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Japanese economic disaster possible in 2002

Heavy government borrowing from banks needed to boost money supply

Weakness of Japanese banking system worrying for global economy in 2002

Which is the greater threat to the world economy in 2002, Osama bin Laden or the Japanese banking system? Over the last month the newspaper headlines about job cuts in the airline industry, hotels and tourism have pointed the finger at bin Laden. However, air travel and tourism will recover from the tragic events of 11th September, just as they recovered after the similar shock in 1990. By contrast, the *malaise* in the Japanese banking system seems to be chronic and deep-seated, and the weakness in Japanese domestic demand has persisted since 1996. As Japan has the world's second largest economy, its under-performance has been important for all other countries. (If the Japanese economy had been more buoyant, commodity prices would have been higher and the UK's terms of trade weaker.)

Contraction of bank credit being aggravated by "tidying-up of bad debts"

Over the medium term the behaviour of Japanese demand and output matters far more to the world economy than Afghan-based terrorism. The news from Japan is in fact very disturbing. According to the Bank of Japan's *Monthly Report*, "Adjustments in economic activity are becoming more severe, as the substantial decline in production...is beginning to have a negative influence on employment and income conditions." The most plausible general explanation for Japan's sluggishness is that the banking system remains crippled by the bad debts dating back to the late 1980s. The result has been weakness in bank credit and slow money supply growth. In fact, bank credit the private sector is now falling and the growth rate of M2-plus-certificates-of-deposit money measure was only 3.4% in the year to August. Arguably, the problems are being aggravated by regulators' attempts to "tidy up the bad debts", which are said to be a response to pressure from the rating agencies and the International Monetary Fund. The faster the banks write off their bad debts, the lower are their assets *and the deposit liabilities which make up most of the money supply*. Further, if the writing-off of debts erodes banks' capital, they have once again to shrink assets to preserve a stable capital/asset ratio. The crisis is being aggravated by the Japanese government's intention to end its full guarantee on bank deposits at 31st March next year. As depositors are anxious that they may not get their money back in full then, they are trying to convert deposits into notes now. Holdings of banknotes are up by almost 10% on a year earlier.

Overriding need is faster money growth, achieved by government borrowing from banks

The combination of a virtually static money supply and an increase in liquidity preference (as people seek the safety given by notes) signals further weakness in economic activity in 2002. Indeed, a full-scale disaster - in which banks cancel bad debts, suffer an erosion of their capital, reduce their assets, liabilities and the money supply, which hits asset prices and leads to more bad debts, which banks cancel, and so on - cannot be excluded. The research paper in this *Review* argues that the Japanese authorities must do everything they can to raise money supply growth. More precisely, in 2002 the government must borrow on an enormous scale (perhaps as much as 60 trillion yen or \$500b.) *from the banks* in order to increase the annual rate of money growth to the high single digits.

Summary of paper on

“Money and the Japanese economic crisis II”

Purpose of the paper

The Japanese economy, the second largest in the world, has struggled with weak demand in the last few years. The paper proposes that the government should borrow heavily from the banks in order to raise money growth and stimulate the economy.

Main points

- * **A case can be made that the cause of weak demand in Japan has been slow money growth and rising “liquidity preference”.**
- * **If so, money supply growth must be increased. The key condition for an upturn in money growth is that the banks increase their assets, by lending more to the private and public sectors.**
- * **Unfortunately, bank credit to the private sector is contracting at an annual rate of 3% - 4%. (See p. 5.) Bank lending to the public sector must increase sharply if money supply growth is to rise towards a recommended 6% - 9% a year.**
- * **In the simplest version of the proposal the Japanese government borrows the 60 trillion yen (\$500b.) on overdraft and makes payments to the private sector, to cover the budget deficit and/or to finance asset acquisition. These payments boost the private sector’s bank deposits (i.e., the money supply). (See pp. 7 - 8.)**
- * **In a more institutionally realistic version of the proposal the Japanese government engineers a huge increase in its issue of very short-dated government paper (to be sold to the banks) and uses the proceeds to buy long-dated government bonds (from non-banks). (See pp. 8 - 9.)**
- * **These very large-scale debt management operations ought to revive the economy. They are Type I operations (between the government and non-banks, to boost the quantity of money), not Type II operations (between the central bank and the banking system, to boost the monetary base.) (The two types were distinguished in the *August Review*.)**
- * **Three alternative lines of thought focus on the role of the monetary base, bank lending to the private sector and banking system capital in a possible programme of monetary stimulus. (See pp. 11 - 15.) These variables are all important, but an undue emphasis on them may cause policy-makers to overlook the vital contribution that debt management can make.**

Money and the Japanese economic crisis II

Japanese government must borrow heavily from the banking system

Vulgar and sophisticated versions of Keynesianism no help in understanding Japanese crisis

The August issue of Lombard Street Research's *Monthly Economic Review* was largely a debunking exercise. It developed two main points. First, the behaviour of the Japanese economy in the 1990s went a long way to proving that by itself "vulgar Keynesianism" - the deliberate expansion of the budget deficit in order to stimulate business activity - is ineffective. Secondly, despite the intellectual subtlety of the protagonists in the debate, a more sophisticated version of Keynesianism is also unavailing. In this version, espoused particularly by the American economist Professor Paul Krugman, monetary policy is alleged to be impotent because of a "liquidity trap". In this trap increases in the quantity of money fail to reduce interest rates or to increase asset prices, and so do not boost the economy. A key weakness of the Krugman position is that, in fact, Japanese money supply growth has been subdued for several years. A case could be made that Japan suffers from a "liquidity squeeze" (i.e., a shortage of real money balances), not from a "liquidity trap" (i.e., the refusal of interest rates to fall in response to an increase in the quantity of money).

Aim of this Review is to describe an agenda of monetary stimulus

The purpose of this issue of the *Monthly Economic Review* is more positive. The central aim is to work out an agenda for monetary stimulus which builds on the analysis in the last *Review*; it is to propose a new answer to the Japanese crisis instead of attacking other economists. The core of the proposal is that the Japanese government (and not the Bank of Japan alone) should engage in stimulatory debt management operations. These operations should be quantitatively very large and qualitatively highly aggressive. Unfortunately, in the last few years the debate about the Japanese economy has become difficult, multi-layered and muddled. Many bad ideas are going the rounds, and the credibility of the proposal may be undermined by one common objection to any use of debt management policy and three influential alternative lines of thought. The next few pages set out the positive proposal; the concluding pages discuss and refute the common objection, and try to expose the weaknesses in the three different lines of thought.

