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**The Financial System and the Economic Crisis
of the Interwar Years**

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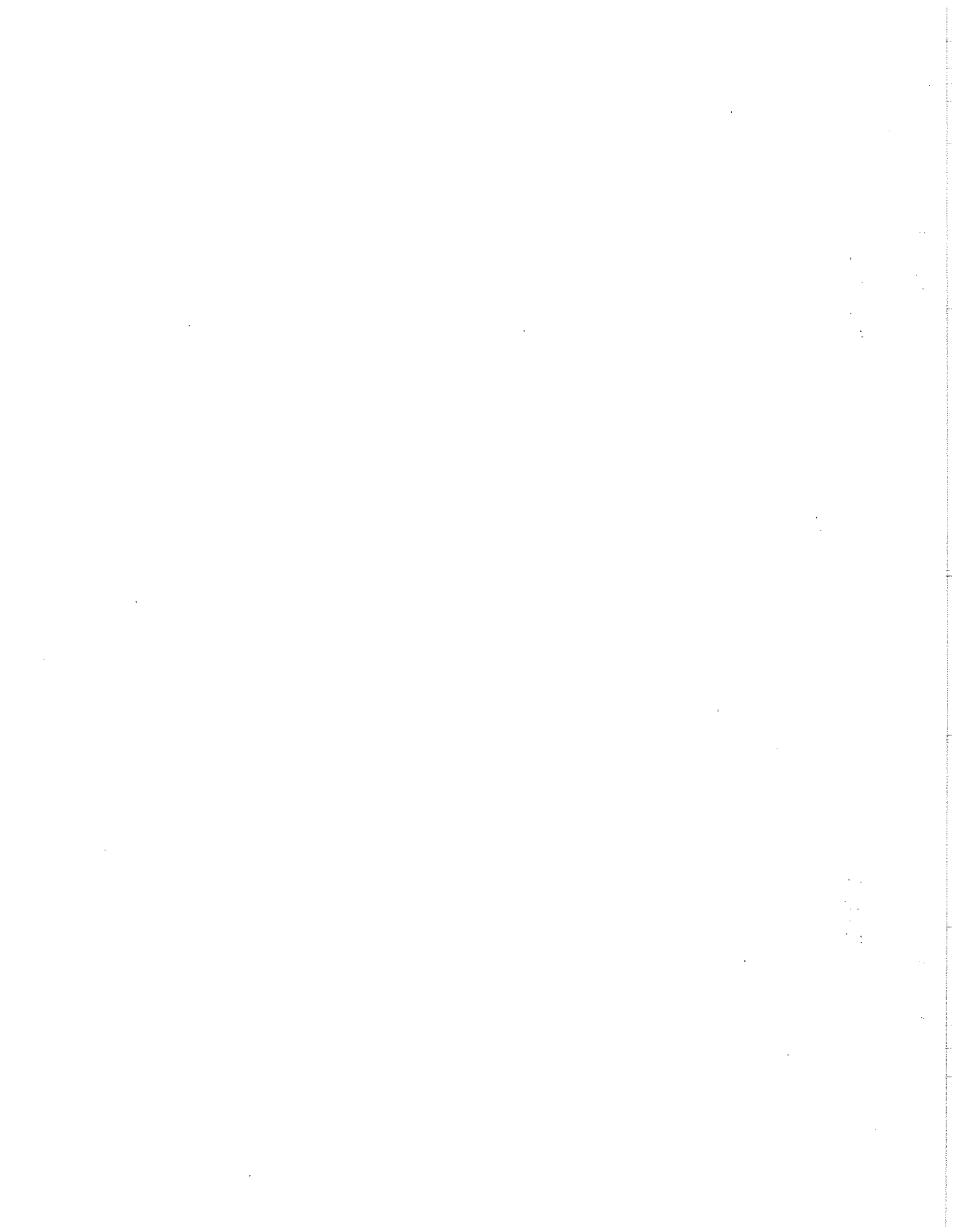
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Never have events in financial markets had such profound implications for the course of economic events as during the interwar years. The 1920s was a decade of rapid change in the structure and conduct of domestic and international financial relations. The economic crisis of the 1930s then laid bare the connections between the financial system and the rest of the economy. It is hard to think of another period when financial innovation was so rapid yet so inadequately managed, when financial instability was so prevalent, and when financial crisis had such devastating macroeconomic effects.

