The 1987 stock exchange crash in historical perspective: a crisis denied?

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Abstract :

This chapter aims to explore the different facets of the collective memory of the 1987 crash in the US, which represented an unprecedented collapse of prices on the global stock markets. The 22.3% fall of the Dow Jones on Black Monday (October 19th 1987) represents the biggest single-day stock market collapse in history – even greater than that of October 24th 1929. Over 500 billion US dollars in share value was wiped out. The crash spread to other major financial markets over the world, but was quickly resolved thanks to the central banks' intervention on the capital markets.

Keywords:

1987 Crash, behavioural economics, Black Monday, memory

Introduction

This chapter aims to explore the different facets of the collective memory of the 1987 crash in the US, which represented an unprecedented collapse of prices on the global stock markets. The 22.3% fall of the Dow Jones on Black Monday (October 19th 1987) represents the biggest single-day stock market collapse in history – even greater than that of October 24th 1929. Over 500 billion US dollars in share value was wiped out. The crash spread to other major financial markets over the world, but was quickly resolved thanks to the central banks' intervention on the capital markets.

In the context of Reaganomics, the crash can be seen as the first financial crisis of the second globalisation wave in the strictest sense of the term "financial", without taking into consideration the banking crises of the 1970s and the debt crisis in the early 1980s. However, unlike other financial crises, memories of this market break are either vague or inexistent in public opinion, or fragmented and partial for economists and historians. Interestingly, the memory of the crash has several lives: a short-term memory, a mid-term and a long- term memory, each being supported by a collective remembrance linked to particular events that shed light on the memories of different social groups: investors, academics, and politicians, as well as the media. Much can be learned by studying the various stages of reports and records: why was this crisis forgotten for several decades? Why did it return to the limelight twenty years ago, on the eve of the 2007-2008 crisis? The answers could provide different perspectives on economic history and the history of economic thought.

Two significant periods can be identified: one immediately after the crash (1987-1989), when a large number of reports and academic analyses were conducted into the multiple and complex origins of the collapse. Approximately twenty years later (after the 2007 crisis), a new series of accounts emerged examining the event and constructing a new version of the crash, blaming deregulation and uncontrolled markets. Meanwhile, the perception of investors' behaviours shifted in academic literature thanks to studies conducted after the crash; in particular, Robert Schiller's survey of the 1987 financial crash gave rise to new interpretations of the market break, and since then, studies on behavioural finance have been popular.

This work is focused on the memory of one country (the USA), and the attempts to explore the various aspects of the issue in academic literature, official reports, and the media. It is divided into three parts. The first gives a brief description of the timeline of the crash. The second focuses on the short-term memory (1987-1989), and the third on the recent collective memory (since 2007).

We list the different kinds of information media available according to their relevance.

The facts: a disruptive, global and unprecedented collapse – that was soon reversed

As we said in the introduction, the 1987 crash saw the exceptional breakdown of the stock markets; more specifically, the Dow Jones Industrial Average index (DJIA) of 30 stocks on the NYSE, which reached a high of 2746.65 on August 17th 1987, declined by 508.32 points on October 19th and fell to

1708 on October 20th (37% below its August high)[1]. Other US indexes also declined during October (S&P, Amex, NASDAQ), and most of the equity markets over the world were also affected, many of them recording historically steep single-day declines (see Table 1).

However, the global dimension of the market break was not due to domestic reasons, and originated in the USA. According to the BIS Report, the break spread internationally essentially due to heavy selling by non-residents, namely sales by institutional investors who experienced liquidity problems in their domestic market or preferred to liquidate peripheral holdings. The table below also suggests that futures markets may have destabilising effects on the stock market; in Hong Kong, the only other exchange where stock index futures were developed, the drop was so dramatic that it was decided to close the markets.

Table 7.1 - The Crash Worldwide

Countries	Pre-crash week	19th October 1987	20th October 1987	21st October 1987	Crash week
Close –to-close percentage changes					
United States	-9,1	-20,4	5,3	9,1	-12,2
Japan	- 0,2	-5,3	-12,1	9,4	-12,2
United Kingdom	-2,4	-10,1	-11,7	6,1	-23,0
Canada	-4,8	-9,1	0,0	-0,4	-14,4
Germany	-2,8	-7,1	-5,1	6,8	-11,7
France	-8,3	-4,7	-5,8	5,4	-9,2
Italy	-1,0	-5,7	-4,4	3,7	-10,4
Switzerland	-2,4	-10,8	-4,6	5,7	-16,6
Netherlands	-4,6	-7,8	-8,4	4,2	-15,0
Spain	-5,0	-1,6	-5,7	-1,7	-12,3
Belgium	-4,9	-10,5	-0,5	8,5	-6,1
Australia	-3,4	-3,7	-25,0	1,2	-29,3
Hong Kong*	-2,6	-2,3	closed	closed	closed
Singapore	-4,3	-12,1	-20,9	holiday	-30,8
Taiwan	-10,6	3,2	-4,7	-4,5	-18,5
South Korea	0,9	0,6	-2,4	0,4	0,5

*When the Hong Kong market reopened on 26th October 1987, the price index fell by 33,3% relative to the previous close.

