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## LICOS Discussion Paper Series

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### **Media Bias in Economic News: A Factor 20**

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# Media Bias in Economic News: A Factor 20

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## Abstract

We reviewed all articles reporting on job creation and job destruction by companies in Germany between December 2000 and September 2008 in *Die Welt*, one of the leading German newspapers, using experiments to test our selection criteria. There is a large difference in coverage of job creation and job shedding. Despite the fact that the economic situation in Germany improved over the period (unemployment rate fell by 2.0%), more than ten times as many articles report on negative employment news compared to positive news. When we control for the number of jobs involved, we find an even stronger bias: on a per-job basis, the bias to downsizing increases to a factor greater than 20. Additional tests indicate that these effects are similar in other leading German newspapers.

**Keywords:** Media economics, rational ignorance, negative news coverage

**JEL Codes:** L82, D83

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## **Introduction**

Perceptions on the economy matter. They influence investor decisions, company strategies, stock market behavior, and decisions of individuals on employment choices and investment in education and skills. Perceptions of the public and politicians will influence public policies. They matter beyond the economy. Psychological problems such as depressions, etc. may result and it is well known that perceptions on the economy are a prime factor in voting behavior in elections, probably best reflected in Bill Clinton's 1992 election "war room" slogan: "It's the economy, stupid!". Not surprisingly, incumbent politicians and parties often complain that voters and the public's view on the economy is too pessimistic, as e.g. reflected in the 2012 electoral campaign of President Obama.

There are several reasons why, in an era of massive information provision, there is still room for perceptions which deviate from reality. McCluskey and Swinnen (2004) argue that even in today's media world most consumers and voters are "rationally ignorant" – a term coined by Downs (1957) in a different media era. They provide several reasons why, despite a massive amount of available information, people choose to be less than fully informed. First, most obviously, if the price of news is high compared to the marginal benefits of information, it is rational for individuals not to be fully informed. Second, reducing the price of news will increase consumer information, but only up to a point. Even when news and information is free, it takes time, energy and attention to process the information. Consumers will stop acquiring more information when the opportunity costs of processing the information become larger than the benefits. Opportunity costs play an important role, especially when considering trade-offs in information accumulation on various issues. A third reason why consumers may choose to be less than fully informed has to do with the source providing the information. Ideological bias or distrust of the source may cause consumers not to inform themselves any further.

A key factor in influencing perception is mass media and the nature of information provision by the media, i.e. the existence of ‘media bias’. Media bias can take various forms, and there is evidence that media bias can be significant (Groseclose and Milyo, 2005; Strömberg, 2001).<sup>3</sup>

Studies have identified several possible explanations for the existence of bias. Bias can be induced by supply and/or demand factors. The most obvious source of bias is preferences from the owners, editors, or journalists who may affect the news coverage (Bovitz et al., 2002). This bias is evident in mass media owned by the state. However also in commercial media, owners or advertisers may push for their preferences being reflected in the reporting. Typically there is a tradeoff between political objectives (i.e. using the media to express owners’ ideological bias) and commercial objectives (Mullainathan and Shleifer, 2005). Too much bias may reduce sales – because of consumers’ distaste for bias or the differences with their personal political preferences – and advertising revenues.<sup>4</sup> Another supply-induced form of bias is from falsehoods or from information hidden or distorted by sources or journalists. Dyck and Zingales (2002) argue that journals spin stories to reward sources for providing information. Competition between information sources affects news reports (Baron, 2006). Journalists eager for a scoop or under pressure to attract attention may provide biased

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<sup>3</sup> There is no generally accepted definition of bias (McCluskey and Swinnen, 2011). Anand et al (2007, p. 637) write that “[t]he phenomenon of bias in the media appears to be quite different than, say, a statistician’s notion of bias – because bias lies in the eyes of the beholder (consumer).” Others define bias as the “absence of balance resulting in one side of a story receiving unwarranted attention,” (Baron, 2006, p. 4) or in other words, “... sins of omission – cases where a journalist chose facts or stories that only one side of the ... spectrum is likely to mention” (Groseclose and Milyo, 2005, p. 1205). In terms of political bias, Sutter (2001) defines media bias in terms of the media outlet’s position on the political spectrum relative to the views of the median voter. Gentzkow and Shapiro (2010, p. 3) develop a “slant” index, which measures “differences in news content that ... would tend to increase a reader’s support for one side of the political spectrum”.

