

# Achieving Economic Stability: Lessons From the Crash of 1929



## Federal Reserve Bank of Minneapolis 1987 Annual Report

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## President's Message

The stock market crash of October 1987 was a forceful reminder of the fragility and vulnerability of the financial system. Moreover, it raised the specter of 1929 and the Great Depression, and as a result prompted a reassessment of prevailing economic circumstances and policies. The essay in this Annual Report, "Achieving Economic Stability: Lessons From the Crash of 1929," contributes to this reassessment.

The preponderance of the essay is devoted to alternative explanations of the Depression and the policy recommendations that follow from them. The recommendations, in summary, emphasize adequate money supply growth, maintenance of world trade, and the significance of a stable and smoothly functioning banking system.

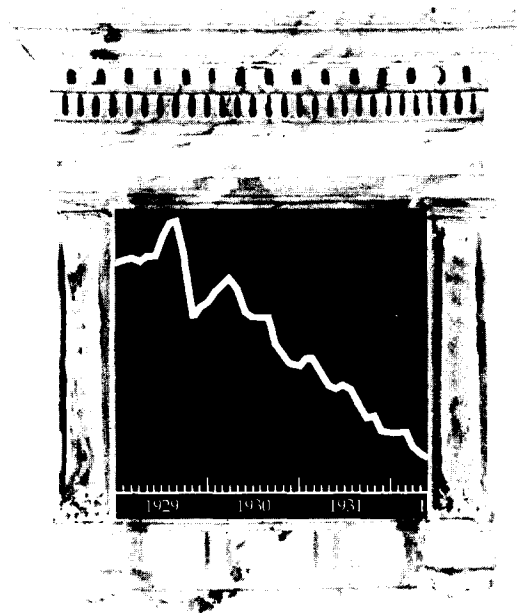
Our purpose in delving into these matters is to suggest that there is nothing inevitable about another depression, in part because appropriate public policy responses can help to offset the deleterious consequences of the break in stock prices. Furthermore, the policies required are not extraordinary in any way; rather, they constitute the application of experience and knowledge gained over the past sixty years. Competing economic objectives, however, may raise formidable challenges to implementing these policies.

A handwritten signature in black ink, appearing to read "Gary H. Stern", with a long horizontal flourish extending to the right.

Gary H. Stern  
President



## Achieving Economic Stability: Lessons From the Crash of 1929



The sharp break in stock prices last fall appropriately compelled a reassessment of economic prospects for the year ahead. In some quarters, analysis has gone beyond mere reassessment to raise fundamental issues about the likelihood of repeating the Great Depression of the 1930s. The specter of the Great Depression, together with the stock market crash of October 19, 1987, has understandably raised concern about the possibility of another major economic collapse. This concern merits close and sober scrutiny because of the potential to misunderstand what happened during the earlier episode and, in turn, to devise ineffective and inappropriate policy responses. More constructively, proper perspective on 1929 should be valuable in determining the policy course for 1988 and beyond.

*The specter of the Great Depression, together with the stock market crash of October 19, 1987, has understandably raised concern about the possibility of another major economic collapse.*

## In This Essay:

To attain this perspective, we first review the experience of the October 1929 market Crash and of the Great Depression with the intent of portraying a comprehensive picture. With this picture in place, alternative explanations of the Depression can be considered to reach some tentative conclusions about the relative merits of these explanations. Having identified significant factors which contributed to the economic collapse, an attempt is made to relate them to current circumstances and developments as a guide to policies to pursue or avoid. It should be emphasized that, while the review of the 1929 Crash and the Depression identifies policy errors, both of commission and omission, avoidance of such errors does not assure satisfactory economic performance in the year ahead. The cyclical and institutional setting today is obviously much different from 1929, so that assistance from even a deep and complete understanding of that earlier episode is limited. Indeed, a review of the situation raises concerns about some of the fundamentals of our current economic circumstances and reemphasizes the value of pursuing, here and abroad, sound and consistent macroeconomic policies.

The conclusion underscores the principal policy recommendations which emerge. These include:

- maintaining the stability of the banking system;
- supporting normal credit extension practices and smoothly functioning financial markets;
- assuring adequate growth of the money supply; and
- sustaining and enhancing international trade.

These recommendations, although in many ways unremarkable, may well prove difficult to implement. Inherent competition among various economic objectives, such as price stability, income stability, income equity, and economic growth, as well as disagreements about the correct way to achieve these goals, will provide a formidable challenge.

Even today, evidence on the Great Depression is not so conclusive as to permit wholly objective and unequivocal interpretation. Therefore, this essay is sometimes highly subjective. Moreover, in discussing current

circumstances, one necessarily must be selective and put aside a number of interesting issues. The essay does not, for example, delve into the causes of the October 1987 decline in stock prices nor attempt to assess how well the markets performed during that experience. These topics are taken up at length in the *Report of the Presidential Task Force on Market Mechanisms* (the Brady Commission report). Rather, we attempt here to present a policy maker's view of the lessons of the Crash of October 1929 and the Great Depression and how they can be applied in the aftermath of the stock price collapse of October 1987.

## The Course of the Great Depression

The October 1987 collapse in stock prices conjured visions of 1929 and the Great Depression. Focus on this period is natural because the 32 percent decline in stock values between the market closes of October 13 and 19, 1987, was of the magnitude of—indeed, it actually exceeded—the October 1929 debacle. Focus on this period is also appropriate because, despite all that has been learned since to help assure economic stability, we cannot be completely confident that history will not repeat itself. Consequently, this first section reviews events of the Depression era.

