

The world on a cross of gold

A review of ‘Golden fetters: The gold standard and the great depression, 1919–1939’

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Barry Eichengreen, *Golden Fetters: The Gold Standard and the Great Depression, 1919–1939* (Oxford University Press, Oxford, 1992).

For many years, the yin and yang of the debate about the causes of the Great Depression were *The Monetary History of the United States, 1867–1960* by Milton Friedman and Anna Schwartz (1963), and Peter Temin’s 1976 book, *Did Monetary Forces Cause the Great Depression?* As all monetary economists know, in their book Friedman and Schwartz made the Depression a central case study in support of their contention that, historically, monetary instability has been a major source of fluctuations in the real economy. In their famous chapter on the ‘Great Contraction’, which was later released as a separate volume, Friedman and Schwartz attributed the collapse of production and prices in the United States – particularly the disastrous 1931–33 slide – to a precipitous decline in the U.S. money supply. The proximate cause of this monetary contraction was not any direct action by the monetary authorities, but rather a series of severe banking crises: Between late 1930 and early 1933, spasmodic panics induced the public to convert deposits into currency, raising the aggregate currency–deposit ratio and causing a decline in the ratio of inside money to the monetary base. Despite the largely unintended nature of the monetary contraction, however, Friedman and Schwartz placed the major portion of blame for the Depression on the shoulders of the Federal Reserve, which

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because of incompetence or lack of leadership (they argued) failed to take actions that could have substantially averted the collapse of the money supply and hence of the economy.

Writing thirteen years later, Peter Temin disagreed. In an extended critique of the Friedman–Schwartz thesis, Temin argued that the U.S. monetary contraction was not effectively exogenous with respect to the decline in output and prices, as Friedman and Schwartz claimed, but instead reflected a passive response of money to shocks originating on the real side of the economy (including a mysterious drop in consumption spending in 1930). In particular, Temin claimed that if the banking crises had not happened, the result would not necessarily have been a less severe decline in output and prices. Rather, the money stock would simply have achieved through some other mechanism the decline necessary to accommodate a lower level of money demand. To the question posed in the title of his book, then, Temin gave the answer ‘no’.

The battle, once joined, was an intense one; but despite some heated exchanges, the controversy over the role of money in the Depression continued without much progress toward resolution for some years [see, for example, the papers in Brunner (1981)]. An important reason for the lack of progress in this debate was the strong focus of the disputants on the case of the United States, with only limited reference to events in Canada, Europe, Latin America, and elsewhere. In retrospect this insularity seems surprising, since the worldwide nature of the economic slump of the 1930s is both a central fact to be explained and a potentially very important clue to the mystery of the Depression’s cause.

More than anyone else working on the economics of the interwar period, Barry Eichengreen deserves credit for recognizing the limitations of the U.S.-centered research and for expanding the scope of recent Depression-era scholarship to include the study not only of other industrialized countries but also of the ‘periphery’ – i.e., developing countries and commodity exporters. Over the years Eichengreen’s internationalist approach to the study of the interwar period has yielded many insights on topics as diverse as international debts and capital flows, central bank cooperation, fiscal policy, trade, and unemployment. However, the work by Eichengreen with the greatest direct bearing on the issue of what *caused* the Depression is his research on the interwar gold standard. In a series of important papers, including two coauthored with Jeffrey Sachs, Eichengreen has made the case for the view that the international gold standard, as reconstructed following World War I, played a central role in the initiation and propagation of the worldwide slump.¹

¹ See, for example, Eichengreen (1984, 1986, 1988) and Eichengreen and Sachs (1985, 1986). Although I will refer often to ‘Eichengreen’s argument’ in this review, I must stress – and Barry, in his customary generosity, would be the first to acknowledge – that other scholars have also made important contributions to our understanding of the role of the gold standard in the Depression. See, in particular, the seminal piece by Choudhri and Kochin (1980) and the work of Hamilton (1987, 1988) and Temin (1989).

In brief, Eichengreen and other scholars working on the topic made three basic claims: First, that there were serious technical and structural flaws in the reconstructed gold standard. These flaws, along with central bank policy errors and a lack of international cooperation, contributed to a worldwide monetary contraction beginning in the late 1920s and continuing well into the 1930s. Second, that the misguided belief of many policy-makers that the gold standard should be preserved at all costs severely limited their policy options and made the monetary contraction much longer, deeper, and widespread than was necessary. Finally, that countries whose policy-makers were wise enough to abandon the gold standard and reflate their money supplies (including, notably, the United Kingdom, the Scandinavian countries, and Japan) enjoyed much earlier and stronger economic recoveries than the so-called Gold Bloc (including France, Belgium, the Netherlands, Poland, and a few other countries) which remained on gold until the mid-1930s.

