Stock Market Performance in the Media: Reporting Big News, Missing the Big Picture?

Antonio Ciccone*   Felix Rusche†

March 2026

Abstract

Despite rising stock markets in the United States and Europe from 2017 to 2024, we document that average daily stock market performance becomes negative when weighted by the amount of media coverage. We propose an explanation for this media negativity bias that does not rely on a bad-news bias in news selection. Instead, it rests on two observations: the media prioritize large market movements, positive or negative, and average daily stock market performance conditional on absolute changes above a threshold becomes negative as the threshold increases. We quantify the explanatory power of the proposed mechanism using data from Germany's most-watched nightly news, which reports on the country's main stock index in a standardized format. Our analysis shows that selective reporting of large market movements accounts for about half the gap in average daily stock market performance between days with and without news coverage. We explain and quantify the link between media negativity bias and the negative skewness of aggregate stock returns.

Keywords: Media Negativity, Financial Markets, Financial Journalism
JEL Classifications: L82, G10

---

* Antonio Ciccone, Department of Economics, Mannheim University, CEPR; antonio.ciccone@uni-mannheim.de
† Felix Rusche (corresponding author), Max Planck Institute for Behavioral Economics, Kurt-Schumacher-Str. 10, 53113 Bonn, Germany; +49 228 91416182; rusche@coll.mpg.de

1   Introduction

The media routinely report on the daily movements of national stock market indices. Figure 1 documents two stylized facts about this media coverage for the United States and the five largest European economies between 2017 and 2024. Panel A indicates that the 10 most-read online news outlets in each country publish more reports on the national stock index on days with larger market movements, particularly when the index declines. Panel B shows an implication of this reporting pattern: although average daily performance was positive for each of the six national stock indices, it becomes negative when daily performance is weighted by the amount of media coverage on that day.

What drives the media negativity bias in daily stock market coverage? One explanation is that the media are more likely to report negative than positive events of similar magnitude. This bad-news bias in news selection has been documented in various contexts (e.g., Harcup and O'Neill 2001; Soroka 2006; Garz 2014; Heinz and Swinnen 2015; Harcup and O'Neill 2017; Liu et al. 2021) and may also extend to coverage of stock market indices.

We propose another explanation for the media negativity bias in daily stock market coverage. The explanation rests on two observations. First, media outlets tend to prioritize major events, whether positive or negative. In the context of stock markets, this implies that the news is more likely to report large market movements in any direction. The second observation is shown in Panel C of Figure 1. Average daily stock market performance conditional on absolute market movements above a threshold goes from positive to negative as the threshold increases—a data pattern that we show to be an implication of the negative skewness of aggregate stock returns documented in the literature (Campbell and Hentschel 1992; Albuquerque 2012; Harvey and Siddique 2023). Together, these two observations give rise to a novel mechanism generating a systematic negative distortion in daily stock market news coverage. The size of the distortion depends on the extent to which the media focuses on large market movements and the degree of negative skewness of stock market returns.

We quantify this "big news bias" using a newly constructed dataset on the coverage of Germany's main stock market index (DAX) in the country's most-watched nightly news program, which airs on the public television channel ZDF. This setting is well suited for five reasons. First, news coverage of daily DAX performance followed a stable and standardized format with clear salience and visual prominence between 2017 and 2024.[1] The program almost always includes a segment of approximately 1.5 minutes with the main financial and economic news. When DAX performance is reported, it is shown on the electronic display board of the Frankfurt Stock Exchange with the day-on-day change highlighted in orange. Second, the nightly news did not always report the performance of the DAX, allowing us to study selection into coverage. Third, the nightly news airs after stock markets have closed, eliminating same-day feedback from news coverage to stock market performance (Tetlock 2007; Engelberg and Parsons 2011; Peress 2014). Fourth, ZDF news programs have both high viewership and high public trust compared with other national and international television and online news outlets (Newman et al. 2022). Fifth, detailed public and proprietary data on the content of German economic and financial news allow for in-depth analysis of the mechanisms.

---

[1]In 2025 the ZDF became aware of our findings and the format changed; see Wirtschaftsjournalist:in (2025).

A key finding from our data on DAX coverage in the ZDF nightly news between 2017 and 2024 is that the DAX dropped by an average of 10 points on days when its daily performance was reported. For comparison, the DAX actually rose by an average of 4 points per day over this period (78 percent overall). This discrepancy between reported and actual daily performance mirrors the pattern in Figure 1B. On days when its daily performance was not covered in the nightly news, the DAX increased by an average of 10 points.[2] No news was good news.

How much of the 20-point gap in average DAX performance between days with and without nightly news coverage can be accounted for by the big news bias? We answer this question in two steps. First, we estimate how the probability of DAX news coverage varies with the size and sign of the daily DAX change. We find that larger market movements, positive or negative, are more likely to be reported than smaller movements. The effect is robust to excluding the largest market movements and controlling for major macroeconomic events that could affect both market returns and news coverage, such as changes in the ECB policy rate and releases of data on inflation, economic growth, unemployment, trade, business climate, or industry orders. This finding is consistent with evidence that most day-on-day variation in stock returns cannot be attributed to identifiable public news (Roll 1988; Cutler et al. 1989; Andersen et al. 2007). We also find evidence for a bad-news bias in news selection: negative movements are more likely to be covered than positive movements of the same size. Second, we simulate the gap in DAX performance between days with and without news coverage when the bad-news bias in news selection is completely shut down. This counterfactual simulation generates a gap of approximately 10 points, half of the observed 20-point gap. This finding shows that the big news bias can account for a substantial part of the gap in daily stock market performance between days when the stock market is covered in the news and days without coverage.

