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Any Weak Signals?
The New York Times and the Stock Market Crashes of 1929, 1987 and 2000

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Abstract

In this paper we will study "weak signals" by concentrating on the journalistic texts of *The New York Times* before the stock market crashes of 1929, 1987 and 2000. The paper argues that, even if information and communication technology advanced dramatically from the 1920s to 2000, the flaws of business journalism in writing about stock markets have remained almost the same: their reporting is too enthusiastic (or positive) and uncritical, and therefore incapable of effectively detecting the weak signals of impending collapses on the Stock Exchange. Thus we might conclude that neither the increase in the speed of spreading the information nor the accessibility to such information necessarily leads to greater efficiency in using it. *The New York Times* itself stated repeatedly that the policy of the newspaper has always aimed at "not making financial crises worse". Thus the pages of the newspaper contain more positive than negative articles on stock exchanges.

Any Weak Signals? The New York Times and the Stock Market Crashes of 1929, 1987 and 2000

1. Introduction

The New York Stock Exchange crashes in 1929, 1987, and 2000 have been addressed in a number of scholarly analyses, and they attracted wide contemporary public discussion.[1] Commentators often noted similarities with previous experiences, usually pointing out that the bubbles caused by high expectations led to panic and the collapse of stock prices. Charles P. Kindleberger (2000) states that financial crises are associated with peaks in business cycles, though not every upswing inevitably leads to mania and panic[2]. As Allen and Gale (2000) suggest, the bubbles and crashes are usually preceded by financial liberalisation, followed by a long period of rising prices.[3] Stiglitz (2004) has argued that the recent burst of technology and innovation is also with associated booms and busts.[4] Some studies also compare the crashes with one another, usually by presenting data on the common stock indices before and after the crash.[5] Although the associated public discussion − or even mania − is noted as one of the causes of the bubbles, hardly any research has been done on the role played by the business press in forecasting the crashes − and even, at least to some extent, causing them by creating expectations of the markets. This paper, therefore, proposes to analyse the aforementioned three crashes by using business press articles as sources. An analysis of the reporting of the business press before the crashes enables us to make some assumptions about how efficiently the available information was used.

The aim of this article is to study whether there were any "weak signals" in *The New York Times* financial news before the stock crashes of 1929, 1987 and 2000, and, if so, what kind of signals these were. The empirical material is based on *The New York Times* digital news archives. We argue that certain weak signals can be found in the articles of *The New York Times* long before the crashes; however, these weak signals of crashes were vague in nature and were often submerged by positive arguments. *The New York Times* was chosen as a source because it is usually considered to be one of the most prestigious quality newspapers in the modern world, and it has been for a long time the leading newspaper and an important source of financial information in the world's financial capital, New York, where the crashes occurred.[6]

In the following, we will first briefly define the concept "weak signals" and give a methodological description, following with a short historical account of *The New York Times* and the evolution of the business press during the 20th century. In Section 2, we will analyze the stock market crashes of 1929, 1987, and 2000 as described in *The New York Times*, first with a general overview and then with a more detailed qualitative analysis. Section 3 concludes the paper with a comparison of these stock market crashes.

1.1 The conceptual background and methodological choices

There are many signals of change in the environment, but this information is often inexact, and difficult to observe or understand. "Weak signals" are considered to be early indicators of,

[1] On the discussion and literature see especially Kindleberger 2000, 233 (note 1), White 1990, 67−69.
[2] Kindleberger 2000, 1−2. – See also Neal 1990, 1.
[3] Allen and Gale 2000, 236.
[4] Stiglitz 2004, xxiii.
[5] White 1990, 68 (Figure 1). – See also Kindleberger 2000 for a fascinating analysis.
[6] Merrill 1980, 220−230, 320−338.

"symptoms" of, or "a soft form of information" about coming events.[7] They are minor events that may have major consequences. However, weak signals are not problematic because their influence is unpredictable, but rather because they are difficult to distinguish from the mass of other related and unrelated information.[8] The main problem with weak signals is that they are easily missed because they are uncertain and irrational.[9]

Some weak signals can lead to actions or even trends, while some can vanish without exerting any impact at all. For example, not all the warnings or expectations of falls on the stock markets have been vindicated; this was the case in December 1996, when Alan Greenspan, the Chairman of the US Federal Reserve Board, warned of a possible crash. According to him, the New York stock market was "irrationally exuberant" at the time. In reality, after his warning the Dow Jones industrial average continued to rise from 6,400 points to over 11,000 and the Nasdaq composite index from below 1,000 to 5,000 points before the crash in April 2000.[10] Greenspan's warnings were noted in *The New York Times*. However, the newspaper placed more emphasis on how just a few words from him could cause turbulence on the markets, referring to his role in giving weak signals. These signals were described as "quiet" or "buried messages" by the commentators in *The New York Times*.[11]

In the words of Igor Ansoff: "When a threat/opportunity first appears on the horizon, we must be prepared for very vague information, which will progressively develop and improve with time."[12] Ansoff describes the information as having two extreme levels: strong signals and weak signals. According to Ansoff, strong signals are "sufficiently visible" and "concrete", and weak signals are "imprecise early indications about impending impactful events". Ansoff claims that weak signals may mature over time and become strong signals. He also defines five different stages of signals: 1) the sense of a threat/opportunity is felt; 2) the source of the threat/opportunity is known; 3) the shape of the threat/opportunity becomes concrete; 4) the response strategies are understood; and 5) the outcome of the response is predictable.[13]

Today, there is a growing amount of literature analysing weak signals. After the pioneering work done by Ansoff and other researchers in business economics, many other disciplines have also become interested in weak signals; these include future research, communications research, research on international security, international politics and military science.[14] In fact, weak signals can be best analysed only *post factum*, when we know what "really" happened. As Mika Mannermaa (2004) has noted, "The real wisdom about the weak signals can be acquired only afterwards."[15] Historical analysis can, therefore, contribute a lot to an understanding of the role played by weak signals – in this case, on the stock markets.

[7] Ansoff and McDonnell 1990 [1984], Nikander 2002, 24.
[8] Harris and Zeisler 2002, Mannermaa 2004, 113–132.
[9] Nikander 2002, 23–24.
[10] Kindleberger 2000, 7, *New York Times* Apr 17, 2000. pp. C1, 25 *Strategist in a Strange Land.*
[11] *New York Times* December 7, 1996, pp. 35, 37 *A Buried Message Loudly Heard* and pp. 1, 36 *Greenspan Asks a Question And Global Markets Wobble.*
[12] Ansoff and McDonnell 1990 [1984], 384.
[13] Ansoff and McDonnell 1990 [1984], 20–21.
[14] Ansoff 1980, Ansoff 1975, Day and Schoemaker 2004, Haeckel 2004, Harris and Zeisler 2002, Mannermaa 2004. – For an overview of the literature, see Nikander 2002, 28–31, Uskali 2005a, 67, Ojala 2005, 13−14.
[15] Mannermaa 2004, 122. - On weak signals and historical research Ojala 2005, 14−18.

Are there weak signals to be found among the journalistic texts preceding stock market crashes? It is a well-established conclusion of media history that journalistic products are the first drafts of history writing, but perhaps journalism may also be the first blueprint of the future?[16]

There is not yet any valid methodology for monitoring journalistic texts in order to discover weak signals. Therefore, it is necessary to develop new methodological tools for future research. In the present study, we first made rough quantitative analyses of the articles in *The New York Times* digital news archives dealing with issues related to the Stock Exchange throughout the period from 1900 to 2003. We searched for articles containing the words "Wall Street" and "stock market". Then we made a more careful analysis of the articles before and after the crashes. For example, in 1929 there were all together 2283 stories about "Wall Street", of which about fifty were selected for more detailed analysis. These selected items were read thorough several times and possible weak signals in the texts were marked with the capital letters "WS". This work of interpretation was based on both authors' years of working experience in journalism. Similarly, for the 1987 crash altogether 396 stories from a total of 2370 "Wall Street" articles were selected for more detailed analysis, and for the 2000 crash 113 stories from 2425 articles (see Figures 1 and 2).[17]

1.2 The New York Times and the rise of the business press

As *The New York Times* was used as the primary source for the current article, a short description of the history of the paper and the business press in general is in order. *The New York Times* was founded in 1851. What made the newspaper different even at the turn of the 20th century from the other papers in New York was its extended treatment of business and financial news. The financial district of the city, Wall Street, became an important beat for *The New York Times*, and later the paper was referred to as a "business bible" in New York. [18]

> No place in the United States is so sensitive to the good or the bad happenings of the world as Wall Street. The merest rumour of an international complication into which the United States may become involved may mean the destruction of fortunes.[19]

As early as 1902, "The Street" was able to report news of a sale on the Stock Exchange within sixty seconds on the tapes of thousands of "tickers".[20] The tickers (a telegraphic printing apparatus[21]) were already in use in 1891[22], and they could be regarded as the first "real-time medium", because "the ticker could stay on the job throughout the twenty-four hours, bringing out an edition at every tick of the clock".[23] The 1920s were the golden age of the influence of the American newspaper. For example, *Editor and Publisher* wrote in 1926:

> This was the greatest era in newspaper history […] Newspapers have never before been so large in volume, complete in contents, and lavish in service.[24]

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[16] First a-priori assumption made in this paper is that weak signals are first *written* signs or hints of a coming change. However, weak signals could also be other than written signs, for instance pictures or other form of nonverbal communication like human gestures. Gustafsson, Ahola, Ilmola, Kuusinen and Pesonen 2003, 3.
[17] More detailed on the number of cases see chapter 2.
[18] Douglas 1999, 119–1241, Merrill 1980, 224–225.
[19] *New York Times* January 19, 1902.
[20] *New York Times* January 19, 1902. *How Wall Street Gets Its News*, p. SM12.
[21] *New York Times* January 19,1902. *How Wall Street Gets Its News*, SM12.
[22] *New York Times* December 13, 1891. *The Ticker War on Hand*, 10.
[23] *New York Times* Feburary 13, 1910. *Fresh News Published Every Minute*, 10.
[24] Douglas 1999, 233.