This new research on the role of the interwar gold standard thus offered a resolution of the traditional Friedman/Schwartz-versus-Temin debate. To the question posed by the title of Temin's book, Eichengreen essentially gave the answer 'yes': Monetary forces, unleashed by the malfunctioning of the international monetary system and exacerbated by poor economic understanding and bad policy choices, were indeed the cause of the Great Depression, and not just in the United States. Temin himself has largely bought into – and made significant contributions to – this view [Temin (1989)].² While it contradicted the conclusion of Temin (1976), Eichengreen's work also revealed limitations of Friedman and Schwartz's analysis, in particular their relative lack of attention to international developments and to the intellectual and policy constraints imposed by the gold standard framework [a point that has also been amplified by Temin (1989)].

Eichengreen's published articles, plus the work of other scholars in the area, made a case for the gold standard theory that was quite persuasive to many of us with a special interest in the macroeconomics of the interwar period. However, it is my impression that, at least as of a few years ago, the broader profession did not appreciate the degree to which Eichengreen's contributions had helped to clarify and resolve the traditional debate about the causes of the Depression. With the publication of *Golden Fetters*, this should change: In this masterful new book, Barry Eichengreen has gone well beyond his previous work to marshal

² Temin might disagree somewhat with this statement, since he has argued that the First World War itself – and the flawed institutional arrangements and intellectual framework to which the war led – was the 'deep' cause of the Depression. It seems perfectly consistent to me to view the war as deep cause and at the same time to acknowledge that the monetary contraction of the late 1920s and early 1930s was the *proximate* cause of the Depression, a point which Temin in his latest writings seems to accept. If X murders Y, was the 'cause' of Y's death the gunshot wound or the early childhood traumas that made X psychologically unstable? It seems clear that, in different senses, both factors are causes and both should be of interest to the investigator of the crime.

a powerful indictment of the interwar gold standard, and of the political leaders and economic policy-makers who allowed themselves to be bound by golden fetters while the world economy collapsed.

While *Golden Fetters* is impressive in many dimensions, its most striking aspect is its scope: In order to place the interwar gold standard in its proper perspective, Eichengreen presents a detailed analysis of international monetary and financial arrangements from the beginning of the classical gold standard in 1870 until the advent of the post-World War II Bretton Woods system. Doing this requires extensive discussions of both the international sphere and of domestic developments in a wide variety of countries, over a time frame of more than seventy years and from the perspectives of political science and history as well as economics. Eichengreen deals surehandedly with the complex tangle of events (and the huge associated literature) that made up the interwar period; and, like a painter of the pointillist school, from the building blocks of thousands of small details he is able to construct his remarkably clear and persuasive overarching themes. *Golden Fetters* is a *tour de force* that will certainly become a standard reference in monetary economics and in economic history. In its combination of care with factual detail and its sophisticated use of economic analysis, this book is an outstanding example of how economic history should be done.

In the rest of this review I will do two things: First, I will present a heuristic overview of Eichengreen's case against the gold standard, focusing in particular on how problems with the gold standard caused the world's money supply to collapse. Second, given Eichengreen's contribution, I will attempt to assess where we now stand in our understanding of the causes of the Great Depression. The conclusion of this review contains a few comments and speculations about the significance of Eichengreen's thesis for contemporary economics and economic policy.

The gold standard and monetary contraction in the Depression

The so-called 'classical' period of the gold standard lasted from about 1870, when several major nations established central banks, until 1913, when World War I forced suspension. In many ways this era was, economically at least, a halcyon one: Trade and international capital flows expanded rapidly, international monetary arrangements were stable, and many countries experienced substantial economic growth. In contrast, the period immediately following the war was turbulent, as both the militarily victorious and defeated nations struggled to rebuild and reshape their economies. Monetary and financial conditions were particularly chaotic, as several countries experienced hyperinflations, high inflations, or financial instability. The monetary and financial problems were in turn closely linked to fiscal uncertainties, which reflected domestic power struggles over the distribution of tax burdens and international disputes about the payment of reparations and the repayment of war debts.

Given the state of postwar monetary and financial conditions, it is not surprising that most countries agreed on the need to reconstruct the prewar monetary regime. In particular, reestablishment of the gold standard was a top priority, and a series of international conferences and negotiations were devoted toward achieving that end. Importantly, in most minds reestablishment of the gold standard meant going back on gold *at the prewar parities*, perhaps for symbolic reasons, or perhaps because devaluation implied a breaking of faith with government bondholders, who had made loans to the government with the expectation that prices would ultimately return to 'normal'. The United Kingdom returned to gold at the prewar parity in 1925, despite Keynes's warning that at that parity the pound would be overvalued. Ironically, countries such as France that had experienced substantial inflation did not have a practical option of returning to the old parity and so were able to return to gold at whatever parity they thought to be most advantageous.

