INTERNATIONAL DEBT, BANK FAILURES, AND THE MONEY SUPPLY: THE THIRTIES AND THE EIGHTIES

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Introduction

There have been fears that the foreign debt problems of several developing countries might spark a series of bank failures and another Great Depression. These fears seem to have been a major reason for the reacceleration of U.S. monetary expansion from the third quarter of 1982 to the second quarter of 1983, and for the recent increase in IMF quotas by almost 50 percent. Is it true that the situation in 1982–83 was similar to the one that led to the Great Depression in the 1930s, and, if so, was it necessary or appropriate to increase monetary expansion and IMF lending in these circumstances?

Looking for analogies, we might mention the following similarities:

1. In both instances, there was a decline in real income that was widely attributed to the preceding deceleration in U.S. monetary expansion.
2. With respect to both periods, there was considerable disagreement about the extent to which the demand for real dollar balances may have increased (as a result of falling interest rates, currency substitution, financial deregulation, or increasing risks, etc.).
3. In both instances, interest rates were unusually high relative to contemporaneous rates of price-level change.
4. In both cases, some authors attributed the decline of real income primarily to real disturbances and maladjustments.

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5. Both periods were characterized by a stronger dollar, an improvement in the U.S. terms of trade, and an increase in the U.S. capital account balance.
6. In both cases, U.S. foreign lending was part of an international recycling process, foreign debtors suspended their debt service, and the creditor countries granted official emergency loans.
7. In both instances, the decline in real income was associated with increased protectionism.
8. In both instances, the difficulties of the other countries were attributed to U.S. economic policies (monetary and fiscal policies, insufficient lending, protectionism).
9. In both instances, the decline in real income was widely attributed to a lack of international coordination of economic policies and to the lack of a recognized world leader.

Are these merely superficial similarities? What do they imply? The following analysis is devoted to these questions. It closes with a section on the role of bank failures in the Great Depression and on the prospective implications of major bank failures now.

Monetary Causes

Following Friedman and Schwartz (1965), most U.S. economists nowadays seem to agree that the severity of the Great Depression cannot be explained without reference to the unprecedented contraction of the U.S. money supply. From August 1929 to March 1933, the broad money supply (M2) decreased by more than a third. In the five years from April 1928 to April 1933, M2 declined at an average annual rate of 8.2 percent. Table 1 shows that the rate of change of

TABLE 1

RATES OF CHANGE OF BROAD U.S. MONEY SUPPLY (M2)
(PERCENT PER ANNUM)

1923–1928	4.4	1978 I –1979 III	8.5
1926 IV–1928 IV	3.6	1979 III–1980 II	5.6
1928 IV–1929 IV	−0.1	1980 II –1980 IV	12.5
1929 IV–1930 IV	−3.4	1980 IV–1982 II	9.0
1930 IV–1932 I	−14.0	1982 II –1983 I	14.2
1932 I –1933 II	−12.3	1983 I –1983 IV	8.5

SOURCES: Friedman and Schwartz (1970, Table 2); Federal Reserve Bank of St. Louis, *Monetary Trends.*

M2 declined much more and much longer in 1928–32 (by 17.6 percentage points) than in 1980 IV–1982 II (by 3.5 percentage points). Moreover, while the thirties saw a dramatic contraction of the money supply, the first one-and-a-half years of the Reagan administration merely brought a somewhat slower expansion of the money supply. This explains why the U.S. consumer price level fell by almost a quarter from 1929 to 1933 but continued to rise in the 1980s.

However, if we look at the annual rates of change of the consumer price index (Table 2), we discover a striking similarity. In both episodes, the rate of price-level change declined by a maximum of 10.3 percentage points, and in both cases it did so over a period of three years. In the 1930s, it decreased from zero percent in 1928–29 to minus 10.3 percent in 1931–32, and in the 1980s, it declined from 13.5 percent in 1979–80 to 3.2 percent in 1982–83. Does this mean that, before the monetary reacceleration starting in the summer of 1982, we had been on the verge of another Great Depression? The answer is no, because severe disinflation tends to produce smaller output losses than severe deflation.

One reason for this is that a deflationary monetary contraction is less likely to be expected than a disinflationary monetary deceleration. Second, deflationary monetary shocks, once they occur, are less likely to be considered permanent than an unexpected disinflationary monetary deceleration. For both reasons, a deflationary monetary policy affects prices less and output more than a disinflationary monetary policy. Moreover, for the same reason, it is probably more difficult to cut nominal wage rates than to reduce nominal wage increases. The deflation in the 1930s was not likely to be considered

TABLE 2

RATES OF CHANGE OF REAL GNP AND CONSUMER PRICES IN THE UNITED STATES. (PERCENT PER ANNUM)

	Real GNP	CPI		Real GNP	CPI
1923–28	2.8	0.0			
1928–29	6.7	0.0	1979–80	−0.4	13.5
1929–30	−9.9	−2.5	1980–81	1.9	10.4
1930–31	−7.7	−8.8	1981–82	−1.7	6.1
1931–32	−14.8	−10.3	1982–83	3.3	3.2
1932–33	−1.9	−5.1			
1929–33	−29.2	−24.4	1979–83	3.1	37.2

SOURCES: Department of Commerce, Bureau of Economic Analysis (1973) and *Survey of Current Business*, selected issues.

permanent because it had been preceded by seven years of almost complete price-level stability and steady monetary expansion.[1] By contrast, the disinflation in the 1980s followed several years of highly variable inflation and monetary expansion rates; there was no firmly entrenched expectation of a permanent inflation rate.

