1. Introduction

Two themes run through this collection of essays. The first concerns the role of the international monetary system in the functioning of the global economy. The intricacies of international finance tend to be dismissed by analysts of economic growth, who focus on the accumulation of capital and labor inputs and on technical change in the production function that transforms them into outputs of final goods. In fact, as recent events have underscored, this dichotomy can lead to an incomplete and misleading picture of the aggregate economy. Economic growth is predicated on a stable macroeconomy, which in turn requires a stable financial environment. As new technologies link national financial markets ever more tightly together, the international monetary system through which cross-border transactions are settled comes to play an increasingly central role in the operation of the macroeconomy and its financial sector.

By highlighting the connection between the international monetary system and the macroeconomy, turbulence in financial markets has led to renewed calls for international monetary reform. This raises a host of questions about the optimal design of international monetary institutions. Theory can shed light on the operating characteristics of different institutional arrangements. But it delivers useful results only by stripping away complications that yield ambiguous conclusions in the abstract. For those concerned with the operation of different international monetary arrangements not in theory but in practice, there is no substitute for concrete evidence from historical experience.

But why focus on the decades between World Wars I and II? A first reason is that the interwar period provides an exceptionally rich menu of international monetary experience. Following the collapse of the international gold standard during World War I, the early 1920s witnessed a period of floating exchange rates the like of which the industrial economies have experienced neither before nor since. Between 1921 and 1925 the major currencies fluctuated against one another in the virtual absence of central bank intervention, providing the closest approximation yet witnessed to the

textbook model of freely floating exchange rates. Modern opinions about the advantages and drawbacks of floating rates – including the fear that they might prove excessively volatile and be destabilized by speculation – were formed largely on the basis of this historical experience.[1]

There followed an equally short-lived experience with fixed exchange rates in the context of the reconstructed gold standard. Just as the preceding period did much to form modern opinion about floating rates, the interwar gold-exchange standard of 1925–31 was the crucible on which modern views of pegged exchange rates were forged. The notion that the stability of fixed-rate regimes is readily undermined by destabilizing flows of short-term capital ("hot money") was encouraged by the abrupt collapse of this laboriously reconstructed system. Memory of the experience played a role in the retention of capital controls for more than a decade after the establishment of the Bretton Woods System following World War II. The notion that fixed-rate regimes which bind policymakers' hands can be counterproductive from a macroeconomic point of view was similarly shaped by the exceptional severity of the Great Depression in those countries which clung to their gold standard parities.

Interpretation of this episode has been complicated by disagreement over the proper characterization of the fixed-rate system that prevailed between 1925 and 1931. Some have questioned whether the interwar gold (or gold-exchange) standard was a true gold standard, others whether it differed significantly from Bretton Woods. I suggest below that although the interwar system had elements in common with both its predecessor and its successor, in certain crucial respects it more closely resembled the former. Admittedly, the gold-exchange standard of 1925–31 differed from the textbook model of the gold standard by virtue of central bank intervention, the use of foreign deposits as international reserves, and the fact of exchange rate changes. So had the classical gold standard, however. Rather than differences in kind, the differences between the prewar and interwar

[1] The single most influential account of the operation of floating rates and single most powerful statement of the dangers of destabilizing speculation remains Ragnar Nurkse, *International Currency Experience* (Geneva, 1944). His interpretations have not gone undisputed, viz. Milton Friedman, "The Case for Flexible Exchange Rates," in *Essays in Positive Economics* (Chicago, 1953), 157–203. Other influential accounts of exchange rate behavior in this period include William Adams Brown, *The International Gold Standard Reinterpreted, 1914–1934* (New York, 1940); E.L. Dulles, *The French Franc 1914–1928* (New York, 1929); M. Wolfe, *The French Franc Between the Wars, 1919–1939* (New York, 1951); S.C. Tsiang, "Fluctuating Exchange Rates in Countries with Relatively Stable Economies," *Staff Papers* 7 (1959), 244–73; and Robert Z. Aliber, "Speculation in the Foreign Exchanges: The European Experience," *Yale Economic Essays* 2 (1962), 171–245.

gold standards were differences in extent (more active management, more reliance on nongold reserves, more frequent exchange rate changes between the wars). Although the interwar gold standard bore a strong resemblance to the system constituted at Bretton Woods, it differed by the absence of a dominant reserve currency to which other participants pegged their exchange rates and of a single center country in response to whose initiatives they adjusted their policies.