Real money and output growth in Japan similar in long run

The chart on p. 6 of the last *Monthly Economic Review* showed the annual growth rates of real broad money (as measured by M3 plus certificates of deposit) and real GDP, on a quarterly basis, since 1967. Over the whole period M3 plus CDs did increase somewhat faster than real GDP, but the difference was small relative to the total multi-year growth in both variables. To be precise, between the first quarter of 1967 and the second quarter of 2001 nominal money increased at a compound annual growth rate of 10.1% - and nominal GDP at a compound annual growth rate of 7.4%. Both numbers are larger than the annual rate of change in the ratio of broad money to GDP, which was 2.5% a year.

Relative stability of money/GDP ratio argues for deliberate increase in money growth,

The relative stability of the ratio of broad money to GDP hints that a faster rate of growth of broad money is the essential precondition for an increase in the growth rates of both nominal GDP and real output. Indeed, it is a simple exercise to calculate the probability that a particular growth rate of broad money will be associated with nominal GDP growth above a particular figure. (An exercise of this kind was carried

out for the UK in the June 2001 *Monthly Economic Review*.) Given the high unemployment, the falls in the price level and the profound depression in the construction sector which now characterise the Japanese economy, a fair surmise is that the Japanese government and the Bank of Japan would be keen to see an annual increase in nominal GDP of 4% or more for at least one year and perhaps for several consecutive years. The chart on p. 6 shows a histogram of the excess of the annual % increase in broad money over that in nominal GDP; the table on p. 7 tries to answer the question, "what is the probability in any one year, or in two, three or four consecutive years, that money growth of x% will be associated with an increase in nominal GDP of 4% or more?"

with a target of, say, 6%-9% a year increase

It seems clear that - to be confident of attaining the objective of boosting the growth rate of nominal GDP - the Japanese authorities should increase the annual growth rate of broad money to 6% - 9% for two years or even longer. Critics of monetary analysis come from many directions. It is not difficult to find economists who say that a recommendation of faster broad money growth is misconceived, pointless, meaningless or whatever. But - for the sake of discussion - the assumption here is that a description of policy objectives in terms of the quantity of money is valid. The question becomes, "by what means is the rate of money growth to be increased?"

Banks can expand balance sheets without prior deposit inflows

Nowadays - in Japan as in other industrial countries - the quantity of money is dominated by bank deposits held by the private sector. These deposits are liabilities of the banking system. Banks exist in order to make a profit for their shareholders, as well as serving their customers. Roughly speaking, the larger their balance sheets, the higher their profits. Banks try to expand their balance sheets by extending credit to other agents in the economy. Like any company or individual, they can extend credit to other agents by the simultaneous addition of identical amounts to both their assets and liabilities. *Banks do not need to receive deposits before they can make loans. On the contrary, they create deposits by making loans.* (1)

Banks nevertheless have to keep cash in balance sheets, unlike non-banks

To make this elementary and fundamental point is not to deny that the liabilities created by banks are different from the liabilities created by non-banks. The liabilities created by banks have to be convertible back into notes and coin, whereas the liabilities created by other companies (such as the "creditors" figures which appear in their balance sheets) do not have this characteristic. The need for banks to maintain convertibility into notes and coin imposes distinctive constraints on their operations, and does differentiate them from run-of-the-mill non-bank industrial and commercial organisations. Nevertheless, the point stands. *Banks create deposits by making loans; they do not need to receive deposits before they make loans.*

Banks can expand balance sheets by extending credit to either public or private sectors

In any economy there are two types of agent, banks and non-banks, and non-banks fall into two categories, private sector and public sector. *So banks can create new deposits by making loans to either the private sector or the public sector.* In Japan today bank lending to the private sector is contracting. (See the chart on p.5.) This contraction in bank credit to the private sector reflects a number of deeply-entrenched features of the Japanese economy, and at one level of causality is the

**but in Japan today
lending to private
sector is falling**

**Banks must
therefore lend
more to public
sector**

**- and do so on large
enough scale to
reach 6%-9%
money growth**

**What is the amount
of government
borrowing from the
banks required to
reach 6%-9%
money growth?**

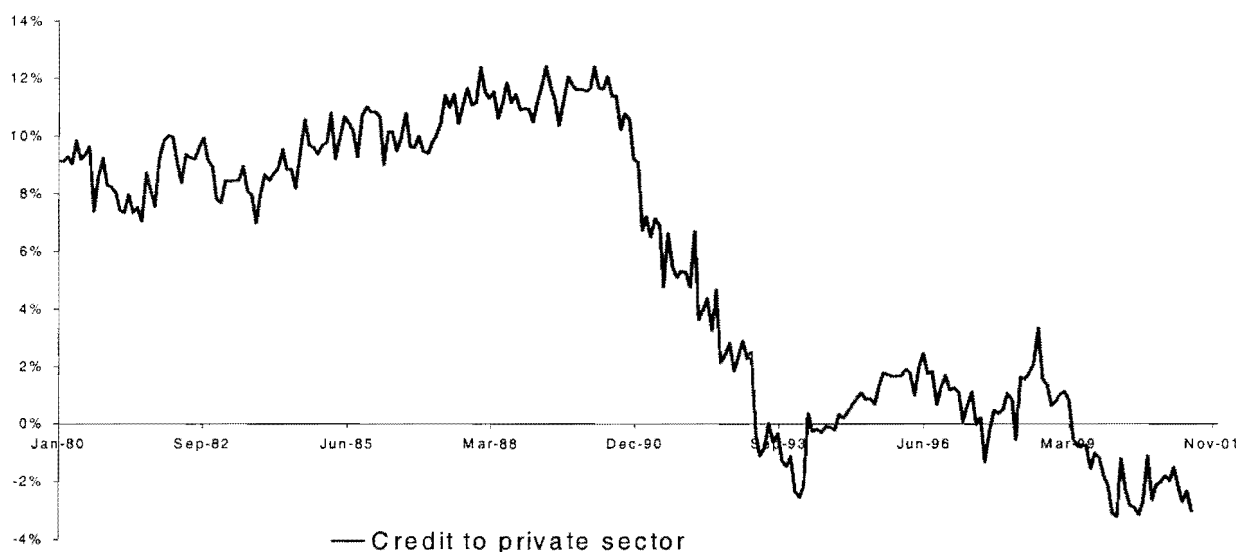
dominant reason for the chronically slow growth rate of the quantity of money and hence of the weakness in aggregate demand. A number of economists correctly point an accusatory finger at the decline in bank credit to the private sector and urge that measures be taken to stimulate it. Such measures would certainly be helpful, but the most important single form of stimulus – slashing interest rates to negligible levels – has already been done. Since interest rates are virtually nil and bank credit to the private sector is still falling, it has to be a premise of the discussion that bank credit to the private sector may continue to fall for some quarters yet.