According to an alternative hypothesis, the deflation was largely expected and led to greater output losses than a disinflation of equal size can, because the constraint that the market rate of interest cannot become negative matters only in the case of deflation. If the expected rate of price-level decline exceeds the real rate of interest that would prevail in nondeflationary equilibrium, money becomes more attractive than financial investments, and the credit market collapses. In this way, deflation can aggravate the shortage of money much more than severe disinflation can, even if both are expected and of equal size. This non-Keynesian version of the "liquidity trap" is consistent with the fact that real money balances increased from 1929 to 1931, but this increase amounted to only 3.1 percent.

The monetary interpretation of the Great Depression has not remained unchallenged. This is especially true for the initial phase up to the summer of 1931. The following objections seem to be most noteworthy:

1. Two econometric studies (Gordon and Wilcox, 1981; Bernanke, 1983) indicate that only part of the contraction can be explained by monetary and price changes.[2] However, other estimates over a longer sample period have shown that nominal income in 1930 was not smaller than was to be expected from the monetary deceleration, provided that reverse causation from income to money was negligible (Lothian 1981, p. 139). It is rather nominal income in 1929 which was inexplicably large. Anyhow, the main advocates of the monetary interpretation of the Great Depression do not exclude the possibility that, to a lesser extent, nonmonetary causes may have been at work as well (for example, Friedman and Schwartz 1965, p. 4; Meltzer 1978; and Brunner 1981, pp. 332–33).

[1]Streefkerk (1983) shows that, during the Great Depression, monetary shocks had a significant impact on deviations of actual from permanent output growth and that a low variance of monetary expansion rates made for larger output deviations in response to monetary shocks.

[2]According to Gordon and Wilcox (1981, p. 67), the monetary slowdown "can only account for 18 per cent of the observed decline in nominal income in the first year of the contraction and 26 per cent cumulatively in the first two years." Bernanke (1983, p. 269) estimates that monetary and price shocks capture no more than half of the total decline of output between mid-1930 and March 1933. For a similar view see Temin (1976, pp. 14, 86 ff.) and his reference to Friedman and Meiselman (1963, p. 188).

2. Keynesians, like Temin (1976, p. 169), have objected that monetary policy cannot have been restrictive between the stock-market crash in October 1929 and the devaluation of sterling in September 1931 because short-term interest rates declined rather than increased. However, given that interest rates had risen in the initial phase of the monetary deceleration (1928–29), the marked subsequent decline is clearly compatible with the monetary interpretation of the Great Depression: It may have been due to a fall in the expected rate of price-level change[3] and/or to a decline in the real rate of interest. The real rate of interest may have fallen because the scarcity of short-term securities relative to goods increased more than the scarcity of money relative to goods. The increased scarcity of short-term securities relative to money may have been caused by an increase in the demand for short-term securities[4] and by a decline in their supply.[5] Whichever explanation may apply, *the Keynesian objection merely repeats the crucial mistake (committed by the Fed at the time) of judging monetary ease or restraint from the behavior of market rates of interest.*
3. Temin (1976, p. 142) has also objected that the increase in the real money stock was inconsistent with the assumption of monetary stringency. Against this, the adherents of the monetary interpretation correctly point out that the increase in the real money stock can easily be explained by an increase in the demand for real dollar balances.[6] Real money demand is likely to have been raised by the interest rate decline, the risk effects

[3]For this view see Gandolfi and Lothian (1977, p. 685), Mayer (1978b, p. 140); and Meltzer (1978, pp. 458–59). Wholesale prices had been falling at a rate of over 12 percent from August 1929 to August 1930; moreover, deflation had occurred previously, notably in 1920–21 when it was three-to-four times as fast. Meltzer (ibid.) reports that the actual rate of decline of the GNP deflator in 1930–31 corresponds closely to his estimate of the anticipated rate.

[4]Mayer (1978b, pp. 139 ff.), Meltzer (1978, p. 462), Schwartz (1981, p. 32), and Lindert (1981, pp. 127–28). In particular, there could have been a dramatic demand shift from private long-term securities and real assets to riskless short-term securities eligible for discounting. Note that if this was the case, it would have been more appropriate to issue money *and* government securities (to finance a budget deficit) than to issue money *in exchange for government securities (expansionary open market operations or* rediscounting).

[5]See Brunner and Meltzer (1968, p. 347), and Schwartz (1981, pp. 32, 37). The supply of government debt declined until the end of 1930.

[6]For this hypothesis see, for example, Friedman and Schwartz (1965, p. 11), Friedman and Meiselman (1963, p. 188), Gandolfi (1974), Gandolfi and Lothian (1976, 1977), Mayer (1978b, p. 139), Schwartz (1981, p. 39), Brunner (1981, p. 340), and Flood and Garber (1981, p. 23).

of the stock-market crash and the banking crises,[7] and by currency substitution in favor of the dollar.[8] The fall in real income, meanwhile, should have affected real money demand very little if it was largely regarded as transitory. Indeed, the cross-state estimates of Gandolfi and Lothian (1976) reveal that the money demand function had been basically stable during the Great Depression and that the remaining deviations were predominantly secular rather than cyclical.

