REMEDIES FOR FINANCIAL CRISES IN THE CLASSICAL AND NEOCLASSICAL LITERATURE.*

by

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*The paper is a revised version of a lecture given at the University of Frankfurt on May 22, 2000, and was mainly written during the author's tenure as *Stiftungsprofessur Deutsche Bundesbank* at *die Freie Universität Berlin*. It draws heavily on earlier works of the author (Laidler 1991, 1999 and 2000) where much more extensive documentation for the positions it takes than can be incorporated here is to be found. This version owes much to conversations and/or correspondence with Charles Goodhart, Andreas Hauskrecht and Michael Parkin, who nevertheless bear no responsibility for its shortcomings..

Modern Financial Crises and their Predecessors

There are, no doubt, important differences between the financial crises of the late 1990s and those that occurred in the years between the Bullionist Controversy and the Keynesian Revolution, but certain themes that played a prominent role in the Classical and Neoclassical literature on these matters also run through modern discussions.[1] The first of these is the interdependence of international and domestic aspects of financial instability, and the fact that they seem to require the simultaneous application of opposing monetary remedies, stringency to right the balance of payments, and the provision of ample liquidity to restore domestic confidence. The second is whether this policy dilemma is better addressed in a monetary system guided by rules than in one subject to discretionary policy. These two issues were systematically discussed from the very beginning of the 19th century onwards, and have found a new lease of life in the 1990s when, as in earlier times, the typical financial crisis has tended to develop out of private sector excesses, rather than government profligacy. A third question began to be addressed by Neoclassical economists in the 1920s and early 1930s: namely, the possibility that there might be limits to what monetary policy could accomplish by way of regenerating a deeply depressed economy, and it too has been much discussed lately in the context of Japanese monetary problems.

In this paper, I shall discuss the treatment of these matters in the older literature, not so much with a view to drawing direct morals for particular current events, but rather to present certain perennial problems of monetary policy from an unfamiliar and, as I hope, for that reason revealing perspective. I shall deal first of all with the development of ideas about the rules of the gold-standard in the first three quarters of the 19th century, and go on to show how developments in both theoretical and empirical economics weakened the intellectual foundations of those rules. Then I shall discuss some highlights of the development of ideas about discretionary monetary policy and its limitations in the years before the publication of Keynes' *General Theory*. Only in a brief concluding section shall I permit myself the luxury of a few direct comments about the

[1]Michael Bordo (1998) gives an account of these crises. The present paper complements his in paying attention to the economic analysis that these crises provoked, rather than to the historical record itself. Note that Thomas Humphrey (1999) has also recently written of the relevance of this earlier literature to the problems faced by contemporary policy-makers.

relevance of this earlier work to the contemporary situation.

The Gold Standard Rule in the 19th Century

There is one all-important difference between the institutional and intellectual contexts in which the Classical economists worked and those that form the background to present day discussions: namely, the range of admissible monetary rules was much narrower. Nowadays the option of a flexible exchange rate regime, albeit usually accompanied by well defined targets for some such domestic variable as the inflation rate, is regarded as a reasonable policy option for an open economy. Among the English Classical economists, on the other hand, there was a widespread consensus that the over-riding aim of monetary policy should be the maintenance of the convertibility of sterling into gold at a fixed price, and maintained it was, from 1821 until 1914.[2] In order fully to appreciate 19th century analysis of financial crises, then, it is important to understand the reasons for the depth of its creators' commitment to the gold standard.

The Role of Economic Theory in Supporting the Gold Standard.

To begin with, mainstream Classical economics lacked the idea of a price index that could measure the purchasing power of money over some representative bundle of goods, let alone of a usable version of such a device.[3] As Ricardo put it:

> "It has been said that we might judge of its [money's] value by its relation, not to one, but to the mass of commodities. . . .when we consider that commodities are continually varying in value, as compared with each other; and that when such variation to takes place, it is impossible to ascertain which commodity is increased , and which diminished in value, it must be allowed that such a test would be of no use whatever." (1816, p. 59)

Thus, for want of a better measure, stability of the value of money in terms of gold came to be identified far more closely with stability in its purchasing power than it could be nowadays, and

[2]Even during the years 1797-1821, when the requirement that the Bank of England convert its notes on demand into gold bullion was suspended as a result of monetary instability created by the Revolutionary and Napoleonic Wars and their aftermath, the commonly applied test of the appropriateness of that institution's activities was the behaviour of bullion's market price. It should also be noted that until the 1870s, the international, as opposed to the British, monetary system was overall bimetallic. For a recent and exceptionally lucid account of the theory and history of bimetallism, see Angela Redish (2000)

[3] Schemes for "tabular standards of value" based on primitive price indices were discussed from time to time from the late 18th century onwards, but made no impact on the mainstream of Classical economics. On this matter, see Fetter (1965, pp. 138-9).

this identification gained further authority from Classical economics' "micro-foundations", which lay in the cost-of-production (or even the labour) theory of value. This theory seemed to imply that there was something natural, and in some treatments even pre-ordained, about the use of the precious metals as standards of value.

Ricardo may again be permitted to speak for his contemporaries on the upshot of all this. He was committed to the view that ". . .uniformity in the value of the circulating medium is an object greatly to be desired. . ."; but he also understood that under any commodity standard, "No plan can possibly be devised which will maintain money at an absolutely uniform value, because it will always be subject to those variations to which the commodity itself is subject, which has been fixed upon as a standard. . ." (1816, p. 54). He then went on to assert that "Gold and silver are themselves subject to greater variations than it is desirable that a standard should be subject to. They are, however, of the best with which we are acquainted." (p. 60) Hence he argued that either metal would be a suitable basis for the monetary system, and in so doing he was setting out the conventional wisdom of his time.[4] In 1816 legislation settled the matter in favour of gold as far as Britain was concerned..

In addition to all this, it was not until the 1830s that it became widely recognised that financial crises were simply one repeating event in a cyclical pattern. Even then, the name commonly given to that pattern, "the credit cycle" suggests that it was regarded primarily as a phenomenon of organised financial and commodity markets. The fluctuations in real economic activity that we now regard as central features of the business cycle, as we now call it, did not attract systematic attention until the 1860s. In an era before economists began to study the causes and consequences of real economic fluctuations, the maintenance of high employment could not be systematically analysed as a policy goal that might conflict with the preservation of stability in the value of money.[5]

Reasons for a Legislated Rule

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[4]Note also that, in 1816, Ricardo was inclined to favour silver, on the grounds that most of Britain's trading partners were on a silver standard.

[5]Which is not to say that there was no discussion of employment as a policy goal among certain groups that dissented from Classical orthodoxy. Notable here were Thomas Attwood and his associates in the so-called Birmingham School. See Laidler (2000) for a brief discussion and references to the relevant literature

These properties of Classical economics enabled its exponents to be single-minded about the maintenance of the price of gold as the over-riding goal of monetary policy, but they do not fully explain their commitment to a *legislated monetary rule*, requiring the convertibility of paper money on demand into specie at a fixed price. It is, after all, quite possible to think it desirable that a central bank should pursue a gold-price target, without going so far as to demand that it be legally bound to do so. That, indeed, was essentially the position taken vis-a-vis the Bank of England by Henry Thornton (1802) perhaps the most creative of all Classical monetary economists, writing early during the period when legal gold-convertibility requirements were suspended as a war-time measure. The trouble was that, as events in fact worked out in subsequent years, particularly 1808-10, a stable price of gold bullion was not maintained. Furthermore, the Bank's directors and their supporters argued that this was none of the Bank's doing, that the institution was a helpless victim of circumstances beyond its control, to which it had no reasonable choice but to respond passively.

