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Hawtreyan "Credit Deadlock" or Keynesian "Liquidity Trap"? Lessons for Japan from the Great Depression

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NO. 09-04

DEPARTMENT OF ECONOMICS
UNIVERSITY OF STRATHCLYDE
GLASGOW

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Abstract

This paper outlines the ideas of Ralph Hawtrey and Lauchlin Currie on the need for monetised fiscal deficit spending in 1930s USA to combat the deep depression into which the economy had been allowed to sink. In such exceptional circumstances of "credit deadlock" in which banks were afraid to lend and households and business afraid to borrow, the deadlock could best be broken through the spending of new money into circulation via large fiscal deficits. This complementarity of fiscal and monetary policy was shown to be essential, and as such indicates the potential power of monetary policy – in contrast to the Keynesian "liquidity trap" view that it is powerless This lesson was not learned by the Japanese authorities in their response to the asset price collapse of 1991-92, resulting in a lost decade as ballooning fiscal deficits were neutralised throughout the 1990s by unhelpfully tight monetary policy with the Bank of Japan refusing to monetise the deficits.

Keywords: Great Depression; Japan's Great Stagnation; Hawtreyan Credit deadlock; Keynesian Liquidity trap.

JEL Classifications: B22, B23, E12, E32, E58

In this paper, inspired particularly by David Laidler's work in the field of monetary theory and policy, I shall compare the mistakes of monetary policy before and during the Great Depression in the United States in the 1930s with the conduct of monetary policy in Japan since the late 1980s.

For the United States, my analysis will draw heavily on the contemporary 1930s writings of Lauchlin Currie (1902-93) whose biography I completed in 1990 (Sandilands 1990) which led to a fruitful correspondence with Laidler on Currie's monetary economics. This stemmed initially from his review article on Karl Brunner (Laidler 1991). David was surprised to learn of Brunner's close connection with Currie and that he had written a lengthy introduction to the reissue of *The Supply and Control of Money in the United States* (Currie 1934a [1968]). It was this and several related papers, notably "The Failure of Monetary Policy to Prevent the Depression of 1929-32" (Currie 1934b),[1] that induced Jacob Viner, then a special adviser at the US Treasury, to invite Currie to join a young Treasury group known as the "Freshman Brain Trust" for the summer of 1934. Currie's remit was to develop the proposal for a 100 percent reserve banking system that he had made in his recent book, and devise what would be, in the absence of any political obstacle to its implementation, "the most perfect banking system for the United States".

100% money, as this scheme became known, was indeed a political non-starter, but its main logic – the need to gain firm control over bank reserves for effective control of the supply of money, hence the business cycle – was the inspiration for the 1935 Banking Act that was to establish a true central bank for the United States and shift the power base of the Federal Reserve System from New York to Washington. For at

[1] Selected by Harry Johnson for a volume of 24 "landmark" articles from the *Journal of Political Economy* (Hamilton et al., 1962) and by Laidler for inclusion in *Foundations of Monetary Economics* (Laidler, ed., 1999). It was reported to Currie (as told to me by him) that Johnson chose this paper for the *Landmarks* volume because of the neglect of his work by Milton Friedman and Anna Schwartz in their forthcoming *Monetary History of the United States* (1963) whose diagnosis of 1929-33 was largely anticipated by Currie. Similar criticism of Friedman's neglect, and distortion of the historical record, came later from Don Patinkin (1969). Laidler extended this discussion in his "Hawtrey, Harvard and the Origins of the Chicago School" that appeared in the *JPE* in December 1993, the same month as Currie's death. The current paper attempts to demonstrate the continuing relevance of Currie's and Ralph G Hawtrey's insights into the essentially monetary nature of the business cycle.

the Treasury Currie met Marriner Eccles who was soon to be the new governor of the Fed, taking Currie with him.

Currie's views on monetary and fiscal policy as the way out of depression had found little favour among the senior professors at Harvard, and when he applied for a further leave of absence at the Treasury (initially to be Viner's assistant) this was denied. So, somewhat embittered, he resigned from Harvard and his three month stint in Washington would extend to 11 years – at the Treasury, the Fed, and, from 1939-45, as President Roosevelt's administrative assistant for economic affairs in the White House. He moved with Eccles to the Fed in November 1934 and they immediately drafted what was to become the 1935 Banking Act.

On Currie's contributions to monetary theory and policy in the depression years, Brunner (1968: ix-x) wrote:

> [He] was among the pioneers in our field in assembling and assessing data on the money stock. He fully appreciated that meaningful analysis cannot proceed in the absence of reliable data. This pioneering work eventually forced the Federal Reserve Authorities to develop suitable monetary data on a broader scale, and particularly collect and publish data bearing on the nation's money stock.

He added (p.xxiv):

> Currie's systematic discussion of policy issues considers also some notions often repeated by the Federal Reserve authorities… Many believed that the Federal Reserve had tried to stem the deflationary tide of the preceding years by means of an expansionary policy. The experience was interpreted as a demonstration that monetary policy was useless… Currie shows that this belief is a myth… The examination reveals not inability to exert influence but a persistent inactivity and drift. Open market policy and acceptance policy were not used to raise the monetary base. His analysis shows that the Federal Reserve authorities could have effectively prevented the collapse in the monetary stock during the Great Depression.

In this paper I explore some intriguing parallels between Currie's analysis of Fed policy in the turbulent years after the 1929 Wall Street crash and recent debates on

Bank of Japan policy during the protracted 'growth stagnation' period that followed Japan's asset market crashes of 1990-91. In particular, controversy focuses on (i) how far central bank policy should be influenced by asset price inflation; (ii) the appropriate role of the central bank as lender of last resort to the commercial banking system in the face of mass liquidation of debts and non-performing assets; (iii) the criteria for judging whether monetary policy has been active or acquiescent; (iv) the alleged impotence of monetary policy and whether there exists a Keynesian 'liquidity trap' or whether instead the problem has been more like a Hawtreyan 'credit deadlock'; (v) the relationship between monetary and fiscal policy in recovery from severe deflation; and (vi) the significance of a build-up of excess bank reserves.

I turn first to Currie's diagnosis of the causes of the Great Depression, drawing partly on Sandilands (2004).

Federal Reserve policy, 1927-41, and Hawtrey's concept of "credit deadlock" in a monetary theory of the cycle

As Thomas Humphrey (1971), Laidler (1993, 1999), and Frank Steindl (1995) have explained, Currie's publications in the early 1930s presented a diagnosis of the 1929-32 collapse in the United States economy that was substantially the same as that advanced by Friedman and Schwartz (1963), as Friedman has since acknowledged (see his *mea culpa* in Laidler, 1993, p.1077, n.12).

In his "restatement" of the quantity theory of money, Friedman (1956) had contended that there was a unique Chicago oral tradition that made Chicago relatively immune to the Keynesian "virus", and that his own restatement was in that Chicago tradition. This sparked heated debate on the nature of that tradition: whether it was unique, and whether Friedman's restatement was closer to that tradition or to the "Cambridge" tradition of Marshall, Pigou and Keynes (especially the pre-*General Theory* Keynes), as Patinkin (1969, 1981) maintained.

Evidence relevant to this was later found in a January 1932 Harvard memorandum on anti-depression policy written by Currie, Paul Theodore Ellsworth, and Harry Dexter White (2002 [1932]). On seeing this document Friedman again retreated (in a letter

reproduced in Laidler and Sandilands, 2002, p.518) from his earlier position on the supposed uniqueness of the Chicago tradition; see also Robert Leeson (2003) and John Smithin (2004). The 1932 memorandum indicted recent monetary, fiscal, tariff and reparations policies for causing the 1929-32 collapse, and called for a drastic reversal of these policies, including substantial open market bond purchases together with so-called "fiscal inflationism" – a deliberate increase in the fiscal deficit financed by monetary expansion. This was seen as a necessary feature of a reactivation programme if crowding-out effects from public expenditures were to be avoided and *aggregate* monetary expenditures increased.

In this the memorandum was close to the position taken at that time by Hawtrey (1929, 1931) whose assistant Currie had been during Hawtrey's year at Harvard in 1928-29, and close also to the position said by Friedman to be characteristic of a unique Chicago tradition. For example, the memorandum stated: "Our banking policy has not exerted any effective influence to check the decline in the means of payment. Instead of offsetting the decline in the demand for goods caused by the decreased rate of spending, our policy has intensified it by permitting a contraction of the volume of the means of payment." By 1931 the deflationary forces had gone too far to be reversed through purely monetary actions:

> With confidence as badly shaken as it is at present, and with prices continuing to fall, there is little in the current outlook to make it attractive to business men to borrow in amounts sufficient to stimulate recovery… Since the initiation of a voluntary program of expansion by independent, scattered producers must wait upon the appearance of the prospect of profits, and since the Federal Government is the sole agency in a central position and strong enough to undertake drastic remedial action, it is strongly recommended that the government immediately commence a program of public construction on a nationwide scale… This program should be financed, not by taxation, which serves principally to divert expenditures from one channel to another, but by an issue of bonds… eligible for rediscount at the Federal Reserve Banks, and also as collateral for the issue of Federal Reserve notes (Currie, Ellsworth and White, 2002 [1932], p.540).

The publication of this document in 2002, together with several of Currie's hitherto unpublished memoranda on recovery policy published in Sandilands (2004), shone

new light on the pre-1936 intellectual antecedents to Keynes's *General Theory* that had already been ably discussed in Laidler's *Fabricating the Keynesian Revolution* (1999), with its apposite *double entendre*. And as Laidler wrote to me in August 2003: "Until the profession gets it straight that the post-war macroeconomic policy consensus had as many (more?) roots in the original work of the New Dealers as it did in JMK's efforts, its understanding of its own history will be defective."

Currie's unpublished Harvard Ph.D thesis on *Bank Assets and Banking Theory* (January 1931) was a clear antecedent both to the January 1932 memorandum on anti-depression policies, and to his later recommendations on reform of the United States banking system.[2] In the opening chapter he outlined the history of the Banking and Currency Schools debate to show the importance of the composition and control of bank assets. It reveals that if the central bank automatically accommodates 'self-liquidating', short-term commercial loans ('real bills') then this could be dangerously pro-cyclical.[3] Furthermore, commercial loans were not the most liquid or marketable, and if banks are forced to hold too large a portion of their assets in this form they may end up with excess reserves (that is, they would not be fully loaned up).

He later explained why excess reserves can frustrate the central bank's ability to control the nation's money supply, hence the business cycle. Adherence to the real-bills doctrine had, in his view, led the Federal Reserve Board in 1929 to be excessively preoccupied with banks' security loans and stock market inflation, hence to a tightening policy at the very moment when the real economy was moving into recession. Currie referred to this doctrine as the 'commercial loan' or 'needs of trade' theory of central bank policy, in which banks' short-term 'productive' loans were prudent and non-inflationary while long-term security loans were speculative, imprudent and a recipe for boom and bust in stock markets and the real economy. He

[2] A revised version of the thesis was submitted for the Wells prize in October 1932. It initially tied with H D White's thesis on the French balance of payments, but Currie's supervisor, John H. Williams, told him that when they were given for adjudication to Gottfried Haberler, then a visitor to Harvard, Currie's was rejected because he was known in other contexts to have "unsound" views on unbalanced budgets. His views contrasted sharply with what Laidler (1999, p.47) termed the "policy pessimism verging on nihilism" of the Austrian School.

[3] A critique of the influence of the real bills doctrine on Fed policy in the 1920s and early 1930s runs through Allan Meltzer's (2003) recent history of the Federal Reserve, as highlighted by Laidler's (2003c) review.

blamed this theory for inducing the Fed to raise interest rates in early August 1929, and for then conducting an essentially passive monetary policy during the 1929-32 period of mass liquidations and economic contraction (see especially Currie 1934a and 1934b, pp.146-48). In other words, for its failure to use fully its lender-of-last-resort responsibilities at a time of crisis.

