Pre-Keynesian Monetary Theories of the Great Depression:

What Ever Happened to Hawtrey and Cassel?

Ronald W. Batchelder
Pepperdine University
ron.batchelder@pepperdine.edu

and

David Glasner
Federal Trade Commission*
dglasner@ftc.gov

April 30, 2013

Abstract: A strictly monetary theory of the Great Depression is generally thought to have originated with Milton Friedman. Designed to counter the Keynesian notion that the Depression resulted from instabilities inherent in modern capitalist economies, Friedman's explanation identified the culprit as an ill-conceived monetary policy pursued by an inept Federal Reserve Board. More recent work on the Depression suggests that the causes of the Depression, rooted in the attempt to restore an international gold standard that had been suspended after World War I started, were more international in scope than Friedman believed. We document that current views about the causes of the Depression were anticipated in the 1920s by Ralph Hawtrey and Gustav Cassel who independently warned that restoring the gold standard risked causing a disastrous deflation unless the resulting increase in the international monetary demand for gold could be limited. Although their early warnings of potential disaster were validated, and their policy advice after the Depression started was consistently correct, their contributions were later ignored and forgotten. This paper explores the possible reasons for the remarkable disregard by later economists of the Hawtrey-Cassel monetary explanation of the Great Depression.

* The views expressed in this paper do not necessarily reflect the views of the Federal Trade Commission or individual Commissioners.

I. Introduction

Any list of the most influential economists of the 1920s and 1930s would certainly include the names of Ralph Hawtrey and Gustav Cassel. Both were internationally renowned theorists who had advanced well-known business-cycle theories, and whose recommendations about monetary policy drew the attention of economists and policy makers in many countries. After World War I, when policy makers sought to reconstitute the international gold standard, effectively abandoned during the war by almost every country including the United States, Hawtrey (1919) and Cassel (1920, 1921) both warned that restoring the gold standard without also restricting the international monetary demand for gold could result in a deflationary crisis.

The cautionary advice of Hawtrey and Cassel, reflected in the resolutions of the 1922 international monetary conference in Genoa (which Hawtrey was instrumental in organizing) recommending that countries reestablish the gold standard, did initially restrain the monetary demand for gold. The goal of post-war monetary reconstruction became a *gold exchange standard*, under which all countries would forego gold coinage, and most would hold their monetary reserves, not in gold, but in foreign exchange convertible into gold (i.e., dollars and, after the restoration of its convertibility into gold, sterling). After the monetary disorders and severe fluctuations in the immediate aftermath of the war, the various national monetary authorities, seemed to heed those warnings for most of the 1920s, averting the deflationary danger about which Hawtrey and Cassel had warned.

However, as an increasing number of countries followed Germany (1924) and Britain (1925) back on the gold standard, and especially when France, having stabilized the franc in 1926, enacted legislation in 1928 requiring 40 percent cover on the note issues of the Bank of France and mandating the holding of all legally required reserves in gold rather than foreign exchange, the international monetary demand for gold began to increase sharply in 1928. To accumulate gold, many countries began converting dollar-denominated or sterling-denominated foreign exchange into gold. For the United States, holding enormous reserves of gold amassed in World War I, the resulting modest drain on its gold reserves was of no great significance, but for Britain, having only just managed to restore sterling to its pre-war parity, and still requiring a further relative deflation of nearly 10 percent to restore a rough purchasing-power-parity equilibrium with the US, demands to convert sterling-denominated foreign exchange increased the deflationary pressure on an economy struggling to regain its international competitiveness.

Before the French legislation requiring monetary reserves to be held in gold was enacted, international monetary cooperation seemed to be working tolerably well. In 1927, when a mild recession seemed to be starting in the US, the Federal Reserve System, under the leadership of Benjamin Strong, governor of the New York Federal Reserve Bank, reduced its discount rate from 4 to 3.5 percent, allowing an efflux of gold from New York to relieve pressure on the gold reserves of the Bank of England, thereby easing deflationary pressures on Britain, and the world economy. Following the rate cut, stock prices on Wall Street increased sharply. However, rising stock prices were widely viewed not as a vote of confidence in the

Fed's action, but as a sign that lax monetary policy was fuelling a speculative bubble, eliciting criticism from much of the financial press, Congress, and members of the Coolidge Administration, especially the Secretary of Commerce, Herbert Hoover. Although Strong raised the discount rate back to 4 percent, stock prices continued to rise. Despite calls for another rate hike, Strong kept the discount rate at 4 percent until ill health forced his retirement in February 1928. Strong's successor, his deputy William Harrison, acceded to the increasingly urgent demands for action to quell the stock market boom,[1] raising the discount rate to 5 percent soon after replacing Strong. Then, in February 1929, with the stock market still showing no sign of retreating from its upward climb, Harrison raised the rate again, to 6 percent.

Hawtrey and Cassel had both urged the Fed to accommodate the growing monetary demand for gold of countries, especially France, rejoining the gold standard by not stopping the efflux of gold that had started in 1927. Instead, by raising interest rates in 1928 and 1929, the Fed reversed the outward flow of gold from New York during 1927, inducing an influx from the rest of the world to New York during 1928 and 1929. The rapidly increasing world demand for the inelastic world stock of gold eventually had to raise the value of gold, which, under a gold standard, meant deflation. The deflationary downturn precipitated falling commodity

[1] Perversely, the governor of the Bank of England, Montagu Norman, added his voice to the growing chorus clamoring for a rate hike to counter stock market speculation. Norman felt that Wall Street speculation was sucking capital from around the world into the stock market, so that the gold reserves of the Bank of England were more endangered by rising stock prices than by rising interest rates. What Norman failed to understand was that the mechanism by which rising interest rates would check stock market speculation was to trigger a deflationary downturn the severity of whose consequences Norman never imagined.

prices in the summer of 1929 and a stock market crash in October 1929, as the economy began spiralling downward into the Great Depression. The scenario played itself out, almost exactly as Hawtrey and Cassel had predicted, the inevitable result of gold accumulation by countries rejoining the gold standard. However, despite the validation of their many warnings that restoring the gold standard without limiting the international demand for gold would trigger a deflationary debacle, the prescience of Hawtrey and Cassel was not widely acknowledged at the time, and has subsequently been all but forgotten.

What accounts for the neglect of the Hawtrey-Cassel explanation of the Depression? One obvious answer is that their work was simply forgotten in the wake of the Keynesian Revolution. But the *General Theory* was not published until 1936. By then the Hawtrey-Cassel explanation of the Great Depression had clearly failed to gain widespread acceptance. Perhaps the disregard of the Hawtrey-Cassel explanation was attributable to a presumption at the time (a presumption very much in evidence, we hardly need to observe, since the financial crisis of 2008) that the low nominal interest rates following the 1929 crash demonstrated the impotence of monetary policy. Indeed, such was the view not just of Keynes, but of his chief theoretical adversary in the early 1930s, F. A. Hayek, who, while blaming the crash on an easy money policy before 1929, denied – or at least seemed to deny -- that easy money could promote a recovery from the crash. Moreover, the mystery of why the Hawtrey-Cassel explanation of the Depression was forgotten after the Keynesian Revolution is compounded when one considers that Milton Friedman, in his largely successful campaign to establish a monetary alternative to Keynesian macro theory

capable of accounting for the Great Depression, an episode long viewed as confirming Keynesian theory, never cited the work of either Hawtrey or Cassel on the Depression. It is therefore worth asking, why the Hawtrey-Cassel explanation not only failed to significantly influence contemporary discussions of the Depression, but, despite anticipating key elements of the later Monetarist explanation of the Depression, actually sank even further into oblivion in the wake of the Monetarist Counterrevolution?

In the next section, we begin our inquiry into this intellectual puzzle by summarizing the Hawtrey-Cassel theory of international prices under the gold standard. In section three, we describe their views about the post-war gold standard. Section four explains the nature of the regime change associated with the postwar gold standard, a change resulting from the emergence of the United States as the world's dominant economic power, its leading creditor and holder of 40 percent of the world's official gold reserves. Section five describes the onset of the Depression and its close correspondence to the scenario that Hawtrey and Cassel had warned against. In section six, exploring the reasons for the subsequent neglect of their explanation, we compare and contrast Hawtrey, in particular, with his leading theoretical competitors in Britain, Keynes and Hayek. Section seven suggests some reasons why both Monetarists and Keynesians ignored the monetary approach of Hawtrey and Cassel to explaining the Depression. We offer some concluding remarks in section eight.

II. Hawtrey and Cassel on the Theory of International Prices Under the Prewar Gold Standard

What might be termed the conventional theory of international price adjustment under the gold standard is derived from David Hume's famous account of price adjustment in his essay "Of Money," (Hume 1752/1955: 62-63) in which he supposed that four-fifths of the gold of Great Britain were annihilated over night. According to Hume, the initial response to the exogenous change in the British gold stock would be an immediate 80-percent reduction in British prices, causing British exports to rise and imports to fall until Britain's gold stock was fully replenished (and British prices correspondingly raised) by a continuing balance-of-trade surplus. Hume's account of international adjustment to an exogenous monetary shock came to be known as the price-specie-flow mechanism (PSFM).

Although it became orthodoxy, PSFM never commanded the assent of all economists. Adam Smith, for example, ignored it in his discussion of money in the *Wealth of Nations* (1776/1976) despite clearly understanding the Humean theory.[2] Later classical monetary theorists working in the Banking-School tradition also rejected PSFM (Glasner 1985, 1989a, 2000).

What separated adherents of PSFM from dissenters was whether the quantity of money in a single country with a metallic (gold) or convertible currency causally affects the internal price level in that country. Adherents of PSFM believed that linkage between national price levels was a long-run tendency consistent with substantial short-run deviations of national price levels from their common long-run

---

[2] The omission was characterized by Viner (1937) as one of the great mysteries in the history of economics. However, subsequent studies by Girton and Roper (1978), Humphrey (1981), Laidler (1981), and Glasner (1985, 1989a) have explained Smith's omission as an implicit dissent from PSFM.

equilibrium level. Quantity theorists tended to believe, as Hume himself (1752/1955: 67-68) had argued, that banks are inherently disposed to inflate owing to the profitability of substituting paper for precious metals. A loss of gold reserves would, under convertibility, eventually check the tendency toward expansion, but only with a lag during which national price levels could diverge significantly from the level consistent with long-run international monetary equilibrium.