We also examine the relationship between the big news bias and the negative skewness of aggregate stock returns documented in the literature (Campbell and Hentschel 1992; Albuquerque 2012; Harvey and Siddique 2023). We calibrate a normal–inverse Gaussian distribution to match key moments of daily DAX changes between 2017 and 2024. We then vary the degree of skewness, holding mean, variance, and kurtosis constant, and show that the data pattern in Figure 1C arises when skewness is negative. Finally, we simulate the size of the big news bias for a range of skewness values around the calibrated value and find that it increases approximately linearly with the degree of negative skewness.

Summing up, we document that a highly trusted news program with large viewership reported a strongly negative average daily performance of the national stock market over a period in which the index increased by 78 percent. Half of the gap between reported and actual average daily market performance can be accounted for by the program's tendency to disproportionately cover large market movements, whether positive or negative. This pattern persists when excluding extreme movements and when controlling for macroeconomic events that could influence both market returns and news coverage. We do not examine why the program, or the media more broadly, allocates disproportionate coverage to large market movements; this may reflect journalistic norms and routines or (perceived)

---

[2]Appendix Figure A.3 illustrates how the gap between the DAX performance covered in the nightly news and the performance without news coverage emerges over time.

audience demand.

Our work contributes to the literature on media negativity bias, particularly in reporting economic and financial news (Harrington 1989; Soroka 2006; Groeling 2013; Garz 2014; Heinz and Swinnen 2015; Liu et al. 2021; Gambetti et al. 2024).[3] The existing literature asks whether media negativity bias arises from asymmetries in the selection and framing of negative relative to positive items from the pool of potential economic and financial news. We contribute to the literature by showing that media negativity bias can arise when negative and positive potential news items are selected symmetrically.

We also contribute to the literature on the relationship between stock markets and the media (see Tetlock 2015, for a review). The existing literature focuses on how the news produced by the media affects listed companies and aggregate stock markets.[4] As pointed out by Dougal et al. (2012) and Liu et al. (2021), there is less work on the factors shaping news production. Dougal et al. (2012) document that journalists' characteristics matter for the production of positive versus negative news. Durante et al. (2022) document that lending relationships between banks and newspapers influence how newspapers report on banks' profits and losses. Liu et al. (2021) show that the media are more likely to produce reports on negative earnings surprises than positive ones. We contribute to this strand of the literature by examining how the production of stock market news depends on the size of daily stock market fluctuations and how this may lead to a media negativity bias.

Finally, our quantitative analysis shows that media negativity bias in daily stock market coverage is partly the result of negatively skewed stock market performance—combined with selective media coverage of large market movements—and thereby connects the media bias literature to the finance literature on negative skewness in aggregate stock returns (Campbell and Hentschel 1992; Albuquerque 2012; Harvey and Siddique 2023).

2 Background and Data

2.1 Germany's Benchmark Stock Market Index

The DAX (*Deutscher Aktienindex*) is a performance index comprising "the 40 largest and highest-turnover German stocks by market capitalization [representing] around 80 percent of the market capitalization of listed stock corporations in Germany and around 90 percent of stock market turnover in German shares" (Börse Frankfurt 2023). Data on the index are obtained from Commerzbank's onvista database (onvista.de). During the 2017-2024 period we study, the index increased from $11,481$ to $20,417$ points

---

[3]Harrington (1989) examines television reporting on economic growth, unemployment, and inflation in the US and shows that in non-election years negative changes receive more screen time. Heinz and Swinnen (2015) review reporting on upsizing and downsizing in a German newspaper and find that more than 10 times as many articles report on downsizing as on upsizing. Garz (2014) examines newspaper reports on changes in the unemployment rate in Germany and finds that negative and positive changes in the unemployment rate generate equal numbers of negative and positive reports. Soroka (2006) analyzes how the volume of newspaper reports on unemployment and inflation varies with new information and shows that, for unemployment, positive news generates fewer media reports than negative news. Gambetti et al. (2024) reexamine the relationship between changes in unemployment rates and newspaper coverage using nonlinear time-series techniques and show that there is no negativity bias once the size and persistence of shocks are controlled for. Liu et al. (2021) analyze bad-news bias in financial reporting by linking media coverage to subsequent earnings, corporate actions, and risk-adjusted stock returns, finding that coverage is biased toward firms with subsequently negative outcomes.

[4]For example, Tetlock (2007), Barber and Odean (2008), and Fedyk (2024) document effects on trading volume, Tetlock (2007) and Carlini et al. (2020) on market prices and stock returns, and Baker et al. (2022) on credit ratings.

