The Federal Reserve's Response to the 1987 Market Crash

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March 20, 2020

Abstract

The S&P500 lost 10% the week ending Friday, October 16, 1987 and lost an additional 20% the following Monday, October 19, 1987. The date would be remembered as Black Monday. The Federal Reserve responded to the crash in four distinct ways: (1) issuing a public statement promising to provide liquidity as needed, "to support the economic and financial system," (2) providing support to the Treasury Securities market by injecting in-high-demand maturities into the market via reverse repurchase agreements, (3) allowing the Federal Funds Rate to fall from 7.5% to 7.0%, and (4) intervening directly to allow the rescue of the largest options clearing firm in Chicago.

Keywords: Federal Reserve, stock market crash, 1987, Black Monday, market liquidity

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At a Glance

Summary of Key Terms	
Purpose: The measure had the "aim of ensuring stability in financial markets as well as facilitating corporate financing by conducting appropriate money market operations."	
Introduction Date	October 19, 1987
Operational Date	Tuesday, October 20, 1987

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The Federal Reserve Bank of New York also made personal phone calls to large banks in New York and Chicago to encourage them to provide credit as needed.

Summary Evaluation

The actions taken by the Federal Reserve are broadly recognized as having contributed to the improvement in market conditions. Despite the dramatic drop in stock prices, there were no significant runs on banks and the broader economy did not enter into a recession.

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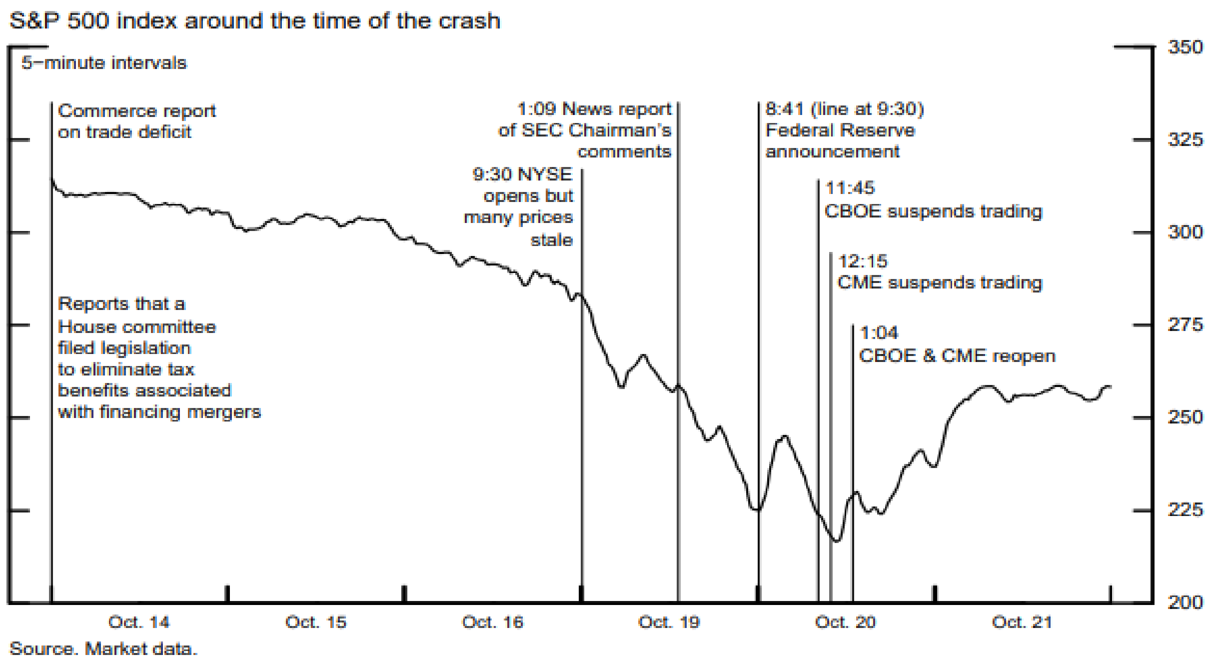
I. Overview

Background

From January to the end of August 1987 the stock market rose nearly 40%. The sharp increase has been attributed to the 1980's increase in demand for equities by new investors, such as pension funds, and favorable tax treatment of corporate buyouts (Carlson, 2006). However, the rise in stock prices stopped in September and came crashing down in October. The S&P500 lost 10% the week ending Friday, October 16 and lost an additional 20% on Monday, October 19, 1987. The date would be remembered as Black Monday (Senate Hearings, 1988).