Real Causes

High unemployment and slow growth in the eighties have often been attributed to real rather than monetary causes: the second oil price increase, increasing real wage resistance, inflation-induced distortions in the pattern of production, or even long waves of economic development. Some of these are real shocks, while others represent structural changes that must have developed over many years.

Real shocks have also been adduced to explain the Great Depression:

1. Originally, Keynes and his followers had believed that a sudden decline of investment demand caused the Depression. The modern Keynesians have given up that claim except perhaps with respect to residential construction, which declined for demographic reasons (Temin 1976, pp. 63 ff.; Gordon and Wilcox 1981, p. 77).
2. The new Keynesian view is that there was an autonomous decline in consumption that cannot be explained in terms of income, wealth, or risk changes (Temin 1976, pp. 71 ff.). However, more sophisticated estimates of the consumption function are not consistent with this hypothesis (Gandolfi and Lothian, 1977; Mayer 1978a).
3. Was the Depression triggered by an autonomous decline in the dollar value of U.S. exports, notably agricultural exports, as Kindleberger (1973) suggests? This is unlikely because real net exports hardly changed from 1929 to 1930, the U.S. experienced gold inflows from mid-1929 to mid-1931, and exports accounted for less than 6 percent of U.S. GNP. However, the world agricultural depression, which had begun in 1925, may go a long

[7]However, Friedman and Schwartz (1965, p. 57) conjecture that the bank failures, taken by themselves, reduced the demand for money because currency was not a perfect substitute for deposits.

[8]Flood and Garber (1981, p. 23).

way to explaining why the first bank failures occurred in the farm belt of the United States.[9]

4. Can the stock-market crash of October 1929 be considered a nonmonetary shock that caused the Great Depression? Since the crash occurred three months after the beginning of the downswing in production and about a year after the beginning of the monetary deceleration, it can probably not be viewed as independent of monetary causes. Moreover, much of the stock-market decline was soon reversed: the Dow Jones index which on October 29 declined to 198 (after a peak of 381 on 3 September) recovered to 250 by the end of the year. In April 1930, the index was only 20 percent below its September peak—a smaller decline than in many nondepression episodes. *The wide fluctuations of stock-market prices rather indicate that the public was highly uncertain about the severity of the recession that had begun, and about the monetary policy which the Fed would follow after the death of Benjamin Strong in 1928.*

Among the long-run structural changes, various authors have emphasized the increasing cartelization of the labor market, the weakening of the banking system, capital waste, reparations and war debts, and the misalignment of gold parities in the twenties.[10] Each of these factors may have contributed, especially by increasing the fragility of the German and the British economy, but given the monetary deceleration and the risk-induced preference for liquid assets, none of them seems to be necessary to explain the ultimate severity of the contraction. The same is, of course, true for the long-wave view. In the thirties as well as in the eighties, long-run structural changes are more likely to explain the trend increase in unemployment and the long-run productivity slow-down than the cyclical troughs.

International Lending

An unexpected monetary deceleration is bound to affect output, the price level, and the terms of trade in such a way as to render debt service by foreign borrowers more difficult. The demand for imports from the debtor countries declines, and the real value of the outstanding debt rises. This explains why defaults on international (and domestic) debt are most frequent in those periods. In the eighties, the number of international reschedulings suddenly rose from an

[9]Other factors, like bank structure and management, played a role as well (see Gambs 1977; Wicker 1980; and Stauffer 1981).

[10]See notably Arndt (1944, pp. 276 ff.) and the survey in Haberler (1976, pp. 22–30).

annual average of about three in the seventies to 11 in 1981, and more than 20 in 1982. Similarly, by the end of 1935, in terms of par values, 39 percent of all foreign bonds traded on the New York Stock Exchange had ceased to be serviced; for instance, 80 percent of the Latin American bonds, 99.6 percent of the German bonds, and 23 percent of the other European bonds went unserviced.[11] During the 19th century, every major downswing seems to have caused failures of sovereign and other foreign borrowers to meet their external obligations.[12] This has led some authors to argue that such defaults are really implicitly agreed to among the contracting parties and that "maintaining debt service during world depression is generally impossible" and leads to "thoroughly unsatisfactory results" (Kindleberger 1978b, p. 9).

In the thirties and in the eighties, an international recycling problem had to be solved. Under the Peace Treaty of Versailles, Germany was obliged to pay reparations (mainly) to France, Britain, Italy, and Belgium which, in turn, had to repay their war debt to the United States. The United States closed the circle by lending back to Germany—in fact far more than Germany paid in reparations.[13] In the 1980s, the industrialized countries rechanneled OPEC oil revenue to the non-oil developing countries. According to estimates by the Bank for International Settlements, the flow of OPEC funds dried up in mid-1982; at about the same time (1982 III), Euromarket lending to the non-oil developing countries began to decline.[14]

Apart from these striking analogies, there are two major differences between these episodes:

1. Today the creditors in the industrialized countries are largely banks. The OECD 1982 estimates that the non-OPEC developing countries owe more than 35 percent of their external debt to banks. In the thirties, the creditors were mainly individual bondholders—with the exception of Germany which, at the end

[11]Madden, Nadler, and Sauvain (1937, pp. 111–25). The following countries suspended debt service on their bonds: Bolivia (January 1931), Peru (March 1931), Chile (July 1931), Brazil, Colombia (August 1931), Hungary (December 1931), Costa Rica, El Salvador, Greece (February 1932), Panama, Uruguay (May 1932), Austria (June 1932), Yugoslavia (November 1932), Cuba (December 1933), and Germany (July 1934). Some of them repudiated their debt.

