

# Have the Media Made the Greek Crisis Worse? An Inquiry into the Credit Crisis of the State

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## Abstract

Developments over the course of 2009 and early 2010 have demonstrated that industrialized nations are not immune to credit crises that can threaten their solvency. Dislocations in sovereign credit markets could have triggered a default of countries like Greece, Spain, Italy or Portugal if it had not been for the action by other eurozone members. While it seems obvious that high leverage (that is, the degree to which states rely on credit<sup>2</sup>) to fund their activities has been at the root of the problems, the Greek case suggests that fundamentals alone cannot explain the timing and the dynamic of recent developments. To understand what caused the evaporation of trust vis-à-vis Greek sovereign debt titles, one has to analyze what determined the perception of bond investors. The paper argues that the media contributed to the downward spiral in the level of confidence by investors through its intensified and overly value-laden coverage of the Greek case. To explain what fosters media bias and how it translates into bond markets dynamics the paper looks at institutional features of the media business and the functional relationship between media organizations and financial markets. The role of the media has been subject to much scholarly scrutiny, but has thus far not been in the realm of sovereign credit. This paper aims to fill this gap and, by doing so, tries to shed light on the recent credit crisis of the state.

## 1. Introduction

During the global financial crisis that began after the collapse of Lehman Brothers Holdings Inc. in September 2008 and the economic recession that followed, fiscal positions deteriorated sharply. As a result of cyclical effects and large rescue packages aimed at supporting the banking systems and at stimulating the economies, budget deficits and government debt-to-GDP ratios in most countries in Europe and in the United States

soared<sup>3</sup>, raising questions about the sustainability of public finances. The financial crisis has, thus, turned into a credit crisis of the state as several sovereigns have been hit by a loss of confidence of investors. From a purely economic perspective, this loss of trust should be a direct function of fundamental factors, in particular those concerning the financial strength of a debtor, such as actual and forecast public debt ratios, public deficit estimates, projected growth rates, and unemployment data. This being said, the case of Greece is somewhat striking and raises questions about other, non-fundamental reasons behind the perception of credit risk. By looking at Greece's situation over time and in comparison to other countries, it appears as if fundamental indicators do not tell the whole story.

In a notification to the EU Commission on 21 October 2009, the newly-elected Greek government announced a revision of the public deficit ratio for 2008 from 5 percent to 7.7 percent of GDP. At the same time they projected that the deficit for the year 2009 would reach 12.5 instead of 3.7 percent of GDP – the number that had been forecast in spring 2009. The graph below shows that despite the massive revisions of Greece's fundamentals the reaction of bond investors in the immediate period following the announcement was rather subdued. The assessment of Greece's capacity and willingness to repay its debt did not change. The risk premium for Greek debt (measured as the yield spread asked by investors to buy a Greek bond instead of a German bond) stayed flat. This is striking because according to economic theory of market efficiency, new information should be priced in shortly after disclosure. Given the bad nature of the announcement, one would expect the curve to rise reflecting a higher perception of credit risk. However, this was not the case. This leaves room for two possible explanations. Either, the dire state of Greece's public finance was anticipated by investors all along and was already factored in. Or, the news was unexpected but did not alter the perception of risk by bond investors.

See appendix, graph 1

Investors' perception of risk associated with Greek sovereign bonds changed only with a time lag of several weeks and even then only gradually. After 12 November 2009, the risk premium for Greek bonds started to rise as investors began to view the credit risk associated with Greek debt higher than the credit risk of other eurozone countries also facing severe fiscal problems. In December and January 2010, the Greek yield spread continued its steady upward movement. The creeping loss of trust mirrored in the higher yield spread on secondary markets translated into rising funding costs for Greece slowly impairing the refinancing capacity of the sovereign. The perception of credit risk vis-à-vis Greece degraded sharply in the second quarter of 2010. Over the course of April and May 2010 risk premiums for Greek debt exploded to just below 1000 basis points despite the announcement of a rescue package for Greece by the IMF and EU member states and the successful issuance of several billions of money market paper. Only the announcement of the creation of a European Financial Stability Facility amounting to €750 billion could calm down investors fears.

The dynamic of the Greek credit crisis that manifests itself in the development of the yield spread brings up a number of questions. If the parlous state of Greece's finances and the country's weak accounting practices had been a well-known problem ever since the country joined the eurozone, why did the perception of credit risk remain so low over all these years and changed dramatically only over recent quarters?<sup>4</sup> Why did investors start to assess the credit risk associated with a Greek bond increasingly higher than the credit risk of other eurozone countries also facing severe fiscal problems?<sup>5</sup> Why did the trust in Greece's creditworthiness evaporate with a time lag of several weeks after the initial announcement in October and even then only gradually, before fading away sharply, even though no equally significant changes to the fiscal and economic fundamentals were reported afterwards? And above all, why did the risk perception evaporate so sharply after the announcements of details regarding Greece's fiscal austerity regime and the support package by EU member states and the IMF?

While a comparison of the fundamental situation may yield some explanation for the cross-country differences the dynamic over time seems somewhat more puzzling. The deterioration of Greece's funding conditions over time occurred against the background several consecu-

tive credit rating downgrades.<sup>6</sup> Although no significant further changes to Greece's fundamental outlook were reported after the October announcement, all three major rating agencies changed their assessment of Greece's creditworthiness more than once between December 2009 and April 2010.<sup>7</sup> On 27 April 2010, Greece was downgraded to below investment-grade by Standard & Poor's, fueling speculation about the country's default. While the rating downgrades may be seen as triggers for a rise in perceived credit risk, remarks by the rating agencies suggest that the series of consecutive changes were themselves driven by developments in the market for government bonds. This leads back to the question: What drove the downward spiral in the level of confidence vis-à-vis Greece that moved the market and almost led to the country's insolvency?