Almost a century after Hume, his view of banks and the international monetary adjustment mechanism informed the analysis of business cycles and financial crises advanced by the Currency School. That analysis led to the enactment of the Bank Charter Act of 1844, embodying the proposals for monetary and banking reform of the Currency School. The Currency Principle held that a convertible currency ought to respond to international gold movements just as a purely metallic currency would. Inasmuch as the domestic stock of a purely metallic currency would increase or decrease by the amount of gold entering or leaving the country, the domestic stock of a convertible currency ought also to fluctuate by exactly the amount of gold entering or leaving the country. Otherwise, national price levels in countries with convertible paper currencies could not be prevented from deviating from their common equilibrium level.[3]

---

[3] The Currency principle implicitly assumed that the monetary demand for gold reserves was a constant, so that gold inflows or outflows would never be added to or subtracted from the stock of gold reserves without also affecting the amount of currency in "circulation." The Banking School (e.g., Fullarton 1845) criticized this implicit and unwarranted assumption by the Currency School, drawing attention to the existence of "hoards" whose fluctuations would frustrate the operation of the Currency School measures embodied in the Bank Charter Act. The implicit assumption of a fixed demand for money was a recurring lapse in the monetary

According to the contrary view of the Banking School, arbitrage – not only in the gold market, but more importantly in the individual markets for all tradable goods – tightly constrained the possible variation in the value of gold across countries whether international monetary equilibrium obtained or not. International gold movements, therefore, were rarely occasioned by disparities between national price levels associated with exchange rates reaching the gold-export or import points. Instead, gold movements were occasioned mainly by changes in the international distribution of the demand for and supply of gold. Nor were domestic banks inherently disposed to inflationary over-issue. Indeed, they were subject to an economic mechanism (the law of reflux) causing banks, even with no external drain, to withdraw an excess supply of their liabilities from circulation (Glasner 1985, 1989a, 1992, 2000). Notwithstanding this dissident monetary tradition, extending at least from Adam Smith to the Banking School and J. S. Mill,[4] the quantity-theoretic view of price-level determination and international monetary adjustment under the gold standard, become embedded in the not fully coherent set of views which,

---

discussions of the classical economists, despite recognizing in other discussions (usually of particular episodes like financial crises) that the demand for money could fluctuate in response to economic conditions (Glasner 2011).

[4] In other contexts, we (Glasner 1985, 1989a, 1989b, 2000; Batchelder and Glasner 1995) have characterized this tradition as the classical monetary tradition in contrast to the opposing quantity-theoretic tradition emanating from Hume. We refer to it here as a "dissident tradition," because our main focus is on the late nineteenth and twentieth centuries when the classical tradition had already been displaced from the position of semi-dominance it once held, roughly from 1776 to 1844.

towards the end of the nineteenth century, constituted British monetary orthodoxy (Fetter 1965, Laidler 1988).[5]

The orthodox view of price-level determination and international monetary adjustment implied a set of policy rules for the monetary authorities under the gold standard. According to these rules ("the rules of the game"), a loss of national monetary reserves signaled a domestic price level above its equilibrium level. National monetary authorities were therefore obligated not to offset the tendency of the automatic gold outflow to reduce the domestic price level by allowing the outflow of gold to raise domestic interest rates and restrain domestic expenditure. Rising domestic interest rates and falling domestic expenditure would reduce the domestic price level, halting the outflow of gold. Similarly, an increase in national monetary reserves indicated that the domestic price level was below its equilibrium level. National monetary authorities were then obligated not to offset the tendency

---

[5] Harry Johnson came to understand this distinction in his later formulations of the Monetary Approach to the Balance of Payments (Frenkel and Johnson 1976; also see Moggridge 2008). In formulating the Monetary Approach to the Balance of Payments, Johnson seemed on the one hand to be asserting that his approach was new and innovative while also emphasizing the approach was rooted in the work of earlier writers going back to David Hume. In making such claims, Johnson left himself open to charges of inconsistency and poor scholarship not so different from the charges (e.g., by Fausten (1979) and Boyer (2009)) that he had, following Patinkin (1969), leveled against Milton Friedman (1956) for invoking a supposed Chicago Oral Tradition as the source and inspiration for his restatement of the quantity theory of money. If Johnson had recognized and explicitly mentioned the connection between the Monetary Approach to the Balance of Payments and the Banking School in contrast to the Currency School, his position would have been less vulnerable to charges of inconsistency and a self-serving lack of acknowledgment of his intellectual debt to Friedman. When the intellectual connection between Johnson and the Banking School is recognized, it is not so surprising that he would have been unsympathetic to Friedman's policy views, views Friedman explicitly associated with the Currency School tradition, notwithstanding the important role that both Friedman and Johnson assigned to monetary factors.

of an inflow of gold to reduce domestic interest rates and increase spending. The domestic price level would rise as a result, preventing a further inflow of gold. Moreover, the rules of the game were often understood to obligate national monetary authorities to reinforce the automatic effects of gold flows with corresponding changes in their lending rates or in their credit policies.

Under the orthodox view and seen through the lens of PSFM, gold movements between countries on the gold standard were supposed to be equilibrating responses to short-term deviations of national price levels from their long-term equilibrium level. Such deviations might result from random exogenous disturbances, but, adopting the Humean presumption that banks are chronically predisposed to over-issue paper currency, the Currency School was inclined to attribute the deviations to the expansionary policies of the banking system. Depending on the alignment of their domestic credit cycles and on the extent to which national banking systems allowed banks to exhibit their tendency to over-issue, monetary expansion would proceed more rapidly in some countries than others, ultimately causing departures from the common price level, thereby triggering compensatory gold movements to reverse the short-run national deviations from the international price level.

By assuming that gold movements were usually equilibrating responses to short-run price-level differences, the orthodox view misunderstood how the gold standard actually worked, mistakenly identifying the gold standard with a set of "rules of the game" whose observance was deemed necessary for the gold standard to operate correctly. Fortunately, the "rules of the game," prescribing the wrong

responses by domestic monetary authorities to gold movements whenever those movements were, as usual, occasioned not by national price-level differences, but by changing relative demands for gold reserves across countries, were not followed slavishly if at all (Bloomfield 1959, McCloskey and Zecher 1976).

The orthodox misunderstanding of the gold standard and the rules by which it was governed also led to a misidentification of the necessary and sufficient conditions for the gold standard to be in operation. For example, it was questioned by some in the 1920s whether a gold exchange standard with no gold coins circulating and convertible banknotes not "backed" by proportionate reserves was a true gold standard. Officials of the French government and the Bank of France made just this argument in defending the 1928 legislation restoring the gold standard and requiring the Bank of France to hold gold reserves equal to at least 40 percent of its outstanding note issue. Other countries rejoining the gold standard in the late 1920s also debated what rejoining the gold standard meant in the absence of a circulating gold coinage and gold "backing" for banknotes. The conviction – in our view a misunderstanding -- that restoring gold convertibility was insufficient to restore the gold standard undoubtedly intensified the deflationary consequences of restoring the gold standard after World War I.

The amount of gold in circulation or held in reserves is immaterial to whether the gold standard is operating. The gold standard, as we understand it, is operating if and only if the issuer of a particular monetary unit is credibly committed to convert that unit on demand into a fixed weight of gold or even into another monetary unit understood to be convertible into a fixed weight of gold. Whether the

gold standard is in operation is ambiguous only insofar as it is uncertain whether the commitment to convert on demand will be discharged. This ambiguity, however, is logically distinct from the imposition of a legal reserve requirement, inasmuch as only reserves in excess of the legal requirement are available to discharge the commitment.

In varying degrees, Hawtrey and Cassel departed from the gold-standard orthodoxy, with Hawtrey, in particular, reverting in some ways to the dissident tradition of Adam Smith and the Banking School. Although both argued that the free international movement of gold ensured international commodity-price equalization in terms of gold, they offered different accounts of the mechanism whereby a common international price level is achieved.

In discussing the monetary and price adjustment process under a gold standard, Cassel (1932, pp. 1 - 7) distinguishes between different variants of a gold standard. For an earlier "classical" gold standard with a purely metallic currency in which gold coins were the only means of payment, Cassel argues that international monetary adjustment would operate as describe by a Humean PSFM, with domestic money supplies of participating countries adjusting to gold flows into and out of the country, and with domestic price levels adjusting to the quantity of money. In this way, the supply of money would be regulated along with the level of prices, and the regulation would occur automatically without any involvement of a monetary authority. Even if a central monetary authority issued notes either fully covered or even partially covered by gold, Cassel's view is that there would be no fundamental change in how the system operated. According to Cassel, the PSFM automatic

adjustment process changed when the gold standard had expanded to most of the world and the issuing of uncovered notes had significantly decreased the monetary gold demand, and that the automatic regulation of the money supply inherent in the earlier metallic gold standard gives way to a monetary policy of managing a paper currency's gold parity. At this point of development Cassel argues that the regulation of the money supply, mostly in the form of bank deposits, becomes the result of a policy that maintains the official gold parity while adjusting the supply of money to meet the fluctuating demand for money. In this context, Cassel viewed the role of the central banks' total demand for gold, based on arbitrary gold-cover requirements as a potential source of economic instability. Cassel did not acknowledge any tension between positing on the one hand that deviations between domestic price levels under the gold standard are constrained by the law of one price for internationally traded commodities -- domestic price-level changes across gold-standard countries being positively correlated to each other -- and assuming, on the other hand, that domestic price levels are correlated with gold movements as posited by PSFM, which would imply that domestic price-level changes across gold-standard countries would be negatively correlated.

Hawtrey, more closely in accord with the earlier dissident monetary tradition than Cassel, explicitly argued that commodity arbitrage and international gold flows ensured that the gold prices of commodities could not differ across countries by more than transportation costs, so that price-level changes among gold-standard countries were positively correlated, but uncorrelated with gold flows. Domestic money supplies could vary independently of gold flows without causing domestic

price levels to deviate from the common international price level.[6] Implicit in Hawtrey's discussion is a simple arbitrage model[7] in which either gold or international debts denominated in gold-standard currencies move internationally to equalize commodities prices.[8] Like Smith and the Banking School, Hawtrey was a

---

[6] Early on, Hawtrey (1913: 180) noticed that gold movements were common even when exchange rates were within the gold points. "It is sometimes found that gold is sent to a place where the exchanges are still far from the specie point . . . This is particularly the case with the Bank of France, which can defend its gold from attack under a rampart of overvalued five-franc pieces, but which is unwilling to push its use of this defense so far as to drive its notes to a discount. But quite apart from this resource it can choose its own moment for sending gold to London . . . and the knowledge that it will do so prevents other people from speculating in the export of gold. If the Paris exchange on London goes up to the export specie point, any one in Paris who has a considerable quantity of gold can send it to London without loss, but if the Bank of France is also going to send gold, the exchanges may have gone back to par in a few days. In that case it would have been more advantageous to wait and save the cost of freight by using the machinery of the exchange. This advantage in controlling gold movements is open to any central bank which possesses the only large stock of gold to be found in the country in which it is situated, and consequently in practice the theory of the specie points is often found to be quite at fault." Ricardo (1810) had made a similar observation about a century earlier.