It was a time of general prosperity, and even the new competitor, the electronic medium of mass communication, radio, was still a weak force as a purveyor of news. For instance, nightly news broadcasting did not begin until the late 1920s. Douglas argues that it was not until 1938 that the major radio network began to hire its own large news-gathering staff in the United States.[25]

The next big step in business news communications was taken in 1963, when the International Financial Printer (IFP) started operation in Brussels. Old-style teleprinter technology was presented with a powerful challenge by computer technology. IFP provided bankers and brokers in Europe with the high-speed delivery of general and commercial news. For the first time, business people over a wide area could receive news simultaneously. The British news agency Reuters took the lead in delivering the business news and information. In 1973 the company launched the Reuter Monitor Rates Service, which was a major initiative, and it later made immense profits for the company. The US-based Dow Jones and AP, the main competitors of Reuters, joined forces in 1967.[26]

In the same year, *The New York Times* became a public company, and, as Diamond writes, "the new dynamic took over" and "decision-making focused on improving stock price-earnings ratios". A four-section paper was created, and the newly available space was filled with features designed to attract the target audience (Monday: sports, Tuesday: science, Wednesday: living, Thursday: home, Friday: the weekend, and the Monday-to-Saturday "Business Day" section). The last-mentioned stand-alone section offered an extended coverage of business and finance.[27] *The New York Times* began publishing the "Business Day" section on 17 May 1978. It enlarged the amount of business and financial news and related feature material. It also increased coverage of the communications industry in particular, investment and banking interests, and the fashion and garment trades.[28]

Thus, by the 1970s, the business press had developed significantly, and news of stock prices , for example, was disseminated rapidly. However, it was not until 1979 that an article in the Harvard Business Review noticed: "In the broadest sense, we have for the first time a genuine international economy in which prices and money values are known in real time in every part of the globe".[29] This was clearly demonstrated for the first time in connection with the crash of 1987. It was also the first big stock exchange crash on real-time television, and naturally, the role of newspapers diminished. CNN was the first on the air with the news that the market was going down dramatically, but also CBS News and NBC sent out continuous reports about the trading "hysteria". Interestingly, the TV channels were cautious about the language they used, especially with regard to the word "crash". Many news executives were conscious that their coverage might affect the evolving situation.[30]

Cautiousness has been characteristic of the newspapers, at least since the 1850's. Especially quality papers like *The New York Times* were determined not to be scandal sheets, and therefore the paper has tended to cover financial crisis with the aim of not making them worse. Floyd Norris and Christine Bockelmann say of *The New York Times*:

> The 1929 stock market crash led the paper day after day, but each day's headline found at least one reassuring element even as the articles described the collapse of

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[25] Douglas 1999, 233.
[26] Read 1992, 295–297, 300–301.
[27] Diamond 1994, 155.
[28] Merrill 1980, 226–227.
[29] Cited in Read 1992, 307.
[30] *New York Times* October 21, 1987. *Caution in the Press: Was It Really a ´Crash´?*, D14.

prices. Front-page coverage of the 1987 crash included an article dismissing the likelihood of another depression.[31]

However, in the early 1980s business news still appealed to a narrow audience of Wall Street traders and other professionals. During the 1980s and especially 1990s, the growth of the global economy propelled trade and commerce to the top of nations' political agendas, and many citizens became so-called armchair investors. This growing demand for public financial information created a new kind of need for business journalism, and financial news become the growth industry of the medium. The cable business news channels CNBC and CNNfn were born, and numerous business newspapers and magazines flourished.[32]

However, it was not until the era of the internet that it became possible for anybody with an internet connection and something original to say to reach a global audience. The internet has also transformed different media forms − news agencies, newspapers, television and radio stations − into one multimedia platform in which every newspaper has the potential to break news as fast as a television station. At first, in business journalism, some companies made it their policy to refuse to communicate through internet news sites.[33] Later on the situation changed dramatically. In March 2000, Wall Street itself used Webcasts in order to give opinions directly to investors. Webcasts were based on streaming video technology.[34] In 1998 it was already being said: "Two years is an eternity in Internet time".[35] At the turn of the millennium, the internet was even seen as a platform for a "comeback" by newspaper companies[36].

2. The New York Times and the three major stock market crashes

2.1 Wall Street in the news

The number of articles dealing with "Wall Street" and "stock markets" can be used as an indicator of how frequently the stock markets were analysed in the articles of *The New York Times*. On average, 93,194 articles per year were published in *The New York Times* during the period 1900 − 2003. Of these, approximately 1274 dealt in one way or another with issues related to "Wall Street" and 876 with "stock markets"[37]. The annual numbers of "Wall Street" and "stock market" articles seem to correlate with one another. Therefore, in the following mostly articles dealing with "Wall Street" are analysed in more detail. The highest number of "Wall Street" articles was published in 2000 − a total of 2425 stories, which is 3.36 per cent of all articles published in that year. The lowest number was in 1954: 488 articles, equivalent to 0.42 per cent of the total. The corresponding figures for "stock market" were 2127 articles (1.34 per cent) in 1930 and 342 articles (0.54 per cent) in 1914.

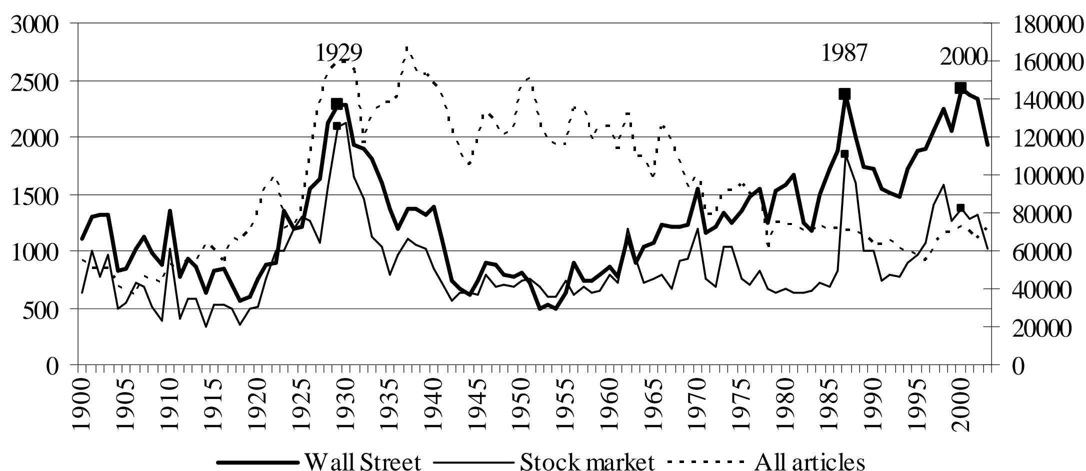
Of course, there is no direct causal relationship between articles dealing with Wall Street or the stock exchange and stock exchange crashes. The numbers of articles dealing with "Wall Street" or "stock markets" were also exceptionally high during "ordinary" boom years, as in 1923, when

[31] Norris, Floyd and Christine Bockelmann November 14, 2001. *New York Times. Beyond (and Behind) the Stock Tables*, p. H26.
[32] Landler, Mark June 9, 1995. *New York Times. As a Beat, Business Is Booming*, H27; Uskali 2005b, 30–31;
[33] *New York Times* July 16, 2001. *New Economy*, p C5.
[34] *New York Times* March 27, 2000. *Wall St. Uses Webcasts to Give Opinions Directly to Investors*, C1.
[35] *New York Times* April 3, 1998. *Industry View*, D6.
[36] *New York Times* December 13, 1999, p. C17. *On Wall Street, newspaper companies make a comeback, partly on the strength of the Internet.*
[37] "Wall Street" or "stock markets" mentioned at least once in the article.

almost two per cent of all articles in *The New York Times* dealt with "Wall Street"[38]. Furthermore, in the same year, there was an exceptionally high number of rumours in these articles about Wall Street.