[1] SEC Report, February 1988. It should be mentioned that the index began to decline slowly during the first week of October.

Source: BIS annual report 1988, p. 94. The US stock markets cover international and domestic exchanges and OTC markets. The two main international exchanges, DJIA at the NYSE, fell more dramatically.

Thanks to the Federal Reserve Bank's swift intervention, the markets made a quick and significant recovery. Aware of the risk to the system because of the lack of liquidity on the markets, the central bank wanted to avoid a dramatic situation similar to the one that occurred in October 1929[2]. On Tuesday 20th around 9am, chairman of the Federal Reserve Alan Greenspan issued a one-sentence statement: *"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."* This was the start of the Federal Reserve's policy in favour of liquidity. As two academics later wrote, "That action provided a base of investor confidence in the liquidity of the stock market that has been (at least in the minds of a number of institutional investors) substantially expanded by monetary policies in the post-crash period"[3].

In consequence, a complete shutdown of the market was avoided, and it finally recovered in the afternoon and had gained 5.6% by the end of the trading session. Stock markets quickly regained the majority of their Black Monday losses: in just two trading sessions, the Dow Jones Industrial Average regained 288 points, or 57 percent, of the total Black Monday downturn. Less than two years later, US stock markets surpassed their pre-crash highs.

How can the accounts of those having experienced the crash be qualified? Did its speedy resolution lead to the main actors' oblivion?

The short-term memory of the crash: reports and academic analyses, 1987-1989

[2] Even though New York's big banks tried to stop the fall, central banking' s response was not effective.

[3] "The New Speculative Stock Market: Why the Weak Immunizing Effect of the 1987 Crash?", J. Patrick Raines and Charles G. Leathers, *Journal of Economic Issues*, Vol. 28, No. 3 (Sep., 1994), p.

At the time, the break was considered the first serious alert for financial globalisation, and raised several questions about the solvency/liquidity of the markets, the concentration of trading activities and new investment strategies and, more broadly, was seen as the result of deregulation and the internationalisation of finance.

Public opinion

During the ascent of finance throughout the 1980s, 1987 stands out as year of brutal awakening. That year, two movies were released portraying the rise of the 'Golden Boys' ("Trader" and "Wall Street"), and symbolising in people's minds the capital markets' euphoric period, a source of 'easy money' and unscrupulous business practices. In 1987, Tom Wolfe's "The Bonfire of the Vanities" was also published, describing the emergence of New York traders.

By examining different actors' and experts' reports in the USA, it is possible to identify the short-term memory of the crash in both public opinion and that of investors and economists. Thanks to several testimonies recorded on video, and to newspaper reports[4], we see that the immediate memory just after the crash was loaded with panic and fear. The oldest traders remember the panic of October 19th as a "frightening moment", and they did not really understand what was happening at the time.

In parallel, the vocabulary used to describe the crash by newspapers is significant: Nancy Green explains in an interesting article that the event was described as a "crash", "fall-out", "turmoil", "frenzy", in "a topsy-turvy world"[5]. Natural disaster metaphors were used (storms, waves of panic, floods of orders, etc.). The unfolding of the crash was portrayed in a way similar to a sensationalist

[4] It is not our aim to give a comprehensive review of newspaper headlines during the crash, so we have only taken into account the main American financial newspapers (Financial Times, Wall Street Journal, Bloomberg News). On YouTube, we found videos of traders who experienced the market breakdown, but the interviews were given 25 years after the crisis.

[5] Nancy Green studied the way the crises of 1929 and 1987 were analysed in non-trade newspapers: "Leçons d'octobre 1929, 1987: La presse française et américaine face aux deux crises boursières", *Esprit*, No. 143 (10) (October 1988), pp. 91-110.

soap-opera. Nevertheless, the author concludes that both journalists and historians may have dramatised their subject and tended to exaggerate the importance of the events to attract readers… However, this does not detract from the real impact of the crisis in public opinion in October 1987, because the media plays a significant role in shaping the collective memory.

To conclude, this brief survey of press reactions shows that at the time, the crash was seen as a huge crisis in both financial circles and public opinion.

Academics

Robert Shiller's survey conducted directly after the crisis is a precious source of information about investors' immediate reactions. Since the mid-1980s, Shiller had been studying investors' behaviour and used questionnaire surveys for that purpose[6]. Immediately after the crash (between October 19th and October 23rd), he sent out 3250 questionnaires and received 991 responses[7]. The results, published in 1988, discussed the conclusions of official reports about the role of portfolio insurance, and will be developed below.