[7] "The revolutionary changes in the means of communication," wrote Hawtrey (1932: 144) have unified markets to such a degree that . . . there is practically a single world market and a single world price. . . . It was fallacious to explain the adjustment wholly in terms of the price level. There was even at that [Ricardo's] time, an approximation to a world price."

[8] Hawtrey (1919: 430) states: "The gold standard, in fact, gave uniformity to the monetary unit, not only in time, but in space too. A trader could with confidence exchange a credit in his own country, not only for a future credit in the same place, but for a credit, present or future, in almost any other part of the world. In peace time the portability of gold is such that, unless there are legal restrictions on its movement, its value can only differ very slightly in different places at the same time, and its world value remained steady enough from year to year for it to be accepted without reservation as the basis of financial contracts extending far into the future." Writing in the next issue of the *Economic Journal*, Cassel (1920: 40) states that his "… views coincide, I think, pretty nearly with those set forth by Mr. Hawtrey in his very able and instructive article on 'The Gold Standard'." Cassel proceeds to discuss one additional issue not addressed by Hawtrey with regard to stabilizing the value of

forerunner of the monetary approach to the balance of payments (Frenkel and Johnson 1976).[9]

But despite accepting PSFM, Cassel, in his applied and policy discussions, focused on the tendency for national price levels to correspond to the international equilibrium level, a condition that he famously called purchasing power parity (PPP). Cassel also differed from more orthodox quantity theorists in attributing trends in the international price level to long-term changes in the world's gold stock rather than to the overall quantity of money including banknotes and deposits. His empirical studies (1924) showed that the secular variation in the general price level from 1850 to 1910 was mainly determined by changes in the relative gold supply. He inferred from these studies that a 3.1 percent annual increase in the gold stock would have been needed to maintain a stable international price level during this period.[10] Extrapolating that trend, he believed the gold standard to be vulnerable to deflation, because he was dubious that the annual output of gold could be indefinitely increased by 3 percent a year.

Acknowledging that the world stock of gold relative to world output was an important determinant of world prices, Hawtrey (Royal Institute of International

---

gold, namely, that the annual production of gold was less than "the rate of economic progress of the world."

[9] In their introduction and historical account of the origins of the monetary approach Frenkel and Johnson (1976) Hawtrey is quoted six times, more than any other author.

[10] These results were also confirmed by the empirical studies of Warren and Pearson (1933: 76-87). Warren and Pearson estimated that a 3.1 percent annual increase in the monetary stocks of gold was necessary to maintain stable prices.

Affairs, 1932: 76) criticized Cassel's forecast that deflation would result if gold production did not increase by 3.1 percent a year. Such an inference ignored the possibility that gold would be shifted from monetary to non-monetary uses by means of new credit instruments that would economize on the monetary demand for gold.

While we have not found what we would regard as a fully correct statement by Cassel off how the gold standard operated, Hawtrey's description, omitting PSFM, does approximate what we regard as the theoretically correct specification of how the gold standard operated and maintained a common international price level (Thompson, 1974; McCloskey and Zecher, 1976, Samuelson 1980; Glasner, 1985; Batchelder and Glasner, 1995).

Put simply, individual countries set the parities of their currency units in terms of gold, and issued the amount of notes demanded by banks and the public.[11] The banking system in turn created the amount of deposits demanded by the public while converting deposits into notes on demand. Thus, given the fixed parity of the currency unit into gold, the amount of banknotes and of bank deposits expanded and contracted along with the demand for notes and deposits. The monetary authority maintained an elastic supply of banknotes convertible into gold, while the banking system maintained an elastic supply of deposits (which are indirectly

[11] Indeed, a central bank issuing convertible banknotes was not a necessary condition for the operation of the gold standard either, since competitive private banks could have issued their own convertible bank notes instead of a central bank, as has been argued by Thompson (1974), White (1984), Selgin (1988), Dowd (1989) and Glasner (1989b). However, one of the best arguments against competitive note issue remains that given by Hawtrey (1913: 153-55)

convertible into gold).[12] Domestic price levels were determined by the relative prices of commodities in terms of gold and by the corresponding currency-gold parity. International commodity arbitrage ensured that the domestic commodity-price levels in gold-standard countries were closely correlated. The price-specie-flow mechanism to the contrary notwithstanding, gold flows did not ensure that domestic price levels of gold-standard countries closely approximated a common level. Nor were gold flows correlated with observed deviations between national price levels. While gold-standard countries typically imposed legal reserve requirements on the issue of notes, such requirements immobilized a large portion of the world's stock of gold, embargoing those reserves from non-monetary uses, thereby driving up the value of gold and depressing the international price level in terms of gold. The existence of reserve requirements reinforced the conventional textbook ("rules of the game") version of how the gold standard operated, but the conventional idea that the direction of causation runs from the amount of reserves to the amount of money rather than the other way around is not logically entailed by any deep assumptions or propositions of monetary theory. Whenever gold reserve requirements became, or threatened to become, binding constraints, they precipitated financial panics and, as was the repeated experience with the British reserve requirements specified by the Peel Act of 1844, the requirements were suspended. The requirements are perhaps

---

[12] The main deficiency in Hawtrey's analysis, in our view, was his failure (shared by most other modern monetary economists) to note that the quantity of deposits created by banks depends not only on the relationship between the "natural" rate and the market (lending) rate, but that it also depends on the spread between the lending rate and the deposit rate, reflecting banks' costs of intermediation. See Glasner (2000).

best rationalized as policies for accumulating gold reserves to serve national-defense objectives unrelated to the operation of the gold standard (Thompson and Hickson 2000).[13]

As we shall see, Hawtrey and Cassel both identified such regulations, particularly those required by the French legislation restoring the gold standard in 1920s, as a major source of deflationary pressure that helped bring on the Depression.

III. Hawtrey and Cassel on the Postwar Gold Standard

The era in which the classical gold standard predominated over international monetary arrangements lasted barely forty years until it was more or less undone in the first days of World War I.[14] Having suspended their commitments to convertibility, the belligerent countries were free (and obliged) to use their domestic gold stocks to finance imports for the war effort. This far-reaching demonetization of gold constituted a decrease in the monetary demand for gold, and implied a huge reduction in its value. So deep was the fall that several neutral countries (Sweden, Switzerland, Netherlands) chose to stop *buying* gold at the official price in order to avoid the domestic inflation implied by a falling value of gold, instead allowing their

[13] This in fact was seen most clearly by Cassel who consistently criticized gold-reserve requirements, drawing attention to their disastrous consequences before and during the Depression.

[14] The modern gold standard arose in England during the eighteenth century, with other countries eventually imitating and linking up to the English system. The international gold standard dates back to the early 1870s, when most of the leading commercial countries adopted the gold standard.

currencies to appreciate relative to gold. Until its entry into the war in 1917, the U.S. maintained the official parity and tolerated domestic inflation corresponding to the depreciation of gold. However, the fiscal demands on the US after entering the war were such that the US used some of its newly accumulated gold to finance its own imports, and, like other belligerents, prohibited the unauthorized export of gold by private individuals. The depreciation of gold thus accelerated in the final year of the war, with US inflation only then exceeding gold inflation despite nominal maintenance of the official dollar-gold parity.

A further consequence of the rapid depreciation of gold was to reduce the incentive to find and extract gold. Gold production, therefore, fell sharply from prewar levels during and after the war, adding to deflationary pressures that would subsequently overwhelm the world economy.

Wuch was the prestige of the gold standard, perhaps owing a nostalgic retrospective view, that there were few who opposed restoring the gold standard after the War. However, the wartime and postwar economic and political upheavals made restoring the gold standard, as it had once existed, anything but an easy task. The likely deflationary consequences of restoring the gold standard while allowing the monetary demand for gold to increase to pre-war levels was recognized by Hawtrey soon after the war. "We have already observed," Hawtrey wrote in the *Economic Journal* (1919/1923: 56),

> that the displacement of vast quantities of gold from circulation in Europe has greatly depressed the world value of gold in relation to commodities. Suppose that in a few years' time the gold standard is

> restored to practically universal use. If the former currency systems are revived, and with them the old demands for gold, both for circulation in coin and for reserves against note issues, the value of gold in terms of commodities will go up. In proportion as it goes up, the difficulty of regaining or maintaining the gold standard is accentuated. In other words, if the countries which are striving to recover the gold standard compete with one another for the existing supply of gold, they will drive up the world-value of gold, and will find themselves burdened with a much more severe task of deflation than they ever anticipated.

Writing shortly thereafter in the same journal, Cassel reiterated the same points. "The decrease in the monetary demand for gold," Cassel warned (1920: 39)

> in comparison with the more and more abundant supply of paper money has brought the value of gold down to about half its pre-war level, with the consequence that, as seen in the United States, the prices of commodities in gold have risen to about double what they were before the war. Though this enhancement of prices has certainly been a most injurious process, the inverse process of bringing prices down again to their old level would probably be still more disastrous.

What concerned Hawtrey and Cassel was not that individual countries would have to deflate if they rejoined the gold standard at parities that overvalued their currencies relative to the gold parities chosen by other countries. Overvaluation of one country's currency would be a problem for that country, but would not

destabilize the entire international system. What they feared was that the simultaneous restoration of the gold standard by many countries would make the *entire system* vulnerable to deflation because the *relative value* of gold in terms of commodities had fallen sharply following a deep reduction in the world's monetary demand for gold. If the process of restoring an international gold standard were to cause a corresponding increase in the world's monetary demand for gold, the relative value of gold in terms of commodities would be forced up, triggering deflation for all countries on the gold standard, unless the restoration of the gold standard could be managed in such a way as to limit the worldwide increase in the monetary demand for gold.

