

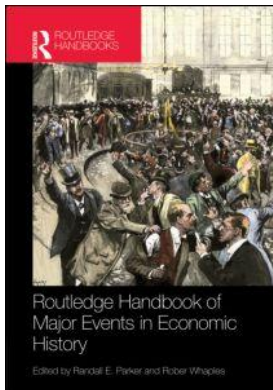
This article was downloaded by: 10.3.97.143

On: 02 Dec 2023

Access details: *subscription number*

Publisher: *Routledge*

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Routledge Handbook of Major Events in Economic History

Randall E. Parker, Robert Whaples

The 1929 stock market crash

Publication details

<https://www.routledgehandbooks.com/doi/10.4324/9780203067871.ch11>

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Published online on: 28 Jan 2013

How to cite :- Harold Bierman. 28 Jan 2013, *The 1929 stock market crash from:* Routledge Handbook of Major Events in Economic History Routledge

Accessed on: 02 Dec 2023

<https://www.routledgehandbooks.com/doi/10.4324/9780203067871.ch11>

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THE 1929 STOCK MARKET CRASH

Harold Bierman, Jr.

John K. Galbraith's *The Great Crash, 1929* (1961) is the most popular and widely read book about 1929 and the 1929 stock market crash. Although Galbraith's narrative makes extremely interesting reading, unfortunately it's not always fair and omits reasonable alternative interpretations of events. This chapter aims to provide a more accurate description of what went on, leading to a better understanding of the sequence of events in 1929 and in subsequent years.

Were the common stocks listed and traded on the New York Stock Exchange too high in September–October 1929? This crucial question cannot be answered with complete certainty, but a careful review of the financial evidence suggests that stocks were *not* overvalued at the time. There was a historical fall in stock prices in October 1929 (almost as bad as in 2008–2009), but large, rapid declines in the stock market are not uncommon. The causes (triggers) of each stock market crash are likely to be different and the consequences are likely to be a surprise to economic decision makers. It is very unlikely that federal government oversight can prevent future crashes, just as it failed to prevent the 1929 and the 2008 crashes.

This chapter will briefly review the stock market and economic conditions before October 1929, and then try to define the triggers of the 1929 crash and identify the most plausible subsequent factors that led to the Great Depression of the 1930s.

The economy in the 1920s and 1929

From 1925 to September 1929 the common stocks in the Dow Jones Industrials Average increased in value by 120 percent, which represents a compound annual growth rate of 21.8 percent. While this is a large rate of appreciation, it is not necessarily proof of an orgy of speculation.

The decade of the 1920s was an extremely prosperous one for the United States and the stock market with its rising prices reflecting this prosperity as well as the expectation that the prosperity would continue. But in 1929, the president, Congress, and the Federal Reserve Board worried about the speculation taking place in New York.

The fact that the stock market lost over 70 percent of its value from 1929 to 1932 indicates that the market, at least using one important criterion (actual performance of the market),

was overvalued in 1929. Galbraith (1961: 16) implies that there was a speculative orgy and that the crash was predictable: “Early in 1928, the nature of the boom changed. The mass escape into make-believe, so much a part of the true speculative orgy, started in earnest.” With the advantage of over thirty years of hindsight, Galbraith (1961: 29) had no difficulty identifying the end of the boom in 1929: “On the first of January of 1929, as a matter of probability, it was most likely that the boom would end before the year was out.”

Compare this position with the fact that Irving Fisher, one of the leading economists in the United States at the time, was heavily invested in stocks and was bullish before and after the October sell offs; he lost his entire wealth (including his house) before stocks started to recover. In England, John Maynard Keynes, considered by many to be the world’s leading economist during the first half of the twentieth century, and an acknowledged master of practical finance, also lost heavily. Nobel-laureate economist Paul Samuelson (1979: 9) quotes P. Sergeant Florence (another leading economist): “Keynes may have made his own fortune and that of King’s College, but the investment trust of Keynes and Dennis Robertson managed to lose my fortune in 1929.”

