



## Exuberant Reporting

### Media and Misinformation in the Markets

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Although the news media—newspapers, magazines, broadcast media, and now the Internet—present themselves as detached observers of market events, they are themselves an integral part of these events. Significant market events generally occur only if there is similar thinking among large groups of people, and the news media are essential vehicles for the spread of common ideas. As we shall see, news stories rarely have a simple, predictable effect on the market. In some respects, they have less impact than is commonly believed. However, a careful analysis reveals that the news media do play an important role both in setting the stage for market moves and in instigating the moves themselves.

#### Setting the Stage

The news media are in constant competition to capture the public's attention. Survival requires finding and defining interesting news, focusing attention on news that has word-of-mouth potential (so as to broaden their audience), and, whenever possible, defining an ongoing story that encourages their audience to be steady consumers.

The competition is by no means haphazard. Those charged with disseminating the news cultivate a creative process—learning from each others' successes and failures—that aims to provide emotional color to news, to invest news stories with human-interest appeal, and to create familiar figures in the news. Over the years, experience in a competitive environment has made the media quite skilled at holding public attention.

The news media are naturally attracted to financial markets because, at the very least, the markets provide constant news in the form of daily price changes. Certainly other markets, such as real estate, are sources of news. But real estate does not typically generate daily price movements. Nothing beats the stock market for sheer frequency of interesting news items.

The stock market also has star quality. The public considers it the Big Casino, the market for major players, and believes that on any given day it serves as a barometer for the status of the nation—all impressions that the media can foster and benefit from. Financial news may have great human-interest potential to the extent that it deals with the making or breaking of fortunes. And the financial media can present their perennial lead, the market's performance, as an ongoing story—one that brings in the most loyal repeat customers. The only other regular generator of news on a comparable scale is sporting events. It is no accident that financial news and sports news together account for roughly half of the editorial content of many newspapers today.

#### Cultivating Debate

In an attempt to attract audiences, the news media try to present debate about issues on the public mind. This may mean creating debate on topics that experts would not otherwise consider worthy of such discussion. The resulting media event may convey the impression that there are experts on all sides of the issue, thereby suggesting a lack of expert agreement on the very issues about which people are most confused.

I have over the years been asked by members of the media if I would be willing to make a statement in support of some extreme view. When I declined, the next request would inevitably be to recommend another expert who would go on record in support of the position.

Five days before the 1987 stock market crash, the MacNeil/Lehrer NewsHour featured Ravi Batra, author of *The Great Depression of 1990: Why It's Got to Happen, How to Protect Yourself*. This book took as its basic premise a theory that history tends to repeat itself in exact detail, so the 1929 crash and subsequent depression had to repeat themselves. Despite Batra's significant scholarly reputation, this particular book would not be viewed with any seriousness by scholars of the market. But it had been on *The New York Times* best-seller list for 15 weeks by the time of the crash. On NewsHour, Batra confidently predicted a stock market crash in 1989 that would "spread to the whole world," after which, he declared, "there will be a depression." Batra's statements, made as they were on a nationally respected show, may have contributed in some small measure to an atmosphere of vulnerability that brought us the crash of 1987, even though they predicted a crash two years hence. Although Batra's appearance on NewsHour just before the crash might be considered a coincidence, one must keep in mind that predictions of stock market crashes are actually quite rare on national news shows, and so the proximity in time of his appearance to the actual crash at least suggests that it had some part in the process that brought us the crash.

Should the media be faulted for presenting debates on topics of little merit? One can argue that they ought to focus on a variety of topics of interest to general audiences, so that the public can refine its views. Yet in doing so, the media often seem to disseminate and reinforce ideas that are not supported by real evidence. If news directors followed only their highest intellectual interests in judging which views to present, the public might find its consciousness constructively broadened. But all too often the media are swayed by competitive pressures to skew their presentations toward ideas best left alone.

**Desperately Seeking Analysis** There is no shortage of media accounts that try to answer our questions about the market today, but there is a shortage within these accounts of relevant facts or thoughtful interpretations of these facts. Many news stories seem to have been written under a deadline to produce something, anything, to go along with the numbers from the market. A typical news story of this type, after noting the remarkable bull market, focuses on very short-run statistics. It generally states which groups of stocks have risen more than others in recent months, even though there is no theoretical or empirical reason to think that their performance has caused the bull market. The news story may talk about the "usual" factors behind economic growth, such as the Internet boom, in glowing terms and with at least a hint of patriotic congratulation of the US economic engine. The article then finishes with quotes from a few well-chosen "celebrity" sources, offering their outlook for the future. Sometimes the article is so completely devoid of genuine thought about the reasons for the bull market and the context for considering its outlook that it is hard to believe that the author was other than cynical in his or her approach.