By 1929 virtually the entire industrialized world had returned to gold. [In Europe, Spain, which was already troubled by the conflicts that would lead to civil war, was the only major exception; see Choudhri and Kochin (1980).] However, while the classical gold standard had survived for over forty years, the interwar gold standard ran into trouble almost immediately. A world recession began in 1929 (in some countries economic decline began even earlier), accompanied by a worldwide slowdown in money growth. Then in May 1931, the revelation of serious problems at Austria's largest bank, the Creditanstalt, sparked a series of exchange rate and banking crises. (Exchange rate and banking crises were closely intertwined during the Depression, because in many countries a large share of domestic bank deposits were held by foreign investors and banks. Hence a fear of devaluation would spark foreign withdrawals from banks, perhaps igniting a banking crisis. Similarly, foreign withdrawals of deposits stimulated by bad news about a country's banks cost the country foreign exchange reserves and thus threatened the exchange rate.) In September 1931, the crisis reached the United Kingdom, as speculative runs on the pound forced Britain to abandon gold.

Many countries followed Britain in devaluing or completely abandoning gold in 1931, and from that point forward the world broke into two blocs, consisting of the countries on gold (the Gold Bloc, led by France) and those off gold. As Eichengreen and Sachs (1985) pointed out, and has since been confirmed by studies of even broader sets of countries [see, e.g., Bernanke and James (1991)], the economic fortunes of the two blocs diverged. After a brief pause, the countries that devalued or abandoned gold took advantage of their newfound ability to reflate their money supplies, and were rewarded by a relatively quick recovery of both output and prices toward 1929 levels. In contrast, the Gold Bloc countries experienced continued deflation and economic depression. Over time, more and more countries devalued or defected from gold entirely, notably the U.S. in 1933. In 1936, France threw in the towel and the gold standard effectively ended.

Some contemporary interpretations of these developments treated the gold standard as an unfortunate and innocent casualty of events. In particular, devaluation or abandonment of gold by some countries in the early 1930s was decried by some as counterproductive, on the grounds that any economic gains brought about by the devaluation were achieved only by taking international markets away from countries that had not devalued (the 'beggar-thy-neighbor' effect).³

Eichengreen's view is almost exactly the opposite of this traditional perspective. While he is generally cautious about proposing a monocausal explanation (in particular, he does not dispute that multiple factors may have contributed to the onset of the Depression), Eichengreen casts the gold standard as a principal culprit rather than as the innocent victim. He argues that while the world monetary contraction began with mistaken policies by several countries, notably the United States, this contraction was greatly exacerbated and internationally transmitted by the workings of a structurally flawed gold standard; and further, that this fall in money supplies was a major cause of the worldwide decline in prices and output. Similarly, Eichengreen views the abandonment of gold by some countries as essentially a constructive rather than counterproductive act, since abandonment of gold eliminated the continuing pressure for monetary contraction and started the process of world economic recovery.

Eichengreen backs up his case with an enormously detailed analysis of interwar events, institutions, and policy decisions. Rather than try to summarize that evidence, I offer instead my own, very heuristic explanation of why adherence to the gold standard in the interwar period led to a largely inadvertent contraction of world money supplies. I find the heuristic analysis about to be described to be useful for understanding, but I want to caution the reader that for simplicity I am omitting many historical and analytical details.

Under a gold standard, which is a type of fixed-exchange-rate system, it makes sense to talk about a 'world money supply' (just imagine using the fixed rates to convert each nation's money supply to a common measure, such as ounces of gold or dollars). Similarly, we can define the 'world money multiplier' to be the ratio of some world money aggregate (think of 'world M1', the common-measure value of world currency plus commercial bank deposits) to the world monetary gold stock.⁴ Writing out this definition yields:

$$\text{World money multiplier} = \text{World M1} / \text{World monetary gold}.$$

A basic fact about the gold standard is that, although money was supposedly 'as good as gold' (and central banks stood ready to trade their currency for gold

³Eichengreen and Sachs (1985, fn. 3) attribute this view to Nurkse, but this attribution does not seem to be completely fair. See Nurkse (1944, pp. 127–130). I thank Peter Kenen for this reference.

⁴This definition, used here for convenience, differs from the textbook definition of the money multiplier as the ratio of the money stock to the monetary base.

at the stated parity), the world money supply was in fact many times greater than the stock of world monetary gold. Equivalently, the world money multiplier as just defined was much greater than one. There were three basic reasons that the world money multiplier was greater than one under the gold standard:

First, the interwar gold standard was actually a gold-exchange standard, in which the 'gold' reserves held by central banks were part actual gold and part foreign exchange. Thus central banks in some countries met their statutory requirements to hold gold by holding, say, British pounds, which in principle could be exchanged for gold at a fixed rate. Foreign exchange reserves were also used before the war but to a limited degree; e.g., during the period just before the war, two-thirds of global foreign exchange reserves were held by Russia, India, and Japan. Following the war, the use of foreign exchange reserves at a level greatly exceeding prewar practice was endorsed by the 1922 Genoa Conference, which advocated a gold-exchange system as a way of 'economizing' on scarce gold.