A popular view is that a 'speculative orgy' on Wall Street was the prime cause of the great depression. According to the commercial loan theory, security loans diverted credit from more productive uses, thereby denying the 'legitimate needs of industry'. Currie disputed this claim. First, he found that interest rates were only weakly related to stock market activity but strongly related to restrictive Fed policies, and in 1929 these were more severe than any since 1921, made worse for being applied when recession was already under way. Second, banks' security loans were only a small proportion of all security loans. The majority were effected via brokers in the stock market clearing house, thus requiring little *net* use of bank deposits. And an examination of individual stock prices revealed a considerable degree of rational selectivity (rather than 'irrational exuberance') based on the differing earnings record and potentials.[4]

In his 1931 thesis, and in line with his criticism of the commercial loan theory, Currie endorsed, with qualifications, Hawtrey's monetary theory of the business cycle. Hawtrey stressed the 'inherent instability of credit',[5] due to the sensitivity of

[4] Currie's views on stock prices in 1929 find confirmation in Santoni (1987). For further discussion of his views on the (relatively minor) impact of stock market prices on the circular flow of income via the wealth effect on savings, see Sandilands (1990, pp.35-37).

[5] Hawtrey defined 'credit' as demand deposits. In the 1932 version of his PhD thesis, Currie deleted almost all reference to this word on the grounds that the term was too ambiguous. Currie's chapter IV, "Credit in Contemporary Monetary Theory" (also Currie 1933), explains the problem. Banks can extend 'credit' (loans and investments) on the basis of both demand and savings deposit liabilities, and from borrowings from reserve banks when the public's demand for currency increases. And in 1928-29 the Federal Reserve Board included security loans made by non-banks, as would be logical if by credit is understood loans and investments and if this is the control target (Currie 1934b, p.49). This 'credit' series can increase at very different rates than the supply of money (currency plus demand deposits). Regarding 1927-29, he wrote: "The belief that 'credit' was expanding rapidly was based on figures for loans and investments. The index of the entire money supply… indicates that the rate of expansion was less than that of production and the rate of expansion was declining steadily from June, 1925" (Currie 1934a, p.166).

For unknown reasons much of Currie's discussion of Hawtrey's cycle theory was deleted from the 1932 version of his thesis in favour of further allusions to Keynes's 1930 *Treatise on*

wholesalers and merchants (more than manufacturers) to changes in the short-term rate of interest. The rate naturally falls in a depression when demand for commercial loans is low, and vice versa in the upswing. With a fall in demand for loans there is a fall in output, incomes and expenditures (effective demand) until declining interest rates arrest and then reverse the fall in loan demand. In the upswing, rising incomes increase the public's demand for cash. This squeezes the banks' reserves and interest rates rise. Eventually this arrests and then reverses the upswing – in the absence of astute counter-cyclical policy by the central bank.

Currie offered several criticisms of Hawtrey's monetary theory but stressed that none was fatal. In particular, he argued that banks are able and willing to expand and contract their holdings of (relatively marketable, hence liquid) securities, stocks and bonds to compensate for opposite movements in the demand for (relatively illiquid) short-term commercial loans. Furthermore, this ability to vary their asset holdings (hence their deposit liabilities) is a more important counter-cyclical influence than variations in the short-term interest rate. For the demand for commercial loans is lowest when demand for goods is lowest, and in those circumstances a lowering of short-term rates will not compensate. Earlier in his thesis, Currie wrote:

> If business men were as sensitive to short-term interest rate changes as Mr. Hawtrey seems to believe, commercial loans could be easily expanded by a fall in rates and contracted by a rise. A contrary view, however, which corresponds more closely to reality, is that the cost of short-term borrowing is not an important consideration in the calculation of borrowers. Of much more importance is the actual and anticipated demand for goods. If business conditions are receding, a fall in the short-term interest rates will not induce manufacturers and traders voluntarily to accumulate inventory. It is precisely at such a time that they are most eager to reduce inventories. This is one of the reasons why the movement of interest rates and commercial borrowings have a direct rather than an inverse relation to one another (Currie 1931, p.86).[6]

Money. See also Laidler (1999 chs. 5 and 9) on Hawtrey's links with Allyn Young, Currie and the Chicago school.

[6] Cf. Allyn Young in a 1928 LSE lecture (published in Mehrling and Sandilands 1999, p.387):

> During the depression reserves accumulate in the bank so that interest rates fall. Now do not these falls in interest rates attract industrial enterprise until industry expands again? (cff. Keynes, Cassel, Hawtrey.) But actual industrialists (and bankers) deny that

By taking the initiative in buying and selling a wide range of assets the banks could better maintain the money supply and so exert a stabilizing influence on business.[7] Elsewhere, Hawtrey did acknowledge this. In *Trade Depression and the Way Out* (1931, p.44), he wrote that "the acquisition of *any* asset by *banks* [as opposed to non-banks] involves the creation of new bank credit [the key variable in his cycle theory]. Investment securities provide a very convenient vehicle for the creation of credit, because they can readily serve as collateral for bank advances".

In an earlier passage entitled "Deadlock in the Money Market", Hawtrey (1931, pp.30-33) examined the role of open market operations by the central bank to supplement variations in its bank rate. In a normal, moderate depression low rates would suffice to revive business. On the other hand, if conditions are allowed to deteriorate, a 'credit deadlock' could emerge in which lenders are too afraid to lend and borrowers too afraid to borrow – a case of an unusually inelastic demand for and supply of loans with respect to the short-term rate of interest.[8] In Hawtrey's explanation there is even a hint of what, in the recent Japanese context, has come to be called "the zero lower bound problem" in which no practical reduction in short rates could, by itself, effect recovery:

> [I]f the depression is very severe, enterprise will be killed. It is possible that no rate of interest, however low, will tempt dealers to buy goods. Even lending money without interest would not help if the borrower anticipated a loss on every conceivable use that he could make of the money. In that case the purchase of securities by the Central Bank, which is otherwise no more than a useful reinforcement of the low Bank rate, hastening the progress of revival, becomes an essential condition of the revival beginning at all. By buying securities the Central Bank creates money, which appears in the form of deposits credited to the banks

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variations in the rate of interest influence the extent of their operations, providing their competitors pay the same. It is the "market" on which they count.

Likewise, cf. Currie (1931, p.214) on Hawtrey: "It has not been difficult for his critics to show that traders are more influenced by the state of the market than by interest rates."

[7] This is one reason why Currie favoured nationwide branch banking and opposed the provision in the Glass-Steagall Act of 1933 that prohibited commercial banks from dealing in corporate securities.

[8] Not to be confused with a Keynesian 'liquidity trap', discussed below, in which the demand for money is supposed to be highly elastic with respect to the long-term rate of interest.

whose customers have sold the securities. The banks can thus be flooded with idle money, and given a new and powerful inducement to find additional borrowers Hawtrey, 1931, pp.30-31).

Elsewhere, Hawtrey goes further and – consistent with Currie, Ellsworth and White (1932 [2002]) above – argues that fiscal deficits arising from public works can be an effective supplementary measure to revive a deeply depressed economy, *but only if the deficit is financed by money creation*, for otherwise private sector spending would usually be crowded out (the famous 1929 "Treasury View" that originated with Hawtrey). When deficits were financed by money creation, it was this money, and not any direct expenditure associated with fiscal policy, that would do the work (Laidler and Sandilands, 2002, p.524). Later, we shall return to this argument in the context of recent Japanese macroeconomic policy.

Here is Hawtrey on the 'credit deadlock' in *Currency and Credit* (1950 edition, p.75)[9]:

> When the vicious circle of depression takes hold, and traders find their efforts to keep down their stocks defeated by too rapid decline in sales, the relaxation of credit may find them so burdened with unsold goods that no facility of borrowing can induce them to add to their stocks. A deadlock results, productive activity failing to respond to cheap money…
>
> If the banks fail to stimulate short-term borrowing, they can create credit by themselves buying securities in the investment market. The market will seek to use the resources thus placed in it, and it will become more favourable to new

[9] Laidler (2004b, p.12) noted that by 1932 Hawtrey could not fail to see that a lowering of the short-term interest rate would need to be supplemented by open market bond purchases. Hawtrey (1932, p.173) wrote that these should be on whatever scale was necessary to break a credit deadlock and the vicious circle of deflation, for "there must ultimately be a limit to the amount of money that sellers would hold idle". It is noteworthy that even at this late date Hawtrey did not stress fiscal deficits as an essential policy ingredient for expanding the monetary circulation (unlike Currie, Ellsworth and White [1932]). He seems to have regarded fiscal deficits as useful but inessential in breaking a deadlock. Patrick Deutscher (1990, p.67) noted that Hawtrey "never renounced the position that eventually profitable opportunities would be found and exploited by capitalists as long as credit remained accommodating". He also (p.68) quotes Hawtrey as writing that "People do not have an *unlimited* desire to hold idle balances. Because they already hold more than usual, it does not follow that they are willing to hold still more." Further expansion of money "is bound ultimately to reach a point at which demand responds". However, Hawtrey did not stress that this may take much longer than if the money is spent directly into circulation by government.

> flotations and sales of securities. But even so an expansion of the flow of money is not ensured. If the money created is to move and to swell the consumers' income, the favourable market must evoke additional capital outlay. That is likely to take time and conceivably capital outlay may fail to respond. A deficiency of demand for consumable goods reacts on capital outlay, for when the existing capacity of industries is underemployed, there is little demand for capital outlay to extend capacity…
>
> The deadlock then is complete, and, unless it is to continue unbroken till some fortuitous circumstance restarts activity, recourse must be had to directly inflationary expedients, such as government expenditure far in excess of revenue, or a deliberate depreciation of the foreign exchange value of the money unit.

Currie's (1931) related argument was that even when banks are limited by inadequate demand by business for long-term loans, they may, by quoting sufficiently high prices, induce holders of old issues to part with their holdings.[10] By driving down the long-term interest rate, this may induce issue of new securities; and "loans for fixed capital purposes is the very best way in which credit can be created in times of depression. What is needed is that consumers' incomes should be increased with no corresponding immediate increase in finished consumer goods" (p.218). Likewise, if banks promote a strong bond market this might not only improve business sentiment but "would at least furnish those public authorities who are in favor of an expansion of public works with an additional argument. In so far as the policy of expanding public works in times of depression is adopted, and banks purchase bonds of public authorities, the additional bank credit will be spent directly and will not involve any decrease in the spending ability of private individuals" (p.236).

However, the supply of high-grade bonds (including those issued by public authorities and foreign borrowers) may be inadequate (in the absence of substantial bond-financed public works) to meet the requirement of banks; and if their purchases of old bonds "do not stimulate new issues the long-term interest rate may decline to a point

[10] Currie notes elsewhere (1931, p.235) that "if banks took over security loans by quoting very low rates, the former lenders might, of course, be content to allow the deposits they received by the cancellation of their loans, to remain inactive". He believed he was more conscious than Hawtrey that the public's demand for inactive balances (or circuit velocity) varies pro-cyclically, and that this justifies further offsetting action by the central bank.

at which banks may, perhaps, prefer to maintain excess reserves rather than risk a future loss from depreciation when interest rates rise" (p.216). This was probably written in 1930 before a credit deadlock had fully taken hold, and he noted then that while this consideration does not seem to have deterred banks in the past – hence "the objection to the monetary theory of the business cycle which rests on the inability of the banking system to take the initiative in expanding credit, is by no means conclusive" (p.218) – it may conceivably do so in the future.

Actually Currie (1934b, p.115) found that the figures

> do not bear out the common belief that excess reserves mount rapidly in times of depression. It is of particular interest that throughout 1930 and much of 1932, when the depression was probably worse than had ever before been experienced, excess reserves were but little larger than in 1929… The rapid increase in excess reserves in 1932 and again in 1933 occurred at highly abnormal times and should not be used as a basis for generalizations as to what might be expected to happen in the type of depression we had experienced up to that time.

He concluded (p.124):

> [T]he demand for loans does not impose a very serious limitation on the volume of deposits. Unless the depression is abnormally severe banks can offset the decline in their commercial loans by increasing their investment portfolios, and our greatest hope in promoting business stability through monetary means lies in action taken before a depression becomes a disaster.