The collapse of the gold-exchange standard in 1931 cleared the way for a period of managed floating. Between 1932 and 1936, most of the major exchange rates fluctuated, as in the first half of the 1920s, but were actively managed, as in the second half of that decade. Intervention tended to occur unilaterally with a minimum of international consultation or policy coordination. The experience of the thirties did much to mold modern opinions about the hazards of international monetary systems which permit unilateral exchange-rate changes. According to the standard interpretation of the period, countries initiated beggar-thy-neighbor devaluations which imposed costs on their trading partners, and engaged in an expensive and ultimately futile tug of war over the exchange rates linking their currencies.

That the interwar system of fixed rates was at the same time more actively managed than its predecessor and more decentralized than its successor provides a further rationale for focusing on the period. Any international monetary reform in our lifetime is certain to share these features. Though faith in the merits of activist stabilization policy will continue to wax and wane, future policymakers are unlikely to adopt binding rules or attach priority to external balance to the same extent as their 19th century predecessors. The interwar period, when policymakers intervened actively in response to conflicts between internal and external balance, more closely resembles the situation that is likely to prevail. Similarly, the trend toward an increasingly multipolar international monetary system is certain to persist into the 21st century. Hence, any new set of institutions will be required to accommodate the objectives of a number of nations possessing roughly comparable financial and monetary resources. The precedent for this situation is neither the classical gold standard nor the Bretton Woods System but interwar experience.

The second recurring theme of this collection of essays is the connection between the international monetary system and the Great Depression, the unparalleled macroeconomic catastrophe of modern times. The most influential work on the Depression concentrates on the United States, which is treated essentially as a closed economy. Both Milton Friedman and Anna

Schwartz, on the one hand, and Peter Temin, on the other, portray the Great Depression basically as a domestic affair.[2] While the international dimension is not totally absent from either book, neither is it central. Friedman and Schwartz share with Temin the view that the events which converted a garden-variety recession into a Great Depression originated primarily in the United States. They attribute to feedbacks from overseas at most a subsidiary role in the Depression's depth and duration.

A central message of these essays is that the Great Depression was at root an international phenomenon. The international monetary system served as one of the channels through which deflationary impulses were propagated and constrained the economic policies adopted in response. Although I concur with Friedman and Schwartz and with Temin in the importance they attach to economic policy, I differ in my emphasis on its international dimension. Policy had important cross-border effects through its impact on foreign economies and foreign policymakers. The failure of officials to take these effects into account played a significant role in the international slump. The analogy is with a couple competing in a three-legged race. Progress hinges on their ability to coordinate their efforts. Steps taken without coordination will lead to their downfall. So it was in the Depression, when unilateral initiatives of national policymakers often worked at cross-purposes, leaving everyone worse off.

The first of the essays sets the stage for the subsequent analysis, summarizing the behavior of real and nominal exchange rates under the three interwar monetary regimes. (Nominal exchange rates are those quoted in the newspaper. Real exchange rates adjust nominal rates for domestic and foreign prices.) The contrasts among periods are striking. Not just nominal exchange rates but relative prices were much more volatile under the free float of the 1920s than under the managed float of the 1930s, and much more volatile under managed floating than under the fixed parities of the gold-exchange standard. It is tempting to interpret this correlation in causal terms – to argue that volatility in foreign-exchange markets gave rise to relative price (real exchange rate) instability which distorted patterns of production and consumption, with real economic costs.

[2] The references are to Milton Friedman and Anna Schwartz, *A Monetary History of the United States, 1857–1960* (Princeton, 1963) and Peter Temin, *Did Monetary Forces Cause the Great Depression?* (New York, 1976). An important exception is Charles Kindleberger, *The World in Depression, 1929–1939* (Berkeley, 1973). And as I hope to make clear, there are still others who have considered the economics of the interwar years from an international perspective.

This is the interpretation favored by authors writing in the tradition of interwar commentators such as Ragnar Nurkse. In this view, nominal exchange rates are subject to destabilizing speculation, and domestic prices respond sluggishly to exchange rate movements. Speculators buy or sell currencies in anticipation of capital gains and losses that otherwise would not occur. Since commodity prices adjust more slowly than exchange rates, destabilizing speculation distorts the structure of relative prices. In the 1920s destabilizing speculation was especially prevalent, it is argued, in countries experiencing inflation at rates ranging from the moderate (France, Belgium, Italy) to the extreme (Germany, Austria, Hungary, Poland). But whereas evidence of sluggish price adjustment is abundant, that for destabilizing speculation is not. In Eichengreen (1982) I asked whether speculation destabilized the French franc in the 1920s, finding little evidence that it did. That study, however, predated the recent literature on "rational" (self-fulfilling) bubbles in asset markets, which suggests different tests for destabilizing speculation.[3] This is an area ripe for reexamination.