In this paper I describe the principal developments in financial markets between the wars and trace their links with the macroeconomic crisis of the 1930s. The analysis is divided into three parts. The first section recounts the monetary and financial developments of the 1920s, setting the stage for an analysis of the macroeconomic crisis of the 1930s. The second section analyzes the connections between domestic financial panics, the collapse of the international financial system, and the Great Depression of the 1930s. The third section suggests some implications of this experience for the subsequent development of domestic and international financial markets.

1. Domestic and International Finance in the 1920s

World War I set in motion the forces that shaped financial relations throughout the 1920s.^{1/} A first effect of the war was to alter the balance of power in international financial markets. The United States was transformed from foreign debtor to net foreign

creditor. Contemporary estimates suggest that, to finance the war, 60 per cent of the U.S. securities held abroad were resold to American investors in 1915-1916. Between 1915 and 1919, more than \$12 billion of loans were extended by the United States to the Allies and the European neutrals. The European belligerents emerged from the war owing considerable net external debts to the United States. By the mid-1920s most countries had negotiated a schedule for repayment of their war loans. Between 1926 and 1931, the U.S. received about \$1 billion in payment of interest and repayment of principal.

Augmenting these westward flows were German reparations. The reparations bill established at London in 1921 was rescheduled as part of the Dawes Plan settlement in 1924. The annuities required of Germany under the provisions of the plan were promptly paid through 1929. Nearly \$2 billion was received from Germany by the Allies over the 5 intervening years.

Neither Germany nor the victorious Allies was in a position to increase exports in the volume required to generate billions of dollars of foreign exchange. Even had they been capable, it is unlikely that other countries would have willingly absorbed the additional imports. International financial equilibrium required that the United States and, to a lesser extent, Britain recycle the westward flow of interest and reparations payments. In fact, the recycling problem was more extensive than this. The economies of France, Belgium and Germany had been devastated by the war. Foreign credit was required to import foodstuffs and to finance economic

reconstruction. The partition of Central and Eastern Europe into half a dozen sovereign states fragmented industries and transport systems; adjustment required extensive investment in infrastructure, plant and equipment, adding to the demand for external finance. The logical solution was for the United States, traditionally a capital importer, to begin exporting capital to Europe and other parts of the world.

Initially, New York provided capital in the form of short-term finance, mainly trade credits channeled through London. American capital exports in 1919-1920 exceeded the amount of lending in which the U.S. engaged in any two subsequent years of the interwar period. But once European governments began to demand finance for long-term investment projects rather than food imports, trade credits no longer sufficed. The maturity structure of loans had to be matched with the maturity structure of investment projects. Bond flotations were the logical result. American commercial banks had already begun to branch abroad. Their representatives aggressively competed for foreign loans. The banks established securities affiliates to market foreign bonds in the United States. They opened store fronts at street level to sell bonds to small investors acquainted with the merits of foreign securities as a result of the Liberty Loan campaign of 1917-1919. Investors subsequently complained that they were never warned that, in contrast to the case of Liberty bonds, the full faith and credit of the U.S. government did not stand behind the foreign bonds issued in the 1920s.