Thus both the magnitude and the timing of monetary measures were crucial. Later Currie (1978, p.541) wrote:

> After the upturn in business in early 1930 proved abortive, I despaired of the efficacy of monetary measures in the conditions of the times and started both in my classes and in discussions advocating deficit spending. But this had to be done almost surreptitiously. Even so, the heresy became known and I fell from grace and was reprimanded by the Chairman of the Department.

Effectively Currie had decided by the middle of 1930 that this was no ordinary depression. Even though excess reserves did not build up significantly until 1932

(indicating insufficient lending opportunities relative to reserves at that time), mass liquidations had earlier forced bank closures and surviving banks had been losing reserves to uncompensated cash drains. Thus both deposits and income velocity had been falling, with disastrous effects on income and demand for loans – a classic credit deadlock. In these circumstances open market operations were unlikely by themselves to revive lending and spending. If there is great excess capacity and a slump in the demand for loans, open-market purchases of bonds would initially increase the supply of money, but if that money is then put into liquid savings deposits (in banks or non-banks) it would merely end up as idle, excess bank reserves, with no increase in the money supply as such.

The later Keynesian concept of a highly elastic 'speculative' motive for holding idle money balances when the long-term interest rate had fallen to an abnormally low level was given as the reason for the ineffectiveness of open market purchases of bonds in a depression. A 'liquidity trap' (a term coined by a sceptical D H Robertson in 1940; see Laidler [1999, p.286], and Laidler [2004a, pp.336-39]) would render monetary policy useless.

Currie criticised the Keynesian concept because the private non-bank sector could always avoid capital-value risk by placing savings in short-term interest-bearing bank and non-bank time deposits.[11] If the proceeds from central bank purchases of securities go into time rather than demand deposits, the money supply would only

[11] These latter were not part of Currie's (nor Hawtrey's) definition of money, though any reserve requirements against them – which Currie opposed – would indirectly affect the supply of demand deposits and be deflationary for that reason.

There could be a speculative demand for time deposits (this would be a *demand for liquidity* that interacts with the supply of interest-bearing assets to determine the rate of interest) but not for non-interest-bearing cash or demand deposits. It is the conventional *demand for money* (not liquidity) that interacts with the supply of money to determine prices and income. The demand for money (as a proportion of income), rises in a depression not for the Keynesian speculative motive but because the opportunity cost of money is low when interest rates are low. However, if income is falling the absolute demand for money will also fall, and this helps to keep interest rates depressed, so far as they can be depressed. So, paradoxically, if monetary policy is tight the interest rate can fall, while if the effect of a vigorous expansion of the money supply is to revive spending, the interest rate may rise.

Mauro Boianovsky (2004, p.97) also alludes to John Hicks's criticism of the Keynesian liquidity trap "with its simplified two-asset structure comprising 'money' (representing short-term assets) and 'non-money assets'". Laidler (1999, p. 284-85) also cites Viner on the wide range of assets available to satisfy liquidity preference, so "Keynes assigns to the desire for cash for hoarding purposes a grossly exaggerated importance".

increase if the banks were then able and willing to increase their lending instead of accumulating reserves. In an acute depression this may not be possible for lack of available high-grade alternatives. In other words, a Hawtreyan type of credit deadlock required an expansion of the money supply that, as depression deepens, may only be possible via unconventional fiscal means. By contrast, a Keynesian liquidity trap supposedly meant that monetary policy was useless, while a pure fiscal policy, financed via sale of bonds, could work even with no new money.[12]

Hawtrey (1931, p.31) noted at the time that the Fed resorted freely to open market purchases up to June 1930 but made no further considerable purchases until June 1931 and "the holding of Government securities was not raised beyond the point at which it had provided the member banks with the means of reducing their rediscounts to a minimum". Bank loans and the money supply declined.

Large-scale withdrawals of gold from the USA around the time that Britain left the gold standard in September 1931 forced member banks into debt again.[13] Currie (1934b, p.108) noted how the banks responded by selling bonds and calling loans. Bond prices fell drastically, followed by bank failures, increased hoarding of notes, more liquidation, more failures, more hoarding, and a severe contraction of money.

On the importance of timing, Currie (1934b, p.146) wrote:

> If action is taken before the upswing in business has reached its peak a comparatively mild easing policy will be sufficient to stimulate investment [in the subsequent downswing]. If, on the other hand, action is delayed until business has acquired a considerable momentum on the downswing a drastic expansion of money is called for. If the depression has become so severe as to entail a widespread loss of confidence in the solvency of both corporations and banks it

[12] As Laidler (2003a, p.10) expressed it: a credit deadlock prevents money being created, whereas in a liquidity trap money lies idle after it has been created. See also Laidler (1999, p.286).

[13] Laidler (1999, p.236) noted that Currie implicitly denied there was a liquidity trap, in the sense of the powerlessness of monetary policy *per se*, even up to 1932. The reserve banks did buy an unprecedented amount of bonds, but not enough to get banks out of debt and to offset gold outflows; and because reserves did not increase he characterised the reserve administration's policy as "one of almost complete passivity and acquiescence". (A fuller quotation is given below.)

may be impossible to bring about immediate utilization of any excess reserves given to member banks.

For the sake of straight thinking on the subject of control it is essential to interpret it in terms of the changing industrial situation. Many writers, unfortunately, fall into the error of applying conclusions true of banking control at one particular time to other occasions quite different. The existence of excess reserves in the latter part of 1932 and again in 1933 have given force to the oft repeated assertion that the central bank cannot bring about expansion of money in a period of depression. But the phrase "period of depression" is obviously not a precise one. There was, for example, less difference in industrial activity between the "depression" of 1930 and the "prosperity" of 1929 than there was between the former and the "depression" of 1932. It is, therefore, illegitimate to assume that a certain banking policy would be as effective in 1932 as in 1930, or, to put it differently, to assume that because reserves were not immediately and fully utilized in 1932 they would not have been utilized in 1930 (Currie 1934, p.146).

He continued:

Much of the current belief in the powerlessness of the reserve banks appears to arise from a complete misreading of the monetary history of 1929-32. It is generally held that the reserve administration strove energetically to bring about expansion throughout the depression but that contraction continued despite its efforts. Actually the reserve administration's policy was one of almost complete passivity and quiescence (ibid, p.147).

On the excess reserves question, Hawtrey (1950, p.84) also wrote that "much depends on the *magnitude* of the idle balances. If they are too considerable to be offset by increased advances to traders, the banks may create credit by purchase of securities. But they must buy at prices which investors are beginning to find unattractive, and by buying will force prices higher still." At this point he alluded to Keynes's *General Theory* in which, by thus driving down the long-term rate of interest, "an *increased* absorption of cash will then result" from the risk of capital depreciation when the long rate has reached its conventional minimum. Hawtrey acknowledged (1950, p.85):

> When this minimum is reached, the market's stimulus is exhausted. Even the banks will require a minimum yield; they are no more ready than others to tie up their money without any compensation.
>
> But a state of things in which the investment market cannot *by any means* elicit sufficient active accumulation to use up current savings is not to be remedied by merely monetary means… If the desire to save encounters an insurmountable deficiency of forms of wealth capable of accumulation, there is a deep-seated breakdown of the economic system.
>
> Then indeed recourse may be had to deficit finance, not necessarily public works… but any excess of public expenditure over revenue, to be covered by securities (yielding a minimum of interest) in which those addicted to saving can accumulate titles to wealth.

What mattered then was the size of the compensatory direct injection of spending into the system by the government. This was totally inadequate during President Herbert Hoover's watch to arrest the decline in business activity and, in Currie's view, still inadequate after Roosevelt came to office in March 1933.

Currie's second (but still not fatal) criticism of Hawtrey's cycle theory was that he placed too much stress on the supply of bank deposits and too little on movements into and out of cash, as well as on short-term variations in the "circuit velocity" of deposits and cash (purchasing power).[14] Nonetheless fluctuations in the supply of purchasing power, and also in its secular trend, do exercise a profound influence on the business cycle. And if this be true then "it follows that the mechanism by which the volume of credit is expanded and contracted is also of significance" (1931, p.222).

Currie goes on to state that "the study of credit movements in the business cycle involves an explanation of two problems: first, the forces affecting the reserves of member and non-member banks, second, the means by which banks are enabled to

[14] However, Hawtrey (1925), reprinted in Hawtrey (1928) to which Currie's 1931 thesis refers, acknowledged that government spending may, in a depression, be financed by borrowing from balances that lie idle, and that this could increase "the ratio of consumers' income to the unspent margin" (i.e., money). This is another way of saying that the velocity of circulation must increase if public works are to increase employment in the absence of extra money.

adjust their deposits to their reserves" (ibid.). The latter problem is the focus of Currie's PhD thesis on the links between the business cycle and the supply and control of various classes of bank asset. The former was more the focus of his 1934 book on the control of the supply of money. There he examined the different reserves (legally required and otherwise) held by different classes of bank and different type of deposit during the various stages of the business cycle, and the often perverse or pro-cyclical elasticity of the money supply that had resulted from that bank structure.

In the concluding chapter of his 1931 thesis Currie referred to conditions in 1930 and complained that "[a]s long as the demand for commercial loans continues to decline the Board apparently sees no necessity of permitting the expansion of credit to take place" (pp.243-44). This was a recipe for pro-cyclical monetary policy that was to deepen the on-going depression. The Fed was too preoccupied with the composition and perceived relative productivity of bank assets, to the neglect of its primary function, that of controlling the overall volume of bank deposits:

> It is evident that the commercial loan theory of banking is incompatible with the view that the chief function of the banking system is to supply purchasing power, and that a central bank should control this supply in the interests not only of commercial borrowers, but of the community in general (p.242).

Finally, he advanced a number of recommendations for amending the Federal Reserve Act, especially in respect of the question of bank assets eligible for rediscount (p.248), and of the need to relax the gold reserve requirement against notes. After he had teamed up with Marriner Eccles in 1934, he was to effect some of these measures, designed to convert a 'perversely elastic' banking system into an effective 'maladjustment-compensating factor'.

Allan Meltzer (2003, pp.478-79) highlights Currie's influence on Federal Reserve policy after 1934 but was puzzled by the contrast between his focus on monetary policy failures in his publications to 1934 and his focus on fiscal policy in his work with Eccles. He wrote:

> Eccles differed from his predecessors in his belief that government had to take responsibility for the economy. He devoted much of his time to advocating fiscal measures, especially increased spending on investment financed by government

> borrowing to expand demand. Currie seems to have shared this view. Although he analysed the Federal Reserve's failure to expand as a consequence of adherence to the real bills doctrine and neglect of the falling money stock, he does not seem to have pursued this view at the Federal Reserve. He devoted much of his research after 1935 to developing measures of fiscal thrust and the case for unbalanced budgets… Later, he described his 1934 book as "partly obsolete when it was published"… The reason he gave was that money (deposits) depend on member bank borrowing, and there was no borrowing. This is an odd conclusion.

The puzzle is resolved by recognising the key conditions that make for effectiveness of monetary policy in the different phases of slump and recovery. To effect recovery from a slump, the Fed must first get member banks out of debt. This the Fed had failed to accomplish adequately in 1929-32. The policy of passive acquiescence to banks' loss of deposits resulted in mass liquidations and a downward spiral into depression. An acute Hawtreyan credit deadlock then meant that banks could not find enough credit-worthy customers when eventually they were able to lend again, and so they accumulated substantial excess reserves. In such conditions monetary policy alone is, in the famous words of Marriner Eccles, like pushing on a string.

Currie believed that the deadlock required not only vigorous open market operations but also an active fiscal policy to spend new and old money into circulation, just as he, Ellsworth and White emphasised in their January 1932 Harvard memorandum.