What are the celebrity sources quoted as saying in these types of articles? They typically give numerical forecasts for the Dow Jones Industrial Average, tell stories or jokes, and dispense their personal opinions. For example, when Abby Joseph Cohen of Goldman, Sachs & Co. coins a quotable phrase—as with her warnings against "FUDD" (fear, uncertainty, doubt, and despair) or her phrase "Silly-- Putty Economy"—it is disseminated widely. Beyond that, the media quote her opinions but pay no critical attention to her

analysis. In fact, although she no doubt has access to a formidable research department and performs extensive data analysis before forming her opinions, they are ultimately reported as just that-her opinions. Of course she should not be faulted for this, for it is the nature of the sound-byte-driven media that superficial opinions are preferred to in-depth analyses.

### **Record Overload**

The media often seem to thrive on superlatives, and we, their audience, are confused as to whether the price increases we have recently seen in the stock market are all that unusual. Data that suggest that we are setting some new record (or are at least close to doing so) are regularly stressed in the media, and if reporters look at the data in enough different ways, they will often find something that is close to setting a record on any given day. In covering the stock market, many writers like to mention "near-record oneday price changes"-measured in points on the Dow rather than percentage terms, so that records are much more likely. There may be some increased enlightenment about reporting points on the Dow in recent years, after so many records have been set, but the practice still persists among media accounts.

This record overload-the impression that new and significant records are constantly being set-only adds to the confusion people have about the economy. It makes it hard for people to recognize when something new and truly significant really is happening. Record overload, with its deluge of different indicators, also encourages an avoidance of individual assessment of quantitative data in favor of seeing the data interpreted for us by expert sources.

### **Markets and Crises**

Many people seem to think that it is the reporting of specific news events, the serious content of news, that affects financial markets. But research offers far less support for this view than one would imagine.

Victor Niederhoffer, while an assistant professor at Berkeley in 1971 (before he became a legendary hedge fund manager), published an article that sought to establish whether days with big news stories corresponded to days that saw big stock-price movements. He tabulated all very large headlines in The New York Times (large type size being taken as a crude indicator of relative importance) from 1950 to 1966; there were 432 such headlines. Did these days correspond to big movements in stock prices? As the standard of comparison Niederhoffer noted that the S&P Composite Index over this period showed substantial one-day increases (of more than 0.78 percent) on only 10 percent of the trading days, and substantial oneday decreases (of more than 0.71 percent) on only another 10 percent of the trading days. Of the 432 "big news days," 78 (18 percent) showed big price increases, and 56 (13 percent) showed big decreases. Thus big news days were only slightly more likely to show large price movements than other days.

Niederhoffer claimed that, on reading the stories under these headlines, many of the news events reported did not seem likely to have much impact on the fundamental value represented by the stock market. Perhaps what the media thought was big national news was not what was really important to the stock market. He speculated that news events that represented national crises were more likely to influence the stock market.

Defining a national crisis as a time when five or more large headlines occurred within a seven-day period, Niederhoffer found 11 crises in the sample interval. Among these were the beginning of the Korean war in 1950, the capture of Seoul by the communists in 1951, the Democratic National Convention of 1952, Russian troops' threatening of Hungary and Poland in 1956, the entry of US marines into Lebanon in 1958, Russian premier Nikita Khrushchev's appearance at the United Nations in

1959, the Cuban arms blockade in 1962, and President John F Kennedy's assassination in 1963. During these so-called crises, 42 percent of the daily price changes were "big" changes, as compared with 20 percent for other, "normal" time periods. Thus the crisis periods were somewhat, but not dramatically, more likely to be accompanied by big stock-price changes.

Importantly, however, there were only 11 such weeks of "crisis" in the 16 years of Niederhoffer's sample. Very few of the aggregate price movements in the stock market show any meaningful association with headlines.

### **Tag-Along News**

News stories occurring on days of big price swings that are cited as the causes of the changes often cannot plausibly account for the changes-or at least not for their full magnitude. On October 13, 1989, there was a stock market crash that was clearly identified by the media as a reaction to a news story. A leveraged buyout deal for UAL, the parent company of United Airlines, had fallen through. The crash, which resulted in a 6.91 percent drop in the Dow for the day, had begun just minutes after this announcement, and so it at first seemed highly likely that it was the cause of the crash.