Foreign lending in the 1920s never reached the heights scaled

prior to World War I. Between 1902 and 1913, the absolute value of the current account balances of 9 industrial countries had averaged 4.0 per cent of GNP. Between 1925 and 1928, the heyday of interwar lending, the comparable figure was only 1.4 per cent.^{2/} Still, capital exports by the U.S., augmented by those of Britain, were an integral component of the pattern of international settlements in the 1920s. The free flow of dollar loans in the wake of monetary stabilization in Germany and Eastern Central Europe played a critical role in the rapid resumption of economic growth following the end of hyperinflation.^{3/}

As U.S. banks and their foreign counterparts branched abroad, the competitive pressure felt by previously insulated domestic financial institutions intensified accordingly. Domestic banks attempted to strengthen their hand through merger. The origins of this amalgamation movement in banking could be traced back to the 19th century. But the trend accelerated dramatically in the 1920s. It spread from England and Wales to Latin America, Hungary, Poland, and Greece. In Austria, Germany and Czechoslovakia, large banks acquired control of their smaller counterparts. When an already large bank, such as the Austrian Kreditanstalt, absorbed one of its principal competitors, the Bodenkreditanstalt, it created a financial monolith whose failure could threaten the stability of not just the domestic but also the international financial system.

Many of these new "megabanks" were universal or mixed banks. Rather than concentrating on the provision of short-term credits to industry, as was customary in Britain, Scandinavia and Latin America,

universal banks cultivated intimate long-term relations with their industrial clients. Loans ran many years to maturity. For collateral the banks accepted shares of the same firms to which they lent. The combination rendered their balance sheets exceptionally vulnerable to industrial fluctuations. Universal banking was the model followed after the war when bank systems were reorganized in the new nations of Eastern Europe. The national industries of these successor states were more narrowly specialized than had been the case with the Austro-Hungarian Empire out of which they had been created. Hence the stability of their banking systems was tied to the fate of particular industries and sectors.

Governments were not unaware of these problems. Their response was to establish new apparatus for regulating the banking system. Following the lead of the United States, which established the Federal Reserve System in 1914, in the 1920s many countries created new central banks or gave added independence to existing banks that had taken on central banking functions. In Latin America, banking regulation was often patterned on the U.S. model. Chile's 1925 banking law, for example, established capital requirements that varied with city size and liability composition, like those specified by the Federal Reserve Act. Unfortunately, U.S. regulatory practice was not always appropriate to the circumstances of the developing economies to which it was transplanted.

Structural change was even more pervasive in the international monetary sphere. World War I had brought to a close the era of the classical gold standard. The international monetary system was then

laboriously reconstructed over the course of the subsequent decade. The U.S. was the one country in a position to maintain gold convertibility in the aftermath of the war. The dollar therefore provided a point of reference for countries preparing to stabilize their currencies, a fact which anticipated the increased importance that would be attached to U.S. monetary policy in the new international monetary system. Among the first countries to return to gold were those that had endured hyperinflations in the aftermath of the war. Austria restored convertibility in 1923, Germany in 1924 and Hungary in 1925. Other countries which had experienced more moderate inflations followed: France and Belgium in 1926 and Italy in 1927 all returned to gold at somewhat devalued rates. Adjustment generally took longer, but was less dramatic, in countries that succeeded in reducing prices and costs and restoring their prewar dollar exchange rates. Sweden completed the process in 1924, as did Britain in 1925. By 1927 reconstruction of the gold standard system was largely complete.

The interwar gold standard differed in important respects from its prewar predecessor. Gold coin, which had once circulated internally, was now concentrated in the vaults of central banks. Central banks, with few exceptions, were now authorized by law to hold a portion of the backing for liabilities in convertible foreign exchange rather than gold. The main reserve currency countries, the United States and Britain, continued to hold mainly gold, while other central banks held a portion of their international reserves in the form of claims on London and New York. Although the same practice

had prevailed before World War I, it had been neither so widespread nor so formal. Before the war, three countries (Russia, Japan and India) had held the majority of global foreign exchange reserves. Now most central banks held a significant portion of their reserves in the form of foreign exchange. Overall, the share of foreign exchange in international reserves was probably twice what it had been in 1913. In addition, the currency diversification of foreign exchange reserves became increasingly pronounced. Before 1913, the majority of foreign exchange reserves had been denominated in sterling and held in London. With the rise of the dollar after World War I, no single currency accounted for the majority of exchange reserves. Often central banks held diversified portfolios of sterling, dollars, francs and other currencies, the composition of which they altered in response to events.

This was the financial system in place on the eve of the Great Depression. The next 10 years revealed its shortcomings and graphically demonstrated the potential for instability.

