THE STOCK MARKET CRASH OF 1929

by Stephen G. Cecchetti *

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From the open on Wednesday October 23, 1929 to the close on Tuesday October 29, 1929 the New York Stock Exchange lost over twenty-five percent of its value. In that single week, the Dow Jones Industrial Average (see Pierce [1982]) fell from 326.51 to 230.07, a drop of 29.5%, while the Standard and Poor’s composite portfolio of ninety stocks (see Schwert [1990]) fell from 28.27 to 20.43, a fall of 27.8%. As large as these drops were, they must be placed in the proper perspective. First, at the end of 1929, stock prices were less than twenty percent below their beginning of year level, and well above the level at the beginning of 1928. In addition, much of the October 1929 loss was regained by mid-April of 1930. But, nevertheless, it is important to keep in mind that the October 1929 crash was just one part of the sustained decline that began on September 3, 1929, when the Dow Jones Industrials closed at 381.17, and continued through the end of February of 1933, when Dow closed at 50.16 — a cumulative decline of over 85%. While share prices certainly fell in late October 1929, and trading was disorderly in many respects, the market decline was more gradual and much longer than the term ‘crash’ implies. Finally, it is worth noting that the Dow Jones Industrial Average did not reach the nominal level of the September 1929 peak again until the mid-1950s.

There are two aspects of the 1929 stock market decline that are of broad interest: (1) What caused the crash? and (2) What is the connection between the crash and the Great Depression of 1929–1933? I will examine each of these in turn. The first

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question is likely to remain a puzzle, as there is little direct information available on trading during the crucial week. The answer to the second question, concerning the general economic consequences of the crash, has changed somewhat over time and I will provide a survey of the current consensus.

**THE CAUSES OF THE CRASH**

There have been a number of explanations suggested for the crash. The most common ones, involving the bursting of speculative bubbles, insider trading and illegal manipulation, appear to be untrue. I first discuss the most popular of these, and then examine the scant evidence we have on the likely causes of the crash.

*Myths about the Crash*

Any reader of Galbraith’s classic 1954 book *The Great Crash* comes away with the sense that, beginning on October 24, 1929 (Black Thursday), a speculative bubble in stock prices burst. But there is compelling evidence that suggests otherwise. Standard measures of share value, such as price-earnings or price-dividend ratios, imply that the shares were not over valued. Bierman (1991) provides a number of examples that show that an honest assessment, using only contemporary information, does not suggest that prices were obviously too high. The same conclusion emerges from Figure 3 in Schwert’s entry for this volume — *Stock Market Crash of 1987*. In 1929, these measures of stock market value were not wildly above those either before or since.

Economic fundamentals were also sound in late 1929. While the economy had turned down slightly in the previous two months (the NBER business cycle peak was in August) both output and labor productivity had been growing at an average annual rate of about four percent per year during the decade of the 1920s, while the price level had remained unchanged. As Dominguez, Fair and Shapiro (1988) demonstrate, contemporary data did not reveal any trends that suggested the drastic downturn that followed.

It is easy to find quotes from contemporary analysts supporting both the position that the market would rise, and the position that the market would fall. The most
prominent proponent of continued investment was probably Irving Fisher of Yale University. A representative example of his thinking is the following quote from October 15, 1929, found in Galbraith (1954): “I expect to see the stock market a good deal higher than it is today within a few months” (pg. 99). Fisher ultimately lost $5 million and his house as the stock market spiraled downward through 1931 and 1932.

In addition to Galbraith’s book and the common lore, recent research has attempted to justify the claim that the stock market contained a speculative bubble in 1928 and 1929. Rappoport and White (1990) note that, prior to the crash in October 1929, the interest rate on overnight call loans that were collaterized by stock was far above interest rates on very short term commercial loans such as banker’s acceptances. Several facts militate against Rappoport and White’s interpretation of this premium as compensation for the presence of a bubble. First, the largest interest differential came in March of 1929, well before the crash in October. In fact, the peak call loan rate coincided with a near crash on March 26, 1929. Furthermore, call loans were collaterized by the stock they were used to buy, and the margin requirement was often as high as fifty percent. There is no evidence that the collateral failed to cover the loan principal even after the crash, suggesting that these loans were not very risky. A careful study of bank loan losses shows no sudden rise in 1929. This all suggests that the interest rate differential on stock market broker loans must have had a different source.