To be sure, Hawtrey and Cassel understood that restoring a heavily depreciated currency to its prewar parity would amplify the risk of deflation, so that countries with heavily depreciated currencies would generally be better advised not to attempt to restore the prewar gold parity.[15] However, even if all countries restored convertibility at parities corresponding to the current purchasing powers of their currencies, the danger of deflation would not be eliminated unless the monetary demand for gold could be kept well below its prewar level while individual countries simultaneously restored the gold standard.

---

[15] Cassel also provided a restatement of the purchasing-power-parity doctrine that could act as a guide for countries seeking to reestablish convertibility at new inflation adjusted parities, thus avoiding deflation and so that the system-wide impact of setting currency parities should be essentially nil. In fact, he was very involved in studying the appropriate gold parities to establish in countries that had experienced differential inflation rates during the war and post-war period, and wanted to select parities that would avoid significant deflation. However, overvaluing one currency meant undervaluing another.

Hawtrey and Cassel therefore advocated international cooperation to limit the monetary demands for gold. At the Genoa Conference[16] in 1922, Cassel proposed that countries agree to end the circulation of gold coins, but his proposal was rejected. However, when England returned to the gold standard under Churchill's Gold Standard Act of 1925, the circulation of gold coinage was eliminated, the convertibility of paper being into gold bullion. Cassel (1936: 41-42) praised this reform as a "measure that will stand for all time as a milestone in the world's monetary history." Because of their expectation that the international monetary demand for gold would be strictly limited, Hawtrey and Cassel, despite misgivings about its potentially deflationary domestic implications, both supported restoring the convertibility of sterling at the prewar parity.

Equally important to Hawtrey and Cassel was that the gold standard be restored with no substantial increase in the holdings of gold reserves by central banks. They therefore proposed adopting what they called a gold-exchange standard, in which most central banks would hold monetary reserves in the form of the foreign exchange of the leading gold-standard countries (i.e., the United States and Britain) rather than gold. Doing so would limit the demand to hold gold reserves, thereby minimizing the danger of deflation caused by a rapid increase in the world demand for gold.

---

[16] The Brussels Conference was summoned by the Council of the League of Nations, and the participants were experts. The Genoa Conference on the other hand was an official conference of governments.

Cassel (1920, 40) noted that his own views coincided with those of Hawtrey, with the exception that Hawtrey had taken insufficient note of the drop in gold production caused by the depreciation of gold during and after the war. Reduced gold production, Cassel argued, would intensify the deflationary consequences of restoring the gold standard.

Hawtrey (Royal Institute of International Affairs, 1932: 76), while believing that the immediate risks were heavily on the side of deflation, rejected Cassel's argument that a 3.1 percent rate of growth in the world's gold stock was needed to prevent deflation in the long run. Hawtrey believed that the future supply of and demand for gold was very uncertain, so that one could imagine that gold might either gain or lose value over the next twenty years or so. The gold standard could provide long-term price stability only if supported by a mechanism for absorbing either excess supplies of gold, or for accommodating excess demands for gold.

IV. The Transformation of the Gold-Standard Monetary Regime Advocated by Hawtrey and Cassel

Aside from an extreme vulnerability to deflation, Hawtrey and Cassel emphasized another feature of the post-war gold standard not shared by the pre-war version: the dominant role of the United States. U.S. dominance had three main causes: first, the transfer of gold to the United States by the Allies in payment for U.S. exports of food and other commodities during the war. At war's end, U.S. monetary reserves accounted for about 40 percent of the total stock of monetary gold reserves, more than double its holdings before the War. Second, U.S. exports to

the Allies had also been financed by U.S. loans to the Allies. Third, the creation of the Federal Reserve System had consolidated U.S. gold reserves in the hands of the central bank. As a result, U.S. holdings of gold no longer were the unplanned outcome of independent decisions taken by individual private banks in the United States, but were determined by the decisions of the Federal Reserve.

Thus, at war's end, the U.S. monetary authorities exercised unprecedented control over the international value of gold. As the leading creditor nation, the United States could, by insisting on repayment in gold, add significantly to the world's demand for gold and force further appreciation of gold, even beyond the deflation implied by an uncoordinated restoration of the gold standard. On the other hand, with its enormous holdings of gold, the United States could, by inducing a sufficiently large outflow of gold, drive down the international value of gold, thereby raising the common international price level. In contrast to the prewar gold standard, when any single national monetary authority could assume that the international price level was determined independently of its own decisions, the world price level under a restored postwar gold standard would depend largely on whether the United States monetary authorities was causing gold to flow into or out of their hands.

Recognizing the new economic environment in which a gold standard would operate, both Hawtrey and Cassel urged the United States monetary authorities to commit themselves to stabilizing the common international price level. Since restoring an international gold standard would be deflationary unless the associated increase in the monetary demand for gold could be limited, they argued that the U.S. should be prepared to tolerate an outflow of gold if it were needed to accommodate

an increased monetary demand for gold by countries rejoining the gold standard. In turn, international cooperation required that other countries limit their demand for additional gold as they returned to the gold standard.

Although Hawtrey and Cassel gave the earliest and most complete theoretical accounts of the deflationary dangers inherent in restoring the gold standard, the underlying analysis was broadly shared by other leading monetary theorists of the time. Keynes, in his *Tract on Monetary Reform* (1923), argued that restoring the gold standard was probably deflationary in the short run, but possibly inflationary in the long run. This likely instability in the future value of gold prompted Keynes (1923, 1925) to oppose the restoration of the gold standard, proposing instead that national monetary authorities aim at stabilizing their domestic price levels and allowing exchange-rate adjustments to restore international monetary equilibrium. Similarly, Irving Fisher (1913, 1920) recognized that fluctuations in the value of gold would have undesirable inflationary or deflationary effects. He proposed counteracting these fluctuations by varying the gold content of the dollar, a proposal incompatible with the emerging role of the dollar as the dominant international currency (Cassel 1920: 42-43). Dennis Robertson, avoiding any explicit policy recommendation, emphasized the transformation of the postwar gold standard into a dollar standard tied to gold in his Cambridge Handbook, *Money* (1928). "It would be misleading to say," wrote Robertson (1928: 67),

> that in America the value of money is being kept equal to the value of a defined weight of gold: but it is true even there that the value of money and the value of a defined weight of gold are being kept equal to one another. We

> are not therefore forced into the inconveniently paradoxical statement that America is not on a gold standard. Nevertheless it is arguable that a truer impression of the state of the world's monetary affairs would be given by saying that America is on an arbitrary standard, while the rest of the world has climbed back painfully on to a dollar standard.

Thus, Hawtrey and Cassel occupied a middle ground between orthodox advocates of a kind of "rules of the game" gold standard, which never really existed before World War I and whose establishment after the war was potentially disastrous, and advocates of managed money such as Keynes and Fisher who opposed restoring anything like the prewar gold standard, preferring the stabilization of domestic price levels to the restoration of an international currency. Hawtrey and Cassel believed, that, with international cooperation to limit the monetary demand for gold and enlightened leadership by the Federal Reserve System, an index of prices of internationally traded commodities could be stabilized *and* thereby the world could enjoy the benefits of a single international currency.

Although occupying a middle ground on policy, Hawtrey and Cassel were analytically much closer to Keynes, Fisher and other proponents of price-level stabilization or "managed money" than to more orthodox proponents of the gold standard. Prominent, but by no means alone, among theorists who advocated restoring the gold standard in what they believed was its prewar "rules of the game" form were such French theorists as Charles Rist and Jacques Rueff, and a group of economists who were then developing an "Austrian" theory of the business cycle synthesizing the capital theory of Bohm-Bawerk, the monetary theory of Wicksell,

and the policy orientation of the English Currency School. Most notably these included Ludwig von Mises, Friedrich Hayek, Gottfried Haberler, and Fritz Machlup, as well as a young English theorist, Lionel Robbins. The Austrians (e.g., Hayek, 1932/1984: 119-20) criticized Hawtrey and Cassel for having advocated a managed gold standard rather than the orthodox version based on the "rules of the game." According to the Austrians, by not forcing domestic money supplies to contract as gold was exported, a managed gold standard would necessarily imply an unsustainable excess of investment over voluntary savings, which, in their view, would cause, first, an investment boom and then, once banks were forced by an external drain to raise interest rates and contract lending, by a collapse.

V. The Onset of the Great Depression

Although Hawtrey and Cassel were undoubtedly influential, especially with the British and American monetary authorities who, for most of the 1920s, followed policies in accord with their recommendations, it is not clear how deeply the analysis underlying their policy recommendations penetrated the thinking of the monetary authorities. Montague Norman, Governor of the Bank of England, was certainly aware of Hawtrey, but Hawtrey worked at the Treasury and was not an advisor to Norman. Hawtrey was critical of Bank of England policy for most of the 1920s, believing that the high bank rate set by the Bank of England to attract gold was unnecessary for Britain to restore the prewar dollar/sterling parity, because other countries if the Bank of England reduced its bank rate, other countries would likely reduced their lending rates as well (Gaukroger 2008, chap. 5). Norman, aware of

Hawtrey's criticisms of his policy, largely ignored what he considered the impractical advice of a monetary theoretician ensconced in the Treasury. Hawtrey had even less direct access to Benjamin Strong, who, until forced by ill health to retire in 1928, was the primary maker of U.S. monetary policy, than to Norman. However, Strong's advisor, Allyn Young of Harvard, was deeply influenced by Hawtrey (Laidler 1993). The extent of Cassel's influence on either Norman or Strong is even more difficult to trace than Hawtrey's, but it is doubtful that Cassel had any more influence than Hawtrey with the British or American monetary authorities.

