TITLE: Media, investors and bubbles

Summary

We analysed the specific case of how information in the financial press influences economic bubbles. We found considerable flaws in the information market due to several factors: demand, the predominance of what are termed “irrational investors” (herding), and supply, which has the problem that the sources of information are biased and feeds.

A financial bubble is a deviation between real value of a financial asset and its persistent market price in time, which also has a speculative origin fed back by the illusion of the owners of these financial values, who will take benefits because of the future prices, which must be higher than the previous ones.

The economical information in the media is submitting three problems. First of all, it is information generated by companies. In second place, the information circuit is fed back. A problem of informative independence becomes created, particularly serious in the case of the banks, which are very were as creditors. And in a third place, some informative biases are manifested for the companies of regulated sectors which are starring the economical information in the media.

KEY WORDS: Bubbles, Media Biais, Investment, Irrational investors, Herding, Businesses and Financial Press

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Media, investors and bubbles

1. An interdisciplinary problem

The influence of financial information in the media has been analysed by different disciplines, such as communication, sociology, economics and politics.

As economic bubbles are imbalances in the market, the basic approaches to them can be divided into those who consider that the market functions well and bubbles are just temporary imbalances, and those who believe that these imbalances are structural and highlight weaknesses in the way markets operate. In the analysis of bubbles, Markus Brunnermeier is the most notable economist who accepts the hypothesis of rationality and efficient markets. He is notable for his attempt to construct a complete theoretical model on the occurrence of bubbles. According to Brunnermeier, stock brokers are fully aware that certain situations are characteristic of a bubble with a predictable conclusion, but opinion varies as to when the bubble will burst. Therefore, for Brunnermeier, the theoretical problem is to determine the optimum behaviour of agents in this environment.

The cause of bubbles is not addressed in Brunnermeier's model, but at least he accepts that they exist. Likewise, he does not consider the possible influence of the financial press on economic bubbles.

The hypothesis of the rationality of stock market agents in Brunnermeier's model implies that the market is predictable. This issue has been the subject of debate and controversy in recent years, with the emergence of "behavioural economics" that rejects the hypothesis of rational agents in financial markets.

One of the notable exponents of this approach is Andrei Shleifer, who constructed a complete alternative model on the occurrence of bubbles. In general, this approach has focused closely on the factors that influence general opinion forming. Andrei Shleifer himself and Sendhil Mullainathan (2004) theorized on the influence of the press in general, rather than the financial press, and considered it as a news market.

Brad Barber and Odean Terrance[1] directly found relationships between the influence of the press and investors. They considered that investors make decisions on the shares of companies that are familiar to them. This familiarity is closely linked to the press.

An analysis by Paul R. Milgrom (1981) also helps us to understand the effects of press influence on investment decisions. He assessed the impact of good and bad news on share prices, from the perspective of information economics.

[1] See Barber and Odean (2007). These authors have published previous papers on this subject.

Milgrom took a variable that represented ‘quality’ or ‘intrinsic value’ in a rational expectations or adverse selection model and formulated the relationships of more or less favourable for two pieces of news (signals).

According to P. Milgrom, one application of his basic model deals directly with the impact of news on a company’s stock market value. He states that favourable news about profit expectations leads to a rise in share price.

Another application that Milgrom describes is the ‘games of persuasion’ in which, for example, a regulated company tries to influence the regulator by selectively providing information that is relevant to a decision. In one version of the model, at equilibrium, the company provides the most favourable information and withholds the least favourable. If the communication between the parties is without costs and the regulator detects that information is being withheld, then he/she will adopt a strategy of extreme scepticism. Thus, he/she will assume that the company is withholding the most unfavourable information. The company’s expected response will be to adopt a strategy of full disclosure.

In subsequent papers, Milgrom (2008) returns to the subject of persuasion with a study that contains less mathematical formulae. He describes a more complex reality and revises the applications that refer to “games of persuasion”. Good news on the stock market could focus, for example, on the development of new technology for a company. The issue that is discussed is how the “game of persuasion” develops in terms of information between the company manager and the potential investor.