At the time, institutional reactions were intense, as seen by the Federal Reserve's rapid intervention. Following the crash, economic experts attempted to explain the shock. Three main factors emerged from discussions about official analyses, which can be summarised as "fundamental valuation, speculative bubble or market failure"[8]. Firstly, exogenous causes in macroeconomics were underlined: for the few months preceding the crash, there had been widespread uncertainty about future economic prospects owing to the US budget and trade deficits, monetary issues (restrictive monetary policy to avoid the risk of the dollar's decline), and a legislative proposal for corporate mergers and acquisitions' taxation. "Speculative bubbles" were also highlighted: prices were over-

[6] This part of his "Investor Behavior Project" at Yale University. For several years, Shiller and Pound conducted surveys of investors, particularly after falls in the stock market.
[7] For the details, see "Investor Behavior in the October 1987 Stock Market Crash: Survey evidence, WP n°2246, *NBER*, Cambridge, November 1987.
[8] See *BIS Annual Report*, 1988, table 7.1.

evaluated because of deregulation and globalisation (introduction of stock index futures markets, and the establishment of 24-hour trading leading to a growing liquidity of the market). Lastly, endogenous causes were identified as the market failure was due to technological innovations such as program trading, high-frequency trading computers, and portfolio insurance strategies. Individually, each factor (macroeconomics, speculation, and innovation) does not fully explain the size and scope of the market break, and the majority of analysts agree that the crash was due to a combination of all three factors, although the weight given to each factor varies depending on the study. Here, we focus on market failure because this led to widespread and heated debate among experts, and could provide indications on the evolution of the memory of the crash.

One of the most influential reports on the issue was the Brady Report. On November 5th 1987, President Reagan ordered the Presidential Task Force on Market Mechanisms to report on the crash, and two months later, the Brady Report (chaired by Nicholas Brady) was published. It was followed by several official reports and studies on the crash established by technical bodies: The Securities Exchange Commission (SEC) Report, the New York Stock Exchange (NYSE) Report and the Commodities Chicago Mercantile Exchange (CFTC) Report. Furthermore, the Bank of International Settlements (BIS) devoted a significant share of its annual report to analyses of the crash.

Among the strategies devised to react mechanically to market movements, portfolio insurance[9] was the first to come under scrutiny. Since the mid-1980s, program trading had been used on the US stock exchanges. The increase of futures markets – trading volume reached about one and half times the volume of the stock markets in mid-1987– led to new trading strategies such as portfolio insurance and index arbitrage.

[9] According to the Brady Report definition, “Portfolio insurance is designed to allow institutional investors to participate in a rising market yet protect their portfolio as market falls”, *Brady Report*, p. 7. Vendors use computer-based models derived from stock options analysis.

This strategy called for automatic purchases regardless of the underlying value of the stocks, and should have amplified price movements during the market fall. The Brady Report denounced the "cascade effect" from the portfolio insurance used by a few institutional investors[10].

Although portfolio insurance was particularly criticised in the Brady Report, it was also regarded as significant in the NYSE and SEC Reports[11]. Moreover, there was considerable controversy and divergence of opinion between the Brady Report[12] and the NYSE and CME Reports over the role of index arbitrages in the crash.

On the contrary, the potential risk was minimised in the Commodities Futures Trading Commission (CFTC) Report, and the Chicago Mercantile Exchange (CME) Report was less categorical about the role of portfolio insurance[13]. Its chairman was Merton H. Miller, a neoclassical economist from Chicago University known for his studies on market mechanisms. We suggest that he was reluctant to call into question the efficiency of futures markets and this could explain his ambivalent position regarding portfolio insurance strategies[14].

In parallel, automated order routing's efficiency was also questioned: was the "super DOT" on the NYSE overwhelmed by program trading? There were concerns and much criticism about market microstructures, a new area of academic study that spread to finance in the same decade.

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[10] *Brady Report*, p. v.

[11] This was conducted by the Division Market Regulation of the SEC and did not necessarily reflect the views of the SEC. It concludes that "the existence of futures on stock indexes and use of various strategies involving "program trading" were a significant factor in accelerating and exacerbating the declines", p. xiii.

[12] "Selling pressure in the future markets was transmitted to the stock market by the mechanism of index arbitrage" *Brady Report*, Executive Summary, p. V.

[13] "We found no evidence that futures margins either caused the 1987 increase in equity prices, or exacerbated the crash. […] this strategy was only one of many sources of selling, and does not by itself explain the magnitude of the crash. Nor can it explain the widespread equity price declines outside the U.S., in markets where portfolio insurance is unknown", pp 55-56, Preliminary Report of the Committee of Inquiry, December 22,1987, CME.

[14] Miller served as a public director on the Chicago Board of Trade 1983–85 and the Chicago Mercantile Exchange from 1990. After the crash, he published a book on the issue, *Financial Innovations and Market Volatility*, Cambridge, 1991. Miller's research agenda was influenced by the 1987 crash for many years. He concluded that portfolio insurers were merely a convenient scapegoat as innovators, they had not yet developed an effective lobby group. See Bruce D. Grundy, "Merton H. Miller: His Contribution to Financial Economics", *The Journal of Finance*, Vol. 56, No. 4, Papers and Proceedings of the Sixty-First Annual Meeting of the American Finance Association, New Orleans, Louisiana, January 5-7, 2001 (Aug., 2001), pp. 1183-1206.