The stock market crash has been attributed to a number of factors: (1) a larger-than-expected trade deficit announcement by the Federal Government (Bernhardt and Eckblad, 2013), (2) a "triple witching" day on Friday, October 16, 1987; a day when stock index futures, stock index options, and stock options expire on the same day (Bernhardt and Eckblad, 2013), (3) large margin calls as the market deteriorated, which greatly reduced market liquidity (Carlson, 2006, p2), (4) portfolio insurance automatic programs that were designed to shift portfolio allocations from stocks to cash as markets declined (Carlson, 2006, p4), and (5) index arbitrage automatic programs that arbitraged price differentials in futures markets and cash markets (Carlson, 2006, p5).

Due to the "unheard of levels" of sell orders, many stocks were delayed in trading for as long as two hours on the morning of Monday, October 19, 1987 (De Maria, 1987). Trade volume on the New York Stock Exchange nearly doubled that of the previous record (Metz et al, 1987). The turbulence and high volume continued through the week ending Friday, October 23, 1987. It would take more than a year and a half for market values to return to their pre Black Monday highs. However, despite the dramatic unrest in financial markets, the broader economy did not dip into a recession (National Bureau of Economic Research).

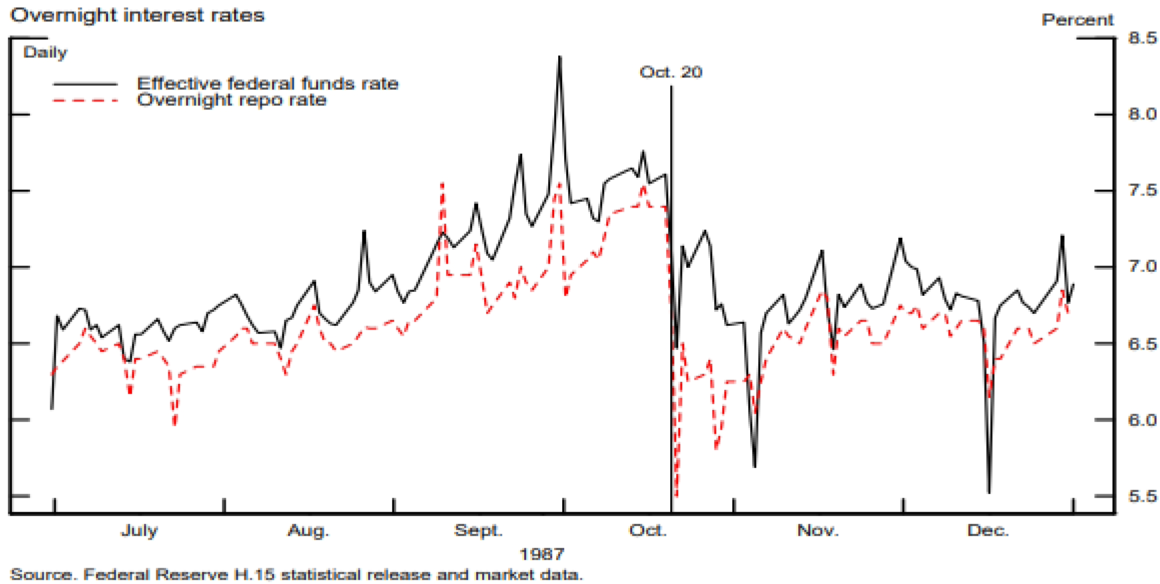


Source: Carlson 2006, "A Brief History of the 1987 Stock Market Crash with a Discussion of the Federal Reserve Response", p6, https://www.federalreserve.gov/pubs/feds/2007/200713/200713pap.pdf

Program Description

On Tuesday, October 20, 1987, before markets opened, the Federal Reserve made its first move in response to the stock market crash. A one sentence public announcement was released to assure markets that the Fed would provide liquidity, "to support the economic and financial system" (Carlson, 2006, p11).

Via repurchase agreements, the System Open Market Account provided reserves to the banking system at a more expansive quantity and earlier in the day than normal (Greenspan, 1987, p4). Subsequently, "the federal funds rate dropped from above 7-1/2 percent just before October 19 to 7 percent and below immediately following the stock market collapse" (Record of Policy Actions, 1987, p7).



Source: Carlson 2006, "A Brief History of the 1987 Stock Market Crash with a Discussion of the Federal Reserve Response", p18, https://www.federalreserve.gov/pubs/feds/2007/200713/200713pap.pdf

The demand for US Treasury securities with certain maturities increased sharply as investors exited equity markets. To alleviate some of the pressures in the Treasury market the Federal Reserve suspended, "the size limits imposed on loans of securities to individual dealers and the requirement that such loans not be related to short sales" (Record of Policy Actions, 1987, p7). The Federal Reserve effectively entered into reverse repurchase agreements with the primary dealers. The Federal Reserve would lend Treasury securities with maturities that were in high demand to the primary dealers. As collateral for the loan the primary dealers would give the Federal Reserve Treasury securities with maturities that were not in high demand (FOMC presentation, p13).