So, what is to be done? *The answer is that the banks must increase their lending to the other type of non-bank agent, the public sector. Further, the expansion of the banks' claims on the public sector must be larger than the contraction in their loans to the private sector, so that their balance sheets overall and - hence - their deposit liabilities are growing at the desired 6% - 9% a year.* Modern monetary arrangements are complex, and the precise logistics of the proposed increase in banks' claims on the public sector may be confusing. Two versions of the proposal will be set out to help understanding. The first will deliberately be very simple, the second will be closer to the institutional realities.

The starting-point in the first version is that the Japanese government has accepted the need for a faster rate of broad money growth of 6% - 9% a year. The mid-point is of course 7 ½% a year. At present the quantity of money (on the broad M2 plus CDs definition) is about 655 trillion yen. Evidently, the required increase in broad money between December 2001 and December 2002 is about 50 trillion yen. (A trillion yen is a "thousand billion yen", which - at the current exchange rate - is worth

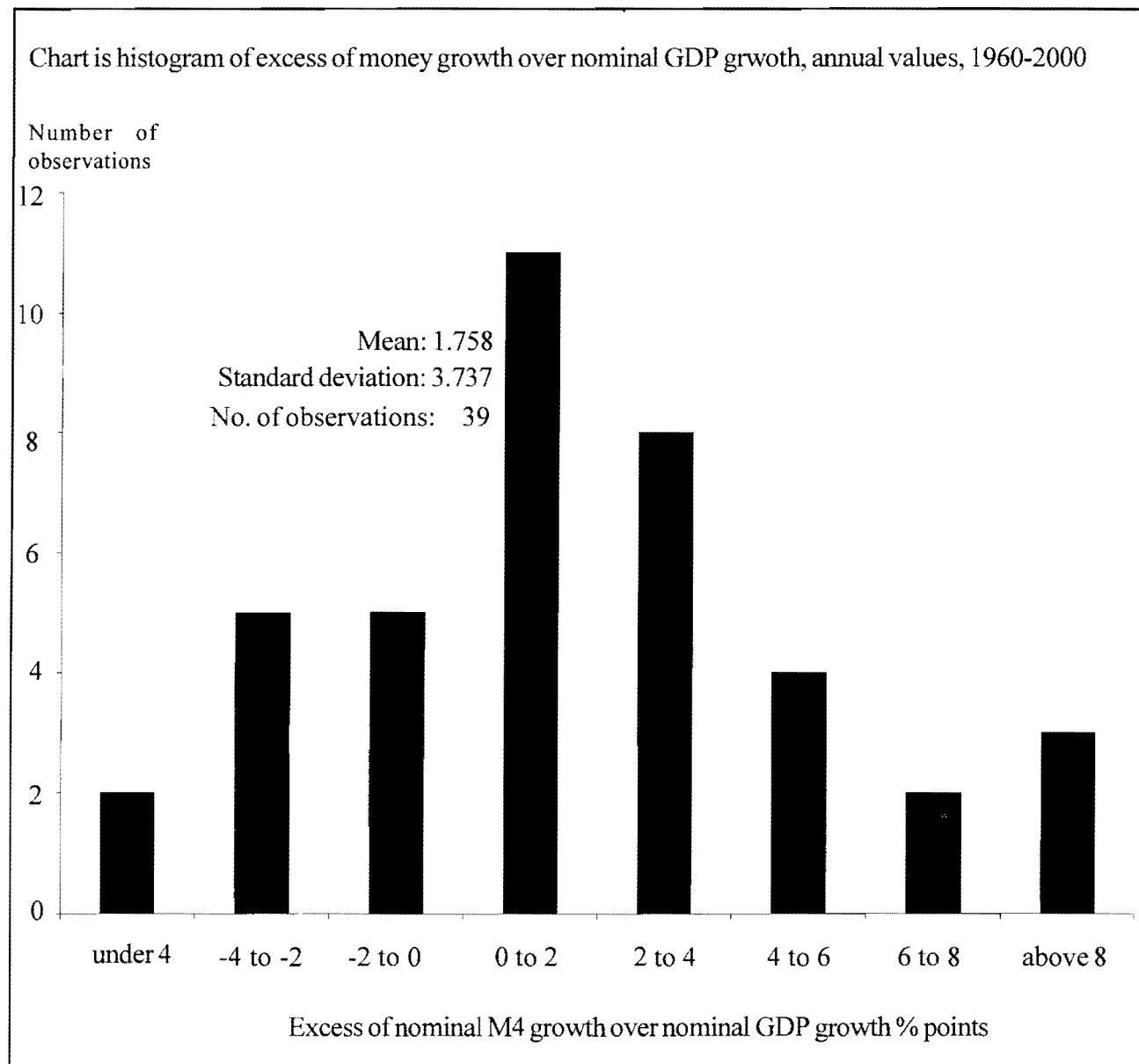
Bank credit to the private sector in Japan

Chart shows annual % change in bank credit to the private sector. The stock of credit is now falling by 3%-4% a year.



Money and output in Japan

Money/output ratio rising, but on stable upward trend



The ratio of broad money to GDP has been on a rising trend since the early 1950s. As the economy progressed from 1960 to 1990, competition between banks intensified and bank deposits became more attractive to hold relative to cash. Nevertheless, the money/GDP ratio did not change radically from year to year, while the values of the excess of money growth over the increase in nominal GDP appear to be normally distributed. More recently the rise in the money/GDP ratio may have been due to increased liquidity preference. (Note that the concept of "broad money" is not identical to the familiar M2 plus CDs or M3 plus CDs, but is the sum of "currency", "money" and "quasi-money" in the IMF's *International Financial Statistics*. Interpretation is not affected to any material degree.)

Would the policy work?

Continuous high money growth would boost the economy

Table gives answer to question, "what is the probability in any one year, and in two, three or four consecutive years, that money growth of x% will be associated with an increase in nominal GDP of 4% or less?".