<sup>4</sup> Gabszewicz et al. (2001) show that the media’s incentives to appeal to a larger audience and hence be more attractive to advertisers may induce editors to moderate the political messages they display to their readers. Baron (2006) explains how bias may be larger in competitive media markets, while Sutter (2001) and Corneo (2006) argue that collusion or a concentration in media ownership makes bias more likely, which is consistent with the findings of Gentzkow and Shapiro (2006). Mullainathan and Shleifer (2005) separate the impact of competition on bias along two axes and find that competition will neutralize ideological bias but intensify spin.

information. On the demand side, Mullainathan and Shleifer (2005) argue that readers or viewers have a preference for news that is consistent with their initial beliefs, and that media organizations have therefore an incentive to bias their reporting towards confirming their readers or viewers initial beliefs.

Our study focuses on one particular form of bias: the tendency of media to over-report negative stories. Empirical studies find a bias towards ‘negative coverage’ in the mass media for a variety of policy and public interest areas. Cohen (1983) finds that mass media pay more attention to negative stories indicating the presence of nuclear power risks than to positive ones indicating the absence of risks. Koren and Klein (1991) compared media reports on two medical studies which appeared simultaneously and which both analyzed radiation as a risk for cancer. One study found no impact while the other study’s results pointed at a risk of cancer from radiation. The authors find that the study that showed a potential risk for cancer (i.e. ‘bad news’) received significantly more attention than the other report. Ditton and Duffy (1983) and O’Connell (1999) find that the number of crime stories dealing with extreme and violent offences is disproportionate compared to the actual occurrence. Kalaitzandonakes et al. (2004) and Swinnen et al. (2005) find that mass media reports on food safety issues and biotechnology are biased towards negative news.

Swinnen et al. (2010) and McCluskey and Swinnen (2004) argue that this bias towards “bad news” is driven by the demand side of the market. Readers or viewers give more weight to negative than to positive information and media organizations respond to this in their coverage selection. The value of additional information is higher for consumers when it concerns an issue with negative welfare effects than with positive welfare effects. The rationale for the higher valuation of information about issues concerning negative welfare is that consumers can use that information to make decisions that avoid income losses (Kahneman and Tversky, 1979). The negative effect of going without or give up income is

larger than the positive effect buying more with the same amount of additional income. Since media firms care about profits, they will offer more negative news stories.

The dominance of negative news coverage can have important implications as it may distort public opinion. For example, it has been shown that public awareness of crime is substantially different from official statistics due to the negative bias in newspaper reporting (Smith, 1984). Moreover, negative information has a much greater impact on individuals' attitudes than positive information (Soroka, 2006) and negative information plays a greater role in voters' opinion formation and voting behavior (Aragones, 1997; Easaw, 2010). The predominance of negative news in the mass media is likely to reinforce these effects.

Psychological experiments support this. For example, Siegrist and Cvetkovich (2001) found a bias for negative information about possible health dangers. People place greater trust in research results indicating health risk and the confidence in the results increases with an increasing indication of health risk. The authors suggest three possible explanations: diagnosticity (i.e. negative information may be given greater weight because it is more diagnostic than positive information); loss aversion (i.e. for most people it is more important to avoid losses); credibility (i.e. negative information may be more credible than positive information because positive information can be self-serving, while negative information often lacks this quality).<sup>5</sup>

There are only few studies about economic reporting. Harrington (1989) shows that U.S. television networks give greater coverage to bad economic news. Reports on