Both Hawtrey and Cassel supported the return of sterling to gold at the prewar parity, notwithstanding Keynes's harsh attacks against that policy both before and after the final decision to restore the prewar parity was made. Deeply committed to restoring the old parity, Montague Norman succeeded, with the help of Churchill's Treasury advisors, especially Otto Niemeyer, in persuading the reluctant and conflicted Chancellor of the Exchequer, Winston Churchill, to go along. Churchill sought Hawtrey's advice on whether to restore the gold standard, and Hawtrey wrote a lengthy memorandum in qualified support for restoring convertibility at the prewar parity, and also emphasizing the importance of reducing the bank rate. Hawtrey's advice may have seemed somewhat incongruous to Churchill; it certainly did not match up with the advice of Norman and Churchill's other Treasury advisors favoring restoration of the gold standard on the one hand, or with the advice of Keynes and others who were opposed on the other.[17]

---

[17] In his history of the restoration of sterling to gold at the old parity, D. E. Moggridge (1972) provides only limited incidental information on Hawtrey's role in

That Hawtrey and Cassel supported the British resumption at the old parity was largely based on their hope and expectation that the Federal Reserve Board would follow a monetary policy easy enough to obviate further British deflation. Their hopes, at least initially, seemed to be fulfilled by subsequent Fed policy. When the Federal Reserve eased credit in 1927, reducing the discount rate from 4 to 3.5 percent, to counteract what seemed to be an incipient downturn, Hawtrey and Cassel applauded the move. The rate cut also set off a rally on Wall Street, which began a prolonged rise. Despite the success of the Fed's policy, many orthodox supporters of the gold standard, especially the Austrians, and even the monetary authorities themselves, interpreted the stock-market boom as an incipient inflationary boom. Hawtrey (1932) and Cassel (1932) both denied that the stock-market boom had been inflationary.[18]

In one of the last decisions he took before his resignation in early 1928, Benjamin Strong raised the discount rate back to 4 percent. In the summer of 1928, his successor, George Harrison, raised the discount rate to 5 percent, seeking to curb stock-market speculation and the rise in stock prices. After the first increase failed to halt the stock-market boom, the Fed increased the discount rate to 6 percent in 1929 just as general economic conditions began to deteriorate.

---

the decision. Important new light on Hawtrey's role in the internal deliberations of the Treasury before Churchill decided to restore the prewar parity has since been provided by Gaukroger's unpublished dissertations (2008).

[18] Hawtrey denied that the rise in stock prices had been unjustified under the circumstances, while Cassel conceded that the boom could have been fueled by excessive speculation, but denied that an inflationary monetary expansion had fueled the speculation.

Meanwhile, in France, a series of weak and unsuccessful governments had permitted an accelerating depreciation of the franc until it fell to about two cents in July 1926 (the prewar parity having been 20 cents). The crisis led to formation of a national-unity government by Raymond Poincare, which immediately adopted a program of fiscal and monetary reforms to halt the depreciation of the franc. Confidence in the franc having been restored, the reforms induced a rapid repatriation of capital from abroad, and a strong recovery in the franc on the foreign exchanges. The government chose to stabilize the franc at just under four cents, below the level to which the franc had risen, hoping, thereby, to aid French exports and induce a further inflow of foreign exchange.

When France formally returned to the gold standard in 1928, the gold-standard law limited the power of the Bank of France to issue notes without a corresponding increase in gold cover (Hawtrey 1932, Eichengreen 1986). The law required the Bank of France to begin liquidating its foreign-exchange reserves to acquire the gold needed to back its note issues. The legislation having been drafted in cooperation of the Bank of France, one should not assume that the Bank of France, in selling its foreign exchange for gold, was forced into actions that it would otherwise not have taken.

Thus, in 1928 international monetary conditions tightened drastically as both France and the United States began absorbing large quantities of gold from the rest of the world.[19] Viewing these developments as symptomatic of the deflationary

[19] The problem with US policy, however, was not so much in the absolute amount of gold that was imported, but in the failure of the United States (given the size of its

forces about which they had been warning since the end of the war, both Hawtrey and Cassel urged the French and the US monetary authorities to reverse their policies. The views of Hawtrey and Cassel on the international financial situation were well known and discussed in the international business and financial community -- the concept of a gold shortage, for example, was a familiar one in the business press. Thus, the risk of deflation was understood in the world's financial markets (Nelson 1990).

Hawtrey and Cassel continued to criticize U.S. monetary policy after the stock-market crash in 1929 as too tight, arguing that an aggressive monetary expansion was necessary to counteract growing deflationary pressures. At the same time, Hawtrey also believed that if the Bank of England had courageously reduced its bank rate immediately after the crash, even at the risk of exhausting its gold reserve, it could have induced other central banks, especially the Fed, to reduce their interest rates, thereby moderating the downturn.[20] When it became clear that the U.S. and other gold-standard countries would not promote a monetary expansion to reverse the appreciation of gold, both Hawtrey and Cassel recommended that countries leave the gold standard to insulate themselves against the deflationary implications of gold appreciation. Both welcomed Britain's departure from gold in September 1931. Cassel also played an important role in both the Swedish suspension of the gold

---

existing reserves) to have accommodated the increased demand for gold by allowing an outflow of reserves.

[20] Whether Hawtrey's assessment of the influence of the Bank of England on international monetary conditions in 1929-30 was correct is an important question, but not one that can be addressed in this paper.

standard shortly thereafter and in the explicit adoption of an internal-price-level stabilization target by the Swedish monetary authorities, a policy whose success has been widely acknowledged (Jonung 1981).

Both Hawtrey (1913, 1919) and Cassel (1924) had already developed their own differing theories of business cycles. Yet, both insisted that the Depression was in no sense the result of the forces that generate "normal" business cycles. Instead, they viewed the Depression as a special case -- the result of a purely deflationary shock caused by the rapid appreciation of gold toward its prewar value, which had, in turn, been caused by the destructive monetary policies of the world's central banks, particularly the Federal Reserve and the Bank of France. The close correspondence between their views is well summarized in Hawtrey's review (1933b) of Cassel (1932).

The abandonment of the gold standard by Great Britain and Sweden in late 1931 allowed both countries, as well as others that either left gold or had not been on gold to begin with, to avoid the depths reached by countries that remained on gold and to begin recovering before any remaining gold-standard country did.[21] The dollar still tied to the gold standard, the US remained stuck in depression in 1932, and a severe banking crisis started in early 1933 following Roosevelt's election in November 1932 triggered by fears that he would take the US off gold. Shortly after taking office, Roosevelt declared a national bank holiday and suspended the gold standard. In April, the administration began to allow the dollar to depreciate against

[21] Indeed, it does not seem that a recovery began in any country so long as it remained on the gold standard.

gold, igniting the fastest four-month expansion of industrial production in American history, spurred by a 15 percent increase in wholesale prices over the same period, while the Dow Jones Industrial average doubled. In July, dollar depreciation came to a halt while the newly enacted National Industrial Recovery Act forced up nominal wages by 20 percent, stopping the recovery almost completely until the NIRA was declared unconstitutional in 1935 (Hawtrey 1933a, Sumner 2009).

Despite the confirmation that these events provided to the Hawtrey-Cassel analysis of the causes of the Depression, their monetary explanation of the Depression has been generally ignored by subsequent economists, even those advancing a monetary theory of the Depression. In the following two sections, we offer some hypotheses for this gap in the historiography of in the Depression and in the history of monetary theory.

VI. The Austrian Challenge and the Keynesian Revolution

Although the onset of the Depression and the subsequent course of events seem to provide striking support for the Hawtrey-Cassel explanation of the Depression, there were others who could also claim that events had vindicated their analysis. The Austrian economists Ludwig von Mises and F. A. Hayek, for example, had warned that the easing of credit by the Federal Reserve in 1927 would postpone a downturn only by prolonging an unsustainable boom thereby causing an even

deeper downturn in the end. The depth and severity of the 1929-30 downturn seemed to have vindicated their prediction.[22]

Unlike Hawtrey and Cassel, the Austrians viewed the onset of the Depression as a more or less typical business-cycle downturn, unique only in the ability of the Fed to prolong the boom. Inasmuch as the Fed's easing of credit in 1927 had exacerbated the eventual downturn, the policy of monetary expansion advocated by Hawtrey and Cassel after the 1929 crash would only make matters worse by trying to cure a problem with a supposed remedy that was actually the underlying cause of the problem.

Though the timing may be only coincidental, the influence of Hawtrey and Cassel on monetary policy seems to have declined after 1927 as the Austrian analysis became increasingly well known. Surprising as it may now seem, the deflationary policy implications of the Austrian business-cycle theory attracted a following among many policy makers, among groups in the population who were morally offended by the greed, speculation, and financial excesses of the 1920s, and by powerful creditor

---

[22] The parallels between Austrian criticisms of Fed policy in 1927 and similar criticisms of Fed policy under Alan Greenspan are striking. Two observations seem relevant in this context. First, one need not subscribe to the complex structure of Austrian business cycle theory to conclude that Fed policy under Greenspan was too easy, and may have supported an inflationary bubble in asset prices in general and housing prices in particular. Similarly in the 1920s, one could have opposed the Fed's 1927 interest rate cut without the benefit of Austrian business cycle theory. However, a comparison of Fed policies under Benjamin Strong in the 1920s and Alan Greenspan in the 2000s seems unlikely to show that monetary policy under Strong was as easy as under Greenspan. Second, insofar as one accepts the methodological precepts of the originator of the Austrian business cycle theory, Ludwig von Mises (1948) under which the logical necessity of the theory renders it immune to empirical disproof, one is unable to claim empirical confirmation for the theory on the basis of subsequent historical experience without simultaneously subjecting oneself to a charge of inconsistency.

interests concentrated in the major banks that had an enormous financial stake in a reduced price level (Temin 1990, Batchelder and Glasner 1995).[23]

Moreover, the Austrian theory achieved an enormous breakthrough in 1931, when Hayek, at the invitation of Lionel Robbins, gave four lectures on monetary and business-cycle theory at the London School of Economics. Greatly impressive both for their command of the history of monetary theory and for their analytical depth, the lectures caused an instant sensation in the British economics profession, leading to Hayek's being awarded a chair at LSE in 1931 and to the lectures being published as *Prices and Production* in the same year.[24]

That Hayek's work on business cycles made fundamental contributions to the understanding of intertemporal equilibria and disequilibria in monetary economies -- contributions for which he was eventually awarded the Nobel Prize -- is beyond dispute. However, as the Depression continued to deepen at an alarming rate throughout 1930 and 1931, it became increasingly clear to most economists,

---

[23] At present (2013), the popularity of Austrian business cycle theory does not seem as surprising as when this sentence was originally written (1991). In the wake of the recent financial crisis, Austrian business cycle theory has experienced an impressive revival, especially among a certain highly committed group of libertarians and conservatives opposed on principal to government intervention in the economy. But even among academic economists, the Austrian theory appears to have attracted renewed attention and interest.