Money growth	Probability of nominal GDP growth of 4% or less			
	In one year	In consecutive periods of: - Two years	-Three years	-Four years
6%	0.476	0.227	0.108	0.051
7%	0.371	0.138	0.051	0.019
8%	0.274	0.075	0.021	0.006
9%	0.192	0.037	0.007	0.001

Source: Lombard Street Research calculations

Note: The calculations use data in histogram on p. 6. Note that the probability estimates for two or more consecutive years assume that the probabilities in any one year are independent from the probabilities in any other year. This is not strictly correct in the context.

The chart on p. 6 identified a few years when money supply growth was well above the increase in nominal GDP. In fact, out of the 39 years covered by the histogram, there were nine in which the growth of money exceeded the growth of nominal GDP by 4% or more. But - very plainly - the bulk of the observations had values of under 4. It follows that, assuming the Japanese economy in future behaves much as it has in the past, a sub-4% increase of nominal GDP is unlikely to occur in conjunction with 6% - 9% broad money growth. Indeed, assuming that the observations of the change in the money/GDP ratio are normally distributed (which seems plausible from the chart on p. 6), with money growth in the middle of the 6% - 9% band the probability of nominal GDP growth under 4% in any one year is about a third. The likelihood of sub-4% nominal GDP growth in two or three consecutive years is even less.

about \$8b.) Over the last year bank credit to the private sector has contracted by about 10 trillion yen. Let us assume that bank credit to the private sector will contract again by 10 trillion yen in 2002. (Let us also ignore any complications arising from the external transactions of the Japanese banking system. This is unrealistic, but not absurdly so. Japan has a big economy, with quite a low ratio of trade to GDP.) *Then it is clear that the Japanese government must arrange to borrow about 60 trillion yen from the banks in 2002 if it is to meet its targeted faster rate of money growth.*

Borrowing could be on overdraft and would, in the first instance, create a huge new government deposit

The Japanese government should therefore in late 2001 initiate discussions with the commercial banks to borrow 60 trillion yen on overdraft from them. These discussions must be with the commercial banks, not the Bank of Japan. (The role of the Bank of Japan is of course very important and will be discussed later.) At some date in January the overdraft arrangement is finalised, and commercial banks add 60 trillion yen to assets and liabilities. The extra assets are loans to the Japanese government receiving interest at 1% a year.(2) The extra liability is a vast and newly-formed deposit held by the Japanese government. (The Japanese government – like that of other industrial countries - has traditionally banked with its central bank, but this is not an inevitable part of how a modern economy works. Last year the UK government opened up a large deposit with the British banking system, to receive the proceeds from the auction of third-generation phone licenses.(3))

Government would increase money supply by making payments from its deposit, as the 2002 year progressed

As 2002 unfolds, the Japanese governments will make net payments to the private sector from its new deposit sufficient to ensure that the private sector's deposits expand in line with the 6% - 9% money supply target. The net payments to the private sector could arise from the budget deficit or as a result of the acquisition of assets. The purchase of *any asset from non-banks* would have the desired monetary effect. It could, for example, buy land or equities or even consumer durable goods, such as every individual's scruffiest pair of shoes.(4) One possibility should be noted and emphasised. It would be feasible for the government to be making net payments into private sector bank deposits (so raising the quantity of money), even if it had a budget surplus. Such net payments could take place if the government's asset purchases from the private sector were on a large enough scale to outweigh the contraction in the quantity of money that would normally occur with a budget surplus. This possibility needs to be highlighted, because the Japanese government is worried about long-term fiscal solvency and would undoubtedly like to cut the budget deficit if it could.

This increase in money growth could occur, without any transactions by Bank of Japan

It is clear that by the proposed method the Japanese government could raise money supply growth. Further, it could achieve this end despite the Bank of Japan's inability to lower interest rates and without any special action by the Bank of Japan in the short-term money markets. Indeed, the central feature of the proposal – the establishment of a vast overdraft facility from the commercial banks to the government – would bypass the Bank of Japan entirely.

A more refined version of same basic proposal would include

- i. a vast increase in issuance of "Treasury bills", (i.e., very short-dated government paper), to be bought by banks

However, this approach to monetary stimulus is crude and has serious drawbacks. What changes are introduced in the second, more refined version of the same basic proposal? First, the idea of borrowing on overdraft from the commercial banks may seem to be straightforward, but it risks inequity between different banks. From which particular banks should the government borrow? If it borrows from Bank A and not Bank B, that gives business and boosts the profits of bank A, but is unfair to Bank B. Bank B may offer to lend to the government for 0.02% less than 1%, to secure the business next time. Bank A may respond by saying that it would accept 0.97% on a smaller loan. And so on. Obviously, fairness between the banks would be ensured if they tendered – at different rate and amounts – for a slice of the overdraft facility.

But banks' circumstances are changing constantly. They might prefer to hold paper that they could buy and sell at any moment rather than to extend an overdraft facility which (from their viewpoint) is inflexible. A superior outcome would therefore be for the government to borrow by issuing liquid short-dated paper ("Treasury bills", for short) suitable for bank balance sheets and not by taking out an overdraft facility. If banks tendered at different prices for new issues, this would also prevent any inequity between them in the allocation of business. The first difference between the crude initial proposal and the more institutionally realistic version is that the Japanese government would not borrow on overdraft, but instead vastly expand its issues of very short-dated government paper. The aim of the vast expansion in its short-dated liabilities would be to increase the banks' holdings of them. *Banks' deposit liabilities would be higher whether their extra assets were overdraft loans to the government or Treasury bills. It is this monetary effect which really matters, not the instrument composition of the banks' assets.*

and,

- ii. the use of the proceeds of Treasury bill issuance to purchase assets from non-banks

Secondly, it has been noted that the monetary effect could be achieved by the government's purchase of *any asset from non-banks*. But some assets would be plainly inappropriate. There is the real-world political question of whether the assets are bought at too high or low a price, which would rule out such fantasies as open market operations in old shoes. Government operations in illiquid markets might also be dangerous, as its activities could have a major and politically sensitive effect on the asset price. (For example, the Hong Kong government's purchases of equities in 1998 were controversial and would have been even more so if they had subsequently shown a loss.) The best asset for it to buy is therefore one with a large, liquid market with continuous trading and transparent prices. In most countries the market in the government's own debts fits these criteria. It certainly does so in Japan today, with the market in Japanese government bonds being the largest government bond market in the world.