Figure 1: Media Reporting on Six Main National Stock Indices

(A): Binscatter and 5th-Degree Polynomial of Daily Index Change and Media Reporting
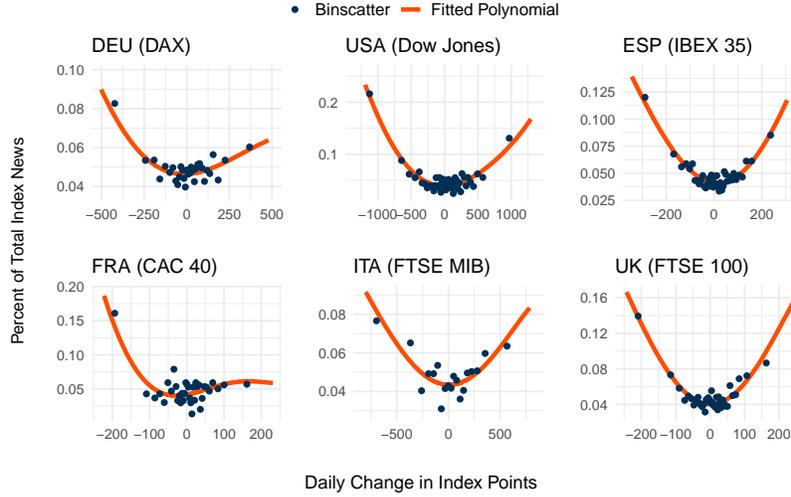
(B): Actual and Media Reporting Weighted Change
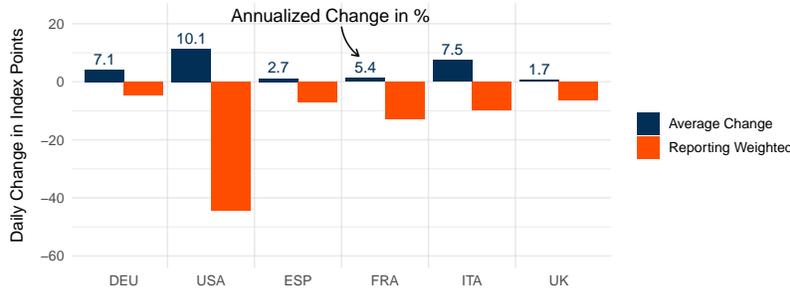
(C): Average Index Change Conditional on Absolute Change above a Threshold
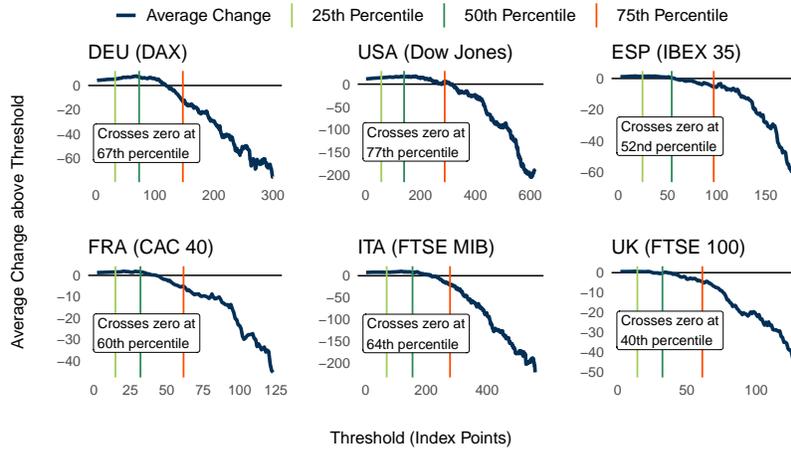
Note: *Panel A* shows binscatter plots of the daily change in index points of the main national stock market indices of six countries (horizontal axes) against daily media reporting on the indices by the country's 10 most-read online media (vertical axes). The data is for the 2017-2024 period. Daily media reporting is the number of daily reports relative to total reports over the period. The number of bins is determined by the IMSE-optimal direct plug-in rule (Cattaneo et al. 2024). The curves are fitted 5th-degree polynomials. *Panel B* shows the average daily change of the indices in points. The blue bars are the actual change (the numbers on top are annualized returns in percent). The orange bars are the average daily change of the indices when weighted by media reporting. *Panel C* shows average daily changes of the indices conditional on absolute changes above the threshold on the horizontal axis. For example, the value at 100 shows the average change in the index on days with absolute changes above 100 index points. The three vertical lines visualize the distribution of absolute changes by showing the 25th, 50th, and 75th percentile. In addition, the figure indicates at which percentile of absolute daily changes, the conditional average turns negative. For visualization, we restrict the figure to changes below the 95th percentile (in absolute terms). See Section 2 for the data sources and Appendix Figure A.1 for results of Panels (A) and (B) using a different dataset on online media reporting.

(77.8 percent). This corresponds to an increase of 4 index points per day on average. The distribution of daily changes in the index is characterized by excess kurtosis and negative skewness, a more general feature of aggregate stock returns (e.g., Albuquerque 2012). Appendix Table A.1 presents summary statistics.

2.2 Stock Market Reporting in ZDF Nightly News

ZDF (*Zweites Deutsches Fernsehen*) is a German public television network. As Germany's most-watched TV channel, it offers a wide range of programs (Der Spiegel 2022). ZDF's news programs are among Germany's most popular news programs with around 45 percent of Germans watching them at least once a week. For comparison, the most-watched television news channels in the US and UK are, respectively, viewed by 23 percent (Fox News) and 44 percent (BBC) of the population at least once a week (Newman et al. 2022). Our analysis is based on the channel's flagship news program, ZDF heute-journal, airing at around 9:45pm and lasting about 28 minutes. The ZDF nightly news attracts an average of around 3.7 million viewers, making it Germany's most-watched nightly news (ZDF Unternehmensarchiv 2025). It is widely recognized for its comprehensive coverage of both national and international news, as well as its in-depth analysis and expert commentary. In a survey of 15 major news outlets, 66 percent of respondents in Germany report trusting ZDF's coverage, placing it second behind Germany's other public television channel. For comparison, 55 percent of respondents in the UK report trusting the BBC, making it the most trusted outlet there, while 36 percent of respondents in the US report trusting Fox News (Newman et al. 2022).[5]