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<sup>5</sup> Some have criticized these studies, warning about possible confusion between pure negativity bias and confirmatory bias in exploring the impact of new information and media reports on citizens' perception. Prior beliefs may play an important role in selecting and processing the information provided by media. Poortinga and Pidgeon (2004) performed an experiment focusing on the perception of British people towards GM food. They find that confirmatory bias is strong, as people with clear positive or negative beliefs interpret the same events in line with their existing attitude position. Frewer et al (1997) also find that initial attitude to genetic engineering appears to be the most important determinant of attitudes after information provision. These attitudes remain fairly stable even after persuasive arguments regarding the technology are provided. However, after controlling for such confirmatory bias, studies show that the negativity bias still plays a role: negative items still have greater attraction and credibility than positive.

unemployment, inflation, and growth were 34% longer and twice as likely to lead the evening news broadcasts when these statistics were worsening than when they were improving, *ceteris paribus*. Swinnen and Francken (2006) find that newspapers' coverage of issues related to globalization, trade, and the WTO is predominantly negative and that the vast majority of media coverage about trade and globalization issues is about riots and demonstrations that surround summits of political leaders on these issues.

Our study contributes to the literature by using a more elaborate dataset on economic reporting and more careful statistical analysis than e.g. Swinnen and Francken (2006) and by having a cleaner measure of good and bad news. In Harrington (1989) either a positive or negative event occurs at a point in time, and media have to decide whether to report about it or not. However, regarding firm employment, our data show that almost all the time at least some firms shed jobs and other create jobs at the same time. In addition, we use experiments to provide robustness tests to the selection of words and concepts to identify good or bad news.

## **Data**

We primary employ a hand-collected dataset, which has also been used by Friebe and Heinz (2012). Using the media data base *LexisNexis*, we identified all articles reporting on up- and downsizing from companies between December 2000 and September 2008 in *Die Welt*, one of the leading German newspapers. We only record articles that mention the creation (shedding) of jobs by a firm in Germany. Articles reporting about upsizing (downsizing) in general or in whole sectors are not recorded.

We use the following approach to identify all articles reporting about downsizing. The identification strategy for the upsizing articles is the same, with one exception, which will be explained below. In a first step, we read thousand of newspaper articles and identified



German synonyms for the word “downsizing”. The list of synonyms is provided in the Appendix. While there are some words that are direct German synonyms for the word downsizing (e.g. “Stellenabbau”, staff reductions), there are many other terms that without the right context would not be immediately identifiable as a synonym for downsizing. For example, the word “Restrukturierung” (restructuring) can be used for a financial restructuring as well as for reporting about downsizing.

In a second step we tested these synonyms in two laboratory experiments.<sup>6</sup> In the first one, participants were asked to write down their own list of German synonyms of downsizing. The goal of this experiment was to make sure that there are no missing synonyms on our list. In order to verify our understanding of terms related to downsizing we conducted a second experiment. Participants were confronted with 40 words. 8 were synonyms for downsizing from our list, 17 were terms that depending on the context would indicate a downsizing event. 15 words had nothing to do with downsizing at all (e.g. “Verluste”, losses). Participants were asked to indicate to what extent these terms would describe downsizing on a scale from “by no means” (1) to “by all means” (5). The synonyms had a mean score of 4.43 (standard deviation 0.24). The context-dependent terms had an average of 3.61 (s.d. 0.45), the words not related to downsizing had a mean score of 2.19 (s.d. 0.56).

Based on the list of synonyms, in the third step, we identified and checked all articles in *Die Welt* in which one or several of the downsizing terms appeared. In total, 498 different firms are mentioned in one or several of these articles. In a next step, firm by firm, we checked in detail *all* articles in *Die Welt* in our period of observation in which the companies are somehow mentioned. In total we read around 40,000 articles. This ensures on the one hand that only those articles are recorded which refer to downsizing and on the other hand

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<sup>6</sup> The experiments were conducted at the FLEX laboratory of Goethe University Frankfurt. All participants were undergraduate students from different disciplines at the University. Ten subjects participated in each of the two experiments. Participants received a fixed wage of 5€ Each experiment lasted less than half an hour.

that we do not miss articles in which none of the synonyms appeared but which report about downsizing.