Hawtrey was more lukewarm than Currie on the need for government expenditure and fiscal deficits as a way out of depression, though he did not deny their potential effectiveness. As noted above, Hawtrey (1925, in 1928, pp.110-11) had argued that in exceptional circumstances, where businesses were accumulating idle balances that could not find profitable outlets, the issue of bonds to finance government spending could increase the velocity of circulation and, even in the absence of new bank lending (creating new money), this could give additional employment. But "the case is completely transformed" in the case "where the government finances its operations by the creation of bank credits", and would then definitely give additional employment, without crowding out. Nonetheless, "the same reasoning shows that a creation of credit unaccompanied by any expenditure on public works would be

equally effective in giving employment" (p.112). And it is only when a low bank rate, reinforced by the purchase of securities on the part of the central bank in the open market "has been tried and has failed, [is] there any case for recourse to Government borrowing. Personally, I have no doubt that by the former method it is possible to find an escape from depression, *however severe*" (p.113, italics added).[15]

By contrast, as depression deepened in 1930, Currie argued that fiscal deficits had become essential to break the deadlock. From 1934 he pioneered (with Martin Krost) a "net Federal income-creating expenditure" series that indicated how different types of fiscal deficit could contribute to an expansion of the circular flow of money. In 1933-37 this was through (i) the ways in which deficit financing helped the banks to make use of the reserves that accumulated as gold flowed in from abroad (their excess reserves may have been increased even more in the absence of these deficit financing opportunities); and (ii) the way deficit spending stimulated the private sector to make use of their idle balances to expand production.

Hawtrey probably did not contemplate, in the 1920s, just how severe a depression could be. In his retrospective assessment of the 1930s Hawtrey (1950, pp.410-11), wrote:

> Conditions in the United States offered an exceptionally suitable opportunity for the application of this theory [that public works could give employment by creating credit and/or "may set stagnant cash balances in motion"]. The American banking system was becoming clogged with idle money. The New York rediscount rate had been reduced to 1½ per cent. in January, 1934, and remained unchanged till it was reduced to 1 per cent. in 1937. The excess reserves of the member banks… rose to $3000 millions. With this gigantic reserve of lending power, the banks still could not induce their customers to borrow.

However, while "the banks created credit by taking a considerable part of the securities issued by the Government to meet the deficit", he noted that the growth of money national income was slower than the growth of bank deposits. Thus the policy

[15] He stressed that if government spending was to be invoked, then the impact on the necessary creation of credit would be far greater if it borrowed from the central bank rather than "ordinary banks".

of "lavish public expenditure [that] came to be called 'priming the pump'" had disappointing results, and "when the banking system has to be unceasingly inundated year after year, the analogy wears rather thin" (p.411).[16] Hawtrey accepted that "we cannot suppose that the Government borrowings of $3000 millions a year… from 1933 to 1937 were wholly without effect. But recovery was extremely slow." Though unemployment fell from about 13 millions in March 1933 to 6 millions in 1937, this was still greatly in excess of the 1.5 millions in 1929. Hawtrey placed part of the blame on wage increases after 1933, and especially those in 1937 by which time:

> … the measures making for expansion were being deliberately slowed down. The budget deficit for 1937-38 was reduced to $1377 millions. The statutory reserve requirements of the banks were raised in 1936 so as to reduce excess reserves from the $3,105 millions that they had reached by August 1936…
>
> A recession followed, and in 1938 unemployment was once again up to the level of July, 1933. Expenditure of $20,000 millions of borrowed money by the Government had been incurred in vain (*ibid.,* p.412).

Hawtrey noted that revival in Britain was achieved with no recourse to public works or budget deficits as an expedient for inducing a monetary expansion until 1937 when borrowing for rearmament started (just at the time of the unhelpful United States recession). He seemed to hint that the United States should have been able to achieve the same results without the government expenditures that "had been incurred in vain".

Fiscal deficits, excess reserves and the recession of 1937-38

[16] See Sandilands (1990, pp.68-74) on Currie's various descriptions of the government's contribution to spending. He early abandoned the pump-priming analogy because it suggested that one short dose of government spending would be sufficient to revive the economic machine without further help. Depending on how private-sector offsets to saving were moving, he recognized that the government might have to keep pumping for some time. Sweezy (1971, p.118) described Currie's 'net Federal income-creating expenditure' label as "a semantic triumph of the first magnitude. It brought out the common element in all the government's fiscal operations. No one used to thinking in terms of the net contribution could advocate promoting recovery by increasing public works spending while at the same time cutting government salaries and raising tax rates". See also Currie's early 1935 memorandum, "Comments on pump priming", published in Currie (1978).

This was not how Currie saw it. For him, Roosevelt's budget deficits were the major – and essential – ingredient in recovery after 1933, and thus were not in vain. The raising of reserve requirements in 1936-37, while unhelpful was not the main source of trouble. Recovery could have been maintained, and the recession of 1937-38 avoided, if the government's net contribution had been maintained. His own estimate of the degree of fiscal contraction in 1937 was even greater than Hawtrey's figures, based as it was on how individual components of the government budget added to or subtracted from the expenditure flow. He estimated the "net federal contribution" at over $4 billions in 1936 and less than $1 billion in 1937.[17] Expenditures had been inflated in 1936 by a one-off accelerated payment of veterans' bonuses, passed over the president's veto, and deflated in 1937 by large payments into a national pension fund mandated by the 1937 Social Security Act.

By mid-1936 it appeared that excess reserves posed a threat to effective control of a potentially inflationary recovery in the future. Open market bond sales would not reduce the money supply if purchased out of excess reserves. Effective deflation requires that the banks be forced to borrow, and then for their repugnance to indebtedness to induce them to curtail their lending.

As loan demand picked up, excess reserves would allow banks to accommodate the demand without restraint. This would permit a multiple expansion of deposits which, together with a reversion to the historically higher average velocity of circulation could cause monetary expenditures (MV) to expand greatly in excess of any feasible increase in real national production. The expansion in the money value of national income (Py) would then mainly be via a rise in prices (P) than in real output (y). For this reason Currie advised Eccles to raise reserve requirements in late 1936 and early 1937, but only as a precautionary measure. There was no deflationary intent. In fact, because of the continuing inflow of gold from Europe, the doubling of reserve requirements during this period still left the banks with substantial excess reserves at the end of the process, in the spring of 1937.

[17] See his 1937 memorandum, "The decline in the Federal contribution to the growth in community expenditures", in Sandilands 2004, p.330.

However, from the beginning of June 1937 recovery turned rapidly into an alarming recession. Real GDP would fall by 18% over the next thirteen months (Meltzer 2003: 522). The unemployment rate rose from its best 1937 figure of 12.5 percent to about 22.5 percent in the spring of 1938, including as unemployed those on emergency relief employment (Black, 2003, p.430). At the time few people blamed the monetary measures, though there was a slight increase in bond yields, from an all-time low of 2.46 percent in early March to 2.8 percent in early April (after which they declined again). This had angered Treasury Secretary Henry Morgenthau Jr., though it was a Treasury decision to sterilize gold inflows from December. He was worried that a rise in interest rates would increase the financial cost of the deficit, and he kept pressing Roosevelt to trim government spending and balance the budget. Eccles agreed that higher interest rates were undesirable and supported the Federal Open Market Committee's decision in April to engage in compensatory open market purchases.

There is no evidence that banks were suddenly denying requests for loans by business or government, or imposing stricter conditions as a result of the increased reserve requirements. Thus the modern focus on a supposedly inept monetary policy as the cause of the downturn in 1937 (see, for example, Steindl, 1995 and 2004, in support of Friedman and Schwartz's 1963 view) may be misplaced. Meltzer (2003: 521-22) and Christina and David Romer (1989: 131-32) emphasized at least two non-monetary forces acting to decrease output in 1937: the fiscal downturn, and the way the Wagner Act led to large inventory accumulations in anticipation of the labour market strife that did occur in 1937, coinciding with an end to inventory accumulations. They also note that the behaviour of reserve holdings ran counter to Friedman and Schwartz's interpretation in that there was no discernible change in reserves as a fraction of deposits until December 1937, seventeen months after the first increase in reserve requirements was announced and after the declines in money and industrial production were largely complete.

Currie admitted that probably the reserve requirements would not have been raised if the recession of 1937 had been accurately forecast.[18] But he wrote that "this is a

[18] Letter to author, August 2, 1988. His views on this were spelled out in a May 1938 speech to the Illinois Banking Association ("Some Aspects of Business and Banking Developments in 1936 and 1937", in Sandilands, 2004).

different matter than holding the raising responsible for the recession. For that the very sharp, even drastic, reduction in the fiscal cash deficit is the more convincing explanation of the sharp decline in the rate of growth in sales and the consequent piling up of inventories." He also noted that "few theorists would expect an immediate impact on incomes and sales to result from the small decline in deposits that took place, especially as there is such an other more convincing explanation of the causation of the fall in aggregate demand."

In his "Public Spending as a Means to Recovery" (August 1936) and "Stabilization of Purchasing Power through the Use of Public Credit" (December 1936), both in Sandilands (2004), Currie believed that the 1933-36 recovery would be sustained even if the then relatively substantial fiscal deficit should decline somewhat over the coming year. He did not anticipate the extent of the fiscal contraction that was to occur, nor the effects of the Wagner Act on labour costs, expectations, and inventory accumulations. However, these memoranda are important for showing Currie's understanding of the essential relationship, in time of depression, between fiscal deficit and banks' ability to lend, thereby ensuring continued increase of monetary incomes and expenditures until recovery could be self-sustaining – with declining and eventually negative fiscal deficits.

Currie's August 1936 memorandum, "Public Spending as a Means to Recovery" (in Sandilands 2004), noted the importance of fiscal deficits for the maintenance of bank lending up to that point:

> The volume of checking accounts in all banks, plus the demand deposits of the Government in commercial banks, expanded by $8 to $9 billion between June 1933 and June 1936. Part of this increase was attributable to an increase in the banks' holdings of Government guaranteed bonds, part to the deposit of incoming gold, and the major part to the increase in banks' holdings of the public debt. The increase in the member bank holdings of $4.8 billion amounts to 43 percent of the increase in the gross public debt in this period.

Lester G Telser (2003) has emphasised the importance of the veterans' bonus payments (mostly in 1936) on the buoyancy of recovery in that year, even though it was financed by borrowing from the public so that it did not change the money supply (p.240). He states that the fiscal deficit in June 1937 was less than a quarter of its June 1936 level (p.238), with a correspondingly smaller impact on the economy in 1937. On Currie's measure of the "net federal contribution", the fall was even greater ($101 million in June 1937 compared with $543 million in June 1936). This may be partly explained by the differing spending propensity of the veterans compared to those who financed their bonuses.

In "The Decline in the Federal Contribution to the Growth in Community Expenditures" (October 1937, in Sandilands 2004), he showed that in the three years 1934-36 the net contribution had been $3.2 billion, $3.1 billion, and $4.0 billion. These were sizable fractions of the growth of national income in those years: respectively $7.8 billion, $5.4 billion and $8.8 billion. In the eight months from February to September 1937, the Currie-Krost series showed that the net contribution had fallen to only $573 million ($68 million a month and still falling – it was estimated at only $37 million in September) compared to $2,789 million ($348 million a month) in the same period of 1936. He warned that the government's contribution to buying power, already insufficient to offset the slowdown in private expenditures, may well turn negative in the near future.

On a Keynesian interpretation of the downturn in 1937-38, this fiscal reversal was a crucial causal factor. By comparison, variations in the degree of excess liquidity in the banks were of secondary importance. By cutting the federal deficit there was a fall in the supply of safe earning assets that the banks had previously relied on. They could not easily or quickly replace them with a corresponding increase in private sector lending, for the decline in government spending and the increase in tax and social security receipts were themselves depressing demand for private sector output. This naturally restrained private loan demand. These factors, rather than the raising of reserve requirements, may account for the diminution of demand deposits from mid-1937 and the continued high level of excess reserves.