The figures are not as revealing (Figure 2) when we compare the "Wall Street" and "stock exchange" articles with the total number of articles. On the contrary, the share of articles dealing with Wall Street and the stock exchange was exceptionally high especially in 1987 and to some extent also in 2000, but not in 1929. This is due to changes in the newspaper and journalism as the number of short articles diminished over the decades.

Figure 1. Annual number of "Wall Street" and "stock market" articles (left axis) and all articles (right axis) in the New York Times, 1900 - 2003



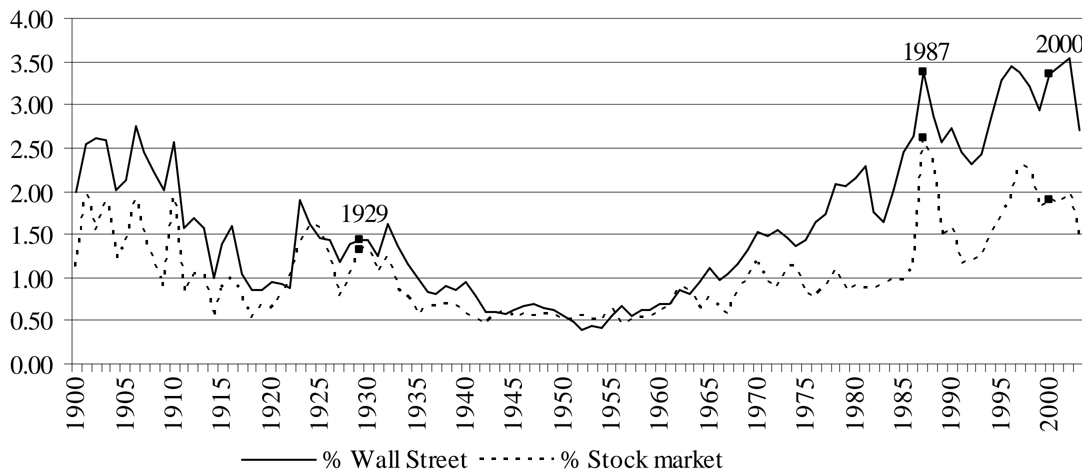
Note: Only journalistic articles are taken into account. These figures are calculated from the articles containing the words "Wall Street" or "stock market" at least once. The total number of articles for the period 1900 – 2003 is 9.69 million, the number of articles where "Wall Street" is mentioned during the same period is 132,458 (1.37 per cent) and "stock market" 91,087 (0.94 per cent). There are significant differences in the number of articles published in different years. This is due to several factors. Firstly, the number of pages in *The New York Times* has increased throughout the period. Secondly, as the amount of pictures and advertisements has risen the number of articles has diminished. Thirdly, the number of articles has diminished from the 1960s onwards as the length of the articles increased significantly.[39]
Source: New York Times, electronic version (pro quest).

First we counted the number of articles with "Wall Street" mentioned at least once in the article for the period of 12 months before and two months after the crash [40]. Secondly, we searched for two

[38] The year 1923 contained both a boom period in numerous fields of industries in the United States and also stagnation. *New York Times* January 1, 1924. *Retrospect of 1923 in order of events,* p. 30.
[39] An analysis was made with the articles in the electronic version of *The New York Time* to find the reason why there were such changes in annual figures. The papers published on the first Mondays of February in the years 1900 to 2003 were chosen as a sample. Throughout the period, the articles published on these days represented annually around 0.2 per cent of all articles. The total number of articles published on the first Mondays throughout the period was 20,000. On average altogether 97 articles were published per issue in the period 1900–1919, 257 in 1920–1939, 287 in 1940–1959, 204 in 1960–1979 and 130 articles in 1980–2003. However, at the same time, the average number of pages in the issues published on the first Mondays of February rose from 17 in 1900–1919 to 36, 39, 57, and 61 respectively during the following decades. Therefore, the average length of the articles rose as the number of articles per page diminished: over the years 1900 to 1959, the average number of articles per page was around 6 to 7, but only 4 in 1960–1979 and 2 in 1980–2003. A more careful analysis of these sample issues showed that illustrations (drawings and pictures) were used more often from the 1950s onwards, and that the length of the articles increased especially from the 1960s on. At the same time, the number of advertisements also increased, which shows up in the increased number of pages.
[40] For the 1929 crash the studied period is October 1, 1928 – December 31, 1929; for 1987 it is October 1, 1986 – December 31, 1987; and for the 2000 crash April 1, 1999 – June 30, 2000.

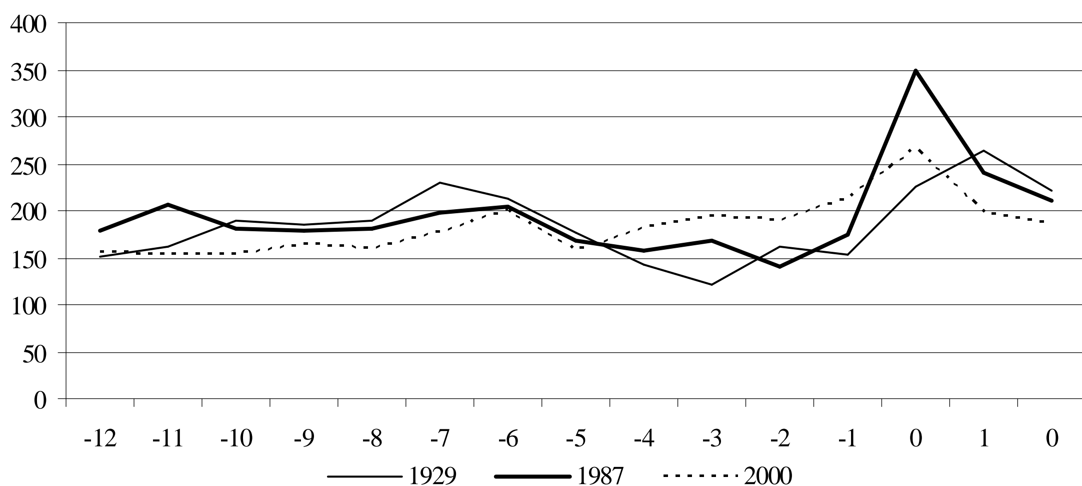
potential weak signal words, namely, “rumor(s)” and “speculative” in these “Wall Street” articles. The selection of these particular words was based on an ad hoc assumption. Of course, it may be possible to find other, perhaps more productive, key words for weak signal monitoring. It seems evident that especially during the crash years the number of articles containing the words “Wall Street and e was exceptionally high (Figure 1). Therefore, in the following, these crash years are studied in greater detail.

Figure 2. The percentage of annual “Wall Street” and “stock market” articles of all articles, 1900 - 2003



Sources: See Figure 1.

Figure 3. The number of “Wall Street” articles in the New York Times, 12 months before and two months after the crashes (= 0)

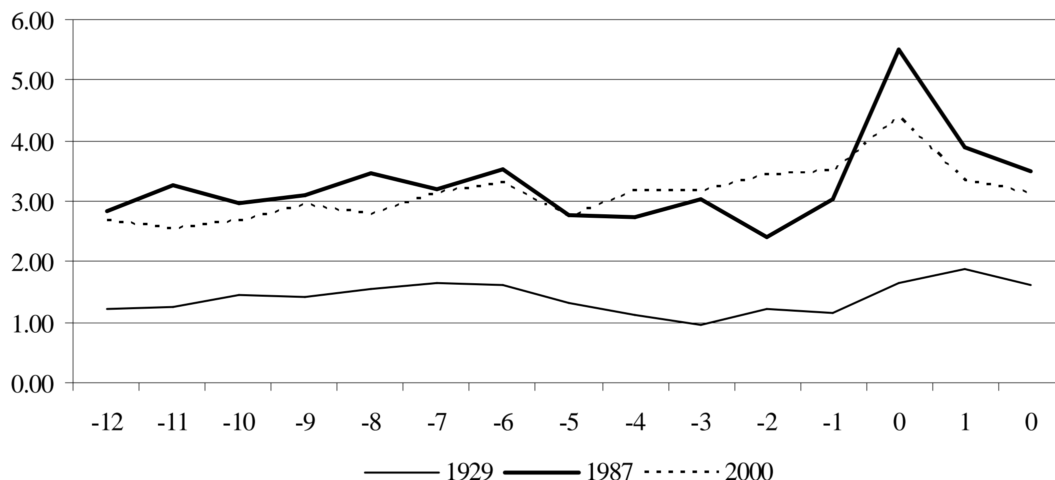


Sources: See Figure 1. The number of cases is in 1929; in 1987; and in 2000. The number of cases is 2,785 for the 1929 crash, 2,936for that of 1987 and 2,744 for that of 2000.