2. Domestic and International Finance in the Great Depression

Histories of the Great Depression typically open with the October 1929 Wall Street Crash. To understand the connections between the financial system and the Depression, it is necessary to start the story a year earlier, however, in the summer of 1928. That was the point at which the Federal Reserve System, concerned that stock market speculation had reached excessive levels, began to raise American interest rates. Five quarters would pass before their

efforts succeeded in bringing an end to the Wall Street boom. But the rise in American interest rates brought an immediate end to U.S. foreign lending. American officials and market participants were already conscious of the heavy debt burdens accumulated by Germany and Latin America. U.S. State and Treasury Department officials had begun to criticize the uneconomical uses to which borrowed dollars had been put. As call money rates in New York rose to unprecedented heights, it suddenly seemed safer and more profitable for American investors to keep their money at home. Net portfolio lending by the United States declined from more than \$1000 million in 1927 to \$700 million in 1928 and turned negative in 1929.

This shift thrust a heavy adjustment burden on the debtors. The cost of servicing dollar loans was running at about \$900 million a year. In 1927 the entire cost could be met out of additional borrowing; suddenly this was no longer possible. To raise the necessary foreign exchange, spending by residents of the debtor nations had to be compressed. Monetary policies were tightened in Germany and throughout Latin America. By the end of 1928, recession was evident in Germany, Brazil and Australia. By the first half of 1929, it had spread to Argentina, Canada and Poland. One of the reasons for the severity of the U.S. downturn was precisely the fact that the domestic shock came when recessions that were already underway abroad. Although U.S. industrial production peaked in August 1929, the value of exports was already in decline by April.

U.S. monetary policy remained tight through the autumn of 1929. Recent accounts of the timing of the U.S. slump attach considerable

weight to this restrictive monetary stance.^{4/} But following the stock market crash, the Fed did not hesitate to inject additional liquidity into the financial system. To prevent distress sales and insolvencies among stock market specialists, the New York Fed injected credit even more quickly in the final months of 1929 than in the comparable portion of 1987. The Fed's holdings of U.S. securities doubled between October and November of 1929 and rose again by the same absolute amount between November and December.^{5/} Thus, continued tight monetary policy cannot account for the unusually rapid decline of economic activity in the United States between mid-1929 and early 1930.

Part of the reason for the decline may be the fall in U.S. exports due to recession abroad, as discussed above. But the search for alternative explanations inevitably returns to the stock market crash. The decline in financial wealth due to the crash was too small to plausibly have had such a large depressing effect on consumption. But recent research has suggested alternative channels through which the stock market's fall could have depressed consumer spending.^{6/} The crash signalled a new era of uncertainty about future income streams. Households unsure of whether the New Year would find them unemployed deferred the purchase of big-ticket items. Thus, it was spending on consumer durables such as automobiles and household appliances that declined most abruptly after October 1929.

That the 1987 stock market crash did not depress consumer spending poses a challenge to this hypothesis. It becomes necessary to argue that the 1929 crash was a greater source of uncertainty than

its more recent counterpart. This might have been so insofar as the monetary policy response was less predictable in 1929. Although the Fed injected credit into the financial system in the immediate aftermath of the crash, it did so not in order to stabilize the macroeconomy, as in 1987, but to provide accomodation to brokers. Within a year, U.S. monetary policy had become much more restrictive.

This shift in Federal Reserve policy coincided with the first banking crisis in the closing months of 1930. This first crisis was not as severe as the second banking crisis of October-November 1931 or the third of March-April 1933. A large share of the assets rendered illiquid were those of a single institution, Caldwell and Company. This was still a localized problem rather than a generalized crisis. But the 1930 episode was a harbinger of the financial instability to follow.

Considerable attention has been paid to banking panics in the United States. But the instability of banking systems was a global phenomenon. Bank failures were a problem in Austria, Germany and Hungary in 1931, in Sweden in 1932, and in Belgium in 1933-34, to cite only 5 prominent examples. These banking crises did not emanate from a single cause. The collapse of agricultural commodity prices undermined the earnings of rural banks in countries like the United States. The collapse of industrial activity devastated the balance sheets of universal banks in countries like Austria and Germany. Fraud and defalcation played an important role in cases such as Sweden in 1932.