Of course, it is not always possible to transmit information. An investor may not have the ability to assess and analyse in depth the information that is provided. In this case, reputation comes into play. Accounting companies, auditors, investment banks, professional offices, etc. depend on their reputation, as this is the signal that serves for their evaluation.

Another consideration is that the value of a piece of information may emerge once the event has passed. For example, a strike is an eventuality, but if one occurs we could consider that not enough information was provided about the problem. Therefore, companies have to assess which information they release.

We should also consider that competition within sectors affects information. For example, a monopoly is in a position to provide only the information that it wants to release.

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Companies’ communication activities can be explained in terms of a communication strategy. In relation to information, companies have traditionally feared the competition and the tax office above all, and they aim to build a reputation in the eyes of their stakeholders.

Reputation can be defined as the stakeholders’ evaluation of an organization. Thus, the reason for a reputation should be sought in the stakeholders’ experiences of a company’s daily operations, its brand, marketing and public image. This information may come from the media or through word of mouth.

The stakeholder theory states that corporations must act for the benefit of all “interested parties” – not just the shareholders. A company’s stakeholders or interest groups include any individual or group who could influence or is influenced by company practices. Stakeholders could be suppliers, consumers, employees, shareholders, financial institutions, the government and the media.

As David L. Deephouse (2000) and other authors[2] have stated, reputation can give a company a competitive advantage. For example, it can help to acquire more clients, improve bank interests, increase share price, etc. Companies increasingly try to manage this intangible asset through corporate communications departments.

This conclusion is confirmed in various papers on business communication strategy. One important study is that by David Deephouse in which he presents a company’s reputation as a strategy that incorporates mass communication theory and business administration.

Deephouse considers that reputation is one way to achieve a competitive strategy. His study focused on commercial banks, in which he found that reputation had a positive influence on performance.

David Deephouse takes as a starting point communication research on aspects such as audiences, media organizations and the resulting effects on audiences. In this field, it has been shown that the media gather public information on companies and influence public opinion of these corporations. The media not only act as vehicles for transmitting information, but also as active agents of information and opinion forming.

Many journalists have questioned this conclusion, but the codes of ethics have been drawn up with this potential influence in mind.

The assumption that the media influence knowledge and opinion applies to reputation, as media coverage is a reasonable indicator of knowledge and opinion about companies in a specific period.

The information that appears in the media comes from various sources, but above all from the company itself, in a theoretical framework defined by asymmetric information. In general, reputation facilitates the creation of value, as it is a positive sign for clients, shareholders, employees, workers, suppliers and researchers, among others. The strategic benefits are as follows: firstly, the possibility of reducing costs (loans, suppliers, etc.); secondly, the opportunity to establish higher prices; and, finally, the option of creating competitive barriers. In short, the aim of the communication strategy is to improve the business performance.

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[2] Helm, Macmillan, Srivastava, Crosby, McInish, Wood and Capraro (2000)

R. Vergin and M. Qoronfleh (1998) analysed the relationship between business returns and reputation according to data in Fortune magazine. They found a positive relationship between the reputation index and performance on the stock market. Over fourteen years, they examined the companies in the first ten places of the Fortune ranking. They found that the year after a company appeared in the ranking, its stock market value rose by as much as 20.1 per cent. The average increase on the S&P stock market index was 13.1 per cent. Of course, this increase in value means that shares are more expensive. Investors who buy expensive shares could find that the returns on each dividend decrease due to the company results.

In the same line, Thomas Schuster (2003) verified the positive effect that information in the financial press can have on quotations. This can lead to an increase in share price and a reduction in returns. He also indicated that pressure on prices comes from new and inexperienced investors.

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In particular, communication with shareholders is a specialized task that is carried out by Investor Relations. Investor Relations (IR)[3] is a term that describes the office or department in a company that deals with shareholders. The tasks of IR include aspects of communication as well as finance, law and commerce.