On days when stock markets are open, the ZDF nightly news almost always includes a live feed of around one and a half minutes from the already closed Frankfurt Stock Exchange.[6] Journalists report the main economic news of the day and often, but not always, the change in the DAX index compared to the previous trading day. When the DAX performance is reported, it is shown on the electronic display board of the Frankfurt Stock Exchange with the day-on-day change highlighted in orange, see Appendix Figure A.4. Our analysis focuses on these live feeds.[7] To gather the information on DAX reporting in the ZDF nightly news, three research assistants viewed a total of 1,846 broadcasts from the beginning of 2017 to the end of 2024. Overall, 29 percent of live feeds report the performance of the DAX compared to the previous trading day. On 9 percent of Fridays, the ZDF reports the weekly change of the DAX. Longer-term outlooks are very rare. Between 2017 and 2024, the ZDF nightly news only covered the development of the DAX over a period of six months or longer on 12 occasions.

When we compare daily DAX performance on days when it was covered in the live feed of the nightly news to days when it was not, we find a large gap. On days the DAX performance was covered, the index *dropped* by 10.5 points on average. On days the DAX was not covered, the index *rose* by 10 points

---

[5]In the United States, aside from local television news (54 percent) and the BBC (46 percent), ABC and CBS are the most trusted television news brands, each trusted by 43 percent.

[6]During the 2017-2024 period we examine, 91 percent of ZDF nightly news on days with an open stock market include a live feed from Frankfurt.

[7]We focus on DAX reporting in the live feed. During the 2017-2024 period we examine, there is only a single instance where the DAX index was mentioned in the ZDF nightly news outside the live feed. For robustness, we also analyze the (non-)reporting of DAX changes anywhere in the ZDF nightly news. Appendix Table A.6 shows that this yields very similar findings to those we obtain focusing on the live feed (in Table 1).

on average.[8] Hence, there was a 20-point gap in average DAX performance between days with and without news coverage.

2.3 Controls: Macro Events, News Pressure, News Reporting

The controls in our regression analysis come from several sources. We obtain information on the release and change of key macroeconomic data from `Investing.com's` economic calendar (accessed November 6, 2025). These include unemployment, GDP growth, inflation, trade balance, European Central Bank (ECB) and Federal Reserve System policy rates, ifo business climate index, and industry orders. Except for the ECB and Federal Reserve policy rates, all data relate to Germany. Second, we measure macroeconomic uncertainty using the level and change in the daily US economic policy uncertainty index (Davis et al. 2022) and the San Francisco Federal Reserve's daily economic news sentiment index (Buckman et al. 2020).[9] As a measure of general news pressure, we employ the total number of articles published by Germany's top 10 media outlets on any given day according to Media Cloud, a database of online news (Roberts et al. 2021). Finally, we use proprietary data from the media research institute MediaTenor on the topics discussed in economic and financial news. The institute employs experts to code topics discussed for at least 5 seconds in selected television news programs. We use their classification of economic and financial topics. Specifically, we include the following topics: unemployment up, unemployment down, inflation up, inflation down, ifo business climate, industry demand, and ECB policy rate expectations. All control variables and their sources are summarized in Appendix Table A.2.

2.4 Data for Figure 1

The data on the performance of the national stock market indices of France, Italy, Spain, the UK, and the US in Figure 1 are also from Commerzbank (for summary statistics see Appendix Table A.3). For data on media coverage, we first obtain the list of most-read online media outlets in each country from the 2022 Reuters Institute Digital News Report (Newman et al. 2022). We search for the ten most-read outlets on Media Cloud, a large database of online news. If one of these outlets is unavailable, we add the next most-read outlet on the list of most-read online media outlets. Once we have the 10 most-read outlets available on Media Cloud for each country, we search for news in these outlets related to the country's national stock market index in Figure 1. The search terms are "[index name] AND point*" in the respective language. Finally, we obtain the number of articles published each day, the total number of articles over the 2017-2024 time period we examine, and the share of this total published on any given day. For validation, we repeat the same procedure for Factiva, another database of online news. Appendix Figure A.1 confirms our findings in Figure 1 using this alternative provider. Appendix B provides further details on Factiva and Media Cloud.

3 Model Estimation and Counterfactual Analysis

We first analyze the association between the daily change in the DAX and whether the performance of the DAX is covered in the nightly news. The strength of this association will play a key role in our counterfactual analysis of the size of the big news bias.

---

[8]The average change on days with and without a report differs significantly (p-value 0.039).
[9]We are not aware of similarly frequent indices for Germany or Europe.

3.1 DAX Performance and DAX News Coverage

Because DAX news coverage is a binary variable, our analysis of the statistical relationship between the daily change in the DAX and whether or not the performance of the DAX is covered in the nightly news is based on a logit model. The model assumes that the DAX change relative to the previous trading day, ΔDAX, will be covered in the nightly news if and only if

$$(\alpha + \beta \cdot |\Delta DAX|) \cdot I^+ + (\delta + \gamma \cdot |\Delta DAX|) \cdot [1 - I^+] + \epsilon \geq 0 \tag{1}$$

where I^+ is an indicator variable that takes the value of 1 if and only if the DAX change is positive and ϵ is a standard logistic random variable. The parameters β and γ capture how the probability of DAX news coverage varies with the magnitude of the DAX change for positive and negative changes, respectively. For example, if $\gamma > \beta > 0$, larger absolute DAX changes are more likely to be covered in the nightly news and this effect is stronger when the DAX declines than when it increases. The parameters α and δ capture the baseline probability of reporting on DAX changes and allow this probability to be different for positive and negative changes.