So the appropriate asset purchases are of existing government debt from non-banks. The analysis of the August issue of this *Review* explained that short-dated government debt may be a suitable asset for banks to hold, but long-dated government debt generally is not. *Medium- and long-dated government debt – in Japan, as*

Official purchases of government debt from non-banks increase the money supply

elsewhere – is held mostly outside the banking system. It follows that the Japanese government should use the money in its bank deposit – built up by the sale of Treasury bills to the banks – for the purchase of medium- and long-dated government debt from the non-banks. The effect of these operations would be to increase the quantity of money. Once the government has purchased the long-dated JGBs it can simply pulp them.

Main recommendation summarised

The essence of the more institutionally realistic version of the proposal can now be summarised. *It is to combine a huge expansion of the Treasury bill issue with very large open market purchases of medium- and long-dated JGBs.* The volume of such purchases would vary from month to month in order to meet the 6% - 9% money growth target. The monetary effect would be the same as with the overdraft proposal. Over the full year from December 2001 to December 2002 the Japanese government's borrowings from the banking system would increase by the targeted 60 trillion yen. Surprising though it may seem, the task of initiating a cyclical demand upturn, and so of raising the growth rate of Japan's nominal GDP, is as simple as that.

Government's open market purchases of JGBs would be Type I operations

As should now be clear, the purpose of the overdraft version of the proposal was pedagogic; it was to illustrate in their starkest and simplest form the underlying processes at work. The open market purchases of JGBs would be Type I open market operations, according to the terminology proposed in the August issue of this *Review*. As long as the government maintained a deposit with the commercial banks, they would involve transfers between the government and non-banks, and need not pass through accounts at the Bank of Japan at all. There would be no requirement for the Bank of Japan to hold huge quantities of long-dated JGBs. (The Bank of Japan is understandably anxious that the value of JGBs may in future fall sharply if Professor Krugman's wishes were to be met and inflation were to return.)

Anticipating criticisms of the agenda

The main features of the agenda for monetary stimulus have now been described. What can be done to anticipate criticisms? What, in particular, is to be said about the common objection to debt management policy and the three alternative lines of thought mentioned earlier? The objection needs to be discussed first.

An obvious feature of the operations recommended here is that in the first instance they would have no effect on Japan's net wealth; they would merely alter the composition of the private sector's balance sheet so that non-bank agents held more money and less (long-dated) government debt. The change in balance-sheet composition would nevertheless alter the equilibrium level of national income. Some economists are puzzled that adjustments of this kind can be so powerful; they dismiss these notions as some sort of alchemy. (5) Their mistake is to think that money and government debt are such easily substitutable assets that they are more or less identical in non-bank portfolios. (6)

Money and government debt are distinct and different assets

The need to differentiate money from government debt seems to have become an important part of the debate about the macroeconomic potency of debt management operations. *Money and government debt are quite different assets, with the difference between them becoming more pronounced the longer the residual life of the government debt under consideration.* The key points are straightforward. The nominal value of money in the form of notes is fixed by the legal tender laws; the nominal value of deposits is also fixed (apart from interest accruals), because of banks' obligation to convert deposits into the equivalent value of notes. Because of their known nominal value, both notes and deposits can be used to settle debts, and are therefore both included in measures of "money". By contrast, the nominal value of government debt varies. Indeed, as the nominal value of undated government debt varies with the yield, the price fluctuations can be enormous. Further, as the fluctuations in the value of government debt are frequent and only watched in a specialist market, government securities are unsuitable as "money".

Experience shows that ratio of government debt to GDP can vary hugely, whereas ratio of money to GDP is quite stable

In short, the nominal value of money is fixed and the nominal value of bonds is variable. They are distinct and different assets, however easily they can be substituted for one another. The fixity of the nominal value of money allows it to be used as a medium of exchange in transactions, which makes it more liquid than any other asset. But economies would be hopelessly unstable in the downward direction if the most liquid asset also offered the highest return.⁽⁷⁾ In practice, *money is both the most liquid asset in any economy and also that with the lowest long-run expected rate of return.* Experience in all countries over many decades shows that, perhaps because of these two related characteristics, the demand to hold money has a more stable relationship with national income than the demand to hold other financial assets, including government debt. *Whereas the ratio of money to GDP is fairly stable, the ratio of government debt to GDP fluctuates enormously.* The evidence is presented in the charts on p.12. The implications of both theory and practice are clear. A change in the nominal quantity of government debt has no definite message for the equilibrium level of nominal national income, whereas a reduction in the quantity of money lowers the equilibrium quantity of national income and an increase in the quantity of money raises it. Further, *a change in the relative size of government debt and the quantity of money – because of debt management operations – can alter the equilibrium level of national income.* The validity of this proposition – which apparently startles many economists – is basic to the policy recommendation being made here. ⁽⁸⁾

The three alternative lines of thought, which focus on the monetary base, bank credit and bank capital

What, finally, is to be said about the three lines of thought which were mentioned earlier as having somewhat different emphases? As explained, the heroic variable in the current proposal is the quantity of money, meaning the broadly-defined quantity which includes bank deposits. Broad money does great deeds for the Japanese economy by growing more quickly than before. The other lines of thought relate to three other actors in the drama – the monetary base; bank credit to the private sector; and banking system capital. Their parts may be reviewed one by one. It turns out that they have important roles to play, but these roles are subsidiary and much less heroic, and have had too much critical attention until now.

Money, public debt and GDP

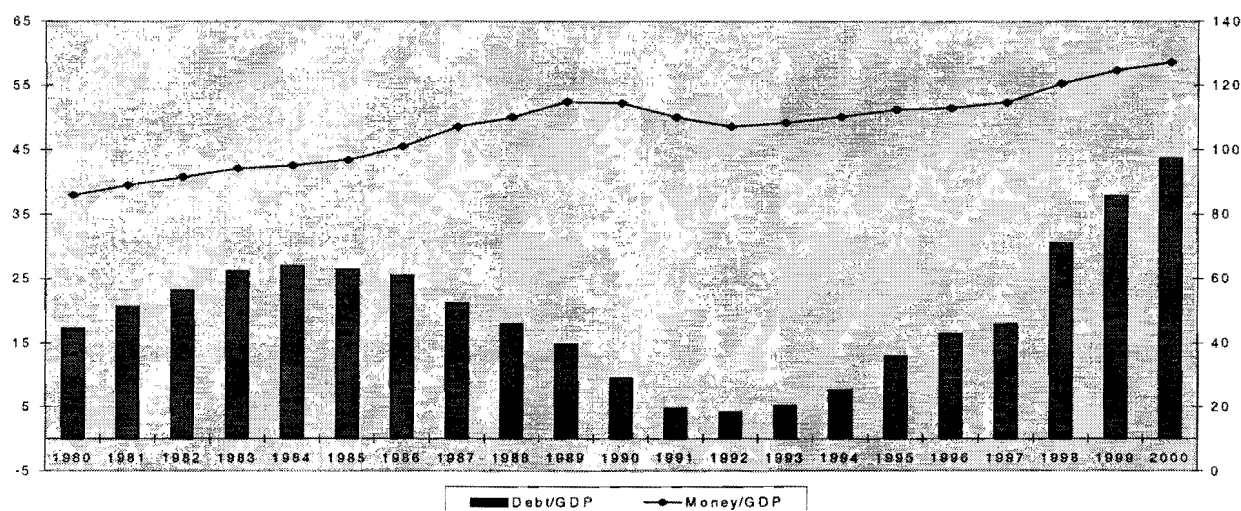
1. Which fluctuates most compared with GDP?