Another often cited cause of the stock market crash of 1929 is alleged massive fraud and illegal activity. The anecdotal evidence in Galbraith certainly leaves one feeling that this is an important part of the explanation. Again, Bieman has carefully examined the evidence and shows that there was probably very little actual insider trading or illegal manipulation. Instead, a number of lucky and unlucky investors were pilloried for perfectly legal actions.

One example will suffice to prove the point. Galbraith cites as evidence of extensive malfeasance the behavior of Albert H. Wiggin, President of Chase National Bank. Between September 23 and November 4, 1929, Wiggin sold short 42,506 shares
of Chase stock. His profit from this transaction was $4 million. Wiggin admitted engaging in these trades, but even after selling short 42,000 shares, he still retained a net long position in Chase stock, since he owned nearly 200,000 shares. Needless to say, Wiggin lost money between 1928 and 1932 as the share price fell from 280 to 40.

Margin buying is another unlikely culprit in the crash. While the extent of margin may have had some impact on the timing of sales and the exact extent of the crash, as investors were sold out when they could not meet margin calls, it is unlikely to have been very important. The reason for this is that there was very little margin outstanding relative to the value of the market. Irving Fisher (1930) estimated that the total value of the NYSE on July 1, 1929 was approximately $124 billion. At that time, broker loans were only $5.5 billion, so margin averaged less than five percent.

There is one piece of evidence that suggests that the stock prices prior to the crash may have been artificially inflated by irrational investor sentiment. As first noted by Galbraith, and recently discussed by DeLong and Schleifer (1991), the value of closed-end mutual funds was as much as thirty percent above the current market value of the securities that make up their portfolios in the late summer of 1929. While this premium was high, and it suggests irrational behavior, it is important to realize that closed-end funds often sell at prices that differ dramatically from the net asset values of their portfolios. Furthermore, the fact that the prices of closed-end funds deviated from their fundamental values is not evidence that the prices of the underlying securities the stocks, deviated from their fundamental values.

Explanations of the Crash

What did cause the crash? The best evidence we have is that it was Federal Reserve behavior, together with the public statements of numerous government officials. It has been amply documented, initially by Friedman and Schwartz (1963) and more recently by Hamilton (1987) and others, that monetary policy became substantially tighter in the fall of 1928, almost immediately follows the death of Benjamin Strong, the President of the Federal Reserve Bank of New York. While he was alive, Strong controlled Federal Reserve policy, as the Federal Reserve Board was not as powerful
as it is today. But when Strong died, Adolph Miller of the Federal Reserve Board was able to take control of monetary policy. Miller believed that speculation was causing share prices to be too high, and that this was damaging the economy. Together with Herbert Hoover, who had just been elected President, he set out to bring down the stock market.

In its attempt to bring equity prices down, the Federal Reserve sought to keep banks from extending loans that would be used to buy stock. To this end, the February 1929 Federal Reserve Bulletin contained the following policy statement, taken from a February 2, 1929 letter sent to Federal Reserve banks.

During the last year or more, however, the functioning of the Federal reserve system has encountered interference by reason of the excessive amount of the country’s credit absorbed in speculative security loans. The credit situation since the opening of the new year indicates that some of the factors which occasioned untoward developments during the year 1928 are still at work. The volume of speculative credits is still growing....

The extraordinary absorption of funds in speculative security loans, which has characterized the credit movement during the past year or more, in the judgment of the Federal Reserve Board, deserves particular attention lest it become a decisive factor working toward a still further firming of money rates to the prejudice of the country’s commercial interests....

The Federal reserve act does not, in the opinion of the Federal Reserve Board, contemplate the use of the resources of the Federal reserve banks for the creation or extension of speculative credit. A member bank is not within its reasonable claims for rediscount facilities at its Federal reserve bank when it borrows either for the purpose of making speculative loans or for the purpose of maintaining speculative loans.

The board has no disposition to assume authority to interfere with the loan practices of member banks so long as they do not involve the Federal reserve banks. It has, however, a grave responsibility whenever there is evidence that member banks are maintaining speculative security loans
with the aid of Federal reserve credit. When such is the case the Federal reserve bank becomes either a contributing or a sustaining factor in the current volume of speculative security credit. This is not in harmony with the intent of the Federal reserve act, nor is it conducive to the wholesome operation of the banking and credit system of the country. (Board of Governors of the Federal Reserve 1929:93–94)

(It is worth noting that the term ‘speculation’ appears to have been common usage for share purchases that were made with borrowed money.)