As neither fundamentals nor rating changes can satisfactorily explain the exceptional dynamic of the loss of trust between October 2009 and June 2010, what other drivers can be made accountable? Jones (2010) argues that the Greek crisis was worsened by the hesitant behavior of European heads of states. This paper offers a different explanation. I argue that it was the way media reported about the events that exacerbated the evaporation of trust in the country's creditworthiness and consequently magnified the financial difficulties of Greece. To understand the potential impact of the media one has to recall the very basic principle of credit: The extension of credit in an economic sense is inseparable from the cognitive credit that a borrower enjoys. A sovereign, who issues public debt to finance expenditures by raising money on the capital market, needs investors who trust that he will be capable and willing to repay the debt at the end of maturity. If this trust is fading, investors will ask a higher risk premium making it more expensive for the sovereign to fund its activities. If trust keeps fading further, eventually investors will stop buying the bonds forcing the sovereign into default. That means if a critical mass of investors starts believing that a government's liquidity is impaired this can become a self-fulfilling prophecy.

Given the uncertainty over the capacity and willingness to repay the debt, the assessment is nothing but a personal opinion of each individual investor. Opinions of individuals, however, do not develop *sui generis* in a social vacuum, as Ambirajan (2000: 2144) argues, but are instead shaped by the stated and implied views of others. In financial markets, the opinion of market participants with regards to public debt as well as other

asset classes is formed by the information transmitted through various news channels. Being a powerful external source of opinion, the media can be a driver of sovereign credit crisis, if its content affects the assessment of investors and consequently their investment decisions.

The political relevance of the Greek crisis is indisputable. The credit crisis that started as a financial-market phenomenon has a deep impact on the lives of Greek citizens. As a result of austerity measures implemented by the Greek government to reassure financial markets, large parts of the Greek population are suffering job losses, salary cuts, tax increases and pension reductions. At the same time, if it had not been for the action by EU members and the IMF, the market movements could have triggered a sovereign default of Greece and, as a potential consequence, also defaults of countries like Spain, Ireland or Portugal. Although the focus of this paper is on the role of the media with respect to the building up of credit crises, it also raises questions about the role of the media in the political process with regards to the fiscal policy of eurozone countries.

To understand the role of the media in credit crisis of the state one has to address two different sets of questions: First, how do the media contribute to the evaporation of trust? This turns the focus to potential media bias that may manifest itself in the intensity of media coverage, the selection of sources, and the choice of words, the limiting of the debate, omissions, or the framing of news. The second set of questions refers to the 'why'. Why is media biased? The rest of the paper is divided into four sections. Section 2 provides an overview of the related literature the analysis draws on. Section 3 sets out what fosters media bias by looking at the institutional features of media organizations and the functional relationship between the media and the financial market. The arguments provided here also help to understand the feedback loop between the media and market movements. Section 4 presents empirical evidence on media bias in the Greek credit crisis. In the last section I re-cap the main points and briefly comment on the policy implications.

## 2. Related Literature

The arguments presented in the paper draw on a broad range of literature. Important analytical aspects concerning the media are derived from existing research within

various fields of social sciences, where the power of news organizations is a central issue.

The media has been a central issue of communication scientists for many years. Some studies look at the factors that shape news content. Most studies, however, have been dedicated to establishing a link between news coverage and opinion formation (for an overview see Shoemaker and Reese 1991). One major result of these process-and-effects studies is that media organizations play an important role not only with regards to "what people think" but also with regards to "what people think about" (de Vreese 2001) as the day-to-day selection and display of news by journalists focuses the public's attention and influences its perception (Craig and McCombs 2003). This links to a second finding according to which news coverage tends to be cyclical, peaking during key events but hardly visible before and after (de Vreese 2001). These findings suggest that media coverage may have exacerbated Greece's financial woes by overemphasizing the issue in their reporting that lead to an exaggerated response by investors. If media had turned its focus on other problem countries instead (for example Ireland or Spain), bond investors may have started to question the creditworthiness of these countries (more than they actually did) triggering a similar risk premium dynamic as in the Greek case.

The question of media impact has also been debated by numerous sociologists (for an overview see McQuail 1985). Most authors stress that media organizations are social institutions that exert an influence on the messages they transmit. Media, in their view, is manufacturing a version of reality that may deviate from other possible versions of reality. While some scholars see the vast scale, the anonymity, and the lack of regulation critically, others stress the importance of free expression for educational purposes and for improving democratic participation. Some work sheds light on specific roles that certain media organizations play. Whether a relationship between audience motives and media effect exists, remains a theoretical controversy. The view propagated by the media is likely to reflect the concerns of those who have most power to gain access to media. Following this theory financial news may reflect the views of financial market participants who act as a major source for financial media organizations (see section 3). The relationship between financial markets and public discourses has come under scrutiny by economic sociologists (for an overview see Langenohl 2010). According to authors like

Knorr-Cetina (2007) or Clark, Thrift and Tickel (2004), financial market dynamics are determined by public discourses created by (real-time) communication. Clark, Thrift and Tickel (2004: 291 and 301) observe a "penetration of media into finance" and argue that investors are susceptible to media influence in their decision-making process.

Political scientists have tended to neglect the role of the media. Only in recent years, researchers have turned to study the role of the media for politics (for an overview see Schudson 2002). A general assumption is that the media is an increasingly important and autonomous force in politics. The arguments refer to the patterns of media ownership and the behavior of news institutions, the social organization of networks, and the influence of cultural belief systems, assumptions, and values in news production. Apart from trying to understand and explain media content, many scholars are interested in its effect on policy processes and outcomes. Critics see the media as a crucial factor in the crisis of politics and political leadership. Authors with a somewhat more neutral stance argue that media increasingly shape but do not control politics. This view is supported by research work examining the impact of news content on foreign policy.<sup>8</sup> The role of the media for fiscal policy has, so far, been neglected.