The stock market Crash of October 1929 is frequently credited with triggering the Depression. The decline was severe and extended; from their peak in September 1929, stock prices declined by 87 percent to their trough in 1932. The performance of the economy over this period was equally disheartening. Real economic activity declined by about one-third between 1929 and 1933; unemployment climbed to 25 percent of the labor force; prices in the aggregate dropped by more than 25 percent; the money supply contracted by over 30 percent; and close to 10,000 banks suspended operations. Given this performance, it is not surprising that many consider these years the worst economic trauma in the nation's history.

Policy makers did not stand idly by as the financial markets and the economy unraveled. There are questions, though, about the appropriateness and magnitude of their responses. Monetary policy, determined and conducted then, as now, by the Federal Reserve, became restrictive early in 1928, as Federal Reserve officials grew increasingly concerned about the rapid pace of credit expansion, some of which was fueling stock market speculation. This policy stance essentially was maintained until the stock market Crash.

Los Angeles Times, Feb. 8, 1929



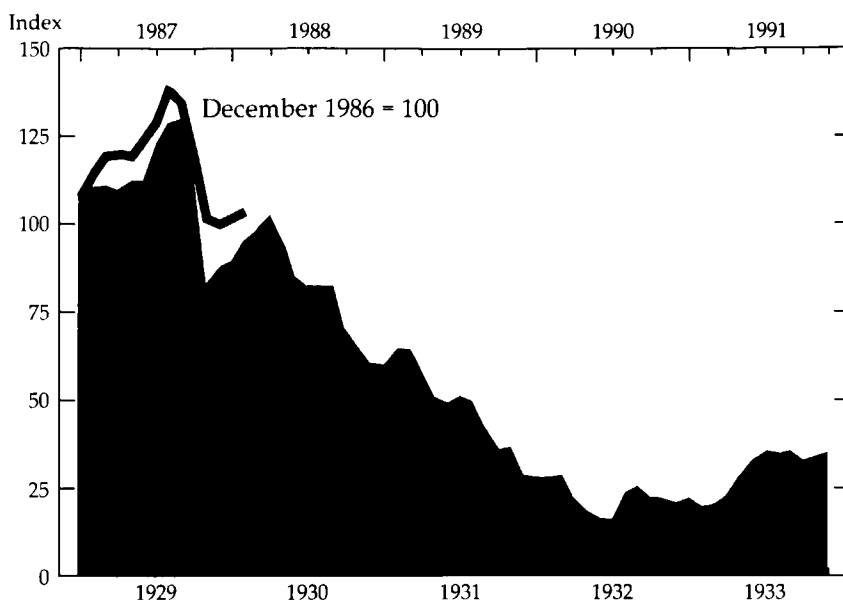
New York Stock Exchange Archives

## Stock Market: Then and Now Dow-Jones Industrial Average



Museum of the City of New York

*While there has been much criticism of Federal Reserve policy in the Depression, its initial reaction to the October 1929 drop in stock values appears fully appropriate.*



Source: Dow Jones and Company, Inc.

While there has been much criticism of Federal Reserve policy in the Depression, its initial reaction to the October 1929 drop in stock values appears fully appropriate. Between October 1929 and February 1930, the discount rate was reduced from 6 to 4 percent. The money supply jumped in the immediate aftermath of the Crash, as commercial banks in New York made loans to securities brokers and dealers in volume. Such funding satisfied the heightened liquidity demands of nonfinancial corporations and others that had been financing broker-dealers prior to the Crash and, of course, it helped securities firms maintain normal activities and positions.

The increase in required reserves, which necessarily accompanied the bulge in the money supply resulting from the surge in bank lending to securities firms, was met in part by sizable open market purchases of U.S. government securities by the New York Federal Reserve Bank and by discount window borrowing by New York commercial banks. According to a senior official of the New York Fed at the time, that bank kept its "discount window wide open and let it be known that member banks might borrow freely to establish the reserves required against the large increase in deposits resulting from the taking over of loans called by others." As a consequence, the sharp run-up in short-term interest rates

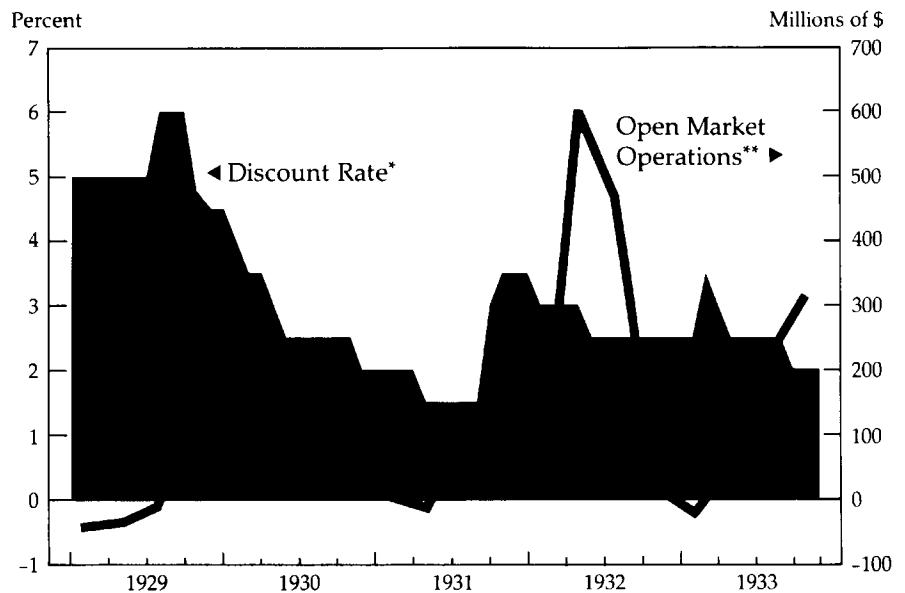


that had characterized previous financial crises was avoided in this case. Money market rates generally declined in the first few months following October 1929.