As can be seen from Figures 3 and 4, there was no clear trend in the appearance of “Wall Street” in the *New York Times* articles during the months before the crashes. However, the number of “Wall Street” articles was exceptionally high during the actual months of the crashes. On average, the number of “Wall Street” articles was 186 per month before and after the 1929 crash, 196 before the 1987 crash and 183 before the 2000 crash. During the actual crash months, these numbers were 225 (October 1929), 348 (October 1987), and 266 (April 2000). The share of “Wall Street” articles of all articles was much higher in 1987 and 2000 than in 1929 (Figure 4). This is due to the fact that in the

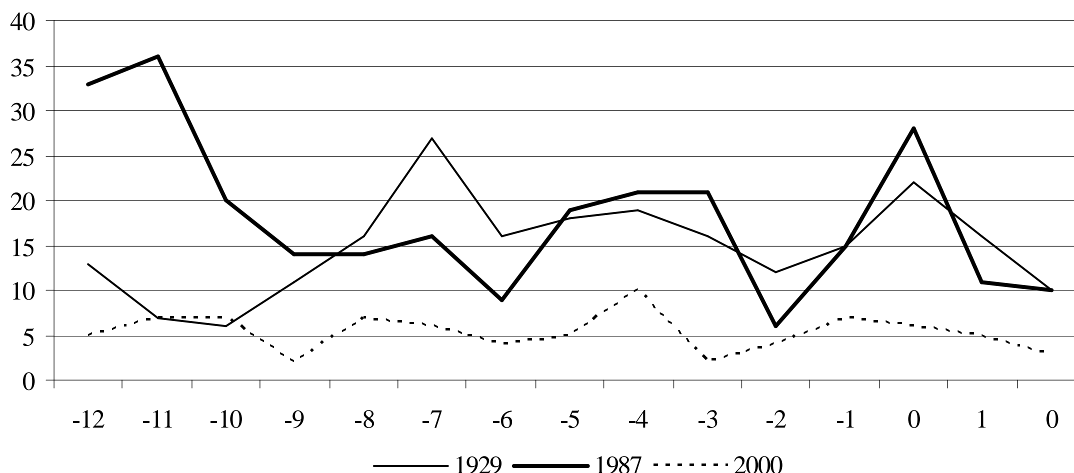
1920s the overall number of articles was about twice that of the late 20th century because of changes in the structure of the newspaper (see note 36 for details).

Figure 4. The percentage of "Wall Street" articles of all articles in the New York Times, twelve months before and two months after the crashes (= 0)



Sources: See Figure 1.

Figure 5. "Rumors" and "Wall Street" in the New York Times articles, twelve months before and two months after the crash (= 0)

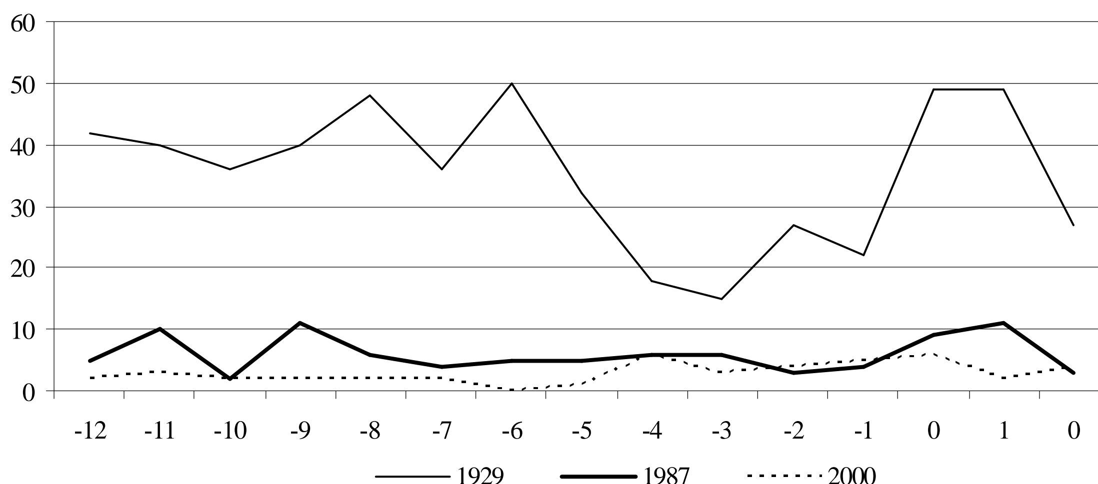


Sources: See Figure 1. The number of cases is 224 for the 1929 crash, 273 for that of 1987 and 80 for that of 2000.

The potential weak signals "rumors" and "speculative" did not show up in the *New York Times* articles as often as we expected. "Rumors" were mentioned more frequently in the texts before and after the 1929 and 1987 crashes than in the case of the 2000 crash (Figure 5). This is probably due to the changes in journalistic texts and to the diminishing role played by rumours as sources for the articles dealing with New York Stock Exchange. On average, there were 15 articles dealing with "rumors" and "Wall Street" per month before and after the crash in 1929, whilst the numbers were eighteen for 1987 and five for 2000 respectively. In all cases, the highest incidence of "rumors" was not during the actual month of the crash: in 1929 it occurred in March (in 27 articles), i.e. seven months before the crash; in connection with the 1987 crash already in November 1986 (36 articles), almost a year previously; and in relation to the crash of 2000 in December 1999, four months before the crash. Thus the item "rumors" seems more likely to indicate a booming market than an impending crash. The percentage of articles with "rumors" out of all articles dealing with Wall

Street was highest for the 1929 crash in June (13.3 %), for the 1987 crash in October 1986 (18.4 %), and for the 2000 collapse in December 1999 (5.6 %).

Figure 6. "speculative" and "Wall Street" in The New York Times articles, 12 months before and two months after the crash (= 0)



Sources: See Figure 1. The number of cases is 531 for the 1929 crash, 90 for that of 1987 and 44 for that of 2000.

Possible due to differences in the journalistic texts, the word "speculative" was used much more frequently in the 1920s than in the two more contemporary cases (Figure 6). In the case of 1929 there were on average 35 articles dealing with "speculative" and "Wall Street" per month, while the figure was six for the 1987 crash, and there were only three articles per month for the 2000 crash. Therefore, around 1929 almost one fifth of all articles dealing with "Wall Street" had "speculative" references, while the share for 1987 was 3.1 per cent and for 2000 only 1.6 per cent. In October 1928, the year before the 1929 crash, altogether 27.8 per cent of the articles dealing with Wall Street contained the word "speculative". The highest percentage before the 1987 crash occurred nine months before the crash (6.2 %) and before the 2000 crash four months earlier (3.3 %). On the basis of this, we may assume that "speculative" could possible be some kind of indicator of a weak signal.

As can be seen from the figures described above, it is evident that the mere frequencies of certain key words in journalistic texts are not sufficient to reveal possible weak signals of stock market crashes. Therefore, in the following we undertake a more qualitative analysis of the contents of *The New York Times* articles.

2.2 The New York Times and the Stock Market Crash in 1929

The New York Stock Exchange crash on Black Thursday, October 24, and Black Tuesday, October 29, 1929 is among the most discussed issues in economic history. It was the deepest collapse of the modern stock markets yet experienced. Furthermore, the crash eventually was a partial factor in the Great Depression that first hit the United States and subsequently Europe and rest of the World in the early 1930s, although it was not simply the cause of it.[41] The causes and consequences of the crash have analysed in a number of studies by such prestigious writers as J. K. Galbraith (1955), Robert Sobel (1968), Charles Kindleberger (2000), and Irving Fisher (1930), who presented one of

[41] Kindleberger 2000, 64 – 67; Temin 1976, 1 – 12.

the first analyses.[42] The crash was related to the end of the post-World War I boom; it was preceded by speculation in land (1925) and stocks (1928-1929), which peaked around a month before the crash in October. During 1929, industrial production in the US fell considerably. For example, automobile production had halved from January to September 1929.[43]

As in many other stock exchange crashes, starting with the South Sea Bubble in the early 18th century and ending with the dot-com crash at the turn of the third millennium, the causes lay in the discrepancy between expectation and reality. However, as several authors have stated, it was not only the runaway market that caused the crash,[44] but rather the weaknesses on Wall Street and in Washington in terms of weaknesses in governmental regulation. The awareness of the investors is the key to understanding the crash – and in creating, or failing to create, that awareness, the business press, *The New York Times* in particular, played an important role.

Before the 1929 crash, there was wild speculation in real estate, a false belief in leverage through pyramid holding companies and the opportunities for marking trading, to mention just a few of the factors involved. The example of respectable banks going along with the tide also served to inflate the bubble before the crash. As Galbraith (1955) and others have noted, economists generally failed to forecast the crash – and as our analyses below show, so did the business journalists. The role played by public opinion in particular was a decisive factor, as Sobel (1968) has noted, while Galbraith emphasises the irrational element (which he called "mania") that induced the public to invest in the bull market. Kindleberger (2000) and others have noted that stock market credit, i.e. the opportunity to borrow money for speculation, was a key element in creating the mania.[45]

On March 26, 1929, the stocks had already crashed on the biggest market day in the history of the New York Stock Exchange (see also Figure 3).[46] There were all together 229 articles about Wall Street in March, while the figure for February was 189. Later on, when the stocks rose again from the end of April to July, and the news was mainly positive, the number of reports about Wall Street diminished; the lowest point was reached in July, with only 121 "Wall Street" articles. Of course, this is also related to the fact that it was the summer holidays and thus the quietest season on the New York Stock Exchange[47]. But then something happened in August, and again, in October, when the stocks crashed as never before. Interestingly, the number of "Wall Street" articles peaked in November, totalling some 264, and in December the trend was down again (222 articles).