In his seminal work based on his survey[15], Robert Shiller was not convinced by the role of portfolio insurance in the market break, considering that portfolio insurance was just a "rationalization of practices already used in the market"[16] and seeing it merely as "a fad"; he concluded that investors did not act according to program trading but from mimetic behaviour. He then suggested conducting research into the sociology of major markets' movements, aware that the division of expertise in social sciences was a barrier. In fact, the 1987 crash accelerated the development of his studies on behavioural finance. At the time, however, his new approach was met with scepticism from his colleagues.

Immediately after the crisis, much was written on the dysfunction of the markets. What conclusions can be drawn from these controversies? Beyond the divergence between economists about trading skills, the volatility and the illiquidity of the markets were highlighted and, in parallel, the lack of information for investors and the poor interconnection between the cash market and the future markets[17]. Economists' analyses focused especially on volatility in financial markets, and they tried to find explanations for this.

All the reports attested to a growing awareness of the need for coordination and regulation. After the crash, official recommendations linked to the perception of the crisis were developed in specific directions. A timid regulation of stock exchange markets was proposed to reduce volatility and provide better information and better liquidity. Regulation and supervision of the banking sector – rather than the financial markets - were seen as a more consensual solution and there were public discussions on the Glass-Steagall Act. Market efficiency could not be called into question, and nor could the deregulation and internationalisation of finance! Conversely, the volatility of the dollar was the focus of major official analyses and emphasis was given to coordinating monetary policies and stabilising the

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[15] "Investor Behavior in the October 1987 Stock Market Crash: survey evidence", WP n° 2446, *NBER*, Cambridge, November 1987; "Portfolio Insurance and Other Investor Fashions as Factors in the 1987 Stock Market Crash", MIT, *NBER Macroeconomics Annual* 3 (1988): 287-97.
[16] Shiller: NBER 1988, p. 290.
[17] Allan Kleidon and Robert E. Whaley, "One Market? Stocks, Futures and Options During October 1987, *The Journal of Finance*, vol. 47, n°3, pp. 851-877.

dollar. Despite the Louvre Agreements in September 1987, US currency continued its erratic path and was later considered to be the main cause of the outbreak of the crisis on October 19th. The coordination of policies for monetary stability became policymakers' primary goal.

Despite all this, a few years later, the financial crash was all but forgotten._There are three main reasons for this collective memory loss. Firstly, the Federal Reserve's successful intervention in financial markets can be held responsible for this amnesia. Some experts argue that its response to Black Monday ushered in a new era of investor confidence in the central bank's ability to calm severe market downturns. The adverse effect of the central bank's intervention accelerated the rallying of prices in the 1990s, but this was observed far later (22/11/2013, Bank of Chicago). Secondly, the monetary explanation soon became one of the strongest explanations for the 1987 crash. To contemporary observers, the crisis was due to monetary policies and the erratic rate of the dollar. The volatility of financial markets was closely connected with monetary volatility, and this monetary analysis prevailed for decades. Lastly, unlike many previous financial crises, the sharp losses from Black Monday were not followed by an economic recession or a banking crisis. There were no economic consequences or recession to awaken memories, and this could also explain why 1987 disappeared so quickly from the collective memory.

The reports' recommendations involved some regulations at international level, while a few were implemented within the US capital markets. With regard to banking stability, the crash reinforced the beginning of global regulation that was achieved with the Basel 1 Agreements (1988). For financial markets, all that was established was the setting up or reinforcement of 'circuit breakers'. In response to the market breaks in October 1987 and October 1989, the New York Stock Exchange established circuit breakers to reduce volatility and promote investor confidence. By implementing a pause in trading, investors are given time to assimilate incoming information and the ability to make informed choices during periods of high market volatility[18]. Circuit breakers were used to varying degrees in

[18] https://www.nyse.com/markets/nyse/trading-info

other countries (they existed in France and Japan and were used during the crash, but they were used in the USA only once in 1997).

In fact, financial markets were not regulated after the 1987 crash, but 25 years later. Deregulation and liberalisation continued in the 1990s and 2000s. Most academic literature focused on market volatility and the capital asset pricing model and portfolio theory, underpinned by the mainstream neoclassical idea of "market efficiency". The benefits of financial deregulation were promoted by major experts and academics.

Volatility continued to be discussed in the early 1990s and some academic papers in the US pointed out the financial risks and the need for regulation, such as a popular article by Bernanke[19]. The causes of volatility were discussed during the NBER conference "Stock Market Volatility and the Crash" in March 1989.[20] In parallel, like a voice in the wilderness, Shiller continued to study behavioural economics in finance, but this does not represent the main area of his published works before 2001[21]. In general, the 1987 crash was not studied or referred to in mainstream academic papers. With the markets' euphoric decade, the memory of the crash disappeared.