The relationship between financial markets, investors and the media has also been subject to research by economists. Several economists provide evidence that a causal link between media reporting and market movements does exist. Engelberg and Parsons (2009) find that the packaging and transmission by the media rather than the information being reported in the news is associated with significant financial market movements. Tetlock (2007) explores whether financial media news induces, amplifies, or simply reflects investors' sentiments. He finds that media pessimism (measured as the share of negative words in a widely read news column on stock markets) predicts downward pressure in stock markets. His findings suggest that media content can serve as a proxy for investor sentiment and trading activity that is not based on true information. A more recent paper by Tetlock, Saar-Tsechansky and Macskassy (2008) examines the forecasting power of language used in financial news stories for corporate results. Their research shows that investors factor in the information embedded in words with a negative meaning. Mullainathan and Shleifer (2005) offer an explanation for the use of loaded

words in media coverage. They find that media accuracy is limited when people share similar beliefs because news organizations have an incentive to slant<sup>9</sup> the news to match the beliefs of their audience.

The review of the literature reveals that the role of the media has been subject to much academic work. Yet while a number of authors look at the relationship between the media and financial markets, so far, analysis has not been applied to sovereign credit crises. This paper aims to fill this gap and, by doing so, tries to shed light on the driving forces behind the recent sovereign debt market turmoil. Although some parts of the discussion below describe general features of media organizations, the hypothesis and the theoretical arguments presented in this paper relate to financial media only. The term "financial media" refers to media organizations such as news agencies, TV channels and print media (as well as their respective internet pages) with a special focus on broadcasting economic and financial news. It should also be noted that when talking about investors the primary focus is large, institutional investors including insurance companies, pension funds and alternative investment funds (eg hedge funds) as well as banks' fixed income departments since they constitute the bulk of bond market trading.

### 3. Theoretical Arguments

To understand the underlying factors that explain media organizations' supremacy to shape the credit perception of the broader community of institutional investors and to influence their willingness to give credit to sovereigns, one has to look at the institutional features of media organizations and their functional relationship with financial markets. Both, the institutional features and the functional relationship, determine the production of news content and set the stage for a causal link between media reporting and financial market movements.

#### **Institutional features of the media**

Financial media organizations are characterized by four major features: freedom of press, global reach, fast diffusion, and profit-orientation. These features interact with and reinforce one another. At the same time, they determine the dissemination of financial news.

Media organizations enjoy a large degree of freedom with regards to what they report (content) and the modes of presentation. In countries with sophisticated financial markets (such as the United States and member states of the European Union), the freedom of the press and public expression are not only formally guaranteed but in most respects also actually the case. Existing content regulation mainly serves to protect minors, health issues and matters of decency (McQuail 2001). Entrepreneurial deliberations may have some constraining effects as media corporations consider credibility issues and potential legal conflicts. The organizational structure of media organizations suggest however, that commercial interests play the predominant role in the selection of newsworthy events and the presentation hereof.

Media organizations act global with regards to the content and the extent to which this content is distributed. The global reach of the financial media has been enlarged by the integration of financial markets through liberalization and even more so through the invention of new technological advances. Thanks to electronic forms of distribution like the Internet, financial information has become globally available. The global distribution of financial news serves the need of global financial markets, where sovereign bonds from most developed countries are traded internationally and therefore nearly around the clock.

Technological progress, apart from spurring the integration of world economies and financial markets, has also increased the speed of news transmission (Sassen 2005). Financial market news, today, is often real-time: news agencies, Internet news feeds from newspapers and financial TV channels provide information to investors at the trading desks the moment they are made public. The speed by which information is transmitted to financial market participants is a major selling argument by news companies like Reuters or Bloomberg. It allows them to charge a premium for the use of their service. The servicing speed of news providers is a result of both competition among media organizations and the need for speed demanded by investors (Knorr-Cetina 2007). Most financial trading nowadays takes place electronically. Relevant news is priced in in a quick fashion and on an ongoing basis as investors adapt their portfolios to new information. The speed by which market activities take place requires that relevant news is transmitted as fast as possible. Market participants who rely on a slower news provider may incur real losses on their asset portfolios.

Finally, media organizations operate as large-scale, commercial enterprises. As such, above ideological purposes, their main goal is to make profits. With rising demand for profit competition for audiences has become fiercer. The resulting market pressure determines the choice and the presentation of stories as well as the selection of sources of news. Commercial interests drive media organizations to adjust financial news content to the informational need of the investor audience (Pfetsch 2002: 15), who are looking for 'guidance for investment decisions'. To attract a large investor audience media organizations seek to solicit (well-known) financial industry experts to produce (additional) news content for them, for example by writing eye-catching opinions or commentaries or by serving as interview partners. Competition among media organizations dealing with financial news is particularly high given that financial news production is a truly global business.

Given the features discussed above, the financial media possess a unique capacity to reach financial market participants worldwide, freely and quickly. Following the commercial logic, media organizations have not only an incentive to respond to the requirements of financial market audiences but also to dramatize and present issues in a spectacular and sensationalistic way (Benett 2009: 85 and Mazzoleni and Schulz 1999: 257). To understand more thoroughly how financial media coverage may affect the perceptions that investors acquire of reality, it is necessary to take a closer look at how the media and financial markets interact.

### **Media function and financial markets**

Sovereign bond markets, like any other financial market segment, cannot function efficiently without information sharing. Before financial markets developed, states negotiated the terms of a credit with investors directly. The latter usually consisted of a small group of relatively homogenous people. According to historians, investors in sovereign debt commonly received valuable goods as collateral. This created a strong interdependency between both parties. With the creation of financial markets the relationship between states as debtors and investors as creditors has become impersonal. States no longer negotiate directly with potential investors. Instead, the terms of government debt are set on the bond market where investors set the price by buying and selling public bonds.