But there exist alternative explanations for the correlation between real and nominal exchange rates. A second interpretation, which I personally favor, is that during floating-rate periods nominal exchange rates are perturbed by divergences among national policies (rather than by speculation), and that nominal exchange-rate volatility results in real exchange-rate volatility for the reasons just described. A commitment to fixed parities that is at least temporarily binding constrains national policymakers to harmonize their policies internationally. With policies adapted to eliminate variations in nominal rates, the volatility of real rates is minimized. A commitment to fixed nominal exchange rates is no panacea, since it solves neither the "after you, Alphonse" problem of which nation's policymakers move first nor the "too many Indians" problem of which ones determine the overall thrust of policy. This is evident in the early phases of the Great Depression, when fixed rates succeeded in limiting the volatility of real exchange rates even in an exceptionally turbulent period but did not prevent policy from being highly deflationary.

[3] Work on rational or self-fulfilling speculative bubbles was largely instigated by the articles of Robert Flood and Peter Garber, for example, "Market Fundamentals versus Price-Level Bubbles: First Tests," *Journal of Political Economy* 88 (1980), 745–70. Two applications to the foreign exchange market are K. West, "A Standard Monetary Model and the Variability of the Deutchemark-Dollar Exchange Rate," *Journal of International Economics* 23 (1987), 57–76, and Wing T. Woo, "The Monetary Approach to Exchange Rate Determination under Rational Expectations, *Journal of International Economics* 18 (1985), 1–16.

A third interpretation emphasizes the tendency of disturbances to wreak havoc with both real and nominal exchange rates. Causality may run in the other direction, according to this view, from real disturbances through relative prices to the financial system and the nominal exchange rate. Although there is no reason to question the existence of real disturbances in the interwar period, it need not follow that they were greatest in the years of floating rates. Many observers would argue that the real shocks of the early years of the Great Depression, when nominal exchange rates remained fixed, dwarfed those of either the early twenties or the mid-thirties.

None of this justifies a blanket indictment of flexible exchange rates. Even if exchange-rate flexibility had costs, in the form of the relative price volatility to which it gave rise, it may have also had benefits. This, in fact, is what standard theory suggests. When countries suffer an external shock such as World War I or the Great Depression, restoration of macroeconomic equilibrium can be expedited by a depreciation which raises prices and profitability and redeploys resources faster than is possible through adjustments in the entire spectrum of domestic prices and costs. This is the "daylight-savings-time" argument for flexible rates. Chapter 3 demonstrates its applicability to the 1920s (as does Chapter 9 for the 1930s). The benefits of exchange-rate adjustments are apparent in the wake of World War I, when countries which depreciated their currencies recovered more rapidly than those which restored their prewar gold standard parities, and in the wake of the Depression, when countries which devalued recovered more quickly than those which clung to the gold standard.

The next several chapters consider the second of the three interwar monetary regimes: the reconstructed gold standard. Its unsatisfactory operation is evident in its early collapse and in the onset of the Great Depression with which its short existence coincided. The question is why the system performed so poorly. Was it riddled by structural flaws which undermined its operation, or did central banks simply fail to manage it effectively? Most of those who blame inadequate management concentrate on the three leading central banks, those of Britain, France, and the United States. Chapter 4 takes a close look at the actions of the Bank of England. Throughout the gold standard period Britain experienced external difficulties, due to a conjuncture of developments, prominent among which was the restoration of the prewar parity in 1925. Contemporaries criticized the Bank of England for failing to stem Britain's gold losses and thereby for undermining the stability of sterling, which was, along with the dollar, one of the two key currencies of the interwar system. Chapter 4 demonstrates that the Bank

of England felt compelled to respond not only to disturbances to the external accounts but to domestic economic conditions, and suggests that these played a role in the sterling crisis and in the gold standard's collapse.