In a fourth step, to check the robustness of our approach, we conducted two further lab experiments.<sup>7</sup> The first group of participants was confronted with a package of 40 articles. 20 articles reported on downsizing (according to our selection criteria and thus included in our dataset) at two randomly chosen firms (*Altana* and *DZ Bank*) – thus 10 articles per company. Another 20 articles on the same two firms (again 10 per company) were not included in our data set as we considered them not related to downsizing. Participants were asked to indicate for each article whether or not the article was reporting on downsizing. Excluding the “do not know” and “no statement possible” categories, we end up with a 96.2% congruence between our and participants’ classifications (downsizing/no downsizing). Including these answers, we still find a congruence of 90%. For the second experiment, we randomly selected a time span (Aug 20<sup>th</sup>, 2004 to Sept 6<sup>th</sup>, 2004). Participants were confronted with a package of 40 randomly chosen articles of various companies that appeared during the fixed time span. 20 were classified in our dataset as reporting about downsizing, 20 were registered as unrelated to downsizing. Excluding the “do not know” and “no statement possible” answers, we end-up with a congruence of 93.6% between the participants and our own classification. Including them we still find a congruence of 82%. Thus, both experiments confirm our strategy to identify the downsizing articles.

For the identification of the upsizing articles, we used the same algorithm as for the downsizing firms, with one exception: After identifying a list of German synonyms for “upsizing” by reading thousands of articles, we conduct two lab experiments to verify our understanding of terms related to upsizing.<sup>8</sup> In the second experiment, the upsizing terms had

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<sup>7</sup> Twelve subjects participated in each of the two experiments. Subjects received a fixed wage of 10€ Both experiments lasted approximately an hour.

<sup>8</sup> Eight subjects participated in the first experiment, nine in the second one.

an average score of 4.75 (s.d. 0.69), the context-dependent 3.95 (s.d. 1.06) and the terms not related to upsizing 1.95 (s.d. 0.98). Using the list of keywords, we identified all articles reporting on upsizing.

While we identified articles on job creation in the same way as articles on shedding jobs, we did not conduct the third and the forth experiment. We ran these two experiments for the downsizing articles to check the robustness of the algorithm. As there are no reasons to believe that our algorithm works better for downsizing than for upsizing, we did not conduct the two experiments for our upsizing dataset.

## Results

Between December 2000 and September 2008, a period of almost eight years, we found a huge difference in coverage by *Die Welt* on job creation and job shedding. In total, we found 666 articles about upsizing, covering 112 different companies. However, we found 7,065 articles about downsizing, covering 498 companies. Thus, there are more than ten (10.60) times as many articles reporting on negative employment news from companies compared to positive news.

The asymmetric coverage about employment changes of firms is quite surprising, given that the economic situation in Germany did not worsen over the period. In fact, the unemployment rate declined from 9.3% in December 2000 to 7.3% in September 2008. The number of regular employees paying social insurance in Germany stayed roughly the same: 27.98 million in December 2000 and 27.96 million up to September 2008.

However, the average change hides some fluctuations within the eight-year period. During the first part of our observations, the economic situation worsened as the unemployment rate increased from 9.3% in December 2000 to 12.7% in March 2005. Over

this period the number of regular employees paying social insurance in Germany decreased from 27.98 million to 25.99 million. After March 2005, the situation improved significantly. The unemployment rate decreased from 12.7% to 7.3% in September 2008. The number of regular employees increased from 25.99 million in March 2005 to 27.96 million in September 2008.