Against this background, bond investors rely on publicly available information and external assessments of the quality of a sovereign's credit to make a decision whether to extend credit (purchase a bond) or not and to set the price according to the inherent risk. The need for information transparency goes beyond the daily reporting of market activities and related price movements (Knorr-Cetina 2007). Information (in the form of news content) that goes beyond market activities and related price movements consists of third party opinions transmitted by the media.<sup>10</sup> Opinions are provided by financial market experts who themselves are either deeply involved in bond market trading (like fund managers and financial analysts from banks, insurance companies, and investment funds) or benefit by some other means from actively engaging in financial market opinion formation (for example credit ratings companies but also people from academia).

Although publications of most financial market experts are in most cases also disseminated directly, media organizations serve as transmitter of this externally produced information. The importance of financial media organizations for financial markets lies in its function to screen and collect news from a wide range of sources.<sup>11</sup> They filter and select external information deemed relevant for specific market segments. Given the vast amount of information available, the financial media have become an important service provider for investors, who would not be able to collect and filter the information as fast and efficiently as news providers do. In this respect, media communication serves an important function for the efficient functioning of financial markets. Vice versa, financial markets have become essential for media organizations, too. Financial markets provide media organizations with a cheap and constant news flow. At the same time, financial market investors provide a large and sound audience group with a strong demand for information. Media organizations are drawn into a symbiotic relationship with the sources of information by economic necessity and reciprocity of interest (Herman and Chomsky 2002 and Sigal 1987) making media organizations and financial markets "complementary institutions" (Langenohl and Schmidt-Beck 2008: 4345).

By distributing existing external information media organizations react to what has happened. In that sense their role for financial markets is rather indirect. However, media organizations are not simply a messenger. Instead, one can find a more direct role of news organi-

zations for financial markets. Driven by competitive pressures, media companies assume an active part through their selection of details and by creating news themselves for example by publishing special issues based on internal economic analysis or by asking industry experts to give an interview or write a comment.

The importance of experts' opinions in the context of financial markets can be explained by the fact that their statements benefit both investors and media organizations. Experts are cast as representatives of special knowledge (Langenohl and Schmidt-Beck 2008). By looking behind the figures and providing interpretations experts give investors insights into particular market perceptions. This is why comments by financial experts receive a lot of attention by market participants. For media organizations, personalities from the financial market industry embody professional and eloquent figureheads, either as authors or as interview partners, who attract audiences by providing special reports that competitors do not have. In-depth interviews, in which the story is the interview (Sigal 1987: 13), have become a current feature of news-making also in the financial press. In contrast to periodical reports by national and international institutions, expert opinions in addition to other more frequent publications<sup>12</sup> provide news on an ongoing basis. Against this background financial media organizations, being driven by commercial interests, have strong incentives to give market experts a platform to make their views known to financial market participants.<sup>13</sup>

The reliance on market experts, however, can jeopardize the objectiveness of media reporting. For example, financial experts are representatives of the financial institutions they work for. As such, they have an interest not only to optimize their institution's image but also to act in favor of their employer's interests (Langenohl and Schmidt-Beck 2008). It is unlikely, that fund managers publicly propagate a view that differs markedly from their investment positioning. If other market participants take up their perspective that has been disseminated through the media this may in turn yield higher returns for them. The prediction of a default of a country being voiced by prominent experts and diffused through the media may trigger a sell-off of the country's bonds making it impossible for the country to refinance itself. In such a scenario, news, as Sigal (1987: 15) puts it, is not what happens, but what someone says has happened or will happen. The reaction to statements by Josef Acker-

man illustrates the effects the publication of an opinion by a prominent market expert may have. In a special interview broadcasted on television on 13 May 2010, the CEO of Deutsche Bank said that it was unlikely that Greece would repay its debt adding that this could trigger a “meltdown” on sovereign bond markets. The following day, the yield spread of Greece 10-year bonds soared by 40 basis points and continued rising thereafter, partly destroying the positive effect of the €750 billion rescue package announcement. By selecting certain financial experts as a source of content for their daily coverage, media organizations indirectly determine the information that is being disseminated. Asking the economist Nouriel Roubini (‘Mr Doom’) for a comment, one can be sure to receive a rather dark picture of a particular issue.

Apart from the selection of content, the power of media organizations to shape the opinion of market participants arises from the fact that they choose between numerous formats to present a topic and to increase its salience in the news (Craig and McCombs 2003). For example, newspapers and magazines can print a lead story, display an issue as a special report, dedicate lengthy articles on it or use large headlines. TV channels can choose the opening story on the newscast or the length of time devoted to a story. These cues repeated day after day effectively communicate the importance of a topic. Headlining and the use of specific language in their reporting enables them to mobilize interest and outrage.

From what has been said so far, it should have become clear that the transmission of information through the media is crucial for the functioning of financial markets. It reduces complexity and acts as a frame that guides the decision-making process of investors (Arnoldi 2006). As such, media coverage both reactive and proactive can be regarded as setting the agenda: By selecting information deemed as relevant and by presenting it in a specific way, media coverage can set the agenda for bond market activities. Market activities, in turn, may set the policy-agenda by forcing governments to react to market movements, as recent events suggest. Having outlined the institutional and functional forces underlying media reporting, the next section looks at the actual content of media reporting as the Greek credit crisis unfolded.