Telser (2001) also disputes Friedman and Schwartz's (1963) view that the 1937-38 recession was caused by the raising of reserve requirements. He shows that there was no decline in bank lending to the private sector until the end of the first quarter of 1938, hence higher reserve requirements could not explain the decline of business. The decline in banks' earning assets was entirely in their holdings of government bonds. The changed composition of bank assets (as well as their decline) differed radically from the experience of the previous recessions of 1920-22 and 1929-33. But if this meant that the private sector was not starved of loans, the question remains: what did cause the 1937-38 recession in private business?

Telser does not explicitly address this. Currie's explanation, however, was that fiscal tightening of 1937 led to a much smaller supply of new and relatively riskless bonds for banks to purchase. Thus, even without an increase in reserve requirements they would have been liquidating maturing bonds. Also, they were inclined to sell bonds anyway because of profit-taking at the apparent end of a three-year bull run for bond prices that occurred in January 1936 even before the announcement of the rise in reserve requirements. In his May 1938 speech to the Illinois Banking Association he concluded:

> It seems reasonable to assume that the desire to take profits was the major motivating factor in bank sales of Government bonds, particularly since sales were engaged in by so many banks that possessed more than adequate reserves to meet the new requirements. Moreover, had the purpose been merely to obtain reserves, banks could have reduced their holdings of short-term Government paper instead of liquidating long-term bonds.

If banks had continued to buy bonds on secondary markets this would have increased the riskiness of their asset portfolio by further depressing interest rates. If they had maintained their assets by making more fresh loans to the private sector in place of loans to government, this would also have increased their risk, absent a strong increase in loan demand by credit-worthy customers. In other words, the economy still had not broken out of a state of credit deadlock, or self-sustaining growth, and was still dependent on direct injections of monetary expenditures by the public sector. There was some increase in private sector loans throughout 1937 but insufficient to compensate for the public sector's decreased demand, especially as private profit

prospects were dented by the decline in the government's "net contribution". Thus if the Fed had not raised reserve requirements there would probably have been further accumulations of excess reserves.

Nonetheless, the increased reserve requirements under these conditions could not have helped matters, and must partly explain why banks sold bonds to maintain their liquidity. Again, however, Currie gave greater weight, in his May 1938 Illinois address, to banks' desire to avoid capital-value losses at the end of the bond market's bull run, with the decline "initiated by municipal and Federal bonds in January [1937] before action with reference to excess reserves was announced."[19] He insisted that action on reserves would not have worsened the recession whose causes lay elsewhere – in the smaller deficit plus other non-monetary factors, notably the exceptional inventory accumulations in late1936 that would be worked off a few months later.

Steindl (2004, p.66) has written that in his analysis of recovery Currie had abandoned the quantity-theoretic analysis that he had applied to the contraction of 1929-33: "He therefore did not see the recovery as the product of an increasing stock of money. For him, the quantity of money was now an endogenous variable, subject to the needs of business as it sought to borrow, thereby affecting deposits, money, and excess reserves." The quantity theory's identity (MV = Py) states that if velocity is constant then the value of national income (Py) will increase in line with M. But in the unusual conditions of the mid-1930s Currie feared that both velocity and money would be excessively pro-cyclical as and when a firm recovery was assured, since business and consumers would then be able and willing to draw down their substantial idle balances.[20] Steindl's belief that he showed little interest in the money supply after

[19] This part of his Illinois speech was taken from a memorandum, "Causes of the Recession", April 1, 1938, later published in Currie (1980 [1938], p.327). There he denied that monetary policy in 1936 or the rise in reserve requirements in January 1937 could "be held responsible either as an initiating or contributory factor in the recession. As events turned out it would have been perfectly safe to have postponed the rise in reserve requirements that occurred in March and May of 1937. This however, was not evident in January of 1937 and is an entirely different matter" (*ibid*., pp.328-29).

[20] Friedman and Schwartz (1963, p.774) show that velocity averaged 2.3 between 1933-36, against 3.2 in 1925-29. In "Stabilization of Purchasing Power through the Use of Public Credit" (December 1936) and "Would a Further Expansion of Money be 'Injurious'?" (January 1937), Currie showed velocity fairly steady during this period at just above 2. He thought that in the event of full recovery it would revert to a value close to, but a little below, its 1920s average of about 3. In fact velocity did not recover its 1920s values until the 1950s.

1934, is not borne out by his Federal Reserve Board memoranda, though it is certainly true that he continued to believe that monetary policy had then become relatively powerless as a recovery measure except in conjunction with a vigorously expansionary fiscal stance. Its role would remain a subsidiary or complementary one until full recovery had been firmly established.

On November 8, 1937, WPA administrator Harry Hopkins arranged for his economic adviser Leon Henderson, together with Currie and Isador Lubin, Commissioner of Labour Statistics, to meet with President Roosevelt for an interview that lasted an unprecedented four hours (see Lash, 1988, pp.317-27). *The New York Post* reported the next day that "the four advisers minced no words in giving Roosevelt a hard-boiled review of economic conditions and with equal bluntness and vigor they told him that a disastrous recession can only be averted by a resumption of big-scale Government spending." The group laid a report before the president that showed that "in August, for the first time since 1931, the government took more out of the income stream than it poured back in… If the Government takes taxes away from workers or corporations and uses these in bookkeeping items, such as old age reserve accounts, gold purchases, debt retirement, etc., and the amount exceeds what is paid for men and materials, then there is a deficit. That is what is happening now."

In a speech to Congress a few days after his "Keynesian" seminar, Roosevelt asked: "What does the country ultimately gain if we encourage businessmen to enlarge the capacity of American industry to produce unless we see to it that the income of our working population actually expands sufficiently to create markets to absorb the increased production." But in practice Roosevelt initially sided with Secretary Morgenthau's call for a balanced budget "to restore confidence". Disaster followed. Not until April 14, 1938, after the worst period of his long tenure in the White House and after a strong letter from Keynes in February, did Roosevelt at last ask Congress (over the continuing objections of the Secretary of the Treasury) for more than $3 billion of spending or lending in the immediate future for relief, public works, housing and assistance to state and local governments (see Barber 1996, p.114; also Black 2003, pp.428-36). Economic recovery resumed.

The lasting legacy of the theoretical, empirical, and practical experience of the depression and war years was the February 1946 Employment Act. Its passage through Congress was stormy, and the original bill was much watered down. Nevertheless, a statute that affirmed governmental responsibility for "maximum employment, production and purchasing power" was a significant advance over the more limited mandate for government that, for example, was preferred by Irving Fisher and the Chicago School with their rules-based price stability goal for monetary policy and with fiscal policy aimed at low-level balanced budgets. The war itself accustomed people to higher and more progressive rates of taxation and government spending, and these were only partially retrenched in peacetime. This introduced a much greater degree of built-in stability by effectively increasing the marginal savings rate at the full employment level of income and expenditure.

Postwar prosperity and the Japanese experience

To the extent that these automatic stabilizers mitigate the business cycle and make credit deadlocks rarer, they may also have made monetary policy normally the most effective discretionary instrument for macroeconomic stabilization. And indeed, for the more developed countries, including Japan, there has been no repeat of depression on the scale and duration of the 1930s. Following recovery from World War II, Japan was labelled an economic 'miracle'. Its average annual growth rate in the 1950s was an impressive 9.1 percent, and this rose further to 10.7 percent in the 1960s. It grew at a creditable average of 5.2 percent in the 1970s despite the world-wide OPEC crisis years. In the early 1980s, while the world was painfully unwinding inflation, her growth slowed to 3.0 percent (1980-84); but from 1985-90 it increased to 4.6 percent, about double the OECD average.[21]

It was from late 1991 that Japan entered its long period of "growth stagnation" and abnormally high unemployment, from which only now (2006) does it appear to be emerging. While this poor record does not compare with the Great Depression in its intensity, it does in terms of its duration and abnormality. The annual average growth rate, 1992-2004, was a mere 0.7 percent (or 1.2 percent if the recovery years 2003-05

[21] Figures in this paragraph were calculated from Maddison (2001, p.206).

are included), with four years in which growth was negative (see Table 1). This significantly underperformed both its previous post-war record and, for the first time, that of the rest of the OECD. During this period inflation averaged 0.2 percent, with a negative rate in seven of the years since 1995.

There is also an interesting parallel between Japan in the years immediately preceding its Great Stagnation and the United States in the years before its Great Depression. In the US from 1922-29, annual average growth was buoyant but not necessarily unsustainable at around 4.7 percent. Population growth was 1.8 percent a year, wages grew by only 1.5 percent a year, and inflation was virtually zero. In the recovery from post-war depression, stock prices naturally rose strongly but were not obviously out of line with fundamentals. During the 5-year bull run from mid-1924 to the crash in October 1929 the Dow Jones index rose by about 250 percent, accelerating in 1928 and 1929. On the first day of the crash, October 28, 1929, the index plunged by over 12 percent, by nearly 30 percent over the next six days, and by mid-1932 it had lost another 80 percent. It did not regain its 1925 level until 1938. The rise and initial plunge in the market in the 1920s were very similar to the 5-year 'Reagan' bull run of mid-1982 to late 1987. On Black Monday, October 19, 1987, the Dow fell by a record 22.6 percent. But the response of the Fed in 1987 was very different from 1929-33, the stock market soon recovered, and the crash had no more than a very temporary adverse effect on US growth.[22]

In Japan from 1985-91, average annual growth was, as we have seen, running at a not unusual rate of 4.6 percent. The consumer price index had been rising by only 1.7 percent a year. This was a period of recovery from the slower growth of the early 1980s and it sparked a 6-year bull run on the stock market. The Nikkei index rose by nearly 300 percent: from 9,927 in January 1984 to a peak of 38,951 in January 1990. It then fell by nearly 40 percent over the year to January 1991 and by a further 30 percent over the next two years, to 16,875 in January 1993. It continued to slide for another 10 years to its trough of 7,804 on May 1, 2003, before recovering to a local high of 17,498 on April 7, 2006 (similar to where it stood in 1986).

[22] In the United Kingdom, a strong monetary response also averted recession but at the cost of an acceleration of inflation (the 'Lawson boom').

Along with the stock market bull run, and outrunning it by a year, was a real estate boom. Rising land values helped fuel the stock market in that bank loans for stocks were largely collateralised by them. The urban land price index for the six largest cities (base 1990 = 100) tripled from approximately 33 in January 1985 to a peak of 107 in January 1991 before falling by 15.5 percent in 1991, 19.4 percent in 1992, and then sliding by around 10 percent a year for the next 10 years. A slight recovery was registered for the first time only in mid-2005 when the index stood at around 20.[23]

A major difference between the behaviour of the late 1980s asset price boom in Japan and that of the United States in the late 1920s was the way in which the Bank of Japan (BoJ) put extreme pressure on commercial banks to meet high credit targets. Werner (2005, ch.20) provides compelling evidence that the secretive BOJ continued "window guidance" (a type of credit control) during the whole of the 1980s despite official pronouncements that credit controls were abolished in 1982. The "guidance" involved the BoJ insisting that commercial banks adhere strictly to specified sectoral as well as quantitative targets in their allocation of credit, and were heavily penalised for under-shooting targets that, in the 1980s were set quite high. Furthermore, the BoJ maintained the same size structure of banks and this made for a poor, non-competitive allocation of credit. From 1982-91 banks scrambled to meet loose credit targets by dropping their own preferred standards of credit-worthiness.

Werner concludes that the BoJ bears responsibility for encouraging banks to lend recklessly on speculative real estate ventures, or to non-bank financial intermediaries who would then also channel funds to property speculators. He deemed most of these 'unproductive', with more than a hint of the real bills doctrine underlying his critique of central bank policy (Werner, p.230). He favoured selective credit controls, but ones directed to 'productive' investment activities, believing these to be the only credits that promote real, non-inflationary growth. However, in this case there is strong evidence that the window guidance did indeed distort the allocation of funds and caused inflated asset prices to deviate from fundamentals to a far greater degree than was true of the United States in the 1920s or 1980s.[24] Although the BoJ was not

[23] Data from Japan Real Estate Institute (2006), and Bank of Japan (2005), p.66.