Lying behind this defence was the economic idea which, following Lloyd Mints (1945), we nowadays call the "real bills doctrine". The core claim of this doctrine is that a central bank which acts so as to ensure that the system over which it presides makes only well secured short-term loans to reputable borrowers at the discretion of the latter will also ensure that the "needs of trade" for bank credit are always accommodated, without running any risk of imparting either inflationary or deflationary impulses to the economy. But, as Thornton (1802) showed in some detail, this claim is fatally deficient. Specifically it ignores the influence of the rate of interest on the volume of business borrowing; and it also neglects the fact that, when bank credit is extended or withdrawn, money is created or destroyed with effects on the economy over and above those emanating from credit market transactions themselves.

In 1810, the Bank of England's directors nevertheless deployed the real bills doctrine in their evidence to the House of Commons Bullion Committee, which had been set up to enquire into the reasons for the sharp and sustained rise in the price of bullion that had taken place in the two previous years. So inept was their analysis on this occasion that Walter Bagehot (1873) would later refer to it as "almost classical in its nonsense". Not surprisingly, perhaps, given that Thornton was one of its members, the Committee's conclusion in the face of their performance was that the directors were not to be trusted with discretionary powers. The *Bullion Report* of 1810, (see Cannan, 1919) gave a decisive impetus to the case for subjecting the Bank's activities to the legislated rule that had been suspended in 1797 and would define the gold standard in Britain until the outbreak of the first world war.

Coping with Crises under the Gold Standard

The prelude to the typical crisis analysed by Classical and Neoclassical economists was a cyclical upswing, about whose origins they were often unclear: in 1848, J. S. Mill was content to refer to "some accident which excites expectations of rising prices" and to leave it at that. This accident, and the expectations it created, would however

> "set speculations at work in several leading departments at once. The prices rise, and the holders realize, or appear to have the power of realizing, great gains . . . . At periods of this kind a great extension of credit takes place. Not only do all whom the contagion reaches employ their credit much more freely than usual; but they really have more credit, because they seem to be making unusual gains, and because a generally reckless and adventurous feeling prevails, which disposes people to give as well as take credit more largely than at other times, and give it to persons not entitled to it." (1848, as repeated in 1871., p. 542)

Like recent episodes also, the generic pre-first-world-war cycle had both international and domestic aspects. Typically the upswing came to an end because, as W. S. Jevons put it, "the rise in prices thus produced turns the foreign exchanges against the country, and creates a balance of indebtedness which must be paid in gold. The basis of the whole fabric of credit slips away, and produces that sudden collapse known as a commercial crisis." (1875, pp. 315-16).[6]

The Classical economists were from the very outset aware that financial crises could cause business failures in general, and bank failures in particular, and that they could disrupt real activity too, albeit temporarily. Their avoidance was therefore agreed to be an important secondary goal of policy. To use the vocabulary of the time, it was understood that "drains" of specie from the banking system in general, and the Bank of England in particular, could be either "external" or "internal" in nature, and that external and internal drains also tended to occur more or less simultaneously. However, it was also understood that an external drain required monetary stringency to cure it, and an internal drain the very opposite. Within the Classical tradition, one can identify two approaches to the policy dilemma that these facts posed. Both originated on the "Bullionist" side of the controversies that marked the period 1797-1821 when gold convertibility was suspended, among this viewpoint's "moderate" and more "extreme" exponents respectively. The first approach, associated in particular with Henry Thornton, recommended a degree of central bank discretion in dealing with crises, and the second, with important origins in the work of Ricardo, sought to cope with them by extending the legislated rules governing the monetary system beyond that requiring gold convertibility. The demarcation between these approaches was not sharp during the Bullionist controversy itself, but it would become much clearer in subsequent discussions.

Exponents of both points-of-view accepted that, under a gold convertibility rule, or even in its absence as in the 1797-1821 period, provided that the maintenance of the price of bullion was the over-riding aim of policy, a balance of payments deficit implied an export of gold, and that this, considered in isolation, required domestic monetary contraction to counteract it. They also understood that such a contraction would tend to create apprehension on the part of domestic firms facing a fall in demand for their output, and that this would, in turn, increase the attractiveness to them of gold coin and Bank of England notes as short-term stores of value.

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[6] Rather oddly, Mill did not refer explicitly to this point in the passage from which I have just quoted, even though it was a commonplace of the literature at the time when he wrote..

Thornton analysed the factors at work here thus in 1802.

> ". . .when a season of distrust arises, prudence suggests, that the loss of interest arising from a detention of notes for a few additional days should not be regarded.
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> It is well known that guineas are hoarded, in times of alarm on this principle. Notes it is true are not hoarded to the same extent; partly because notes are not supposed equally likely, in the event of any general confusion, to find their value, and partly because the class of persons who are holders of notes is less subject to weak and extravagant alarms. In difficult times, however, the disposition to hoard, or rather to be largely provided with Bank of England notes, will, perhaps, prevail to no inconsiderable degree. This remark has been applied to Bank of England notes, because these are always in high credit; and it ought, perhaps, to be chiefly confined to them." (1802, p. 96)

The Case for Discretion

Now for the first three quarters of the 19th century, the Bank of England was a privately owned joint-stock company whose directors usually did not understand, or were unwilling to acknowledge, that the institution played any special role in the monetary system. This was of great practical importance, because the proper response of a private bank to a persistent loss of reserves arising from any cause is to reduce its lending. To the extent that the Bank of England acted like a private bank, therefore, its response to an external drain of gold, to an adverse balance of payments, could actually provoke an internal drain which could in turn become a run, and even a panic. At such a time, the Bank of England was the banking system's *dernier resort* for liquidity, to use the phrase coined by Ernest Baring as early as 1797, but just when its services in this regard were most needed, its insistence on behaving just like any other bank ensured that it would be least likely to provide them.

