BARRY EICHENGREEN

GLOBALIZING CAPITAL

A HISTORY OF THE INTERNATIONAL MONETARY SYSTEM

Second Edition

— CHAPTER THREE —

Interwar Instability

The term "The Gold Standard" embodies a fallacy, one of the most expensive fallacies which has deluded the world. It is the fallacy that there is one particular gold standard, and one only. The assumption that the widely divergent standards of currency masquerading under the name of the gold standard are identical has recently brought the world to the verge of ruin.
(Sir Charles Morgan-Webb, *The Rise and Fall of the Gold Standard*)

In the previous chapter we saw how the prewar gold standard was supported by a particular set of economic and political circumstances specific to that time and place. Interwar experience makes the same point by counterexample. Sterling, which had provided a focal point for the harmonization of policies, no longer enjoyed a favored position in the world economy. Britain's industrial and commercial preeminence was past, the nation having been forced to sell off many of its foreign assets during World War I. Complementarities between British foreign investment and exports of capital goods no longer prevailed to the extent that they had before 1913. Countries like Germany that had been international creditors were reduced to debtor status and became dependent on capital imports from the United States for the maintenance of external balance.

With the spread of unionism and the bureaucratization of labor markets, wages no longer responded to disturbances with their traditional speed.[1] Negative disturbances gave rise to unemployment, intensifying the pressure on governments to react in ways that might jeopardize the monetary standard.[2]

[1]By the "bureaucratization" of labor markets, a term that follows the title of Sanford Jacoby's 1985 book, I mean the rise of personnel departments and other formal structures to manage labor relations in large enterprises.

[2]Using data from a sample of six industrial countries, Tamim Bayoumi and I (1996) found that there was a flattening of the average slope of the aggregate supply curve, consistent with the

Postwar governments were rendered more susceptible to this pressure by the extension of the franchise, the development of parliamentary labor parties, and the growth of social spending. None of the factors that had supported the prewar gold standard was to be taken for granted anymore.

The interwar gold standard, resurrected in the second half of the 1920s, consequently shared few of the merits of its prewar predecessor. With labor and commodity markets lacking their traditional flexibility, the new system could not easily accommodate shocks. With governments lacking insulation from pressure to stimulate growth and employment, the new regime lacked credibility. When the system was disturbed, financial capital that had once flowed in stabilizing directions took flight, transforming a limited disturbance into an economic and political crisis. The 1929 downturn that became the Great Depression reflected just such a process. Ultimately, the casualties included the gold standard itself.

A lesson drawn was the futility of attempting to turn the clock back. Bureaucratized labor relations, politicized monetary policymaking, and the other distinctive features of the twentieth-century environment were finally acknowledged as permanent. When the next effort was made, in the 1940s, to reconstruct the international monetary system, the new design featured greater exchange rate flexibility to accommodate shocks and restrictions on international capital flows to contain destabilizing speculation.

CHRONOLOGY

If the essence of the prewar system was a commitment by governments to convert domestic currency into fixed quantities of gold and freedom for individuals to export and import gold obtained from official and other sources, then World War I terminated it abruptly. Precious metal became an essential resource for purchasing abroad the supplies needed to fuel the war machine. Governments passed laws and imposed regulations prohibiting gold exports except upon the issuance of licenses that they were rarely prepared to grant. With gold market arbitrage disrupted, exchange rates began to float. Their fluctuation was limited by the application of controls that prohibited most transactions in foreign currency.

---

view that nominal flexibility declined between the prewar and interwar periods. Robert Gordon (1982) shows that this increase in nominal rigidity was greater in the United States than in the United Kingdom or Japan, consistent with its attribution to the bureaucratization of labor markets, given that personnel departments and internal labor markets developed and diffused first in the United States.

To mobilize resources for the war, the authorities imposed new taxes and issued government bonds. When the resources so mobilized proved inadequate, they suspended the statutes requiring them to back currency with gold or foreign exchange. They issued *fiat money* (unbacked paper) to pay soldiers and purchase war matériel at home. Different rates of fiat-money creation in different countries caused exchange rates to vary widely.

Consequently, part of the reconstruction following the war was monetary. By extending advances to their governments, the United States had helped its French and British allies peg their currencies against the dollar at somewhat depreciated rates. The end of the war meant the end of this support. Inflation in Britain and elsewhere in Europe having outstripped that in the United States, the British government realized that the end of U.S. support would expose it to extensive gold losses if it attempted to maintain its overvalued pound, and it suspended convertibility. Of the major currencies, only the dollar remained convertible into gold. Although controls were dismantled quickly, years would pass before convertibility was restored.

A notable feature of postwar international monetary arrangements was the freedom of the float. As a rule, central banks did not intervene in the foreign-exchange market. The first half of the 1920s thus provides a relatively clean example of a floating exchange rate regime.

Among the first countries to reestablish gold convertibility were those that had endured *hyperinflation*: Austria, Germany, Hungary, and Poland. Their inflations had been fueled by the paper money used to finance government budget deficits. Eventually, the problem bred its own solution. Opposition to tax increases and spending cuts was overshadowed by the trauma of uncontrolled inflation and the breakdown of the monetary economy. Austria stabilized its exchange rate in 1923, Germany and Poland in 1924, Hungary in 1925. They issued new currencies whose supplies were governed by the provisions of gold-standard laws. Reserves were replenished by loans endorsed by the League of Nations (and in Germany's case by the Reparations Commission established to oversee compensatory transfers to the Allies). As a condition of this foreign assistance, the independence of central banks was fortified.

Countries that had experienced moderate inflation stabilized their currencies and restored gold convertibility without German-style *currency reform*. Belgium stabilized in 1925, France in 1926, Italy in 1927.[3] Each had endured inflation and currency depreciation during the period of floating. By the end of 1926 the French franc, for instance, purchased only one-fifth as many dollars as it had before the war. Since reversing more than a fraction of this inflation

[3] In the French case, this refers to de facto stabilization of the franc. De jure stabilization followed in June 1928.

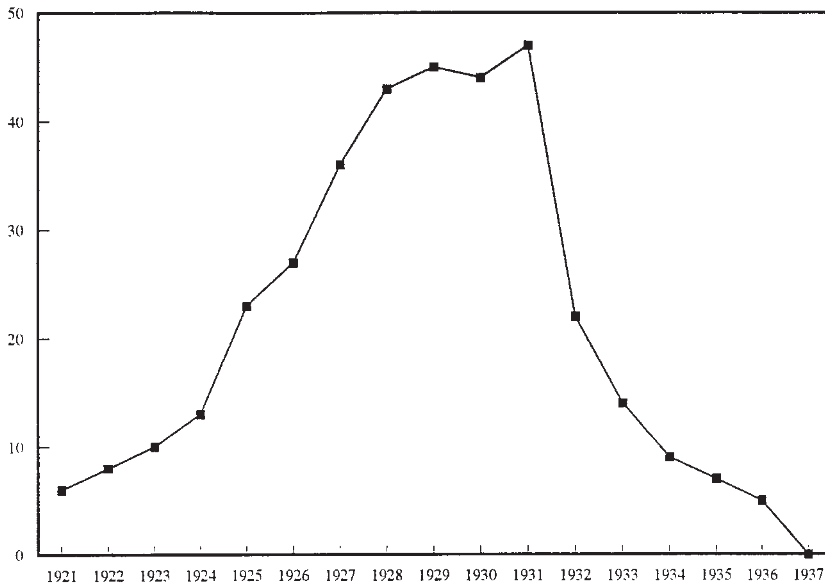

Figure 3.1. Number of Countries on the Gold Standard, 1921–37. *Source:* Palyi 1972, table IV-1.

threatened to disrupt the economy, France and other countries in its position chose instead to stabilize their exchange rates around prevailing levels.

Countries in which inflation had been contained at an early date could restore the prewar price of gold and the traditional dollar exchange rate. Sweden did so in 1924. Britain's restoration of the prewar parity in 1925 prompted Australia, the Netherlands, Switzerland, and South Africa to follow. A critical mass of countries having restored the gold standard, the network-externality characteristic of the system drew the remaining countries into the fold. Canada, Chile, Czechoslovakia, and Finland stabilized in 1926. France followed at the end of the year. Figure 3.1 depicts the number of countries on the gold standard by year.

If France's stabilization in 1926 is taken to mark the reestablishment of the gold standard and Britain's devaluation of sterling in 1931 its demise, then the interwar gold standard functioned as a global system for less than five years. Even before this sad end, its operation was regarded as unsatisfactory. The *adjustment mechanism* was inadequate: weak-currency countries like Britain were saddled with chronic balance-of-payments deficits and hemorrhaged gold and exchange reserves, while strong-currency countries like France remained in persistent surplus. The adjustments in asset and commodity markets needed to restore balance to the external accounts did not seem to operate. The global supply of reserves was inadequate: it declined precipitously in 1931 as central banks scrambled to convert foreign exchange into gold.

Before World War I, as we saw in Chapter 2, the gold standard had never been firmly established outside the industrial countries, a failure that was blamed on the absence of the requisite institutions. Following the example of the United States, which sought to redress the shortcomings of its financial system by creating the Federal Reserve System in 1913, countries in Latin America and elsewhere established central banks in the 1920s. Money doctors, such as Edwin Kemmerer of Princeton University, roamed the world, preaching the gospel of the gold standard and central bank independence. But the mere existence of a central bank was no guarantee of stability. In keeping with the prewar pattern, the onset of the Great Depression in 1929 caused the gold standard to crumble at the periphery. Primary-producing nations were hit by simultaneous declines in capital imports and revenues from commodity exports. As their reserves declined, central banks were forced to acquiesce to the contraction of money supplies. Politics then came into play. Deepening deflation strengthened the hand of those who argued for relaxing the gold-standard constraints in order to halt the downward spiral. Responding to their calls, the governments of Argentina and Uruguay limited gold convertibility at the end of 1929. Canada introduced an embargo on gold exports tantamount to devaluation. Brazil, Chile, Paraguay, Peru, Venezuela, Australia, and New Zealand abridged their gold standards by making gold difficult to obtain, allowing their currencies to slip below their official parities.

In the summer of 1931, instability spread to the system's industrial core. Austria and Germany suffered banking crises and runs on their international reserves. The more aid they extended to their banking systems, the faster their central banks hemorrhaged gold. They were driven to suspend convertibility and impose *exchange controls*. Britain's balance of payments, already weakened by the decline in earnings on overseas investments caused by the Depression, was further unsettled by the Central European banking crisis. The British government suspended convertibility in September 1931 after pressure on the Bank of England's reserves. Within weeks, a score of other countries followed. Many traded heavily with Britain and relied on the London market for finance: for them it made sense to peg to the pound and hold their exchange reserves as sterling balances in London.

By 1932 the international monetary system had splintered into three blocs: the residual gold-standard countries, led by the United States; the *sterling area* (Britain and countries that pegged to the pound sterling); and the Central and Eastern European countries, led by Germany, where exchange control prevailed. A few countries adhered to no group: Canada, with ties to both the United States and the United Kingdom, followed Britain off the gold standard but did not allow its currency to depreciate as dramatically as sterling in order to avoid disrupting financial relations with the United States. Japan, which competed with Lancashire in world textile markets, followed Britain off gold but did not join the sterling area. The network externalities that had drawn countries to a common monetary standard under the integrated world economy of the late-nineteenth century operated less powerfully in the fragmented economic world of the 1930s.

And this tripolar international monetary system was not particularly stable either. Currency depreciation by Britain and its partners in the sterling area, together with the imposition of exchange control by Germany and its Eastern European neighbors, eroded the payments position of countries still on gold. The latter were forced to apply restrictive monetary and fiscal measures to defend their reserves, which further depressed their economies. Political pressure mounted to relax these policies of austerity. Traders began to sell gold-backed currencies in anticipation of an impending policy shift. As central banks suffered reserve losses, they were forced to ratchet up interest rates, aggravating unemployment and intensifying the pressure for devaluation, which was the source of *capital flight*. Ultimately, every member of the *gold bloc* was forced to suspend convertibility and depreciate its currency. Franklin Delano Roosevelt's defeat of Herbert Hoover in the 1932 U.S. presidential election was due in no small part to the macroeconomic consequences of Hoover's determination to defend the gold standard. One of the new president's first actions was to take the United States off gold in an effort to halt the descent of prices. Each day, Roosevelt raised the dollar price at which the *Reconstruction Finance Corporation* purchased gold, in the succeeding nine months pushing the currency down by 40 percent against those of the gold-standard countries. While the dollar's devaluation helped to contain the crisis in the American banking system and to launch the United States on the road to recovery, it was felt by other countries as a deterioration in their competitive positions. Pressure on the remaining members of the gold bloc intensified accordingly. Czechoslovakia devalued in 1934; Belgium in 1935; France, the Netherlands, and Switzerland in 1936. Through this chaotic process the gold standard gave way once more to floating rates.

This time, however, in contrast to the episode of freely flexible exchange rates in the first half of the 1920s, governments intervened in the foreign-exchange market. *Exchange Equalization Accounts* were established to carry out this function. Typically, they "leaned against the wind," buying a currency when its exchange rate weakened, selling it when it strengthened. Sometimes they sold domestic assets with the goal of pushing down the exchange rate and securing a competitive advantage for producers.

EXPERIENCE WITH FLOATING: THE CONTROVERSIAL CASE OF THE FRANC

As the first twentieth-century period when exchange rates were allowed to float freely, the 1920s had a profound impact on perceptions of monetary arrangements. Floating rates were indicted for their volatility and their susceptibility to destabilizing speculation—that is, for their tendency to be perturbed by speculative sales and purchases ("hot money flows," as they were called) unrelated to economic fundamentals.