Galbraith’s ability to “forecast” the market turn is not shared by all. Samuelson (1979: 9) admits that: “playing as I often do the experiment of studying price profiles with their dates concealed, I discovered that I would have been caught by the 1929 debacle.” For many, “the collapse from 1929 to 1933 was neither foreseeable nor inevitable.”

The stock price increases leading to October 1929 were not driven solely by fools or speculators. There were also intelligent, knowledgeable investors who were buying or holding stocks in September and October 1929. Also, leading economists, both then and now, could neither anticipate nor explain the October 1929 decline of the market. The evidence suggests that stocks were not obviously overpriced.

The nation’s gross domestic product rose 3.4 percent per year from 1923 to 1929, allowing per capita income to rise from \$8623 to \$9678 (in 2011 dollars, *Historical Statistics*: series Ca9 and Ca11). Technological improvement appears to be the root cause behind this period of real growth and prosperity. Total factor productivity (output per unit of input) for the entire economy grew by 2.02 percent per year from 1919 to 1929 – the second highest rate during the entire twentieth century (Field 2011). The 1920s benefited from “transformative organizational and technological progress involving both new products (especially the automobile and electrical appliances) and a revolution in factory organization and design in which traditional methods of distributing power internally via metal shafts and leather belts were replaced with electrical wires and small electric motors.” This electrification and reconfiguration had its roots decades earlier “but blossomed only in the 1920s.” Total factor productivity growth in manufacturing reached 5.12 percent per year between 1919 and 1929, a rate which dwarfs all other decades. And these productivity growth rates were widespread – equaling 4.89 percent in non-durable goods and 5.06 percent in durables, whose transportation equipment sector reached 8.07 percent per year (Field 2011: 1, 3, 43, and 52–53). This productivity growth mitigated inflation. For the period of 1923–1929 wholesale prices went down 0.9 percent per year, reflecting moderate stable growth in the money supply during a period of healthy real growth.

Contemporaries recognized these economic strengths. For example, Irving Fisher’s *Stock Market Crash and After* (1930) offers much data demonstrating that there was real growth in the manufacturing sector. The evidence presented goes a long way to explain Fisher’s optimism regarding the level of stock prices. Fisher and others saw that manufacturing efficiency was rapidly increasing (output per worker) as was manufacturing output and the use of electricity.

Financial fundamentals and stock values

The financial fundamentals of the markets were also strong. During 1928, the price–earnings ratio for 45 industrial stocks increased from approximately 12 to approximately 14, before reaching 15 in 1929. While not low, these price earnings (P/E) ratios were by no means out of line historically. Values in this range would be considered reasonable by most market analysts. Burton G. Malkiel (1996: 389) shows that the future ten-year rates of return are higher when stocks are purchased at lower initial price-to-earnings ratios.

The rise in stock prices was not uniform across all industries. The stocks that went up the most were in industries where the economic fundamentals indicated there was cause for large amounts of optimism. They included airplanes, agricultural implements, chemicals, department stores, steel, utilities, telephone and telegraph, electrical equipment, oil, paper, and radio. These were reasonable choices for expectations of growth.

To put the P/E ratios of 10 to 15 in perspective, note that government bonds in 1929 yielded 3.4 percent. Industrial bonds of investment grade were yielding 5.1 percent.

If we assume corporations had zero growth and zero earnings retention, then a P/E of ten would imply a return on investment of 10 percent easily beating 3.4 percent. A P/E of 15 would imply a return on investment of 6.7 percent and again 3.4 percent is a poor second. Add growth possibilities and common stock dominated the government bond and industrial bond alternatives in 1929.

The Federal Reserve Bulletin in 1930 reported production in 1920 at an index of 87 (1923–1925 average equaled 100). The index went down to 67 in 1921, then climbed steadily (except for 1924) until it reached 118 in 1929. This is an annual growth rate in production of 3.1 percent. During the period commodity prices actually decreased. The production record for the ten-year period was exceptionally good.

During 1929, each of the first six months showed production increases in the United States. In June, the index was 125; in July, it went down to 119; in August, it was back up to 121; and in September, it increased to 123. Even in October the production index was 120. Looking at this widely publicized measure of industrial production, the stock market had little cause for fear. There was no identifiable seasonal trend cited by contemporaries.