This specialization was first introduced in the USA in the 1960s. It became widespread from the 1970s to the 1990s as a result of the growth in institutional funds, which are the main aim of communication in IR. The traditional role of IR professionals is to ensure that the prices of a company's shares are seen in a favourable light.

IR departments also devote much of their work to the media, as the perception of a company is due, to a great extent, to its image in the financial press.

Aeron Davis (2006) observed and analysed the relations between the IR and investors, from a sociological perspective of the media. To attain this objective, he examined the changing influence of London Stock Exchange news reported by the media. He also interviewed over one hundred people in the three subgroups of people who are most affected by this subject: company managers in charge of investor relations (IR), financial journalists and professional investors.

The journalists who were interviewed have quite limited access to companies' chief executives and financial directors. In fact, companies present reports to financial analysts and fund managers before they release them to the media. Some companies prefer individual contact with the press to public presentations. In any case, companies follow financial information closely.

The media are also in contact with financial analysts and fund managers. The interviewees recognised that the media are very important for guarding a company's reputation. Although the key factor for investment decisions is considered the opinion of senior managers, a company's media image reflects general expectations and can sometimes help to trigger a decision.

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[3] See Inoue, 2009

The most important communication task is considered the management of bad news at times of crisis; as such news can have a very negative impact on a company.

Companies, particularly large ones, are believed to have a considerable capacity to affect the financial press. It can be very difficult for small companies to gain coverage in the financial media.

There is extensive news coverage in situations of crisis, so that companies have to try to be treated positively by regional media.

In financial information, journalists clearly consider that the largest companies and/or those with the greatest investment potential are the most “noticeable” to their readers.

The excessive influence of business sources in the news is often criticised: “*The national financial press are written for the city by the city*”. This is attributed to the dependence of the press on advertising.

The fund managers who were interviewed believed that the financial press had only a limited influence on investment decisions. In comparison to journalists, fund managers have more access to chief executives. They are also in a better position to analyse companies. One of the difficulties faced by journalists is insufficient financial training to analyse companies.

The press continues to have an important influence, as it is the only source of information for many small shareholders. The media coverage of small and medium sized companies also has a considerable impact, as analysts may have little information about such enterprises.

In accordance with Davis, the overall importance of the financial media has decreased in terms of its impact on quotations and its influence on investment decisions. Nevertheless, financial media continue to be treated with caution by companies and are closely followed by the investment community as they can occasionally have a considerable impact on investment patterns.

Analysts are frequently associated with financial institutions. Consequently, their analysis may be affected by their institution’s interests in the companies under examination.

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Robert Shiller (2000) is the economist who has addressed the relationship between economic bubbles and the financial press in the most direct, global way. Shiller analysed the impact of the financial media on the stock markets in various stages and in different countries. He interviewed investors and concluded that the financial media did not generally have an influence on the immediate decision of investors, in the sense that no rule could be deduced.

Nevertheless, Shiller considered that the media participate actively in the formation of public opinion and in different categories of thought. In addition, the media create the environment in which market events take place.

He illustrated with examples the fact that the media, who have to provide topics of interest to the public, are essential propagators of speculative movements in share prices. Shiller considers that the concept of feedback that occurs in speculative bubbles is fundamental, and that the media play an essential role in this area.

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The analysis of the relationship between journalism and power has also looked at the influence of the press on society, which has a particular effect on investors. The work of Noam Chomsky is particularly notable in this area. In conjunction with Edward Herman, Chomsky developed the Propaganda Model (PM)[4] for international information, which has been applied in the field of finance[5].

The basic proposition of PM is that news systematically favours the state elite and corporate interests through the action of five structural filters: ownership, advertising, the dependence of information sources, the threat of lawsuits and ideological conformity (anti-communism, anti-terrorism, etc.).

In Herman and Chomsky's model (1988), the media are considered a structural component of a nexus with the power elite, as they share an interest in perpetuating the social conditions that are most favourable to the accumulation of capital, regardless of whether this objective is compatible with social justice or the democratic process.