The one factor common to each of these crises was the role of

the gold standard. Difficulties in the banking system placed pressure on the central bank to intervene as lender of last resort. The monetary authorities were compelled to discount assets on behalf of intermediates experiencing a drain of deposits. But discounting freely might be incompatible with the rules of the gold standard. The statutes mandating gold convertibility required the central bank to maintain some minimum ratio of gold and foreign exchange reserves to monetary liabilities. If it freely injected additional liquidity into the financial system, increasing its liabilities, it ran the danger of violating this gold standard constraint. Hence the gold standard prevented central banks from providing additional liquidity to contain the crisis in the banking system. For example, in July 1931, at the height of the German banking crisis, the Reichsbank's reserve ratio fell to the statutory floor of 40 per cent. Allowing it to fall further threatened to violate not only the statutes of the German gold standard but also the provisions of the 1930 Hague Treaty. Thus, the Reichsbank was able to take only tentative steps to support the German banking system. Those steps it took undermined confidence in the future of gold convertibility, leading to a run on the Reichsbank's international reserves and ultimately forcing the imposition of exchange controls.

If instability in the banking system could undermine confidence in the gold standard, the converse was also true. The clearest illustration is the U.S. crisis in March-April 1933. The critical factor that produced a full-scale banking crisis in this instance was the expectation of dollar devaluation.^{7/} The President-Elect,

Franklin Delano Roosevelt, was known to be favorably inclined toward devaluation. Congressional pressure, in the form of the Wheeler and Thomas Amendments, was clearly on the rise. Anticipating devaluation, depositors withdrew their bank balances and shifted into gold certificates and foreign currency. Fears for convertibility of the dollar thereby produced a run on the banks, culminating in the national bank holiday Roosevelt declared upon taking office.

These two destabilizing linkages -- from the foreign exchange market to the banking system, and from the banking system to the foreign exchange market -- could operate simultaneously, reinforcing one another. In Austria, for example, the 1931 crisis originated in the banking system. Confidence was shattered by revelations of the magnitude of the Kreditanstalt's bad loans. The central bank provided additional liquidity to the banking system, the note circulation rising by 25 per cent in the first month alone. The cover ratio fell toward the statutory minimum, raising fears for the future of the gold parity. Risk averse depositors rushed to withdraw their funds from the banking system, shifting into foreign currency to avoid the capital losses they would suffer with devaluation. The faster the central bank injected liquidity into the banking system, the faster it leaked back out. Lender-of-last-resort intervention was only difficult; it was counterproductive.

The interlocking nature of national banking systems and the special structure of the gold standard allowed financial instability to leapfrog from country to country. When Britain was forced to devalue in September of 1931, pressure shifted immediately to the

dollar. The fact that one reserve currency had been devalued raised doubts about the stability of the other. A run on the dollar was the inevitable result. Central banks liquidated their positions in foreign exchange and scrambled to replace their exchange reserves with gold. The share of foreign exchange in total international reserves fell by two thirds between the ends of 1929 and 1931. The value of the international reserves available to back their monetary liabilities declined abruptly. The pressure on the remaining gold standard countries intensified accordingly.

Like convertibility crises, so too could banking panics spread contagiously. The great German banks maintained balances in Vienna; Austrian banks simultaneously maintained balances in Berlin. A run on Austrian banks induced them to draw down their deposits in Berlin, shifting the pressure onto the German banking system. When the Austrian government responded to the crisis by imposing exchange controls, fears that Germany might do likewise induced other depositors to liquidate their balances in Berlin. Together, the Austrian and German crises froze more than L75 million of British assets in Vienna and Berlin. Through this mechanism the banking crisis spread quickly from country to country.