Factory payrolls in September were at an index of 111 (an all-time high). The 1923–1925 average equaled 100. In October, the index dropped to 110, which beat all previous months and years except for September 1929. The factory employment measures were consistent with the payroll index.

Using the same 1923–1925 base years, the September unadjusted measure of freight car loadings was at 121 – also an all-time record. In October, the loadings dropped to 118, which was a performance second only to September’s record measure.

Farm product prices throughout the year were equal to or higher than 101, and for the year were 105 (1923–1925 were the base years). In 1928 they had been 106, but only 99 in 1927 and 100 in 1926. In addition, the prices of nonfarm products had also gone down in 1929 compared to 1928.

In the first nine months of 1929, 1,436 firms announced increased dividends. In 1928, the number was only 955 and in 1927 it was 755. In September 1929, dividend increases were announced by 193 firms compared with 135 the year before. The financial news from corporations was very positive in September and October 1929.

But if the above numbers for dividends merely reflected the distribution of a larger percentage of earnings, there would be cause for concern. For September 1929, the percentage of earnings being paid out decreased to 64 percent. Not only dividends but also corporate earnings were increasing significantly in 1929.

The dividend yields were low compared to the call loan costs of 6 percent to 10 percent. But on the same date industrial bonds had yields to maturity ranging from 5 percent to 7 percent (there were “junk bonds” in 1929, but they went by a different name: “speculative”). If one wanted equity dividend yields that were higher than those of the common stock, one could buy industrial preferred stock yielding between 5.6 percent and 8 percent.

The May 1929 issue of *The National City Bank of New York Newsletter* indicated the earnings statements for the first quarter of surveyed firms showed a 31 percent increase compared to the first quarter of 1928. The August issue showed that for 650 firms the increase for the first six months of 1929 compared to 1928 was 24.4 percent. In September, the results were expanded to 916 firms with a 27.4 percent increase. The earnings for the third quarter for 638 firms were calculated to be 14.1 percent larger than for 1928. This is evidence that the general level of business activity and reported profits were excellent at the end of September 1929 and the middle of October 1929.

Barrie Wigmore (1985) researched the 1929 financial data for 135 firms. The market price as a percentage of year-end book value was 420 percent using the high prices and 181 percent using the low prices. However, the return on equity for the firms (using the year-end book value) was a high 16.5 percent. The dividend yield was 2.96 percent using the high prices and 5.90 percent using the low prices.

Article after article from January to October in business magazines carried news of outstanding economic performance. E.K. Burger and A.M. Leinbach, two staff writers for *The Magazine of Wall Street*, wrote in June 1929: “Business so far this year has astonished even the perennial optimists.”

There was little hint of a severe weakness in the real economy in the months prior to October 1929. There is a great deal of evidence that in 1929 stock prices were not out of line with the real economics of the firms that had issued the stock. Leading economists were betting that common stock in the fall of 1929 was a good buy. Conventional financial reports of corporations gave cause for optimism relative to the 1929 earnings of corporations. Price-earnings ratios, dividend amounts and changes in dividends, and earnings and changes in earnings all gave cause for stock price optimism in September 1929.

Recent econometric work complements these more traditional approaches. McGrattan and Prescott (2004) use growth theory to estimate the fundamental value of corporate equity and compare it to actual stock valuations and find that using a conservative estimate of the fundamental value of U.S. corporations in 1929, a price multiple of 21 times earnings is justified. The observed maximum P/E in 1929 was 19 or less depending on which measure is used. “In other words,” they conclude, “with regard to the value of the 1929 stock market, Irving Fisher was right” (2004: 1003). Likewise, Siegel (2003) uses an operational definition of a bubble as any time the realized asset return over a given future period is more than two standard deviations from its expected return. Using this framework, he shows that the crash of 1929 and 1987 prove not to be bubbles, but instead the low point in stock prices in 1932 is a “negative bubble.”