[24] Friedman (2005) compares monetary policy in the stock market boom and post-boom periods in (i) the United States in the 1920s-1930s, (ii) Japan in the 1980s-1990s, and (iii) the

granted formal independence from the Ministry of Finance until 1998, Werner (p.293) emphasised that, acting secretively through its Banking Department, the BoJ possessed a high degree of *de facto* independence over credit creation:

> The problem was not that bank lending was out of control. To the contrary, it was controlled almost perfectly by the Bank of Japan's window guidance. Instead, the problem was the policy taken by the Bank of Japan in setting loan growth quotas. Since the Bank of Japan chose far larger quotas than banks thought necessary, compliance with window guidance meant that banks were forced to peddle their loans to real estate speculators… thus pushing up real estate prices (*ibid*., p.292).

Real estate values were then used as collateral for further loans, which meant further purchases and sales, with sellers redepositing the proceeds. These would then be recycled as yet more new loans. Werner (p.184) notes that there was "a remarkable surge in financial and real estate transactions during the second half of the 1980s". Thus the money supply did not have to increase rapidly for asset prices to soar while consumer prices were quite steady. The transactions velocity of money (sometimes referred to as money's 'financial circuit velocity') is notoriously volatile. In the late 1980s it was obviously spiralling while the more important and economically meaningful income velocity (demand for money as a proportion of GDP) remained fairly stable. Thus, just as Currie claimed for the US in the 1920s there is no strong evidence that stock market and real estate transactions were diverting money or credit from the circular flow of current GDP in Japan. From 1985-91, Table 1 shows that the BoJ's preferred definition of money (M2 + CDs, which includes relatively low-turnover time deposits) rose by an average annual rate of 8.6 percent. On the M1 definition (currency plus demand deposits) the average growth was just 6.1 percent, consistent with a low inflation rate of 1.7 percent and real GDP growth of 4.6 percent, hence a constant and broadly satisfied demand for money.

United States in the 1990s-2000s. He shows that in the 1980s boom, Japan's monetary growth was faster than in either of the two US booms. And after the stock market's peak, "money fell sharply in the first episode and so did nominal GDP; money growth stagnated in the second episode [Japan] and so did GDP; money grew at a rapid rate in the third episode and, after a brief lag… so did GDP" (pp.147-48).

Nevertheless, unlike US asset inflation in the 1920s and 1980s, Japanese asset prices may have been very little justified by underlying fundamentals. As indicated above, Werner (2005, p.294) blames unwise, aggressive window guidance, and concludes:

> Responsibility for the creation of the bubble of the 1980s, thus also for the bad debts of the banking system of the 1990s, and indeed the long economic slump that began in 1992, lies squarely with the Bank of Japan. This strengthens the case that any policies to deal with the bad debts and stimulate an economic recovery should also be paid for by the Bank of Japan. Thus the central bank could have purchased all bad debts of the banks at face value, thus eliminating them at no cost to society, as well as monetise fiscal stimulation or the recapitalisation of banks.

The director of the Banking Department of the BoJ from 1986 to 1989 was Toshihiko Fukui who rose to be the BOJ's deputy governor in 1994 and governor in 2003. He and his mentor, Yasushi Mieno, deputy governor of the BoJ from 1989-94 and governor from 1994-98, have both placed blame for the creation of the asset market bubble on the private sector and Fukui has demanded that private sector bank leaders take responsibility for the bad debt problem (Werner, 2005, p.294).

In any event, good times not bad would be the appropriate time to fix problems of poor debt management and inefficient banking structure – which may have been endemic for a long period, in good times and bad, hence not obviously the main cause of recession. As it was, shortly after the asset bubbles burst, growth declined – to 1.0 percent in 1992 and 0.3 percent in 1993. The economy continued to stagnate for the next 12 years. The bursting of the bubbles was a major shock to business and consumer confidence that naturally led to determined attempts to restore battered wealth holdings and provision for pensions.

Interest rates and the money supply

What were the macroeconomic (monetary and fiscal) policy responses? Table 1 reveals the monetary response. In the critical year of 1992, the money supply (M1) grew by just 1.9 percent. The broader measure (M2 + CDs) actually fell by 0.4 percent. At the same time, interest rates on time and savings deposits were falling sharply. The fall in these deposit rates may well reflect not loose monetary policy but

rather the way the wealth shock would have induced corporations and individuals both to try to replenish their wealth and to reduce their demand for loanable funds for investment in a depressed economy.[25] No doubt reflecting an excess supply of savings (loanable funds) relative to investment, short and long lending rates were also falling sharply. The excess savings were also reflected in a strong balance of payments on current account and rapid accumulation of foreign exchange reserves.[26] Presumably, much of this reserve accumulation was being sterilised, for it is not reflected in the money supply figures.

Over the next few years interest rates were to fall further. The rate on the more liquid savings deposits fell to a mere 0.25 percent by 1994 and then to close to zero, below which they cannot fall unless some sort of 'Gesell tax' on money balances were imposed to overcome the 'zero lower bound' problem (as suggested by Mitsuhiro Fukao, 2004). This appears to have had a very strong effect on the composition of money and 'quasi-money' balances. Currency plus demand deposits (M1) rose by an average of 7.6 percent a year over the whole period 1992-2005 while the broader (M2 plus CDs) series rose by only 2.2 percent. With the return on savings deposits falling to almost the same as on demand deposits, the percentage of the latter to the former more than doubled – from 25.9 percent in 1992 to 54.5 percent in 2005 (see Table 1).

The shifting of low-turnover savings deposits into demand deposits has meant that the growth of M1 is misleading. The broader (M2 + CDs) series, with its much slower growth, better reflects the tight monetary conditions that prevailed from 1992 until recently.[27] The velocity of M1 declined over the period by about 7 percent a year – as measured by the difference between growth of M1 and growth of nominal GDP. By contrast, the decline in the velocity of the broader (M2 + CDs) series was more modest at about 2 percent a year.

[25] Laidler (e.g., 2004a, 2006) has lamented the modern focus on short-term interest rates as the central bank's most potent policy weapon and as the criterion of monetary looseness or tightness, to the relative neglect of the traditional focus on monetary aggregates.

[26] Bank of Japan (2005), pp.69-70. The foreign reserves rose by 2.7 percent in 1992, to $70 billion, but thereafter they climbed rapidly – to $101 billion in 1993 and then to $844 billion by mid-2005.

[27] M2 exclusive of CDs grew slightly less fast than the (M2 + CDs) series since CDs, with their higher interest rate, naturally increased more than time deposits.

In view of the rise in the demand for money as nominal interest rates declined, it would appear that the BoJ's response to asset price deflation and economic recession in late 1991 and into 1992 and beyond should have been more vigorously to offset the deflationary effect of a rise in the demand for money *to hold* and the related fall in the demand for money *to spend* (that is, demand for loans). Instead, it presided over a sharp fall in the growth of money that was partly the result of a fall in the demand for loanable funds which in turn inhibits expansion of money via new bank credits.

Recall that the characteristic of a Hawtreyan credit deadlock is that it prevents money being created, whereas a Keynesian liquidity trap suggests that even if money is created this would do no good by itself. But with interest rates falling to very low levels, many observers have concluded that the economy had fallen into a liquidity trap. For example, Paul Krugman (1999, p.2) argued that if, as was happening in Japan, "the interest rate is zero, bonds and money become in effect equivalent assets; so conventional monetary policy, in which money is swapped for bonds via open-market operation, changes nothing"; and "once it became clear that the Bank of Japan really did consider itself unable to increase demand in an economy that badly needed it, it also became clear… that the theory of the liquidity trap needed a fresh, hard look". He stressed that this trap "is in a fundamental sense an expectational issue. Monetary expansion is irrelevant [to effective demand] because the private sector does not expect it to be sustained".[28] His solution: influence inflationary expectations through an unconventional and credible commitment that the BoJ would uncompromisingly pursue a 15-year inflation target of 4 percent in order to reduce the expected real interest rate to below zero (the postulated 'natural' rate if prices were perfectly flexible) to stimulate investment and escape the liquidity trap.

Kazuo Ueda (2005) suggests that Krugman's focus on the need to manipulate inflationary expectations was consistent with the BoJ's explicit commitment to an effectively zero (short-term) interest rate policy from early 1999 until such time as

[28] Mauro Boianovsky's (2004) review of the history of the liquidity trap concept lucidly explains John Hicks's emphasis on expectations, and the parallels with Krugman's view: the long rate of interest, and the term structure of rates, is determined by expectations about the future course of short-term rates. The current short rate, meanwhile, depends on the current supply and demand for money. But if the current rate cannot fall below zero, then it may be impossible to reduce the long rate, and it is the long rate that has the bigger influence on investment decisions, hence aggregate demand.

signs of inflation should appear, even when the Taylor rule might indicate the need to raise it. But when the economy did show signs of recovery (though with prices still falling) the overnight call rate was raised to 0.25 percent in August 2000. The recovery was short-lived and in early 2001 the policy rate was brought back down and a 'quantitative easing policy' (QEP) initiated that flooded the market with liquidity through aggressive purchases of Japanese Government Bonds (JGBs). This generated a huge increase in the monetary base over the period 2001-2005. A modest but sustained real economic recovery was recorded at last, though consumer prices continued to fall until 2006.

Charles Goodhart (personal communication) has suggested that this ultra-loose monetary policy was inefficiently implemented in that the BoJ mainly bought JGBs from the banks rather than the non-bank private sector. If so, this could explain why the banks accumulated such a huge volume of excess reserves: economic conditions prevented them from finding lending opportunities for these reserves – a view again more consistent with a credit deadlock than a liquidity trap. If instead the BoJ had bought JGBs directly from the non-bank private sector the latter sector, awash with liquidity, may have had a higher propensity to spend than if they first had to borrow spending money from the banks. What is required is not a massive infusion of base money but rather a moderate expansion of the supply of money in the hands of the public, at least sufficient to satisfy the modest increase in the demand for money to hold (decline in velocity) that has been registered during the deflationary period since 1998 – though one would expect this decline in velocity to be reversed as and when deflation is conquered..

As Laidler (2004a, p.339) has argued, the Keynesian liquidity trap involved the demand for money becoming infinitely elastic with respect to the long not the short rate of interest. And in Japan (as the chart in Werner 2005, p.46 shows), the long-term government bond yield continued to decline, from around 5 percent in 1992 to 2 percent in 1998 and only since then has it been flat, at around 1.5 percent. Thus for much of the "growth stagnation" period it would appear that an expansion of money by purchase of bonds could have effected a fall in the long rate of interest to stimulate spending rather than it all being absorbed in idle balances. However, whether in fact the decline in the long rate (or, for that matter, in the short rate) can be attributed to a

loose but ineffective monetary policy (as many aver) cannot be judged by looking only at the interest rate (the current preoccupation of policy-makers and theory alike, as lamented by Laidler 2006).

For just as Hawtrey and Currie found for the United States, so too it appears that the rate of interest is positively and endogenously correlated with the business cycle: as business declines so too does the interest rate even if – or, indeed especially if – monetary policy is tight, as revealed not by the (lower) interest rate but by the money aggregates. A tight monetary policy exacerbates a downturn in business and can turn a recession into a self-reinforcing deflation. Thus, as revealed by the slowdown of nominal monetary growth at the time of the bursting of the asset price bubbles there was no quantitative easing at all (though at least the BoJ did not preside over an actual contraction of the money supply, unlike the Fed in 1929-33). Thus the subsequent interest rate declines can be entirely explained by a rise in the saving rate and fall in the *demand for loanable funds*. At the same time, the observed fall in the velocity of circulation of money indicates that while the *demand for money* was rising as a proportion of the depressed GDP, it could not have been increasing in absolute terms relative to the slow growth of the money supply.