It is no surprise that following this pronouncement, the interest rate charged on broker loans rose dramatically. In addition, this action very nearly generated a crash on March 26, 1929. On that day, call money rates opened at 12 percent, and rose to 20 percent by noon. Meanwhile, stock prices fell by nearly 10 percent. But action by both the Federal Reserve Bank of New York and the First National Bank to provide liquidity to the market in the form of broker loans stemmed the decline, and prices recovered almost entirely by the close. Both Charles E. Mitchell, President of First National Bank, and George Harrison, President of the Federal Reserve Bank of New York, were later criticized for taking these actions. But in many ways, that was a precursor of things to come.

Even after the near crash in March, Federal Reserve policy continued to stifle the market by restricting the ability of member banks to make broker loans. This policy of ‘direct action’, whereby the Federal Reserve openly discouraged lending collateralized by stock, did have the effect of stemming the increase in broker loans that originated from banks. In fact, broker loans from New York banks fell between March and May of 1929.

A second important factor that probably contributed to the crash was the repeated statements by public officials that stock prices were too high. The main culprit here is President Herbert Hoover, whose public comments supported Adolph Miller’s attack on speculation. In his Memoirs, Hoover states that at the beginning of his Presidency in March 1929,

I, therefore, resolved to attack the problem from several directions in
addition to securing cooperation from the Federal Reserve System.

To create a spirit of caution in the public, I sent individually for the editors and publishers of major newspapers and magazines and requested them systematically to warn the country against speculation and the unduly high price of stocks. Most of them responded with strong editorials. This had no appreciable effect, however.

Secretary of the Treasury Mellon and others, at my request, issued repeated statements urging the public to convert their stocks into bonds and advising other forms of caution. This also had no effect. (Hoover 1952:17)

This comment, made many years later, suggests the depths of Hoover’s beliefs and the lengths to which he was willing to go to bring down the stock market. It is no surprise that the public comments of academics like Irving Fisher could not keep investors from assimilating these attitudes.

We do not know why the market crashed exactly when it did. But it is clear that the actions of the Federal Reserve were very different in October from those taken in March. After many months of warning, banks were not willing to extend broker loans to stem the decline, and the Federal Reserve had no desire to provide the liquidity that would have been necessary for the banks to do so. As a result, once the market became disorderly and prices began to plummet, matters simply became worse.

This story suggests that the Federal Reserve could have stopped the stock market from crashing. The reason they did not is that Adolph Miller and his colleagues believed that credit extended to brokers for loans to purchase securities was, in some sense, credit that was unavailable to the commercial sector, and so raised interest rates and harmed business activity generally. This position is very difficult to justify, particularly since Federal Reserve accommodation could have simply increased total credit outstanding in order to keep interest rates on commercial loans at a level that was considered desirable. Furthermore, there is evidence that Benjamin Strong understood in 1928 that the solution to high interest rates was looser monetary policy, not artificial attempts to reduce broker loans.
THE CONSEQUENCES OF THE CRASH

The stock market crash was followed by the Great Depression. From the business cycle peak in August 1929 to the trough in March 1933 production in the United States fell by nearly fifty percent. Meanwhile, the aggregate price level fell by approximately one-third. It would seem that all of these events — the stock market crash, the output decline and the deflation — should be related. But until recently, discussions of the causes of the Great Depression have practically ignored the stock market crash, treating it merely as another symptom of the problem, not a cause.

But the crash had two sets of consequences that are clearly distinguishable. The first is the effect of the stock market decline on general economic activity. Recent research suggests that the events of 1930 can be traced in large part to the crash itself. The crash also set off a series of changes in the regulatory environment that controlled government intervention in the securities markets. The remainder of this essay will focus on the first of these. It is useful to begin with a very brief summary of the current consensus description of the causes of the Depression, concluding with a brief discussion of the part played by the crash.