#### 4. Media operation during the Greek credit crisis

Studies by researchers like Engelberg and Parsons (2009), Tetlock (2007), or Telock, Saar-Tsechansky and Macskassy (2008) have shown that a causal link between media reporting and financial market movements does exist. According to the work of these scholars, determinants can be both quantitative and qualitative. The quantitative approach assumes that the more frequent a given stimulus is, the more potent its impact will be. The qualitative approach is based on the assumption that the use of words that are loaded with affective rather than informative value or the use of certain “labels” (Shoemaker and Reese 1991: 33) may strongly shape peoples’ thoughts. It also contains the idea that the singling out and highlighting of certain elements, referred to as ‘slanting’ by Mullainathan and Shleifer (2005), can manipulate people’s perception. Based on the existing research two hypotheses will be investigated:

*H1: The visibility of Greece’s financial situation increased between October 2009 and July 2010 as reporting became more intense. The intensity of media reporting cannot be fully explained by the occurrence of major news events.<sup>14</sup>*

*H2: The news coverage of the Greek case was characterized by an intense use of value – laden expressions and labels in their headlines that conveyed a negative sentiment.*

Obviously, searching for content patterns, one cannot look at every message distributed on every medium. Using the database LexisNexis for the empirical analysis, the focus is on messages in news agencies, newspapers, magazines and other written media, including web-based publications. The findings presented below therefore relate to these types of media only. For the quantitative analysis, the study focuses on news content in the German, the British, and the American press. The financial markets of these countries represent an important part of the global network of financial markets and are relevant with regards to financial market activities elsewhere. For the qualitative analysis, the focus was narrowed down to a selection of German newspapers, professional magazines and web-based news publications. The German market is of particular interest because German investors hold large parts of Greek debt. As such, the perception of German investors is highly relevant for the Greek bond market.

## Quantitative Findings

Despite the fact that the dire state of Greece's fiscal situation was no secret, Greece did not face much scrutiny by media organizations up until autumn 2009. Between January 2009 and August 2009 the German, UK and US press produced an average number of 99 reports per month.<sup>15</sup> This compares to a monthly average of 71 reports in 2008. Although one can observe a slight increase, the visibility of Greece's financial situation measured as the average number of monthly reports was still relatively low compared to the news coverage since autumn 2009. Between September 2009 and July 2010 media coverage increased significantly. The average number of monthly press reports dealing with public finance and Greece soared to 1.502 that is, fifteen times as high as in the previous time period. Even if one leaves out reports by news agencies, with 909 the number is still much higher.

The comparison of media coverage in the German, UK and US press reveals some interesting cross-national differences. In the sample period German media organizations (excluding news agencies) devoted most attention to the Greek crisis. Their coverage exceeded significantly the coverage by news organizations in the United Kingdom and the United States. Given the importance of German investors for the Greek bond market, this finding supports the notion that German media organizations responded to the demand of the investor base and provided them with increased information concerning Greece.

A closer look at the development of media reporting during the months of the crisis reveals that the dynamic of media reporting (measured as the sum of total press reports by German, UK and US press using 'Greece' and 'public finance' as key words) matches strongly with the dynamic of the loss in trust in Greece's creditworthiness measured by the credit spreads (see graph 3). The faster rise in the risk premium for Greek bonds that started in December 2009 coincided with a much higher reporting frequency. The same applies to the development in the weeks and months that followed this initial ascent of the Greek yield spread. The surge in the risk premium during April and May 2010 was accompanied by a strong jump in news coverage. During the peak period when the risk premium climbed to its highest level (calendar week 18, 19 and 20) the number of reports stood between 1000 and 1400 per calendar week.

See appendix, graph 2

Of course, the frequency of reports by itself provides little proof for an overly intense reporting by media organizations. Instead the number has to be put into perspective to the key events that took place during the respective time period. Graph 4 shows that the number of events increased over time. Against this background, the higher number of reports can be seen as a reaction to the increased frequency of news events. However, the number of events can only partly explain the increased scrutiny by media organizations during the observation period. A comparison of the number of reports and the number of events in the weeks that preceded the steep rise of the risk premium (between calendar week 6 and calendar week 13) suggests that the reporting during these weeks was much more intense than seems justified by the number of salient events. Although the high frequency of reports mentioning Greece's financial situation did not immediately accelerate the loss of trust by bond investors, it is likely that it attracted a growing audience and, thus, may have set the stage for the rapid loss of trust in Greek bonds that followed by gradually impairing the perception of market participants. The revision of the Greek budget deficit in October 2009, in contrast, was not accompanied by increased media scrutiny and investors stayed remarkably calm.

While the number of key events can be regarded as given, media organizations, driven by incentives described above, choose the intensity of their coverage. As indicated, media organizations can create additional news by publishing written comments by and interviews with financial experts or by making headlines with supplementary analysis. The higher ratio of reports to key events between calendar week 6 and calendar week 13 suggests that the editorial approach changed over time. As uncertainty about Greece gained ground on financial markets and the need for information rose, media organizations started producing extra news, sometimes with a considerable time lag to or even without any particular reference event.

See appendix, graph 3

The analysis of media reporting about the Greek credit crisis reveals that in the first phase of the Greek crisis (last quarter 2009) news reports followed rather than preceded events. At first sight, this supports the notion from studies which show that media attention to certain



events or issues is cyclical, peaking during key events but hardly visible before and after (de Vreese 2001). In this sense, the media did not act as an agenda-setter but as an agenda-sender. However, this relationship between events and media reports became somewhat detached during the first half of 2010, as media attention was higher than the number of events would suggest. Against the background of the functional interaction between media as news provider and financial markets one could argue that the media reporting proved rather pro-cyclical in that it reinforced market developments through the feedback loop of its coverage.

### Qualitative Findings

Report intensity is one possible driver for the changed perception of bond investors and resulting market movements, news content is another. Media organizations are able to shape news content through their selection of information and specific highlights provided in their reports and through their presentation in terms of language and placement. The selection depends on the editorial approach and is reflected in the use of different formats. Media organizations assuming a reactive role may choose to present predominantly official information (for example announcements by public authorities or ratings companies) in factual articles. Or, they may provide additional information in the form of special issues, extra analysis or expert opinions either in written form or provided in an interview context, thus, assuming a more proactive role by artificially increasing the range of available information. The use of value-laden words, expressions, or labels can be regarded as another characteristic of the proactive approach.