The question then arises: could the banks have increased the demand for loanable funds (hence investment and/or consumption spending) by further lowering the rate of interest on loans if the rate was falling precisely because macroeconomic conditions had been depressing that demand?[29] With slower growth of money partly the result of a decline in demand for loanable funds relative to banks' reserves, a reversal requires offsetting action by the central bank. A lowered discount rate in such circumstances may be an inadequate stimulus relative to the potential efficacy of open-market operations, as noted by Allyn Young and Lauchlin Currie in their critique of

[29] Ronald McKinnon (2006) alludes to his well-known views on the way that an alleged "ever-rising yen syndrome" and international capital mobility drove Japanese interest rates to zero in order to satisfy the interest-parity condition when US rates were falling to around 3 percent in the early 1990s. When after 1995 the yen ceased its secular tendency to appreciate, he argues that zero interest rates must now reflect a negative risk premium on Japan's vast holdings of dollar assets. He does not consider whether Japan's strong currency was a reflection of its tight monetary policy.

Hawtrey.[30] Nevertheless Hawtrey too was confident that so long as a normal downturn of a business cycle is not allowed to develop into an abnormally severe depression, flooding the market with new money via open-market bond purchases would usually do the trick.

However, we also saw that Young, Currie, Viner and others were more inclined than Hawtrey to call for the aid of fiscal deficits. Though Hawtrey did not rule out public spending to combat depression, he did insist that it would normally only work if financed with new money. Turning then to the role of fiscal policy in Japan's "growth stagnation" since 1992, what has been the record?

Lack of fiscal and monetary coordination, 1992-2005

If there has been a liquidity trap at any time since 1992, conventional Keynesian theory suggests that fiscal deficits would boost the economy and, especially if sustained and large enough, could fairly quickly return the economy to full employment. Bank of Japan (2005, pp. 67-68) shows that the fiscal deficit rose to 3.3 percent of GDP in the first year of recession, 1992, and to 4.3 percent in 1993 when economic growth was a mere 0.2 percent. The deficit rose further, to 4.6 percent and 4.8 percent in 1994 and 1995, while the economy continued to stagnate. Between 1996 and 2005 the deficit averaged an astonishing 6.9 percent of GDP, and the ratio of the national debt to GDP rose from 49.4 percent in 1991 to 160 percent in 2005, the highest in the developed world. Despite these unprecedented fiscal injections the economy remained mired in stagnation and deflation throughout.

It seems safe to conclude that much of the fiscal effort was ineffective – even wasted: the quality of a large part of the public works has been criticised as little better than leaf-raking or pyramid-building (in contrast to the productivity of United States infrastructure projects in the 1930s, as highlighted by Alexander Field [2003]). For

[30] Not "sound money and plenty of it" (which Laidler [2004a. p.334] referred to as the "Purvis principle" in the context of inflation control), but "cheap money and plenty of it" perhaps better reflects their advice for countering recession, or even "dear money but plenty of it", if the consequence of vigorous monetary expansion would have been to avoid recession and thereby prevent the nominal interest rate from falling pro-cyclically. See also footnote 12 above.

Keynes, useless pyramids were better than nothing for they could revive the economy through their indirect multiplier effects. But absent an expansion of money the multiplier effect would have to come entirely through an increase in the velocity of circulation. In the case of Japan we have, on the contrary, seen velocity declining.

The deficit increased each year since 1992 by an average of about 6 percent of GDP. Since this was much greater than the average increase in the money supply, it is clear that the bulk of the deficits was financed not through the printing press (borrowing from the central bank), but by selling bonds to commercial banks and, mainly, to the non-bank private sector, especially major institutions such as large insurance companies, pension funds, and Japan Post.[31] In this way the government was absorbing a very large portion of the increase in savings over the period. To the extent that the propensity to save was increasing faster than the private sector was willing to borrow or the banks to lend, the increase in relatively risk-free government bills or bonds can at least be credited with having prevented a Great Depression of 1930s proportions. But because the deficits apparently did no more than that and/or actually crowded out some bank lending to the private sector (either because the banks had too few excess reserves or because they may have lowered their risk threshold had there been fewer opportunities to lend to the government), they failed to prevent a Great Stagnation. Some deficit spending (but much less than its actual extent) may have been a necessary condition for recovery, but evidently not a sufficient condition.

Werner (2005, ch.18) argues that fiscal policy is ineffective if it is not monetised. There was a notorious absence of cooperation between the Ministry of Finance and the Bank of Japan in the 1990s so that very little of the deficit was financed with new money created by the BoJ. But Werner also claims the government could have done more to finance the deficit through commercial bank credit creation rather than bond market sales to non-bank financial institutions whose liabilities are not money and whose loans merely transfer savings without creating new money. Reliance on

[31] Life insurance companies, for example, increased their holdings of government bonds from ¥8.8 trillion in 1992 to ¥39.2 trillion in 2004; Japan's Postal Life Insurance holdings increased from ¥0.65 trillion to ¥55.6 trillion (Bank of Japan, 2005, p.25). Together, these insurance company holdings of government bonds was almost the same size as holdings by the BoJ (*ibid*., p.9). The increase of commercial bank holdings of government bonds was relatively small: from ¥2.7 trillion in 1992 to ¥10.2 trillion in 2004 (*ibid*., p.23).

commercial banks, however, also assumes they always had sufficient spare reserves with which to make loans to government without diverting funds from the private sector. It is true that during the recent period of 'quantitative easing' the BoJ had been flooding the banking system with excess reserves, but this was signally not the case in the 1990s.[32] In this respect conditions were less propitious for stimulating the economy via fiscal deficits than in the United States after 1933 when the banks had significant excess reserves. And in any case it does not explain why Japanese banks were not more active in bidding for the bonds that were offered on the markets.

Without fully addressing this question, Werner (2005, p.255) nevertheless insists that "the institutional reality of banking systems [including credit-rationing] allows banks to create purchasing power without withdrawing existing purchasing power from other parts of the economy"; and "fiscal expenditure by borrowing from banks would increase credit creation and hence the total amount of purchasing power in the economy". He continues:

> By shifting government funding away from bond finance and replacing it with borrowing from the commercial banks via simple loan contracts, credit creation will be stimulated. Unlike bond markets, banks create new purchasing power when they lend. This means that overall economic activity can be boosted (via fiscal policy), without any quantity crowding-out that rendered fiscal policy ineffective during the 1990s. Banks, though risk-averse due to their bad debts, would not mind lending to the government – a zero-risk borrower.

Werner claims (p.364) that if the banks had run up against a reserve constraint, the BoJ "would be forced to inject any necessary amount of liquidity in order to maintain its targeted call rate". But it is not at all clear that the BoJ did have a target call rate in the 1990s, except insofar as it was in continuous decline. That, in essence, appears to have been the problem: the BoJ was unwilling to monetise the deficit by providing the finance itself, but nor did it provide the commercial banks with the reserves they would have needed for that purpose. However, the latter, indirect method of monetising the deficit would need to have been at the initiative of the banks; and their

[32] BOJ data show that excess reserves were minimal throughout the 1990s, only beginning to be significant from early 1999 and then extremely large after the policy of 'quantitative easing' (currently, 2006, being ended) was initiated in earnest in 2001.

potential bond purchases would have faced stiff competition from the non-bank financial intermediaries whose huge savings deposit liabilities were already sufficient for them to finance fiscal deficits in a non-inflationary – hence non-stimulatory – way. Ben Bernanke (2003) argues that greater cooperation between the BoJ and the Treasury, with greater BoJ purchases of government debt, could also mitigate the effect of deficits on the debt burden and future interest payments perceived by households, and so reduce any 'Ricardian equivalence' effect on their propensity to save. Another option would have been for the BoJ more comprehensively to have bought up the banks' non-performing loans. As noted above, Werner persuasively argues that these were created at least as much because of incompetent BoJ policy as because of irresponsible commercial banking policy. He thus dismisses "moral hazard" arguments against central bank purchases of bad debts, and instead urges this as an effective way to increase the money supply.

Conclusion

In conclusion, our brief survey of economic conditions in Japan after the bursting of asset bubbles in the early 1990s indicates that Japan's Great Stagnation could probably have been avoided if a much more active monetary policy had been pursued after 1991. A very active fiscal policy was tried and found wanting. This suggests that Japan's problem was not that she was in a conventional Keynesian liquidity trap that could be escaped via the activation of idle balances with little increase in the money supply. But compared to the Great Depression of the 1930s, the authorities at least ensured that there was no contraction of the money supply, hence no actual collapse of the economy into another Great Depression; and fiscal policy may have helped.

In any case, the last word (in fact, many words) should go to David Laidler, who pointed out that when at last the BoJ engaged in a dramatically different, ultra-loose quantitative easing policy, instead of relying solely on a near-zero discount rate as a criterion of "easing", prices and output at last began to show signs of recovery. He suggests (Laidler 2003b, p.130) that a model that puts the interaction of the supply and demand for money at the centre of things is much more informative about monetary policy's transmission mechanism than focus on the interest rate alone:

> Consider, for example, the currently conventional wisdom about…the z*ero lower bound* problem. It might happen, and indeed in the case of contemporary Japan, which has much in common with the United States in 1930-33, it has happened, that the economy still requires monetary stimulus in a situation in which the nominal interest rates under the authorities' direct control have reached zero. If all there was to monetary policy was shifting these rates about, then… it would be easy to be concluded that monetary policy had reached the limits of its powers. Some economists would agree with this conclusion, but most would argue, to the contrary, that "unconventional" methods such as open-market purchase of long term securities or equities might be worth trying… The express purpose of such methods would, of course, be to increase the quantity of money, in the hope of generating an excess supply thereof, and hence extra expenditure.

And Laidler (2006, pp.157-58) writes that our prevailing theory of monetary policy's focus on interest rates (especially when zero *short-term* rates are taken to indicate a liquidity trap) has had some odd consequences:

> To begin with, a "liquidity trap" is a state of affairs in which the demand for money becomes perfectly elastic with respect to a long rate of interest at some low positive rate of the latter. Until the policy of "quantitative easing" was begun in 2001, the ratio of the Japanese money stock to national income… rose slowly at best and it was short, not long, rates of interest that were essentially zero. Given these facts it is hard to see what the empirical basis for the diagnosis of a liquidity trap could have been. On the other hand, and again before 2001, the empirical evidence gave no reason to reject the hypothesis that a quite separate and distinct phenomenon was at work, namely a Hawtreyan "credit deadlock." Here the problem is not a high elasticity of the economy's demand for money with respect to the long rate of interest, but a low elasticity of its demand for bank credit with respect to the short rate, which is a necessary prerequisite for money creation. The solution to a credit deadlock, as Hawtey pointed out, is vigorous open market operations to bring about increases in the money base and therefore the supply of checkable deposits, that mere manipulation of short term interest rates is usually sufficient to accomplish in less depressed times.
>
> Now the conditions for a liquidity trap might indeed have existed in Japan in the 1990s. Until the credit deadlock affecting its monetary system was broken by

quantitative easing in 2001… it was impossible to know this. As it has happened, however, the subsequent up-turn of the Japanese economy that began in 2002 and is still proceeding is beginning to suggest that there was no liquidity trap at work in that economy. If further evidence bears out this conclusion, a serious policy error was made in the 1990s… based on a theory of monetary policy that treats the short interest rate as the central bank's only tool and characterizes the transmission mechanism as working solely through the influence of interest rates on aggregate demand.

That theory provided no means for Japanese policy makers to distinguish between a liquidity trap, which is a possible feature of a demand for money function, and a credit deadlock, which is a characteristic of the money supply process, or for them to entertain the possibility that variations in the money supply might affect aggregate demand by channels over and above any effect on market rates of interest. It was therefore a dangerously defective guide to the conduct of monetary policy in Japan, as it is in any depressed economy.

It is hoped that the present paper has offered some useful qualitative and quantitative evidence germane to David's succinct statement of an important but relatively little researched angle on the causes of long-lasting depression and stagnation in two of the world's largest economies.