Any complete explanation for the Depression must address three questions: (1) Why did it start? (2) Why was it so deep? And (3) Why did it last so long? The monetary hypothesis of Friedman and Schwartz (1963) appears to be dominant in answering the first question. Tight money, beginning in 1928, bears primary responsibility for the onset of the Depression. Hamilton (1987) provides a convincing discussion of both the extent and importance of this contractionary monetary policy.

The answer to the second question — why the Depression was so deep — is the most contentious. The leading candidate is the debt-deflation hypothesis suggested by Fisher in his 1933 paper, and more recently formalized by Bernanke and Gertler (1990). The debt-deflation hypothesis asserts that the nearly 30% cumulative deflation of 1930–32 was primarily responsible for the depth of the Depression. The argument proceeds as follows. Since unanticipated deflation increases the burden of nominal debt, it caused debtors to default on loans. This led to bank failures and the collapse of the financial system. But there is some debate over whether the
deflation was actually unanticipated (see Cecchetti [1992] and Hamilton [1992]). If not, then theories that rely on high \textit{ex ante} real interest rates, and the resulting collapse of consumption and investment, might be more relevant than the debt-deflation hypothesis.

The reason for the Depression’s length, the answer to the third question, seems to be the least controversial of the three. Bernanke’s (1983) theory of the collapse of financial intermediation is the leading explanation. He argues that there was an increase in the cost of intermediation that resulted in a large number of otherwise creditworthy borrowers being denied loans. This increase in cost was essentially a risk premium demanded by risk averse bankers who had withstood the series of banking panics beginning in late 1930. While there are demand side effects, the story is mainly one of contraction in aggregate supply. It is worth noting that the gold standard is becoming increasingly prominent in discussions of the Great Depression. The main argument, summarized in Bernanke and James (1991), is that the operation of the gold standard was largely responsible for the propagation of the Depression from the U.S. to other industrialized countries. The contention is that, as soon as the U.S. began to deflate in 1930, the gold standard forced all countries that were running current account deficits to deflate as well.

The explanations just cited follow Friedman and Schwartz in viewing the crash as a byproduct of the tight monetary policy, and ignoring any direct effect of the crash on economic activity. But there are at least four ways in which the stock market decline could have influenced consumer spending, and therefore output. First, the crash could have depressed consumer spending by leading people to believe that the Depression was coming. The work of Dominguez, Fair and Shapiro (1988) suggests that this is unlikely. Second, the market crash reduced wealth, and this could have reduced consumer spending. But this is unlikely to have a large effect, given that the stock market remained above its level at the beginning of 1928 throughout 1929. Mishkin (1978) argues that the crash, together with recently accumulated consumer debt, served to make households illiquid. He then estimates that roughly two-thirds of the fall in spending can be accounted for by the deterioration of household balance sheets. Fi-
nally, Romer (1990) argues that the stock market crash created immediate income uncertainty resulting in a decline in the purchase of consumer durables, for which she provides substantial empirical support. Specifically, Romer shows that there was a dramatic decline in new automobile registrations and department store sales immediately in November 1929. Mail-order sales began to fall in January 1930. This evidence suggests that some of the blame for the contraction can be traced directly to the stock market crash of 1929 and substantiates certain aspects of Temin’s (1976) original hypothesis that the initial contraction in output in 1929 resulted from a collapse of consumption expenditure. Romer’s position is bolstered by evidence in Cecchetti and Karras (1991). They find that there was a very large aggregate demand shock of nonmonetary origin in November 1929 that is largely responsible for the downturn of 1930.

Conclusion

We will never know exactly what caused the stock market to fall by nearly thirty percent in late October 1929. But the evidence does allow us to come to the following conclusions. First, there was no reason to believe a priori that stock prices were too high before the crash. Second, the most likely cause of the crash was the desire of both the Federal Reserve and public officials, including President Hoover, to drive the stock market down by restricting bank credit extended to brokers. Finally, the stock market crash almost certainly had a severe negative impact on general economic activity, probably by raising income uncertainty which reduced expenditure on consumer durables.

References


Schwert, G. W. ‘Stock Market Crash of 1987,’ this volume.

Glossary of Terms

The following are terms that I was tempted to define as I wrote the essay.

banker’s acceptance
closed-end mutual fund
consumer durables
deflation
ex ante real interest rate
financial intermediation
fundamental value
gold standard
margin
price-earnings ratio
price-dividend ratio
short sale
speculative bubble