Working through a number of different channels, the banking crisis disrupted economic activity. It placed downward pressure on money supplies.^{8/} Banking panics led savers to shift out of deposits and into currency, reducing the money multiplier and depressing the price level. The decline in money stocks discouraged spending through its effects on wealth and interest rates. More important

still was the debt-deflation effect of the fall in prices. Deflation increased the real burden of outstanding debts, heightening the vulnerability of debtors to bankruptcy and eroding the value of the collateral they could offer their bankers. In many countries, the prices of farm products fell by two-thirds. This tripled the real cost of agricultural mortgages and eliminated any residual creditworthiness that farmers might have possessed.

The banking crisis also disrupted the provision of financial services. Banks threatened with depositor runs were in no position to extend risky loans to industrial and commercial borrowers. Small firms in need of working capital found themselves unable to obtain it at any price, forcing them to curtail operations. Enterprises with profitable if risky investment opportunities found themselves unable to obtain the external finance necessary to exploit them. Disintermediation seems to have had a depressing effect on economic activity quite independent of the effect of bank failures on money supplies. This effect was widespread: in addition to the United States, it was evident in Austria, Belgium, France, Germany, Hungary, Italy, Poland and Rumania.^{9/}

Banking panics, while not unknown, were less prevalent outside Europe and North America. In other parts of the world, external debts provided the more serious problem. As early as 1929, external debt service required more than 20 per cent of gross export revenues for countries such as Argentina, Australia and Germany. (Figures for Germany include reparations payments.) The value of commodity exports collapsed thereafter, rendering the burden of debt service

unsustainable. Bolivia suspended debt service in January of 1931; by the end of the year much of Latin America had followed. Default spread to Eastern Europe in 1932. In 1933, Germany, the most heavily indebted European nation, suspended payment on most of its external obligations. Many of the smaller Latin American debtors had little choice. But some of the most heavily indebted nations -- Canada, Australia and Argentina, for example -- faithfully maintained service on the external debts. In all three cases, political and commercial links to Britain and the United States, the countries to which the money was owed, mitigated in favor of continued payment.^{10/} But these countries were the exceptions; default was the rule.

Negotiations between the debtors and the creditors stretched out for a period of decades. Often partial debt service was restarted, halted and restarted again. Widespread default had a devastating impact on the capital market. U.S. lending, which had fallen off in the summer of 1928, started up again following the Wall Street crash. But by 1931, default had alerted foreign investors to the exceptionally risky nature of the enterprise. The bond market lapsed back into inactivity for the remainder of the 1930s. International capital flows, to the extent that they still occurred, took the form of trade credits and direct foreign investment.

By 1932 the situation had reached its nadir. The vast majority of sovereign borrowers had suspended payments on their external debts. International lending had ground to a halt. Germany, Austria and Hungary had imposed exchange controls and begun the negotiation of clearing arrangements. Britain had been forced off the gold

standard in September of 1931, and by the end of the year some two dozen other countries had followed. The drumbeat of bank failures showed no sign of abating.

Yet the same financial turmoil that contributed to the severity of the crisis offered the means of escape. The collapse of international lending removed the principal incentive for sovereign debtors to service their loans. By suspending debt service, they were able to redirect resources toward domestic uses. Removing interest transfers from the external accounts strengthened their payments positions. The need to compress domestic spending through the application of contractionary monetary and fiscal policies was attenuated. In nations that suspended service of their external debts, the downward spiral of activity gave way to stability and even economic recovery, sometimes as early as 1932. The more expansionary monetary policies their governments were able to follow provided the main source of stimulus to their economies.11/

The collapse of the gold standard also freed governments to pursue more expansionary policies. No longer was gold convertibility a binding constraint preventing central banks from expanding money supplies. Exchange rate depreciation now neutralized the balance of payments effects of stimulative measures adopted at home. Coordinated reflation would have been more effective than these unilateral initiatives. But despite attempts to arrange a coordinated response at venues such as the 1933 London Economic Conference, international collaboration proved impossible to achieve. Policymakers in different countries diagnosed the nature of the

economic crisis in very different ways. Failing to agree on a common diagnosis, they were unable to agree on a cooperative response.