In hindsight, it is easy to interpret the "spring crash" in March 1929 as a pre-signal of the coming crash in October. Right after the crash on March 27, *The New York Times* defined the developments on the stock exchange in terms such as "outstanding", "nervous", "consequential", "impossible", "violent", "the morning smash was one of the widest on record", "stocks dropped like plummets", but after all this it reported that "the market's recovery was as spectacular as it was sudden, and to most persons unexpected".[48] On the same day, there was a stock column called *Topics in Wall*

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[42] Fisher 1930, Galbraith 1955, Kindleberger 2000, Sobel 1968. The literature analysing the 1929 crash is summarised in White 1990.
[43] Kindleberger 2000, 66, 230.
[44] Some authors have even stated that there actually was no bubble on the market before the crash in October 1929. For more details see Rappoport and White 1993, 549.
[45] The discussion on the causes of the Great Depression is analysed in Temin 1975, 13 – 61.
[46] *New York Times* March 27, 1929, p. 1. *Stocks Crash Then Rally in 8,246,740 – Share Day; Money Goes to 20 Per Cent*.
[47] However, in both 1987 and 2000 July was not the quietest month in terms of "Wall Street" articles in *The New York Times.*
[48] *New York Times* March 27, 1929, p. 1. *Stocks Crash Then Rally In 8,246,740 – Share Day; Money Goes to 20 Per Cent*.

Street, which summarized the "spring crash" day. The first sentence of the column made the following summarising analysis: "After passing through one of the most severe reactions in history, the stock market rallied smartly in the last hour yesterday". After this, brokerage houses spread the word that "the worst was over". Several brokers also made the interpretation that the "corrective process" had proceeded far enough". The column also emphasized the fact that the Exchange was using a new electrical bulletin board on which the renewal and current call loan rates flashed up, but this time the board blew a fuse just after the 20 per cent rate was established. Other technical problems also occurred: "Trading from the tape [stock price ticker] was an utter impossibility, since the tickers fell behind after the first few minutes and lagged more and more." The Federal Reserve Board had issued a credit warning (about brokers' loan accounts) a month earlier, and the column argued: "The warnings have now served their purpose".[49] In fact, one of the creators of the Federal Reserve Act, Paul M. Warburg, was among the leading voices warning about the current situation on the stock markets. He even foresaw the possible outcomes of the speculation, namely, a nation-wide depression, as can be noted from his words on March 9:

> […] if what Mr Warburg frankly describes as "the orgies of unrestrained speculation" are permitted to spread too far, he considers that "the ultimate collapse is certain not only to affect the speculators themselves, but also to bring about general depression involving the entire country" […][50]

It was not until September that the next relevant weak signal emerged on the pages of *The New York Times*. In a stock column on September 1, various warning signals were interestingly presented. The remarks in a section "The New Psychology" of a column called "Topics in Wall Street" merit more extensive citation here:

> One of the most striking features of the present chapter in stock market history is the failure of the trading community to take serious alarm at portents which once threw Wall Street into a state of alarm, bordering on demoralization. In particular, the recent disregard of the succession of "smashed high records" for brokers' loans astonishes the older school of market operator […] But more particularly, the repeated demonstrations which the market has given of its ability to "come back" with renewed strength after a sharp reaction has engendered a spirit of indifference to all the old-time warnings. As to whether this attitude may not sometime itself become a danger-signal, Wall Street is not agreed.[51]

A month and half later, on October 20, this "new psychology" argument is added in a small inside page report *Professors and the Market*. The story concentrates on the opinions and actions of college professors. A "Western college professor" argued in his book, which is mentioned in the report: "The old standards are not only futile, they are 'childish." And: "The ancient Wall Street principle that 'what goes up must sooner or later come down' is obsolete." The article also uses the term "*a new economic era*". Only at the end of the story is a formal report of the Committee of the Investment Bankers' Association's mentioned. This report remarks: "In the present juncture it can

[49] *New York Times* March 27, 1929, p. 40. *Topics in Wall Street. News, Comment and Incident, On the Stock Exchange and In the Financial Markets.*
[50] *New York Times* March 9, 1929, p. 18. *Mr. Warburg's Plain Words.* – See also *New York Times* March 8, 1929. p. 40 *Warburg Assails Federal Reserve* and Kindleberger 2000, 7.
[51] *New York Times* September 1, 1929, p. N8. *Topics in Wall Street. News, Comment and Incident, On the Stock Exchange and In the Financial Markets.*

do no greater service than to caution against speculative and ill-informed buying." This is quite clearly a warning against the current state of affairs on Wall Street. [52]

There was one dissenting voice among the scholars about the immediate future of the New York Stock Exchange. A small inside report on September 6 noted, quoting a statistician Roger Babson, "A 'crash' of the stock market is inevitable" And therefore: "Wise investors will pay up their loans and avoid margin speculation at this time". Babson had put forward this same argument one year and even two years earlier. Maybe that is why the story was "hidden" on page 12. But this time Babson's claims were nearer than ever to being realised. Of course, it was probably because of some other rather (over-) negative statements made by Babson that he was not taken as seriously as some other contemporaries. For example, he stated:

> Fair weather cannot always continue. The economic cycle is in progress today, as it was in the past. The Federal Reserve System has put the banks in a strong position, but it has not changed human nature. More people are borrowing and speculating today than ever in our history. Sooner or later the crash is coming and it may be terrific.[53]

Interestingly, the story about Babson's predictions, followed another counterclaiming article in which Professor Irving Fisher of Yale University, one of the nation's leading economists, refuted Babson's arguments. "There may be a recession of stock prices, but not anything in the nature of a crash," Fisher argued, and continued:

> We are living in an age of increasing prosperity and consequent increasing earning power of corporations and individuals. This is due in large measure to mass production and inventions such as the world never before has witnessed.[54]

Babson's ideas were mentioned again in two separate articles in October 23. In a short article entitled *Babson Still Pessimistic*, he is quoted as saying: "There is still a bear market." And: "New lows might be expected after a temporary rally" [55]. The British Chancellor of the Exchequer, Philip Snowden, had also already claimed on 3 October that an "orgy of American speculation" was going on in New York.[56]

At the end of September and during October, stock columns in *The New York Times* were full of different signs of a coming change. The different feelings were already well documented in the lead sentences of the reports, as in the following:[57]

> A general feeling of discouragement for which Wall Street seemed unable to account was assigned yesterday as the reason for the decline on the Stock Exchange. There

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[52] *New York Times* October 20, 1929, p E4. *Professors and the Market.*
[53] *New York Times* September 6, 1929, p 12. *Babson Predicts "Crash" in Stocks.*
[54] *New York Times* September 6, 1929, p 12. *Fischer Denies Crash is Due.*
[55] *New York Times* October 23, 1927, p. 16. *Babson Still Pessimistic.* – See also: *New York Times* October 23, 1929, p. 1. *Stocks Gain Sharply But Slip Near Close.*
[56] *New York Times*. 4.10.1929, p. 41. *Topics in Wall Street. News, Comment and Incident, On the Stock Exchange and In the Financial Markets.*
[57] See also: *New York Times* September 26, 1929, p. 1. *Toppling Market rallied by Bankers*; October 1, 1929, p. 36. *Topics in Wall Street. News, Comment and Incident, On the Stock Exchange and In the Financial Markets*; October 17, 1929, p. 44. *Topics in Wall Street. News, Comment and Incident, On the Stock Exchange and In the Financial Markets.*

> was the steady drum-fire of selling which the occasional flashes of strength in individual issues could not obscure.[58]

> Such a shrinkage in values as Wall Street has rarely seen in a two-hour trading period occurred on the Stock Exchange yesterday. […] Transactions totalled 3,488,100 shares, the second largest volume for a Saturday in the history of the Exchange.[59]

> The widest break in the history of the stock market since the war, and one of the most costly to stockholders of all periods, developed in the securities markets of the country yesterday, with an unprecedentedly violent wave of selling on the New York Stock Exchange, on the Curb market and over the counter. [60]

When the crash finally happened, it should not have come as a big surprise to the readers of *The New York Times*. However, it is worth noting that in practically every story there were also many positive signals about the future. So, finally, it depended on the readers' own interpretations how they read the signs in the pages of *The New York Times*. Quite often negative arguments about the future were later claimed in the same report to be propaganda, as it was the case with Babson's comments. In fact, negative articles were prejudged in a quite direct manner, as it was the case in September 25:[61]

> Experience has demonstrated that, given the right sort of conditions, it is no difficult matter to "talk the market down". For some days, it was pointed out yesterday by brokerage interests, there has been what amounted to a campaign of propaganda apparently designed to discourage the buying of stocks.[62]