Chart compares coefficient of variations of ratios of money and public debt to GDP in four leading economies, 1980-2000. (Coefficient of variation is standard deviation divided by mean and is a measure of variability.)



2. Is money/GDP or debt/GDP ratio more variable in Japan?

Chart compares ratio of broad money to GDP with ratio of net public debt to GDP



Crucial to the policy recommendation in this research paper is that an increase (or reduction) in the quantity of public debt is likely to be accompanied by an increase (or reduction) in the ratio of public debt to GDP, whereas an increase (reduction) in the quantity of money is likely to be accompanied by an increase (reduction) in equilibrium national income. It is this asymmetry which makes debt management such a powerful weapon in monetary policy. The charts on this page set out some of the evidence. It is clear that the ratio of public debt to GDP is much more variable around its average value than the ratio of money to GDP. This was true in all four of the industrial economies chosen for examination in the 1980 - 2000 period, but it was particularly true in Japan. The long-run historical evidence would be even more compelling. In the UK's case the ratio of public debt to GDP has varied between over 200% at the end of the Napoleonic and Second World Wars, and 30% - 40% in the Edwardian era and today.

1. The role of the monetary base

Expansion of base supposed to lead or cause expansion of money

Take, first, the monetary base. In Japan, as elsewhere, the monetary base consists of notes and coins held by the non-bank public, notes and coins held in banks' tills and vaults, and banks' reserves at the central bank. Some economists advocate faster growth of the monetary base as the crux of any monetary stimulus in Japan. (More loosely put, their recommendation is that somebody – presumably the government or central bank, although it is often not clear – should be “printing more money”.) Faster growth in the base is seen as a precondition of faster growth of a broader measure of money. The argument is that, by increasing the base and particularly by increasing the cash reserves that the banks maintain at the central bank, “the authorities” can ensure that the banks have “excess cash reserves”. Because banks have excess cash reserves, they will try to expand their balance sheets, possibly by additional lending to the private sector. If so, both bank lending and broad money are higher than they would otherwise be.

But banks may hold large excess reserves for a long time

Much of this is right, but some of it is wrong. What is wrong? First of all, in modern circumstances the adequacy of banks' cash reserves is rarely a constraint on their activities. An individual bank can always obtain sufficient cash reserves for balance-sheet expansion by selling assets to other banks (for borrowing in the inter-bank market); the commercial banks as a whole can do the same thing by selling assets to the central bank (or borrowing from it). Further, in an environment of very low interest rates, the penalty – in terms of lost profits – from holding excess, non-interest-bearing reserves is probably quite minor. The creation of excess reserves in the banking system does not guarantee that the banks will lend more to the private sector, because the banks may be short of capital and want to reduce the risk in their portfolios represented by loans to companies and individuals. Indeed, according to the *Financial Times* (28th September), “surplus liquidity in Japan's financial system” reached almost 11 trillion yen (almost \$90b.) towards the end of last month and yet still bank lending to the private sector remains weak.

However, it is much better that the Bank of Japan actively expands the monetary base and so keeps banks' reserves above the desired level than that it pursues a neutral or restrictive stance. If the banks have excess liquidity, they ought to be keen to expand their assets. So - if their loans to the private sector are declining - the other big element in their assets, their claims on the public sector, need to be rising. That of course is the central aim of the proposal made in this paper. An important pricing aspect also deserves to be mentioned. An excess supply of banks' cash reserves has the benign effect of keeping interest rates in the money markets close to zero. The continuation of a zero marginal cost of funds is vital for Japanese banks' ability to make a decent return on capital from holding government paper yielding only 1% - 1 1/2%.

Expansion of base is very helpful, all the same

In summary, deliberate and large increases in the monetary base are a helpful adjunct to a wider programme of boosting money supply growth. Such increases are achieved by Type II open market operations (in the terminology of the August issue of this *Review*). They encourage banks to expand their assets, including claims on the government, which is exactly what is needed. But - by themselves - increases in the

monetary base are not a sufficient condition for faster money growth. Indeed, Japanese experience in the last two years shows that reliance on this one monetary weapon may not work. A more comprehensive strategy - embracing Type I open market operations - is needed.

2. The role of bank lending to the private sector

Increase in bank lending to private sector not necessary for faster money growth

What about bank lending to the private sector? Some analysts stumble here. They go from the correct statement that declines in bank lending are the dominant explanation for low money supply growth to the incorrect assertion that an upturn in bank lending is an essential precursor of stronger economic activity. This is confuse money and credit, and to misunderstand their respective roles. To repeat, the vital relationship is between the quantity of money and nominal GDP. A faster growth rate of the quantity of money is both a necessary and sufficient condition of a faster growth rate of nominal GDP. While a revival in bank credit to the private sector is a sufficient condition for faster money growth (if banks' other assets are constant), it is not a necessary condition (because banks' other assets may be expanding). Indeed, the main purpose of the proposal in this paper is to offset the negative monetary effect of falling bank credit to the private sector by the positive monetary effect of increasing bank claims on the public sector.

The so-called "credit channel" of monetary policy is not persuasive, although quite fashionable in some academic circles

Unfortunately, the discussion is complicated by an unorthodox school of thought which claims that bank lending *by itself* has a bearing on national expenditure, income and output. This school of thought has suggested a "credit channel" of monetary policy influence on real economic activity. The credit channel itself breaks down into sub-channels, including a "bank lending channel". In some of their writings supporters of the credit channel talk as if less bank borrowing leads, without further ado, to less spending.⁽⁹⁾ However, the statistical evidence is far from persuasive and the theoretical rationale is unclear.⁽¹⁰⁾ Bluntly, the concept of a credit channel is unconvincing. It neither adds anything nor represents a helpful qualification to the traditional monetary theory of national income determination.