The logit estimation results are in Appendix Table A.4. There are three main findings. First, larger absolute changes in the daily DAX, whether positive or negative, are associated with a statistically significantly higher probability of the DAX performance being reported in the nightly news. On average, a 10-point larger change in the DAX is associated with a 1.3-percentage-point larger probability of the DAX being reported (column (1) of Panel B). Second, this effect on news coverage is stronger when the DAX declines (1.5 percentage points) than when the DAX increases (1.1 percentage points), indicating a bad-news bias in news selection (column (2) of Panel B). Third, the model fits the data well. This is illustrated in Figure 2, which shows that the CDF of the model matches the data CDF very closely, both for days when the DAX is reported in the news and for days when it is not. The model CDF is obtained by feeding 100 million draws from the 2017-2024 distribution of the daily DAX performance into (1) using the estimates in Appendix Table A.4, Panel A, column (2).

3.2 Other Determinants of DAX News Coverage

Our results in Appendix Table A.4 show that one of the conditions for a big news bias in DAX reporting holds: larger changes in the daily DAX, whether positive or negative, are associated with a larger probability that the DAX performance is covered in the nightly news.

This association may arise via two channels. First, it may reflect journalists' view that larger changes in the daily DAX are more newsworthy, whatever the other daily events may have been. Because other events on that day could be regarded as even more newsworthy, the DAX may not end up being covered in the nightly news. But if DAX performance is covered, it is the primary news item, typically followed by a very brief discussion of potential reasons for the DAX change. Second, the positive association between the DAX change and the probability of DAX news coverage could arise via daily events that may affect the DAX and, in journalists' view, also make the DAX performance newsworthy as a complementary news item. An example of such an event would be a policy rate decision by the European Central Bank (ECB). In this case, the ECB's policy decision would be the primary news item, typically followed by a

Figure 2: Comparing the CDFs of the News Reporting Model with the Data
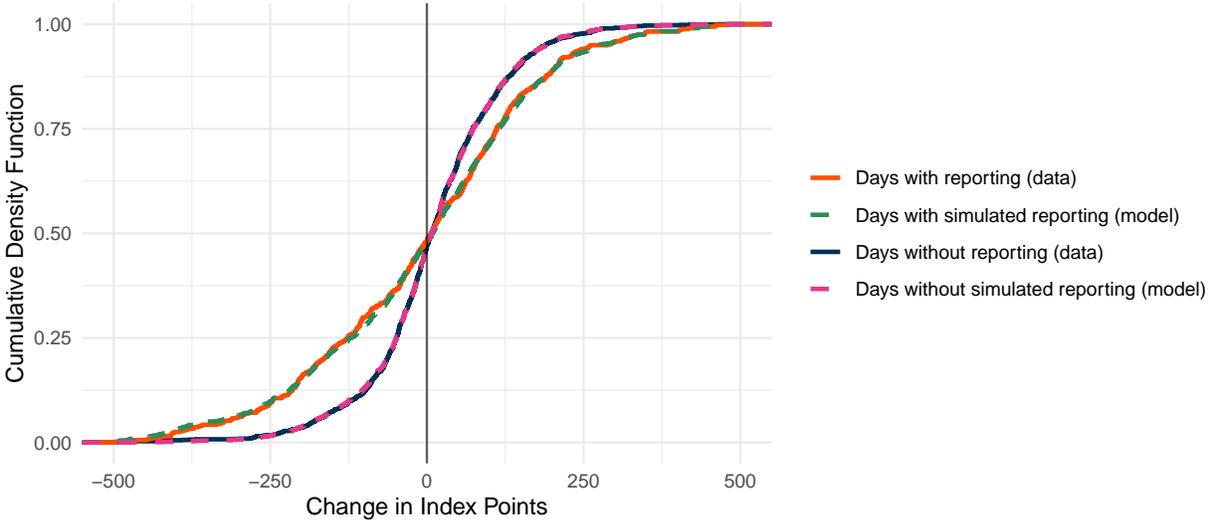
Note: The "model"-CDFs are based on our news reporting model and 100 million draws from the distribution of daily DAX changes over the 2017-2024 period. For each draw, (non-)reporting is simulated based on the reporting model in (1) and the logit parameter estimates in Appendix Table A.4, column (2). The "data"-CDFs show the empirical CDFs of daily DAX changes over the 2017-2024 period.

brief discussion of financial market reactions and coverage of the daily DAX change.

To better understand which of the two channels drives the positive association between the DAX change and the probability of DAX news coverage, we estimate a version of (1) that includes a wide range of control variables X

$$(\alpha + \beta \cdot |\Delta DAX|) \cdot I^+ + (\delta + \gamma \cdot |\Delta DAX|) \cdot [1 - I^+] + D \cdot X + \epsilon \geq 0. \tag{2}$$

For example, our set of control variables X includes an indicator variable for ECB policy decisions and an interaction of this indicator with the change in the ECB policy rate. By including these controls, we allow DAX news coverage to depend on ECB policy decisions. As changes in ECB policy are a driver of daily DAX performance, this allows for the association between DAX changes and news coverage to arise via ECB policy decisions. Hence, part of the positive association between DAX changes and news coverage in our analysis without controls in Appendix Table A.4 may be absorbed by the ECB policy controls.