Again we may let Thornton explain the matter.:

> "The country banker, in case of alarm, turns part of the government securities, bills of exchange, or other property which he has in London, into Bank of England notes, and those notes into money; and thus discharges many of his own circulating notes as well as enlarges the fund of gold in his coffers. . . . thus the country banker by no means bears his own burthen, while the Bank of England sustains a burthen which is not its own, and which we may naturally suppose that it does not very cheerfully bear." (1802, p. 180)

Thornton's preferred solution to the dilemma implicit here was set out in 1802, and continued to play a prominent role long after his death, notably in the debates of the 1840s. It was for the Bank of England to acknowledge that it was indeed a central bank and to give priority to avoiding, or if that was impossible, at least ameliorating, the internal drain. Faced with a loss of reserves, the Bank should not automatically set in motion a monetary contraction, but rather should act so as to *prevent* the volume of its liabilities shrinking to an extent that might provoke a crisis in the domestic banking system:

> ". . . the reduction of the quantity of Bank of England paper is by no means a measure which ought to be resorted to on the occasion of every demand upon the Bank for guineas arising from the high price of bullion, and . . .such a reduction may even aggravate the sort of rise which is caused by alarm in the country." (1802, p. 104)

As an empirical matter, Thornton believed that external drains would often prove to be temporary. During the French wars, the British government was from time to time involved in paying subsidies to allies, and foreign trade was sometimes disrupted by military activity as well. Though the circumstances creating these temporary real shocks, as we would now call them, disappeared in 1815, a third source of difficulty, also noted by Thornton, namely fluctuations in the domestic harvest which could create a need for grain imports, persisted well into the 19th century. Such shocks, Thornton and those who came after him argued, should be ridden out. Only if an external drain proved persistent should domestic contraction be resorted to, and then only as gradually as was feasible.

It was understood that the pursuit of such a policy would require the Bank of England to hold relatively large specie reserves, larger certainly than would be needed if the only aim was to ensure the safety of the Bank itself, and would involve its directors in exercising considerable discretion in their management as well.

> "The Bank, by proceeding to that reduction of its own paper which is necessary to bring gold into the country, may possibly annihilate, before it is aware, a part even almost the whole of the circulating country bank notes, and much other paper also; and it may, in that case, have to supply gold sufficient to fill the whole void, which it has created; but it may be called upon to furnish large additional sums which may forthwith be hoarded in consequence of the alarm thus occasioned. Hence, even though it should increase the supply of gold from abroad; it may augment, in a far greater degree, the demand for it at home. For this reason, it may be the true policy and duty of the Bank to permit, for a time, and to a certain extent, the continuance of that unfavourable exchange, which causes gold to leave the country, and to be drawn out of its own coffers: and it must in that case, necessarily increase its loans to the same extent that its gold is diminished. The Bank, however, ought generally to be provided with a fund of gold so ample, as to enable it to pursue this line of conduct, with safety to itself, through the period of an unfavourable balance; a period, the duration of which may, to a certain degree, be estimated, though disappointment in a second harvest may cause much error in the calculation" (1802, p. 152)

Towards a Rule-based Alternative

David Ricardo would have none of this.[7] For him, any external drain of specie implied that the

[7]Ricardo was, that is to say, an exponent of what Viner (1937) would refer to as an "extreme" bullionist position. Viner suggests that only John Wheatley, among other bullionists,

domestic monetary system was overexpanded: ". . . the temptation to export money in exchange for goods, or what is termed an unfavourable balance of trade, never arises but from a redundant currency." (1810-11, p. 59) and so the proper response to it was indeed always monetary contraction. Writing during the period of its suspension, Ricardo also thought that the legal requirement to maintain convertibility was sufficient to ensure that the Bank of England would always act promptly in this regard, that the required contraction would be relatively small and hence that it would be unlikely to have serious domestic repercussions. Indeed, he sometimes seemed to argue that such a requirement had in the past been sufficient to prevent an external drain from arising in the first place: "The necessity which the Bank felt itself under to guard the safety of its establishment, . . . always prevented, before the restriction from paying in specie, a too lavish issue of paper money" (1810-11, p. 76)

Under Ricardo's influence, and perhaps also in response to the above-mentioned evidence of the unreliability of the Bank of England's directors as executants of discretionary policy, Thornton himself moved closer to this position after 1802, as his role in preparing the *Bullion Report* makes clear. The *Report* did echo Thornton's opinions of 1802 when it suggested that, under arrangements then prevailing,

> "although it ought to be the general policy of the Bank directors to diminish their paper in the event of a long continuance of a high price of bullion and a very unfavourable exchange, yet it is essential to the commercial interests of this country, and to the general fulfilment of those mercantile engagements which a free issue of paper may have occasioned, that the accustomed degree of accommodation to the merchants should not be suddenly and materially reduced; and that if any general and serious difficulty or apprehension on this subject should arise, it may be. . .counteracted without danger, and with advantage to the public, by a liberality in the issue of Bank of England paper proportioned to the urgency of the situation" (1810, p. 60)

Crucially, however, *The Report* also recommended that the legally binding obligation to maintain convertibility be re-imposed on the Bank within two years, not least because, in the Committee's

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also took this position, but such was Ricardo's later stature that his opinions on this question continued to be influential throughout the 19th century, and indeed into the 20th. Morris Perlman (1986) has argued that the disagreement between Ricardo and Thornton about the causes of balance of payments deficits could not be properly addressed given the state of international trade theory at the time. He suggests that Ricardo later softened his position on these questions as a result of his development of the theory of comparative advantage.

opinion, this would in future, as it had in the past, deter that "free issue of paper" which could in the first place create a state of affairs such as the above passage describes.

The 1844 Bank Charter Act

Gold convertibility was in fact not to be restored until 1821, and the events of the 1820s and '30s, would in due course show that optimism about the unaided capacity of this rule to render the monetary system significantly less prone to financial instability was misplaced. Severe crises involving internal drains and bank failures occurred under convertibility in 1825, 1836 and 1839, and these eventually prompted a renewal of debate about the proper conduct of the Bank of England, the so-called Currency School - Banking School controversy. Here the issue of rules versus discretion in the specific matter of coping with crises, which had lain just below the surface of earlier exchanges, was squarely joined. The Banking School were content with the then existing institutional *status quo*, but urged the Bank of England to adopt what amounted to the principles of discretionary policy that Thornton had set out in 1802 and which have been described above.[8] The Currency School, on the other hand proposed a legislated rule, additional to that requiring convertibility, that would force the Bank of England to behave along the lines Ricardo had recommended, and had apparently expected it to follow of its own accord once it was subjected to a convertibility constraint.

The Currency School's proposals were adopted in the Bank Charter Act of 1844, which divided the Bank of England into two departments, dealing respectively with the Bank's deposit business and the note issue. To put it in modern terms, the Act left the former to act as if it were simply a large deposit taking commercial bank, or so it was envisaged, but transformed the latter into a quasi-currency-board whose reserve asset was gold bullion.[9] The issue department was permitted a fixed fiduciary issue, over and above which the volume of notes in circulation were to move one for one with the Bank's holdings of gold. And the 1844 Act (and parallel 1845 legislation dealing with Scotland) also imposed restrictions on commercial banks to ensure that the Bank of England became effectively the sole source of notes for the entire economy. The

[8]On the influence of Thornton on Banking School thought, see Neil Skaggs (1995). Note that, because of the particularly strong opposition mounted by some to the suppression of the country and Scottish note issues that Lawrence White (1984) has suggested that it is helpful to refer to a "free banking school" separate and distinct from the Banking School". On this, see also Anna J. Schwartz (1987)

[9]The Act permitted limited holdings of silver bullion, to facilitate transactions with silver standard countries. Some readers will note that Argentina's present day quasi-currency board monetary regime bears a notable resemblance to the regime established in Britain in 1844. The main difference is that the backing for Argentinian currency is US dollars, rather than gold. The similarity between the policy intentions of the Bank Charter Act, and of modern currency boards is not entirely co-incidental. Nor or is that between the problems that such institutional arrangements have subsequently encountered.

proponents of these measures identified currency with money, and argued that under them, any incipient external drain of specie would automatically lead to an immediate but also incipient domestic monetary contraction. This was expected to be sufficient to correct the balance of payments with domestic repercussions so mild as to eliminate the prospect of an internal drain that could turn into a banking system crisis. It was, in short, the Act's aim to create domestic monetary stability by making paper currency respond to the balance of payments just as a pure specie currency would have done.