What requires more extended examination here is the sources of the stories. It must be stressed that it was a common feature of almost all "stock exchange stories" that most of the sources of the stories were not clearly revealed. Rather, the paper used vague expressions like "those in the financial district who watch the market closely",[63] "the opinion was expressed rather widely in Wall Street",[64] "the opinion was expressed in some quarters of the financial district"[65] and "those who are familiar with the situation".[66] Just before the crash, *The New York Times* also noted that new phrases were springing up in the language of Wall Street such as "air pockets", "selling ex-margin" and "depression proof".[67]

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[58] *New York Times* September 25 1929, p. 37 *Topics in Wall Street. News, Comment and Incident, On the Stock Exchange and In the Financial Markets.*

[59] *New York Times* October 20, 1929, p. N9. *Topics in Wall Street. News, Comment and Incident, On the Stock Exchange and In the Financial Markets.*

[60] *New York Times* October 25, 1929, p. 45. *Topics in Wall Street. News, Comment and Incident, On the Stock Exchange and In the Financial Markets.*

[61] See also: *New York Times* October 23, 1929, p. 1. *Stocks Gain Sharply But Slip Near Close.*

[62] *New York Times* September 25, 1929, p. 37 *Topics in Wall Street. News, Comment and Incident, On the Stock Exchange and In the Financial Markets. Stocks Gain Sharply But Slip Near Close.*

[63] *New York Times* September 1, 1929, p. N8. *Topics in Wall Street. News, Comment and Incident, On the Stock Exchange and In the Financial Markets.*

[64] *New York Times* September 26,1929, p. 34 *Topics in Wall Street. News, Comment and Incident, On the Stock Exchange and In the Financial Markets.*

[65] *New York Times* September 25, 1929, p. 37 *Topics in Wall Street. News, Comment and Incident, On the Stock Exchange and In the Financial Markets.*

[66] *New York Times* September 22, 1929, p. N9 *Topics in Wall Street. News, Comment and Incident, On the Stock Exchange and In the Financial Markets.*

[67] *New York Times* October 26, 1929, p. 26. *New Phrases Springing Up In Wall Street's Language.*

2.3 The New York Times and the Stock Market Crash in 1987

The New York Stock Exchange crashed again on the "Black Monday" of October 19, 1987. By the end of the day, the S&P futures contract closed 29 per cent down and the S&P index 20 per cent. As is the case with the 1929 crash, there has been a growing amount of discussion on the causes of the crash. Its influence on the downturn at the beginning of the 1990s has also been widely discussed. Two theories about the causes were most widely proposed: one referred to the market panic, and the other stressed the role played by the large transactions of traders. The 1987 crash was connected with the stock markets, luxury housing, office buildings and the exchange rate of the dollar. The speculative peak on the dollar had already been reached in 1985 and that on stocks and real estates in 1987.[68] Other causes suggested by contemporaries included the rising federal budget and balance of payment deficits. Furthermore, it has been claimed that the crash was "only" a long overdue price correction, or that it was caused by the breakdown between stock index futures and the underlying stock index. It has also been suggested that US-based explanations are not enough, as the crash was international in scope. Furthermore, simple explanations based on panic or "bad" traders do not seem to fit the case, as it took a long time before the markets were corrected back to the pre-crash level. At the time of the crash, the markets had already fallen during the preceding weeks – more than at any time since the 1929 crash. Thus there should have been not only weak but also strong signals, at least during the preceding week.[69]

During the first weeks of the year, some weak signals were presented in the stories of *The New York Times*. One trend that was expected to grow was the crossing of federal state lines by US banks.[70] Other trends were also expected in business: technological and tax changes and insistence on quarter-to-quarter performance for public companies.[71] In 1986 big insider trading scandals, or "monumental news events"[72], surprised Wall Street, and on January 2 *The New York Times* asked, "Who will be next to fall?"[73] Jonathan P. Hicks wrote on the same day: "After a bull market of more than four years, it might be expected that the over-the-counter stocks would be frothing, but their moderate gains in 1986 failed to keep pace with those in other markets."[74] At the same time new trading techniques − in the words of business journalist John Crudele: "notably the split-second programs used by professionals to participate simultaneously in futures, options and stocks" − were introduced. Crudele's words were of a great importance for those monitoring the weak signals of a coming stock crash:

> Four and half years later, Wall Street is wondering whether the most successful millionaire maker of all time can continue to romp for at least one more year. And while there is seldom anything resembling a consensus in the investment community, many market experts are convinced that stock prices can continue to rise as long as interest rates go no higher than current levels. […] Yet even the most ardent supporters of the market realize stock process go in both directions. As Mr. Hotchkis put it: "It won't last for ever. We still live in a cyclical world, and no one has yet found the whereabouts of the tooth fairy.[75]

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[68] Kindleberger 2000, 112, 147, 231; Neal 1990, 1.
[69] Leland and Rubinstein 1988, 45 – 46; Antoniou and Garrett 1993, 1444; Harris 1989, 77 - 78.
[70] *New York Times* January 2, 1987, p. D2. *A Busy Year for Bankers, Regulators.*
[71] *New York Times* January 1, 1987, p. 42. *New Executive Lineup Follows Pandick Buyout.*
[72] *New York Times* January 2, 1987, p. D10. *Stock Strength Predicted...*
[73] *New York Times* January 2, 1987, p. D2. *Boesky and Levine Snared in Inquiry.*
[74] *New York Times* January 2, 1987, p. D8. *Gains Are Modest for Nasdaq Index.*
[75] *New York Times* January 2, 1987, p. D1, D10 *Stock Strength Predicted...*

Edward Altman, a New York University professor, warned that a recession could "cause higher rates of default than anything we have seen in the past". But *The New York Times* wrote: "Such warnings have not discouraged purchases of junk bonds by large investors".[76] In a series called *Teacher's Lesson: Investment*, Lawrence van Gelder argued: "Stocks are too volatile, much too uncertain. Our appeal and our approach is one of showing people how to conservatively invest their money to enhance their yields without taking great risks."[77]

However, only one week later, the headline in *The New York Times* was: "Dow Surges 44.01 To Record 1,971.32". The article stated: "Wall Street loves 1987", for the stock market had just registered one of the best days in its history as the Dow Jones Industrial Average soared to a record level. At the end of the report, however, there were some words of caution, for the economy seemed to be growing at a rather slow pace, and economists were predicting a gain of just 2.5 percent in the US gross national product. The article argued that, while interest rates and inflation were expected to remain low, "market watchers had feared that the business slump would crimp corporate profit growth. This in turn, would hurt stock prices".[78] However, there were also more optimistic predictions for the coming year made on the same day, as some fund managers expected a considerable rise in stock prices for the year[79].

In February more such optimistic views appeared on the pages of *The New York Times*, though the Federal Reserve Board was already issuing some warning signals. For example, the Chairman of the Merchants Bank of Boston stated on the pages of the newspaper that 1987 would be "more robust than expected" as the major US companies were in good shape after "cutting fat and increasing productivity" during the previous three years.[80] One critical authoritative voice, the Chairman of the Federal Reserve Board. Paul A. Volcker, warned in February that "the stock market was ignoring some unhealthy factors, including rapid expansion of debt". But these warnings fell on deaf ears on Wall Street. In the same report, David Liptak, the Manager of the Stock Index Options Department at Oppenheimer & Company, explained that "in a bullish market, all news is looked at bullishly".[81]

Indeed, on the following day *The New York Times* wrote that some brokers expected that the Dow Index might even almost double during the next couple of years. However, in the same report, it also argued: "Sceptics think the market is running on eggs and headed for a messy fall." And: "Not only the economists but even some old Wall Street hands are worrying, however, that the stock market boom will end badly when it collides with economic realities". The warnings of Paul A. Volcker were also repeated in the report. He was later described by the White House Chief of Staff, Donald T. Regan, as a "spoilsport", and *The New York Times* concluded that the White House was "eager to get rid of him".[82] In June 1987 Volcker was replaced by Alan Greenspan.[83]

Later in the week, it was mentioned at the end of a stock column that in one month alone, the Dow had risen nearly as much as it had in all of 1986, which by most standards was a good year. The bubble was born.