Second, gold cover ratios – the ratio of gold and foreign exchange reserves to the monetary base – were in most countries required to be only 30–40%, with the rest of the monetary base being backed by other assets (including government and private securities). Combining these first two factors, consider a hypothetical country on the gold standard which has a 30% cover ratio and which holds only foreign exchange reserves; and suppose also that these foreign exchange reserves are themselves backed 30% by gold. Then the effective gold content of the monetary base of the hypothetical country is only 9%.

Third, the ratio of total money (e.g., M1) to the monetary base was greater than one, for the familiar reasons arising from the practice of fractional-reserve banking.

To illustrate the contributions of these three factors, it is useful to expand the formula for the money multiplier as follows (suppressing the adjective 'world'):

$$\begin{aligned}\text{Money multiplier} &= \text{M1/Monetary gold} \\ &= (\text{M1/Monetary base}) \\ &\quad \times (\text{Monetary base/Reserves}) \\ &\quad \times (\text{Reserves/Monetary gold}).\end{aligned}$$

For the reasons just given, each of the three terms on the rightmost side of the above equation substantially exceeded one under the interwar gold standard: The term (M1/Monetary base) exceeded one because of fractional-reserve banking. The monetary base exceeded reserves (gold plus foreign exchange) because required cover ratios were less than 100%. And because of the gold-exchange standard and the substitution of foreign exchange for actual gold, total reserves exceeded monetary gold.

Because the world monetary gold stock is essentially fixed in the short run, large changes in the world money supply under the gold standard can only reflect changes in the money multiplier. The collapse of the world money supply in the early 1930s in fact reflected declines in each of the three terms of the money multiplier. The most complex of these to explain is the decline in the ratio of monetary base to reserves (equivalently, an increase in gold cover ratio), which I discuss first. The explanations of the declines in the other two terms of the money multiplier are straightforward and quickly handled.

A basic problem with the operation of the gold standard, emphasized by Temin (1989) as well as Eichengreen, was the existence of an asymmetry between countries gaining and losing reserves. Countries losing reserves had little choice but to contract their money supplies; otherwise they would first fall below statutory cover ratios and then, if reserves became exhausted, be unable to defend the parity at all. In contrast, although in principle the 'rules of the game' required countries gaining reserves to increase their money supplies, in practice no sanction existed to prevent surplus countries from sterilizing all or part of their reserve inflow. To the extent that countries gaining reserves sterilized those inflows, while countries losing reserves were forced to contract their monetary bases, the average gold cover (the ratio of reserves to monetary base) increased, lowering the world money multiplier.

The two major gold surplus countries of this period were the United States and France. During the late 1920s and early 1930s both countries absorbed gold at a tremendous rate; in 1932 the two countries together held over 70% of the world's monetary gold. Yet the monetary bases of the two countries rose much less than proportionally to the increases in their gold reserves, and much less than enough to offset the declines in the monetary bases of the countries from which they absorbed the gold.

In the case of the United States, this absorption and sterilization of gold largely reflected conscious Federal Reserve policy, at least in the early stages. Monetary policy became tight in the U.S. in 1928, in part because the Federal Reserve wanted to dampen the stock market boom. High returns on both bonds and stocks attracted gold into the U.S. but the Fed, intent on its domestic policy goals, sterilized the inflows.

The absorption of gold by France reflected less an active policy decision than a confluence of events and institutions: Following the Poincaré stabilization, there was a surge in both the domestic French demand for money and in the confidence of foreign investors in the safety and attractiveness of French assets. Both factors contributed to a large inflow of gold to France. If French institutions had been similar to those of most other countries of the period – and absent any active decision to sterilize – each franc's worth of gold inflow should have raised the French monetary base by about three francs (remember the 30–40% cover ratios) and the French M1 money supply by a large multiple of the increase in the base (for the usual reasons following from fractional-reserve

banking). However, one of the institutional changes that had resulted from France's brush with hyperinflation (which had been fueled by the willingness of the Bank of France to buy government debt) was the implementation of severe legal restrictions on the Bank's ability to perform open market operations. Without supporting open market purchases, each franc's worth of incoming gold increased the French monetary base by one franc rather than three. Further, because of the relative French preference for currency over deposits, increases in the base did not raise M1 as much as would have been the case in most other countries. Thus, even though France did not necessarily choose to sterilize her gold inflows, the movement of gold from other countries into France tended to reduce money supplies in other countries more than it raised the money supply in France.