Dismayed by this experience, policymakers sought to avoid its repetition. When floating resumed after the collapse of the interwar gold standard, governments intervened to limit currency fluctuations. Floating in the 1930s was managed precisely because of dissatisfaction with its performance a decade earlier. And when after World War II it came time to reconstruct the international monetary system, there was no hesitancy about applying controls to international capital flows. Clearly, the 1920s cast a long shadow.

The definitive account of interwar experience was a League of Nations study by the economist Ragnar Nurkse, publication of which coincided with the Bretton Woods negotiations over the design of the post–World War II international monetary order.[4] Nurkse issued a blanket indictment of floating rates. His prototypical example was the French franc, of which he wrote:

> The post-war history of the French franc up to the end of 1926 affords an instructive example of completely free and uncontrolled exchange rate variations. . . . The dangers of . . . cumulative and self-aggravating movements under a regime of freely fluctuating exchanges are clearly demonstrated by the French experience. . . . Self-aggravating movements, instead of promoting adjustment in the balance of payments, are apt to intensify any initial disequilibrium and to produce what may be termed "explosive" conditions of instability. . . . We may recall in particular the example of the French franc during the years 1924–26.

It is hard to imagine a more damning indictment. But as interwar traumas receded, revisionists disputed Nurkse's view. The most prominent was Milton Friedman, who observed that Nurkse's critique of floating rates rested almost entirely on the behavior of this one currency, the franc, and questioned whether

[4] Nurkse 1944. This is the influential study cited in Chapter 2 that calculated violations by interwar central banks of the rules of the game.

even it supported Nurkse's interpretation. "The evidence given by Nurkse does not justify any firm conclusion," Friedman wrote. "Indeed, so far as it goes, it seems to me clearly less favorable to the conclusion Nurkse draws, that speculation was destabilizing, than to the opposite conclusion, that speculation was stabilizing."[5]

Neither Friedman nor his followers objected to Nurkse's characterization of the franc exchange rate as volatile, but they argued that its volatility was simply a reflection of the volatility of monetary and fiscal policies. The exchange rate had been unstable because policy had been unstable. For them, the history of the franc provides no grounds for doubting that floating rates can function satisfactorily when monetary and fiscal policies are sensibly and consistently set.

Nurkse, however, had offered a specific diagnosis of the problem with floating rates—that they were subject to "cumulative and self-aggravating movements" that tended to "intensify any initial disequilibrium." There was no disagreement, then, about the instability of policy. Dispute centered on Nurkse's argument that policy instability was itself induced or at least aggravated by exchange rate fluctuations; his critics contended that policy instability was a given and exchange rate instability its consequence. In their view, the exchange rate responded to policy, whereas Nurkse saw causality running also in the other direction.

Friedman et al. have little trouble explaining events as they unfolded through 1924.[6] French inflation and currency depreciation in this period are explicable in terms of large budget deficits run to finance the costs of reconstruction and underwritten by Bank of France purchases of government debt. Depreciation accelerated each time new information became available about the size of prospective budget deficits and how they would be financed.

For more than half a decade, those deficits persisted. New social programs were demanded by the men and women who had defended the French nation. The high cost of repairing the roads, railways, mines, factories, and housing destroyed in the ten *départements* of the northeast, where the most destructive battles had been waged, placed additional burdens on the fiscal authorities. Meanwhile, revenues were depressed by the slow pace of recovery. Disagreement over whose social programs should be cut and whose taxes should be raised resulted in an extended fiscal deadlock. The parties of the Left demanded increased taxes on capital and wealth, those of the Right reductions in

[5] Friedman 1953, p. 176. Leland Yeager (1966, p. 284) similarly suggested that "the historical details . . . undermine [Nurkse's] conclusions."

[6] The most complete account and analysis of the behavior of the franc in the 1920s remains Dulles 1929.

social spending. As long as agreement remained elusive, inflation and currency depreciation persisted.

The French government was obliged by a law of 1920 to repay all outstanding advances from the central bank at a rate of 2 billion francs a year. Since doing so required budget surpluses, this legislation stabilized expectations of fiscal policy and bolstered confidence in the currency. But it was easier to mandate repayments than to effect them. The government repeatedly missed the deadline for its annual installment, and even when it satisfied the letter of the law it violated its spirit by financing its payment to the central bank by borrowing from private banks to which the central bank lent. By 1922 this pattern of deception had become apparent, and the currency's depreciation accelerated.

Compounding the dispute over taxes was the conflict over Germany's contribution to the reconstruction of the French economy. Raising taxes would have undermined the argument that the defeated enemy should finance France's reconstruction costs. The French position was that the nation had suffered so heavily from the war that it lacked the resources to finance reconstruction. Budget deficits were evidence of this fact. The larger the deficits and the more rapid the inflation and currency depreciation they provoked, the stronger France's negotiating position.

Through 1924 the franc's fluctuations were shaped by the course of those negotiations. Each time it appeared that substantial reparations would be made, observers revised downward their forecasts of French budget deficits and their expectations of inflation and currency depreciation. The franc strengthened in 1921, for example, when the Allies agreed to impose a $31 billion charge on Germany. It fell in June 1922 when a committee of experts submitted to the Reparations Commission a pessimistic assessment of Germany's capacity to pay (see Figure 3.2).

About then it became clear that the new French prime minister, Raymond Poincaré, rather than being willing to compromise, was prepared to extract reparations by force. To make good on this threat, in January 1923 the French and Belgian armies invaded the Ruhr region of Germany. The Ruhr produced 70 percent of Germany's coal, iron, and steel, making it an obvious source of reparations in kind. In the first months of the occupation, the franc strengthened, reflecting expectations that the occupation would solve France's budgetary problem. As it became evident that Germany's passive resistance was frustrating the effort to forcibly secure the transfer, the ground that had been made up was lost. German workers refused to cooperate with the occupying armies, and their government printed astronomical numbers of currency notes (on occasion only on one side to save time and printing capacity) to pay their

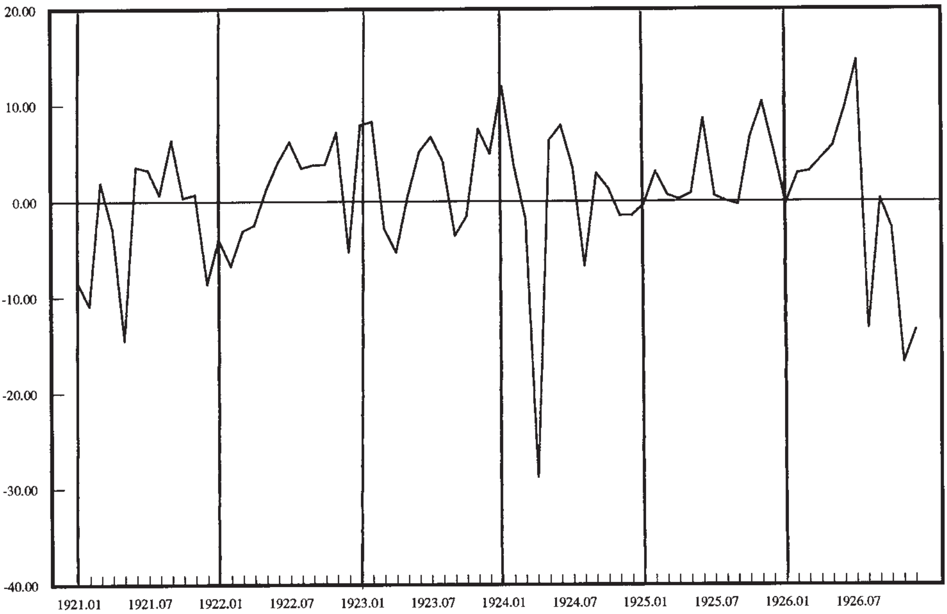

Figure 3.2. French Franc–U.S. Dollar Nominal Exchange Rate, 1921–26 (monthly percentage change). *Source*: Federal Reserve Board 1943. *Note:* The exchange rate is defined so that an increase indicates a depreciation of the French franc. Vertical lines drawn at January of each year.

salaries. As the expedition bogged down, the franc resumed its descent, this time—with the added expense of running an army of occupation—faster than before.

When the possibility of a settlement surfaced at the end of 1923, the franc stabilized. A committee was appointed under the chairmanship of Charles Dawes, an American banker, to mediate a compromise. Once it became evident that the Dawes Committee was prepared to recommend the postponement of most reparations transfers, the franc's depreciation resumed. For the second year running, the government requested that Parliament pass a special act exempting it from the requirement to repay 2 billion francs in central bank advances, demoralizing the market.

Eventually, a reparations compromise—the Dawes Plan—was reached. Germany was to make annual payments amounting to approximately 1 percent of its national income. The absolute value of the transfer would rise with the expansion of the German economy. Besides supplementing the French government's other revenue sources, the settlement clarified the international situation sufficiently for the French authorities to address their fiscal problems without undermining their international position. It removed the incentive to delay negotiating a domestic settlement in order to strengthen the country's hand in its dealings with Germany. The *Bloc National*, a coalition of Center-Right parties, succeeded in raising turnover taxes and excise duties by some 20 percent. Budget balance was restored. Borrowing by the state fell from 3.8 billion prewar francs in 1923 to 1.4 billion in 1924 and 0.8 billion in 1925. This permitted the government to borrow \$100 million through the investment bankers J. P. Morgan and Co. in New York and more than \$20 million through Lazard Frères in London. The exchange rate improved abruptly.[7]

Had this been the end of the story, Nurkse's critics would be on firm ground in arguing that the franc's instability simply reflected the instability of French policy. But despite the restoration of budget balance and the removal of the most serious sources of reparations uncertainty, the franc's depreciation resumed in 1925. From nineteen to the dollar at the beginning of the year, it fell to twenty-eight at the end of 1925 and to forty-one in July 1926. Traders sold francs in anticipation of further decline, producing the very depreciation they feared. The further the exchange rate diverged from its prewar parity, the less likely it became that the government would be prepared to impose the radical deflation required to restore the prewar price level and rate of exchange; those contemplating the prospects for depreciation were effectively offered a one-way bet. As wage and price setters came to regard the depreciation as permanent, the transmission of currency depreciation into inflation picked up speed. Only after losing more than half of its remaining value was the franc finally stabilized a year and a half later, having apparently suffered precisely the "cumulative and self-aggravating movement" of which Nurkse warned.[8]

Unfortunately for those who believe this episode supports the hypothesis of destabilizing speculation, a second interpretation is equally consistent with the facts. While there is no evidence of instability in current policies in the statistics on the budget or the rate of money creation, there may have been reason to anticipate renewed instability in the future.[9] The Dawes Plan had settled the reparations dispute between France and Germany, but it had not ended the domestic struggle over taxation. The increases in indirect taxes

[7] This is evident in the downward spike shown in Figure 3.2. There are two interpretations of this turn of events. One is that the government used these resources to intervene in the foreign-exchange market, purchasing francs and thereby teaching a painful lesson to speculators who had sold them short in anticipation of further depreciation. The other is that the fundamentals had been transformed: budget balance, a reparations settlement, and a loan providing hard currency sufficient to defend the exchange rate provided sound reasons for the change in market sentiment.

[8] This is the conclusion of Pierre Sicsic (1992) in his study of the episode.

[9] This has been argued in Prati 1991 and Eichengreen 1992b.

imposed in 1924 by Poincaré's Center-Right government were resented by the Left. Poincaré's coalition was brought down in elections later that year and replaced by a Center-Left government led by Edouard Herriot, who was better known for his biography of Beethoven than for any competence on economic matters. Investors feared that the new government would substitute wealth and income taxes—specifically a 10 percent *capital levy* on all wealth, payable over ten years—for Poincaré's indirect impost. The Senate, dominated by monied interests elected by local councils, brought down Herriot's government with a vote of no confidence in the spring of 1925. Five ineffectual minority governments followed over the next fourteen months. All the while, the possibility of a capital levy lingered. Reporting in May 1926 on his European trip, Benjamin Strong of the Federal Reserve Bank of New York noted rumors that the government would be dissolved in favor of yet another Herriot government, "which of course would have the backing of the Blum [Socialist] element, who stand so strongly for a capital levy. If they should have such a government, the situation would no doubt become much worse. The French people would be frightened and I fear the flight from the franc would get much worse than it is now."[10] To shelter themselves, wealth holders spirited their assets out of the country. They exchanged Treasury bonds and other franc-denominated assets for sterling- and dollar-denominated securities and bank deposits in London and New York. The shift into sterling and dollars caused the franc to plummet. And the more investors transferred their assets out of the country, the stronger became the incentive for others to follow. Capital flight reduced the base to which a capital levy could be applied, implying higher taxes on assets left behind. Like a run on deposits ignited by the formation of a line outside a bank, flight from the franc, once under way, fed on itself.

In the end, the Left lacked the parliamentary majority to force through the levy. But not until the summer of 1926 did this become evident. In the final stages of the crisis, between October 1925 and July 1926, a new finance minister took office every five weeks, on average. The consequences for confidence were predictable." All France to-day is seething with anxiety" was the way one newspaper put it.[11]

"The crisis of the franc" was finally resolved in July 1926 by a polity that had grown weary of financial chaos. Ten years of inflation had reconciled the Frenchman in the street to compromise. Poincaré returned to power at the head of a government of national union. Serving as his own finance minister

[10] Cited in Eichengreen 1992c, p. 93. Thomas Sargent (1983) similarly emphasizes continued fear of a capital levy as motivation for capital flight.

