt to equity is 3 to 1, instead of 2 to 1), but it is under no immediate pressure. It has 10 years to earn profits from the difference between the rental yield on the properties and the interest on the loan, and gradually to run down the portfolio. The contrast between the two companies stems entirely from their different money holdings. We could think of other examples. One company might have plenty of cash, but a loan due for early repayment, whereas the other has little cash and a loan due for repayment many years away; one company might have a convertible security in its liabilities instead of a long-term loan; and so on. Certainly "an infinite number of asset/liability combinations" could be imagined.

But it is plainly - very plainly - not the case that all these combinations have the same consequences for the property companies' behaviour. The possession of liquidity - cash in the bank - is very valuable to a property company in that it keeps the bank manager at bay; on the other hand, it yields much less than the property assets themselves. The outlook for the property market as a whole therefore depends - among other things - on property companies' money holdings and the attitude of banks towards their balance sheets. It depends, in other words, on broad money and the determinants of broad money growth.

Faster money growth confers extra liquidity on agents throughout the economy, boosting asset purchases and national expenditure

In general, simultaneous expansion of both sides of banks' balance sheets increases the liquidity of the private sector. "Liquidity" is not to be understood as a particular sum of money, but as the attribute of being able to move portfolios around at little cost. But the increase in manoeuvrability because of a sudden broad money expansion has the unfortunate by-product of reducing the average return on most portfolios. (The reason is simply that cash and bank deposits are relatively low-yielding assets; on the whole, the higher the ratio of cash and deposits to total assets in portfolios, the lower the expected average returns.) To get rid of the excess liquidity and to boost the average return, agents try to convert money into other assets, or even possibly into goods and services. But, as we have seen, in the aggregate payments are predominantly within a closed circuit. Although the initial effect of a monetary expansion on net wealth is zero, the attempt to remove excess liquidity from portfolios still gives the standard monetary boost to asset purchases and national expenditure.

Debate to be partly resolved by relative forecasting success,

The debate between us will be resolved partly by the relative accuracy of our forecasts. The forecasts prepared by Lombard Street Research are for a strengthening upturn in late 1996 and early 1997, with output likely to exceed its trend level by, say, mid-1998 and rising inflation thereafter. Beyond mid-1998 the prognosis is very uncertain, as so much depends on policy. Nevertheless, the acceleration in the annual rate of broad money growth - from

5% or less in the three years to end-1994 to about 10% today - is crucial. Unhappily, I cannot see how the trend rate of nominal monetary growth (i.e., the 10% or so figure) will be reduced unless interest rates rise from current levels.

If money growth continues to run at 10% a year and inflation stays at under 3%, real money growth at 7% a year would be well above the trend growth rate of real output (i.e., 2 1/4% or 2 1/2%). In these circumstances the economy would continue to operate with excess liquidity and above-trend output growth would be sustained. (Strong balance sheets and buoyant asset prices would encourage higher investment.) Eventually - perhaps in late 1998 or 1999 - the economy would be operating so much above its trend level that inflation would rise markedly. For the present I am talking vaguely about the possibility of inflation going "above 5%", but these cycles tend always to be more extreme than expected and figures of 6%, 7% or more should not be ruled out. The rise in inflation would bring the growth rate of real money back into line with the trend growth rate of real output. There would need to be a period of beneath-trend growth (associated with low or negative real money growth) in, say, 2000 or 2001 to prevent inflation taking off into double digits.

As far as I can tell, you regard this whole line of conjecture (or should we call it quasi-forecasting?) as baloney. You think that it does not matter to the outlook for the economy over the period 1996 - 2001 whether the annual rate of broad money growth is 20%, 10% or zero. Well, we shall see. I believe that I am already winning the argument about late 1996, as the economy shows many signs of recovering to an above-trend growth rate. (I think I was mostly right and you were largely wrong in the similar debate we had in 1986. By the way, the forecasts of rising inflation I made in late 1985 and early 1986 related to 1988 and later, and were substantially correct. The lag between the upturn in monetary growth and the effect on inflation was quite long, and the same pattern is likely in the late 1990s.)

**but it would be
better if we could
agree at the
analytical level**

But I don't want to rely on relative forecasting success as the basis for challenging your approach. I would much prefer to persuade you - on the analytical and theoretical level - that you are wrong. In my view, it is impossible to understand the macroeconomic workings of the modern economy without considering the growth of the money supply (on the broad definitions). Further, whatever you and Professor Fama may claim to the contrary, monetary growth depends on the behaviour of the banking system and its customers. So an analysis of trends in bank credit, banking system capital and related variables is an essential part of macroeconomic analysis and forecasting.

Yours sincerely,

Professor Tim Congdon
Managing Director
Lombard Street Research Ltd.