The analysis of the headlines of a selection of 450 press reports by German (web-based) newspapers and magazines indicates that starting in December 2009 media organizations followed an increasingly proactive approach.<sup>16</sup> As the focus of financial market participants turned to Greece, media organizations reacted to the increased demand for information with the provision of additional news. The number of written opinions and interviews between February 2010 and May 2010 rose not only in absolute terms but also as a share of all the press reports in the sample. Media coverage, thus, increasingly published personal views held by financial experts and market participants who were asked to provide their opinion.

The turn to a more proactive approach becomes evident not only in the choice of additional formats but also in the language used to present the news. In December, the term "Greek crisis" appeared as a leading label in media reports. It was introduced in headlines in different formats such as articles, special features and analysis dealing with Greece's fiscal situation. The term "crisis" defines an abrupt and unexpected situation that creates uncertainty, threatens important goals and calls for change. Although the revision of the Greek budget and debt figures in October 2009 did meet these criteria, media reports not only in Germany but also in the United Kingdom and the United States started using the label "Greek crisis" after the rating downgrade by the rating company Fitch on 8 December 2009. In the months that followed, further labels emerged, among them "Greek drama", "Greek tragedy" and to a lesser extent also "Greek virus". The connotation of these terms is clearly negative or even alarming. By using these labels in headlines and titles news reports purported a notion of doom irrespective of the actual content of the article they referred to.

A closer look at the wording in headlines and introduction texts provides more evidence that media organizations followed a rather proactive approach. Against the operative convention that objective media reporting should guarantee no explicit bias and a minimum of interpretation and values, headlines and introduction texts of press reports in the analyzed sample contained a large amount of value-laden vocabulary or expressions. In nearly half of the press reports, titles were either overly negative or filled with sarcasm and cynicism. Titles like "Time bomb for the euro" (Der Spiegel, 7 December 2009), "Shockwave from Athens" (Die Welt, 16 January 2010), "The next tsunami" (manager magazine, 1 February 2010), "Prayers on the deathbed" (Der Spiegel, 15 March 2010), or "Looming default. Economists give up on Greece" (Spiegel Online, 28 April 2010) are just a few examples for the use of sensational language in press reports during the observation period. The wording used by the media clearly created a psychology of looming collapse. Even if investors did not believe in a Greek default at first, they were much more likely to do so after hearing or reading the news on Greece.

With headlines like "Carry calculators to Athens" (Börsen-Zeitung, 9 December 2009) and "Athens' creative accountants" (Die Welt, 27 February 2010), media reports slanted the news by using images with a clearly

discrediting meaning. Press reports by influential media organizations covering the political responses by EU member states were also characterized by sarcasm as titles like "EU sets up for fight show against speculators" (Spiegel Online, 10 March 2010), "Wavering until the system crashes" (Spiegel Online, 29 April 2010), "Greece under total control" (Die Welt, 5 May 2010) reveal. The examples give an idea of the public discourse with regards to the Greek case which was led by German media organizations. Although only tentative, the findings indicate that media reporting was characterized by the use of value-laden words that may have accentuated negative sentiments and the uncertainty felt by market investors. Taken together, the quantitative and qualitative results provide evidence that media coverage contributed to the dynamic of the Greek credit crisis by magnifying investors' risk perception.

## 5. Conclusion

This paper argues that the media worsened the loss of trust in the Greek state by accentuating the looming risk perception of market participants. To be sure, understanding the impact of the media in the Greek credit crisis is not an easy task and leaves room for controversial discussions. The contribution of this paper is that it provides an analytical framework to think about the role of the media in the context of financial markets and to analyze media output against this background.<sup>17</sup> The analytical framework encompasses three different levels of arguments: the institutional features of media organizations, the functional relationship between media organizations and financial markets, and the way news content is being presented. From what has been said, it should have become clear that it is not the media by itself but rather the interaction and the mutual reinforcement of institutional and functional features and the tools of the media that are critical with a view to financial market developments.

What does this imply for policy makers? The prevalence of the media, as Strobel (2000) notes, contracts the policy-making process, giving officials less time to respond. This is particularly true with regards to financial markets where new information is processed and acted upon very fast creating a dynamic setting for policy action. Although this does not mean that the media determines policy outcomes it can build up considerable pressure on policy makers. When it comes to activities

on sovereign debt markets, this pressure is especially strong, since the funding of the state and, thus, the room for maneuver of policy makers is directly affected.

There is little disagreement that freedom of press is a necessary precondition to provide a common space for communication in which ideas can be exchanged and public opinion can develop. The freedom of press is particularly important in the context of financial markets because information sharing is a prerequisite for an orderly functioning of the pricing mechanism that takes place via the market. Even if press freedom is not sufficient to create a public accountability, regulation is no solution. Instead, policy makers need to be aware of the complex relationship between financial markets, financial news coverage and the potential impact on their own fiscal situation. Otherwise, they might have to take decisions which are forced upon them by the market. Although, in the case of Greece, one may argue that in the long run this may bring about some positive turnaround, the resulting legitimacy deficit is not desirable.

See appendix, table 1

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## Endnotes

<sup>1</sup>Paper prepared for the SGIR 7th Pan-European International Relations Conference: September 9-11, 2010. For comments please contact sonja.juko@gmx.net .

<sup>2</sup>The meaning of 'credit', in this context, refers to the legal contract where one party receives financial resources from another party and promises to repay him in the future along with interest, thus 'credit' in a purely financial or economic sense.