The first problem with this interpretation is that UAL is just one firm, accounting for but a fraction of one percent of the stock market's total value. Why should the collapse of the UAL buyout have such an impact on the entire market? One interpretation at the time was that the deal's failure was viewed by the market as a watershed event, portending that many other similar pending buyouts would also fail. But no concrete arguments were given why this was really a watershed event; rather, calling it so seemed to have been nothing more than an effort to make sense of the market move in response to the news.

To discover the reasons for the October 13, 1989 crash, survey researcher William Feltus and I carried out a telephone survey of 101 market professionals on the Monday and Tuesday following the crash. We asked, "Did you hear about the UAL news before you heard about the market drop on Friday afternoon, or did you hear about the UAL news later as an explanation for the drop in the stock market?" Only 36 percent said they had heard about the news before the crash; 53 percent said they had heard about it afterwards as an explanation for the drop; the rest were unsure when they had heard about it. Thus it appears that the news story may have tagged along after the crash, rather than directly caused it, and therefore it was not as prominent as the media accounts suggested.

We also asked the market professionals to interpret the news story. We queried, "Which of the following two statements better represents the view you held last Friday?"

"1. The UAL news of Friday afternoon will reduce future takeovers, and so the UAL news is a sensible reason for the sudden drop in stock prices."

"2. The UAL news of Friday afternoon should be viewed as a focal point or attention grabber, which prompted investors to express their doubts about the market."

Of the respondents, 30 percent chose statement 1 and 50 percent chose statement 2; the rest were unsure. Thus they were mostly reacting to the news as an interpretation of the behavior of investors. It may be correct to say that the news event was fundamental to this stock market crash, in that it represented a "story" that enhanced the feedback from stock price drops to further stock price drops, thereby preserving the feedback effect for a longer period than would otherwise have been the case. Yet it was unlikely to have been the cause of the crash.

## Slow News Days

We can also look at days of unusually large price movements and ask if there were exceptionally important items of news on those days. Following up on Niederhoffer's work, in 1989 David Cutler, James Poterba, and Lawrence Summers compiled a list of the 50 largest stock market movements in the United States since World War II, and for each tabulated the explanations offered in the news media. Most of the so-called explanations do not correspond to any unusual news, and some of them could not possibly be considered serious news. For example, the reasons given for large price movements included such relatively innocuous statements as "Eisenhower urges confidence in the economy," "Further reaction to Truman victory over Dewey," and "Replacement buying after earlier fall."

Some would argue that perhaps we should not expect to see prominent news on days of big price changes, even if markets are working perfectly. Price changes in a so-called efficient market occur, so the argument goes, as soon as the information becomes public; they do not wait until the information is reported in the media. Thus it is not surprising, according to this line of reasoning, that we often do not find new information in the newspaper on the day of a price change: earlier information, appearing to the casual observer as tangential or irrelevant, has already been interpreted by perceptive investors as significant to the fundamentals that should determine share prices.

Another argument advanced to explain why days of unusually large stock price movements have often not been found to coincide with important news is that a confluence of factors may cause a significant market change, even if the individual factors themselves are not particularly newsworthy. For example, suppose certain investors are informally using a particular statistical model that forecasts fundamental value using a number of economic indicators. If all or most of these particular indicators all point the same way on a given day, even if no single one of them is of any substantive importance by itself, their combined effect will be noteworthy.

But both of these interpretations of the fact that news and market movements are only tenuously related are based on the assumption that the public is paying continuous attention to the news. By these interpretations, the public is supposed to be reacting sensitively to the slightest clues about market fundamentals or is continuously adding up all the pieces of evidence. But that is not the way public attention works; attention is much more quixotic and capricious. The news functions more often as an initiator of a chain of events that fundamentally changes the public's thinking about the market.

## Attention Cascades

The role of news events in affecting the market seems often to be delayed. Attention may be paid to facts that are already well known. The facts may have been ignored or judged inconsequential in the past but attain newfound prominence after some news event. These sequences of attention may be called cascades, as one attention-getting event leads to more.