The hours of operation for the Federal Reserve's Payment System, Fedwire, were extended on several occasions (Carlson, 2006, p22).

Margin calls increased at member firms of the Chicago Mercantile Exchange (CME) and the Chicago Board of Exchange (CBOE). The member firms borrowed heavily from Chicago based settlement banks. Traditionally, the member firms would pay back the Chicago banks with funds from their parent companies, New York based broker-dealers. With the increased quantity and size of margin calls there were concerns that the margin calls would not be met. However, "to help make the extensions of credit and transfers of funds proceed smoothly, the Federal Reserve Banks of Chicago and New York ... let commercial banks in both districts know that the Federal Reserve would help provide liquidity for the loans" (Carlson, 2006, p14).

The President of the Federal Reserve Bank of New York made personal phone calls to large New York banks encouraging them to provide credit to the financial system as needed, "the banks were told to keep an eye on the big picture - the global financial system on which all their business ultimately depends" (Carlson, 2006, p20). There was a temporary, one week spike in Discount Window borrowing from the Federal Reserve Bank of New York (approximately $2 billion) that was rolled off by the following week (see H.4.1. reports for October 15, 22, 29, 1987). This helped allow, “the 10 largest New York banks nearly double their lending to securities firms during the week of October 19” (Bernanke, 1990). The rest of the Reserve Banks didn’t see any substantial change.

Continental Illinois’ (the bank that had been bailed out in 1984 and gave rise to the term “too big to fail”) subsidiary First Options of Chicago Inc. was hit with substantial losses on Black Monday. First Options looked to Continental Illinois for emergency funding; however, when First Options had been purchased by Continental Illinois regulators had placed lending caps on the amount of funding Continental Illinois could provide to First Options. It is reported that, “Mr. Greenspan acted quickly to enable Continental Illinois Corp., the bank’s holding company, to inject funds into the options subsidiary. Without that action, one official says, ‘the options exchange would have shut down’” (Murray, 1987) (Cohen, 1987) (First Options, 1987).

Chair Greenspan reported to congress that additional bank examiners had been placed in “major bank institutions [to] monitor bank developments” (Greenspan, 1988, p7).

The Federal Open Market Committee held daily conference calls from October 19-30, “to assess the extraordinary developments in financial markets” (Record of Policy Actions, 1987, p6).

Outcomes

The BOJ Policy Board amended the measure twice after its inception to extend the expiration date. On February 19, 2009, the BOJ extended the measure until September 30, 2009. (BOJ Meeting, February 2009) It extended the measure once more until December 31, 2009. (BOJ Meeting, July 2009) Over the summer of 2009, the Japanese CP market was seeing improvement and financial institutions lessened their dependence on the measure. The BOJ conducted its final purchase of CP on September 11.

Overall, the BOJ purchased approximately ¥2.68 trillion in CP at an average yield spread of 0.0988. (BOJ Market Operations 2009) Table 1 shows the amount of CP put up for auction against the amount of CP purchased by the BOJ on each purchase date. Table 2 shows the changing yield spread of the purchases. Both tables show that bids and successful bids decreased between January and September 2009, while the average yield spread also decreased as prices became more compatible between the BOJ and financial institutions by year’s end.

II. Key Design Decisions

1. **The Federal Reserve issued a one sentence, public statement committing to provide liquidity as needed.**

The following statement was issued before markets opened on Tuesday, October 20, 1987:

"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." (Carlson, 2006, p11).

On Monday, October 19, 1987, Chair Greenspan had traveled to Dallas to deliver a pre-scheduled speech at the American Bankers Association. The Federal Reserve Vice Chair, Manuel Johnson, gathered a group at the Board of Governors' office in Washington DC. The group included: Donald Kohn, the director of the division of monetary affairs; Edwin Truman, the staff director of the division for international finance; William Taylor, the staff director for bank regulation and supervision; and General Counsel Michael Bradfield. The group monitored international markets overnight and drafted a statement on liquidity. Before being published on Tuesday morning the statement was reviewed by Chair Greenspan and Gerald Corrigan, President of the Federal Reserve Bank of New York. (Murray, 1987).

2. **Via reverse repurchase agreements, the Federal Reserve provided Treasury Securities with in-high-demand maturities to the market.**

The demand for US Treasury securities with certain maturities increased sharply as investors exited equity markets. To alleviate some of the pressures in the Treasury market the Federal Open Market Committee members agreed to temporarily suspend:

The size limits imposed on loans of securities to individual dealers

Such loans may not be related to short sales (Record of Policy Actions, 1987, p7).