In the Banking School's view, on the other hand, deposits as well as currency were money. "Whatever influence may be ascribed to bank notes, whether on prices, or on the rate of interest, or on the state of trade, cannot be denied to cheques or to the substratum, deposits payable on demand." (Tooke 1844, p. 25). Furthermore, under the proposed system, and given the way in which the monetary system was evolving towards using deposits rather than bank notes as a means of exchange, particularly in transactions among businesses, the Banking School argued that any demand for gold for export in response to an external drain "would almost exclusively fall upon the deposit department" (1844, p. 107) and not on the issue department of the Bank. The deposit department's access to gold would, however, be limited by its own holdings of notes, and its capacity to avoid provoking an internal drain would be severely limited, as would its ability to act as a lender of last resort, should such a drain culminate in a financial panic. And if the drain became serious enough, and continued to fall on the deposit department, the latter might even have to suspend payment while the issue department still had substantial quantities of gold on hand: "A most absurd, however disastrous a state of things. But it would be too disastrous, and too absurd to be allowed to take its course." (Tooke, 1844, p. 109)

Bagehot's Principles

Tooke and his associates were largely proven right by events. In 1847, 1857 and 1865, financial crises had to be met by suspension of the 1844 Act's provisions in order to prevent a suspension of payments by the deposit department, and from this experience there developed an understanding that this would always be done if necessary. In effect, under the Act, the Bank of England's issue department became a currency board whose rules were to be suspended so that its reserves became available to the deposit department whenever a discretionary response to incipient domestic financial crisis was required, a state of affairs implying that, behind the Bank, there stood a further guarantor of monetary stability, namely the government. That is perhaps why, in 1873, Walter Bagehot could refer to the 1844 Act as a "minor matter in the money market" in the course of setting out what is still recognised as the classic exposition of the principles which should underlie such a response against the background of a gold-standard rule.[10]

[10]As Charles Goodhart (1999) has correctly noted, Bagehot's principles were anticipated in all their essentials by Thornton (1802). He suggests that Bagehot's greater emphasis on the role of high interest rates probably reflects the fact that the usury laws which so concerned Thornton had been repealed in the 1830s. Goodhart is, however, persuasively sceptical that Bagehot's recommended "high" interest rate should be interpreted as a "penalty" rate, ie. a rate significantly above market levels, as later accounts of his principles have sometimes had it. Note that he also

These principles involved the Bank always being prepared to lend freely to otherwise solvent domestic institutions when an external drain threatened to create an internal panic.

> ". . .periods of internal panic and external demand for bullion commonly occur together. The foreign drain empties the Bank till, and that emptiness, and the resulting rise in the rate of discount, tend to frighten the market. The holders of the reserve have, therefore, to treat two opposite maladies at once - one requiring stringent remedies, and especially a rapid rise in the rate of interest; and the other, an alleviative treatment with large and ready loans" (Bagehot 1873, p. 27)

The high interest rate involved in such an operation would attract a short-term capital inflow that would temporarily stabilise the balance of payments, and in the longer run it would also induce the domestic contraction required to eliminate the underlying trade deficit

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emphasises the importance of the government's fiscal powers in underpinning any central bank's capacity to act as a lender of last resort.

In the last quarter of the 19th century, the Bank of England itself finally came to acknowledge, albeit grudgingly, its status as a central bank and began to act in accordance with these principles. The crisis of 1865 proved to be the last one in British monetary history marked by serious bank failures (not associated with fraud, as was the case with the failure of the City of Glasgow Bank in 1874), and the Bank's handling of the Baring crisis of 1890 cemented, once and for all, its reputation as a reliable backstop to the financial system.[11] It became something of a model to be emulated when other central banks were created - notably the Reichsbank in 1876, and the Federal Reserve system in 1913, though neither of these institutions was burdened with the Currency Board style arrangement that had been the centrepiece of the British 1844 Act.

Neoclassical Economics and Crises

The twenty-five years or so that preceded the outbreak of the First World War were the heyday of Bagehot's principles. Monetary policy in those years was very much a matter of discretion in the short-run, constrained by a firm long-term commitment to a gold-standard rule. That same period, however, saw developments in monetary economics that would, in due course, undermine the intellectual authority of this framework at the very time when it was at its most influential in defining the rules-of-the-game of the international monetary system.

Micro-foundations, Empirical Evidence, and the Gold Standard

[11]Presnell (1968) remains the definitive treatment of this crisis. In his view, the Bank of England's actions here were closer to successfully muddling through the crisis than to the decisive intervention that might, in the abstract, be expected from a confidently Bagehotian central bank. In organising, in consultation with the government of the day, a rescue of Barings by a group of other financial institutions, the Bank also went far beyond simply lending freely to sound but illiquid institutions. Indeed there are similarities between the Baring Crisis and the 1998 rescue of Long Term Capital Management organised by the Federal Reserve Bank of New York.

There occurred a major shift in microeconomic theory at this time. Specifically, the cost-of-production theory of value began to give way to marginal utility theory, and to a much more refined version of the supply and demand analysis which had always co-existed uneasily with the cost-of-production theory in Classical economics. This happened, moreover, at more or less the same time as data generated in the aftermath of the gold discoveries of 1849-51 were demonstrating beyond any reasonable doubt that supply and demand was a much more useful tool for understanding the behaviour of the price level than any Classical notion of the long-run natural prices of the precious metals.[12] It is hardly surprising, then, that the most creative monetary economists of this period ceased to think of the value of gold as some natural phenomenon that could exogenously constrain the monetary system, began instead to treat it as a market price determined like any other by supply and demand, and, as a corollary, came to analyse the gold standard as one among a number of possible monetary systems, each to be assessed on its own merits.[13]

Alfred Marshall began to work on monetary questions in the early 1870s, though he did not begin to publish on these matters until the late 1880s. In his view, gold's monetary use was a dominant factor driving the demand for it, and was, moreover, subject to major disturbances emanating from developments in banking. He concluded, therefore, that rather than the stability of the monetary system being guaranteed by some exogenously given natural value of gold (and/or silver), the configuration of that system was itself the major factor determining gold's market price:

> ". . . as things are, gold and silver have no natural value . They are so durable that the year's supply is never more than a small part of the total stock, and therefore their values

[12]The definitive contemporary studies of these events are those of John Cairnes (1859) and William Stanley Jevons (1863)

[13]The 1880s and 90s also saw frequently intense political debate about the virtues of bimetallism as an alternative to the gold standard, and though the efforts of bimetallism's supporters came to nothing, it is notable that the most distinguished Neoclassical economists, those whose names are still remembered by economists other than specialist historians, defended neither system, instead preferring to promote a variety of other, to their mind superior, options. For an account of these matters, see Laidler (1991)

> do not conform closely to their costs of production. And, insofar as their values are regulated by the relations between the demands for them and the existing stock of them, their value is artificial, because the demand for them as currency is artificial." (1887, p. 200)

It would not be until the 1920s that the majority of economists would come to regard the gold standard not as a monetary rule that could govern the workings of the monetary system, but as a monetary institution that had to managed like any other, but this profoundly revolutionary way of looking at things is quite evidently explicit in these words of Marshall.