Appendix Table A.5 shows the average marginal effect implied by the logit estimates of (2) across a range of control variables X and after excluding the largest DAX changes. The main finding is that the direct relationship between the magnitude of DAX changes and the probability of DAX news coverage remains stable and does not diminish.

Columns (1)-(3) of Appendix Table A.5 contain the baseline results. In columns (4)-(6) we include weekday fixed effects to account for potential differences in DAX performance and DAX news coverage across weekdays. This does not change the association between DAX changes and the probability of DAX news coverage. In columns (7)-(9) we drop days with absolute daily DAX changes above the

95th percentile to ensure that results are not driven by extreme DAX movements. This does not affect the average marginal effect of absolute DAX changes on the probability of DAX news coverage, but somewhat increases the gap between the effect of DAX declines and DAX increases on news coverage. Columns (10)-(12) account for the fact that larger DAX changes are more likely to cross round numbers, which may be considered especially newsworthy, by including dummies for the DAX passing a 1,000 or 10,000 mark (Garz and Larin 2024) and also control for moderator fixed effects (Dougal et al. 2012). This does not change the association between DAX changes and the probability of DAX news coverage.

In columns (13)–(15), we include indicator variables for scheduled macroeconomic data releases and policy announcements, such as Federal Reserve and ECB policy rate decisions, the ifo Business Climate Index, inflation, trade, industrial orders, GDP growth, and unemployment using data from Investing.com. We also interact these indicators with the announced changes. In addition, to account for macroeconomic trends, we introduce month and year fixed effects. This somewhat increases the average marginal effect of absolute DAX changes on the probability of DAX news coverage and decreases the gap between the effect of DAX declines and DAX increases on news coverage. Columns (16)-(18) control for daily measures of macroeconomic policy uncertainty and economic news sentiment in the US.[10] The average marginal effect of absolute DAX changes on the probability of DAX news coverage is unchanged. Columns (19)-(21) introduce two measures of news pressure. We account for overall news pressure by controlling for the total number of news stories produced by the top 10 German online media outlets according to Media Cloud, and for news pressure within the nightly news program by controlling for its overall length in minutes. Again, the average marginal effect of absolute DAX changes on the probability of DAX news coverage is unchanged.

Finally, in columns (22)-(27) we use data provided by MediaTenor to control for economic and financial topics covered by two news programs that air before the heute journal (but after stock markets have closed) on German public television channels. Controlling for these topics allows us to account for economic and financial events of the day that are considered newsworthy by programs other than the ZDF nightly news. MediaTenor collects daily data on the following economic and financial topics: the ifo business climate index, expectations regarding the base rate, industrial demand, rising or decreasing inflation, and rising or decreasing unemployment. In columns (22)-(24) we use MediaTenor data for a ZDF news program that airs just before 8 pm (ZDF heute) and lasts around 15 minutes. Our controls are indicator variables that capture whether a topic is covered or not and an interaction between the indicator for the ifo business climate index and the change in the index.[11] For robustness, in columns (25)-(27) we use the same type of MediaTenor data for another news program, a three-minute news program (Wirtschaft vor Acht) focusing on economic and financial news that airs just before 8 pm on ARD, Germany's other large public television network. In both cases, the average marginal effect of absolute DAX changes on the probability of DAX news coverage remains unchanged.

---

[10]There are no analogous measures for Germany or Europe at the daily frequency.

[11]The change in the ifo index is taken from Investing.com as this information is not collected by MediaTenor. We do not proceed this way for the other types of news, because they cannot be matched to a specific index or because they are discussed independently of specific indices. For example, inflation is regularly discussed independent of new inflation figures being released.

The results in Appendix Table A.5 indicate that the direct relationship between the magnitude of the daily change in the DAX and the probability that the nightly news covers the DAX performance varies little with the wide range of controls we consider. This is consistent with evidence that most day-on-day variation in stock returns cannot be attributed to identifiable public news (Roll 1988; Cutler et al. 1989; Andersen et al. 2007) and suggests that the relationship between the daily change in the DAX and the probability that the DAX is reported in the news is primarily driven by the DAX performance serving as the primary news item.

3.3 The Big News Bias: Counterfactual Analysis

We use our model for DAX news coverage to ask: suppose the nightly news were to report DAX changes with the same probability whether they were positive or negative. How much would be left of the actual difference between the average DAX performance on days with and without coverage in the news? To answer this question, we re-estimate (1) assuming the same parameter values for positive and negative DAX changes ($\beta = \gamma$, $\alpha = \delta$).[12] We use this *symmetric* news reporting model to simulate the average daily DAX performance on days with and without news reports based on 100 million draws from the distribution of the daily DAX performance over the 2017-2024 time period.

Table 1 presents our results. The first column displays the data. The second column contains the simulation results for the model in (1) that allows for different parameter values for positive and negative DAX changes. The key result is that the simulated model captures the data well, which is unsurprising given the findings in Figure 2. The third column contains the results when we simulate reporting on the DAX performance using the estimated *symmetric* news reporting model instead. This eliminates any bad-news bias in news selection and allows us to assess the quantitative importance of the big news bias. The interpretation of the −10.23 points in the bottom row is that even if the nightly news had reported positive and negative DAX changes of the same magnitude with the same probability, the average DAX performance on days with reports would still have been 10.23 points below the average DAX performance on days without reports. This is half of the overall gap.[13] Hence, the big news bias can account for a substantial part of the gap in average stock market performance between days when the stock market is covered in the news and days without news coverage.