[11] Cited in Eichengreen 1992a, p. 182.

and granted plenary powers to make economic policy, he decreed a symbolic increase in indirect taxes and cuts in public spending. More important, political consolidation banished the capital levy from the fiscal agenda once and for all. The franc's recovery was immediate. Funds that had fled abroad were repatriated, and the currency stabilized.

Where does this leave the debate over destabilizing speculation? There is no question that the franc's depreciation in 1925–26 reflected currency traders' expectations of future policy imbalances (the reemergence of government budget deficits and Bank of France monetization). The question is whether the reappearance of deficits was itself a function of, and therefore contingent upon, speculative sales of francs, which caused inflation to accelerate and the real value of tax collections to fall relative to public spending (as Nurkse's destabilizing speculation theory suggests), or whether those budget deficits and inflation reflected the absence of a resolution to the distributional conflict and would have resurfaced even in the absence of the speculative attack. At some level, it is inevitable that this debate remains unresolved, given the impossibility of actually observing the expectations of currency traders.

Thus, both proponents and critics of floating exchange rates could draw support from the first half of the 1920s. The question is why the negative view dominated. One might argue that recent history always tends to be the most influential—that fears of instability under floating rates dominated fears of the fragility of pegged rates because the first experience was more immediate. More fundamentally, observers failed to realize that the unprecedented political circumstances that introduced the scope for instability under floating posed an equally serious threat to the pegged exchange rates of the gold standard. Simply restoring the gold standard did not remove the political pressures that had prompted speculative capital flows. Disputes over the incidence of taxation and the unemployment costs of central bank policy, which had grown more heated since the war, could not be made to disappear by pegging the currency. The lesson that *should* have been drawn from the experience with floating was that the new gold standard would inevitably lack the credibility and durability of its prewar predecessor.

RECONSTRUCTING THE GOLD STANDARD

In the event, the experience of the first half of the 1920s reinforced the desire to resurrect the gold standard of prewar years. Those who believed that floating rates had been destabilized by speculation hankered for the gold standard to deny currency traders this opportunity. Those who blamed erratic policy saw the restoration of gold convertibility as a way of imposing discipline on governments. Wicker's description of the United States in the 1920s is applicable more broadly: "A 'sound' currency and domestic gold convertibility were indistinguishable and formed the basis of public opinion regarding currency matters."[12]

The key step was Britain's resumption of convertibility. What Britain succeeded in restoring in 1925 was convertibility at the prewar price: £3.17s.9d per ounce of 11/12 fine gold. Since the United States had not altered the dollar price of gold, the prewar parity implied the prewar rate of exchange between the dollar and the pound sterling ($4.86 per pound). In order to make that rate defensible, British prices had to be lowered, if not to the prewar level, then at least to the somewhat higher level that U.S. prices had scaled.

The transition was undertaken gradually to avoid the dislocations of rapid deflation. British prices had fallen sharply in 1920–21, when government spending had been curtailed to prevent the postwar boom from eluding control; at the same time, the Bank of England had increased its discount rate to prevent sterling from falling further against the dollar. The rise in interest rates and fall in prices were recessionary; within a year, the percentage of the insured labor force recorded as unemployed had risen from 2.0 to 11.3 percent. The lesson drawn was the desirability of completing the transition gradually rather than at once.

There remained a considerable distance to go. The United States had curtailed public spending after the armistice and raised interest rates to rein in the boom. Benjamin Strong, the governor of the recently established Federal Reserve Bank of New York, thought it advisable to move the U.S. price level back toward that of 1913. In the summer of 1920, at the height of the boom, the Federal Reserve System ran low on gold; the cover ratio fell perilously close to the statutory 40 percent floor. The Fed adopted harsh deflationary policies in order to raise its reserve.

This move heightened the burden on the Bank of England. Reducing the British price level relative to that prevailing in the United States was that much more difficult when U.S. prices were falling. The Bank was forced to pursue even more restrictive policies to push up sterling against the dollar, given the more restrictive policies being pursued by the Federal Reserve.

Once the U.S. price level stopped falling in 1922, Britain's prospects brightened. The Bank of England made slow but steady progress for a couple of years. But the act of Parliament suspending Britain's gold standard expired at the end of 1925. The Conservative government would be embarrassed if,

[12] Wicker 1966, p. 19.

fully seven years after the war, it had not succeeded in restoring convertibility. A number of Britain's traditional allies, including Australia and South Africa, signaled their intention to restore convertibility whether or not Britain did so; their breaking rank would further embarrass London.

In 1924 the Federal Reserve Bank of New York reduced its discount rate at the behest of Benjamin Strong in order to help Britain back onto gold.[13] As funds flowed from New York to London in search of higher yields, sterling strengthened. Realizing that the Conservatives would be forced to act by the expiration at the end of 1925 of the Gold and Silver (Export Control) Act, the markets bid up the currency in anticipation.[14] Sterling was hovering around its prewar parity by the beginning of 1925, and the government announced the resumption of gold payments on April 25. But the relationship between British and foreign prices had not been restored. The fact that the exchange rate had moved before the price level meant that British prices were too high, causing competitive difficulties for the textile exporters of Lancashire and for import-competing chemical firms. Sterling's *overvaluation* depressed the demand for British goods, aggravating unemployment. It drained gold from the Bank of England, forcing it to raise interest rates even at the cost of depressing the economy. The slow growth and double-digit unemployment that plagued the British economy for the rest of the decade are commonly laid on the doorstep of the decision to restore the prewar parity.

Keynes estimated that sterling was overvalued by 10 to 15 percent. In *The Economic Consequences of Mr. Churchill* (1925) he lamented the decision. The particulars of Keynes's calculations were challenged subsequently. From an assortment of U.S. price indexes, he had just happened to choose the one for the state of Massachusetts indicating the largest difference in national price levels.[15] But even though more representative indexes suggested a somewhat smaller overvaluation—on the order of 5 or 10, not 15, percent—the qualitative conclusion stood.

Why was the government prepared to overlook these facts? Sir James Grigg, private secretary to Winston Churchill, the chancellor of the Exchequer, tells of a dinner at which proponents and opponents of the return to

[13] See Howson 1975, chap. 3.

[14] This is the view of the episode modeled by Marcus Miller and Alan Sutherland (1994).

[15] On the debate and the different price indexes available to contemporaries, see Moggridge 1969. Modern writers have refined these calculations, comparing British prices not with U.S. prices alone but with a trade-weighted average of the price levels prevailing in the different countries with which British producers competed. See Redmond 1984.

gold sought to sway the chancellor.[16] Keynes and Reginald McKenna, a former chancellor himself and subsequently chairman of Midland Bank, argued that overvaluation would price British goods out of international markets and that the wage reductions required in response would provoke labor unrest. Churchill may have chosen to proceed nonetheless, Grigg suggests, because Keynes was not in top form and did not argue convincingly. Personality conflict between the strong-willed Churchill and Keynes may have caused the chancellor to dismiss the don's recommendations. And Churchill may have feared that returning to gold at a devalued rate would rob the policy of its benefits. For Britain's commitment to gold to be credible, this argument ran, convertibility had to be restored at the prewar parity. To tamper with the parity once would signal that the authorities might be prepared to do so again. Foreign governments, central banks, firms, and investors held sterling deposits in London and conducted international financial business there. To devalue the pound, even under exceptional circumstances, would prompt them to reconsider their investment strategy. Loss of international financial business would damage Britain and its financial interests. Special-interest politics, which reflected the triumph of financial interests over a stagnating industrial sector, may have thereby played a role in the politicians' decision.

Resumption by Britain was the signal for other countries to follow. Australia, New Zealand, Hungary, and Danzig did so immediately. Where prices had risen dramatically as a result of wartime and postwar inflation, reducing them to prewar levels would have involved massive redistribution from debtors to creditors and was therefore ruled out. Hence, when Italy, Belgium, Denmark, and Portugal returned to the gold standard, they, like France, did so at devalued rates (higher domestic currency prices of gold). Their subsequent experience, in comparison with Britain's, can be used to test the proposition that restoring the prewar parity enhanced credibility.

By 1926 the gold standard was operating in thirty-nine countries.[17] By 1927 its reconstruction was essentially complete. France had not made legal the December 1926 decision to stabilize the franc at the prevailing rate, a step finally taken in June 1928. And countries at the fringes of Europe, in the Baltics and the Balkans, had yet to restore convertibility. Spain never would. Neither China nor the Soviet Union wished to join the gold-standard club. But, notwithstanding these exceptions, the gold standard again spanned much of the world.

[16] Grigg 1948, pp. 182–84.

[17] See Brown 1940, vol. 1, p. 395.

THE NEW GOLD STANDARD

Gold coin had all but disappeared from circulation during World War I. Only in the United States did a significant share of money in circulation—8 percent—take the form of gold. Postwar governments hoped that the world's scarce gold supplies would stretch further if concentrated in the vaults of central banks. To ensure that gold did not circulate, governments provided it only to those with enough currency to purchase substantial quantities. Obtaining the minimum of 400 fine ounces required by the Bank of England required an investment of about £1,730 ($8,300). Other countries imposed similar restrictions.

Another device to stretch the available gold reserves further (providing traditional levels of backing for an expanded money supply) was to extend the prewar practice of augmenting gold with foreign exchange—to transform the gold standard into a *gold-exchange standard*. Belgium, Bulgaria, Finland, Italy, and Russia were the only European countries that had not limited the use of foreign-exchange reserves in 1914.[18] Countries that stabilized with League of Nations assistance (and as a condition for obtaining League-sponsored loans buttressed the independence of their central banks) included in their central bank statutes a provision entitling that institution to hold its entire reserve in the form of interest-bearing foreign assets. Other countries authorized their central banks to hold some fixed fraction of their reserves in foreign exchange.

The desire to concentrate gold in central banks and to supplement it with foreign exchange reflected fears of a global gold shortage. The demand for currency and deposits had been augmented by the rise in prices and the growth of the world economy. Gold supplies, meanwhile, had increased only modestly. Policymakers worried that this "gold shortage" prevented the further expansion of money supplies and that financial stringency depressed the rate of economic growth.

If gold were scarce and obtaining it costly, could central banks not individually increase their use of exchange reserves? Contemporaries were skeptical that this action would be viable. A country that unilaterally adopted the practice might fall prey to speculators who would sell its currency for one backed solely by gold. Only if all countries agreed to hold a portion of their reserves in the form of foreign exchange would they be protected from this threat. The existence of a coordination problem thereby precluded the shift.

[18] Austria, Denmark, Greece, Norway, Portugal, Romania, Spain, and Sweden had permitted their central banks and governments to hold foreign exchange as reserves but limited the practice.

Coordination problems are solved through communication and cooperation. The 1920s saw a series of international conferences at which this was attempted. The most important was a 1922 conference in Genoa.[19] It assembled all of the major gold-standard countries but the United States, whose isolationist Congress viewed the meeting as a source of international entanglements akin to the League of Nations, participation in which it had already vetoed. Under the leadership of the British delegation, a subcommittee on financial questions drafted a report recommending that countries negotiate an international convention authorizing their central banks to hold unlimited foreign-exchange reserves.

The other theme of the Genoa Conference was international cooperation. Central banks were instructed to formulate policy "not only with a view to maintaining currencies at par with one another, but also with a view to preventing undue fluctuations in the purchasing power of gold."[20] ("The purchasing power of gold" was a phrase used to denote the price level. Since central banks pegged the domestic-currency price of gold, the metal's purchasing power rose as the price level fell.) If central banks engaged in a noncooperative struggle for the world's scarce gold reserves, each raising interest rates in an effort to attract gold from the others, none would succeed (since their interest-rate increases would be mutually offsetting), but prices and production would be depressed. If they harmonized their discount rates at more appropriate levels, the same international distribution of reserves could be achieved without provoking a disastrous deflation.

Keynes and Ralph Hawtrey (the latter then director of financial enquiries at the Treasury) played significant roles in drafting the Genoa resolutions, which therefore reflected a British perspective on international monetary relations. British dependencies like India had long maintained foreign-exchange reserves; London consequently saw the practice as a natural solution to the world's monetary problems. The Bank of England had been party to most prewar episodes of central bank cooperation and was in regular contact with the banks of the Commonwealth and the Dominions; it viewed such cooperation as both desirable and practical. The Genoa resolutions reflected British self-interest: a further decline in world prices due to inadequate international reserves would complicate its effort to restore sterling's prewar parity. London, with its highly developed financial structure, was sure to be a leading repository of exchange reserves, as it had been in the nineteenth century. Revitalizing its role would bring much-needed international banking business to

[19] For a history of the Genoa Conference, see Fink 1984.

[20] *Federal Reserve Bulletin* (June 1922): 678–80.

the City (as its financial district was known). It would help to reconstruct the balance-of-payments adjustment mechanism that had functioned so admirably before the war.