By the spring of 1930, however, the distinctly easier monetary policy that had characterized the Federal Reserve's response to the stock market decline ended. Subsequent policy is more difficult to describe concisely. Open market purchases of government securities became very modest until large purchases were made in 1932. Further, although the discount rate was reduced between March 1930 and September 1931, it then was raised on two occasions late that year before falling back once again in 1932.

## Monetary Policy 1929-1933

*... the direction of monetary policy was somewhat ambiguous over this period, what happened in financial markets was not.*



\*Discount rate for the Federal Reserve Bank of New York

\*\*Net change in Federal Reserve System holdings of United States government securities

Source: Board of Governors of the Federal Reserve System

While the direction of monetary policy was somewhat ambiguous over this period, what happened in financial markets was not. Three severe banking panics occurred, the first in late 1930, another in the spring of 1931, and the final crisis in March 1933. Overall, close to 10,000 banks suspended activity. And in the absence of significant efforts to offset these failures, the money supply (of which 92 percent consisted of bank deposits) fell by 31 percent between 1929 and 1933.

Unlike monetary policy and related financial disturbances, fiscal policy did not play a particularly significant role during the Depression. Federal government spending, including transfer payments, was small before and during the 1929–1933 period. Moreover, changes in tax and spending policies, and resulting fluctuations in the budget deficit, were generally minor. Perhaps fiscal policy could have done more to combat the Depression; in the event, it was not a major factor.



Minnesota Historical Society

*A contraction in spending did of course occur, but showing that the decline was a cause rather than a reaction to a deeper economic malady is difficult.*

## Causes of the Depression

### Keynesian Explanation

There is not, at this point, anything approaching a consensus on the causes of the depth and duration of the Depression. With the passage of time, the Keynesian view that an inexplicable contraction in spending—business investment and personal consumption—led to the collapse in economic activity has fallen into disfavor. A contraction in spending did of course occur, but showing that the decline was a cause rather than a reaction to a deeper economic malady is difficult.

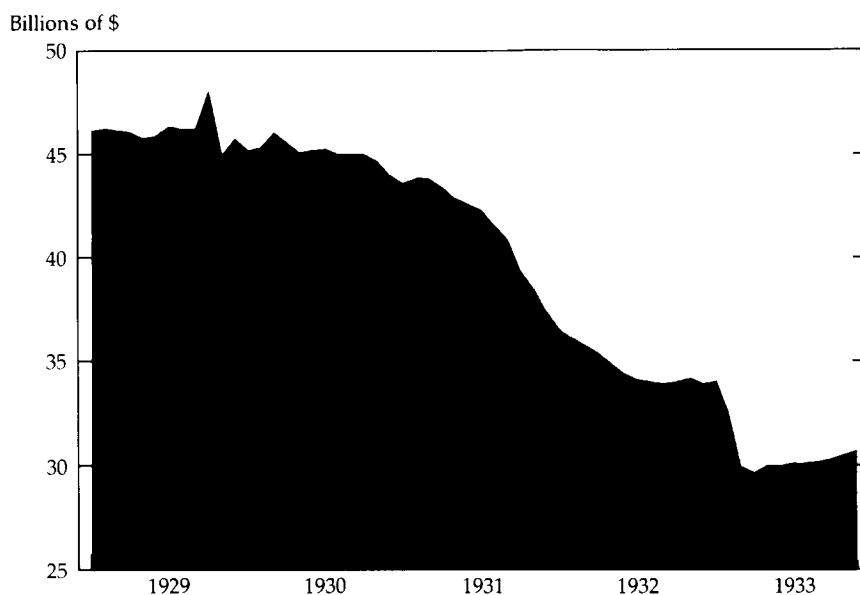
Some claim the stock market collapse of October 1929 was the cause of the spending contraction, but the evidence is suspect. Quantitatively, the decline in share values, large and persistent as it was during the Depression, does not seem sufficient to generate a downturn in the economy of the scope of 1929–1933, even given the psychological trauma of the stock market Crash. Furthermore, the economy in fact peaked in August 1929, two months before the severe decline in stock prices, suggesting that causality may well have run from economic weakness to stock prices, rather than vice versa.

### The Monetarist View

Monetary factors currently dominate thinking about the causes of the Depression. The conventional wisdom, if there is such a thing, attributes the severity and extent of the Depression to monetary policy mismanagement, and credits the Federal Reserve with turning a “garden variety” recession into something much worse. There remains, however, considerable dispute about this conclusion.

The pronounced decline in the money supply between 1929 and 1933, alluded to earlier, is given a preeminent role in the monetarist explanation

**Money Supply\***  
1929-1933



\*Includes currency held by the public and demand and time deposits at commercial banks.  
Source: Friedman, Milton, and Anna Schwartz. *A Monetary History of the United States, 1867-1960*. Princeton: Princeton University Press, 1963.

of the Depression. The argument is that, as an empirical matter, the money stock is a significant determinant of economic developments. Its fall during the Depression, coupled with a predictable decline in velocity, led to the sharp contraction in output and nominal income, and the extraordinary climb in unemployment. Consequently, had the Federal Reserve been aggressively expansionary, so that growth in the money stock was maintained during the period, the fall in economic activity could have been moderated considerably.