In 1930s and 1940s bank credit to private sector static or falling, but rapid increases in nominal GDP occurred in 1940s

Moreover, history provides an overwhelmingly clear real-world demonstration that an upturn in bank credit to the private sector is not necessary for Japan to achieve a higher rate of nominal GDP growth. In the 1930s and 1940s bank credit to the private sector declined in most industrial countries, yet money growth was often positive in the 1930s and rapid in the 1940s. This monetary behaviour was attributable to large budget deficits (due to depression in the 1930s and the Second World War in the 1940s), which governments could not finance by sales of long-dated debt to non-banks. Nominal GDP and the quantity of money generally moved together, while the ratio of private sector bank credit to GDP fell heavily. There was no connection between bank credit and GDP, while money and GDP were undoubtedly related.

3. The role of banking system capital

The final strand of analysis highlights the adequacy, or rather the inadequacy, of Japanese banks' capital as fundamental to the health of the financial system and so to the prospects for the economy as a whole. The underlying thought here is that, if

banks are short of capital, they will be forced to shrink their assets and liabilities. To believers in the credit channel, the resulting curtailment of bank lending will hurt economic activity; to more conventional monetary economists, the possible decline in banks' deposit liabilities (i.e., money) may have the same effect. It follows that public policy should ensure that banks have sufficient capital to support future balance sheet expansion.

Does banks' capital or their cash holding drive their balance sheet expansion?

This line of thought challenges the textbooks, because it implies that banks' capital (i.e., their *liabilities* to shareholders) is the dominant influence on their balance-sheet growth, not their cash reserve (i.e., the cash *assets* they hold in their vaults and tills, and as reserves at the central bank, to meet deposit withdrawals). An emphasis on banks' capital as a critical determinant of monetary trends is mildly iconoclastic in economic theory.⁽¹¹⁾ Nevertheless, there is every reason to believe that it matters far more to banks in operational terms than their cash holdings. *It follows that increases in Japanese banks' capital are an essential element in a programme of monetary stimulus.*

Loan write-offs reduce banks' capital and so their ability to lend

Unhappily, the Japanese government – under international pressure, notably from the USA and particularly from the rating agencies – has urged the banks to accelerate their recognition of bad debts. In the normal course of events, when banks write off bad debts, they incur a loss. Unless operating profits are very healthy, they also suffer a decline in their capital. If regulatory zeal requires them then to keep stable capital/asset ratios, they are forced to shrink their balance sheets, and such shrinking of balance sheets involves cuts in bank lending to the private sector and the quantity of money. In other words, large and deliberate loan write-offs – as part of a policy of “tidying up the banks” – would have perverse and wholly undesirable impacts on bank lending and the money supply. They would aggravate Japan's macroeconomic *malaise*.

“Tidying up the banks” may reduce money growth

Disturbing recent developments in Japan

In this context remarks from Japan's Minister for Financial Services, Hakuo Yanagisawa, in a recent interview with *Business Week* are disturbing.⁽¹²⁾ Apparently echoing the sentiments of Prime Minister Koizumi, Mr. Yanagisawa said that loans officially qualified “as doubtful or worse should be totally removed from the balance sheet” and that it should be done “in the next two or three years”. The key question is “what does the intended removal of such loans from bank balance sheets imply for the banking system's capital and the quantity of money?”. If the answer is that banks' capital and the quantity of money will contract, the policy would be totally inappropriate, but – to judge from their public statements – Japanese politicians have not thought about these aspects of the problem.

Business Week itself opines that, “If Japan's banks don't clean up their loan books once and for all, they won't be doing much lending, and Japan won't have much growth for years to come.” It calls on the authority of the International Monetary Fund to substantiate this verdict. *Business Week* and apparently the IMF need to be told that, if the cleansing of banks' balance sheets undermines their capital, the

Nothing much is to be gained by an early “tidying up of bad debts”

results will be less bank lending, lower or even negative money supply growth, and a macroeconomic disaster. The priority must be to raise the growth rate of broad money. Japan's banks made their silly loans in the late 1980s and have had them on their books for over a decade. The resource misallocation caused by the silly lending may have been very serious, but it is in the past. *There is no particular hurry about “tidying up the bad debts” (whatever this phrase means), whereas the task of raising the growth rate of the quantity of money is urgent.*

The monetary base, bank credit to the private sector and banking system capital all matter, but they must be set within a larger framework

The role of banking system capital in the Japanese crisis is a big subject, but the time has come to conclude the discussion of the alternative lines of thought. The behaviours of the monetary base, bank credit and bank capital are all important dimensions of the overall problem, but they must be set within a larger framework in which the vital relationship is that between the quantity of money and nominal GDP. To repeat, the policy imperative must be to raise the growth rate of broad money. The monetary base matters, because banks with excess cash reserves are more likely to expand their assets than banks with neutral or deficient cash reserves; bank lending to the private sector matters, because when banks make new loans they expand both sides of their balance sheets, including the deposit liabilities which constitute most of broad money; and banks' capital matters, because they must have capital to support the risks in their balance sheets, including those in loan portfolios. But an exclusive focus on any one of the three variables is misconceived.

Emphasis of these three variables may lead to neglect of debt management policy

Indeed, there is a danger that – by expressing policy recommendations in terms of these variables – analysts overlook or under-value the case for an active debt management policy. This issue of Lombard Street Research's *Monthly Economic Review* has developed the distinction between Type I and Type II open market operations made in the August issue. It has also argued that Type I operations – in which the Japanese government borrows heavily at the short end from the banks, and uses the proceeds of its borrowing to buy in its medium- and long-dated debt from non-banks – must be conducted aggressively and extensively. Such operations are not a substitute for, but a complement to Type II operations – in which the Bank of Japan buys in government securities, mostly from the banking system. Large-scale Type I open market operations should be pursued with the deliberate objective of raising the annual rate of broad money growth (the growth rate of M2 plus CDs) to 6% - 9%.