The absorption of gold by the United States and France, and more generally, the asymmetry in the pressures for adjustment on surplus and deficit countries, led to declines in the ratio of world monetary base to world reserves, which is one component of the world money multiplier. The other two components of the money multiplier, the ratio of reserves to monetary gold and the ratio of M1 to base, were both victims of the 1931 financial crises that followed the revelation of difficulties at the Creditanstalt. As discussed above, the collapse of the Creditanstalt precipitated closely intertwined banking and exchange rate crises, in which a loss of investor confidence in *either* a country's banks *or* its currency could lead to both a banking panic and a run on the currency as foreign investors withdrew their funds. Importantly, the constraints imposed by the gold standard made it extremely difficult for central banks to deal with the simultaneous domestic and external drains: An attempt to defend the currency by raising interest rates, for example, tended to exacerbate the domestic banking troubles by reducing banks' liquidity.

The effects of the banking and exchange rate crises of the early 1930s on the world money multiplier were straightforward: Banking panics induced depositors to switch into currency, lowering the ratio of M1 to base (this is the familiar mechanism discussed by Friedman and Schwartz for the U.S.). At the same time, fear of exchange rate devaluations caused central banks to try to replace foreign exchange reserves with gold (the 'scramble for gold'), raising the world ratio of gold to total reserves. Thus the decline in the world money multiplier and the world monetary contraction continued into 1932.

Following the British crisis of September 1931, many countries devalued or abandoned gold altogether. One might have thought that the removal of some countries from the gold standard would have freed up gold for use by countries that remained in the system. Somewhat perversely, this was not generally the case: In part because many countries that left gold were slow to undertake significant monetary expansion, and possibly because investors may have regarded the devalued currencies as having more sustainable relative values, the countries that left gold actually absorbed gold from those still on the gold

standard. Indeed, lack of confidence in the sustainability of the gold standard put even tighter constraints on the monetary policies of the Gold Bloc countries, with even the U.S. and France fearful that – despite their massive gold reserves – a tentative monetary expansion would provoke an exchange rate crisis. Thus monetary deflation and recovery did not come in any country until the choice was made to abandon gold.

This heuristic analysis has tried to convey, at a somewhat mechanical level, how the operation of the interwar gold standard led to a largely unintended collapse of the world money multiplier and hence of the world money supply in the period between 1928 and 1936. However, this discussion begs two much deeper questions: First, why was there such a sharp contrast between the stability of the gold standard regime of the classical, pre-World War I period and the extreme instability associated with the interwar gold standard? Second, why did the economic and political leaders of the interwar period not abandon the gold standard sooner, given the macroeconomic consequences of staying on gold? Eichengreen devotes large portions of his book to each of these two questions; again I only briefly summarize his argument.

With respect to the differences between the classical and interwar gold standards, Eichengreen emphasizes the twin themes of *credibility* and *cooperation*. He argues that, in the classical period, the commitment of major central banks to maintain the gold value of their currencies was highly credible. This credibility reflected less the status or behavior of central banks themselves than it did the particular political equilibrium (as well as the state of economic understanding) that prevailed at the time. Because of weak labor movements and a generally poor appreciation by the public of the links between monetary policy and the real economy, in the latter part of the nineteenth century there was little political pressure on central banks to manipulate the exchange rate in order to maintain high levels of output and employment. Further, in the prewar period it was widely expected that, in the event of an exchange rate crisis, the major central banks would cooperate to protect the established parities. When the Baring crisis of 1890 threatened the pound, for example, the Bank of England received loans (and promises of as much support as was needed) from the Bank of France and the Bank of Russia. This cooperation arose from the close relations that existed among central banks and the maintained view of central bankers that they all had a stake in the preservation of the international system.

Eichengreen argues that the intrinsic credibility of central banks' commitment to the gold standard, supplemented by the presumption of cooperation among central banks, implied that the bulk of speculation during the classical period would be stabilizing rather than destabilizing. For example, if a currency slipped beneath its official value, a speculative capital inflow would ensue in anticipation of a supporting action by the central bank. The possibility that the currency might instead be devalued (which, if widely accepted, would lead to destabilizing capital outflows) was usually given little weight.

In contrast, according to Eichengreen, levels of credibility and cooperation were much lower under the interwar gold standard. First, domestic political equilibria were sharply changed by the war and the progressive social movements of the early twentieth century. In order to buy labor peace during the war, many governments greatly expanded the rights of workers to participate in the political process and to unionize. Extension of the franchise both to non-property-owners and to women sharply changed the compositions of legislatures and legislators' constituencies. This democratization, coupled with a better understanding of the links between central bank actions and domestic economic activity, eliminated the presumption that external stability would always take precedence over internal stability as a goal for monetary policy. The political changes also led to distributional struggles among the classes, which increased uncertainty about fiscal policy and in particular raised the spectre of persistent deficits that might have to be monetized. In short, whatever the general desirability of post-World War I political changes, they increased the probability that the central bank would be forced to sacrifice defense of the exchange rate in order to achieve domestic output and employment objectives, or in order to finance the government's deficit.