In March 1987, critical views of businesses performances were first hidden inside the Wall Street items. One, for example, stated that "not every analyst is bullish" in an report about the automobile

[76] *New York Times* January 2, 1987, D10. ... *With Heavy Bond Demand.*
[77] *New York Times* January 4, 1987, p. LI2 *Teacher´s Lesson: Investment*.
[78] *New York Times* January 6, 1987, p. D1, D8. *Dow Surges 44.01, to Record 1,971.32.*
[79] *New York Times* January 6, 1987, D8. *Fund Managers Expect Further Gain for Stocks.*
[80] *New York Times* February 2, 1987, p. D3. *Flat Profits Linked to Weak Economy.*
[81] *New York Times* February 3, 1987, p. D1, D10. *21.38 Jump Puts Dow At 2,179.42.*
[82] *New York Times* February 4, 1987, D2. *Running Uphill on Eggs.*
[83] *New York Times* June 3, 1987, p. D8. *Dow Off 10.01 as Volume Edges Up.*

industry, in which the analyst predicted that there would be a sharp drop in the profits of all three major US car producers in 1988 and recommended the sale of Ford and Chrysler stocks while remaining "neutral to negative" on G.M.[84] Again, a comparison with the 1929 case can be made, as then, too, the declining production of the automobile industry was noted.[85] In the same month, the paper started a debate about the companies' buybacks of their shares. Companies repurchased their own stocks, and critics argued that buybacks created "an illusion of rising stock prices". Other "market experts" believed that these buybacks created "real economic value". *The New York Times* saw buybacks in a positive light and wrote: "Understandably, the market greets positively the news that a company will channel excess cash to investors, and the stock rises." And: "It is not surprising then that buybacks also transmit a strong signal of confidence to the market".[86]

The markets were booming during the first months of the year, and that was also reported by *The New York Times*, as the Dow had risen "a spectacular 20.1 percent" by the first week of March. This gave rise to an expression of cautiousness on the pages of the paper as it was "beginning to generate some concern about what lies ahead". Charles Jensen of MKI Securities Inc. even said "It's going to go down, but who's to guess when?" The manufacturing industries believed in the good signs. International Paper, for example, disclosed that it was raising the price of linerboard significantly because of the strong demand. This "indirect sign" was interpreted by *The New York Times* that more products were being shipped by manufacturers.[87]

Wall Street was changing in the late 1980s. New equipment and on-line information made it possible for more rapid and reliable analysis – or at least, that was the notion during the first months of 1987. A new occupation on Wall Street in 1987 was that of the technical analyst, who followed "indicators measuring the momentum of the market and the sentiment of its participants. Thus, they attempt to forecast by monitoring the past, and they are apt to say things like 'The trend is your friend'."[88] *The New York Times* collected analysts' predictions about the movements of the Dow Index. Overall, the analysts saw the future positively, and one of them argued: "Personally, I would like to see more fear in the market, but I don't expect any major decline ahead." Once again, more critical views were presented at the end of the report with a quote from an analyst who predicted: "Wall Street will proclaim the bull market is over."[89]

A report by Leonard Silk on April 5 was a piece of good financial journalism. In it Silk foresees the interconnections in the world economy and the problems within it: "The world economy last week was like a three ring circus, with the turbulent events in each ring spilling over into the others." And: "The United States' economic problems have been compounded by three linked phenomena: inadequate savings, insufficient investment in productive equipment and a growing dependence on foreign capital." He also predicted that "a financial and economic crash [...] would be likely to spread to the rest of the world".[90]

In July 1987, three months before the crash, *The New York Times* claimed that investors were turning away from technology stocks. But it was not until September that more warning signals would emerge in the articles. An article summarized feelings after the Dow Jones industrial average hit a record 2,722.42 on 25 August, which was the highest level the Stock prices would go. The

[84] *New York Times* .5.3.1987, p. D 10. *An Auto Giant Comes Awake.*
[85] Kindleberger 2000, 66.
[86] *New York Times* March 5, 1987, p. D1. *The Allure of Stock Buybacks, High Prices No Deterrent.*
[87] *New York Times* March 6, 1987, p. D6. *Dow Jumps Another 18.98, to 2,276.43.*
[88] *New York Times* April 1, 1987, p. D10. *Market Place, Technicians Are Sanguine.*
[89] *New York Times* April 1, 1987, p. D10. *Market Place, Technicians Are Sanguine.*
[90] *New York Times* April 5, 1987, p E1. *In Global Financial Circus, Everyone Is Growing Frantic.*

report was based on interviews with “the market’s leading technical gurus”.[91] These “gurus” expected in the worst case a drop of some 200 to 300 points in the Dow, while “the upside potential is still greater than 1,000 points from here”. [92]

The critical voices, however, continued in a financial section on the following day, stating: “Climbing interest rates, triggered by the declining dollar and worries about mounting inflation, have soured the mood on Wall Street.” The article argued that certain analysts had even started “to write obituaries for the big bull market of the past five years.”[93]

During September and October, more weak signals occurred on the pages of *The New York Times*. At the beginning of September, for example, it stated: “The selling was widespread”; “Media stocks were among the biggest point losers”; and “You are also getting some fear.”[94] In early October there was already a decline in stock prices, which caused the newspaper to argue: “The market psychology now is to wait for bad news rather than for any positive impetus.”[95] More positive statements were called in question by asking, for example: “Is the optimism justified?”[96] Furthermore, the argument that the long-lasting rise that was being experienced in stock prices was different from previous ones was also questioned. In fact, the paper argued: “The four most dangerous words in investing are ‘this time it’s different’. And it continued by stating that no matter what the brokers might say, “bull markets do not last forever”. The newspaper even compared the situation to the 1929 crash, and suggested: “Investors must be either sharp enough to know when to leave the party or smart enough to pick stocks that will not be decimated if there is a 1929-like crash.”[97]

During the last week before the crash, the signs of the upcoming collapse were strong indeed. The stock prices had already experienced a lengthening pause after the five years upswing, and *The New York Times* ventured to ask whether the markets were already at the start “of a cyclical downturn”.[98] Only two days later, on Thursday, October 15, the paper reported: “Traders and investors are throwing in the towel and finally questioning the premise of the whole bull market […] panic is definitely setting in and the prospect for a sustainable rally seems remote.”[99] On the following Monday, the markets crashed: the Dow Industrial fell 22.6 per cent from Friday’s close. It was front-page news.[100]

2.4 The New York Times and the Stock Market Crash of 2000

After a decade-long growth in stock prices, the New York Stock Exchange Nasdaq index lost half of its value at the end of 2000 after the crash that occurred on Friday, April 14, 2000. In October 2002, Nasdaq went down by yet another half before hitting the bottom. The collapse of the “dot-com bubble” in March 2000 is one of a long series of financial crashes that have occurred since the existence of organized secondary markets in financial assets. Right after it occurred, the crash was compared to previous collapses, especially to that experienced around thirteen years before, but the

[91] *New York Times* September 3, 1987, p. A1. *Market Place, Is This a Pause in Bull Market?*
[92] *New York Times* July 4, 1987, p. A1. *Investors Turn Away from Tech Stocks.*
[93] *New York Times* September 4, 1987, p. D2. *Economic Scene, The Dollar And Inflation.*
[94] *New York Times* September 5, 1987, p. 31. *Rally Fails; Dow Drops 38.11 Points.*
[95] *New York Times* October 8, 1987, p. D1. *Stocks End Mixed in Wild Day.*
[96] *New York Times* October 9, 1987, p. D2. *Economic Scene, The Pressures On Profits.*
[97] *New York Times* October 11, 1987, p. A1. *Why This Market Cycle Isn’t Different.*
[98] *New York Times* October 13, 1987, p. D8. *Other Wall St. Layoffs Seen.*
[99] *New York Times* October 15, 1987, p. D1. *Record 95.46 Drop Puts Dow at 2,412.70.*
[100] *New York Times* October 20, 1987, p. 1. *Stocks Plunge 508 Points.*

1929 crash was also mentioned.[101] The warning signals had already been received at the end of the previous decade, when the emerging markets in Asia faced difficulties, as did a number of markets in South American states.[102] As it was the case with the earlier examples of 1929 and 1987, the 2000 crash can also be used as an illustrative case of possible weak signals on the pages of *The New York Times.*

The 2000 crash was primarily related to technology stocks. The crash was preceded by a long boom in the markets during the 1990s: the Nasdaq composite index had risen from below 1000 points in 1996 up to around 5000 points just before the crash.[103] In March 2000, *The New York Times* reported that the investors had "abandon[ed] technology stocks and turn[ed] to old favorites".[104] However, long before that there were already warning sings on the pages of the newspaper about the value of dot-com firms. For example, in January 1999 *The New York Times* feared that there was a "world of uncertainty about Web companies" and wondered whether "the commercial promise of the World Wide Web is overhyped". However, the same article placed more emphasis on the interviews with the people working in dot-com companies and expressed a much more positive view of the issue.[105]

Alan Greenspan, the Chairman of Fed, rang a warning bell in early 2000, as had his predecessors Paul A. Volcker in February 1987, and Paul M. Warburg in March 1929. Greenspan said that he intended to keep raising interest rates for as long as the wealth being created by the stock market generated more demand than the economy could satisfy. In his speech before the US Congress in February 2000, Greenspan made the stock market the villain.[106] Interestingly, Joseph E. Stiglitz, winner of the 2001 Nobel Prize for Economics, and a member of President Clinton's administration, in his capacity as Chairman of Council of Economic Advisers, later accused Greenspan of doing nothing about the bubble. But at the same time, he admitted that the Clinton administration, too, could be blamed for not doing what could have been done to dampen the boom/bust cycle.[107]

Nevertheless, Greenspan was not at first taken seriously on Wall Street. His strong warnings that over-speculation could damage the economy were noted, but Dow Jones industrials fell only moderately after his comments, and the Nasdaq rose to a record high. *The New York Times* argued: "When Greenspan speaks and the stock market doesn't listen, the loss of credibility is dangerous."[108] And: "Investors, nearly half the population – have laughed in his face". The newspaper even urged for an action plan for "a reluctant Greenspan".[109]

But Greenspan had tried to moderate stock prices since December 1996, and in 2000 he was joined by a Yale University economist, Robert J. Schiller, who published a book entitled "*Irrational Exuberance*", the main message of which was that US was in a stock market bubble. Schiller argued that stocks were greatly overvalued – perhaps by more than $7 trillion. [110] One free-market economist on Wall Street also stated: "Some of us believe that the speculation has gone so far that

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[101] *New York Times* Apr 17, 2000. pp. C1, 25. *Today's Opening Bell Could Be a Test Case for the Lessons of 1987* and *Strategist in a Strange Land.*

[102] Kindleberger 2000, 9-10, 35, 179, 202-205; Neal 2005; Neal 1990.