[24] Schumpeter (1954: 1120) said of the impact of Hayek's lectures that they "met with a sweeping success that has never been equaled by any strictly theoretical book that failed to make amends for its rigors by including plans and policy recommendations or to make contact in other ways with its readers' loves or hates. A strong critical reaction followed that, at first, but served to underline the success, and then the profession turned away to other leaders and other interests. The social psychology of this is interesting matter for study."

including many like J. R. Hicks, Abba Lerner, Nicholas Kaldor, and, a few years later, even Lionel Robbins himself, who came under his influence, that Hayek's analysis was not relevant to conditions of depression. Moreover, the policy message of his analysis -- to accept, if not to welcome, deflation[25] -- could not have been more wrongheaded.[26]

---

[25] In fairness to Hayek, it should be pointed out that he soon acknowledged that one ought to distinguish between a normal business-cycle downturn, which ordinarily is self-correcting and requires no deliberate countercyclical measures, and a "secondary deflation" which ought to be counteracted by a deliberate monetary expansion. Unfortunately, this distinction was somewhat ad hoc and not easily operationalized. Nor did Hayek emphasize the distinction sufficiently to leave any mark on Lionel Robbins's attempt (Robbins1934) to bring the Hayekian analysis to bear on the events of the Depression.

[26] Another example of the wrong-headedness of Hayek's policy position was his 1932 defense of the policy of the Bank of France. Acknowledging that the Bank of France might plausibly be charged with gold hoarding, Hayek (1932: 125) nonetheless proceeded to absolve the Bank of France from responsibility for the deflation that followed its accumulation of gold.

> France did pursue an extremely cautious foreign policy after the franc stabilized at a level which considerably undervalued it with respect to its domestic purchasing power, and prevented an expansion of credit proportional to the amount of gold coming in. Nevertheless, France did not prevent her monetary circulation from increasing by the very same amount as that of the gold inflow – and this alone is necessary for the gold standard to function.

Thus, Hayek mistakenly assumed that a small open economy (which France could be considered to have been in the late 1920s) could control the quantity of francs in circulation and its domestic price level under the gold standard. The franc having been pegged to the dollar in 1926 at $0.0392/franc, the French price level was no longer controlled by French monetary authorities, commodity arbitrage equalizing commodity prices quoted in francs with commodity prices quoted in dollars given the dollar/franc parity. Similarly, the quantity of francs in circulation was determined by the demand of the French public to hold francs. Any excess demand for or supply of francs would induce a corresponding balance of payments surplus or deficit. Hayek's observation that France did not prevent her monetary circulation from increasing by the very same amount as that of the gold inflow means only that the Bank of France refused to increase the French money supply at all (or even attempted to decrease it), forcing the French to increase their holdings of cash by

It would probably be too much to expect that, in those desperate times, the debate about the Austrian theory of business cycles and the 1929-30 downturn to have been a model of scholarly, scientific discourse -- dispassionate in the search for truth, and disinterested in the evaluation of conflicting arguments. The debate was nothing like that. The attack on the misguided, deflationary policy message of the Austrians became a campaign to demolish the theoretical framework from which that policy message was derived, a campaign launched by Keynes in 1931 in his reply to Hayek's critical review of *A Treatise on Money*, shifting quickly from a defense of the *Treatise* into an attack on Hayek and *Prices and Production*. The attack continued when Keynes, as editor of the *Economic Journal,* chose Piero Sraffa to review Hayek's *Prices and Production*. Sraffa (1932) produced a review notable for both its trenchant criticisms of Hayek's theory and its sarcastic and hostile tone.

---

acquiring gold through an export surplus. Hayek's statement thus betrays a misunderstanding of what "is necessary for the gold standard to function." All that was necessary was that France commit to a fixed franc/dollar parity, not that the Bank of France achieve a particular change in the money supply governed by the amount that its holdings of gold had changed. Hayek assumed that the French monetary authorities could control the French money supply, and that the gold inflow was somehow determined by real forces independent of French monetary conditions. But the opposite was true. The French money supply increased because the French wanted to increase the amount of francs they were holding. The only question was whether the French banking system would be allowed to accommodate the French demand for money by increasing the domestic supply of francs, or whether the desired increase in the quantity of francs could be achieved only through gold imports generated by an export surplus. Refusing to allow the French money supply to increase except via gold imports meant that the increase in the French demand for money was transformed into an equivalent increase in French (and, hence, the world) demand for gold, thereby driving up the international value of gold, the proximate source of the deflation that caused the Depression.

On the central policy question of deflation versus reflation, Hawtrey and Keynes, despite earlier differences over resumption at the prewar parity and the capacity of public works to reduce unemployment, were allies. Both supported Britain's departure from gold in 1931 (though in Keynes's case, only after the fact). However, Hawtrey, a career civil-servant, was less outspoken and clearly less influential than Keynes on policy issues.

In the early 1930s Keynes was still generally sympathetic to Hawtrey's belief that the Depression, the onset of which Keynes dated in 1925 with the restoration of the prewar parity in England, had been caused by a deflationary monetary policy. He had articulated his own variation on this theme in his *Treatise on Money* (1930). But responding to telling criticisms of the theoretical apparatus of the *Treatise,* especially those of Hawtrey (1932, chap. 6) Keynes in 1932 began revising that apparatus. In both a letter and in the preface to the Japanese translation of the *Treatise*, Keynes announced that he was working on a short book, which he expected to complete in a year, extending and correcting the theoretical basis of the *Treatise*. Keynes gave no indication that this book, clearly the germ of the *General Theory*, was aimed at revolutionizing economic theory. But by the time he was finished, he had largely abandoned his earlier approach in which the price level, the exchange rate, and the interest rate were the critical determinants of economic activity. Keynes was now focused on aggregate spending. Previously, he had attributed a falling price level and economic stagnation to an overvalued exchange rate that, at a given level of money wages, required an interest rate too high to permit full employment. He now

suggested that, under some plausible circumstances, no interest rate, however low, would induce sufficient expenditure to achieve full employment.

Thus, instead of attributing high unemployment to monetary mismanagement, as he and Hawtrey had previously, Keynes saw high unemployment as deeply rooted in the structure of modern economic systems regardless of monetary policy or the exchange rate.[27] Keynes's insistence in the *General Theory* that money-wage cuts could not achieve full employment would have made no sense in the open-economy model of the *Tract* or the *Treatise*. A proportional fall in money wages and prices in one country would always be expansionary, because of the increase in the international competitiveness of its tradable-goods sector. The model of the *General Theory* is the model of a world in depression, and makes the Depression seem almost normal.

But a world in depression is just the result that Hawtrey (and Cassel) had predicted if the return to the gold standard were mismanaged and caused a deflationary increase in the value of gold. The Keynesian Revolution was therefore, from the perspective of Hawtrey and Cassel, an unnecessary distraction. They viewed the Depression as abnormal, a special case in which a worldwide deflation resulting from policy errors associated with the restoration of the gold standard. A purely monetary explanation, which Keynes well understood, and, until about 1932, had largely subscribed to, was perfectly capable of accounting for the catastrophe. Thus, despite at first supporting Keynes in the battle against the deflationist theories

---

[27] For an attempt to explain why Keynes wound up shifting his theoretical position in the *General Theory* more drastically than he at first intended, see Glasner (1988).

of the Austrians, neither Hawtrey nor Cassel had much sympathy for the *General Theory*.[28]

However, the success of the *General Theory* was such that it eclipsed not only the Austrian theory, whose meteoric rise was followed, even before the *General Theory* appeared in print,[29] by an almost equally rapid decline, but all other monetary theories as well. Thus, for almost a generation after the *General Theory* appeared, the work of pre-Keynesian monetary theories was largely ignored.[30] And to the extent

---

[28] Keynes's perception that Hawtrey was unsympathetic to his theoretical goals in the *General Theory* may account for his evident annoyance with Hawtrey in his correspondence while working on the *General Theory*, in particular complaints that, in reading drafts of the *General Theory*, Hawtrey had been unwilling to read the drafts with the sympathy a reviewer owes the author. However, Hawtrey's impatience with a revolutionary break with a theory that was in his mind already adequate to explain the Depression is not so hard to understand. A similar observation might be made concerning D. H. Robertson's reaction to the *General Theory*. Interestingly, A. C. Pigou, who, unlike Hawtrey or Robertson, was singled out for harsh criticism by Keynes in the *General Theory*, eventually came to view the *General Theory* in a more positive light than Hawtrey or Robertson ever did. However, Pigou (1920: 11), an orthodox quantity theorist, seems to have emphasized the parities at which convertibility was restored rather than the effect of restoration at whatever parities on the value of gold, as the main problem in restoring the gold standard.

[29] The extent of the decline is evidenced by the number of exponents of or sympathizers with the Austrian theory who later disavowed their earlier support of the Austrian theory. Such a list would include at a minimum: Gottfried Haberler, Fritz Machlup, Lionel Robbins, J.R. Hicks, Abba Lerner, Alvin Hansen, Nicholas Kaldor, and G.L.S. Shackle. Some hard-core Austrians ungraciously suggest that these defections reflect not on the validity of the Austrian theory, but on the ambitions for professional advancement of the defectors. Regardless of how one interprets the motives behind these defections, their number and quality is powerful evidence of how completely the Austrian position collapsed. Indeed, Hayek's own abandonment of business-cycle and monetary research after 1941 along with his disavowal of his early policy advice in favor of deflation as a method of recovery from the Depression is itself perhaps the most telling evidence.

[30] An exception to this statement is the League of Nations study (1944) primarily written by Ragnar Nurkse, whose emphasis on the extent to which central banks

that it was not ignored, it was judged according to how well it may have anticipated the *General Theory*. In particular, the only explanation of the Depression that was taken seriously was the Keynesian story of a sudden collapse in investment spending. The account given by Hawtrey and Cassel, which had first been overshadowed by the short-lived Austrian ascendancy, was pushed still further into the background by the Keynesian Revolution.[31]

Perhaps another factor accounting for loss of interest by the profession in the Hawtrey-Cassel explanation of the Depression is that it may have been brought into disrepute by the work of Warren and Pearson (1933), who, like Hawtrey and Cassel, argued that the Depression had been caused by an appreciation of gold in relation to commodities. Actually their scholarly work, which consisted primarily of extensive data collection and presentation, had considerable merit and provided a coherent account of the forces that brought about the Depression.

After suspending convertibility soon after taking office in March 1933, Roosevelt, on the advice of Warren and Pearson, began increasing the official price at which the United States would buy gold. Warren and Pearson assumed that simply

---

redeemed foreign-exchange reserves for gold, reflected the influence of Hawtrey and Cassel.