This monetarist explanation of the Depression has many adherents, but nevertheless questions remain. More rapid growth in money may well have been offset by an even more precipitous decline in velocity during the Depression, so that the economy's path may not have changed as a consequence. That is, if the downturn in business activity were determined largely by nonmonetary factors, more money growth would not necessarily have ameliorated the problem. "You can lead a horse to water, but you can't make him drink" is often quoted by those who question the monetarist interpretation of Fed policy.

In addition, the monetarist explanation does not explicitly specify the channels through which changes in the money stock affect economic

activity. Presumably, when money is in short supply relative to demand, there will be upward pressure on interest rates that will curtail consumer and business spending, as well as money demand. This process helps to equilibrate the money market and also implies a slowing in the economy. But it is arguable if this pattern fits events during the Depression all that well; market interest rates did not rise appreciably until the latter half of 1931, when the decline in the economy was already well under way. Moreover, the monetarist explanation is subject to the same objection raised to the Keynesian view. It is not clear if the contraction of the money supply was a cause of, or reaction to, economic weakness.



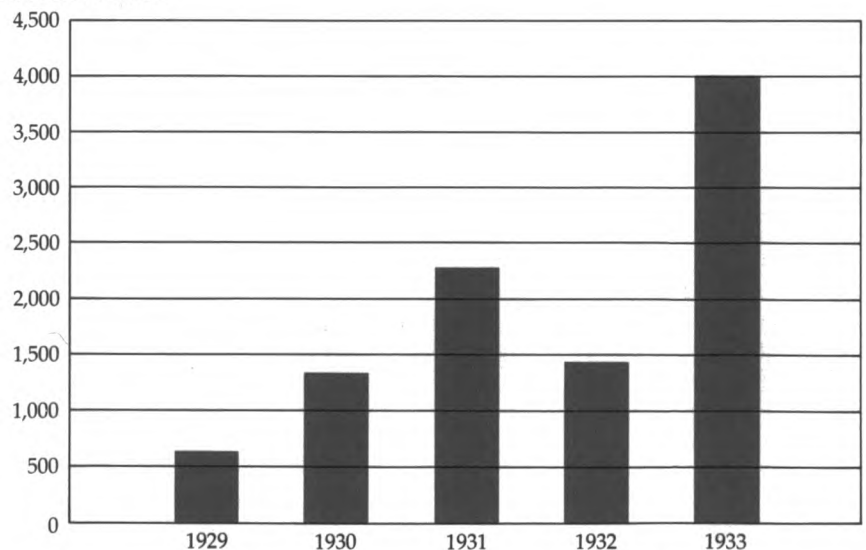
Minnesota Historical Society

### Bank Suspensions\* 1929-1933

### Banking Panics

In contradistinction to emphasis on the money supply, a third school of thought, which gives considerable weight to financial matters in explaining the Depression, focuses on banking panics and the consequences of the multitude of bank failures that occurred throughout the period. It is not, however, that some bank creditors and owners lost their investments, but rather that loans were called by banks experiencing liquidity

Number of Banks



\*Includes all banks closed to the public, either temporarily or permanently, by supervisory authorities or by the banks' boards of directors on account of financial difficulties, whether on a so-called moratorium basis or otherwise, unless the closing was under a special banking holiday declared by civil authorities.

Source: U.S. Bureau of the Census. *Historical Statistics of the United States, Colonial Times to 1970, Bicentennial Edition, Part 2*. Washington, D.C.: U.S. Government Printing Office, 1975.

and solvency problems and, in a significant number of cases, borrowers could not readily replace the funding. In these instances, such borrowers, although perhaps fully credit-worthy, would have had to curtail activities to adjust to the diminution in financing. Depending on circumstances, such a curtailment in credit could translate into reductions in orders, employment, and output that contribute to a prolonged downward spiral in economic activity.

Emphasis on contraction in financial intermediation and mounting banking problems is intuitively plausible, if not fully convincing. Such emphasis provides a more likely channel of influence than focus on the money supply *per se*. Without question there were banking crises and closures during the Depression, and it would not have been surprising if bankers adopted very conservative lending policies in the wake of the Crash and the first signs of weakness in business activity. There can be little doubt that the Crash undermined confidence and instilled a far more conservative attitude. There is, moreover, some empirical evidence which can be interpreted as indicative of the significance of banking deterioration in explaining the depth of the 1929–1933 malaise, but the evidence at this stage is not overwhelming.