Table 1: Average Daily Change of the DAX on Days with and without News Reports

	Data	Reporting Model	Symmetric Reporting Model
(1) Average DAX Change on Days with Report	−10.51	−10.52	−3.25
(2) Average DAX Change on Days without Report	+9.96	+9.95	+6.98
(3) Difference between (1) and (2)	−20.47	−20.47	−10.23

Note: Average change in index points of the DAX on days with and without (simulated) news reports. The "Reporting Model"-column contains simulated values based on our reporting model in (1) and the logit parameter estimates in Appendix Table A.4, column (2). The "Symmetric Reporting Model"-column contains simulated values based on the symmetric version of the reporting model in (1) and the logit estimates in Appendix Table A.4, column (1). Simulations are based on 100 million draws from the 2017-2024 distribution of daily DAX performance.

---

[12]The parameter estimates are in the first column of Appendix Table A.4.

[13]Results are very similar when we replicate the analysis including days without live feeds from the Frankfurt stock exchange on the ZDF nightly news. The main difference is that the big news bias is around 55 percent of the overall gap instead of around 50 percent. See Appendix Table A.6.

4 The Role of Negative Skewness

We turn to the relationship between the big news bias and negative skewness in aggregate stock returns documented in the literature (Campbell and Hentschel 1992; Albuquerque 2012; Harvey and Siddique 2023). We begin by examining the link between skewness and the data pattern shown in Figure 1C that average daily stock market performance conditional on absolute market movements above a threshold goes from positive to negative as the threshold increases. First, we calibrate a normal–inverse Gaussian (NIG) distribution—widely used to model stock returns (e.g., Jensen and Lunde 2001; Wilhelmsson 2009)—to match key moments of the distribution of day-on-day changes in the DAX between 2017 and 2024. As the NIG distribution has four parameters, this requires a minimum of four moments. We use mean, variance, skewness, and kurtosis. We then vary the skewness of the NIG distribution—holding mean, variance, and kurtosis constant—and simulate the implied average daily stock market performance conditional on absolute market movements above a threshold. The results are shown in Figure 3A. For reference, we also plot the conditional expectation in the actual DAX data. The figure shows that negative skewness generates the data pattern in Figure 1C: the average daily stock market performance conditional on absolute market movements above a threshold goes from positive to negative as the threshold increases.

In Figure 3B, we use the NIG distribution to simulate the big news bias for different degrees of skewness, again holding mean, variance, and kurtosis constant. The simulations assume that DAX news coverage is determined by the symmetric reporting model in Section 3.3. A first result is that the calibration based on the skewness of daily DAX performance (-0.46) generates a difference of -8 points in the simulated average DAX performance between days with and without DAX coverage. This is a large part of the difference of -10.23 points we obtain in the last column of Table 1 using the actual 2017-2024 daily DAX performance. A second interesting finding is that the size of the big news bias increases almost linearly with the degree of negative skewness and that doubling negative skewness from -0.46 to -0.92, holding mean, variance, and kurtosis constant, more than doubles the big news bias.[14]

5 Extensions

5.1 The Big News Bias and Size-Based News Selection

We also study how stronger size-based news selection affects the big news bias. Our analysis is based on the symmetric news reporting model in Section 3.3, combined with actual stock market performance between 2017 and 2024. We use the news reporting model with different values of the slope parameter to generate varying degrees of size-based news selection. For each value of the slope parameter, the intercept of the news reporting model is chosen so that the overall probability of reporting on stock market performance is 29 percent, which is the share of days with DAX reports in the ZDF nightly news. We simulate the big news bias for a given value of the slope parameter in three steps: (i) we compute reporting probabilities for daily index changes between 2017 and 2024 based on the symmetric news

---

[14]When the skewness in Appendix Figure 3B is zero, the difference between the average change of the index on days with and without reports is positive. This is because the average change in the daily DAX was positive over the period and the symmetric news reporting model is centered at zero.