A selective and delayed collective memory of the crash since 2007

During the 1990s, the spectre of the 1987 crash began to fade, and euphoria was the order of the day. Some monetary and currency crises occurred without causing significant damage to international capital markets. As they did not affect economic activities around the world, the warnings of the Asian (1997) and Russian (1998) crises did not lead to much thought about their root causes. The rising

[19] Bernanke underlined the vital role of the Fed in protecting the integrity of the clearing and settlement system during the crash. "Clearing and Settlement during the Crash." *Review of Financial Studies* 3, no. 1 (1990): 133-51.)

[20] Published in *The Review of Financial Studies*, vol. 3, n°1, 1990.

[21] See Robert Shiller "Market Volatility and Investor Behavior", *American Economic Review, Papers and Proceedings* (1990), 80 (2), p. 58-62 and "Human Behavior and the Efficiency of the Financial System" in J.B. Taylor and M. Woodford (eds), *Handbooks of Macroeconomics* (1999), Vol.1, pp. 1305-1340.

profits on capital markets caused the collective memory to conceal the flaws of the economy's "financialisation"[22].

Market volatility was still considered the result of the monetary instability since the end of Bretton Woods system, whereas financial deregulation and the increasing development of derivatives products were neglected or ignored as possible causes of instability. The few academic analyses of the 1987 crash increasingly focused on the volatility of the dollar. However, in institutional circles such as the Group of Ten, experts certainly remained concerned about the robustness of the global financial system, despite the fact that it recovered rapidly from each period of turbulence. At the start of the 21st century, the way the world had overcome the multiple challenges of the year 2001 was reported by the Bank of International Settlements:

> "Financial markets exhibited remarkable resilience in the face of severe tests during the period under review. Markets had to cope with an abrupt global economic slowdown, the terrorist attacks in the United States on 11 September 2001 and revelations surrounding Enron's failure." [23]

The resilient attitude of investors and traders gave people confidence in the future. The collective memory of recent crashes faded with the anesthetic effect of the belief in the beneficial effects of the free market, and this is a significant explanation for the oblivion surrounding the 1987 crash.

In contrast, renewed interest in stock exchange crashes and especially that of 1987 emerged after the 2008 Global Financial Crisis. It is not the place here to explain the multiple roots of the subprime crisis; nevertheless, several reports assigned responsibility to excessive securitisation and derivatives and the lack of regulations in financial markets, as the Group of Twenty declared in a meeting in Washington on 15th November 2008:

[22] The definition of financialisation is more or less specific. According to Gerald Epstein, *Financialization and the World Economy*, it has two major meanings: the ascendancy of shareholder value as a mode of corporate governance, and the growing dominance of capital market financial system.
[23] BIS 72nd Annual Report, 2001/2002.

> "During a period of strong global growth, growing capital flows, and prolonged stability earlier this decade, market participants sought higher yields without an adequate appreciation of the risks and failed to exercise proper due diligence. At the same time, weak underwriting standards, unsound risk management practices, increasingly complex and opaque financial products, and consequent excessive leverage combined to create vulnerabilities in the system. Policy-makers, regulators and supervisors, in some advanced countries, did not adequately appreciate and address the risks building up in financial markets, keep pace with financial innovation, or take into account the systemic ramifications of domestic regulatory actions." [24]

When the crash was recalled on its 25th and 30th anniversaries in 2012 and 2017, a clear, collective memory of the 1987 crash suddenly emerged: by analogy, 1987 was resurrected in 2008. Examining the attitudes of officials, newspapers and TV reporters, and the records of traders, it appears that financial innovations were then seen as the major cause of the crash, leading to excess volatility and instability. Two social groups can be identified: investors and traders, and experts (academics, high officials and central bankers).

Investors' and traders' memories

Given the enormous volume of available documents, we will use media samples to analyse the new perception of the crash.[25] In this perspective, two documentary films released in 2012 in the USA on the occasion of the anniversary of the crash are interesting to consider. The documents show the individual testimonies of financial institution officials, traders and investors. The longer documentary

[24] https://georgewbush-whitehouse.archives.gov/news/releases/2008/11/20081115-1.html

[25] Internet gives an enormous range of possibilities to identify reports, articles, films, etc., especially You Tube, which gives the number of views of a video. The figures are impressive (more than 90k views for some of them). But we do not know by whom and when the document was seen. These days, this can be done using powerful computers and specific programs, but it would take too long to achieve it for this study.

is entitled “Cancel Crash. 25th Anniversary Special of the Stock Market of 1987 Crash”[26], in which several traders working on the NYSE at the time are interviewed. “Remembering Black Monday Crash”, produced by the *Wall Street Journal* is a shorter, sensational report on the history of the crash. “Could it happen again?” was the theme of the TV report. One word is repeated several times during the short report: “Panic”.