The subcommittee that drafted the Genoa resolutions on finance recommended convening a meeting of central banks to settle the details. That meeting was never held, however, owing to lack of American support. Although the United States had declined to participate in the Genoa Conference, Federal Reserve officials resented the decision to make the Bank of England responsible for organizing the summit of central banks. U.S. observers questioned the efficacy of the gold-exchange standard and the need for central bank cooperation. During World War I, the United States had exported agricultural commodities and manufactures in return for gold and foreign exchange. Its gold reserves had risen from $1.3 billion in 1913 to $4 billion in 1923. The United States did not need to deflate in order to restore convertibility. In addition, officials of the newly established Federal Reserve System may have harbored a false impression of the gold standard's automaticity. Not having contributed to its prewar management, they failed to appreciate the role played by exchange reserves and central bank cooperation.[21]

Thus, the proposed meeting of central banks was never held. Efforts to encourage central bank cooperation and the use of foreign-exchange reserves were left to proceed on an ad hoc basis. Because of these conditions, the international monetary system could not be reconstructed out of whole cloth. Like the prewar system, the interwar gold standard evolved incrementally. Its structure was the sum of national monetary arrangements, none of which had been selected for its implications for the operation of the system as a whole. As Nurkse lamented, "The piecemeal and haphazard manner of international monetary reconstruction sowed the seeds of subsequent disintegration."[22]

PROBLEMS OF THE NEW GOLD STANDARD

By the second half of the 1920s, currencies were again convertible into gold at fixed domestic prices, and most significant restrictions on international transactions in capital and gold had been removed. These two elements combined, as before World War I, to stabilize exchange rates between national

[21] In particular, Benjamin Strong, governor of the Federal Reserve Bank of New York and the leading figure in U.S. international monetary relations in the 1920s, became an increasingly sharp critic of the gold-exchange standard.

[22] See Nurkse 1944, p. 117.

monies and to make international gold movements the ultimate means of balance-of-payments settlement.

The years 1924 to 1929 were a period of economic growth and strong demand for money and credit worldwide. Once the gold standard was restored, the additional liquidity required by the expanding world economy had to be based on an increase in the stock of international reserves. Yet the world supply of monetary gold had grown only slowly over the course of World War I and in the first half of the 1920s, despite the concentration of gold stocks in the vaults of central banks. The ratio of central bank gold reserves to notes and sight (or demand) deposits dropped from 48 percent in 1913 to 40 percent in 1927.[23] Central banks were forced to pyramid an ever-growing superstructure of liabilities on a limited base of monetary gold.

Particularly disconcerting was the fact that two countries, France and Germany, absorbed nearly all of the increase in global monetary reserves in the second half of the 1920s (see Table 3.1). The Bank of France's gold reserves more than doubled between 1926 and 1929. By the end of 1930 they had tripled. By the end of 1931 they had quadrupled. France became the world's leading repository of monetary gold after the United States. This gold avalanche pointed to an undervaluation of the franc Poincaré (as the currency was known in honor of the prime minister who had presided over its stabilization). So much gold would not have flooded into the coffers of the Bank of France if the rate at which the French authorities had chosen to stabilize had not conferred on domestic producers an undue competitive advantage. Had they allowed market forces to operate instead of intervening to prevent the currency's appreciation at the end of 1926, a stronger franc would have eliminated this artificial competitive advantage and neutralized the balance-of-payments consequences. A stronger franc would have reduced the price level, at the same time increasing the real value of notes and deposits in circulation and obviating the need for gold imports. France would not have been a sump for the world's gold, relieving the pressure on the international system.

Why did the Bank of France pursue such perverse policies? In reaction against the abuse of credit facilities by earlier French governments, the Parliament adopted statutes prohibiting the central bank from extending credit to the government or otherwise expanding the domestic-credit component of the *monetary base*. The 1928 law that placed France on the gold standard not only required it to hold gold equal to at least 35 percent of its notes and deposits but also restricted its use of open-market operations. Another central bank with a statute requiring 35 percent backing could have used expansionary

[23] League of Nations 1930, p. 94.

TABLE 3.1

Gold Reserves of Central Banks and Governments, 1913–35 (percent of total)

Country	*1913*	*1918*	*1923*	*1924*	*1925*	*1926*	*1927*	*1928*	*1929*	*1930*	*1931*	*1932*	*1933*	*1934*	*1935*
United States	26.6	39.0	44.4	45.7	44.4	44.3	41.6	37.4	37.8	38.7	35.9	34.0	33.6	37.8	45.1
England	3.4	7.7	8.6	8.3	7.8	7.9	7.7	7.5	6.9	6.6	5.2	4.9	7.8	7.3	7.3
France	14.0	9.8	8.2	7.9	7.9	7.7	10.0	12.5	15.8	19.2	23.9	27.3	25.3	25.0	19.6
Germany	5.7	7.9	1.3	2.0	3.2	4.7	4.7	6.5	5.3	4.8	2.1	1.6	0.8	0.1	0.1
Argentina	5.3	4.5	5.4	4.9	5.0	4.9	5.5	6.0	4.2	3.8	2.2	2.1	2.0	1.9	2.0
Australia	0.5	1.5	1.5	1.5	1.8	1.2	1.1	1.1	0.9	0.7	0.5	0.4	[a]	[a]	[a]
Belgium	1.0	0.7	0.6	0.6	0.6	0.9	1.0	1.3	1.6	1.7	3.1	3.0	3.2	2.7	2.7
Brazil	1.9	0.4	0.6	0.6	0.6	0.6	1.1	1.5	1.5	0.1	n.a.	n.a.	0.1[b]	0.1[b]	0.1
Canada	2.4	1.9	1.5	1.7	1.7	1.7	1.6	1.1	0.8	1.0	0.7	0.7	0.6	0.6	0.8
India	2.5	0.9	1.3	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.4	1.4	1.4	1.3	1.2
Italy	5.5	3.0	2.5	2.5	2.5	2.4	2.5	2.7	2.7	2.6	2.6	2.6	3.1	2.4	1.6
Japan	1.3	3.3	7.0	6.5	6.4	6.1	5.7	5.4	5.3	3.8	2.1	1.8	1.8	1.8	1.9
Netherlands	1.2	4.2	2.7	2.3	2.0	1.8	1.7	1.7	1.7	1.6	3.2	3.5	3.1	2.6	2.0
Russia-USSR	16.2	—	0.5	0.8	1.0	0.9	1.0	0.9	1.4	2.3	2.9	3.1	3.5	3.4	3.7
Spain	1.9	6.3	5.6	5.5	5.5	5.4	5.2	4.9	4.8	4.3	3.8	3.6	3.6	3.4	3.3
Switzerland	0.7	1.2	1.2	1.1	1.0	1.0	1.0	1.0	1.1	1.3	4.0	4.0	3.2	2.9	2.0
All other	9.9	7.8	7.1	6.9	7.4	7.3	7.4	7.3	7.0	6.3	6.4	6.0	6.9	6.7	6.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Hardy 1936, p. 93.

a. Less than 0.05 of 1 percent.

b. Bolivia, Brazil, Ecuador, and Guatemala.

open-market operations to increase the currency circulation by nearly three francs each time it acquired a franc's worth of gold. But the Bank of France was prohibited from doing so by the stabilization law. France was not one of those countries in which *open-market operations* were widely used before 1913, as we saw in the previous chapter. Again, perceptions of the appropriate structure and operation of the interwar system were strongly—too strongly—conditioned by prewar experience.

The French central bank retained other instruments that it might have used to expand domestic credit and stem the gold inflow. It could have encouraged banks to rediscount their bills by lowering the discount rate. It could have sold francs on the foreign-exchange market. But the Paris market for discounts was narrow, limiting the effectiveness of discount policy. And French officials felt uncomfortable about holding foreign exchange. Indeed, in 1927 the Bank of France began to liquidate its foreign currency reserves. To limit the franc's appreciation, it had acquired $750 million in foreign exchange in the second half of the previous year, nearly matching its gold reserves. French officials recalled that the Bank of France had held large amounts of gold and little foreign exchange before World War I. They viewed the Genoa proposals to institutionalize the gold-exchange standard as a British ploy to fortify London's position as a financial center at the expense of Paris.

The problems posed by the tightness of French monetary policy were exacerbated when, in 1927, Emile Moreau, the stubborn provincial gentleman who then headed the Bank of France, began converting his bank's foreign exchange into gold. When Moreau presented 20 percent of what he had acquired in the previous six months for conversion at the Bank of England, the latter warned that such demands might force Britain to suspend convertibility. For French officials who saw the gold standard as a bulwark of financial stability, this threat was serious; Moreau moderated his demands.[24]

That Germany was the other country that enjoyed large increases in gold reserves in the latter half of the 1920s is surprising at first blush. Germany still had to cope with the difficulties created by reparations transfers, but it was the leading destination of U.S. foreign investment. To reassure citizens made skittish by the hyperinflation, the Reichsbank maintained higher interest rates than other gold-standard countries, which made Germany an attractive destination for funds. As a result of capital inflows, the Reichsbank's gold reserves more than tripled between 1924 and 1928.[25]

[24] As explained below, French efforts to convert the Bank of France's foreign exchange into gold resumed in 1931, at what turned out to be the worst possible time for the global system.

[25] See Lüke 1958.

Its Brooklyn-born president, Hjalmar Horace Greeley Schacht, shared Moreau's skepticism about the gold-exchange standard (appropriately, it might be added, since the nineteenth-century American politician and journalist after whom Schacht was named had himself been a strong believer in gold). The German hyperinflation had reinforced Schacht's belief in the desirability of a rigid gold standard to insulate central banks from political pressures. But Schacht had inherited significant quantities of foreign exchange via the Dawes Plan, under whose provisions Germany received a foreign currency loan. As long as European currencies, like sterling, appreciated in anticipation of Britain's return to gold, it made sense for Germany to retain the sterling proceeds of the Dawes loan and reap the capital gains. Starting in 1926, however, Schacht began converting his exchange reserves into gold.[26] To encourage gold imports, he announced that the Reichsbank would accept gold in Bremen as well as Berlin, saving arbitragers the cost of shipping it to an inland city.

The absorption of gold by France and Germany intensified the pressure on other central banks. The Bank of England was described by its interwar governor, Montagu Norman, as continuously "under the harrow."[27] As gold flowed toward France and Germany, other central banks were forced to raise interest rates and tighten credit to defend their increasingly precarious reserves.

The largest holder of monetary gold, the United States, was no help. In 1926 the United States possessed nearly 45 percent of the world's supply (see Table 3.1). Fully a quarter was *free gold*—that is, it exceeded the 40 percent backing required by the country's gold standard law.[28] Reducing Reserve Bank discount rates or undertaking expansionary open-market operations would have encouraged capital outflows and redistributed this gold to the rest of the world. Modest efforts in this direction occurred in 1927, notably when the New York Fed reduced its discount rate and undertook open-market purchases to assist Britain through a payments crisis. U.S. policy subsequently took a contractionary turn. The rate of growth of the U.S. money supply declined. Yields on U.S. government bonds stopped falling. Short-term rates began to rise. These events further discomforted foreign central banks.

[26] See Schacht 1927, p. 208.

[27] In his testimony to the Macmillan Committee, cited in Sayers 1976, vol. 1, p. 211.

[28] The precise legal provisions were more complicated. Until 1932, Federal Reserve monetary liabilities not backed by gold had to be collateralized by the Fed's holdings of "eligible securities," where eligible collateral included commercial paper but not Treasury bonds. Thus, the central bank's free gold was limited to that portion over and above the 40 percent minimum not also required to back liabilities acquired through purchases of Treasury bonds and the like. A debate over whether this constraint was binding before its elimination in 1932 revolves around whether the Fed could acquire additional eligible securities whenever it wished. See Friedman and Schwartz 1963 and Wicker 1966.

What was on the minds of Federal Reserve officials is no mystery. They had become increasingly preoccupied over the course of 1927 by the Wall Street boom, which they saw as diverting resources from more productive uses. To discourage stock market speculation, the Federal Reserve Bank of New York raised its discount rate from 3½ to 5 percent in the first half of 1928. In addition, the Fed was concerned by the decline in its gold cover ratio. The late-1920s boom having augmented stocks of money and credit more dramatically than U.S. gold reserves, the Fed raised interest rates in what it saw as the responsibility of any central bank.[29]

Its actions were felt both at home and abroad. Tighter money slowed the expansion of the U.S. economy.[30] Higher interest rates kept American capital from flowing abroad. The Fed's failure to release gold heightened the strains on other countries, which were forced to respond with discount-rate increases of their own.

THE PATTERN OF INTERNATIONAL PAYMENTS

It did not take long for the architects of the new gold standard to conclude that it was not operating as planned. Some countries lapsed into persistent balance-of-payments deficit, depleting their gold and foreign-exchange reserves. Aside from a small surplus in 1928, Britain was in overall payments deficit every year between 1927 and 1931. Other countries enjoyed persistent surpluses and reserve inflows. The French balance of payments, as mentioned earlier, was in surplus every year between 1927 and 1931. The United States ran payments surpluses for most of the 1920s. The adjustment mechanism that was supposed to eliminate surpluses and deficits and restore balance to the international accounts seemed to function inadequately. And the stabilizing capital flows that had financed the *current-account* deficits of industrial countries in times past could no longer be relied upon.

These inadequacies were dramatized by changes in the pattern of international settlements that strained the system's adjustment capacity. When European merchandise exports to Latin America had been curtailed in 1914, U.S. producers leapt to fill the void. The marketing and distribution networks they had set up during the war proved hard to dislodge after 1918. For example, the United States' share in Argentina's imports rose from 15 percent in 1913 to 25 percent in 1927, while that of the United Kingdom fell from 31 to 19 percent.

[29] Wicker (1966) and Wheelock (1991) stress the role of gold reserves in the conduct of Federal Reserve monetary policy in this period.

[30] There now is widespread consensus on this point. See Field 1984 and Hamilton 1987.

Wartime disruptions also provided Japan the opportunity to penetrate Asian markets long dominated by European producers. The consequence was a deterioration in Europe's competitive position.