Japan's situation is difficult, but faster money growth can be achieved and would rescue the economy

Japan's economic situation at the close of 2001 is very difficult. It is not only worrying for Japan, but also the biggest threat to global prosperity in 2002 and 2003. But there are grounds for optimism. As the experience of the 1930s showed, every economy has powerful automatic stabilisers. If economic activity weakens, the budget is likely to move into deficit. Insofar as the government is unable or unwilling to finance that deficit by sales of long-term debt, it must borrow from the banks. That leads to faster money growth and, eventually, nominal GDP recovers. Forces of this type are already at work in Japan today, as the composition of banks' assets changes. Over the last five years banks' claims on the Japanese government have risen by

about 100 trillion yen, whereas their lending to the private sector has contracted. In the year to June 2001 banks' claims on the public sector went up by about 35 trillion yen. This development is benign and helpful for the economy. The central aim of the analysis has been to advocate that the expansion of banks' claims on the government be taken much further as a deliberate policy step. If that is done over the next two or three years, and if as a result money supply growth moves into high single digits, the Japanese economy will revive.

Notes

- (1) The first clear and emphatic exposition of this point was in Hartley Withers' classic *The Meaning of Money* (London: John Murray, 1909).
- (2) The August issue of this *Monthly Economic Review* explained how this seemingly very low 1% interest rate could give the banks a satisfactory return on capital.
- (3) The potential role of UK public sector deposits in monetary policy was discussed in John Power and Peter Andrews 'Explaining the difference between the growth of M4 deposits and M4 lending: implications of recent developments in public finances', pp. 183-88, *Bank of England Quarterly Bulletin* (London: Bank of England), summer 2001.
- (4) This hypothetical but not totally absurd example was discussed in the February 2000 issue of this *Monthly Economic Review*. The Japanese government could offer to buy every citizen's scruffiest pair of shoes for, say, 200,000 yen each. It would then have an extra asset in the form of a vast stockpile of shoes (with a book cost of 22,000 trillion yen), matching the extra liability of its bank overdraft. This might seem to be "a waste of money", but it is no worse than the Japanese government's purchases of tanks, missiles and such like, and the resulting stockpiles of military hardware. At least old shoes don't kill people. In any case, the government's net wealth is irrelevant to the citizens' welfare, which is the only true desideratum of public policy. (The citizens are not better off because of the military hardware; they are hardly worse off because they have sold their worst pair of shoes.) A large-scale open market operation in which a government bought old shoes on identical terms from everyone would achieve much the same effect as Friedman's famous "helicopter money".
- (5) In a comment in the Goldman Sachs *Global Economics Weekly* (23rd May 2001), T. Yamakawa said the first of three forms of demand stimulus in Japan was "the monetisation of government debt, accompanied by more fiscal expansion (simply purchasing previously issued JGBs alone is almost meaningless)". Statements on similar lines - that changes in the asset composition of portfolios are "meaningless" for the economy - have appeared in a number of places in recent years. For example, Professor Minford has asserted, "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." (P. Minford *The Supply Side Revolution in Britain* [Aldershot: Edward Elgar, 1991] pp. 70-1.) See also footnote (6) below.
- (6) "Other attempts to analyse the economic effects of public debt management have had to confront directly the issue of Ricardian equivalence. As put forward by Barro (1974), this suggests that if government debt is a perfect substitute for private savings, then the level of public debt has no effect on economic welfare or economic activity. By extension, if the level of public debt 'does not matter' under Ricardian equivalence, then neither should its composition." See Gregory D. Hess 'The maturity

structure of government debt and asset substitutability in the UK', pp. 131-55, in K. Alec Chrystal (ed.) *Government debt structure and monetary conditions*. (London: Bank of England, 1999). The quotation is from p. 131.

(7) This is the gravamen of the various "liquidity traps" discussed in Keynes' *General Theory* and Krugman's website article. If the most liquid asset in any economy were also the highest-yielding, it would be the only asset that people would want to hold and economic activity would collapse.

(8) Keynes himself undoubtedly believed that open market operations (i.e., debt management) could affect economic activity in normal circumstances. In *The General Theory* he suggested, "Perhaps a complex offer by the central bank to buy and sell at stated prices gilt-edged bonds of all maturities, in place of the single bank rate for short-term bills, is the most important practical improvement which can be made in the technique of monetary management. "(J. M. Keynes *The General Theory of Employment, Interest and Money*, p. 206, in Mrs. E. Johnson and D. Moggridge (eds.) *The Collected Writings of John Maynard Keynes* [London and Basingstoke: Macmillan, 1973, originally published 1936]) On p. 197 of *The General Theory* he commented that open market operations in the USA in 1933 and 1934 had been "limited to the purchase of very short-dated securities". They may have affected short rates, but had "little reaction on the much more important long-term rates of interest".

(9) See Ben S. Bernanke and Mark Gertler 'Inside the black box: the credit channel of monetary policy transmission', pp. 27 - 48, *The Journal of Economic Perspectives* (Minneapolis: American Economic Association), Fall 1995. On p. 44 Bernanke and Gertler write, after noting the empirical finding that credit aggregates are slower to response to Federal Reserve policy (i.e., interest rate changes) than monetary aggregates, "the theory predicts only that agents will borrow and hence spend less than they would if credit markets were perfect". It is true that, *for any individual agent*, the thwarting of borrowing intentions requires a reduction in spending relative to plan. But this does not imply less spending *in the economy overall* because another agent has to forego spending in order to lend to the borrower. The effect of the volume of credit transactions (i.e., the *gross* value of all credit transactions) on aggregate demand is unclear. It has also to be emphasised that, as a nation cannot borrow from itself, *net* credit in any economy is always small compared with national expenditure and miniscule compared with the volume of payments (ie., cheque clearings, stock exchange transactions and so on). ("Net credit" is of course simply the balance of payments' deficit or surplus.)

(10) Bernanke and Gertler say (on p. 43 of their 1995 *JEP* article) that a certain type of testing of the credit channel, in which the forecasting ability of credit variables is contrasted with that of monetary variables, is "generally invalid". They also say that credit aggregates are misinterpreted "as an independent causal factor affecting the economy". They prefer to focus on "credit conditions", or such variables as "the

external finance premium” (the difference between the cost of internal and external finance) and the difference between the cost of bank credit and other forms of finance, as crucial to the credit channel. No empirical validation of these conjectures is offered in the 1995 article.

(11) Some economists deny that the banking system plays any distinctive role in the determination of macroeconomic equilibrium. By extension, the notion that banks’ capital matters to the business cycle would be rejected out of hand. (The article by E. Fama ‘Banking in a theory of finance’, pp. 39-57, *Journal of Monetary Economics* [North Holland, 1980], is the extreme statement of this position.) Other economists – notably Professor Hyman Minsky – regard banks’ behavior as a crucial influence on macroeconomic instability. Like so many parts of monetary theory, the subject is simply a mess.

(12) ‘All eyes on Japan’, pp. 30 – 31, *Business Week*, 17th September 2001.