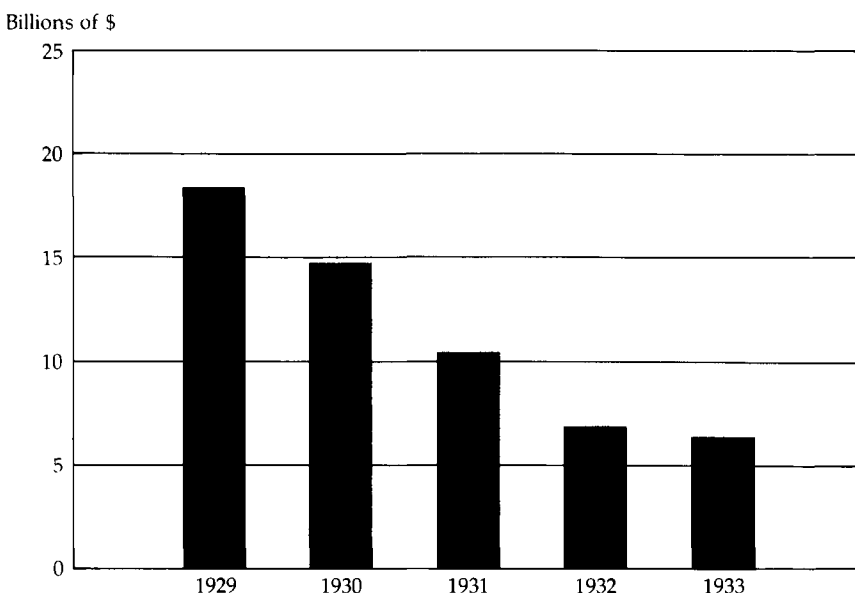
Museum of the City of New York

### International Factors

To this point in the essay the international dimensions of the Depression have been largely ignored. But the Depression was a global phenomenon. The international monetary system of the time—the gold exchange standard—was a fixed-rate system which meant that, as long as the rules were observed, economic conditions in various countries would be closely related. Hence, problems in one large economy would be transmitted to others and, ultimately, could feed back to exacerbate difficulties in the country of origin.

Further, the severity of the Depression was in all likelihood magnified by the Smoot-Hawley tariff imposed by the United States in 1930, and similar “beggar-thy-neighbor” policies adopted by other countries in response to U.S. policy. Imposition of such trade barriers and the resulting constriction of international trade appear to have contributed to the worldwide reduction in employment and output. While protectionism, in and of itself, may not have caused the Depression, it was clearly a contributory factor.

## World Trade\* 1929-1933



\*Total value of exports for nine major industrialized countries

Source: Woytinsky, E. S. and W. S. Woytinsky. *World Commerce and Governments, Trends and Outlook*. New York: The Twentieth Century Fund, 1955.

## Assessing Explanations

Several conclusions stand out from the 1929–1933 period and the research devoted to it. First, it seems unlikely that a break in stock prices, even a severe one, is sufficient to send the economy into depression. The history of 1929–1933 suggests that the collapse of stock values, although possibly a trigger mechanism, was not central to the sustained downward spiral in business activity. Subsequent empirical research has indicated that, while changes in equity prices have significant wealth effects on consumer spending, such effects are not so large as to produce the 1929–1933 pattern.

Second, explanations of the Depression which emphasize financial factors are the most convincing. The trade restrictions of Smoot-Hawley and “beggar-thy-neighbor” policies more generally were contributors to the Great Depression, but probably not the major cause. Although a collapse in international trade can have serious adverse consequences for the level of economic activity, emphasis on trade barriers alone fails to come to grips with the collapse of domestic demand which characterized the period. While Keynesian explanations focus on weakness in demand, they are also suspect. Whether the weakness was the cause of the economic downturn or a result of a deeper problem is unclear.

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... explanations of the Depression which emphasize financial factors are the most convincing.

The third conclusion, though, is that even financial explanations are not complete. It is not clear whether it was the persistent decline in the money stock and its velocity that so disrupted economic activity or, rather, the series of banking panics in those years that undermined confidence and resulted in the loss of many institutions and the contraction of credit for viable businesses and households. Reports of conditions during the Depression and subsequent research do not as yet enable adequate discrimination between these alternative financial explanations; it is probably wise to allow for the veracity of both at this stage.

## October 1987: Déjà Vu All Over Again

The events of autumn 1987 can be weighed against the history of the early 1930s. On the financial side, there are some striking similarities between October 1929 (and its immediate aftermath) and October 1987. In the words of the Brady Commission:

From the close of trading Tuesday, October 13, 1987, to the close of trading Monday, October 19, the Dow Jones Industrial Average declined by almost one third, representing a loss in the value of all outstanding United States stocks of approximately \$1.0 trillion.

What made this market break extraordinary was the speed with which prices fell, the unprecedented volume of trading and the consequent threat to the financial system.

The fall in the stock market, as well as the tenor of the decline—October 1929 was the Crash, after all—was comparable in the two cases.

Moreover, the Federal Reserve responded to the crises in basically the same manner. The central bank aggressively supplied liquidity through open market purchase of U.S. government securities, adding \$2.2 billion in nonborrowed reserves between the reserve periods ended October 7 and November 4. The Fed also made it clear to commercial banks that the discount window was available should they encounter unusually heavy reserve needs. On October 20, the day after the 508-point decline in the Dow, these actions were accompanied by a statement of Alan Greenspan, Chairman of the Board of Governors, indicating the System's intentions: "The Federal Reserve, consistent with its responsibilities as the nation's central bank, affirmed today its readiness to serve as a source of liquidity to support the economic and financial system." The Federal Open Market



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*On the financial side, there are some striking similarities between October 1929 (and its immediate aftermath) and October 1987 . . . . Moreover, the Federal Reserve responded to the crises in basically the same manner.*