[12]Madden, Nadler, and Sauvain (1937, p. 107).

[13]In 1924–30, Germany paid Rm. 10.3 billion in reparations and enjoyed a trade deficit of Rm. 7.8 billion.

[14]Bank for International Settlements, *Annual Report* for 1981–82 and 1982–83. OPEC lending to the industrialized countries amounted to $74.9 billion in 1980, $39.9 billion in 1981, and $5.8 billion in the first half of 1982. In the second half of that year, OPEC reimported capital ($8.6 billion) from the industrialized countries.

of July 1931, owed 69 percent of her external debt to foreign banks (and 20 percent to U.S. banks).[15] Since international debt to U.S. banks was relatively small in the thirties, the bank failures that played such an important role in aggravating the Depression were not caused by the defaults of foreign debtors.

2. Today the foreign debtors who have asked for rescheduling are mostly public authorities or state-owned companies. About 80 percent of long-term developing country debt is public or publicly guaranteed debt. In the thirties, a large part of the European foreign debt was owed by commercial banks and private enterprises. This was particularly true for Germany. At the end of 1930, 46 percent of her external debt was owed by private nonbanks, 35 percent by banks, and only 19 percent by public authorities.[16] The Weimar Republic, as long as it lasted, never defaulted on its external debt, nor did the German banks. But the government temporarily suspended and limited all payments by banks, obtained a temporary standstill agreement from the foreign banks that had lent to German banks (July-August 1931), and successively introduced exchange controls in 1932.

Thus, whereas in today's developing countries, capital imports by official institutions have largely served to offset capital exports by private citizens of these countries,[17] in the Germany of the 1920s, official payments to foreign creditors tended to be offset by private capital imports.

Since today's international creditors are largely banks and since international debtors are largely public authorities, the bargaining position of foreign debtors is now incomparably stronger than it was in the thirties. By threatening complete default on their foreign debt, the sovereign debtors of banks do not lose their borrowing potential at home and can play with the menace of bank failures and monetary disruptions in the creditor countries. There is evidence that the governments of the debtor countries are fully aware of the threat potential which they have at their disposal, especially if they combine to form a debtors' cartel. Since they could always pay their debt service by selling real assets and other claims in their possession (or offer real assets as collateral), it is in fact a matter of debate, or of definition, whether they are unable or unwilling to pay. The incen-

[15]Harris (1935, p. 18). German debt to the United States amounted to 39 percent of its total foreign debt.

[16]Born (1967, p. 19).

[17]For instance, in the cases of Mexico and Argentina, half or more of the proceeds from foreign loans were reinvested abroad (Sjaastad 1983, pp. 313–14).

tive to use extortion would be substantially reduced if the governments of the creditor countries made it clear that they are prepared to let some of their banks fail and are ready to prevent such bank failures from reducing the money supply and economic activity in their countries. The creditor banks, which have misjudged the debtor countries' ability to pay and/or their willingness to use them as hostages, would then face the decision of whether they can earn enough profits to cover the losses which the developing countries can impose on them; or whether their exposure to foreign debtors' default threats will merely be perpetuated, or even be aggravated, if the debt service obligations are rescheduled and compounded.

There is a school of thought that attributes the Great Depression in Europe to insufficient U.S. lending and argues that this mistake must not be repeated in the eighties.[18] Its members condemn those U.S. politicians—even the author of the Hoover Moratorium—who opposed more official lending for fear of prospective budget deficits (Kindleberger 1978a, p. 198) or of "sending good money after bad" (Kindleberger 1973, p. 298). They emphasize that conditionality imposed by private banks or national governments proved to be unacceptable in several cases,[19] and they suggest that what the world needed to avoid the Depression was an international lender of last resort, an International Monetary Fund (Kindleberger 1973, p. 298; 1978a, chap. 10). In their view, the European depression was caused by a series of accidental nonmonetary shocks that operated on international capital movements and should have been cushioned through official lending. The first of these shocks was the U.S. stock-market boom which, like the U.S. budget deficit now, diverted part of the world capital stock to the United States and raised real interest rates in Europe and elsewhere.[20] However, U.S. lending to Europe recovered in 1930.

The second accident in this story was the outcome of the German elections in September 1930 which raised the number of seats held by the fascist NSDAP from 12 to 107 and led to large-scale withdraw-

[18]See notably Arndt (1944, pp. 254, 292) and Kindleberger (1973, 1978a).

[19]The French government was not prepared to grant credits to Austria and Germany unless they renounced their customs union agreement (Kindleberger 1978a, p. 197), and the British Labour government collapsed over the policy conditions attached to the bank loans (the "bankers' ramp") of August 1931 (Kindleberger 1978a, p. 225).

[20]The data are presented by Harris (1935, p. 7), Kindleberger (1973, pp. 71–3) and Temin (1976, p. 154). Temin rejects this view on the grounds that the lag of transmission from the money supply to output (which dropped 4.3 percent in 1929) would have been implausibly short. He attributes the beginning of the German depression to a decline in inventory investment.

als of foreign funds from German banks. The accidental collapse of the Austrian Kreditanstalt in May 1931 finally set a chain reaction in motion: the run on the German banks (June-July), the withdrawals from London and the devaluation of sterling (September), the large-scale withdrawals from New York (September-October), and another series of bank failures in the United States (October-January 1932). "In view of this history," Kindleberger concludes, "I find it impossible to understand the view that the 1929 depression was of domestic origin in the U.S." (1978a, p. 137).