War debts and reparations compounded Europe's difficulties. Between 1924 and 1929 the victorious powers received nearly $2 billion in reparations payments from Germany. They passed a portion on to the United States as principal and interest on debts incurred during the war. About $1 billion in war-debt-related transfers to the United States were completed between mid-1926 and mid-1931.

These transactions augmented the flow of gold and foreign exchange toward the United States. They strengthened the balance of payments of the United States and weakened that of other countries. The logical response to these shifts was the one predicted by the price-specie flow model: a rise in U.S. prices and costs relative to those prevailing in the rest of the world. But little such adjustment took place. Instead, the United States lent much of its surplus back to Europe and other parts of the world. As long as U.S. capital exports persisted, they could finance Europe's current-account deficits, obviating the need for substantial changes in relative prices. And U.S. lending reached high levels in the second half of the 1920s. The war had transformed the country from an international debtor into the world's leading creditor.[31] European investors had been forced to liquidate their holdings of U.S. securities and to incur new foreign debts. Wartime devastation left Europe capital-scarce, whereas the United States emerged from the war unscathed. Capital scarcity meant high rates of return, providing an incentive for American capital to flow across the Atlantic.

Except in 1923, the year of the Ruhr invasion, the United States lent large amounts overseas (see Figure 3.3). New security issues for foreign borrowers, which peaked in 1927–28, were the leading component of this flow. Issuing dollar-denominated bonds on behalf of foreign governments and corporations was a new undertaking for American investment banks. Indeed, the very scale of the bond business was new: as late as 1914, no more than 200,000 Americans invested in bonds; that number quintupled by 1929.[32] National banks, which had become involved in the wartime campaign to distribute Liberty bonds, sought to retain their newly acquired customers by interesting them in foreign securities. To ensure a steady supply of foreign bonds, they began originating them, a practice that provided further pressure to market them. The banks opened storefronts from which their bond departments could attract

[31] The standard introduction to this transformation is Lewis 1938.

[32] These estimates are drawn from Stoddard 1932 and Cleveland and Huertas 1985.

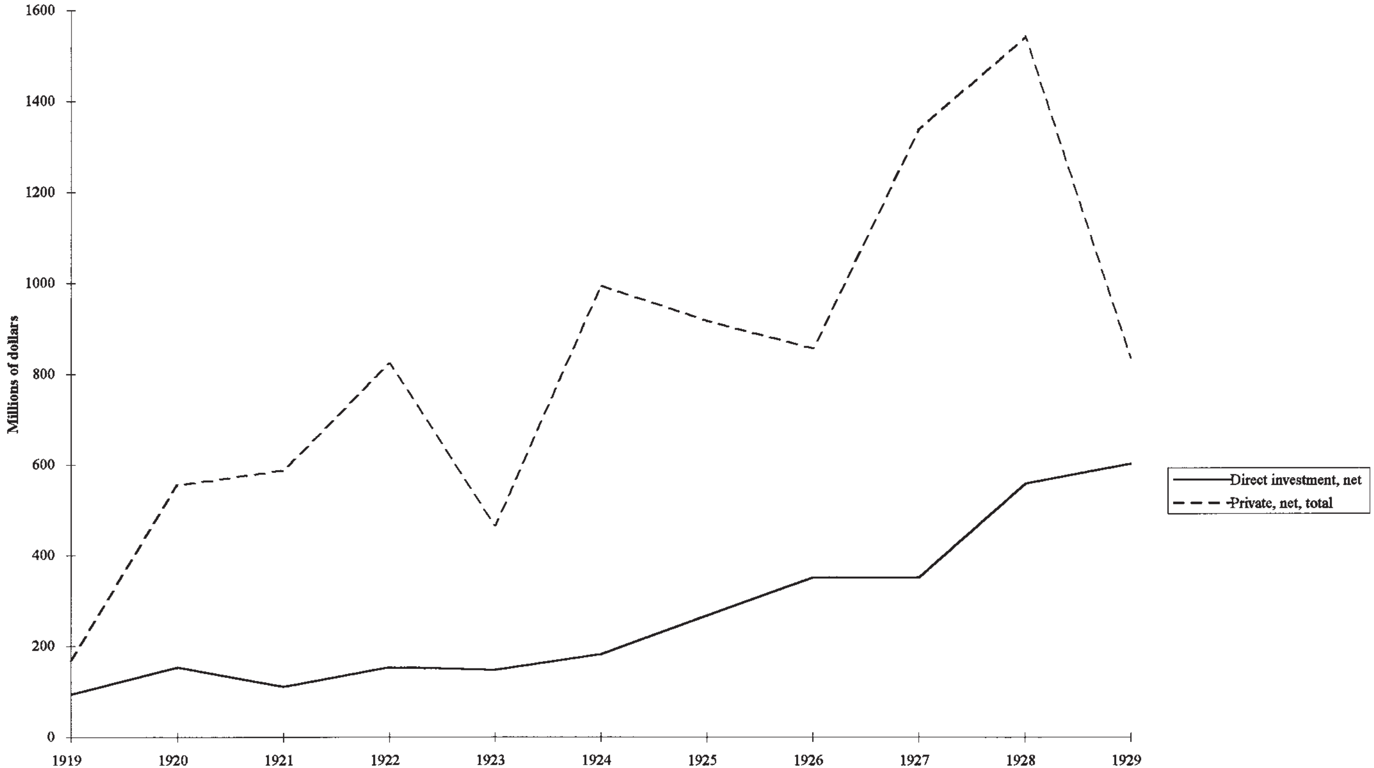

Figure 3.3. Private, Net, Total U.S. Capital Outflow, 1919–29. *Source*: Office of Business Economics 1954.

walk-in customers and hired traveling salesmen to peddle foreign bonds to farmers and widows.

Given the dependence of other countries on capital imports from the United States, the collapse of the recycling process in 1928 was a difficult blow. The interest-rate increases initiated by the Fed to slow the Wall Street boom and stem the decline in the gold cover ratio increased the attractiveness of investing in U.S. fixed-interest securities. Higher interest rates also damaged the creditworthiness of heavily indebted countries suddenly saddled with higher interest charges. U.S. foreign lending, which had been running at high levels in the first half of 1928, fell to zero in the second half of the year.

Once capital stopped flowing in, demand in the debtor countries was curtailed. The consequent fall in the relative prices of the goods they produced was the mechanism by which they boosted their exports and compressed their imports to bridge the gap created by the evaporation of capital inflows. In other words, the price-specie flow mechanism finally began to operate. But with the onset of the Great Depression in 1929, export markets were dealt a further blow, which made the earlier changes in relative prices wholly inadequate.

There were two obvious ways of attenuating the impact of the decline in U.S. lending and the shock to balances of payments posed by the onset of the Great Depression. First, war debts and reparations could be abolished. Eliminating unrequited transfers from Germany to France and Britain and from France and Britain to the United States would have strengthened Europe's balance of payments and reduced its dependence on U.S. capital. But a moratorium on war debts and reparations proved impossible to negotiate over the relevant time frame. Second, a further reduction in prices and costs, along the lines of the price-specie flow model, could have priced European and Latin American goods back into international markets. But there were limits to how far prices could be pushed down without setting in motion a deflationary spiral. Because foreign debts were denominated in nominal terms, reductions in the price level increased the real resource cost of servicing them, aggravating the problem of external balance. Because the debts of farmers and firms were denominated in nominal terms, price-level reductions, which cut into sales receipts, aggravated problems of default and foreclosure. If, as a result, the volume of nonperforming loans grew large enough, the stability of the banking system could be jeopardized.[33] For all these reasons, there were limits on the efficacy of the standard deflationary medicine.

[33] The technical term for this process, "debt deflation," was coined by Irving Fisher (1933).

RESPONSES TO THE GREAT DEPRESSION

Those familiar with gold-standard history will find nothing surprising about these simultaneous capital- and commodity-market shocks; primary-producing countries had experienced them repeatedly before the war. As in that earlier era, the developing countries had few options. They could use their remaining foreign-exchange earnings to keep current the service on their external obligations, or they could husband their central bank reserves and defend the convertibility of their currencies. To default on the debt would cause the creditors to revoke their capital-market access, but to fail to maintain adequate central bank reserves would raise grave questions about financial stability. Concluding that compromises of their gold-standard statutes could be more readily reversed, Argentina, Australia, Brazil, and Canada modified the rules of convertibility and allowed their currencies to depreciate in the second half of 1929 and the first half of 1930. Others followed.

While it was not unprecedented for countries experiencing shocks to suspend gold convertibility, earlier suspensions had been limited in scope; at no time between 1880 and 1913 had virtually all the countries of the periphery abandoned the gold standard simultaneously. Suspensions had been provoked by harvest failures, military conflicts, and economic mismanagement in individual countries, events that had caused exports to fall and capital inflows to dry up. In 1929 the suspensions resulted from a global economic crisis and were correspondingly more damaging to the international system.

The gold standard's disintegration at the periphery undermined its stability at the center. Contemporaries were not unaware of this danger; the report of Britain's Macmillan Committee (established to probe the connections between finance and industry), drafted in the summer of 1931, warned: "Creditor countries must, unless they are ready to upset the economic conditions, first of the debtor countries and then of themselves, be prepared to lend back their surplus, instead of taking it in gold."[34] This proved easier said than done.

This fragile financial situation was superimposed on a more fundamental problem: the collapse of industrial production. The industrial world had seen recessions before, but not like that which began in 1929. U.S. industrial production fell by a staggering 48 percent between 1929 and 1932, German industrial production by 39 percent. Recorded unemployment peaked at 25 percent of the labor force in the United States; in Germany unemployment in industry reached 44 percent.[35]

[34] Committee on Finance and Industry 1931, para. 184.

[35] See Galenson and Zellner 1957.

Governments naturally wished to stimulate their moribund economies. But injecting credit and bringing down interest rates to encourage consumption and investment was inconsistent with maintenance of the gold standard. Additional credit meant additional demands for merchandise imports. Lower interest rates encouraged foreign investment. The reserve losses they produced raised fears of currency depreciation, prompting capital flight. Governments tempted to use policy to halt the downward spiral of economic activity were confronted by the incompatibility of expansionary initiatives and gold convertibility.

At this point the changed political circumstances of the 1920s came into play. Before the war it had been clear that the governments of countries at the gold standard's industrial core were prepared to defend the system. When a country's exchange rate weakened, capital flowed in, supporting rather than undermining the central bank's efforts to defend convertibility, since currency traders were confident of the official commitment to hold the exchange rate within the *gold points* and therefore expected the currency's weakness to be reversed. In this new policy environment, it was no longer obvious that a currency's weakness was temporary." The most significant development of the period," as Robert Triffin put it, "was the growing importance of domestic factors as the final determinant of monetary policies."[36] In this more politicized environment, it was uncertain how the authorities would react if forced to choose between defense of the gold standard and measures to reduce unemployment.

As soon as speculators had reason to think that a government might expand domestic credit, even if doing so implied allowing the exchange rate to depreciate, they began selling its currency to avoid the capital losses that depreciation would entail. The losses they would suffer if the weak currency recovered were dwarfed by the gains they would reap if convertibility were suspended and the currency allowed to depreciate. In contrast to the situation before World War I, capital movements "of a disturbing sort" (to invoke the phrase of Bertil Ohlin cited in Chapter 2) became widespread.

With the growth of fears for the stability of exchange rates, questions arose about key currencies like sterling and the dollar. A prudent central banker would hesitate to hold deposits in London or New York if there were a risk that sterling or the dollar would be devalued. The British resorted to moral suasion to discourage the liquidation of other countries' London balances. When their promise to defend sterling proved empty, central banks suffered substantial losses and became even more averse to holding exchange

[36]Triffin 1947, p. 57.

reserves. One country after another replaced its exchange reserves with gold, driving up the relative price of the latter. In countries whose central banks still pegged the nominal price of gold, this meant a further decline in commodity prices. The liquidation of foreign exchange reduced the volume of international reserves (gold plus foreign exchange): the reserves of twenty-four leading countries declined by about $100 million over the course of 1931.[37] With this further decline in the availability of reserves, central banks were forced to ratchet up their discount rates to ensure reserve adequacy and convertibility.

The intensity of speculation against a currency depended on the credibility of the government's commitment to the maintenance of its gold standard peg. Where credibility was greatest, capital still flowed in stabilizing directions, blunting the trade-off between internal and external balance. Where credibility was questionable, destabilizing speculation aggravated the pressure brought to bear on a government seeking to balance conflicting interests. One might think that credibility derived from past performance—that is, from whether a country had defended its gold standard parity in the face of past crises and, when forced to suspend gold convertibility, had restored it subsequently at the initial rate. The belief that credibility could be obtained by cultivating such a record had provided one of the motivations for the British decision to return to gold at the prewar parity. It now transpired that the governments of countries that had maintained the prewar parity, the United Kingdom and the United States among them, enjoyed the least credibility, while financial market participants invested the greatest confidence in the governments of countries that had returned to gold at a depreciated rate, as France and Belgium had done.

This inversion reflected two facts. First, a searing experience with inflation that prevented the restoration of convertibility at the prewar parity often rendered a government singularly committed to defending its new parity in order to prevent a recurrence of the financial and social turmoil of the previous decade. This was the case in France, Belgium, and Italy, for example. In other words, current policy priorities mattered more than past performance. Second, current economic conditions mattered as much as if not more than past performance for the sustainability of gold-standard commitments. Where the downturn was severe, as it was in the United States, doubts about the political sustainability of the harsh deflationary measures needed to defend the gold-standard peg might be more prevalent than where the initial decline was relatively mild, as it was in France. Credibility was the casualty.

[37] Nurkse 1944, p. 235.