According to Thomson (2009), when this model is applied to the field of financial information, the following aspects need to be considered and resolved:

1. The complexity of the alliance between the media and the state elite.
2. A consideration of how filtering occurs, as there are many real-time events on the stock market.
3. The relationships between journalists and information sources for events that, due to their nature, can only be understood by experts. One example is the value of derivatives.
4. The media are designed for different audiences. For example, the specialized financial press is not accessible to the general public.
5. Global financial markets and modern communication systems.

In terms of the relationship between the media and the elite, we should stress that the main international news groups continue to be family businesses. Hence, their individual interests are necessarily limited. Furthermore, if the vector "shareholder" is extended to include financial bakers, the potential influence of financial groups could be considerable.

[4] Year 1988.
[5] See Thomson (2009).

The problems described in points 2 and 3 are outside the scope of this paper, as here we focus only on what happens to the value of company shares on the stock market. In relation to information such as that on events in the derivatives market, the media, in reporting these events, are considered to play an ideological role. They reinforce the prevalent discourses that legitimize the models of financial policy, regulation, new investment technologies, financial instruments and specific commercial practices.

Price movements tend to be reported in the media as external events that are attributable to the "markets", as if they were an impersonal force of nature. The media naturalize the values as facts from a supposed objective market, whilst the processes that sustain the prices become opaque and mysterious. Once this cycle has begun, the media "noise" may create opportunities for speculation, as noise and rumours can move prices. As Thomson states (2009, p. 86), the impact of financial information is not a function of its accuracy or reliability, but a question of whether investors consider it to be relevant to their trading decisions.

As we have seen in Davis, analysts can also be affected. Therefore, the system of filters described in the PM model exists, at least partially.

In terms of financial information satisfying the interests of the elite, the filters vary depending on whether they deal with the state, the industrial sectors or the financial sector. For example, in the 2008 crisis, the financial press did not criticize the financial sector or the capitalist system (Thompson 2009).

The financial media play a potentially important role in the creation of a climate of investor expectations, perceptions and market sentiment. However, according to Thompson, the recognition of these processes complicates the conception of representation and filtering that is implicit in the PM.

Therefore, despite its importance as an analytical tool, the PM model does not fully represent the complexity of the way economic information functions.

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Surprisingly, at the other end of the ideological spectrum to Chomsky, the most neoliberal economists have also turned to politics. Alexander Dyck and Luigi Zingales (2002) (2003) are proof of this fact. They considered that the incentive system is insufficient to ensure that the media report adequately on corporate governance. On the basis of this concept, Dyck, Zingales and Moss (2008) identified asymmetric information as the source of the problem, and focussed on muckraking[6] and politics. Voter theory and, in general, public finance theory and public choice theory provide good analytical tools for problems of collective choice. They may also be applicable to considerations of the media as a sector in which, as in politics, collective consumption occurs. The media can contribute to reducing the problem of regulatory capture by companies in regulated sectors. However, it is not clear whether news corporations can in turn become captives of the interests in regulated sectors.

[6] Journalistic research to expose bad practice in public life.

Gentzkow and Shapiro (2006) carried out an economic analysis of media bias caused by reputation. Their study also had a marked focus on politics. They concluded that competition between news corporations can reduce bias. However, if we consider all of the stakeholders involved in news corporations, we can see that the sector is so complex that the economic analysis of these authors is not always evident.

At the other end of the ideological spectrum, political and sociological trends oversimplify the issue.

2. Results of the analysis

On the basis of papers by authors such as R. Shiller, A. Davis and Perramon (2009 and 2011, a, b, c), we have presented arguments and evidence that the financial press does influence economic bubbles. We have demonstrated that this influence is such that it drives both stock market investors' demand for information and the supply of financial information.

The fact that certain markets are characterized by asymmetric information affects the news that is offered. In contrast, when we review the hypothesis of the rationality of financial agents, considerations emerge that affect the demand for information in particular.