In order to provide more of the Treasury securities with in-high-demand maturities into the market, the Federal Reserve effectively entered into reverse repurchase agreements with the primary dealers. The Federal Reserve would lend Treasury Securities with maturities that were in high demand to the primary dealers. As collateral for the loan the primary dealers would give the Federal Reserve Treasury Securities with maturities that were not in high demand (FOMC presentation, p13).

3. **The Federal Reserve allowed the Federal Funds Rate to fall by approximately 50 basis points.**

"The federal funds rate dropped from above 7-1/2 percent just before October 19 to 7 percent and below immediately following the stock market collapse" (Record of Policy Actions, 1987, p7).

The prevailing monetary policy regime focused on influencing the money supply; short term interest rates were a secondary focus. As seen in the following quote, the FOMC tracked the federal funds rate, but the amount of fluctuation they would tolerate was much greater than it would later be when the policy regime shifted to influencing the short term interest rates directly. Notes from the next scheduled FOMC meeting following the Market Crash read, "The members agreed that the intermeeting range for the federal funds rate, which provides a mechanism for initiating consultation of the Committee when its boundaries are persistently exceeded, should be reduced from 5 to 9 percent to 4 to 8 percent." (Record of Policy Actions, 1987, p17).

4. **The Federal Reserve intervened to allow Continental Illinois (a bank holding company) lend above the legal limit to its subsidiary, First Options of Chicago Inc. (the largest options clearing house).**

Continental Illinois' (the bank that had been bailed out in 1984 and gave rise to the term "too big to fail") subsidiary First Options of Chicago Inc. was hit with substantial losses on Black Monday. First Options looked to Continental Illinois for emergency funding; however, when First Options had been purchased by Continental Illinois regulators had placed lending caps on the amount of funding Continental Illinois could provide to First Options. It is reported that, "Mr. Greenspan acted quickly to enable Continental Illinois Corp., the bank's holding company, to inject funds into the options subsidiary. Without that action, one official says, 'the options exchange would have shut down'" (Murray, 1987) (Cohen, 1987) (First Options, 1987).

III. Evaluation

The actions taken by the Federal Reserve are broadly recognized as having contributed to the improvement in market conditions. Two of the largest reviews of the Black Monday market crash and its aftermath both highlight the significance of the Federal Reserve interventions.

The SEC reported, "The Division believes that the actions of the FRB and the Federal Reserve Bank of New York to encourage major banks to continue their prudent financing of securities firms were critical in avoiding any potential for a liquidity gridlock." (SEC, p xix).

The Brady Report, a federal executive branch report concluded, "Had decisive action not been taken by the Federal Reserve, it appears that far worse consequences would have been a very real possibility." (Brady Report, p53).

Then academic economist, Ben Bernanke, summarized the actions taken by the Federal Reserve as follows, "In performing its lender-of-last-resort function, the Fed redistributed risks in the system in a socially beneficial way. Conceptually, it is as if the Fed had provided ex post insurance to the clearinghouse against a shock that it seemed possible would exhaust the insurance capability of the clearinghouse itself. Thus the Fed became the 'insurer of last resort.'" (Bernanke 1990).

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V. Key Program Documents

Media Stories

Fed's New Chairman Wins a Lot of Praise on Handling the Crash – Descriptive review of the actions taken by the Federal Reserve in response to Black Monday

https://www.wsj.com/articles/SB112404015636012610

How the Stock Market Almost Disintegrated A Day After the Crash – Timeline of the Stock Market crash and the response from the Fed and market participants

https://www.wsj.com/articles/SB119256599114260941

Key Academic Papers

A Brief History of the 1987 Stock Market Crash – Detailed summary of the actions taken by the Fed in response to the crash and market dysfunctions

https://www.federalreserve.gov/pubs/feds/2007/200713/200713pap.pdf

Clearing and Settlement during the Crash – A review of the clearing and settlement issues of the crash and how the Fed assisted

https://pdfs.semanticscholar.org/d922/623a3bba3a7d1f86831d2bf5e0b97c32a48c.pdf

Reports/Assessments

The Brady Report: The Presidential Task Force on Market Mechanisms – Executive branch committee detailed report on the lead up, causes, and effects of the market crash

https://ia802605.us.archive.org/0/items/reportofpresiden01unit/reportofpresiden01unit.pdf

The October 1987 Market Break: A Report by the Division of Market Regulation U.S. Securities and Exchange Commission – SEC detailed report on the lead up, causes, and effects of the market crash

https://babel.hathitrust.org/cgi/pt?id=mdp.35128000946994;view=1up;seq=5

Financial Crisis Management: Four Financial Crises in the 1980s – GAO report summarizing the crash and the varying responses by government agencies

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