On January 17, 1995, for example, an earthquake measuring 7.2 on the Richter scale struck Kobe, Japan; it was the worst earthquake to hit urban Japan since 1923. The reaction of the stock markets of the world to this event provides an interesting case study since in this case we know that the precipitating event, the earthquake, was truly exogenous and not itself generated by human activity, business conditions, the subtle hints of economic change, or the result of a confluence of unusual values of conventional economic indicators.

The earthquake took 6,425 lives. According to estimates by the Center for Industrial Renovation of Kansai, the total damage caused by the earthquake was about US\$ 100 billion. The reaction in financial

markets was strong, but delayed. The Tokyo stock market fell only slightly that day, and prices of construction-related companies generally rose, reflecting the expected increased demand for their products and services. Analysts reported at that time that the probable effects of the earthquake on corporate value were as yet ambiguous, since the wave of rebuilding after the quake might stimulate the Japanese economy.

The biggest reaction to the earthquake did not come until a week later. On January 23, the Japanese Nikkei share index fell 5.6 percent on no apparent news except the gradual unfolding of numerous news accounts of earthquake damage. Over the ten days following the earthquake, the Nikkei lost over eight percent of its value. If viewed as the direct result of the earthquake damage alone, the loss of value would be an overreaction.

What was going on in investors' minds over the ten days following the earthquake? Of course, there is no rigorous way to find out. We know only that over this period the Kobe earthquake dominated the news, created new and different images of Japan, and may have led to very different impressions about the Japanese economy. Moreover, the quake sparked discussions about the risk of an earthquake centered in Tokyo. Despite the fact that geological evidence suggesting that Tokyo is at risk for a major earthquake was already known, greater attention was now focused on this potential problem.

Even more puzzling than the direct effect of the Kobe earthquake on the domestic Japanese market was its effect on foreign stock markets. On the day that the Nikkei fell 5.6 percent, the FT-SE 100 index in London fell 1.4 percent, the CAC-40 in Paris fell 2.2 percent, and the DAX in Germany fell 1.4 percent. The Brazilian and Argentine stock markets each fell about three percent. But these diverse countries suffered no earthquake damage on this occasion.

The best interpretation of the effects of the Kobe earthquake on the stock markets of the world is that news coverage of the earthquake, and of the accompanying stock market declines, engaged the attention of investors, prompting a cascade of changes that brought to the fore some more pessimistic factors.

Another market reaction to news illustrates how media attention may, through a sequence of events, foster a belief that some news that would normally be considered nonsense and irrelevant by nearly all investors may eventually be taken seriously. A sequence of news stories about Joseph Granville, a flamboyant market forecaster, appears to have caused a couple of major market moves. The only substantive content of these media stories was that Granville was telling his clients to buy or sell, and that Granville himself was influential.

Granville's behavior easily attracted public attention. His investment seminars were bizarre extravaganzas, sometimes featuring a trained chimpanzee who could play Granville's theme song, "The Bagholder's Blues," on a piano. He once showed up at an investment seminar dressed as Moses, wearing a crown and carrying tablets. Granville made extravagant claims about his forecasting ability. He said he could predict earthquakes and once claimed to have predicted six of the past seven major world quakes. He was quoted by Time magazine as saying, "I don't think that I will ever make a serious mistake in the stock market for the rest of my life," and he predicted that he would win the Nobel Prize in economics.

The first Granville episode took place on April 22, 1980. With the news that he had changed his recommendation (from short to long), the Dow rose 30.72 points, or 4.05 percent. This was the biggest increase in the Dow since November 1, 1978, a year and a half earlier. The second episode occurred on January 6, 1981, after Granville's investor service changed from a long recommendation to a short recommendation. The Dow took its biggest dive since October 9, 1979, over a year earlier. There was no other news on either of these occasions that might appear responsible for the market change, and on the

second occasion both The Wall Street Journal and Barrons squarely attributed the drop to Granville's recommendation.

Can we be sure that media reporting of Granville and his supposed powers of prognostication caused these changes? Many people wondered if the Granville effect was not just a coincidence that the news media exaggerated. We can be sure that a sequence of news stories about Granville's pronouncements had a cumulative effect on national attention, and that public reactions to his pronouncements and to market declines at the time of his announcements were fundamentally altered by this cascade.

As the main source of public information about the stock market's performance, the media will continue to have a tangible impact on the playing out of significant market events. On a day-to-day basis, a large part of the media's coverage is snake oil. Then, the price level is firmly in the hands of investors with better sources of information. But in media-defined watershed periods, many people look to the media as their advisor of last resort. Market analysts should not underestimate the media's power to shape public attention.

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