The significance of the experience of the years after 1849-51 in undermining the idea that gold provided a "natural" foundation for a rule based monetary system could not have been appreciated without major advances in empirical analysis. It has already been noted that during the Bullionist Controversy the main test for what we would nowadays call inflation had been the behaviour of the price of gold bullion; but after the gold discoveries, the key issue became what was happening to the price of goods in general in terms of a currency whose gold price remained rigidly and credibly fixed. A useable price index was needed to cope with this question, and Jevons (1863) provided one. Once the idea of a price index became current, the possibility that the maintenance of the gold standard might actually provoke fluctuations in general prices could hardly be ignored, nor could the notion that there might exist an inherent conflict between maintaining internal price level stability and a fixed exchange rate for the national currency.[14]

In addition, in order to get to grips with the long-run price level consequences of the gold discoveries of 1849-51, Jevons had devised means of abstracting from shorter-term cyclical fluctuations. The idea that the trend and cyclical components of a variable's behaviour could and should be distinguished from one another is systematically deployed in his work, and one of its by-products was the notion that the cycle was a real and not just a financial phenomenon. Jevons himself did little with the latter point in 1863, though some of his colleagues in the Manchester Statistical Society, notably John Mills of Ashton-under-Lyme studied it much more closely.[15] Moreover, and crucially for the matters under discussion in this paper, in 1879 Marshall, writing with his wife Mary Paley Marshall would also give real aspects of the cycle serious attention. Having described the cycle very much along the same lines as those followed by Mill, to which reference was made earlier, and coming to the downswing, the Marshalls pointed out that "The

[14]See Mills (1867). It should also be noted explicitly, though, that the fall in the value of gold that Jevons discovered was a good deal less "serious" than the title of his 1863 pamphlet implied. Indeed, as he himself conceded, once productivity changes were accounted for, it was far from clear that the commodity price increases he uncovered had in fact had any impact at all on what we would nowadays call the "cost of living".

[15]Jevons himself would later study the cycle in considerable detail, albeit within the framework of his still famous, often but unjustly denigrated "sunspot" theory. Relevant papers are to be found in Jevons (1884)

connexion between a fall of prices and a suspension of industry requires to be further worked out" (1879, p. 155) They then proceeded to do so, along the following lines.

> "It. . . very seldom happens. . . . that the expenses which a manufacturer has to pay fall as much in proportion as the price which he gets for his goods. For when prices are rising, the rise in the price of the finished commodity is generally more rapid than in the price of the raw material, always more rapid than in the price of labour; and when prices are falling, the fall in the price of the finished commodity is generally more rapid than that in the price of the raw material, always more rapid than that in the price of labour." (1879, p. 156)

From this time onwards, cyclical unemployment, created by money wage stickiness, became a regular topic for discussion in the British Neoclassical literature. And, in 1887, Alfred Marshall, writing alone, would add to this the notion that the tendency of the banking system to adjust nominal interest rates only rather slowly in response to cyclical movements would also interact with price level flexibility to induce perverse and destabilising fluctuations in real interest rates.[16]

Rules and Discretion in Pre-First-World War Neoclassical Economics

Bagehot's principles did not appertain to what we would nowadays call counter-cyclical policy. Their aims were to maintain gold convertibility and prevent the failure of solvent financial institutions for want of liquidity. Neoclassical monetary economics opened up a much wider and more ambitious range of policy goals. Not only did it suggest that the maintenance of price level stability and gold convertibility might conflict, but it systematically associated the cycle's upper turning point and downswing with contractions in real output and employment that the high nominal interest rates dictated by the application of Bagehot's principles could only exacerbate. It would have been easy enough, logically speaking, to erect a case for discretionary counter-cyclical monetary policy on these foundations, but it was not until the 1920s that these implications fully emerged.

In 1887, Marshall, finding both the gold standard rule and orthodox bimetallism unsatisfactory, advocated symmetallism - a rule that would have fixed the price of money in terms of a weighted basket of gold and silver - as a superior alternative for ensuring secular price-level stability. As to stabilizing the cycle, he looked not to discretionary monetary policy, but to widespread indexation of both credit and labour market contracts in order to eliminate the baleful real consequences of price level fluctuations. Under indexation,

> "The borrower would not be at one time impatient to start ill-considered enterprises in

[16] Marshall did indeed deploy what we would now call the "Fisher effect" in the course of this analysis, and the "real" - "nominal" vocabulary was his. Fisher (1896) would in due course acknowledge this priority. Fisher's contributions here involved distinguishing carefully between actual and expected inflation when analyzing this question, and putting it on a sound empirical basis too. Marshall in his turn was aware of and acknowledged the importance of Fisher's efforts.

> order to gain by the expected rise in general prices, and at another afraid of borrowing for legitimate business for fear of being caught by a general fall in prices . . . Salaries and wages . . .could be fixed in units [of constant purchasing power], their real value would then no longer fluctuate constantly in the wrong direction" (Marshall, 1887, p. 198).

And, of course, such indexation would, in principle, eliminate financial crises too. Marshall's younger American contemporary Irving Fisher would soon go one step further. In (1911) he began to advocate indexing money itself, by creating what he later called a "compensated dollar". The essential property of his scheme was to maintain the convertibility of money on demand into gold, but at a price that would be regularly adjusted to offset fluctuations in gold's relative price in terms of goods as measured by a suitable index number which would be regularly updated and published.[17] Fisher's proposal thus involved substituting a price-level stability rule for a fixed price of gold as an anchor for the monetary system, and by 1921 he was actively engaged in trying, albeit unsuccessfully, to get the United States Congress to embody that rule in legislation.

To the extent that there was a conflict between the domestic pursuit of price stability and the stability of the exchange rate under their proposals, Fisher and Marshall explicitly gave pride of place to the former. But just as Marshall had noted the possibility of symmetallism replacing the gold standard as the basis of the international monetary system, so too did Fisher with regard to the compensated dollar. These Neoclassical economists thus held radically different economic theories to those of their Classical predecessors, not to mention different views about the proper goals of monetary policy, but they retained a strong preference for attaining their goals by subjecting monetary policy to rules of one sort or another.