BANKING CRISES AND THEIR MANAGEMENT

These dilemmas were most painful in countries with weak banking systems. The falling prices associated with the Depression made it difficult for bank borrowers to repay. By eroding the value of collateral, they left banks hesitant to roll over existing loans or to extend new ones. Small firms unable to obtain working capital were forced to curtail operations. Enterprises with profitable investments found themselves starved of the financing needed to undertake them.

Central banks, as lenders of last resort to the banking system, were not unaware of these problems. But they were discouraged from intervening on behalf of the banking system by the priority they attached to the fixed rates of the gold standard. Injecting liquidity into financial markets might have violated the statutes requiring them to hold a minimum ratio of gold to foreign liabilities. It would have reinforced doubts about the depth of their commitment to defending the gold-standard parity. Indeed, the fear that central banks might be prepared to bail out the banking system, even if doing so would require allowing the currency to depreciate, provoked the further liquidation of deposits as investors sought to avoid the capital losses consequent on depreciation. As a result, the faster central banks injected liquidity into the financial system, the faster it leaked back out via capital flight. In these circumstances, lender-of-last-resort intervention might be not only difficult but also counterproductive.[38]

These difficulties were compounded by the fact that many of the mechanisms that had been utilized for managing banking crises before the war could not be invoked. When the entire banking system was in distress, it was impossible to arrange collective support operations in which strong banks supported weak ones. For countries like the United States, lifeboat operations like that which had been arranged by the Bank of England in 1890 in response to the Baring crisis did not provide a way out. Generalized suspensions of the convertibility of deposits into currency like that which had occurred in 1893 did not take place until four years into the Depression, when a new president, Franklin Roosevelt, took office and declared a nationwide bank holiday. One explanation is that the consortia of banks in New York and other financial centers, which had jointly suspended operations in 1893 and on other occasions, neglected their collective responsibilities in the belief that the newly

[38] The United States is the one country for which it has been argued that the central bank possessed sufficient gold to address its banking and monetary problems without jeopardizing gold convertibility. This is the view of Milton Friedman and Anna Schwartz (1963). Dissenting opinions include those of Barrie Wigmore (1984) and Barry Eichengreen (1992b).

created Federal Reserve System would ride to the rescue. If so, their confidence was misplaced.

Moreover, temporary departures from the gold standard, which had allowed nineteenth-century governments and central banks to relax the gold-standard constraints, were not resorted to in the 1930s.[39] As discussed in Chapter 2, only if strict conditions were met could this "escape clause" be invoked without damaging the credibility of the government's commitment to defend its gold-standard parity. It had to be clear that the internal or external drain in response to which convertibility was being temporarily suspended resulted from circumstances that were not of the authorities' own making. Because there had been no question before World War I of the overriding priority attached by central banks to the defense of convertibility, there was no reason to believe that excessively expansionary policies of the central bank were themselves responsible for the crisis in response to which the temporary suspension occurred.

After World War I, priorities were different, and central banks and governments were subjected to strong pressure to cut interest rates and undertake expansionary open-market operations in response to deteriorating domestic economic conditions. It was no longer clear, in other words, that the external drain arose for circumstances not of the government's own making. Suspending convertibility and depreciating the currency might be seen as validation of this fact and severely damage policy credibility. With the credibility of their commitment to convertibility already in doubt, central banks had no choice but to reassure the markets by defending the gold parity to the bitter end. Hence, the gold standard posed a binding constraint on intervention in support of the banking system.

The way out of this bind was international cooperation. If other countries supported the exchange rate of the nation in distress, it no longer followed that, when its central bank provided liquidity to the financial system, an exchange rate crisis necessarily ensued. Similarly, had expansionary monetary and fiscal initiatives been coordinated internationally, the external constraint would have been relaxed. Expansion at home might still weaken the balance of payments, but expansion abroad would strengthen it. Coordinating domestic and foreign economic policies would have made it possible to neutralize the balance-of-payments consequences. The worldwide shortage of liquidity produced by the collapse of financial intermediation would have been averted.

[39] As we shall see below, most countries that suspended gold convertibility did so permanently. Those few that restored it subsequently, such as the United States, did so only after depreciating their currencies.

Unfortunately, differences of interpretation impeded efforts to coordinate reflation internationally. In Britain the slump was attributed to the inadequate provision of money and credit by the Bank of England. This view was articulated in 1931 by Keynes in his private testimony to the Macmillan Committee and by other critics of Churchill's 1925 decision to restore the prewar parity. In France, in contrast, monetary expansion was regarded as the problem rather than the solution. Given the double-digit inflation through which the nation had suffered in the first half of the 1920s, the French associated monetary expansion with financial and political chaos. They viewed the Depression as the consequence of excessive credit creation by central banks that had failed to adhere to the gold standard's rules. Cheap credit, they believed, had fueled excessive speculation, setting the stage for the 1929 crash. For central banks to again intervene when prices had only begun to fall threatened to provoke another round of speculative excesses and, ultimately, another depression. It would be healthier to purge such excesses by liquidating overextended enterprises. A similar liquidationist view informed U.S. policy until Franklin Roosevelt took office in 1933.

Given these incompatible outlooks, international cooperation was hopeless. And unilateral policy initiatives to stabilize the economy were precluded by the constraints of the gold standard.

DISINTEGRATION OF THE GOLD STANDARD

Against this backdrop it is possible to understand the gold standard's collapse. Austria was the first European country to experience banking and balance-of-payments crises. That it was first to be so affected was far from random. Austria's short-term foreign indebtedness exceeded $150 million, a considerable sum for a small country. Much of this debt took the form of liquid deposits in Viennese banks. And the banks were already weakened by extensive loans to an industrial sector that suffered disproportionately from the slump.

Austria's largest deposit bank, the Credit Anstalt, was in particularly dire straits. The too-big-to-fail principle applied with a vengeance: the Credit Anstalt's liabilities were larger than the Austrian government budget.[40] For its deposits to be frozen for any period would have had devastating economic

[40] See Schubert 1990, pp. 14–15. The Credit Anstalt's difficulties had been compounded by bad loans inherited as a result of its absorption of another bank, the Bodenkreditanstalt, in 1929. That merger had been imposed on a reluctant Credit Anstalt by a government wishing to protect the national bank from losses on rediscounts it had extended to the Bodenkreditanstalt. This gave the Credit Anstalt a special claim to assistance in 1931.

effects. Hence, the authorities did not hesitate to bail out the bank when its directors revealed in May 1931 that bad loans had wiped out its capital.

Although the government moved quickly to replenish the Credit Anstalt's capital, its intervention did not reassure the depositors. There were rumors, ultimately confirmed, that the bank's losses were greater than those announced. There was the revelation that Austria and Germany had discussed the establishment of a customs union in violation of the Versailles Treaty, a fact that hardly enhanced prospects for French and British assistance. Above all, the government's provision of liquidity to the banking system was potentially incompatible with its maintenance of the gold standard. The central bank increased its note circulation by more than 25 percent in the last three weeks of May as a result of purchasing Credit Anstalt shares and providing other support to distressed financial institutions, this during a period when its international reserves were falling, not rising. The budget had already lapsed into deficit because of the slump in economic activity. That the government had shouldered what was effectively an unlimited state guarantee for the liabilities of the Credit Anstalt only augured additional deficits.[41] Although the central bank was prohibited by law from providing direct finance for those deficits, it had violated its charter before by rediscounting finance bills.[42] None of this reassured the markets. Fearing devaluation or the imposition of exchange controls, savers liquidated their deposits as a first step toward transferring funds out of the country.

Aiding the banking system without jeopardizing the gold standard (and, for that matter, defending gold convertibility without destabilizing the banking system) required a foreign loan. Negotiations commenced at the Bank for International Settlements (BIS), the bankers' bank in Basel that was the logical agent to coordinate financial cooperation. They dragged on inconclusively. That the BIS had been created to manage the transfer of German reparations lent its deliberations a political cast. The French insisted that Austria first renounce the customs union proposal as a condition of receiving support. And the loan it finally obtained was a drop in the bucket given the rate at which funds were flowing out of the country.

Unable to avoid choosing between defending its banking system and defending its gold standard, Austria opted for the first alternative. But with memories of hyperinflation under floating rates still fresh, the government chose to impose exchange controls rather than allowing its currency to depreciate. Initially, controls were administered informally by the banking system.

[41] This linkage is emphasized by Harold James (1992, p. 600 and passim).

[42] Schubert 1991, pp. 59–61.

As the price of government support, the major Viennese banks agreed not to transfer capital or gold abroad or to provide funds to their customers for such purposes. Although these restraints worked surprisingly well, there remained an incentive for individual banks to renege on the agreement. In September, therefore, exchange controls were made official. The Austrian schilling fell to a 10–15 percent discount in Viennese coffee houses, the only place where foreign exchange was still traded.[43]

From Austria the crisis spread to Hungary and Germany. The Credit Anstalt possessed a controlling interest in Hungary's largest bank. When panic broke out in Vienna, foreign investors therefore began withdrawing their funds from Budapest's banks. Hungary was also burdened by reparations obligations and as an agricultural exporter had suffered significant terms-of-trade losses. The central bank had few resources at its disposal. A bank holiday was declared in July. The government froze foreign deposits and imposed exchange controls. The convertibility of domestic currency into gold and the right to export specie were suspended. As in Austria, the gold standard became a hollow shell.

Although the Credit Anstalt's investments in Germany were insignificant and German deposits in Vienna were limited, the Austrian and German banking systems resembled each other in important respects. German banks, like their Austrian counterparts, were heavily committed to industry and suffered extensive losses as a result of the Depression. The Credit Anstalt crisis therefore alerted observers to their vulnerability.[44] In Germany, as in Austria, the external accounts were only tenuously balanced, German payments stability hinging on capital inflows. The German *balance of trade* remained in modest surplus (Germany, as an exporter of industrial goods, having experienced terms-of-trade gains rather than losses), but that surplus sufficed only to finance reparations, not also to service commercial debts.

Both domestic and foreign depositors withdrew their money from German banks after the outbreak of the Austrian crisis.[45] Initially, the Reichsbank provided liquidity to the banking system. But with Germany's short-term liabilities to foreigners three times the Reichsbank's reserves, the central bank had little room for maneuver. As recently as the end of May, Germany's monetary gold stock had been the fourth largest in the world and its ratio of gold to

[43] See Ellis 1941, p. 30.

[44] Harold James 1984 and Peter Temin 1994a question the interdependence of the Austrian and German crises, downplaying these informational channels.

[45] Much as Swedish officials complained in 1992 that foreign investors caught unaware by the Finnish crisis were unable to distinguish one Nordic country from another, German politicians complained that foreigners failed to distinguish Berlin from Vienna and Budapest. See Chapter 5.

notes and sight liabilities was more than 50 percent. By June 21, the ratio had fallen to 40 percent, the statutory minimum. Episodes like this afforded "ample evidence," in the words of one observer, "that no gold supply can ever be adequate if adequacy is tested by the ability of a country to meet gold drains based on loss of confidence in the country's credit structure."[46]

Germany, like Austria, sought a foreign loan and a reparations moratorium. But Clement Moret, the governor of the Bank of France, echoing his country's position in its negotiations with Austria, demanded that the German government first reaffirm its pledge to provide reparations. George Harrison of the Federal Reserve Bank of New York insisted, perversely, that Germany agree to limit the provision of credit to the banking system. Harrison was willing to loan money to the Reichsbank only if the latter promised not to use it!

Meanwhile, the Reichsbank did what it could to defend the gold standard, limiting credit to the banking system in an effort to defend its reserves. The result of this stringency was, predictably, a banking crisis. The precipitating event was the failure of a textile firm, Nordwolle, that was a client of one of the large Berlin banks. On July 13 the government was forced to declare a bank holiday. It then imposed exchange controls. Germany, the largest industrial country in Europe and the world's second-leading industrial power, was no longer a member of the gold-standard club.

STERLING'S CRISIS

Because British banks had only loose connections with industry, they were insulated relatively well from the slump in industrial production.[47] But the standstill agreements in Central Europe created difficulties for several of the merchant banks; Lazard Frères, for example, was on the brink of closure in July and was sustained only by extensive support from the Bank of England. Rumors were rife that other houses were in similar difficulties.[48]

In addition, the Bank of England had been battling reserve losses ever since the return to gold in 1925. For support the Bank had relied on the nation's "invisible earnings": interest and dividends on foreign investments; income from tourism; and receipts from shipping, insurance, and financial services rendered to foreigners (see *invisibles account* in the Glossary). Starting

[46] Hardy 1936, p. 101.

[47] In addition, by U.S. standards, British banking was concentrated, providing an extra cushion of profits, and widely branched, insulating it from region-specific shocks. An analysis of the implications for financial stability is Grossman 1994.

[48] See Sayers 1976, vol. 2, pp. 530–31; James 1992, p. 602.

in 1930, other countries imposed tariffs to protect slump-ridden industries from foreign competition, and world trade collapsed, cutting into Britain's earnings from shipping and insurance. Larger still was the decline in interest, dividends, and profits on foreign investments. In 1930 this reflected the general deterioration of business conditions. In 1931 it was reinforced by debt default in Latin America and prohibitions on interest transfers by Austria, Hungary, and Germany. Between 1929 and 1931 the United Kingdom's trade balance deteriorated by £60 million, but its invisible balance worsened by more than twice that amount, making it increasingly difficult for the Bank of England to hold sterling within the gold points.[49] Gold losses accelerated in the second half of 1930, causing the Bank of France and the Federal Reserve Bank of New York to intervene in sterling's support. The exchange rate fell from \$4.86¼ to \$4.85½ in January 1931 before recovering (see Figures 3.4–3.7).