Alternative views

The economics literature has not reached a consensus regarding whether or not there was a bubble in stock prices in 1929. The papers by Hamilton (1986), Flood and Hodrick (1990), Rappoport and White (1993) and the interview with, at that time, Fed Governor Ben Bernanke in Rolnick (2004) indicate just how difficult it is to econometrically identify asset bubbles, even after the fact. Although this chapter argues against the existence of a bubble, there are some scholars who reject the position that common stocks listed on the New York

Stock Exchange in the summer of 1929 were reasonably priced, conjecturing that there was a price bubble in the summer of 1929.

Kindleberger (1978) argues the stock market had detached from fundamentals by way of a credit-driven bubble fueled by the proliferation of brokers' loans. Credit creation fed the mania of speculation that ended in the Crash. White (1990), while acknowledging the econometric difficulty of identifying bubbles, goes on to make a qualitative case for the existence of a bubble in stock prices. Following Blanchard and Watson (1982), White (1990) suggests a bubble emerged because fundamentals had become difficult to assess due to major changes in industry. In addition, the entry of new and unsophisticated investors in the 1920s made speculation all the more likely. Rappoport and White (1993) identify a bubble in 1929 stock prices and associate it with information derived from rising premia on brokers' loans and rising margin requirements, both of which are indicative of rising fear of financial panic. But they qualify their conclusion by stating that standard statistical tests confirm that stock prices and dividends are cointegrated, which Campbell and Shiller (1987) indicate would not be the case if there was an asset price bubble. DeLong and Shleifer (1991) use closed-end mutual funds as the basis of their conclusion that there was a speculative bubble in stock prices. They observe the large difference between prices and net asset values of closed-end mutual funds to estimate that the stocks making up the S&P composite were priced at least 30 percent above fundamentals in late summer, 1929.¹

What triggered the 1929 crash?

The stock market crash is conventionally said to have occurred on Thursday October 24 and Tuesday, October 29, 1929. These two dates have been dubbed Black Thursday and Black Tuesday, respectively. On September 3, 1929, the Dow Jones Industrial Average reached an all-time high of 381.2. At the end of the market day on Thursday October 24, the market was at 299.5 – a 21 percent decline from the market high. By November 13, 1929, the market had fallen to 230 – a drop of 40 percent from the market's high.

Investment trust formation and investing had driven up public utility stocks in 1928 and 1929. The trusts were, to a large extent, bought on margin by individuals. The sell off of utility stocks from October 16 to October 23 weakened prices and prompted "margin selling." Then on October 24, Black Thursday, the selling panic happened.

In the year 1929, public utility stock prices were generally in excess of twice their book values. (Book value is defined in this case as the value of the stock equity as computed and reported by the firms' accountants and auditors.) This relationship could be sustained only if the regulatory authorities were to decide to allow the utilities to earn more than the market's required return or there were larger than expected (by the regulators) earnings.

On August 2, 1929, *The New York Times* reported that the directors of the Edison Electric Illuminating Company of Boston had called a meeting of stockholders to obtain authorization for a stock split. The stock had risen in 1929 to a high of \$440. Its book value was \$164 (the ratio of price to book value was 2.6).

On Saturday October 12 the *Times* reported that on Friday the Massachusetts Department of Public Utilities had rejected the stock split. The heading said: "Bars Stock Split by Boston Edison. Criticizes Dividend Policy. Holds Rates Should Not Be Raised Until Company Can Reduce Charge for Electricity." Boston Edison lost 15 points for the day. The stock closed at \$360 on Friday.

The Massachusetts Department of Public Utilities (*New York Times*, October 12: 27) rejected the stock split because it did not want to imply to investors that this was the

“forerunner of substantial increases in dividends.” Commissioners stated that the expectation of increased dividends was not justified. They offered “scathing criticisms of the company” and concluded “the public will take over such utilities as try to gobble up all profits available” (*New York Times*, October 12: 42). Boston Edison dropped 61 points at its low on Monday (October 14) but closed at 328, a loss of 32 points. On October 16, the *Times* reported that the governor of Massachusetts was launching a full investigation of Boston Edison including “dividends, depreciation, and surplus” (*New York Times*, October 12: 42).