The monetary interpretation of the Great Depression rejects this story as a superficial description of events that were either not exogenous or unnecessary to explain the European disaster. Given the monetary deceleration in the United States and the fixed parities of the gold-exchange standard, a depression in Europe was inevitable; even a much larger volume of official international loans would not have prevented it. The reserve losses of the European central banks and the contraction of the European banking system were merely the necessary implication of U.S. monetary stringency and exchange rate fixity. Given that dollars had become scarcer, the fixed exchange rates could only be maintained if the European currencies were also made correspondingly scarcer. Germany's fatal handicap was that the Young Plan, which had been accepted at the Reparation Conference of the Hague (1929–30), did not permit her to abandon the gold parity of the Reichsmark.[21] Germany was not free to follow the example of Britain and several other European countries which cut loose the exchange rate link with the dollar and reduced their income losses considerably.[22]

No doubt, more official lending to the deficit countries would have mitigated the European downswing to some extent. The European terms of trade would have deteriorated somewhat less, and the decline of the European price level that was required at the given parities would have been a little smaller. But official lending would have been far less effective than exchange rate depreciation. Moreover, it would have been less efficient; for to the extent that it had not generated offsetting private capital movements, official lending would have distorted the international allocation of capital.

Today most of the debtor countries which have asked for rescheduling are on a flexible exchange rate, and all of them are free to choose the exchange rate regime they like. They do not need credits

[21]For a detailed analysis of this problem, see Schiemann (1980, esp. pp. 167 ff.).

[22]For international comparisons, see Gordon and Wilcox (1981), Lothian (1981), Jonung (1981), and Ahnefeld et al. (1982).

from foreign official institutions in order to avoid deflation (a falling price level). Even under flexible exchange rates, open economies are bound to be affected by real economic changes in the rest of the world. If they are adversely affected by a foreign recession, they face the choice between financing and adjustment. But if there is no private lender who considers them credit-worthy, why should they be able to borrow taxpayers' money?[23]

Protectionism and International Coordination

In the thirties, just as in the seventies and eighties, high unemployment strengthened the protectionist sentiment. There seems to be general agreement now that mounting U.S. tariffs and the retaliation in Europe and elsewhere aggravated the decline of world trade and economic activity. Probably the most dramatic step was the imposition of the Smoot-Hawley Tariff of June 1930, which raised duties very substantially, notably those on agricultural imports. As Sachs (1982, p. 226) points out, U.S. protectionism was a major cause of foreign defaults not only because it reduced the exports of the debtor countries but also because, by aggravating the decline in their terms of trade, it increased the opportunity cost of remaining solvent and thus the incentive to default. There is an important lesson to be learned from this experience. However, as has been mentioned above, for rather closed economies like the United States, the increase in trade barriers cannot have been a major cause of the disaster.

Those who believe that the Great Depression cannot be explained without reference to the changes in international trade and capital flows that accompanied it see the main lesson in a need for closer international coordination. According to Arndt (1944, p. 295),

> the first conclusion which has emerged inescapably from this analysis is that we can no longer let the co-ordination of national economic policies look after itself or rely on an 'automatic' international system. . . . Its place must be taken by some system of direct co-ordination of national economic policies, whether by means of international co-operation or supranational control.

In the seventies, this interpretation has been taken up by Kindleberger:

> The world economic system was unstable unless some country stabilized it [1973, p. 292]. . . . The lack of leadership in providing discount facilities, anti-cyclical lending or an open market for goods rendered the system unstable [1973, p. 295]. . . . The danger is . . . that in a future crisis, as in 1931, countries and international orga-

[23]For a detailed critique of official balance of payments credits, see Vaubel (1983b).

> nizations will try to shrug the responsibility for international stability off on to other shoulders [1978a, p. 226].

Are these the lessons we have to draw for the eighties?

The Great Depression did not arise because national monetary authorities ignored their responsibility to the rest of the world, but because they acted against their own country's interest. Of course, U.S. monetary policy also affected the rest of the world, but this was not an externality of "public bad" in the welfare-theoretic (Pareto-relevant) sense of the word, as Kindleberger believes (1973, p. 301; 1978a, pp. 12, 220, 223, etc.). It was simply interdependence through the market. Individual supply decisions in the world market do not have to be coordinated through negotiations merely because they also affect others. In this respect, there is no difference between the supply of money by the Federal Reserve and the supply of automobiles by General Motors. It is the market that acts as a mechanism of coordination. *Interdependence through the market is not a valid justification for nonmarket coordination.* Nor is there a valid game-theoretic case for monetary policy coordination, when politicians cannot be relied upon to pursue the national interest.[24]

The problem in the thirties was not that there was too little international monetary collusion but that there was too much of it. The problem was that the gold-exchange standard had created a price cartel of money suppliers, that the price leader misjudged his own interest, and that the other members did not abandon collusion (their parities) in time. To call the devaluations which ultimately resulted "beggar-thy-neighbor policies" is to misjudge the case completely; for, given the U.S. monetary contraction, devaluation vis-à-vis the dollar was required to stop the price level from declining in the rest of the world. The justification was price level stability, not international competitiveness.