Historians have emphasized these balance-of-payments trends.[50] The worsening current account, they observe, drained gold from the Bank of England and set the stage for the attack on sterling. The problem with this story is that the Bank possessed a powerful instrument, the discount rate, with which to defend itself. Utilizing it did not threaten the banking system, unlike the situation in Austria and Germany. The Bank raised its rate by a full point on July 23 and by another point a week later. If historical experience is any guide, these increases should have sufficed to attract capital in amounts that more than offset the deterioration in the current account.[51]

The question, then, is why capital kept flowing out. It may be that the markets viewed the Bank's discount-rate increases as unsustainable. Higher interest rates exacerbated unemployment and weakened support for a Labour government that possessed only a parliamentary minority.[52] They aggravated the problem of nonperforming loans, weakening the position of banks whose earnings had already been devastated by the Central European standstill. High interest rates increased the cost of servicing the public debt and further undermined the fiscal position. Government debt was dominated by the huge mass

[49] Sayers 1976, vol. 3, pp. 312–13.

[50] See, for example, Moggridge 1970.

[51] This is the conclusion drawn by Cairncross and Eichengreen (1983, pp. 81–82) on the basis of simulations of a small model of the British balance of payments.

[52] In the words of Sidney Pollard (1969, p. 226), "It was, in part, the depth of the slump and the level of unemployment which inhibited the raising of the bank rate to panic heights." According to Diane Kunz (1987, p. 184), "With business already very depressed, neither management nor labour nor their representatives in Parliament were willing to pay the price which such a high Bank rate would exact."

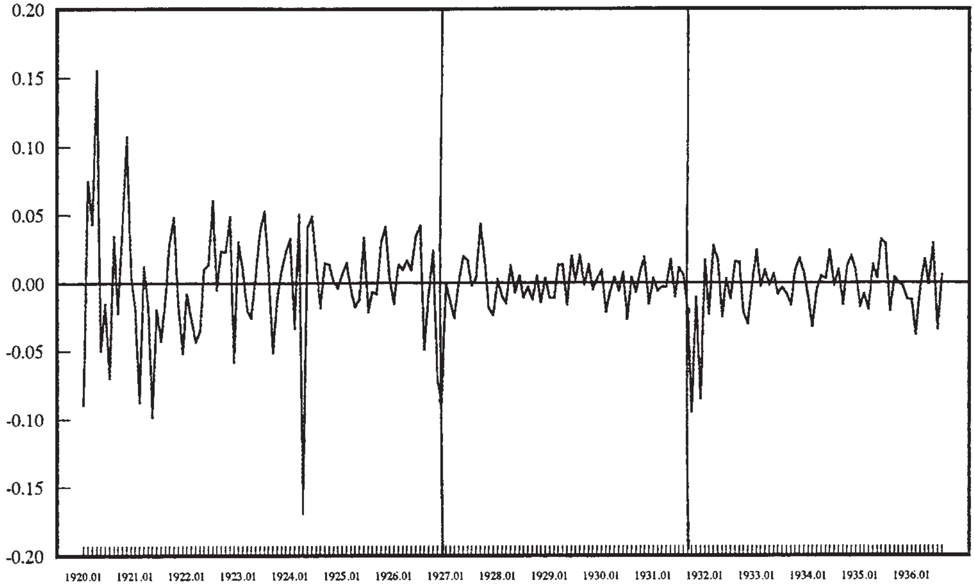

Figure 3.4. Franc-Sterling Real Exchange Rate, January 1920–August 1936 (monthly change in relative wholesale prices). *Sources*: Nominal exchange rates from Federal Reserve Board 1943; wholesale prices from International Conference of Economic Services 1938.

of liquid bonds known as "war debt," and interest charges absorbed a third of government expenditure. The budget, having been in surplus in the late 1920s, lapsed into deficit in 1930–31.[53] If conditions failed to improve and unemployment continued to rise, pressure on the Bank to abandon its policies of austerity might prove irresistible.[54] The German crisis, which boded ill for European economic recovery, increased the likelihood that this would ultimately come to pass. The report of the Macmillan Committee had already called for measures to halt "the violent downturn of prices, the effects of which upon political and social stability have already been very great."[55] Anticipating that the government and the Bank of England might be forced to reverse course, speculators sold sterling.[56]

[53] The Committee on National Expenditure, under Sir George May, called attention to these problems in a report published in July.

[54] These dynamics are modeled formally by Ozkan and Sutherland (1994).

[55] Committee on Finance and Industry 1931, p. 92.

[56] The timing of events supports this interpretation: on July 15, two days after the Darmstaedter und Nationalbank, one of Germany's largest financial institutions, failed to open its doors, sterling dropped by a cent and a half, passing through the lower gold point against other major

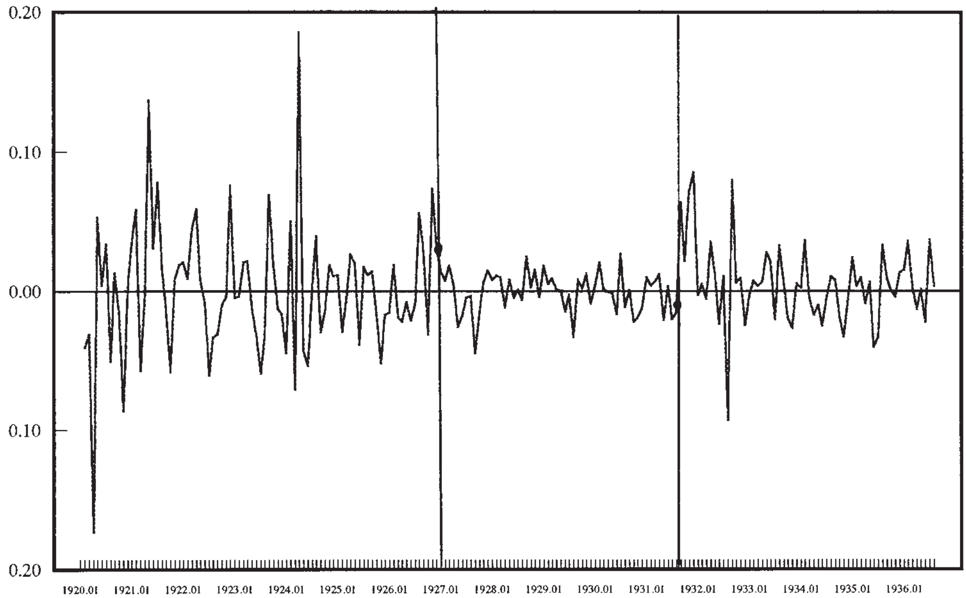

Figure 3.5. Swedish Krona–French Franc Real Exchange Rate, January 1920–August 1936 (monthly change in relative wholesale prices). *Sources*: Nominal exchange rates from Federal Reserve Board 1943; wholesale prices from International Conference of Economic Services 1938.

The Bank was prepared to maintain its discount rate at 2.5 percent, the July 16 level, or 3.5 percent, the July 23 level, notwithstanding unemployment of 20 percent. In the absence of an attack, the sterling parity was sustainable with a discount rate at that level. What was not sustainable for political reasons were additional increases in interest rates, or even the current level of rates, as the slump continued to worsen. Realizing that there were limits on how far the Bank of England was prepared to go, and that the Bank and the government were likely to reduce interest rates and switch to a policy of "cheap money" once their investment in the gold standard was lost, the markets forced the issue. The German crisis provided a focal point for concerted action by currency traders. By selling sterling in sufficient quantities to force

currencies. When the seven-power conference on German reparations deadlocked, making it apparent that the German crisis would not be resolved quickly, sterling fell again. The government's £56 million in proposed spending cuts and the Bank of England's success in obtaining credits from the Bank of France and the Federal Reserve Bank of New York delayed the collapse until September, but none of these expedients reduced unemployment or eliminated the problem it created for defense of the sterling parity.

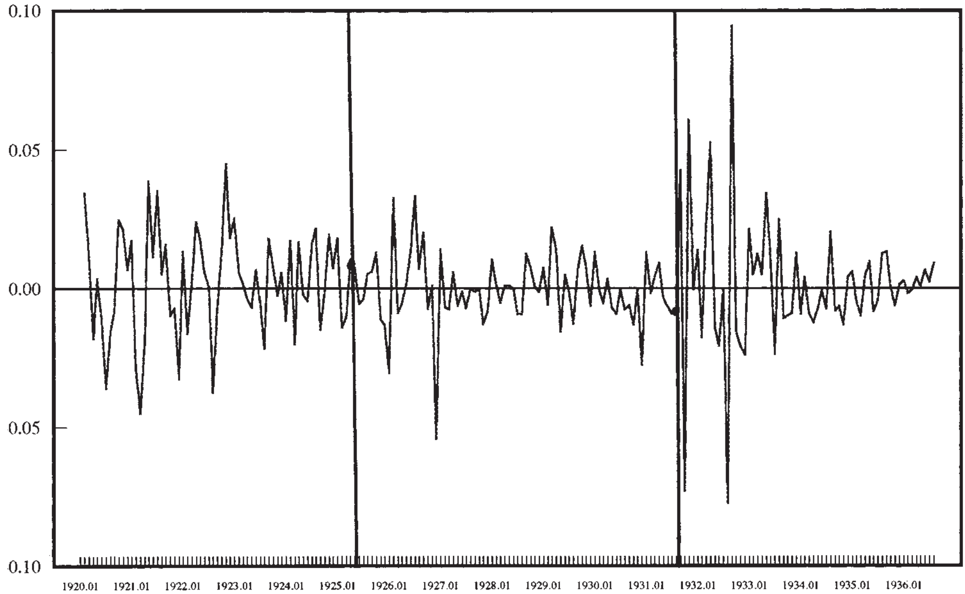

Figure 3.6. Swedish Krona–Sterling Real Exchange Rate, January 1920–August 1936 (monthly change in relative wholesale prices). *Sources*: Nominal exchange rates from Federal Reserve Board 1943; wholesale prices from International Conference of Economic Services 1938.

interest-rate increases of a magnitude that no democratically elected government facing 20 percent unemployment could support, they precipitated the abandonment of a parity that would otherwise have remained viable. Borrowing limited amounts of hard currency in New York and London, as the government did in early September, only put off the day of reckoning; although it placed additional resources at the government's command, it also increased the country's foreign indebtedness, reinforcing the skepticism of speculators about its long-term prospects and encouraging them to redouble their efforts.[57] Once launched, the attack on sterling was impossible to contain.

Britain's suspension of convertibility on September 19, 1931, more than any other event, symbolized the interwar gold standard's disintegration. Sterling had been at the center of the prewar system. It had been one of the dual anchors of its interwar successor. Then it lost a third of its value against gold in three months. This decline undermined confidence in other currencies. Foreign central banks shifted out of dollar reserves and into gold for fear that they

[57] Buiter (1987) analyzes a model in which borrowing abroad to defend the exchange rate can only intensify a crisis.

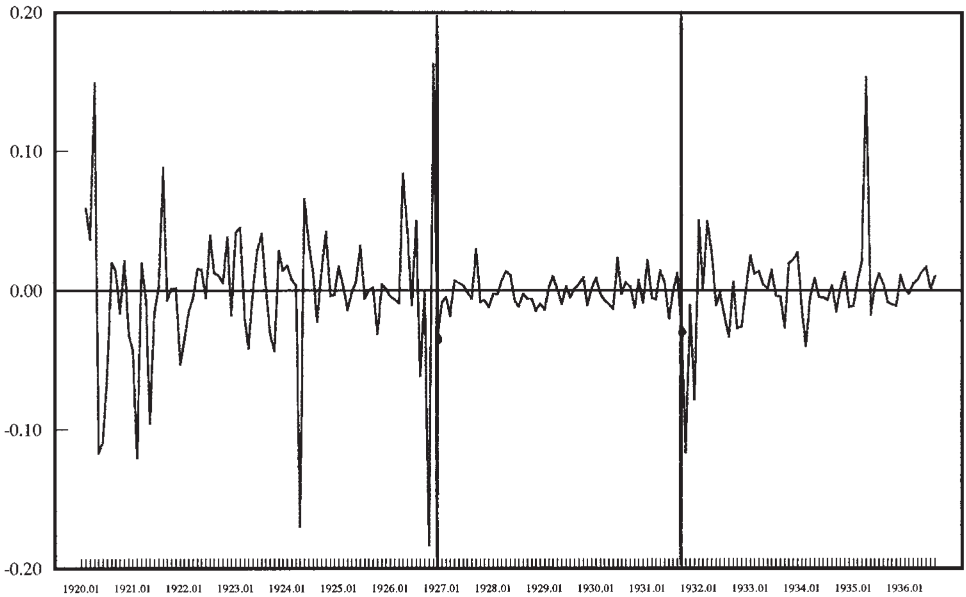

Figure 3.7. Belgian Franc–Sterling Real Exchange Rate, January 1920–August 1936 (monthly change in relative wholesale prices). *Sources*: Nominal exchange rates from Federal Reserve Board 1943; wholesale prices from International Conference of Economic Services 1938.

might suffer capital losses on their dollar balances. The markets, suddenly willing to think the unthinkable—that the dollar might be devalued—sold off the currency, forcing the Federal Reserve to jack up interest rates.

The shift from dollars to gold compressed the reserve base of the global monetary system. By the beginning of 1932, some two dozen countries responded to the pressure by abandoning convertibility and depreciating their currencies. As a global system, the gold standard was history.