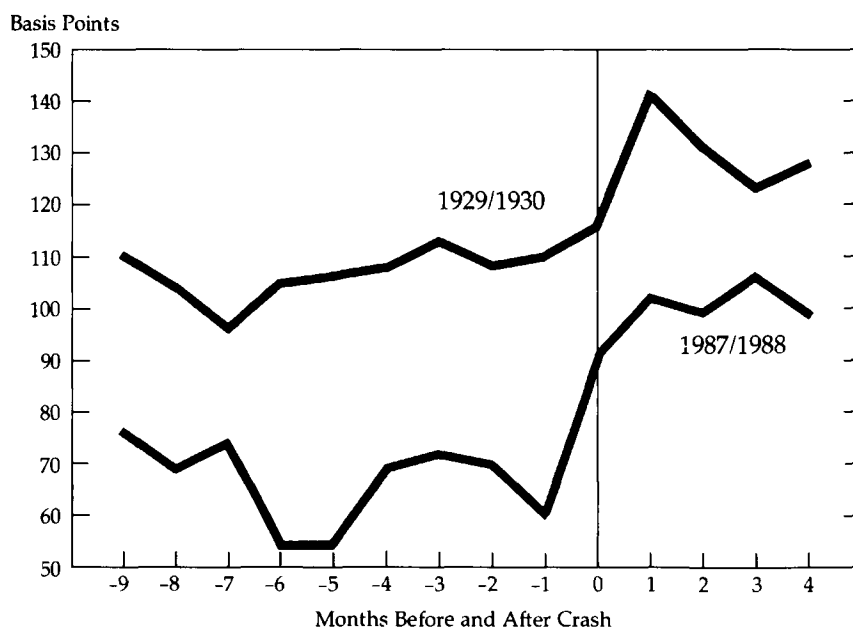
Committee, the key monetary policy group in the System, met daily via telephone conference call until October 30.

In the event, interest rates on short- and long-term instruments dropped in the wake of the more generous provision of liquidity. For example, the rate on three-month Treasury bills dropped from 6.74 percent on October 13 to 5.27 percent October 30, the federal funds rate declined by 179 basis points over this interval, and the rate on 30-year Treasury bonds fell from 9.92 percent to 9.03.

And after some initial hesitation, bank lending to securities firms expanded substantially during the week of October 19-23. Thus, firms were able to finance the inventories of securities accumulated as they satisfied their customers' sell orders.

As described above, aggressive open market purchases had been a hallmark of the response to October 1929 as well. Moreover, the money supply bulged in October 1987 as it had in 1929. Nevertheless, in both cases investor preferences for safe and liquid investments increased as noted by a distinct widening of interest rate spreads.

## Interest Rate Spreads\*



\*The difference between Moody's Corporate AAA bond yields and the yields on long-term U.S. government bonds

Source: Board of Governors of the Federal Reserve System and Moody's Investors Service



## Policies for Future Stability

To this point, a cumulative downward spiral in today's business activity and in prices has been avoided. Indeed, the resilience of the economy, in the face of the enormous drop in stock values, has been impressive. A key issue, however, is selection of policies that will maintain the worldwide economic expansion and simultaneously extend the moderation in inflation that has been achieved. And while there may be intellectual agreement on at least some of the policies that should be adopted to further these ends, implementation may prove difficult because of inherent competition, if not conflict, among objectives.

A consensus has been building in recent years in favor of reducing substantially the United States' federal budget deficit, particularly if better balance in currency values and worldwide trade flows is to be achieved. To be sure, in view of both the negative wealth effects associated with the drop in stock values and the reductions to the outlook made by most forecasters, some may feel that this is not an ideal time to take major actions toward fiscal restraint. However, the risks of such steps should not be exaggerated, as the lower interest rates resulting from budget restraint could offset much of the drag otherwise applied to the economy. And as a practical matter, it is unlikely that fiscal policy makers will go too far too fast in the direction of restraint.

The lessons of history, together with recent evidence of improvement in our foreign trade performance, suggest the overwhelming desirability of avoiding protectionist legislation in current circumstances, particularly if it would provoke retaliation from some of our major trading partners. In the long run, moreover, protectionism is likely to make our domestic industries less rather than more competitive. But this recommendation in favor of free trade conflicts with some business and labor sentiment that competition in the prevailing institutional setting is unfairly tilted in favor of foreign producers. Despite the merits of open markets, it is not a foregone conclusion that we will even maintain those that we have.

In the financial sphere, the gap between recommendation and implementation is perhaps even wider. As discussed above, the experience of 1929-1933 suggests that allowing appreciable declines in the money supply may be very costly. To be sure, the Depression years do not unequivocally demonstrate that the decline in money was a principal cause of the economic collapse, but they do suggest that there are material

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*It follows, then, that the Federal Reserve should be sufficiently accommodative to sustain growth in the money stock.*

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risks in permitting such weakness in money. It follows, then, that the Federal Reserve should be sufficiently accommodative to sustain growth in the money stock.

Unfortunately, this recommendation may conflict with the objective of maintaining the international value of the dollar or even the more humble goal of promoting stability in the foreign exchange market. That is, there may be little room to encourage growth in money without simultaneously triggering a flight from the dollar. More fundamentally, such a policy course could contribute to a reacceleration of inflation, and thus could risk compromising price stability, the paramount long-run objective of monetary policy.

The Depression also illustrates the risks to the general economy of banking crises and, of course, the safety net underpinning the banking system was materially strengthened, with the introduction of deposit insurance, as a consequence. Although the number of bank failures has increased in recent years, the situation cannot accurately be described as a panic, and such a development seems highly unlikely in view of the safety net in place and the Federal Reserve's commitment to the safety and soundness of the banking system.

Nevertheless, we should not be overly sanguine about the financial situation. It is one thing to maintain banks and other financial institutions as viable entities—it is another to see to it that they continue to provide services in their normal fashion and that financing remains available to credit-worthy customers at reasonable terms. Achieving this latter objective may be more difficult than preventing bank runs or containing bank failures. Confidence is key; lenders must be reasonably sure, before they commit funds, that sound economic policies will be pursued and that the environment will give customers an opportunity to prosper.