[31] In in a footnote elaborating on the rise and fall of Hayek's *Prices and Production* during the 1930s, Schumpeter mentions some successes of other theoretical books, but asserts that none matched the success of Keynes's *General Theory*. Schumpeter states (1954: 1120-21, n. 10) that "Whatever its [*General Theory*] merit as a piece of analysis may be, there cannot be any doubt that it owed its victorious career to the fact that its argument implemented some of the strongest political preferences of a large number of modern economists." It is also possible that Keynes advanced a theory that many economists immediately recognized as serving their professional self-interest by elevating their role as policy advisors.

by increasing the official price of gold, the government could reflate the general price level back to its pre-Depression level. As long as gold remained a monetary standard in terms of which exchange rates were reckoned, increasing the dollar price of gold meant that the dollar would depreciate against currencies with stable values in terms of gold. A rising dollar price of gold was associated with a falling value of the dollar on foreign exchanges and rising dollar prices of commodities. The relationship was striking in the four months from April to July 1933 when the dollar price of gold rose by nearly 40 percent while the wholesale price index rose by 15 percent.[32] Nevertheless, the episode, marked by FDR's personal obsession with manipulating the price of gold seems to have been regarded as comical, causing the reputations of Warren and Pearson, and perhaps by extension those of Hawtrey and Cassel, to be unjustly maligned.

VII. The Monetarist Counterrevolution

As we all know, the Keynesian Revolution was not permanent either. By the early 1960s, a series of empirical studies of the effects of money and monetary policy conducted by Milton Friedman and his associates and students, culminating in the *Monetary History of the United States, 1867-1960*, restored plausibility to the idea that monetary policy could significantly (perhaps more than any other policy tool) affect

[32] Scott Sumner (2009) in his study of the Depression has argued persuasively that Roosevelt's gold price policy did serve to alter expectations about the future price of gold, thereby affecting price-level expectations, which under the monetary arrangements at that time, were not unrelated to the price of gold even though a gold standard was not in effect. If Sumner is right, the judgment rendered in the text on Warren and Pearson (1933) and the gold price policy is unduly harsh.

macroeconomic conditions, and, in particular, that mistaken monetary policy might have been the chief cause of the Depression. Although these are propositions that Hawtrey and Cassel had advanced in the 1920s and 1930s, one will find no mention anywhere in the work of Friedman or his followers of the monetary explanation of the Great Depression provided by Hawtrey and Cassel.

The major difference between the Monetarist explanation of the Great Depression and that given by Hawtrey and Cassel is that Monetarists view the monetary shocks (U.S. bank failures) that caused the Depression as specific to the United States, whereas Hawtrey and Cassel viewed the Depression as a system-wide failure occasioned by a system-wide shock affecting the international demand for gold. Rather than focus on the role of the gold standard in causing the Depression, Friedman and Schwartz concentrated on how the bank failures that began in 1931 caused a contraction of the U.S. money stock, leaving the onset of the Depression in 1929 largely unexplained. Friedman and Schwartz raised the issue of the role of the gold standard only in passing (1963: 359), casually dismissing the notion that an international disturbance rather than a U.S. monetary shock had caused the Depression. Their point was that the U.S. was accumulating gold from 1929-31, whereas if the monetary shock had been international the U.S. should have been losing gold. This, of course, completely ignores the fact that France accumulated far more gold (not only relatively, but absolutely) than the US did in the same period and that, as Fremling (1985) notes, the U.S. accumulated less gold proportionately than its share of total world gold reserves.

In explaining the intellectual sources of his interest in monetary theory and the role of monetary policy, Friedman (1976) pointedly distinguished the monetary tradition from which his work sprang from the monetary tradition that prevailed in London *circa* 1930, specifically citing Robbins's Austrian-deflationist work in *The Great Depression* (1934), and overlooking entirely the work of Hawtrey and Cassel. Friedman instead linked his work to the Chicago oral tradition and to the earlier and largely ignored studies of Clark Warburton. Friedman suggested that the deflationist arguments of LSE monetary economists had given monetary policy a generally bad reputation, so that the profession abandoned interest in monetary policy. However, not all British or European economists at the time who advanced a monetary theory of business cycles or of the Depression were deflationists, least of all Hawtrey and Cassel.

Friedman argued that since the Chicago oral tradition was not deflationist, there was no reaction against monetary policy at Chicago similar to the one that had occurred in Britain and at other American centers of advanced economic theory. But though a plausible argument, it does not explain why later generations of monetary economists have ignored the anti-deflationist work of Hawtrey and Cassel.

Perhaps part of the answer, at least for Monetarists, is that Friedman really had little interest in tracing the origins of his monetary thought. Don Patinkin and Harry Johnson were perhaps too harsh in accusing Friedman of having invented the Chicago Oral Tradition. But the Chicago Oral Tradition, such as it was, was hardly the only intellectual resource on which Friedman was drawing. In important ways, the roots of his monetary theory go back to the work of the Currency School and

even David Hume. The focus on national price-level determination, the uncritical acceptance of the operation of PSFM, the antipathy toward the creation of money by banks reflected in the one-hundred-percent-reserve plan endorsed by his Chicago mentors Lloyd Mints and Henry Simons, the preference for imposing strict quantitative rules on the monetary authorities are all elements of Friedman's approach to monetary analysis drawn from the Currency School. Only in his preference for flexible exchange rates and in his hostility to the gold standard did Friedman diverge from the Currency School.[33] Eclectics who had more in common with the Banking School than with the Currency School, Hawtrey and Cassel were, in their own way, as uncongenial a source of inspiration for Friedman's monetary studies, as Hayek and Robbins had been.

The closed-economy schema of the *General Theory* (a book often praised by Friedman) turned out to be highly congenial to Friedman. Moreover, Friedman and orthodox Monetarists had little involvement in developing the open-economy analysis associated with the monetary approach to the balance of payments, a development led by Friedman's colleagues at Chicago, Harry Johnson and Robert Mundell. Nor is it mere coincidence that Johnson, despite the similarities between his views and Friedman's, became a harsh critic of Friedman and Monetarism (Johnson 1971).

---

[33] But, as supporters of the gold standard and fixed exchange rates, Adam Smith and the Banking School hardly offer Friedman and the Monetarists an attractive alternative source of inspiration to David Hume and the Currency School.

It has been argued recently (Boyer 2011) that Johnson's criticisms of Friedman were a means by which Johnson could camouflage Friedman's influence on his shift away from his Keynesian roots, Johnson having been recruited to Chicago by Friedman to take Lloyd Metzler's place as the resident Keynesian at Chicago after illness had partially disabled Metzler. The extent of Johnson's intellectual indebtedness to Friedman is a question well beyond the scope of this paper. However, it seems clear that Johnson developed a conception of open economy Monetarism, the quantity of money within an open economy with fixed exchange rates being an endogenous variable beyond the control of the policy makers. On this critical point, though occasionally acknowledged as valid in long-run equilibrium, in his applied work Friedman consistently treated the quantity of money as under, at least the short-run, the control of the monetary authorities under fixed exchange rates. Indeed, Friedman's 3-percent rule for growth of the money supply was advanced while the US was still operating under a fixed-exchange-rate regime.

The monetary approach to the balance of payments, as developed by Johnson and Mundell and others at Chicago, was thus at odds with Friedmanian Monetarism, and it appears to us that Johnson became increasingly impatient with Friedman's focus on the quantity of money as the only important instrument of monetary (or macroeconomic) policy. As the extensive quotations from Hawtrey in his writings on the monetary approach suggest (e.g., Frenkel and Johnson 1976) Johnson may have become increasingly aware that Friedmanian Monetarism involved a departure from, and a witting or unwitting, suppression of an older, and in many ways, more insightful version of monetary analysis than the Friedmanian

version. There were available to Johnson intellectual resources other than Friedman on which to draw in developing his views on the importance of monetary policy in open-economy macroeconomics.

VIII. Conclusion

Despite the undeserved oblivion into which their theory of the Great Depression has fallen, we believe that time may turn out to be on the side of Hawtrey and Cassel. An increasing interest in the international dimensions of the Depression and in the role that the gold standard played in it is evidenced by numerous works on the subject (Hamilton 1987, 1988; Eichengreen 1990, Temin 1990, Batchelder and Glasner 1995, Johnson 1997, Moure 2002, Bernanke 2004). Our confidence that interest in this line of historical inquiry will prove fruitful suggests to us that the names of Hawtrey and Cassel will be more closely identified in the future with an essentially correct explanation of the Depression and the past 80 years of neglect will end.

REFERENCES

Batchelder, Ronald W. and David Glasner. 1995. "Debt, Deflation, the Great Depression, and the Gold Standard." In *Money and Banking: The American Experience*, George Edward Durell Foundation editor, pp. 277-309. Fairfax, Va.: George Mason University Press.

Bernanke, Ben. 2004. *Essays on the Great Depression.* Princeton: Princeton University Press.

Bloomfield, Arthur I. 1959. *Monetary Policy Under the International Gold Standard, 1890-1914*. New York: Federal Reserve Bank of New York.

Boyer, R ussell S. 2009. "Reflections on Milton Friedman's Contributions to Open Economy Money/Macro." *Journal of International Money and Finance.* 28.7: 1097-1116.

_____ 2011. "Johnson's Conversion from Keynesianism at Chicago." In *Perspectives on Keynesian Economics*, edited by Arie Arnon, et al., Part 1, pp. 135-67. Berlin: Springer.

Brown, William A., Jr. 1940. *The International Gold Standard Reinterpreted, 1914-1934*. 2 vols. New York: National Bureau of Economic Research.

Cassel, Gustav. 1920. "Further Observations on the World's Monetary Problem." *Economic Journal.* 4.1: 39-44.

_____ 1921. *The World's Monetary Problems: Two Memoranda.* New York: E.P. Dutton and Company.

_____ 1924. *The Theory of Social Economy*. Translated by Joseph McCabe. New York: Harcourt.

_____ 1932. *Crisis in the World's Monetary System*. Oxford: The Clarendon Press.

_____ 1936. *The Downfall of the Gold Standard*. Oxford: The Clarendon Press.

Dowd, Kevin. 1989. *The State and the Monetary System*. Oxford: Philip Allan.

Eichengreen, Barry. 1986. "The Bank of France and the Sterilization of Gold, 1926-1932." *Explorations in Economic History*. 23.1: 56-84.

_____ 1990. *Elusive Stability: Essays in the History of International Finance, 1919-1939*. New York: Cambridge University Press.