There was no idea in Neoclassical theory, however, that could give authority to any particular policy rule in the way that the Classical concept of a natural price, determined by cost of production, had provided an intellectual underpinning for the gold standard. Indeed, one of most innovative pioneers of Neoclassical monetary theory, the Swedish economist Knut Wicksell, showed as early as 1898 how a case for thoroughgoing discretionary monetary policy could be based on the new doctrines. He revived the style of short-run monetary analysis that Thornton had deployed in (1802), without being aware of Thornton's own contribution, and, crucially, explicitly rejected the cost-of-production theory of the value of gold. He then concluded that, as a positive matter, under the gold standard, drains from the reserves of central banks affected the economy by prompting them to change their interest rates; but he went on to propose, as a normative matter, dispensing with inessential gold altogether and relying on the discretionary manipulation of short term interest rates to stabilise prices. However, Wicksell also gave high priority to exchange rate stability, and the policy he envisaged was to be internationally co-ordinated.

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[17]It is interesting to note that, in a footnote in (1887) Marshall broached the possibility of a scheme very like Fisher's, and of the activist stabilization of a fiat money system by way of interest rate policy, rejecting both as impractical. It is also worth recording the anticipation of Fisher by Aneurin Williams (1892)

> "The question . . .arises whether the object in view could not be obtained far more simply, and far more securely through the monetary institutions of the various countries agreeing among themselves to undertake *directly* that alteration in their rates of interest which is necessary and which alone is effective." (1898, pp. 188-89)

Wicksell was here concerned only with influencing *secular* price level movements, but it was not long before others were deploying similar ideas in a *cyclical* context. For example, in 1913, the British economist Ralph Hawtrey diagnosed the cycle as arising from monetary instability - the "inherent instability of credit" as he usually termed it - in and of itself an idea with a long pedigree in Classical economics, not least as it had been expounded by Bagehot. Hawtrey, however, went on to make the very unBagehotian suggestion that central banks might try to use their control over short-term interest rates to iron out cyclical fluctuations, though like Wicksell, he envisaged internationally co-ordinated policies that would preserve exchange rate stability. As far as upswings were concerned, "If the great central banks of the world. . . could agree together to draw the reins a little tighter at times when an expansion of trade is in progress, they might prevent the inflation of credit money reaching the dangerous point."; and, as to downswings, "when the supply of credit money is being diminished the banks ought to be in a position to release a sufficient amount of cash to provide for the payment of wages bills. . ." Hawtrey qualified this advocacy of discretionary counter-cyclical policy by suggesting that ". . .no possible precision of judgement would enable the banks to counteract fluctuations altogether"; and he also noted that ". . .however efficacious such a method might be, it could hardly be carried into operation so long as the banking system of the United States labours under its existing defects" (p. 263).[18] He furthermore conceded that "the possibility of preventing fluctuations by means of banking control is at the best highly conjectural" (p. 264).

Even so, and quite remarkable for someone writing before the First World War, Hawtrey (1913, p. 265) also pointed out that an individual country might put itself in a position to pursue such a policy on its own account by taking the radical step of abandoning the gold standard and adopting a flexible exchange rate

Post-First-World-War Developments

It is hard to believe that the above-mentioned developments in monetary economics would have

[18]Hawtrey was writing at a time when the foundation of the Federal Reserve system was still in doubt. His 1913 book was heavily influenced by the 1907 crisis in the United States, which had given a strong impetus to the foundation of the Federal Reserve system. After the first world war, the resolutions adopted at the Genoa Conference of 1922 envisaged an international monetary system based on gold, which would nevertheless be stabilised by the co-ordinated policies of national central banks. In effect the gold standard was to be a particular form of managed international currency. Hawtrey was the principal architect of these resolutions, which came to nothing.

had any immediate influence on the monetary system, had it not been for the Great War. The twenty years that preceded it were, by and large, stable and prosperous, and during that time, it was, after all, Bagehot's principles that guided the Bank of England, the institution that lay at the heart of the international gold standard. The United States finally acquired a central bank in 1913, but the Federal Reserve system's main task, as envisaged by its founders, was not the execution of stabilization policy, but rather the provision of lender of last resort facilities to a banking system that, as late as 1907, had shown itself still prone to the style of crisis that had been eliminated from Britain four decades or so earlier, by the application of Bagehot's principles.

But the War and its aftermath decisively changed all this. Its losers were burdened with heavy reparations obligations, and a series of hyper-inflations destroyed what was left of their monetary systems. Most European countries had suspended their adherence to gold for the War's duration, inflation rates had varied markedly across them, and the major participants on the winning side were also heavily in debt to the United States, which had remained on the gold standard and whose engagement in the War had been relatively brief. U.S. holdings of gold were sufficiently large, moreover, that international considerations exerted essentially no constraint on monetary policy there during the 1920s. After the sharp inflation and recession that came immediately after the war, and the existence of remaining pockets of economic distress notwithstanding, the United States economy returned to prosperity for the rest of the decade, in stark contrast to that of Britain and other European countries where stagnation and large scale unemployment would be the dominant features of economic life.[19]

The Real Bills Doctrine versus Credit Control in the United States

One of the prime tasks assigned to the Federal Reserve system was the provision of an "elastic currency", but there was considerable ambiguity here, not least because another of the system's obligations was "to afford means of discounting commercial paper". By 1913 it had become well understood that banking crises arose in the United States, as they had earlier in Britain, when heavy seasonal demands for currency, associated with the transactions needed to move the harvest, coincided with problems in financial markets that simultaneously created heavy demand for liquidity there.[20] A lender of last resort which could respond to these occasional demands was clearly desirable. But, it was all too easy to confound the provision of an elastic currency in this

[19] On this, and its influence on American economic thought in the 1920s, see Laidler (1999, ch.8)

[20] Jevons (1866) is the pioneering systematic empirical study of this matter. Financial crises in the US under the National Banking system are described by Sprague (1910)

rather special sense with a more general obligation to meet the "needs of trade" for currency and credit by standing ready always to discount commercial paper, to adopt as an operating principle, that is to say, the very same real bills doctrine that had informed the behaviour of the Bank of England during the Bullionist controversy.

At the Federal Reserve Board in Washington, this latter interpretation of the system's responsibilities was well represented throughout the 1920s. At the other extreme, various proposals to subject the system to a legislated price stability target, invariably initiated, or at least supported by Irving Fisher, were also debated from time to time, but these had no influence on policy. The practical alternative to the real bills doctrine, much discussed in the 1920s, was active discretionary stabilisation policy, or "credit control" as it was often called, along the lines that Hawtrey had begun to discuss in 1913. Such an approach had a number of influential exponents in the United States, not least Hawtrey's great admirer Allyn Young of Harvard University, who asserted in 1927, optimistically as things would turn out, that "it is quite generally held that [central banks'] policies should be determined with primary reference to the securing of the maximum practicable degree of business stability" (p.80); and as part of an explicit defence of the superiority of discretionary policy to any "simple set of rules", he also argued that "what the Federal Reserve banks need most. . .is not more power or less power, or doctrinaire formulations of what their policy ought to be, but merely an opportunity to develop a sound tradition, and to establish it firmly" (p. 82)[21]

Now Young, who himself died in 1929, was an occasional advisor to Benjamin Strong at the Federal Reserve Bank of New York. Friedman and Schwartz (1963) have argued that the death of the latter in 1928 removed from the scene the one official who would have had both sufficient grasp of the situation, not to mention the influence, to ensure that the Federal Reserve system would have countered the banking crisis that marked the onset of the Great Depression with vigorous lender-of-last-resort activities, and with generally expansionary policies thereafter had these still been needed. As it was, when the Depression began, the New York Bank, which, in Jacob Viner's words,

> "has made more effort than any other central banking institution to develop a program and a technique of credit control with a view to stabilization, . . .has at critical moments found itself at cross purposes with, and inhibited from action by, a Federal Reserve Board with an attitude towards its functions resembling with almost miraculous closeness that of the Bank of England during its worst period." (1932, p. 28)

Or, to put it in another way, the Federal Reserve system, which had been established to apply

[21]Young's reputation as a monetary economist, and our understanding of his influence in the 1920s is undergoing something of a renaissance at the moment. Mehrling (1997) contains an important study of Young's monetary economics. See also Mehrling and Sandilands (eds.) (1999), particularly Ch. 38. for further, and only recently unearthed evidence of Young's views on the role of the monetary system in the business cycle.