Domestic political changes during the interwar period were matched by equally large changes in the international sphere. In the classical period, as we have said, a central bank facing an exchange rate crisis could have counted on substantial assistance from other central banks, either through loans or through coordination of discount rates. But this cooperation and mutual assistance withered in the postwar era of bad feeling, in which a variety of disputes, notably over the payment of reparations and the repayment of war debts, soured international relations at all levels. The potential for international cooperation was also reduced by the inexperience and inward-looking propensities of the Federal Reserve, which – reflecting America's postwar economic and political dominance – would have been the obvious institution to take over the Bank of England's mantle as the 'conductor of the international orchestra'.

Because of reduced credibility and cooperation in the interwar period, the presumption that central banks would always be able to defend the parity was greatly weakened in the interwar period. Speculation therefore became destabilizing, in that a weakening of a currency or a loss of reserves now prompted capital outflows rather than inflows. The consequences of this change in speculative behavior became clearest in the financial crises of 1931, in which central banks were forced either to abandon gold or to adopt extremely deflationary policies in order to defend the parity.

This analysis leads us directly to the second question posed above: Given that defense of the gold standard became so difficult and counterproductive in the early 1930s, why did so many nations continue to bind themselves to gold? Again, Eichengreen's answer gives a central place to political factors: The period immediately following the war was one of tremendous upheaval, involving

domestic distributional conflicts and international disputes over war debts and reparations. These conflicts generated great economic and fiscal uncertainties, which in turn contributed to monetary and financial crises. It was only with great effort and sacrifice that stability was (temporarily) restored, and the return to gold was widely viewed as the capstone and symbol of this achievement. The fear of political and economic leaders was that abandoning gold would cause delicate political compromises to become unstuck, reigniting distributional conflicts and bringing back to the fiscal, monetary, and financial chaos of the immediate postwar period. For this reason even left-wing leaders in some countries were reluctant to abandon the gold standard, despite the stresses it imposed on the domestic economy.

The political rationale for staying on gold was reinforced by prevailing intellectual orthodoxies (Eichengreen argues), such as the infamous 'liquidationist' thesis of U.S. Treasury Secretary Mellon and others. With hindsight it is easy to be disdainful of the intellectual arguments for staying on the gold standard despite ongoing deflation; but some of these arguments were in fact rather sophisticated. The paragraphs below give Eichengreen's interpretation of a leading contemporary argument for staying on gold:

'... But far from incompatible [with prosperity], the gold standard was regarded [in Gold Bloc countries] as essential for economic recovery. Its indispensability was a corollary of a particular interpretation of the causes of the Great Depression. Over much of Europe, the Depression was regarded as a product of excessive credit creation on the part of central banks that had failed to abide by the rules of the gold standard. In this view, since the end of the World War I, productive capacity worldwide had expanded more rapidly than the supply of monetary gold. Since the demand for money rose with productive capacity, lower prices were necessary to provide a matching increase with the supply of real money balances. Under the gold standard, a smooth deflation like that of 1873–93 was the normal response. But the central banks had blocked the downward adjustment of prices in the 1920s by creating foreign exchange reserves. The excessively accommodating policies of the Federal Reserve System around the middle of the decade had worked in the same direction. The resultant liberal supplies of credit had fueled speculation in financial markets, raising asset prices to unsustainable heights and setting the stage for their collapse in autumn 1929. With this shock, central banks rushed to liquidate their exchange reserves. Prices fell abruptly to more realistic levels. The sudden deflation was far from smooth: it produced bankruptcies among debtors, discouraged investment, and disrupted economic activity, provoking the Depression the world was currently suffering.

In this view, the Great Depression was the inevitable consequence of unrealistic policies pursued by central banks in preceding years. To now

prevent deflation from running its course threatened to inaugurate another era of speculative excess and, ultimately, another depression. It was better to allow excess liquidity to be purged and the prices to fall to sustainable levels. Only when adjustment had run its course would investors be confident that a new era of sound finance was at hand. Only then could recovery commence.’ (p. 301)

Since this argument proved wrong in the event, it is tempting to treat it as obviously benighted and confused. To some extent Eichengreen ends up taking this view. However, the argument as described in the paragraphs above seems actually quite modern in many ways (e.g., in its emphasis on credibility and sustainable policies, and in its clear distinction between real and nominal shocks). The only error in this argument – but in retrospect, the absolutely critical one – is a gross underestimation of how long it would take the real economy to adjust to a large nominal shock. Like many modern economists, the advocates of the above argument presumed that monetary nonneutralities are transitory; but this did not seem to be the case in the 1930s. We return to this issue in the next section.