Devaluing the currency and stabilizing the level of domestic prices brought an end to the downward spiral in economic activity for the same reasons that, in the preceding period, deflation had aggravated the slump. Stable or slowly rising prices reversed the movement of real labor costs. Real wages gave back some of the ground they had gained previously, encouraging employers to take on additional workers. Stable or slowly rising prices reversed the rise in the real burden of debts. The rising domestic-currency prices of farm products were particularly important to the agricultural sector. The stability of prices and money supplies restored stability to banking systems. Once off the gold standard, the monetary authorities could respond aggressively to difficulties in the banking system. Banking crises in countries off gold were few and far between. When they occurred, as in Argentina in 1931 or Sweden in 1932, the speedy response of the authorities, no longer constrained by the gold standard, quickly contained their spread. Indicators of the extent of credit rationing, such as the spread between the yields on high and low grade bonds, fell quickly to low levels.^{12/}

Freed from the gold standard constraints, individual countries might have vigorously reflatated their economies. This they failed to do, however. Discretionary monetary policy conjured up memories of financial turmoil in the early 1920s, the last occasion on which the gold standard had been in abeyance. Monetary expansion had been associated with runaway depreciation and hyperinflation. Their

light of the special risks of foreign lending and the possibility that private markets might not achieve the optimal international allocation of capital, the World Bank was established to supplement private capital flows.

The international monetary system was reconstructed under the provisions of the Bretton Woods Agreements. The International Monetary Fund was established to act as international lender of last resort and to facilitate cooperation among member countries. A considerable degree of exchange rate flexibility was built into the Bretton Woods System. Countries were permitted to devalue their currencies when forced to choose between defense of the existing parity and maintenance of full employment.

All of these innovations were responses to problems exhibited by the interwar financial system. Observers impressed by the connections between financial instability and macroeconomic crisis during the interwar years could congratulate themselves that these new arrangements seemed conducive to both financial and macroeconomic stability. More research is required to establish that financial factors played a causal role in the quarter century of prosperity that followed World War II. But it is worth noting the extent to which post-World War II reforms have been reversed in recent years. The fire wall separating deposit and investment banking has come down in the United States and other countries. Deposit insurance is under fire due to the U.S. savings and loan crisis, although the problem there may be the combination of insurance and lax regulation, not insurance itself. Portfolio lending to developing countries reached

new heights in the 1970s; the limitations of that mechanism are already clear. The World Bank does not possess the resources to significantly supplement private capital flows. The members of the European Monetary System are currently moving away from a system of fixed but adjustable parities reminiscent of Bretton Woods to a system of rigid parities reminiscent of the gold standard. The world seems to be turning to institutions that more closely resemble those that followed World War I than those that followed World War II. One wonders whether the lessons of interwar experience no longer apply or whether they simply have been forgotten.

FOOTNOTES

1. Much of the discussion that follows draws on Eichengreen (1988a).
2. Eichengreen (1990), p.1.
3. Dornbusch (1990) emphasizes the contrast between European experience in the 1920s and Latin American experience in the 1980s, suggesting that the failure of lending to resume following Latin American stabilizations accounts for the region's extended macroeconomic slump.
4. The most influential recent analysis that emphasizes this perspective is Hamilton (1987).
5. See for example Eichengreen (1988b).
6. See Romer (1990).
7. This point of view is documented by Wigmore (1988).
8. The classic statement of the monetarist point of view is Friedman and Schwartz (1963).
9. Two recent studies providing evidence to this effect are Bernanke (1983) and Bernanke and James (1990).
10. Eichengreen and Portes (1986) provide an econometric analysis of the decision to default in the 1930s.
11. A comparative analysis of economic growth in defaulting and nondefaulting countries is provided by Eichengreen and Portes (1989). Eichengreen (1990) analyzes the role of monetary and fiscal policies in their economic performance.
12. Evidence on the various channels through which devaluation promoted economic recovery is presented by Eichengreen and Sachs (1985). Mishkin (1990) and Bernanke and James (1990) discuss the movement of interest rate spreads.

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