A quotation from “Remembering Black Monday Crash” sums up the spirit of the document well: “*The longer-term impact of the 1987 crash was that people regained confidence...it helped cause the enormous rallies of the 1990s”*.[27] This comment reflects the adverse effect of the Federal Reserve’s reaction described above, which has become a current explanation for the crisis having been forgotten. The opinions of traders and investors can also be identified from *Bloomberg News* and several American financial newspapers. For instance, on 19th October 2012 on *MarketWatch* - a subsidiary of Dow Jones and Co - some extracts of interviews give the general tone of the records:

> “Twenty-five years ago, on Oct. 19,1987, the Dow Jones Industrial Average plunged almost 23%, its largest one-day percentage-point drop ever. While the crash didn’t usher in another Great Depression, it did introduce investors to a new era of stock-market volatility.”
>
> “Even though market controls, such as circuit breakers introduced after the “flash crash” of May 6, 2010, are designed to avoid another crash like Black Monday, markets are still susceptible to severe and prolonged downturns.”
>
> “It was the only time I’ve seen fear take over greed,” recalls investor Blair Hull (chairman of Hull trading company). “The 1987 crash is the only time I’ve ever seen the market makers scared to death”.

[26] https://youtu.be/jLfjEMDJubg , 43 mn. Produced by *tastytrade*. Founded in 2011, “tastytrade” is one of the most popular online financial networks in the world.
[27] “Remembering the worst day in Wall Street history”, by Christine Romans, CNN Business, October 19, 2017, https://money.cnn.com/2017/10/19/investing/romans-numeral-black-monday/index.html., 1mn 45s.

Suddenly the horrified perception of the crash as it happened was being reassessed by contemporary stakeholders, as if the cloud of silence and oblivion that had enveloped it for decades suddenly dissipated after the subprime crisis. Whether their individual records contribute to collective memory is debatable. On the contrary, however, some 2012 reports show younger traders who had not experienced the crisis and had no idea of what had occurred on the Black Monday. This reveals that reports of the crisis had not been passed down to younger generations – the memory of the crash was both delayed and selective – not collective.

After the turmoil in financial circles in 2007-2008, the 1987 crash was no longer considered as financial globalisation's "teething troubles", and was then seen as the earliest sign of the harmful effects of the markets' domination. Financial innovations and interdependence between interest rates, stock markets and exchange markets were then seen as the major cause of the crash. Retrospectively, systemic failure became more and more obvious in the eyes of contemporary actors.

Experts from academic and institutional circles

Academic analyses suddenly became extremely critical of high-frequency trading and, more generally, of financial and technical innovations, which were globally and unreservedly blamed. While the memory of the 1987 crash was reactivated by the media and financial blogs and networks, the role of the financial structure and the high-frequency trading system was singled out more frequently after the subprime crises by economists and regulators.

It is enlightening to examine two retrospective analyses of the Federal Reserve banks. The first is Mark Carlson's "A Brief History of the 1987 Stock Market Crash with a Discussion of the Federal Reserve Response,"[28] published in November 2006. Mark Carlson was a member of the Board of Governors of the Federal Reserve. The purpose of his paper was to "provide a useful history of the 1987 stock market crash [...] and also to illustrate some of the tools the Federal Reserve has at its disposal to deal

[28] *Finance and Economics Discussion Series*, No. 2007-13, Divisions of Research & Statistics and Monetary Affairs, Federal Reserve Board, Washington, DC, November 2006.

with financial crises". It can be understood as the first time the past financial crisis was used. It is worth underlining that the article seriously reassessed the three main factors that contributed to the severity of the crash: the increasing use of "program trading" strategies, the impact of margin calls that reduced liquidity and the difficulty in obtaining information about the market. Interestingly, the third reason echoes Robert Shiller's October 1987 survey as, according to Carlson, herd behaviour also contributed to the crash[29]. This reference is a sign that the "efficient markets" theory - that all price movements must be interpretable by information about economic fundamentals – was being called into question.

The Federal Reserve Bank of Chicago Report, "Stock Market Crash of 1987", written in November 2013 and posted on the Bank's website[30] gives another interesting retrospective analysis of the market break; it is now recognised as the first accident of financial globalisation:

> "The Black Monday events served to underscore the concept of "globalization," which was still quite new at the time, by demonstrating the unprecedented extent to which financial markets worldwide had become intertwined and technologically interconnected".

However, US lawmakers were still focused on banking regulation rather than market regulation. The Dodd-Frank Wall Street Reform and Consumer Protection Act was signed on July 21st 2010. By 2012, in connection with its approval of the "Regulation NMS Plan to Address Extraordinary Market Volatility" (commonly referred to as the Limit Up – Limit Down Plan), the Securities Exchange Commission approved amendments (about Trading Halts Due to Extraordinary Market Volatility) that revised the halt provisions and circuit-breaker levels after 1987. We had almost come full circle…

New approaches in finance studies in the 1980s and their rediscovery

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[29] According to Shiller's survey, the average investor thought the market was overvalued before the crash; he quotes one institutional investor: "Although we thought this to be true, we followed the 'trend is your friend philosophy", WP n° 2446, *NBER*, p. 15.