Bagehot's principles to counter any internal drain of reserves that might arise, utterly failed to do so and instead succumbed to the real bills doctrine when its first major test arose. Thereafter, and still under the influence of this doctrine, it made no serious effort to implement an expansionary counter-cyclical policy along Neoclassical lines to relieve the severe real contraction that followed the banking crises that it had itself permitted to take their course.[22]

The Effectiveness of Monetary Policy against Depression

[22] Though Friedman and Schwartz (1963) is the definitive modern source for this interpretation of the role of the Fed. In the Great contraction, it was anticipated to s significant extent by Currie's (1934a & b) contemporary analysis. Currie was, however very much in a minority here. Frank Steindl (1995) provides an extremely interesting account of the relationships among contemporary accounts of the Contraction and Friedman and Schwartz's later discussion.

The great contraction that began in 1929 brought to the United States economic conditions similar to, or even worse than, those that had been prevailing in Britain for close to a decade, where the decision to re-impose an old monetary rule by returning to the gold standard at the 1914 parity helped create chronic real stagnation from 1921 onwards.[23] These conditions had helped to shift the emphasis of monetary economics away from the cycle towards the question of how to revive the level of activity in an already depressed economy.

The idea that the best way to cure depression was to avoid in the first place the boom that would usher it in was as popular among Neoclassical economists as it had been among their Classical predecessors, and it continued to get some play in the literature even after 1929, but such recommendations were by then clearly beside the point as far as curent policy was concerned. In the early 1930s, however, it was not only conservative "practical men" in the financial community who believed that the avoidance of the boom was the *only* remedy for depression and who therefore opposed *any* policies designed to increase aggregate demand.

Such views were also held by two groups of economists. First, adherents of the real bills doctrine in the United States, such as Benjamin Anderson and Henry Parker Willis were inclined to argue that the depression had resulted from prior inappropriate use of bank credit for "speculative" purposes, rather than for the provision of short term finance to meet the legitimate needs of trade. This, they suggested, had led to (not very well defined) imbalances in the real economy that were only likely to be made worse by policy interventions of any sort. In the view of this group, if the monetary authorities continued to stand ready to meet the needs of trade for short term loans, as they should have done all along, that was all that policy could safely contribute to aiding the economy's recovery. In Willis's (1932) words

> "A central bank is a dangerous agency through which to undertake inflation [of money and credit], the more so when we remember that its operations may easily get out of hand and prove disastrous. If the efforts of reserve banks in recent years, upon occasions of expansion and overtrading, have, as most admit, proved hazardous and unsuccessful by aggravating rather than reducing such dangers, their efforts, both in recent times as well as currently, must be regarded as having very similar potentialities." (pp. 106-7)

[23]The return to gold itself would not take place until 1925.

Exponents of Austrian business cycle theory, F. A. von Hayek (1931) and Gottfried von Haberler (1932) for example, drew exactly the same policy conclusions as did Willis and his associates from a much more rigorous, though not necessarily for that reason more accurate, analysis of the nature of the economic crisis that had precipitated the depression, an analysis which, ironically enough, derived directly from the work of that enthusiastic advocate of discretionary policy, Wicksell. In Wicksell's model, "too low" a rate of interest led to an expansion marked primarily by rising prices. In the Austrian variation on his theme, it would lead to firms being able to outbid households for real resources and hence create an inappropriate and ultimately unsustainable increase in investment. The fundamental characteristic of any crisis from this viewpoint was an inappropriately expanded capital stock. To apply monetary expansion to depression conditions that had been created by such a policy in the first place, therefore, would merely compound the earlier error, to build public works would add to an already redundant capital stock, and to encourage consumer spending would exacerbate an already existing excess demand for consumer goods. The only cure for depression in the opinion of the Austrians was to avoid it in the first place, by adhering to a constant money-supply policy rule. Once it had begun, there was nothing to be done except to wait for wear and tear and the passage of time to restore the capital stock to a more sustainable scale.[24]

Among Neoclassical economists more generally, particularly those working in a Marshallian tradition, the idea that monetary policy was likely to be a weak tool for encouraging any cyclical revival, and would need supplementing with fiscal expansion, had been widely held even before the depression began.[25] Two prominent members of this group, however, remained convinced well into the 1930s of the effectiveness of a purely monetary and discretionary cure, so

[24]Before we dismiss this analysis out of hand as hopelessly nihilistic, it is as well to remind ourselves that over-investment in office buildings, residential structures and other capital projects which, with benefit of hindsight, could have had no hope of yielding any reasonable return to their owners has been a pervasive accompaniment to recent financial crises throughout the world. If the particular way in which the Austrians treated this phenomenon was faulty, to the extent that they transformed one feature of such crises into the whole story about them, they surely deserve credit for having drawn attention to it, just as many practitioners of modern cycle theory deserve criticism for ignoring it. Perhaps I should record my skepticism that the right way to deal with this issue is to target monetary policy on a broader index that pays attention to asset prices. Rather, it seems to me, the right lesson is to treat the relative price of assets as an important leading indicator of the stance of monetary policy within the framework of a regime that nevertheless targets a conventional measure of inflation.

[25]Far from being some product of a "Keynesian Revolution" in policy thinking, dating from the late 1930s, this position was the conventional wisdom of mainstream Neoclassical economists from the 1920s onwards in Britain, and, albeit to a lesser extent, in the United States too, particularly after 1930. This view was supported, among others by Pigou and Dennis Robertson. In the United States, Paul Douglas and Aaron Director also took this view, largely basing their arguments on the British literature. On all this, See Laidler (1999)

long as it was administered with sufficient determination, namely Hawtrey and Marshall's protege, John Maynard Keynes.

Hawtrey was of the opinion that the depression in the United States had created what he termed a "credit deadlock", a state of affairs that he had already analysed earlier with respect to the British situation, against which the conventional central bank response of lowering short-term interest rates was powerless.