THE DOLLAR FOLLOWS

Gold convertibility was then limited to Western Europe (where France, Belgium, Switzerland, Holland, Czechoslovakia, Poland, and Romania continued to adhere), to the United States and the Latin American countries in its sphere of influence, and to those nations' overseas dependencies (the Netherlands East Indies and the Philippines, for example). A second group of countries in Central and Eastern Europe supported their currencies by applying exchange controls. Although their exchange rates remained nominally unchanged, international financial flows were controlled and supplies of foreign currency were rationed, leading to the emergence of black-market discounts. A third group was made up of countries that followed the Bank of England off gold and pegged to sterling. They enjoyed many of the benefits of exchange rate stability by linking their currencies to the pound and, like Britain, reduced interest rates to stimulate recovery from the Depression.

In countries that abandoned the gold standard and depreciated their currencies, expenditure shifted away from the products of the gold bloc, which had become more expensive. The exchange controls of Germany and its Eastern European neighbors had the same effect. Members of the gold bloc saw their competitive positions worsen and their balances of payments deteriorate. Demand weakened in the gold-standard world, deepening the Depression and intensifying the pressure to reverse policies of austerity. With the writing on the wall, investors began to question the stability of the remaining gold-based currencies.

First to go was the dollar, which was devalued in 1933. Until FDR assumed office in March, output continued to fall and unemployment worsened. Banks failed at an alarming rate. The Hoover administration had few options, for the gold standard precluded reflationary initiatives. Late in 1931, the Bank of France, which had suffered a 35 percent loss on its sterling exchange as a result of Britain's devaluation, resumed the liquidation of its foreign balances, including its dollars. The Federal Reserve, which possessed little free gold, was forced to permit these reserve losses to further deplete the U.S. money supply.

In March of 1932, a Congress looking forward to an election campaign began pressing the Fed to initiate expansionary open-market operations. It passed the Glass-Steagall Act, removing the free-gold constraint that had previously inhibited expansionary initiatives (although the 40 percent gold cover requirement remained).[58] The Open-Market Committee acceded to congressional pressure, expanding domestic credit by purchasing bonds. Predictably, reserves flowed out, and the dollar's gold parity was threatened. In the nick of time, Congress adjourned for the reelection campaign, permitting the Fed to curtail its intervention. While the Fed's about-face succeeded in supporting the dollar's gold parity, the episode revealed the breadth of support for reflationary action. It heightened skepticism in currency markets about the commitment of elected officials, especially Democratic ones, to the maintenance of the gold standard.[59]

[58] For details on the operation of the free-gold constraint, see footnote 28 above.

[59] A review of these political developments and their impact on the markets is provided by Epstein and Ferguson 1984.

Roosevelt's victory confirmed their fears. Observers, conscious of FDR's penchant for experimentation, were aware of the pressure he would feel from the variety of proposals wending their way through Congress to force the Treasury and the Federal Reserve System to reflate the economy. Echoing the Populist Alliance of the 1890s, the representatives of farm states banded together with silver-mining interests in an effort to legislate silver purchases, which they were prepared to advocate even if initiating such purchases forced them to abandon the gold standard.

It was conceivable that Roosevelt would bow to these pressures. Anticipating this eventuality, investors withdrew money from the banks in order to convert it into gold and foreign exchange.[60] The new president did not take long to validate their expectations. Upon assuming office in March, he was met with bank runs in virtually every state and declared a bank holiday. In the third week of April he followed up by suspending gold convertibility. The dollar fell by more than 10 percent over the remainder of the month. Following a period of stability that coincided with discussion of a possible currency stabilization agreement at the London Economic Conference, the administration pushed the dollar down by purchasing gold at progressively higher prices set each morning by Roosevelt and a coterie of advisers breakfasting in the president's bedroom on eggs and coffee.[61] By January 1934, when the dollar was finally stabilized, the price of gold had risen from $20.67 to $35 an ounce.

America's departure from the gold standard encouraged other countries to follow. It led to the formation of a "little dollar bloc," which consisted of the United States, the Philippines, Cuba, and much of Central America, with Canada and Argentina following at a distance. The impact on the remaining gold-standard countries was predictable. Their depressions deepened, heightening pressure for the adoption of reflationary policies. Their payments positions weakened, threatening the maintenance of gold convertibility unless policies of austerity were reinforced. One by one the members of the gold bloc were forced to suspend convertibility: Czechoslovakia in 1934, Belgium in 1935,

[60] For details, see Kennedy 1973 and Wigmore 1989. In Chapter 4 we will see that there are parallels with the market's reaction to the election of John F. Kennedy in 1960.

[61] Neither Roosevelt nor his advisers had a coherent vision of international economic policy. Fred Block (1977, p. 26) calls them "notoriously inept" in their grasp of economics. FDR's views were heavily influenced by the ideas of two Cornell University agricultural economists, George Warren and Frank Pearson. Warren and Pearson had uncovered a correlation between the prices of agricultural commodities (which they took as a proxy for the health of the economy) and the price of gold. To encourage the recovery of agricultural prices they urged Roosevelt to raise the dollar price of gold, indirectly bringing about the devaluation of the dollar. See Warren and Pearson 1935.

and France, the Netherlands, and Switzerland in 1936. The return to floating was complete.

MANAGED FLOATING

Exchange rates, though floating again, often varied by less than they had in the first half of the 1920s (see *managed floating* in the Glossary). Exchange Equalization Accounts intervened in the markets, leaning against the wind in order to prevent currencies from moving sharply. Monetary and fiscal policies were less erratic than they had been in high-inflation countries in the 1920s. For some exchange rates, notably the French franc–British pound rate shown in Figure 3.4, month-to-month real rate movements resembled those of the immediately preceding gold-standard years more than those of the first half of the 1920s. The volatility of most other exchange rates was greater, resembling that of the early 1920s.[62]

Having severed the link with the gold standard, governments and central banks had greater freedom to pursue independent economic policies. Britain could attach priority to stimulating recovery; the Bank of England was free to reduce Bank rate as long as it was prepared to allow sterling to decline against gold-backed currencies. Cutting the discount rate helped to reduce market interest rates, both nominal and real, which ignited a recovery led by interest-rate-sensitive sectors such as residential construction.[63] In an effort to reconcile interest-rate cuts with orderly currency markets, the Bank of England and the British Exchange Equalisation Account (which opened in July 1932) intervened to ensure that sterling declined in an orderly fashion.[64]

An internationally coordinated program of macroeconomic reflation would have been better still: had all countries agreed to reduce interest rates and expand their money supplies, they could have stimulated their economies more

[62] One cannot reject the hypothesis that the variance of the franc-sterling rate was no different in the third period depicted in the diagram (September 1931–August 1936) than in the second (January 1927–August 1931). Differences in the behavior of the other three exchange rates shown in Figures 3.5–3.7 are more evident, but it is also true for the krona-sterling rate that one cannot reject the null of equal variances.

[63] Matte Viren (1994) shows that *central bank discount rates* had a powerful effect on real and nominal rates, which clearly dominated the effects of other macroeconomic determinants of interest rates.

[64] The Exchange Equalisation Account was initially authorized to issue £150 million in Treasury bills, which it used to acquire gold. Subsequently, it used those reserves to intervene in the foreign-exchange market to damp what it regarded as excessive fluctuations in the exchange rate. For details, see Howson 1980.

effectively and done so without destabilizing their exchange rates. When the United States expanded, as it did in 1932, the dollar weakened, but had France expanded at the same time, the dollar would have strengthened. The gold standard and reflation could have been reconciled with each other. But internationally coordinated reflationary initiatives did not prove possible to arrange. The United States, France, and Britain were unable to agree on concerted action. In particular, their efforts to do so at the 1933 London Economic Conference came to naught. The French, preoccupied by the inflation of the 1920s, rejected monetary reflation as a source of speculative excesses and economic instability—as part of the problem rather than part of the solution. The British refused to tie their policies to those of a foreign partner of whose intentions they were unsure. The United States refused to wait.

Hence, the reflationary measures that were undertaken in the 1930s were initiated unilaterally. Inevitably they involved currency depreciation. Depreciation enhanced the competitiveness of goods produced at home, switching demand toward them and stimulating net exports. The improvement in the initiating country's competitiveness was, of course, a deterioration in the competitiveness of its trading partners. This led commentators to refer disparagingly to currency depreciation as *beggar-thy-neighbor devaluation*. But the fact that these depreciations were self-serving should not be allowed to obscure their effectiveness. The timing of depreciation goes a long way toward explaining the timing of recovery. The early devaluation of the British pound helps to explain the fact that Britain's recovery commenced in 1931. U.S. recovery coincided with the dollar's devaluation in 1933. France's late recovery was clearly linked to its unwillingness to devalue until 1936. The mechanism connecting devaluation and recovery was straightforward. Countries that allowed their currencies to depreciate expanded their money supplies. Depreciation removed the imperative of cutting government spending and raising taxes in order to defend the exchange rate. It removed the restraints that prevented countries from stabilizing their banking systems.[65]

Thus, currency depreciation in the 1930s was part of the solution to the Depression, not part of the problem. Its effects would have operated more powerfully if the decision to abandon the gold standard had occasioned the adoption of more expansionary policies. Had central banks initiated aggressive programs of expansionary open-market operations, the problem of inadequate aggregate demand would have been erased more quickly. The growth in

[65] Evidence documenting these linkages is reported by Eichengreen and Sachs 1985. Campa 1990 and Eichengreen 1988 show that the same relationships hold in Latin America and Australasia.

the demand for money that accompanied recovery could have been met out of an expansion of domestic credit rather than requiring additional imports of gold and capital from abroad. This would have diminished the gold losses suffered by countries that clung to the gold standard, attenuating the beggar-thy-neighbor effects of currency depreciation.

But because fears of inflation were rife, even in the slump, expansionary initiatives were tentative. Countries depreciating their currencies and shifting demand toward the products of domestic industry satisfied their growing demands for money and credit by strengthening their balances of payments and importing capital and reserves from abroad. Their reserve gains were reserve losses for countries still on gold. But the problem was not that devaluation took place; it was that the practice was not more widespread and that it did not prompt the adoption of even more expansionary policies. Abandoning the gold standard allowed countries to regain their policy independence. And by devoting some of that independence to policies of leaning against the wind in currency markets, they were able to do so without allowing the foreign exchanges to descend into chaos.

Why, if this managed float combined a modicum of exchange rate stability with policy autonomy, did it not provide a model for the international monetary system after World War II? To a large extent, postwar observers viewed the managed float of the 1930s through spectacles colored by the less satisfactory free float of the 1920s. Past experience continued to shape—some would say distort—contemporary perceptions of the international monetary regime. A further objection was that managed floating led to protectionism. Depreciation by the United Kingdom and the United States led France and Belgium to raise their tariffs and tighten import quotas in the effort to defend their overvalued currencies. It was not merely short-term exchange rate volatility as a source of uncertainty that policymakers opposed but also the predictable medium-term exchange rate swings that fueled protectionist pressures.[66]

In 1936, when the final round of devaluations loomed, France, the United States, and the United Kingdom negotiated the Tripartite Agreement. France promised to limit the franc's depreciation in return for the United States and Britain's promising to refrain from meeting one depreciation with another. The agreement committed the signatories to remove import quotas and to work for the reconstruction of the multilateral trading system. Even though trade conflict was not directly responsible for the war clouds darkening Euro-

[66] Chapter 5 develops a similar argument in the context of European monetary unification and the European Union's Single Market Program. There I suggest that exchange rate swings could subvert efforts to construct a truly integrated market, as they undermined international trade in the 1930s.

pean skies, exchange rate fluctuations that created commercial conflicts were not helpful for cultivating cooperation among the countries that shared an interest in containing Germany's expansionist ambitions. When, during and after World War II, the United States led efforts to reconstruct the international monetary system, it sought arrangements that provided exchange rate stability specifically to support the establishment of a durable trading system.

CONCLUSIONS

The development of the international monetary system between the wars can be understood in terms of three interrelated political and economic changes. The first one was growing tension between competing economic policy objectives. Currency stability and gold convertibility were the unquestioned priorities of central banks and treasuries up to the outbreak of World War I. In the 1920s and 1930s things were different. A range of domestic economic objectives that might be attained through the active use of monetary policy acquired a priority they had not possessed in the nineteenth century. The trade-off between internal and external objectives began to bind. The single-minded pursuit of exchange rate stability that characterized central bank policy before the war became a thing of the past.

A second, related, change was the increasingly Janus-faced nature of international capital flows. Capital flows were part of the glue that bound national economies together. They financed the trade and foreign investment through which those economies were linked. When monetary policies enjoyed credibility, those capital flows relieved the pressure on central banks to defend temporarily weak exchange rates. But the new priority attached to internal objectives meant that credibility was not to be taken for granted. In the new circumstances of the interwar period, international capital movements could aggravate rather than relieve the pressure on central banks.

The third development that distinguished the prewar and interwar periods was the changing center of gravity of the international system; its weight shifted away from the United Kingdom and toward the United States. Before World War I, the international monetary system had fit the international trading system like a hand in a glove. Britain had been the principal source of both financial and physical capital for the overseas regions of recent settlement; it had provided the principal market for the primary commodity exports that generated the foreign exchange needed to service the borrowers' external debts. Between the wars, the United States overtook Britain as the leading player in the commercial and the financial domains. But America's foreign financial and commercial relations did not yet fit together in a way that produced a harmoniously working international system.

Hence, when postwar planners again contemplated the reconstruction of the international system, they sought a framework capable of accommodating these changed conditions. The solution to their problem was not straightforward.