Fausten, D. 1979. "The Humean Origin of the Contemporary Monetary Approach to the Balance of Payments." *Quarterly Journal of Economics*. 93.4: 655-73.

Fetter, Frank W. 1965. *The Evolution of British Monetary Orthodoxy, 1797-1873*. Cambridge, MA: Harvard University Press.

Fisher, Irving. 1913. *The Purchasing Power of Money*. New York: Macmillan.

_____ 1920. *Stabilizing the Dollar*. New York: Macmillan.

Flanders, M. June. 1990. *International Monetary Economics, 1870-1960*. Cambridge and New York: Cambridge University Press.

Fremling, Gertrude. 1985. "Did the United States Transmit the Great Depression to the Rest of the World?" *American Economic Review*. 75.4: 1181-85.

Frenkel, Jacob A. and Harry G. Johnson. 1976. "The Monetary Approach to the Balance of Payments: Essential Concepts and Historical Origins." In *The Monetary Approach to the Balance of Payments*, edited by Jacob A. Frenkel and Harry G. Johnson, pp. 21-45. London: Allen and Unwin.

Friedman, Milton. 1956. "The Quantity Theory of Money – A Restatement." In *Studies in the Quantity Theory of Money*, edited by Milton Friedman, pp. 3-21. Chicago: University of Chicago Press.

_____ 1974. "Comments on the Critics." In *Milton Friedman's Monetary Framework: A Debate with His Critics*. edited by Robert J. Gordon, pp. 132-85. Chicago: University of Chicago Press.

Friedman, Milton and Anna J. Schwartz. 1963. *A Monetary History of the United States, 1867-1960*. Princeton, NJ: Princeton University Press.

Fullarton, J. 1845. *On the Regulation of Currencies*. second edition. London: John Murray. Reprinted. New York: Augustus M. Kelley, 1969.

Gaukroger, Alan. 2008. *The Director of Financial Enquiries A Study of the Treasury Career of R. G. Hawtrey, 1919-1939*. Doctoral thesis, University of Huddersfield.

Gaukroger, Alan. 2008. *The Director of Financial Enquiries: A Study of the Treasury Career of R. G. Hawtrey, 1919-1939*. Doctoral thesis, University of Huddersfield..

Girton, Lance and Donald Roper. 1978. "J. Laurence Laughlin and the Quantity Theory of Money." *Journal of Political Economy*. 88.3: 599-625.

Glasner, David. 1985. "A Reinterpretation of Classical Monetary Theory." *Southern Economic Journal*. 52.3: 46-67.

_____ 1988. "Where Keynes Went Wrong." *Encounter*. December, 57-65.

_____ 1989a. "On Some Classical Monetary Controversies." *History of Political Economy*. 21.3: 201-29.

_____ 1989b. *Free Banking and Monetary Reform*. New York: Cambridge University Press.

_____ 1992. "The Real-Bills Doctrine in the Light of the Law of Reflux." *History of Political Economy*. 24.1: 867-94.

_____ 2000. "Classical Monetary Theory and the Quantity Theory." *History of Political Economy*. 32.1: 39-60.

_____ 2011. "Causes and Effects of Monetary Disequilibrium in Ricardo and Thornton." Unpublished Manuscript.

Haberler, Gottfried. 1932. "Money and the Business Cycle." In *Gold and Monetary Stabilization*, edited by Quincy Wright, pp. 7-20. Chicago: University of Chicago Press.

Hamilton, James D. 1987. "Monetary Factors in the Great Depression." *Journal of Monetary Economics*. 19:145-69.

_____ 1988. "The Role of the International Gold Standard in Propagating the Great Depression." *Contemporary Policy Issues*. 6.2: 67-89.

Hawtrey, Ralph G. 1913. *Good and Bad Trade*. London: Constable and Company.

_____ 1919. *Currency and Credit*. London: Constable and Company.

_____ 1919/1923. "The Gold Standard." *Economic Journal*. 3.4: 428-42. Reprinted in Hawtrey, *Monetary Reconstruction*, pp. 48-65. London: Longmans, Green, and Co., 1923.

_____ 1932. *The Art of Central Banking*. London: Longmans, Green, and Co.

_____ 1933a. *Trade Depression and the Way Out*. Second Edition. London: Longmans, Green, and Co.

_____ 1933b. Review of *The Crisis in the World Monetary System* by Gustav Cassel in *Economic Journal* 43.1: 135-36.

_____ 1947. *The Gold Standard in Theory and Practice*, Fifth Edition. London: Longmans, Green, and Co.

Hayek, F. A. 1931. *Prices and Production*. London: G. Routledge and Sons.

_____ 1932/1984. "The Fate of the Gold Standard." Translated from German and Reprinted in F.A. Hayek, *Money, Capital, and Fluctuations: Early Essays* edited by Roy McCloughry. Chicago: University of Chicago Press. (pp. 118-35).

_____ 1937. *Monetary Nationalism and International Stability*. London: Longmans, Green.

Hume, David. 1752/1955. "Of Money." Reprinted in *Writings on Economics: David Hume*, edited by Eugene Rotwein. pp. 33-46. Madison: University of Wisconsin Press.

Humphrey, Thomas R. 1981. "Adam Smith and the Monetary Approach to the Balance of Payments." Federal Reserve Bank of Richmond *Economic Review* 67.6: 3-10.

Irwin, Douglas A. 2011. "Anticipating the Great Depression? Gustav Cassel's Analysis of the Interwar Gold Standard." NBER Working Paper #17597.

Johnson, H. Clark. 1997. *Gold, France, and the Great Depression, 1919-1932*. New Haven, CT: Yale University Press.

Johnson, Harry G. 1971. "The Keynesian Revolution and the Monetarist Counterrevolution." *American Economic Review* 61. 2: 1-14.

Jonung, Lars. 1981. "The Depression in Sweden and the United States: A Comparison of Causes and Policies." In *The Great Depression Revisited*, edited by Karl Brunner, pp. 286-315. The Hague: Martinus Nijhoff.

Keynes, John Maynard. 1923. *A Tract on Monetary Reform*. London: Macmillan and Company.

_____ 1925. *The Economic Consequences of Mr. Churchill*. London: Hogarth Press.

_____ 1930. *A Treatise on Money*. 2 vols. London: Macmillan and Company.

_____ 1936. *The General Theory of Employment, Interest, and Money*. London: Macmillan and Company.

Laidler, David. 1981. "Adam Smith as a Monetary Economist." *Canadian Journal of Economics*. 14.2: 185-200.

_____ 1988. "British Monetary Orthodoxy in the 1870s." *Oxford Economic Papers*. 40.1: 74-109.

_____ 1993. "Hawtrey, Harvard, and the Origins of the Chicago Tradition." *Journal of Political Economy*. 101.6: 1068-1103.

League of Nations (Ragnar Nurkse, et al). 1944. *International Currency Experience: Lessons of the Interwar Period*. Princeton: League of Nations.

McCloskey, Donald and J. Richard Zecher. 1976. "How the Gold Standard Worked, 1880-1913." In *The Monetary Approach to the Balance of Payments*, edited by Jacob A. Frenkel and Harry G. Johnson, pp. 357-85. London: Allen and Unwin.

Mises, Ludwig von. 1948. *Human Action*. New Haven, CT: Yale University Press.

Moggridge, Donald E. 1972. *British Monetary Policy, 1924-1931: The Norman Conquest of $4.86*. Cambridge: Cambridge University Press.

_____ 2008. *Harry Johnson: A Life in Economics*. Cambridge: Cambridge University Press.

Moure, Kenneth. 2002. *The Gold Standard Illusion: France, the Bank of France, and the International Gold Standard, 1914-1939*. New York: Oxford University Press.

Nelson, Daniel B. 1991. "Was the Deflation of 1929–1930 Anticipated? The Monetary Regime as Viewed by the Business Press." *Research in Economic History*. 13.1991: 1-65.

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

Pigou, Arthur C. 1920. *Memorandum on Credit, Currency, and Exchange Fluctuations*. London: League of Nations (Submitted to the Brussels International Financial Conference 1920).

Ricardo, David. 1810. *The High Price of Bullion: A Proof of the Depreciation of Bank Notes*. London: John Murray.

Robertson, Denis H. 1928. *Money*, second edition. Cambridge: Cambridge University Press.

Robbins, Lionel C. 1934. *The Great Depression*. London: Macmillan.

Royal Institute of International Affairs. 1932. *The International Gold Problem: Collected Papers*. London: Oxford.

Samuelson, Paul A. 1980. "A Corrected Version of Hume's Equilibrating Mechanisms for International Trade." In *Flexible Exchange Rates and the Balance of Payments*, edited by John S. Chipman and Charles P. Kindleberger, pp. 141-59. Amsterdam: North Holland.

Schumpeter, Joseph. 1954. *History of Economic Analysis*. Oxford: Oxford University Press.

Selgin, George. 1988. *The Theory of Free Banking: Money Supply Under Competitive Note Issue*. Lanham, MD: Rowman and Littlefield.

Smith, Adam. 1776/1976. *The Wealth of Nations*. Oxford: Oxford University Press.

Sraffa, Piero. 1932. "Dr. Hayek on Money and Capital." *Economic Journal*. 42. 165: 42-53.

Sumner, Scott. 2009. *The Midas Curse: Gold, Wages, and the Great Depression.* Unpublished Manuscript

Temin, Peter. 1990. *The Lessons from the Great Depression*. Cambridge: MIT Press.

Thompson, Earl A. 1974. "The Theory of Money and Income Consistent with Orthodox Value Theory." In *Trade, Stability, and Macroeconomics*, edited by G. Horwich and P.A. Samuelson, pp. 427-53. New York: Academic Press.

Thompson, Earl A. and Charles R. Hickson. 2000. *Ideology and the Evolution of Vital Institutions: Guilds, the Gold Standard, and Modern International Cooperation.* Boston: Kluwer.

Viner, Jacob. 1937. *Studies in the Theory of International Trade*. New York: Harper.

Warren, George F. and Pearson, Frank A. 1933 *Prices*. New York: John Wiley and Sons.

White, Lawrence H. 1984. *Free Banking in Britain: Theory, Experience, and Debate, 1800-1845*. New York: Cambridge University Press.

Winnerlind, Carl. 2005. "David Hume's Monetary Theory Revisited: Was He Really a Quantity Theorist and an Inflationist?" *Journal of Political Economy*. 113.1: 223-37.