Information is needed to evaluate companies by estimating their future returns. Nevertheless, this brings us up against an uncertainty problem that frequently cannot be resolved, as estimations depend not only on the most likely forecasts, which may be made on the basis of very weak knowledge of future factors, but also on the confidence with which they were made.[7] In these circumstances, the problem is not that the investor does not want or have to be rational, it is that rationality simply cannot be attained[8].
However, the unsolvable problem of uncertainty can be approached in various ways. The correct way is by devoting time and effort to gain knowledge of the investment under analysis. Investors such as Warren Buffet follow this path[9]. The incorrect way is to use the shortcut of intuition. This attitude to uncertainty could be called "irrational" or herding[10].

One of the most trustworthy sources that the "irrational" investor uses is the state of public opinion¸ which is where the influence of the financial information published by the press becomes clear[11].

The main source of information on a listed company is the company itself. Increasingly, firms rely on specialized departments to communicate with shareholders and with the financial press in particular. Companies report to investment funds, which tend to be

[7] Perramon (2012)
[8] Perramon (2012) has formally defined the uncertainty problem faced by investors.
[9] Ibid
[10] Ibid
[11] Ibid

their main shareholders, to financial analysts, and to the financial press. Some regulating organizations determine criteria for the information provided by companies[12].

The financial press directly influences small shareholders. However, major shareholders or investment funds are also interested in finding out whether the state of public opinion is favourable, as a company's media image reflects general expectations and can also sometimes help to trigger a decision.

Information on the economic and financial development of a company is only one part of the policy and strategy of business communication. Companies have to respond to the concerns of the stakeholders or interest groups (suppliers, consumers, employees, shareholders, financial institutions, government and the media), not just those of the shareholders.

Companies' efforts to communicate with their stakeholders can take many forms, depending on the sector. Some companies focus more on their image for the client, others for the government, the media, etc. In fact, reputation is linked to the problem of asymmetric information that is a characteristic of certain markets. In general, a company's reputation cannot be separated from specifically economic or financial aspects.

Regulated sectors are a particularly relevant case in terms of financial information. In these sectors, a company's economic development also depends on its ability to capture regulatory agencies. Regulatory capture is based precisely on the maintenance of asymmetric information between the regulator, the regulated company and the consumer.

As expected, to achieve their objectives such companies are active in lobbying in general, and particularly in providing information to the financial press. The reasons for this greater level of communication activity can be supported by statistical tests, including an analysis of the predominance in the general and financial press of the IBEX 35 and Dow Jones companies[13], and an analysis of the financial newspaper with the biggest circulation.

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In general, the financial press is biased towards information about the major companies that take up most of the financial news. However, the financial press has the greatest direct influence on investors and/or financial analysts when it reports on small companies for which little information is available.

Another problem is journalists' inevitable lack of independence with respect to information sources, which ends up creating a feedback loop. Journalists obtain most of their information from analysts' reports, from corporate communication departments and from investment funds. In turn, analysts obtain their professional information from the financial media and institutional sources. Furthermore, analysts are probably not

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[12] In Spain, this is called the National Securities Market Commission (*Comissió Nacional del Mercat de Valors*, CNMV).

independent, as the entities to which they belong may have interests in the company under analysis. This is particularly likely if the entity is a bank.
In the aforementioned system, there is an information feedback loop in which the market perception converges and can move the market, with no regard for quotations that are based on fundamental values. This contributes to bubbles and crashes[14].

R. Shiller[15] agrees that, above all, the press and the financial media influence the formation of public opinions. Thus, they contribute to creating the environment in which market events take place. Shiller also noted the key role of the feedback that occurs in speculative bubbles. He states that, as a result of having to offer topics that are of interest to the public, the media are key propagators of speculative share price movements.

A consideration of sector biases supports these hypotheses, as the need for the media to provide interesting topics is fed by the continuous supply of information from these sectors.

The Spanish financial and property bubble and subsequent crisis in 2008 is a clear example of some sectors' control of the information supply. In this bubble, the sensible, clear-sighted opinion of certain institutions and experts was silenced by the media noise, which was fed by the sectors that were benefitting from this speculative process.

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