Interestingly, the monthly unemployment rate is positive correlated with the total number of articles per month reporting on downsizing (correlation coefficient: 0.293). However, the quarterly employment growth rate and the total number of articles reporting on upsizing are almost uncorrelated (correlation coefficient: -0.051).

### **Robustness check I: Difference in total number of jobs created and shed**

One possible story explaining our result is that there are less jobs created in an upsizing event than jobs are getting lost in a downsizing event. Moreover, the data presented in the previous chapter include also announcements of upsizing (downsizing) without real consequences and purely speculative reports.

To control that this does not affect our results, we identified the total number of jobs created (shed) in each upsizing (downsizing) event. For most events, the total number of jobs created (shed) is mentioned in *Die Welt*. To be sure that this is the “correct” total number of affected jobs, we checked the reporting in other prestigious newspapers (e.g. *Handelsblatt*), in agency reports (e.g. *Reuters*) and (if available) with information from the company (e.g. annual reports). If there were any contradictions or doubts about the total numbers of created (shed) jobs, we omitted all articles reporting about this particular downsizing event.

Excluding those events, we end-up with 452 articles on employment creation, reporting about 76 companies and 100 upsizing events. For downsizing, we find 5,394

articles, reporting about 424 companies and 651 downsizing events. Focusing on this restricted dataset, the discrepancy is even larger: there are almost twelve (11.93) times as many articles reporting on downsizing compared to upsizing, which is slightly more than in our initial dataset.

In our sample, upsizing firms create on average 1,483.78 (s.d. 3,524.58) jobs in each upsizing event. In comparison to that, the downsizing firms shed on average 824.64 (s.d. 2,070.31) jobs in each downsizing event. The difference in the total number of affected jobs is highly significant (p-value: 0.004, two-side t-test).

Notice that this implies that, on a per-job basis, the bias to downsizing increases to a factor greater than 20: upsizing firms get on average 4.52 articles in the newspaper for 1,483 jobs, while downsizing firms get 8.28 articles for 824 jobs.

## **Robustness check II: Comparing with other newspapers**

To check how the other leading German newspapers report about positive and negative employment news from companies, we have generated an additional data set. We randomly choose five months from our period of observations (November 2002, July 2005, September 2006, May 2007, May 2008) and, using the same algorithm as for the initial data set, identified all articles about up- and downsizing in the six other leading national quality newspapers: *Handelsblatt* and the *Financial Times Deutschland (FTD)* (the leading finance and business newspapers); the *Frankfurter Allgemeine Zeitung (FAZ)* (center-right, business); the *Süddeutsche Zeitung (SZ)* and *Frankfurter Rundschau (FR)* (center-left); and *Die Tageszeitung (TAZ)* (left-wing). Together with *Die Welt*, these newspapers have a total of 1.55 million sold copies in 2000 (1.56 million in 2008) and represent around 90% of the German national newspaper market.

## TABLE 1 ABOUT HERE

Table 1 provides an overview of the total number of articles reporting on upsizing and downsizing broken down by newspapers. The results are striking: All quality newspapers report substantially more about downsizing than upsizing. Similar as in *Die Welt*, around ten times as many articles report on negative employment news compared to positive news in the *TAZ* and *FR*, seven times as much in the *SZ* and *Handelsblatt* and five times as much in the *FAZ* and *FTD*. While the different magnitudes between newspapers are quite interesting, these have to be seen with some grain of salt, as the number of observations is quite low for some newspapers.

## Conclusions

We use a dataset of all articles reporting on up- and downsizing from companies between December 2000 and September 2008 in *Die Welt*, one of the leading German newspapers. We identify all articles reporting about up- and downsizing by identifying a list of German synonyms for the word “downsizing” (“upsizing”) and tested these synonyms in laboratory experiments. Based on these lists of synonyms, we identified and checked 40,000 articles in *Die Welt* to see whether one or several of the downsizing terms appeared. To check the robustness of our approach, we conducted two further lab experiments.