> "But it may happen that demand is so contracted and markets are so unfavourable that traders, seeing no prospect of profit, abstain from enterprise and do not borrow. The reluctance of borrowers may cause a contraction of credit quite as effectively as the reluctance of lenders.
>
> When that happens, it seems to be the extreme of paradox to say that there is a shortage of money. . . .
>
> But the low rates [of interest] are merely the outward expression of the unprofitableness of business and the unwillingness of traders to borrow. . . . There is a deadlock which can best be broken by injecting money into the system."(1932, p. 172)

This, in turn, could be done by the central bank undertaking open-market operations in bonds. "If at any time, when they are seeking to expand credit, the bills offered and the suitable applications for advances are inadequate and do not increase fast enough, the banks have the alternative of buying long-term investments of a suitable marketable character." (1932, p. 173) Moreover, "[t]here must ultimately be a limit on the amount of money that the sellers will hold idle, and it follows that by this process the vicious circle of deflation can always be broken, however great the stagnation of business and the reluctance of borrowers may be." (pp. 173-4)

Keynes, as late as 1931, also thought that open market operations would do the trick, though for a different theoretical reason. For him, the key to curing depression was not so much to increase the quantity of money, as to drive down the long rate of interest. "As I look at it, the task of adjusting the long-term rate of interest to the technical possibilities of our age so that the demand for new capital is as nearly as possible equal to the community's current volume of savings must be the prime object of financial statesmanship." (1931, p.39). And the banking system could accomplish this "by means of open-market operations . . . by steadily supplying the market with a greater quantity of liquid assets than the market felt itself to require so that there would be a constant pressure to transform liquid assets into the more profitable illiquid assets" (pp. 40-41) In Britain, the implementation of large scale open market operations was, as Keynes had told readers of the *Treatise on Money* in the previous year, inhibited by the need to maintain gold convertibility, and in this case he was willing to advocate public works expenditures, which Hawtrey too was willing to countenance as a very last (and probably unnecessary) resort, so long as they were financed by money creation. But in the case of the United States, where the gold standard did not seem to him to place any constraint upon policy, Keynes thought that the time for such measures had not yet arrived, even in 1931.[26]

[26] And, as J. Ronnie Davis (1971) has recounted, these views of Keynes's, presented as

they were at a conference held at the University of Chicago neither surprised his audience nor attracted much support from them, for the simple reason that they were already familiar with, and supportive of, the by then rather widely understood case for anti-depression public works expenditures. It should be noted that 1931, gold outflows from the United States to France are becoming a worry for the Federal Reserve. This constraint on policy was removed by the 1931 Glass-Steagall Act. See Laidler (1999, pp. 237-6)

In this context, it is worth noting that most modern commentators would follow Friedman and Schwartz (1963) not to mention Hawtrey's sometime assistant (and protege of Young, and later of Viner) Lauchlin Currie (1934a & b), in arguing that the apparent inability of a Federal Reserve system, deeply under the influence of the real bills doctrine, to counteract the great contraction of 1929-33 stemmed from its failure to take strong enough expansionary action in the face of a credit deadlock, and that the widely perceived "failure" of open-market operations in 1932 stemmed from their being pursued with insufficient vigour, rather than, as Keynes would hint in 1936, from their running into some insuperable "liquidity trap" that would have rendered them ineffective on any scale.[27]

Conclusions

The Depression, as we all know, put an end to efforts to restore the gold standard as a policy rule. Once Britain, and a little later the United States decided to rid themselves of the constraints it imposed, they were free to undertake expansionary policies, both monetary and fiscal. Undertake them they did, and they quickly began to raise the level of economic activity, long before the onset of World War Two completed the task of restoring a high level of economic activity. And we also know that, after the War, the attempts of the advanced economies to have their monetary cake and eat it too under the auspices of the adjustable-peg exchange rate mechanisms that lay at the heart of the Bretton Woods system lasted only until the beginning of the 1970s.

[27] The phrase "liquidity trap" is not Keynes's, but Robertson's (1940). The relevant hint in the *General Theory* about its relevance in1932 occurs on pp.207-208. In 1936, as in 1930, Keynes still believed that the key to effective monetary policy lay in its influence in reducing the long rate of interest. The key change in his positions between these years stemmed from his growing conviction that the rate's failure to fall far enough stemmed, not from an inadequate policy effort, but from a fundamental property of a monetary economy.

The factors that brought the Bretton Woods System down, and continue to plague the international monetary system even today, are the tendency, recognised as we have seen for two hundred years now, of external and internal monetary problems to arise together, their need for opposite remedies, and the reluctance of so many politicians and central bankers to face these facts of economic life. The success of Bagehot's principles in the late 19th century shows quite clearly that it is possible to enshrine external stability in a policy rule, and to make it stick too, providing one is willing to pay whatever real domestic costs are then imposed. Argentina and Hong Kong have recently confirmed this lesson for us. But we are now thoroughly aware, as Bagehot and most of his contemporaries were not, of the Neoclassical insight that a constant exchange rate may conflict with domestic monetary stability, and that the price of maintaining the exchange rate in times of financial crisis may be not just high domestic interest rates but depressed domestic income and employment as well, not to mention the political instability that sometimes goes with them.[28]

Now, after 1821, exchange rate flexibility as a consciously chosen peace-time policy option barely registered in economic discussions. It was not so much chosen by, as forced upon policy makers in the 1930s and 1970s because the domestic costs, political as well as economic, of maintaining fixed rates were just too high. But now we have discovered that adherence to such an arrangement makes an external financial crises impossible, and permits the authorities to concentrate single-mindedly on first avoiding, and where that fails, coping with, domestic crises and their real consequences. In flexible rate countries, the old debate about rules and discretion in monetary policy has re-emerged, with the rule of choice being some sort of medium term inflation target (more or less formal and legally binding, depending upon the example) with the authorities being left with a rather large margin for discretionary manouevre within the constraints it imposes.

. It is not too much of a simplification to say that only now, a century or more since Classical and Neoclassical theory so throughly revealed them, we have finally learned that the conflict between dealing with the external and the internal aspects of financial crises can only be resolved by giving pride of place to just one of them. There are, even so, obvious similarities between the mix of long-run rule and short-run discretion implicit in modern inflation targeting regimes, and that which existed under the Bagehotian rules of the gold standard game, though these two types of monetary order are far from the same The great advantage of ignoring the external constraint and pursuing a goal for domestic price level behaviour is that it permits subsidiary goals, not just for stability of the financial sector, but also for the maintenance of high income and employment too, to be attended to. This is no minor matter in a world where we expect policy makers to be accountable to national electorates. The great advantage of being rigorously bound by such an exchange rate constraint is that it prevents those same policy makers, not to mention the electorates they serve, being taken in by whatever version of the real bills doctrine happens to be current, and doing more harm than good as a result. This is particularly

[28]Here that the growth in importance of the international capital market is particularly important. It is much more problematic now to deal with "temporary" external drains, driven by shocks to trade, under fixed exchange rates simply by allowing reserves to run down for a year or two, as Thornton, the Banking School, and indeed the architects of Bretton Woods, envisaged.

obvious in cases where a commitment to the exchange rate inhibits inflationary policies. However, the parallels between our earlier discussions of the alleged limits to the powers monetary policy in the early 1930s and recent Japanese experience ought also to be noted at this point, because they suggest that policies derived from the real bills doctrine are capable of perpetuating depressed conditions too. Be that as it may, it is inconceivable that one or the other of these alternative monetary orders will turn out always and everywhere to have the advantage, regardless of local political and economic circumstances.

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