[103] *New York Times* Apr 17, 2000. pp. C1, 25. *Strategist in a Strange Land.*

[104] *New York Times* March 16, 2000. pp. C1, C18. *Dow Registers Biggest Gain In 17 Months; Nasdaq Slumps Again.*

[105] *New York Times* January 25, 1999. p. A11. *Internet Firms Ride Out the Storm; Market Analysts Continue to Debate the Value of Investments.*

[106] *New York Times* March 5, 2000. *The Risks In the Fed's Assault on Stocks, BU3.*

[107] Stiglitz 2004, xxiii-xxiv. – See also Gordon 2000, 49.

[108] *New York Times* March 16, 2000. *Economic Scene*, C2.

[109] *New York Times* March 26, 2000. *Action Plan for a Reluctant Greenspan*, BU4.

[110] Shiller 2000.

there is no easy or painless way out."[111] And in fact, in two years, there was $ 8.5 trillion decline in the value of the market[112].

These critical voices, Greenspan and Schiller, were quickly suppressed by other, more positive thinkers, and the aim of *The New York Times* of "not making financial crises worse" was clearly evident again. Matthew W. Johnson, chief trader of Nasdaq stocks for Lehman Brothers believed that the bull markets would continue, especially in technology stocks. The internet had for its part increased people's interest in stock investment, and Johnson believed: "The public has become more educated and has a stomach that can absorb more risk than they ever have before". [113]

Even so, in business journalists' columns, every now and then there were numerous signs or hints of a coming change. For example, on April 2, that is about two weeks before the crash, Cretchen Morgenson wrote in her Market Watch column: "The laws of physics apply to new economy stocks after all. […] We are witnessing the beginning of the end of the mania […] "These stocks do not have earnings".[114] There were no more slogans like "This is going to change everything."[115] The headline on April 9 was already in itself a weak signal: "This Bubble Sure Looks Familiar". The report was based on historical cases (the late 1920s) and statistics on marginal lending, and especially the fact that marginal lending had risen sharply since the autumn of 1999. There were also worries about margin debt, the money borrowed from brokers to buy securities.[116] Once more history was the best prediction of the future.

On the following day, the warning signals strengthened, and again the headline itself hinted at the change: "Stock Shock Is a Signal: Tough Times for E-tailer".[117] And during the next few days there were more signals as the articles became worried about the losses of technology shares and consequently the falls on the Nasdaq.[118]

One of the key terms of the stock market bubble at the turn of the millennium was "the New Economy". This term refers to the new technology era that was profoundly affecting productivity and, among other things, the value of assets. It was not the first time that a "New Economy" was at the centre of modern American capitalism. This time, however, the dot-coms were supposed to revolutionize the way the world did business. As Stiglitz argues, the New Economy represented a new economic revolution: a shift from the production of goods to the production of ideas. The New Economy also promised the end of the business cycle, the ups and downs of the economy. Stiglitz asserts that especially newspaper articles played a role in this, but he does not give detailed empirical evidence in support of his claim.[119]

But what Stiglitz does do in his book *The Roaring Nineties*, is give us an example of the difference between the American and the British business press. After the head of the NYSE, Richard Grasso, asked for a $5 million bonus to get the exchange working quickly again for the American business community after September 11, in the words of Stiglitz: "It was just business as usual." When the

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[111] *New York Times* March 26, 2000. *Action Plan for a Reluctant Greenspan*, BU4.
[112] Stiglitz 2004, 6 - 7
[113] *New York Times* March 19, 2000. *A Nasdaq Correction; Now Back To Business*, BU8.
[114] *New York Times* April 2, 2000. *Forces of Nature, Immutable Truths*, BU1.
[115] *New York Times* April 3, 2000. *New Economy*, C4.
[116] *New York Times* April 9, 2000. *This Bubble Sure Looks Familiar*, WK4.
[117] *New York Times* April 10, 2000, C1. *Stock Shock Is a Signal: Tough Times for E-tailer.*
[118] See, for example *New York Times* April 11, 2000, C1. *Sell-Off in Technology Causes More Heavy Losses on Nasdaq*; April 12, 2000, C11. *Technology Shares Continue Sharp Fall; Blue Chips Rise*; April 13, 2000, C1. A*nother Sell-Off in Technology Pushes Nasdaq Into Bear Market.*
[119] Stiglitz 2004, 3 – 5, Gordon 2000, 49-74.

news was first reported in the *Wall Street Journal*, it drew little attention. But when the *Financial Times* put the story on the front page, actually months later, public attention was focused on the case. Stiglitz argues that the press should be an important part of the governance structure, “one of the checks and balances that make our system work”.[120] Ironically, even after the dot-com bubble, in 2002 *The New York Times* continued to publish a weekly column in their business news section called “New Economy”.

3. Conclusions

Stock exchanges are important engines of modern financial life. This is also true of news media. Journalistic products, especially real-time news, are of key importance in modern business life. Seconds are vital in selling or buying stocks or other financial instruments. Stock exchanges and business media have been linked to each other for a long time, but these relationships are not well known.

In this article, we have tried to trace possible weak signals in the articles of *The New York Times* before the stock crashes of 1929, 1987 and 2000. There were only a few weak signals in *The New York Times* before the 1929 stock crash. The most valuable signals were usually hidden inside the reports and were not published on the front pages. However, in October 1929 many stock columns in *The New York Times* contained numerous different signs of a coming change, and these signs were also already prominent in the lead sentences of the stories. So, when the crash finally occurred, it should not have come as a big surprise to careful readers of *The New York Times*. However, in practically every Wall Street article, there were also plenty of positive signals about the future. So, finally, it depended on the readers’ own interpretations whether they believed the bullish signs or the bearish ones. Quite often negative, or critical, arguments about the future were claimed later in the reports to be “propaganda”. It must be also stressed that most of the sources of the reports were not named. The stock exchange articles in 1929 also contained a lot of rumours and especially references to speculation; in fact, these were more common than in connection with the two later stock exchange crashes. The information value of the business news for the stock markets was rather low as possible weak signals – whether positive or negative – were often labelled as propaganda or rumours.

From the point of view of weak signals, the 1987 crash was more fruitful than the 1929 crash. Already during the first weeks of the year some weak signals of the forthcoming crash were expressed on Wall Street. In February, the Chairman of the Federal Reserve Board, Paul A. Volcker, warned about the unhealthy factors on the markets, especially the rapid expansion of debt. But these warnings were obviously ignored on Wall Street, and later the White House even replaced the chairman. In March some analysts already warned that markets were due to go down but could not predict when this would take place. It was not until September, thus only month before the crash, that more warning signals emerged in the reports of *The New York Times*.

The weak signals before March 2000 were surprisingly similar to those in 1987. The reporting again adhered to the old principle of the paper: “an aim of not making financial crises worse”. Again, the US Federal Reserve Board warned the markets through the voice of Alan Greenspan – as his predecessor Paul A. Volcker had in 1987, and Paul M Warburg one of the creators of the Federal Reserve, in spring 1929. These official voices of the Fed were widely reported on the pages of *The*

[120] Stiglitz 2004, xiii.

New York Times in all the crashes that we have studied here, though in commentaries the tone was more optimistic.

A comparison of the Wall Street reports of 1929 with those of 1987 Wall Street shows that journalistic processes had become more transparent in *The New York Times* during this period of almost 60 years. For example, the use of named sources was more common in 1987 than in 1929. Rumours, however, were used at almost the same level in 1987 and in 1929. One might possibly claim that the frequencies of the words, “rumors” and “speculative” could be indicative, at least at some levels, of coming changes in stock markets. It is also important to notice that almost all the reports were accompanied by the names of their writers in 1987 and 2000, but this was not true of all the reports in 1929.

It can be argued that *The New York Times* was not the main actor in the crashes of 1929, 1987 and 2000. It did not cause panic by its reporting, but it could have done better in presenting the historical facts to its audience earlier and by being more critical of the slogans of the bubbles, like “the New Economy” in 2000 or “a new economic era” in 1929.

SOURCES

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