To summarize, Eichengreen’s case against the gold standard rests on both technical and structural factors. Technical flaws in the gold standard, such as the asymmetry in pressures for adjustment on deficit and surplus countries, made possible a largely unintended collapse in the world money multiplier which had disastrous consequences for output and employment. At a deeper level, however, fundamental changes in political and economic structure made the interwar gold standard intrinsically less stable than its prewar cousin; and deep political and intellectual factors prevented policy-makers from jettisoning a counter-productive system as quickly as they should have.

The causes of the Depression: Where do we stand?

So in 1993, thirty years after the publication of Friedman and Schwartz’s *Monetary History*, where do we stand in our understanding of the Great Depression? Continuing in a heuristic mode, I think it is useful to break the grand puzzle of the Depression down into two parts, an aggregate demand puzzle and an aggregate supply puzzle.

The aggregate demand puzzle is: ‘Why did nominal income (or spending) drop so sharply and so uniformly around the world in the late 1920s and early 1930s?’ Traditional debates (such as the Friedman/Schwartz-versus-Temin debate in the U.S. context) have faced off essentially monetary explanations versus explanations based on ‘real-side’ maladjustments (e.g., overbuilding, excess capacity, underconsumption). While some evidence could be found for many of these stories (and there is no question that the Depression is an enormously complex event with multiple causes), many or most of them suffer from being specific to

one or a few countries. Eichengreen's impressive achievement is to have found the *common* shock that can explain the nearly simultaneous onset of the Depression around the world.⁵ As it happens, this common shock was transmitted through national money supplies, so at least in a proximate sense Eichengreen's work validates the monetarist thesis.

With one caveat, then, I believe that the research summarized and elaborated on in *Golden Fetters* solves the aggregate demand puzzle of the Depression. The caveat is that I think a good bit more could be done to quantify the story. *Golden Fetters* is primarily a qualitative narrative, which is sensible given its goals and audience. But to tie down the argument, it would be nice to have a sharper sense of the timing and relative importance of the various shocks hitting world money supplies, and of the percentage of output and employment movements accounted for by money supply changes in various countries in various years. This issue could be addressed by familiar econometric techniques; and while I don't think such an analysis would likely lead to changes in the basic story, it might well uncover anomalies or new insights about the role of the gold standard in deflating aggregate demand.

Cracking the aggregate demand puzzle is a tremendously important step, which puts the economics profession further along toward understanding the Depression than we have ever been. However, there still remains the aggregate supply puzzle, viz.: 'Why did the declines in *nominal* income of the early 1930s lead to such deep and protracted falls in *real* variables such as output and employment?' Or, to put the question in the jargon of macroeconomics: 'What accounts for such a massive and long-lasting nonneutrality of money as was seen in the Depression?'

My only significant objection to Eichengreen's impressive body of work on the interwar period is that he never seems to take the deep and important question of the aggregate supply response very seriously. Where he does allude to the issue, in *Golden Fetters* and in other work [e.g., Eichengreen and Sachs (1985, 1986)], he generally ascribes the real effects of the monetary collapse to the slow adjustment of nominal wages: Given rapidly falling output prices (the argument goes), slow adjustment of nominal wages implied sharply rising real product wages and hence falling employment (assuming that employment is demand-determined when the real wage is above its equilibrium level). Indeed there does seem to be some statistical evidence for the sticky-wage view: For example, in research in progress Kevin Carey and I have found that, holding constant the rate of price deflation, countries in which nominal wages fell

⁵ There were of course other links between countries besides the gold standard, including the flow of trade and some common spending and productivity shocks. However, none of these alternative links is nearly strong enough to account for the nearly synchronized and universal nature of the world economic collapse; nor can alternative links explain the dramatic difference in recovery rates between countries abandoning gold and those remaining on the gold standard.

relatively less in the 1930s did suffer worse drops in output and employment than did countries in which wage declines more nearly matched price declines.⁶ However, while it is useful to know that this statistical link exists, this result begs the deeper question of how wages could possibly have failed to adjust over such a long period of time and under such adverse labor market conditions as characterized the Great Depression. Wages did in fact seem to adjust much more quickly in earlier episodes, such as in the 1921–22 deflation and recession experienced by many countries.

Beyond verifying and documenting the statistical link between the speed of nominal wage adjustment and the real effects of monetary shocks in the Depression, I see two potential avenues for future research on the aggregate supply puzzle. First, we need to address more carefully what factors, including those of an institutional or political nature, might have impeded the adjustment of wages (or the recontracting of employment arrangements) during the interwar period. In his introduction (pp. 15–16), Eichengreen sketches a brief but intriguing explanation of wage nonadjustment, based on the notion of coordination failure among various wage- and price-setters. Although he does not develop this idea in the main text of his book, it would be worth exploring further. Other possible explanations for the failure of wages to adjust that should be examined include variants of the insider–outsider theory and the direct intervention of the government in wage determination (as under the National Industrial Recovery Act in the U.S.). I suspect that case studies of wage-setting in various countries and industries would be a useful adjunct to more statistically-oriented research in this area.