What has been said about monetary policy coordination is not true for international cooperation in the field of trade relations. This is because trade restrictions interfere with the market process and impose Pareto-relevant externalities on other nations. Thus, there is a sound economic case for international trade agreements to avert protectionism. However, as has been mentioned before, such negotiations—even if successful—would not have prevented the Great Depression.

Bank Failures and the Money Supply

Bank failures played a crucial role in the propagation of the Great Depression. From August 1929 to March 1933, more than one-fifth

[24]For a detailed critique of the various arguments in favor of international coordination of national macroeconomic policies, see Vaubel (1983a).

of all U.S. commercial banks with nearly one-tenth of the volume of deposits suspended operations. In Germany, the whole banking system collapsed temporarily in mid-July 1931; several large banks were nationalized in February 1932. Does this mean that another Great Depression is bound, or is likely, to follow if large banks are permitted to fail over their "bad loans" to non-oil developing countries? There are three issues to be distinguished here:

1. Would the collapse of a few large banks trigger runs on other banks and endanger the whole banking system?
2. Can the monetary authorities prevent bank failures from affecting the money supply?
3. Would bank failures have a depressive effect on the economy, even if they are not permitted to reduce the money supply?

The answer to the first question depends on the size of the initial losses, the extent of deposit insurance, and the policy rules followed by the monetary authorities. It is useful to distinguish fears of insolvency and fears of illiquidity as possible causes of a run on banks. In the pure insolvency case, the failure of some large banks will not trigger a run on the other banks unless the losses of the failing banks exceed their own capital to such an extent that the resulting net losses of the other banks are expected to exceed the latter's own capital. This is not the situation we are facing today. Moreover, most depositors are protected by the FDIC.[25] If, for some reason, the authorities feared a run nevertheless, the most appropriate action would be deliberately to liquidate banks that are technically insolvent.[26] If "bad loans" are the problem, the prevention of a banking crisis is not a sufficient reason for increased monetary expansion and official subsidized lending to foreign debtor countries.

An individual bank cannot face a liquidity problem—as distinct from a solvency problem—unless there is a general liquidity crisis; for in the absence of such a crisis, each bank can always increase its liquidity by selling long-term assets in the market for what they are worth.[27] It is the task of the monetary authorities to avoid liquidity crises. They do this by increasing the money supply in a steady and preannounced manner—even in the face of bank failures. By pur-

[25]Nor has it been the case in the seventies. Herzig-Marx (1978), for example, has shown that, in 1970–76, 60 percent of the losses from U.S. bank failures were borne by stockholders, 31 percent by the Federal Deposit Insurance Corporation (FDIC), 8 percent by bondholders, and only 1 percent by depositors.

[26]"This approach, harsh as it may seem, would appear to be the only way in which the enormous risk of moral hazard may be avoided in the future" (Sjaastad 1983, p. 318).

[27]Sjaastad (1983, pp. 316–18).

chasing bonds in the open market and by discounting loans or other assets, they can maintain monetary expansion and the prices of financial assets at the same time. If a bank fails because of bad loans and if it is not immediately taken over by some other bank or company, the central bank can even supply money directly to the creditors of the defaulting bank in exchange for receivership notes which it accepts at some safe fraction of the original book value of the claim.

The most interesting and controversial of our three questions is the last: Do bank failures depress the economy if they do not affect the money supply? Friedman and Schwartz (1965, p. 56) have been explicit on this point:

> The bank failures were important not primarily in their own right, but because of their indirect effect. If they had occurred to precisely the same extent without producing a drastic decline in the stock of money, they would have been notable but not crucial. If they had not occurred, but a corresponding sharp decline had been produced in the stock of money by some other means, the contraction would have been at least equally severe and probably even more so.

Cagan (1965, p. 267) has reached the same conclusion for a far longer period of U.S. history:

> Panics made ordinary business contractions severe when they led to substantial decline in the rate of monetary growth, and not otherwise. Substantial decline in this rate, by itself with no panic, could and has produced severe business contractions.

More recently, this view has been challenged by Kindleberger (1978a, p. 72), Diamond and Dybvig (1983, p. 403), and notably Bernanke (1983). Runs and bank failures, they suggest, depress the economy not only through the money supply but also by raising the cost of credit intermediation. In this way they reduce aggregate demand, interrupt production (when loans are called), and prevent optimal risk sharing among depositors. Bernanke presents evidence that real deposits of failing banks and liabilities of failing businesses help significantly to explain the U.S. output changes in 1919–41, in addition to money-supply shocks or price-level shocks. In his regressions, surprisingly, the money-supply shocks and price-level shocks affect industrial production only within the same month and the following month. It is not clear what Bernanke's results imply. They might merely indicate that the bank failures led to a risk-induced increase in the demand for money or, as he concedes (p. 271), that they were caused by, or at least associated with, anticipations of output decline.

Bernanke (p. 274) also emphasizes that "the countries in which banking crises occurred (the U.S., Germany, Austria, Hungary, and

others) were among the worst hit by the depression." However, this is also predicted by the monetary interpretation; for Germany, Austria, and Hungary did not devalue their currencies like most of the other countries [28] and they followed the U.S. monetary lead to the bitter end.