[30] https://www.federalreservehistory.org/essays/stock_market_crash_of_1987

In the 1980s, the "Behavioural Revolution" in finance was in its infancy, whereas the neoclassical approach was the mainstream academic school of thought (with the "capital asset pricing model" and "efficient markets" theories in the 1960s, and the intertemporal capital asset pricing model and arbitrage-based option-pricing theory in the 1970s). The behavioural finance revolution in academic finance in recent years is best described as a return to a more eclectic approach to financial modelling. The earlier neoclassical finance revolution that had swept the profession in the 1960s and 1970s represented the overly-enthusiastic pursuit of a single model.

Behavioural finance was largely promoted by Robert Shiller, Professor at Yale University, since the early 1980s[31]. He had already tested his method of investor surveys in 1986 and 1987. Since the publication of his survey of the 1987 crash, the economist developed his approach as part of the "Investor Behaviour Project" at Yale. A study published in 1988[32] gives us an idea of investors' raw emotions and their shock at the time, and this calls into question previous understandings of the crisis. The results of the survey were based on individual memories and we can learn much from the various personal accounts of the crash:

> "The survey results show that: 1. no news story or rumor appearing on the 19th or over the preceding weekend was responsible for investor behavior, 2. investors' importance rating of news appearing over the preceding week showed only a slight relation to decisions to buy or sell, 3. there was a great deal of investor talk and anxiety around October 19, much more than suggested by the volume of trade, 4. Many investors thought that they could predict the market, 5. Both buyers and sellers generally thought before the crash that the market was overvalued, 6. Most investors interpreted the crash as due to the psychology of other investors, 7. Many investors were influenced by technical

[31] See R. Shiller, "Stock Prices and Social Dynamics", *Brookings Papers on Economic Activity*, 2:1984. J. Campbell and R. Shiller, "1987. Cointegration and tests of present value models", *Journal of Political Economy* 95(5):1062-1088.

[32] "Investor Behavior in the October 1987 Stock Market Crash: Survey Evidence", *op. cit.* In the October 1987 crash survey, all questionnaires were mailed before 5:00 p.m. October 23, 1987, so that investors would receive them while their memories were fresh. In total, there were 3250 questionnaires sent out and 991 completed questionnaires received, for an overall response rate (adjusting for 227 addressees unknown or deceased returns) of 32.8% (individual or institutional investors).

analysis considerations, 8. Portfolio insurance is only a small part of predetermined stop-loss behavior, and 9. Some investors changed their investment strategy before the crash."[33].

In this paper, Shiller pointed out the "Cascade effect": "An initial price decline starts a vicious circle by causing portfolio insurers to sell, causing further price declines, causing portfolio insurers to sell again, and so on.", but he concludes that "Cascade effects of portfolio insurance might be one important factor, but the simple story does not settle the issue, as the Brady Commission report suggests". This contradicts the Brady Report, which considered program trading as the major cause of the crash, whereas Shiller places more emphasis on investor behaviour, which, in his opinion, increases price volatility. In the same way, for decades, Shiller's works were contradicted by the Chicago school, which continued to support efficient markets theories (e.g. E. Fama and M. Miller). Fama[34] was best known for his empirical work on the portfolio theory and asset pricing and is considered a disciple of Milton Friedman. Merton received the Nobel Prize in 1990. This school of thought continued to dominate mainstream academic circles in the 1980s and 1990s.

The 2008 crisis relativised the way of thinking about market efficiency. In parallel to the re-examination of the 1987 crash, the rational efficient market theory was seriously challenged in the 2010s. We can quote Richard H. Thaler on the controversies surrounding the "rational efficient market theory":

> "Since Robert Shiller's early work was published in 1981, economists realized that aggregate stock prices appear to move much more than can be justified by changes in intrinsic value (as measured by, say, the present value of future dividends). Although Shiller's work generated long and complex controversy, his conclusion is generally thought to be correct: Stock and

[33] Portfolio Insurance and Other Investor Fashions as Factors in the 1987 Stock Market Crash

[34] In the literature against the role of mass psychology, the most-cited reference is probably Eugene F. Fama, "The Behavior of Stock Market Prices," *Journal of Business*, vol. 38 (January 1965), pp. 34-105. The argument consists of no more than a few paragraphs pointing out that "sophisticated traders" might eliminate profit opportunities, thereby tending to make "actual prices closer to intrinsic values" (p. 38).

bond prices are more volatile than advocates of rational efficient market theory would predict".[35]

The long-term outcomes of Shiller's work

After his 1987 survey, Shiller continued his studies on investor behaviour, which led to his work on animal spirits, published in 2009 (written with Akerlof): "*Animal Spirits: How Human Psychology Drives the Economy, and Why It Matters for Global Capitalism*". In this study, he gives an initial re-evaluation of the 'animal spirits' of Keynesian thought and then developed behavioural finance at Cambridge University. Recognition for his theoretical contribution took several years. When Robert Schiller became one of the three 2013 Nobel Prize winners, he was rewarded for his work on financial bubbles and their impact on those who worked in the sector. It is interesting to note that he shared the Nobel Prize with two supporters of free-market theories, Eugen Fama and Lars Peter Hansen from Chicago University. This shared Nobel Prize symbolises the theoretical division of the economists, between Monetarists and Keynesian followers regarding market prices.