A second direction for research is to consider reasons for monetary nonneutrality other than nominal wage stickiness. Price stickiness is one possibility, although most price indexes for the period show much sharper declines than are seen in wages. A channel that Harold James and I have looked at [Bernanke and James (1990)] is the effect of deflation on the financial system. The argument, which traces its roots back to Irving Fisher's idea of 'debt-deflation' (1933), is this: Because debts are typically set in nominal terms, a sharp and unanticipated decline in the price level reduces debtor incomes relative to debt service, inducing bankruptcy and financial distress. The problems of borrowers may lead eventually to banking panics and other financial crises, which hurt the real economy by disrupting normal flows of credit. Using panel data on two dozen countries and a dummy variable to indicate periods of severe panics, James and

⁶Carey's and my research, which uses data from 22 countries over the 1931–36 period, is intended to explore more deeply a regression result of Eichengreen and Sachs (1985). Using data for ten countries for 1935, Eichengreen and Sachs found that higher real wages were associated with lower output (wages and output are measured relative to 1929). As noted, we have confirmed their basic result for a larger sample of countries and years. However, we have also found that the real wage–output relationship does not hold up nearly so well in the time series dimension as it does in the cross-section.

I found evidence that banking panics did have large negative effects on output in the eleven countries (out of twenty-four in the sample) in which they occurred in the early 1930s. However, for lack of data we did not investigate the real effects of other forms of financial distress, such as insolvencies of businesses and consumers. We also did not explore the potential output effects of the financial distress experienced by international borrowers.

To answer the question of where we stand, then: Because of the progress toward solving the aggregate demand puzzle made by Eichengreen and other people working on the operation of the interwar gold standard, I think that as a profession we are closer to understanding the Depression than we have ever been. But explaining the aggregate supply response of the world's economies to the monetary collapse of the 1930s remains a major barrier to the completion of the task.

Conclusion: Implications of Eichengreen's research for contemporary macroeconomics and policy-making

For many years, the tendency among some macroeconomists has been to treat the Great Depression as a phenomenon of a totally different class from postwar economic fluctuations. This has allowed them (us) to rationalize the testing of macroeconomic theories and models using postwar data only, with no regard for how the analysis jibes with the events of the interwar period. Perhaps the biggest payoff of the recent research on the Depression by Eichengreen and others is that – maybe soon – this strategy will become untenable. If we come to understand the causes of the Great Depression, even in a broad and general way, then it will become harder to advance macro models which – no matter how well they fit the postwar data – are grossly inconsistent with that understanding. Obviously, assuming that my reading of what Eichengreen has achieved holds up, contemporary classical theories that give no weight (or almost no weight) to monetary factors, such as the real business cycle theory, will have the most trouble accommodating a new ‘money-based’ consensus on the Depression. But Keynesians need not be too gleeful: In particular, many ‘new Keynesian’ theories of monetary nonneutrality, such as the menu cost theory, will also find it difficult to explain the apparently very long-lived nature of the monetary nonneutrality of the 1930s. I look forward to the time when the 1920s and 1930s become part of the working macroeconomist's standard sample period.

In terms of policy, while there are many general lessons to be drawn from *Golden Fetters*, I think the most practically useful one is this: Fixed-exchange-rate systems, at least those without strong conventions concerning policy coordination, can be very dangerous and destabilizing. Eichengreen does not explicitly draw this conclusion and indeed, in a brief reference, is moderately sanguine about the European Monetary System (the book was written before the EMS's recent troubles). But those recent troubles illustrate some of the

themes of Eichengreen's book very well. For example, we saw in the fall of 1992 how conflicts between domestic and external policy goals greatly reduced the credibility of some EMS members' official exchange-rate target ranges. Low credibility in turn induced waves of destabilizing speculation and presented central banks with the unpleasant choice of either devaluing or adopting extremely deflationary policies. Even some individual countries' responses during the crises were in parallel to the 1930s: For example, in 1992 we saw the U.K. quickly abandon its external target, as it did in another September sixty-one years earlier, while the French doggedly tried to maintain the official parity. The appropriate conclusion based on the insights of *Golden Fetters* seems clearly to be that the EMS should not have attempted to fix exchange rates (if at all) until considerably more policy centralization had been achieved.⁷

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⁷ An alternative acceptable strategy would have been to circumvent the fixed-exchange-rate stage entirely and move directly to a common currency (which, of course, also would have implied a significant degree of policy centralization).