Table 1

Key Japanese statistics, 1985-2005

year	Real GDP growth rate %	M1 % change (1)	M2 + CDs % change (2)	M1 as % of M2 + CDs (3)	Average Interest rate on time deposits* (4)	Interest rate on ordinary postal savings (5)	Inflation rate consumer price index (6)
1985	**5.0**	**4.5**	**9.2**	**28.5**		**2.88**	**1.9**
1986	**2.6**	**8.4**	**8.1**	**28.6**	**5.15**	**1.68**	**0.0**
1987	**4.1**	**6.9**	**11.4**	**27.4**	**4.35**	**1.68**	**0.5**
1988	**6.2**	**10.2**	**10.7**	**27.4**	**4.58**	**1.68**	**0.8**
1989	**4.8**	**-2.0**	**10.6**	**24.2**	**5.34**	**1.92**	**2.9**
1990	**5.1**	**6.1**	**8.5**	**23.7**	**7.54**	**3.48**	**3.3**
1991	**3.8**	**8.8**	**2.0**	**25.3**	**7.06**	**2.88**	**2.8**
1992	**0.9**	**1.9**	**-0.4**	**25.9**	**4.12**	**1.80**	**1.6**
1993	**0.4**	**3.4**	**1.3**	**26.4**	**2.77**	**1.32**	**1.2**
1994	**1.0**	**4.9**	**2.9**	**26.9**	**2.02**	**1.35**	**0.4**
1995	**2.5**	**12.8**	**3.2**	**29.5**	**1.11**	**0.25**	**-0.1**
1996	**3.6**	**10.0**	**2.9**	**31.5**	**0.48**	**0.25**	**0.4**
1997	**0.6**	**8.9**	**3.8**	**33.0**	**0.47**	**0.25**	**2.0**
1998	**-0.9**	**5.7**	**3.5**	**33.6**	**0.53**	**0.15**	**0.2**
1999	**0.6**	**11.7**	**2.6**	**36.6**	**0.22**	**0.08**	**-0.5**
2000	**2.5**	**4.2**	**2.0**	**37.4**	**0.18**	**0.12**	**-0.5**
2001	**-1.1**	**13.6**	**3.3**	**41.1**	**0.09**	**0.02**	**-1.0**
2002	**0.8**	**25.1**	**2.2**	**50.3**	**0.04**	**0.005**	**-0.6**
2003	**2.0**	**4.1**	**1.5**	**51.6**	**0.04**	**0.005**	**-0.2**
2004	**1.9**	**4.1**	**2.0**	**52.7**	**0.06**	**0.005**	**-0.1**
2005	**2.6**	**3.0**	**1.9**	**54.5**	**0.09**	**0.005**	**-0.1**

Sources:

Bank of Japan websites:
http://www.boj.or.jp/en/index.htm
http://www.boj.or.jp/en/type/stat/dlong/fin_stat/money/index.htm
http://www.boj.or.jp/en/type/stat/dlong/fin_stat/money/cdab0020.csv
Bank of Japan (2005), pp.19-20;
United Nations *Yearbooks*.

* For 1986-93 the interest rate refers only to the rate on large deposits over 10 million yen. These are usually about 1 percent above the rate for smaller deposits, but after 1993 there was almost no difference in the rates for different size of deposit.

Bibliography

Bank of Japan (2005), *Financial and Economic Statistics Monthly*. Tokyo: Research and Statistics Department, Bank of Japan (July).

Barber, William J. (1996), *Designs within Disorder: Franklin D. Roosevelt, the Economists, and the Shaping of American Economic Policy, 1933-1945.* Cambridge: Cambridge University Press.

Bernanke, Ben S (2003), "Some Thoughts on Monetary Policy in Japan." Speech to the Japan Society of Monetary Economics, Tokyo, May 31. (http://www.federalreserve.gov/BoardDocs/speeches/2003/20030531/default.htm).

Black, Conrad (2003), *Franklin Delano Roosevelt: Champion of Freedom*. London: Weidenfeld & Nicholson.

Boianovsky, Mauro (2004), "The IS-LM Model and the Liquidity Trap Concept: From Hicks to Krugman." *History of Political Economy*, Annual Supplement to Volume 36, 92-126.

Currie, Lauchlin (1931), *Bank Assets and Banking Theory*. Cambridge MA: Harvard University PhD thesis.

---------- (1933), "The treatment of credit in contemporary monetary theory." *Journal of Political Economy*, Vol.41, No.1 (February), 509-25.

---------- (1934a), *The Supply and Control of Money in the United States.* Cambridge, MA: Harvard University Press. Reprinted in 1968 by Russell & Russell, New York.

---------- (1934b), "The failure of monetary policy to prevent the depression of 1929-32." *Journal of Political Economy*, 42:2, 145-77. Reprinted in Hamilton et al (1962), 168-98.

---------- (1978 [1935]), "Comments and observations on 'Federal Income-Increasing Expenditures, 1933-35'." *History of Political Economy*, 10:4, 507-48.

---------- (1980 [1938]), "Causes of the recession." *History of Political Economy*, 12:3, 303-35.

----------, Paul Theodore Ellsworth and Harry Dexter White (2002 [1932]), "Memorandum on Anti-depression Policy." *History of Political Economy,* 34:3, 533-52. Reprinted in Robert Leeson (ed.) (2003), Volume 2: 271-90.

Deutscher, Patrick (1990), *R. G. Hawtrey and the Development of Macroeconomics*. London: Macmillan.

Field, Alexander (2003), "The Most Technologically Progressive Decade of the Century." *American Economic Review*, 93 (September), 1399-1414.

Friedman M. (1956), "The quantity theory of money – a restatement", in *Studies in the Quantity Theory of Money,* ed. M. Friedman. Chicago: University of Chicago Press, 3-21.

---------- (2005), "A Natural Experiment in Monetary Policy Covering Three Episodes of Growth and Decline in the Economy and the Stock Market." *Journal of Economic Perspectives*, 19:4 (Fall), 145-50.

---------- and Anna Jacobson Schwartz (1963), *A Monetary History of the United States, 1867-1960*. Princeton: Princeton University Press.

Fukao, Mitsuhiro (2004), "The Effects of 'Gesell' (Currency) Taxes in Promoting Japan's Economic Recovery." *International Economics and Economic Policy*, 2:2, 173-88.

Hamilton, Earl, Harry G. Johnson and Albert Rees (eds.) (1962), *Landmarks in Political Economy*. Chicago: Chicago University Press.

Hawtrey, R G (1925), "Public Expenditure and the Demand for Labour." *Economica* 5 (March), 38-48.

---------- (1928), *Trade and Credit.* London: Longman Group.

---------- (1931), *Trade Depression and the Way Out*. London: Longman Group.

---------- (1932), *The Art of Central Banking*. London: Longman Group. Reprinted 1962 by Frank Cass, London.

---------- (1950), *Currency and Credit*, 4th edition. London: Longman Group.

Humphrey, Thomas (1971), "The role of non-Chicago economists in the evolution of the quantity theory in America, 1930-50." *Southern Economic Journal*, 38 (July), 12-18.

Japan Real Estate Institute (2006), *Economic and Real Estate Trends.* Tokyo (May).

Krugman, Paul (1999) "Thinking about the Liquidity Trap."
http://www.wws.princeton.edu/pkrugman/trioshrt.html

Laidler, David (1991), "Karl Brunner's Monetary Economics: An Appreciation." *Journal of Money, Credit and Banking*, 23:4, 633-58.

---------- (1993), "Hawtrey, Harvard and the origins of the Chicago tradition." *Journal of Political Economy*, Vol.101 (December), 1068-1103.

---------- (1999), *Fabricating the Keynesian Revolution: Studies of the inter-ear literature on money, the cycle, and unemployment*. Cambridge: Cambridge University Press.

----------, ed. (1999), *The Foundations of Monetary Economics*. Cheltenham UK: Edward Elgar.

---------- (2003a), "Price Level, Relative Prices, and Economic Stability: Aspects of the Inter-war Debate." Bank for International Settlements working paper 136.

---------- (2003b), "Monetary Policy without Money: *Hamlet* without the Ghost." In Bank of Canada, *Macroeconomics, Monetary Policy and Financial Stability: A festschrift in honour of Charles Freedman*. Ottawa: Bank of Canada, 111-34.

---------- (2003c), "Meltzer's History of the Federal Reserve." *Journal of Economic Literature*, 41:4, 1256-71.

---------- (2004a), "Monetary Policy after Bubbles Burst: The Zero Lower Bound, the Liquidity Trap and the Credit Deadlock." *Canadian Public Policy*, 30:3, 330-40.

---------- (2004b), "Central Banks as Lenders of Last Resort: Trendy or Passé?" University of Western Ontario: Working Paper # 2004-8.

---------- (2006), "Woodford and Wicksell on *Interest and Prices*: The Place of the Pure Credit Economy in the Theory of Monetary Policy." *Journal of the History of Economic Thought*, 28:2, 151-59.

---------- and Roger J. Sandilands (2002), "An Early Harvard Memorandum on Anti-depression Policies: An introductory note." *History of Political Economy*, 34:3, 515-532.

Lash, Joseph P. (1988), *Dealers and Dreamers*, New York, Doubleday.

Leeson, Robert (ed.) (2003), *Keynes, Chicago and Friedman*. London: Pickering & Chatto, 2 volumes.

Maddison, Angus (2001), *The World Economy: A Millennial Perspective*. Paris: OECD.

McKinnon, Ronald (2006), "China's Exchange Rate Trap: Japan Redux?" *American Economic Review, Papers and Proceedings*, 96:2 (May), pp.427-31.

Meltzer, Allan H. (2003), *A History of the Federal Reserve. Volume 1, 1913-51*. Chicago: University of Chicago Press.

Mehrling, P. G. and Sandilands, R. J. (1999), *Money and Growth: Selected Papers of Allyn Abbott Young*. London and New York: Routledge

Patinkin, Don (1969), "The Chicago Tradition, the Quantity Theory and Friedman." *Journal of Money, Credit, and Banking*,1:1, 46-70

---------- (1981), "Keynes and Chicago", in Don Patinkin, *Essays on and in the Chicago Tradition*, Durham, NC and London, Duke University Press.

Romer, Christina D. and David H. Romer (1989), "Does monetary policy matter?" *Macroeconomics Annual*, National Bureau of Economic Research, 4, 121-70.

Sandilands, Roger J. (1990), *The Life and Political Economy of Lauchlin Currie: New Dealer, Presidential Adviser, and Development Economist*. Durham, NC and London: Duke University Press.

---------- (ed.) (2004), *New Light on Lauchlin Currie's Monetary Economics in the New Deal and Beyond*. *Journal of Economic Studies*, 31:3/4, 169-403.

Santoni, G J (1987), "The Great Bull Markets 1924-29 and 1982-87: Speculative bubbles or economic fundamentals?" Federal Reserve Bank of St Louis *Review*, 69:9, 16-29.

Smithin, John (2004), "Keynes, Chicago and Friedman: A review essay." *Journal of Economic Studies*, 31:1, 76-88.

Steindl, Frank G. (1995), *Monetary Interpretations of the Great Depression*. Ann Arbor, MI: University of Michigan Press.

---------- (2004), *Understanding Economic Recovery in the 1930s: Endogenous Propagation in the Great Depression.* Ann Arbor: University of Michigan Press.

Sweezy, Alan (1972), "The Keynesians and Government Policy, 1933-1939." *American Economic Review*. LXII (May), 116-23.

Telser, Lester G. (2001), "Higher Member Bank Reserve Ratios in 1936 and 1937 Did not Cause the Relapse into Depression." *Journal of Post-Keynesian Economics*, 24:2, 205-16.

---------- (2003), "The Veterans' Bonus of 1936," *Journal of Post-Keynesian Economics*, 26:2, 227-43.

Ueda, Kazuo (2005), "The Bank of Japan's Struggle with the Zero Lower Bound on Nominal Interest Rates: Exercises in expectations management." Tokyo: CIRJE discussion paper F-375, at www.e.u-tokyo.ac.jp/cirje/research/03research02dp.html

Werner, Richard A (2005), *New Paradigm in Economics: Solving the riddle of Japanese macroeconomic performance*. Houndmills, Basingstoke UK: Palgrave Macmillan.