The Bank of France also has been allotted a significant share of the blame for the instability of the interwar gold standard. It is indicted for sterilizing inward gold flows (for eliminating their impact on domestic financial markets), much as the Bank of England sterilized outflows. Not only did France's absorption of gold intensify the difficulties experienced by the Bank of England, but it placed downward pressure on gold supplies and prices worldwide, the last thing needed on the eve of the Great Depression. The popular explanation for this behavior is that Paris was indulging a characteristic French appetite for gold. Chapter 5 emphasizes instead the limited capacity of the French central bank to stem gold inflows. The new statutes under which the Bank of France operated following stabilization in 1926 precluded expansionary open market operations, whereas the other instruments of policy available to the Bank were not up to the task. These new statutes were themselves a response to the perception that further restrictions were needed to insulate the Bank of France from pressure to monetize government budget deficits, pressure it had proven unable to resist in the first half of the decade.

Indirectly, then, the gold flows and consequent instabilities of the period following 1925 were a legacy of the experience of the preceding years.[4] The incapacity of the Bank of France to slow its absorption of gold arose out of structural features of the French gold standard bequeathed by the inflationary experience of the first half of the 1920s. The difficulties experienced by the Bank of England, in part a result of the decision to restore the prewar parity, similarly reflected interwar perceptions of Britain's experience in prewar years. In both cases, historical experience influenced the structure and conditioned perceptions of the international monetary system.

These analyses of the French and British central banks have two implications for how the interwar gold standard should be viewed. First, that gold standard was neither a purely rules-based nor a purely discretionary system. Rules and discretion combined in its operation, and either might dominate at the worst possible moment. Second, the structure and operation of the interwar system – both the nature of its rules and the ways in which discretion was utilized – hinged on political as much as economic

[4] Harold James, *The German Slump* (Oxford, 1986) makes a similar argument for interwar Germany.

considerations. This is not to suggest that politics were isolated from economics. In both Britain and France political pressures responded to recent economic events: in the case of Britain, the foreign challenge to sterling's status as a key currency, which fueled the mandate to restore the prewar parity; in the case of France, the postwar experience with inflation, which created the demand for new constraints on monetary management.

Neither British nor French policy was formulated in isolation from the other or from the policy of the Federal Reserve. Chapter 6 focuses on the interaction of central banks and on the implications for the operation of the international monetary system. It assesses the argument, advanced by Clarke (1967), that the failure of central bank cooperation, by undermining the stability of the gold-exchange standard, exacerbated the Great Depression. That argument is important, since it suggests a role for the international monetary system in the post-1929 slump. It is at the same time perplexing, since its emphasis on policy coordination is at odds with the conventional view of the gold standard as a decentralized system. I argue that the interwar gold-exchange standard was in reality anything but a decentralized system comprised of autonomous members; rather, economies were highly interdependent and systemic stability required collective management. The immediate problem for policy coordination was that the demand for reserves by central banks exceeded the available supply. Possessing incompatibly large desires for scarce global gold stocks, central banks engaged in a self-defeating struggle to acquire gold from one another through the adoption of higher and higher interest rates. As Keynes described the situation on the eve of the Depression, "What helps each central bank is not a high Bank rate but a higher rate than the others. So that a raising of rates all round helps no one until, after an interregnum during which the economic activity of the whole world has been retarded, prices and wages have been forced to a lower level."[5] Herein lay the scope for policy coordination. Had they acknowledged the dilemma and negotiated a cooperative solution to this game, central banks could have achieved the same international distribution of gold without putting the world economy through a deflationary wringer.

Since not all national economies suffered equally from the deflation of the 1920s, the expansion which served as prelude to the Great Depression took on different shapes in different countries. Britain suffered dispropor-

[5] John Maynard Keynes, "Is There Enough Gold? The League of Nations Inquiry," *The Nation and Athenaeum* (19 January 1929). Reprinted in D. Moggridge (ed.), *The Collected Writings of John Maynard Keynes, Activities 1922–1929: The Return to Gold and Industrial Policy* (Cambridge, 1981), Part II, pp. 775–80.

tionately throughout the second half of the 1920s and did not have far to fall when the Depression struck. France, after enjoying a modest boom and remaining immune from the worst effects of the Depression until the end of 1930, suffered an exceptionally severe depression when its prosperous economy collapsed. The traditional explanation for their contrasting experiences in the 1920s emphasizes the exchange rate – that the pound sterling was overvalued, by some ten percent according to Keynes, whereas the French franc was undervalued by approximately the same amount. The mystery is how decisions about nominal exchange rates taken in 1925 or 1926 could continue to exercise such powerful effects five years later. An increasing number of authors agree that insofar as these effects persisted, they did so through their interaction with other structural and policy problems.[6] In the case of Britain, the exchange rate mattered in conjunction with wage and price rigidities which prevented costs from quickly coming into line and in conjunction with the restrictive monetary policies mandated by the exchange-rate constraint. In the case of France, as Chapter 7 shows, its effects are comprehensible only when considered alongside those of other policy instruments, notably taxation and government expenditure. International monetary policy provides an important part of the explanation for the shape of the run-up to the Depression, but only a part.