Over a period of almost eight years, we found a huge difference in coverage of job creation and job shedding: 666 articles about upsizing, covering 112 different companies, compared to 7,065 articles about downsizing, covering 498 companies – more than ten (10.60) times as many articles reporting on negative employment news from companies compared to positive news. This is surprising given that the economic situation in Germany improved over the period with the unemployment rate declining from 9.3% to 7.3%.

When we test for fluctuations in reporting and in economic conditions over the eight year period, we find that the monthly unemployment rate is positive correlated with the total number of articles per month reporting on downsizing but there is no correlation between the quarterly employment growth rate and the total number of articles reporting on upsizing.

When we control for the total number of jobs created (shed) in each upsizing (downsizing) event, we find an even stronger bias. On a per-job basis, the bias to downsizing increases to a factor greater than 20: upsizing firms get on average 4.52 articles in the newspaper for 1,483 jobs, while downsizing firms get 8.28 articles for 824 jobs.

We also tested whether these results are similar in other newspapers, by randomly selecting five months from our period of observations and, using the same algorithm as for the initial data set, identified all articles about up- and downsizing in the six other leading national quality newspapers (*Handelsblatt*, *Financial Times Deutschland*, *Frankfurter Allgemeine Zeitung*, *Süddeutsche Zeitung*, *Frankfurter Rundschau*, *Die Tageszeitung*). Together with *Die Welt*, these newspapers represent around 90% of the German national newspaper market. The results are striking: All quality newspapers report substantially more about downsizing than upsizing. Between five to ten times as many articles report on negative employment news compared to positive news in all newspapers.

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## Appendix

**Table 1: Total number of articles about up- and downsizing, by newspaper**

	TAZ (left)	FR (left-center)	SZ (left-center)	FAZ (right-center, business)	Handelsblatt (business)	FTD (business)
Upsizing	8	13	21	30	28	40
Downsizing	86	129	144	150	192	210

## Synonyms for downsizing

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### German synonyms for the word downsizing

Abbau von Stellen	Kündigung	Schließung von Werken
Anpassung der Mitarbeiterkapazitäten	Massenentlassung	Standort schließen
Arbeitsplatzabbau	Mitarbeiter entlassen	Stellen abbauen
Arbeitsplatzverlust	Personalabbau	Stellen streichen/gestrichen
Beschäftigungsabbau	Personalfreisetzung	Stellenabbau
Entlassung	Personalkürzung	Stellenstreichung
Jobabbau	Personalreduzierung	Werk schließen
Jobs abbauen	Schließung von Standorten	Werkschließung

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### German words that depending on the context indicate a downsizing event

Abfindungsprogramm	Kürzung	Senkung der Personalkosten
Angestellte	Mitarbeiter	Senkung der Verwaltungskosten
Arbeitsplätze	Neustrukturierung	Stellen
Belegschaft	Personal	Sozialplan
Beschäftigte	Rationalisierung	Sparprogramm
Einschnitte	Redimensionalisierung	Sparprogramm
Einsparungen	Restrukturierung	Umbau
Jobs	Restrukturierungsprogramm	Umstrukturierung
Kapazitätsanpassung	Sanierung	Werke
Kostenreduzierung	Schieflage	
Kostensenkung	Schlankheitskur	

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## Synonyms for upsizing

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### German synonyms for the word upsizing

Arbeitsplätze schaffen	Neue Jobs	Stellen schaffen
Jobs schaffen	Neue Stellen	
Neue Arbeitsplätze	Mitarbeiter einstellen	

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### German words that depending on the context indicate an upsizing event

Anlage	Fabrik	Personen
Ansiedelung	Fertigung	Produktionsstätte
Arbeitsplätze	Filialnetz	Richtfest
Ausbau	Großinvestition	Standort
Einstellungen	Jobmaschine	Stellen
Einweihung	Jobs	Werk
Eröffnung	Mitarbeiter	[NAME OF THE LOCATION]

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