**3**When measured as a ratio to gross domestic product, part of this effect is automatic. This is because economic crises affect both the numerator (a government's fiscal deficit) and the denominator (a country's gross domestic product).

**4**In 1999, the Economist wrote that it was clear that Greek statisticians had learned from its Spanish and Italian colleagues how to fudge accounts to the satisfaction of bureaucrats in Brussels in order to join the monetary union [Economists, 23-01-1999]. See also Jones (2010): 26.

**5**The countries illustrated here rank lowest in the eurozone with regards to their fiscal and economic performance. For an overview of major fiscal and economic indicators see Appendix 2.

**6**In the course of the past twenty years, credit ratings have become a key component of publicly traded securities and thus an integral part of today's financial markets. Based on an analysis of the macroeconomic fundamentals of a country, sovereign credit ratings provide an external opinion of the capacity and willingness of governments and other debtors to repay their debt in full and in time. For a detailed discussion of sovereign credit ratings see Bhatia (2002).

**7**For a chronicle of the rating events see Appendix 1.

**8**Strobel (2000) investigates a phenomenon called "CNN Effect" according to which the TV News and the print media are pivotal in causing the government to pursue certain foreign policies. He comes to the conclusion that the effect of CNN news coverage on foreign policy is clearly "exaggerated" (Strobel 2000: 172). Yet he states that the media, in particular the prevalence of real-time media, does have an impact for political action.

**9**'Slanting' describes the process of selecting details that are favorable or unfavorable to the subject being described (Hayakawa 1990). See Mullainathan and Shleifer (2005) for an illustration of slanting financial news.

**10**Following Habermas (1989), financial media reporting involves to a large extent ideologies and viewpoints, turning media organizations into leaders and dealers of opinions.

**11**Apart from market experts, governmental institutions, national and international organizations also serve as a news source.

**12**For example, reports, reviews, and outlooks by credit rating companies as well as credit market analysis by financial institutions.

**13**Hermann and Chomsky (2002) argue that using experts serves media organizations threefold: First, they provide a steady flow of news. Second, it is cost-efficient. And third, it helps to protect media coverage from criticism of bias.

**14**The study distinguishes five types of key news events: Rating events, Greek bond emissions, official announcements by the Greek government with regards to economic or fiscal issues, offi-

cial announcements by international organizations and EU institutions and other relevant news (see chronicle in Appendix 1).

**15**This is the result of a news search using a combination of "Greece" and "Public Finance" as key words.

**16**The sample of press reports is the result of a news search using a combination of "Greece", "Public Finance" and "Economy" as key words. The selection of news papers and magazines encompasses Börsen-Zeitung, Die Welt, Der Spiegel, Spiegel-Online, Focus Magazin, Focus Money, Manager Magazin, Capital, Finance, Platow and Euro.

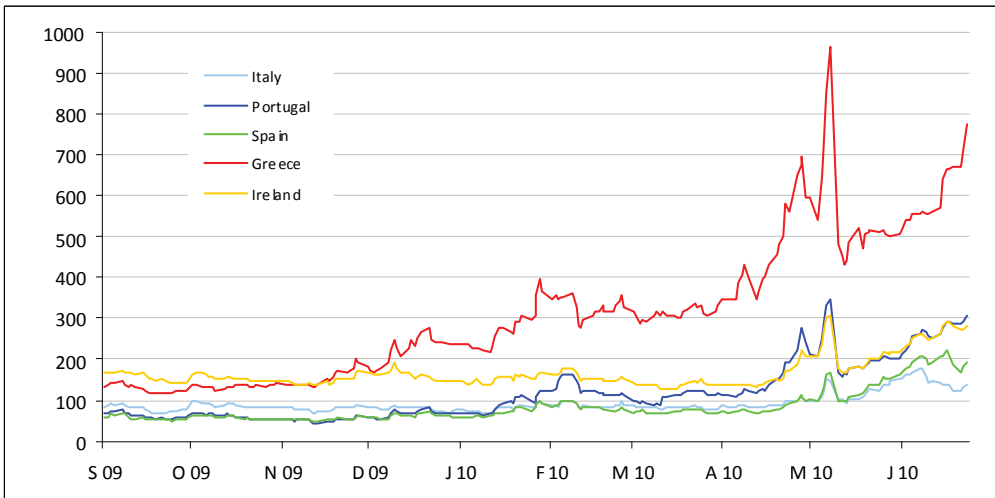
**17**The explanatory framework developed in the paper is not solely applicable to the credit crises of the state but virtually to any financial market dynamic. The paper is, thus, a contribution to a more general discussion about the relationship between financial markets, the media and policy making.