Any acceptable financial model would argue that the primary effect of a two-for-one stock split would be to reduce the stock price by approximately 50 percent, leaving the total value of the stock essentially unchanged; thus the event would not be economically significant, and the stock split should have been easy to grant. But the Massachusetts Commission made it clear it had additional messages to communicate.

Massachusetts was not alone in challenging the profit levels of utilities. The Federal Trade Commission, New York City, and New York State were all questioning the status of public utility regulation. On October 17, *The New York Times* reported that the Committee on Public Service Securities of the Investment Banking Association warned against “speculative and uninformed buying.” The committee published a report in which it “asks care in buying shares in utilities.” As of September 1, 1929, all common stock listed on the NYSE had a value of \$82.1 billion. The utilities industry at \$14.8 billion of value thus represented 18 percent of the value of the outstanding shares.

In 1929, there were five important multipliers that meant that any change in a public utility’s underlying value would result in a larger value change in the market and in the value of the investor’s portfolio:

- 1 The ratio of share price to book value of an individual utility.
- 2 The ratio of market value of investment trust holding to market value of individual utilities (or holding companies) making up the trust.
- 3 The percentage of debt to assets of the utility.
- 4 The percentage of debt to assets of the holding company.
- 5 The percentage of debt to assets of the trust.

In addition, the many investors used margin debt to buy the stocks of the individual utility, the holding company, or the investment trust. Moreover, preferred stock was also used to increase the leverage used by various utility firms. The upshot is that utility investments were very heavily leveraged.

In the fall of 1929, many utility stocks that were somewhat high based on conventional calculations such as the ratios of price to book value came down. When regulators began to signal that these high market valuations warranted a reduction of prices, it triggered a drop in utility valuations which then snowballed into a broader stock market decline as leveraged buyers were forced to sell their stocks. The unusually high level of leverage triggered a substantial drop in the market, which reduced wealth levels and helped eliminate overall optimism among investors

The stock market crash and the Great Depression

Some observers, such as Galbraith, connect speculation in the late 1920s and the stock market crash (1961: 2) directly to the Depression of the 1930s: “The stock market crash and the speculation which made it inevitable had an important effect on the performance,

or rather the malperformance, of the economy in the ensuing months and years.” Friedman and Schwartz (1965) on the other hand, acknowledge that the stock market crash contributed to the problems in the economy but they give it only a secondary role. Thus, they state:

Partly, no doubt, the stock market crash was a symptom of the underlying forces making for a severe contraction in economic activity. But partly also, its occurrence must have helped to deepen the contraction. It changed the atmosphere within which businessmen and others were making their plans, and spread uncertainty where dazzling hopes of a new era had prevailed.

(Friedman and Schwartz 1965: 10)

They note that a fear of excessive speculation arising from easy money made the economic recovery more difficult (see their footnote p. 79), but they conclude that monetary forces, problems in the banking system and missteps of the Federal Reserve are the primary causes of the Great Depression – not the stock market crash.

Parker’s chapter in this *Handbook* surveys the scholarly literature on the causes of the Great Depression, which gives pride of place to Friedman and Schwartz’s argument and little support to the popular, Galbraithian notion that the stock market crash was an important factor.

Following the lead of Friedman and Schwartz and the other authors, it is concluded that the stock market crash of 1929 did not cause the Depression, but it made possible the Federal Reserve’s decision to limit the money supply, which made economic recovery during the following years much more difficult and far less likely.

Conclusions

The *fear* of speculation in 1929 helped push the stock market to the brink of collapse. It is entirely possible that President Hoover’s aggressive campaign against speculation, helped by the unrealistically priced public utilities hit by the Massachusetts Public Utility Commission and the vulnerable margin investors, brought about the October events, the selling panic, and its well-known consequences.

New York state Governor Franklin D. Roosevelt had already made several negative comments about the excessive incomes of New York state utilities, so the Massachusetts decision was looked at as an indication of events to come in New York state. The stock market realized that stock market prices that were almost three times book value could not be justified by a rate commission intent on allowing a fair return. The decline in public utility common stock prices led the decline across the market leading to the famed 1929 stock market crash.