Shiller is currently one of the most influential people in global finance; he gained an international media audience and his predictions are listened to. In October 2017, he wrote a paper in *The NY Times* predicting a possible new collapse similar to the one in 1987. Thirty years later, the crash has acquired a new reference status in the collective memory (see the front page of the NY Times below). The 1987 crisis is now used as a warning about a possible market break; suddenly rediscovered, the memory of the crash now makes it possible to use it as a reference.

[35] "The End of Behavioral Finance", *Research Foundation Publications*, December 2010.

Source: *The New York Times*, October 19, 2017.

From oblivion to rediscovery: what lessons can be learned?

We can identify successive waves of memories of the U.S. 1987 stock market crash over the last thirty years. The historical representation of the crash has evolved over time, and the notion of collective memory takes on its full meaning with reference to M. Halbwachs' book "*Les cadres sociaux de la mémoire*"[36]. According to the French sociologist, a collective memory is not the memory of a nation, but of a social group. The social frameworks of collective memory should be taken into account to explain the way one remembers an event. In this instance, three social groups are represented: experts (officials and economists), financial operators (investors and traders) and non-insiders. The memories of the three groups differed considerably immediately after the crisis.

In public opinion as well as investors' and traders' circles, the short-term memory perceived the crisis as a sudden but brief drop in prices that led to a movement of panic - a one-off crisis. Several

[36] Maurice Halbwachs, *Les cadres sociaux de la mémoire*, Paris, 1925.

official reports give various explanations for the market failure, including excessive and uncontrolled innovations. Challenging currency volatility took precedence over any other analysis of market failure, especially for supporters of the free market in academic circles. The crash was considered as nothing more than a conjectural shock, except by a minority of economists (Shiller) and experts (Brady Report). The memory of the crash was fragmented.

After the subprime crisis, the collective memory of the crash in economic literature on the markets changed considerably, and now considered the event as the earliest warning about markets' excessive volatility. The differences in analyses of the crash are linked to the contemporary market situation and whether it is prosperous and stable or turbulent and volatile. Three historical moments can be identified: in 2007, on the 20th anniversary of the 1987 crash; in 2012 (the post subprime crisis), its 25th anniversary; and in 2017, its 30th anniversary.

The memory of the 1987 crash is a case of shifting perception owing to the environment and the context. Since the 2007 crisis, it has been taken into serious consideration as a structural issue, by both non-insiders and insiders, whereas economists and experts addressed the question of markets' volatility in a more detailed and in-depth way. These days, the economic literature on financial markets and public opinion scrutinises it more thoroughly, reconsidering the event as the earliest warning about the risks of uncontrolled deregulation. This is an example of a crisis denied and later rediscovered because of another financial crash. It is now seen in public opinion as the first sign of market failure in financial globalisation. The social memory of 1987, both individual and collective, has regained a certain unity.

The paths of memory have also been examined in this study. Historians must consider the recent development of the Internet and new media networks to assess how the event is remembered. The global redistribution of images from the past, seen by thousands or even millions of people, raises interpretation issues for memory studies. As new media networks are playing a growing role in recollections, are not they creating a new kind of collective memory?

The final lesson to be learned from this example of an evolving memory is about using the past. How significant is the evolving collective memory of the crash? Analogously, we remember the crises of the past when a new crisis occurs, and this was the case for the 1929 crisis. However, the social and economic impacts of the 1929 crisis affected generations up until the present day, and this is not the case for the 1987 crisis. Why was Black Monday more or less “denied” or misunderstood for twenty years before being extensively reassessed?

We put forward the hypothesis that market failures could not be envisaged during the heyday of financial markets, backed by the dominant school of thought at the time which promoted the free market and market efficiency. Moreover, investors and policymakers were willing to maintain and increase the gains from developing financial markets, which is perhaps why it was reductively passed off as an accident. The 1987 warning and the potential dangers of uncontrolled markets were ignored especially in the USA, and investors and policymakers preferred to blame macroeconomic issues or market failures than the lack of regulation of financial markets.

The backlash caused by the subprime crisis has forced us to reconsider market failures and look at the past from a different angle. We have since witnessed a cautious return to market regulation and the challenging of monetarism and its avatars. This serves as a reminder that the past can be used in ways that may change enormously according to ideology.

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