Among the side-effects of exchange-rate instability was mounting protectionist pressure. Protectionist sentiment had been on the rise throughout the 1920s, culminating in the worldwide round of tariff increases sandwiched between the U.S. Smoot-Hawley tariff of 1930 and the British General Tariff of 1932. Whether or not one subscribes to the argument that trade warfare contributed significantly to the Great Depression, a view which I have questioned elsewhere (Eichengreen, 1989), it remains true that whatever macroeconomic objectives nations achieved through the imposition of tariffs, they could have obtained more efficiently through a combination of exchange-rate adjustments and other changes in domestic policy. While decisions to raise tariff barriers have been a favorite topic for study by economists and historians alike, the connection between exchange rates and protection has gone almost unnoticed.[7] As Chapter 8 documents, the

[6] The cases of France and Britain are both considered by J. Bradford DeLong, "Returning to the Gold Standard: A Macroeconomic History of Britain and France in the 1920s," Ph.D. dissertation, Harvard University (1987). Another perspective on the British case is provided by Kent Matthews, "Was Sterling Overvalued in 1925?" *Economic History Review* (sec. ser., 1987), 572–98, and by the authors whose work he cites.

[7] Representative of recent studies of the political economy of protection in this period are Forrest Capie, "The British Tariff and Industrial Protection in the 1930s," *Economic History Review* 31 (sec. ser., 1978), 399–409; Barry Eichengreen, "The Political Economy

exchange rate contributed to protectionist pressure through two channels. First, misaligned exchange rates created problems of internal and external balance and exacerbated the difficulties of particular sectors, generating pressure for a tariff to offset exchange-rate effects and as a final line of defense for the gold standard. Second, distrust of floating rates inherited from the 1920s sustained the pressure for a tariff even after the gold standard had collapsed and adjustment through exchange-rate changes was again feasible. Protection was attractive as a defense against the specter of excessive depreciation which might ignite an inflationary spiral.

Although the devaluation of sterling in 1931 did not prevent Britain from imposing a tariff, it transformed the policy environment in other ways. More than two dozen countries followed Britain off the gold standard, the remaining members of the Gold Bloc successively falling by the wayside between 1932 and 1936.[8] These competitive devaluations have been widely blamed for the severity of the Great Depression. But as Jeffrey Sachs and I suggest in Chapter 9, they may have received more than their fair share of criticism. Rather than ineffectual or counterproductive policy initiatives, currency depreciation in the 1930s had a powerful stimulative effect on the devaluing countries. Besides switching demand toward them – the beggar-thy-neighbor effect criticized by successive generations of historians – devaluation increased the scope for expansionary monetary policy by relaxing the gold standard constraint. Admittedly, devaluation was contractionary abroad in the sense that the stimulative effects of domestic monetary expansion were dominated by the beggar-thy-neighbor expenditure-switching effects.[9] But as we point out in that chapter, this is not to say that had the policy been adopted even more widely it would not have hastened recovery from the Great Depression.

A possible caveat is that competitive depreciation could have worsened

of the Smoot-Hawley Tariff," *Research in Economic History* 11 (1989), 1–44, and J. Goldstein, "Ideas, Institutions and American Trade Policy," *International Organization* 42 (1987), 179–218.

8 Studies of the 1931 devaluation of sterling have proliferated in recent years. The most recent generation of analyses includes Alec Cairncross and Barry Eichengreen, *Sterling in Decline* (Oxford, 1983), Stephen Broadberry, *The British Economy Between the Wars: A Macroeconomic Survey* (Oxford, 1986), and Diane Kunz, *Britain's Battle for the Gold Standard in 1931* (Kent, 1987).

9 The theoretical point, that devaluation under a gold standard need not be beggar-thy-neighbor, because the expenditure-increasing effect of monetary expansion may dominate the expenditure-switching effect, is developed in Barry Eichengreen and Jeffrey Sachs, "Competitive Devaluation and the Great Depression: A Theoretical Reassessment," *Economics Letters* 22 (1986), 67–71.