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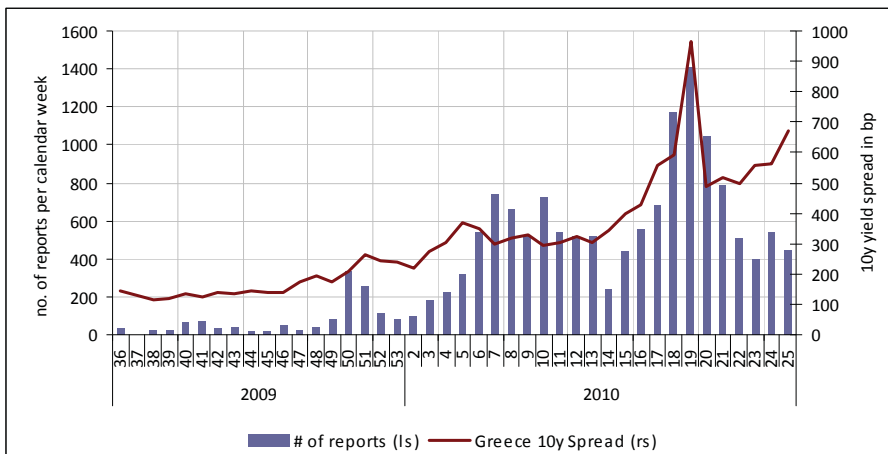
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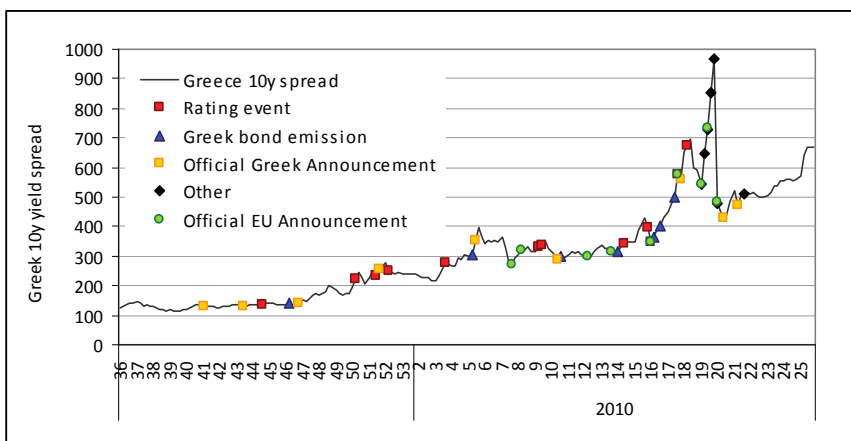
Appendix



Graph 1: Yield spread\* of selected European countries vis-à-vis Germany since September 2009. Source: Bloomberg.  
 \*Differences of 10-year bond yields in basis (bp) taking German bonds as a benchmark



Graph 2: Greek credit spreads and media reporting. Source: Nexis Lexis



Graph 3: Greek credit spread and news events. Source: Bloomberg and various newspapers.



Table 1: Chronicle of key news events between October 2009 and May 2010

Date	Event	Event details
05.10.2009	Official Greek Announcement	Greek socialists win election
21.10.2009	Official Greek Announcement	New Greek government revises budgetary and fiscal statistics
29.10.2009	Rating Event	Moody's warned Greek and Portuguese governments of possible future downgrades of their sovereign debt
10.11.2009	Greek bond emission	Greece issues 15-year bond amounting to 7 bn Euro at 5,3%
13.11.2009	Official Greek Announcement	Greece announced that recession continued in Q3
08.11.2009	Rating Event	Fitch downgrades Greece to BBB+
16.12.2009	Rating Event	S&P downgrades Greece to BBB+
17.12.2009	Official Greek Announcement	Greece announces austerity measures
22.12.2009	Rating Event	Moody's downgrades Greece to A2
14.01.2010	Rating Event	S&P downgrades Greece to A"
26.01.2010	Greek bond emission	Greece issues 5-year bond amounting to 8bn Euros at 6,1 %
27.01.2010	Official Greek Announcement	Greece disclaims that China will invest in Greek bonds
11.02.2010	Official EU Announcement	EU leaders declare to be ready for coordinated action to secure financial stability in the euroarea
16.02.2010	Official EU Announcement	Ecofin urges Greece to reduce public deficit
23.02.2010	Rating Event	Fitch downgrades Greek banks; the rating company argues that austerity measure will slow down economy, weakening credit quality
24.02.2010	Rating Event	S&P puts Greek outlook on negative
03.03.2010	Official Greek Announcement	Greece presents austerity plan
04.03.2010	Greek bond emission	Greece issues 10-year bond amounting to 5bn Euros; investors demand is strong
16.03.2010	Official EU Announcement	Ecofin audits implementation of austerity measures; draw positive conclusion
25.03.2010	Official EU Announcement	EU leaders announce coordinated action to safeguard financial stability in the euroarea declaring that rescue package is "ultima ratio"
29.03.2010	Greek bond emission	Greece issues 12-year bond amounting to 390 Mio at 5,9
31.03.2010	Rating Event	Moody's downgrades Greek banks from A1 to A2
09.04.2010	Rating Event	Fitch downgrades Greece from BBB to BBB-
12.04.2010	Official EU Announcement and Rating Event	EU and IMF announce details of rescue package for Greece; at the same time Fitch downgrades Greek banks
13.04.2010	Greek bond emission	Greece issues money market paper with 6 and 12 month maturity amounting to 780 mio Euro each (higher than envisaged)
15.04.2010	Greek bond emission	Greece increases money market issuance by 180 mio Euro
21.04.2010	Greek bond emission	Greece issues money market paper with 2 month maturity amounting to 1,92 bn Euro at 3,65%
22.04.2010	Official EU Announcement and Rating Event	Moody's downgrades Greece; Eurostat revises Greek deficit for 2009 from 12,7% to 13,6%
23.04.2010	Official Greek Announcement	Greece applies for support package; support covers funding needs for 2010 and 1/3 of 2011
27.04.2010	Rating Event	S&P downgrades Greece to BB+ (non-investmentgrade)
03.05.2010	Official EU Announcement and Other	IMF, ECB, EU commission and Greece agree on austerity program; The federal cabinet of Germany approves German assistance
04.05.2010	Other	German banks agree to buy Greek government bonds
05.05.2010	Official EU Announcement and Other	Three people get killed during protests in Athens against the austerity regime; EU commission reports that deficits have reached all time highs
06.05.2010	Other	General strike in Greece
07.05.2010	Other	German parliament and the upper house approve German assistance law
10.05.2010	Official EU Announcement and Other	EU and IMF announce 750 bn Euro rescue package
12.05.2010	Official Greek Announcement	Greece receives first tranche of IMF loans (5.5 bn Euro)
18.05.2010	Official Greek Announcement	Greece receives first tranche of EU support (14.5 bn Euro)
20.05.2010	Other	Protests in Greece