If the increasing cost of credit intermediation contributed to the severity of the Great Depression at all, it can only have done so because the monetary authorities permitted large risk premia to develop. However, these risk premia were not the inevitable consequence of the bank failures. They reflected the public's *uncertainty* about how the monetary authorities would react to the bank failures. Therefore, another lesson we have to draw from the thirties is that our central banks should commit themselves to prevent such bank failures from reducing monetary expansion below the preannounced target rate. Once this guarantee has been given, banks—even large banks—can, and (as we have shown) should, be liquidated, if they are technically insolvent:

> To many practical people the suggestion that a large bank be allowed to fail may seem to represent dogmatic adherence to standard economic doctrine, a victory of ideology over pragmatic common sense. . . . But this pragmatic position shoud be rejected. . . . If we prop up a large bank . . . , in the future the same benefit will then probably be accorded to medium-sized banks. And from there it is likely to spread to small banks, to other financial institutions and ultimately to other firms. . . . At a time when devotion to pragmatism is so much in the air it is useful to consider also the benefits of sticking to one's principles even in hard cases. [Mayer 1975, pp. 609–10]

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[28]See Chandler (1970, p. 105, Table 6.4).

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BANK FAILURES AND MONETARY POLICY

Lawrence H. White

Introduction

The degree to which a number of U.S. banks have exposed themselves to the threat of loan default or debt repudiation by the governments of several developing nations is alarming. It raises a critical public policy question: Should the United States' monetary authorities be advised to allow major banks to fail on account of bad loans? Or should their money-creating powers be used to support the banks? Roland Vaubel's paper (1984) has intelligently tackled this question, though it is by no means the only question treated in a paper rich with historical information. Vaubel's answer, in capsule form, is: The authorities can and should liquidate insolvent banks, whatever their size, provided that they do not allow the money supply to contract as they did in the 1930s.[1] The first part of this answer deserves the utmost commendation. In the following section I will try to amplify the reasons. Vaubel's proviso regarding the money supply, on the other hand, raises further questions concerning the rationale of monetary policy.

The Case for Bank Failures

There are basically two ways of arguing the case that insolvent banks should be allowed to fail: First, that it is the expedient thing to do; second, that it is the just thing to do. Vaubel makes the expediency case primarily on two grounds. His first ground for a willing-to-liquidate-failures policy is the interesting idea that a creditor nation's

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[1]It should be emphasized at the outset that a bank "failure" or "liquidation" typically involves the relatively nondisruptive process of merger into a solvent bank or other firm.

government's readiness to allow domestic banks to fail is an effective tool in resisting possible "blackmail" threats from the debtor nations' governments. These threats presumably take the form: Extend me further subsidized credit or outright aid, or I will default on my debt obligations to your banks. (Technically one should consider this extortion rather than blackmail, the difference being that a blackmailer is entitled to do that which he threatens.)

The desirability of resisting such threats from the point of view of the representive citizen of the creditor nation should be clear: Domestic government grants to a debtor-nation government for the purpose of forestalling default, financed by money creation or overt taxation, amount to nothing more than roundabout transfers from other domestic citizens to the shareholders of the threatened banks. The taxpayers are being asked to bail out the banks. If they wished to do so (surely not all do), they could do so domestically, cutting out the debtor-government middleman. It is doubtful that $1 million transferred to default-threatening governments will often enrich domestic bank shareholders by as much or more than a million dollars; that is, will result in more than $1 million of debt being repaid that would otherwise have been repudiated. An "investment" of this sort with an unwilling debtor is unlikely to pay a positive rate of return. In the event that it does seem likely to, the creditor banks should be fully willing to extend aid at their own expense.

Thus, as Vaubel indicates, the creditor banks can and should be left to make the decision on whether the act of lending a debtor nation the money it claims to need to cover its interest payments is an act likely to reduce or increase the loss of principal. Willingness to let banks fail is the only way to keep banks from shifting the burden of a mistaken decision onto taxpayers and holders of base money. Keeping the costs and benefits of a decision internal to the decision maker is, of course, the only way to ensure that a prudent decision is made.

A policy of insuring every large bank against failure—no matter how egregious the loan policies that rendered it insolvent—creates a moral hazard problem of potentially huge dimensions. It attenuates the proper incentives for large banks to loan out their funds prudently. (Regrettable as the monetary and real-side shocks of the past decade have been, it is difficult to accept the argument that no imprudence should be seen in the banks' failure to prepare for the possibility that a serious recession could sour their loans to less developed countries.) If loan losses in excess of equity do not force a bank into liquidation, then the risk that losses will exceed equity will no longer enter the bank's decision calculus with a heavy enough

weight. If bankers who make unprofitable loans are not forced out of business, the economy's scarce loanable funds (and the complimentary resources that go into banking) will not be directed to their most productive uses. Allocative efficiency requires that major banks be as free to fail as firms in other industries.

Vaubel's second ground for the expediency of letting insolvent banks be liquidated in timely fashion is that this policy actually reduces the risk of a banking panic. Depositors may run on a bank if they fear that it is insolvent, and hence unable to redeem the claims of all but the first in line to demand redemption, yet the bank remains in business. A policy of promptly liquidating insolvent banks before their net worth falls too far below zero will accomplish two things: First, it will limit the losses of bank liability-holders or whoever else bears the deficiency (in particular those who bear the burden of funding deposit insurance) in each particular case; and second, it will reassure depositors that functioning banks really are solvent.