History shows that the stock market has offered high returns compared to bonds as demonstrated in Siegel (1992). But a study of 1929 shows that there can be sudden drastic decreases in stock values. These decreases are very difficult to predict since they can occur despite healthy business activity. No one should invest in stocks unless they can withstand a 30 percent to 70 percent loss in value, a loss that can persist for a number of years.

For further comparisons of different stock market crashes throughout history, see for example, Romer (1990) for an analysis of 1929 versus 1987 and Bierman (2010) for an analysis of 1929 versus 2008.

Note

- 1 This type of calculation can be misleading, however. Consider that Berkshire Hathaway's common stock consistently sells at higher prices than the value of the component stocks held in its portfolio. Also, today most closed-end funds sell at a premium to their portfolio of investments (one reason being the tax status of unrealized gains).

References

- Bierman, H., Jr. (2010) *Beating the Bear: Lessons from the 1929 Crash Applied to Today's World*, Santa Barbara, CA: Praeger.
- Blanchard, O.J. and Watson, M.W. (1982) 'Bubbles, rational expectations and financial markets', in P. Wachtel (ed.) *Crises in the Economic and Financial Structure*, Lexington, MA: D.C. Heath and Co.
- Burger, E.K. and Leinbach, A.M. (1929) 'Business', *The Magazine of Wall Street*, June 15, 289.
- Campbell, J.Y. and Shiller, R.J. (1987) 'Cointegration and tests of present value models', *Journal of Political Economy*, 95: 1062–88.
- Carter, S. et al. (2006) *Historical Statistics of the United States: Millennial Edition*, New York: Cambridge University Press.
- DeLong, J.B. and Shleifer, A. (1991) 'The stock market bubble of 1929: evidence from closed-end mutual funds', *Journal of Economic History*, 51: 675–700.
- Federal Reserve Bulletin* (1930).
- Field, A. (2011) *A Great Leap Forward: 1930s Depression and U.S. Economic Growth*, New Haven, CT: Yale University Press.
- Fisher, I. (1930) *The Stock Market Crash and After*, New York: Macmillan.
- Flood, R.P. and Hodrick, R.J. (1990) 'On testing for speculative bubbles', *Journal of Economic Perspectives*, 4: 85–101.
- Friedman, M. and Schwartz, A.J. (1965) *The Great Contraction 1929–1933*, Princeton, NJ: Princeton University Press.
- Galbraith, J.K. (1961) *The Great Crash*, Boston, MA: Houghton Mifflin.
- Hamilton, J. (1986) 'On testing for self-fulfilling speculative price bubbles', *International Economic Review*, 27: 545–52.
- Kindleberger, C.P. (1978) *Manias, Panics, and Crashes*, New York: Basic Books.
- Malkiel, B.G. (1996) *A Random Walk Down Wall Street*, sixth edition, New York: Norton.
- McGrattan, E.R. and Prescott, E. (2004) 'The 1929 stock market: Irving Fisher was right', *International Economic Review*, 45: 991–1009.
- National City Bank of New York Newsletter*, May 1929.
- New York Times*, various issues, October 1929.
- Rappoport, P. and White, E.N. (1993) 'Was there a bubble in the 1929 stock market?', *Journal of Economic History*, 53: 549–74.
- Rolnick, A. (2004) 'Interview with Ben S. Bernanke', *The Region*, Federal Reserve of Minneapolis, June.
- Romer, C. (1990) 'The Great Crash and the onset of the Great Depression', *Quarterly Journal of Economics*, 105: 597–624.
- Samuelson, P.A. (1979), 'Myths and realities about the Crash and Depression', *Journal of Portfolio Management*, 6: 7–10.
- Siegel, J.J. (1992) 'The equity premium: stock and bond returns since 1802', *Financial Analysts Journal*, 48: 28–46.
- Siegel, J.J. (2003) 'What is an asset price bubble? An operational definition', *European Financial Management*, 9: 11–24.
- White, E.N. (1990) 'The stock market boom and crash of 1929 revisited', *Journal of Economic Perspectives*, 4: 67–83.
- Wigmore, B.A. (1985) *The Crash and Its Aftermath*, Westport, CT: Greenwood Press.