Policy makers, of course, can try to assure bankers of this outcome, but ultimately it is their actions, and the resulting performance of the economy, that matter. This observation is just another way of saying that the financial system works best when sound and stable policies are pursued, and when market participants and business people can count on such policies. As such, this recommendation is unremarkable, but may prove far easier to state than to achieve.

*Such a list of policy recommendations may seem unremarkable, in part because the lessons of the past already have been taken to heart. Achievement, however, is likely to prove a challenge.*

## Conclusion

On the surface at least, there are striking similarities between events of October 1929 and October 1987. The traumatic severity of the decline in equity values, the initial response of the Federal Reserve in terms of discount window access and open market provision of reserves, and the response of interest rates and quality spreads bear close resemblance in the two episodes. Given the way 1929 played out, these observations are not comforting.

Nevertheless, the similarities should not be exaggerated. The economy today is quite different—institutionally, structurally, cyclically—from that of 1929. A contraction in economic activity was under way prior to the market debacle of October 1929. In contrast, the cyclical expansion in business that followed the recession of 1981–1982 remains intact today. Moreover, examination of the Depression years can help us to identify policies that minimize the risk of a slowdown in economic activity and to avoid the major errors of the past. In this regard, the principal recommendations that emerge from our admittedly subjective review of history are:

- maintain our commitment to the stability of the banking system through judicious use of the federal safety net of deposit insurance and the discount window;
- support normal credit extension by banks and, more generally, smoothly functioning financial institutions and markets through stable and credible macroeconomic policies;
- provide adequate growth in the money supply consistent with prevailing economic circumstances worldwide; and
- promote open markets for the international trade of goods and services.

Such a list of policy recommendations may seem unremarkable, in part because the lessons of the past already have been taken to heart. Achievement, however, is likely to prove a challenge.

—Gary H. Stern

## Suggested Reading

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## Statement of Condition (In Thousands)

	December 31, 1987	December 31, 1986
<i>Assets</i>		
Gold Certificate Account	\$169,000	\$168,000
Special Drawing Rights Certificate Account	66,000	66,000
Coin	13,110	20,068
Loans to Depository Institutions	9,750	206,210
Securities:		
Federal Agency Obligations	113,526	113,125
U.S. Government Securities	3,290,251	2,855,458
Total Securities	\$3,403,777	\$2,968,583
Cash Items in Process of Collection	435,370	492,649
Bank Premises and Equipment—		
Less: Depreciation of \$24,533 and \$23,628	34,543	35,976
Foreign Currencies	256,476	312,642
Other Assets	66,936	48,279
Interdistrict Settlement Fund	(2,890)	78,225
Total Assets	<u>\$4,452,072</u>	<u>\$4,396,632</u>
<i>Liabilities</i>		
Federal Reserve Notes <sup>1</sup>	\$3,042,763	\$2,838,142
Deposits:		
Depository Institutions	847,699	884,056
Foreign, Official Accounts	4,950	4,950
Other Deposits	16,256	11,708
Total Deposits	\$868,905	\$900,714
Deferred Credit Items	370,656	495,471
Other Liabilities	44,538	40,035
Total Liabilities	\$4,326,862	\$4,274,362
<i>Capital Accounts</i>		
Capital Paid In	\$62,605	\$61,135
Surplus	62,605	61,135
Total Capital Accounts	<u>\$125,210</u>	<u>\$122,270</u>
Total Liabilities and Capital Accounts	<u>\$4,452,072</u>	<u>\$4,396,632</u>

<sup>1</sup>Amount is net of notes held by the Bank of \$992 million in 1987 and \$545 million in 1986.

## Earnings and Expenses (In Thousands)

For the Year Ended December 31	1987	1986
<i>Current Earnings</i>		
Interest on U.S. Government Securities and Federal Agency Obligations	\$240,914	\$224,145
Interest on Foreign Currency Investments	11,348	12,988
Interest on Loans to Depository Institutions	2,553	1,156
Revenue from Priced Services	36,599	35,416
All Other Earnings	7,920	390
Total Current Earnings	\$299,334	\$274,095
<i>Current Expenses</i>		
Salaries and Other Personnel Expenses	\$27,437	\$26,434
Retirement and Other Benefits	5,256	5,725
Travel	1,001	787
Postage and Shipping	5,653	5,682
Communications	497	525
Materials and Supplies	1,887	1,864
Building Expenses:		
Real Estate Taxes	2,602	2,500
Depreciation—Bank Premises	1,065	1,050
Utilities	734	843
Rent and Other Building Expenses	1,426	700
Furniture and Operating Equipment:		
Rentals	687	1,014
Depreciation and Miscellaneous Purchases	4,600	4,296
Repairs and Maintenance	2,085	1,915
Cost of Earnings Credits	6,083	5,577
Other Operating Expenses	2,561	1,877
Net Shared Costs Received from Other FR Banks	1,613	1,889
Total	\$65,187	\$62,678
Reimbursed Expenses <sup>2</sup>	(3,138)	(3,587)
Net Expenses	\$62,049	\$59,091
<i>Current Net Earnings</i>	\$237,285	\$215,004
Net Additions <sup>3</sup>	58,626	64,005
Less:		
Assessment by Board of Governors:		
Board Expenditures	2,649	3,191
Federal Reserve Currency Costs	2,480	2,381
Dividends Paid	3,694	3,554
Payments to U.S. Treasury	285,618	267,241
Transferred to Surplus	\$1,470	\$2,642
<i>Surplus Account</i>		
Surplus, January 1	\$61,135	\$58,493
Transferred to Surplus—as above	1,470	2,642
Surplus, December 31	\$62,605	\$61,135

<sup>2</sup>Reimbursements due from the U.S. Treasury and other Federal agencies; \$1,549 was unreimbursed in 1987 and \$1,973 in 1986.