The ethical case against increased monetary-base expansion or tax-subsidized lending to debtor governments as methods of aiding domestic banks—a case Vaubel does not make—is simply that bank shareholders are not entitled to involuntary transfers from money-holders or taxpayers. It is obvious that aid grants or lending programs are redistributive when financed by explicit taxation. They are no less so when financed by an expansion of the monetary base that covertly taxes holders of existing base money by diluting the value of their holdings. Indeed any injection of new base money is redistributive unless granted proportionately to holders of existing base money, regardless of whether its ostensible purpose is to forestall a recession or a banking panic.

Monetary Policy and Liquidity Problems

Vaubel points out (p. 262) that any individual bank finding itself illiquid can readily increase its liquidity by selling some of its marketable assets (or, he might have added, by borrowing from other banks), provided there exists no "general liquidity crisis." He then asserts plainly, evidently not anticipating much argument, that "It is the task of the monetary authorities to avoid [such] liquidity crises." Assigning an active task to government generally requires some justification. To justify a government monetary role, one would have to overcome an extremely thorough critique recently made of welfare-theoretic arguments on behalf of government monopoly in the production of base money. The author of this critique is, ironically enough, Roland Vaubel himself (1982). This is not the place to pursue

the issue in depth, as the question of whether government has any legitimate monetary role was among the topics treated in last year's monetary conference volume (*Cato Journal*, Spring 1983).[2] But it remains an issue and an issue relevant here. Whether a government monetary role is justifiable, and if so, how, are questions difficult to disentangle from the rationale of the lender of last resort.

The monetary policy Vaubel seems to favor in the present paper is one of controlling the money supply through open market operations and rediscounting. In particular, to avoid a "general liquidity crisis," Vaubel would have the central bank "increasing the money supply in a steady and preannounced manner—even in the face of bank failures" (p. 262). This means controlling some aggregate of inside and outside money such as M1 or M2. But the desirability of controlling M1 or M2 rather than the monetary base is unclear. For one, there is the uncomfortable possibility that attempting to control an aggregate containing some measure of inside monies necessarily implies inefficient restrictions on the intermediary functions of banks.[3]

A policy of controlling some broad measure of money entails varying the supply of base money in order to offset changes in the demand for base money. Any increases in the public's desired currency-to-deposit ratio and in the banks' desired excess reserve ratio, both of which reduce the volume of M1 and M2 that a given stock of base money will support, are to be counteracted by additions to the stock of base money. Holders of existing base money are to be denied the appreciation in the value of their holdings that would otherwise occur—in other words, they are implicitly taxed.

A policy of varying the monetary base to control M1 or M2 is obviously inconsistent with freezing, or even targeting at some positive growth rate, the monetary base. (Why is it inadvisable to try to offset changes in the demand for M1 or M2, but not changes in the demand for base money?) This policy is also inconsistent with being part of a fully unified currency area—for example, an international gold standard—and thus having an endogenous money stock and monetary base. Vaubel's disparagement of the gold-exchange standard of the 1930s as an inter-central-bank cartel has some truth to it: To the extent that national currencies were independently manipulated by their central banks, fixed exchange rates did represent a form of price fixing. But this does not touch the question of whether the United States or any other nation should be an independent currency area with fiat money and floating rates, or instead part of a larger

[2]See particularly the pieces by Salerno (1983), Yeager (1983), and White (1983).

[3]This possibility is raised by Fama (1983) among others.

unified currency area based on gold or some other nongovernmental money. Vaubel leaves the impression that fiat money and floating rates could be justified by a prior need for a lender of last resort; that is, for an agency able to create high-powered money. But the "need" for a lender of last resort should not be taken for granted: Even if the stability of present arrangements relies upon it to some extent, alternative monetary arrangements might well make the function unnecessary.

The argument for a base-varying policy evidently rests on the supposed desirability of preventing "general liquidity crises." If so, the nature of these events needs to be carefully explained. The only characteristic that Vaubel mentions is that "the price of long-term assets is depressed." This suggests that interest rates are unusually high. But surely high interest rates or depressed asset prices are not a sufficient reason for injecting new base money at the expense of those already holding it. The alternative, when an increased demand for base money comes from illiquid banks, is to have the would-be-borrower banks sell off assets or offer interest rates high enough to attract deposits or bond purchasers or interbank loans. I do not mean to suggest that "liquidity crises" and economic recessions are in no sense regrettable. It is nonetheless not clear what about a "general liquidity crisis" constitutes a market failure that would rationalize circumventing the market mechanism for allocating the existing stock of scarce base money.[4] That an increased demand for base money can inconvenience unprepared banks seems to be a case of interdependence through the market, not a Pareto-relevant externality. Vaubel clearly recognizes this distinction, as he uses it himself.

A Final Note

One sensible measure that U.S. monetary authorities might take to lessen the chance of a banking panic relates to their regulatory powers rather than their control over the money supply. They could eliminate the archaic ban on interstate branch banking, which prevents banks from reaching the optimal size for risk-spreading purposes. As a supplement to Vaubel's account of the Great Depression,

[4]I do not believe that this question has been satisfactorily addressed in the economic literature. A recent attempt to address it is made by Diamond and Dybvig (1983).

Where the monetary authority imposes reserve requirements as the Federal Reserve does (these are an example of an interference with intermediation ostensibly for the sake of monetary control), it is possible that required reserves will exceed actual reserves for the banking system as a whole. The most straightforward way to eliminate this problem is to eliminate reserve requirements. The demand for base money they create is in some sense an artificial one.

it may be noted that Canada, with its banks allowed to branch nationwide, experienced no bank failures and no runs on the banks during the depression.[5]

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