<sup>3</sup>This item consists mainly of unrealized net gains related to revaluation of assets denominated in foreign currencies to market rates.

# Directors

December 31, 1987

## Federal Reserve Bank of Minneapolis

JOHN B. DAVIS, JR.  
Chair and Federal Reserve Agent

MICHAEL W. WRIGHT  
Deputy Chair

### *Class A Elected by Member Banks*

CHARLES W. EKSTRUM  
President and Chief Executive Officer  
First National Bank  
Philip, South Dakota

DUANE W. RING  
President  
Norwest Bank La Crosse, N.A.  
La Crosse, Wisconsin

THOMAS M. STRONG  
President  
Citizens State Bank  
Ontonagon, Michigan

### *Class B Elected by Member Banks*

RICHARD L. FALCONER  
District Manager-Finance  
Northwestern Bell  
Minneapolis, Minnesota

WILLIAM L. MATHERS  
President  
Mathers Land Company  
Miles City, Montana

Vacant

### *Class C Appointed by the Board of Governors*

JOHN B. DAVIS, JR.  
President Emeritus  
Macalester College  
St. Paul, Minnesota

JOHN A. ROLLWAGEN  
Chairman and Chief Executive Officer  
Cray Research, Inc.  
Minneapolis, Minnesota

MICHAEL W. WRIGHT  
Chairman, Chief Executive Officer, and President  
Super Valu Stores, Inc.  
Minneapolis, Minnesota

### *Member of Federal Advisory Council*

DeWALT H. ANKENY, JR.  
Chairman and Chief Executive Officer  
First Bank System, Inc.  
Minneapolis, Minnesota

## Helena Branch

WARREN H. ROSS  
Chair

MARCIA S. ANDERSON  
Vice Chair

### *Appointed by Board of Governors*

MARCIA S. ANDERSON  
President  
Bridger Canyon Stallion Station, Inc.  
Bozeman, Montana

WARREN H. ROSS  
President  
Ross 8-7 Ranch, Inc.  
Chinook, Montana

### *Appointed by Board of Directors FRB of Minneapolis*

F. CHARLES MERCORD  
President and Managing Officer  
First Federal Savings Bank of Montana  
Kalispell, Montana

NOBLE E. VOSBURG  
President and Chief Executive Officer  
Pacific Hide & Fur Corporation  
Great Falls, Montana

ROBERT H. WALLER  
President and Chief Executive Officer  
First Interstate Bank of Billings, N.A.  
Billings, Montana

# Officers

December 31, 1987

## Federal Reserve Bank of Minneapolis

GARY H. STERN  
President

THOMAS E. GAINOR  
First Vice President

MELVIN L. BURSTEIN  
Senior Vice President  
and General Counsel

LEONARD W. FERNELIUS  
Senior Vice President

RONALD E. KAATZ  
Senior Vice President

ARTHUR J. ROLNICK  
Senior Vice President  
and Director of Research

SHELDON L. AZINE  
Vice President  
and Deputy General Counsel

PHIL C. GERBER  
Vice President

BRUCE J. HEDBLOM  
Vice President

RICHARD L. KUXHAUSEN  
Vice President

DAVID LEVY  
Vice President  
and Director of Public Affairs

JAMES M. LYON  
Vice President

SUSAN J. MANCHESTER  
Vice President

PRESTON J. MILLER  
Vice President  
and Deputy Director of Research

CLARENCE W. NELSON  
Vice President  
and Economic Advisor

CHARLES L. SHROMOFF  
General Auditor

COLLEEN K. STRAND  
Vice President

THEODORE E. UMHOEFER, JR.  
Vice President

KATHLEEN J. BALKMAN  
Assistant Vice President

JOHN H. BOYD  
Research Officer

ROBERT C. BRANDT  
Assistant Vice President

JAMES U. BROOKS  
Assistant Vice President

MARILYN L. BROWN  
Assistant General Auditor

JAMES T. DEUSTERHOFF  
Assistant Vice President

RICHARD K. EINAN  
Assistant Vice President  
and Community Affairs Officer

JEAN C. GARRICK  
Assistant Vice President

JAMES H. HAMMILL  
Assistant Vice President  
and Secretary

CARYL W. HAYWARD  
Assistant Vice President

WILLIAM B. HOLM  
Assistant Vice President

RONALD O. HOSTAD  
Assistant Vice President

BRUCE H. JOHNSON  
Assistant Vice President

THOMAS E. KLEINSCHMIT  
Assistant Vice President

KEITH D. KREYCIK  
Assistant Vice President

RODERICK A. LONG  
Assistant Vice President

RICHARD W. PUTTIN  
Assistant Vice President

THOMAS M. SUPEL  
Assistant Vice President

KENNETH C. THEISEN  
Assistant Vice President

THOMAS H. TURNER  
Assistant Vice President

CAROLYN A. VERRET  
Assistant Vice President

JOSEPH R. VOGEL  
Chief Examiner

WARREN E. WEBER  
Research Officer

WILLIAM G. WURSTER  
Assistant Vice President

## Helena Branch

ROBERT F. McNELLIS  
Vice President and Manager

DAVID P. NICKEL  
Assistant Vice President