Figure 3: Skewness & the Big News Bias

(A) Skewness Simulations: Average Change above Threshold
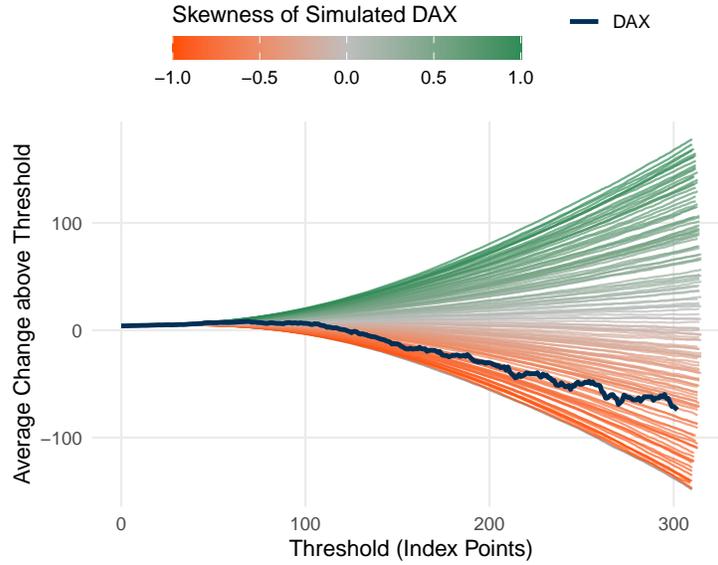
(B): Big News Bias in Skewness Simulations
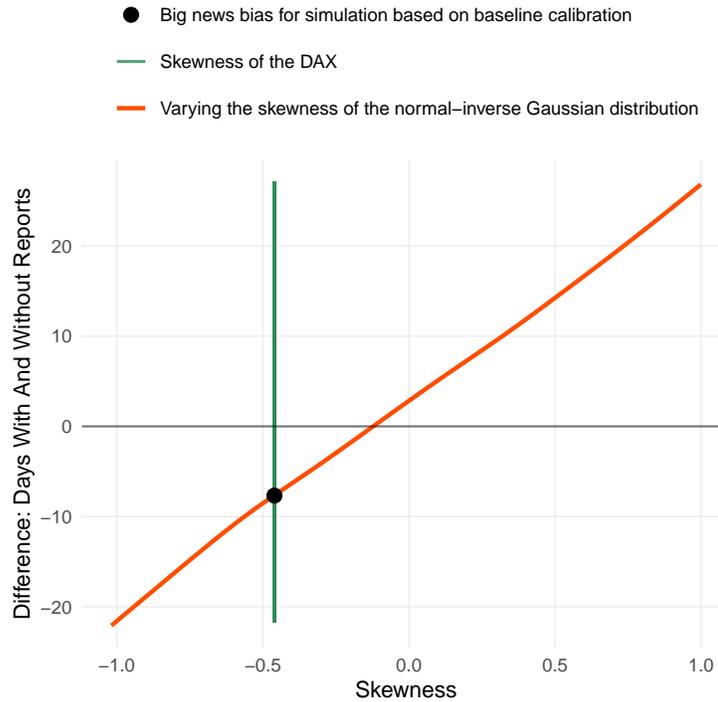
Note: *Panel A* simulates the average daily index change conditional on absolute changes above a threshold as a function of the threshold for different degrees of skewness of a normal–inverse Gaussian (NIG) distribution. Different colors indicate skewness values from −1 to +1. Absolute changes above the 95th percentile are not shown. The actual DAX values are shown in dark blue. *Panel B:* The baseline simulation (marked by the black dot) is based on a NIG distribution calibrated using 2017-2024 DAX performance and the symmetric news reporting model in Section 3.3. The moments used for the calibration of the NIG distribution are the mean, the variance, the skewness (marked by the green line), and the kurtosis of the distribution of 2017-2024 DAX performance. Simulations other than the baseline are generated with the same symmetric ZDF reporting model by varying the skewness of the NIG distribution from −1 to +1, holding mean, variance, and kurtosis constant.

reporting model; (ii) based on the computed probabilities, we draw days with simulated news reporting between 2017 and 2024; and (iii) we calculate the average daily stock market performance on days with simulated reports. For each slope parameter, we repeat steps (ii)–(iii) 1,000 times and finally compute the average of step (iii) across all simulations.

The DAX results are displayed in the upper left panel of Figure 4. The average daily DAX performance on days with simulated reports is on the vertical axis. The values on the horizontal axis indicate the implied average marginal effect of a 10-point change in the DAX on the probability of reporting (rather than the slope parameter itself). The range of average marginal effects on the horizontal axis includes the value we estimate for the ZDF nightly news (1.3 percentage points; marked by the vertical green line). The main finding is that the reported daily DAX performance drops quickly as we increase the slope parameter starting from zero. For example, when the average marginal effect of a 10-point change in the DAX on the probability of reporting is half of what we find for the nightly news (0.65 percentage points instead of 1.3 percentage points), the average daily DAX performance that would be reported is zero instead of the actual 4-point increase (7.1 percent annualized). Moreover, the reported average daily DAX performance decreases monotonically with the strength of size-based news selection.

The remaining panels in Figure 4 replicate the analysis for the other five stock market indices in Figure 1. To facilitate comparisons across indices, we rebase all indices to the same starting value as the DAX. The size of the big news bias increases with the strength of size-based news selection for all indices except the Dow Jones, where the relationship is U-shaped.

5.2 The Big News Bias for Daily Percentage Changes

So far, our analysis has been based on index changes measured in index points. Compared to percentage changes, changes measured in index points have the advantage of being additive. We replicate our analysis using percentage changes in Appendix C. The results are very similar. The main difference is that the big news bias explains 42 percent of the reporting gap, compared with about half of the gap when DAX performance is measured in index points.

5.3 Weekly DAX Performance

The ZDF nightly news reported the weekly DAX change on 9 percent of Fridays between 2017 and 2024. A first descriptive result is that the index decreased by 0.43 percent in weeks when performance was reported but increased by 0.19 percent when it was not reported. Hence, weekly DAX performance is somewhat more likely to be reported when stock market news is worse. To examine the relationship between weekly DAX performance and the probability of reporting in more detail, we implement (1) using weekly index changes. The results are reported in Appendix Table D.1. The only statistically significant results are that reporting is more likely when weekly changes in the DAX are larger and negative. The effect of larger positive weekly changes on the probability of reporting is also positive but statistically insignificant. In Appendix Table D.2, we implement the decomposition in Table 1 for weekly DAX changes. This yields evidence of a big news bias for weekly changes as well.

13

Figure 4: Simulated Index Reporting for the US and Five Largest European Economies
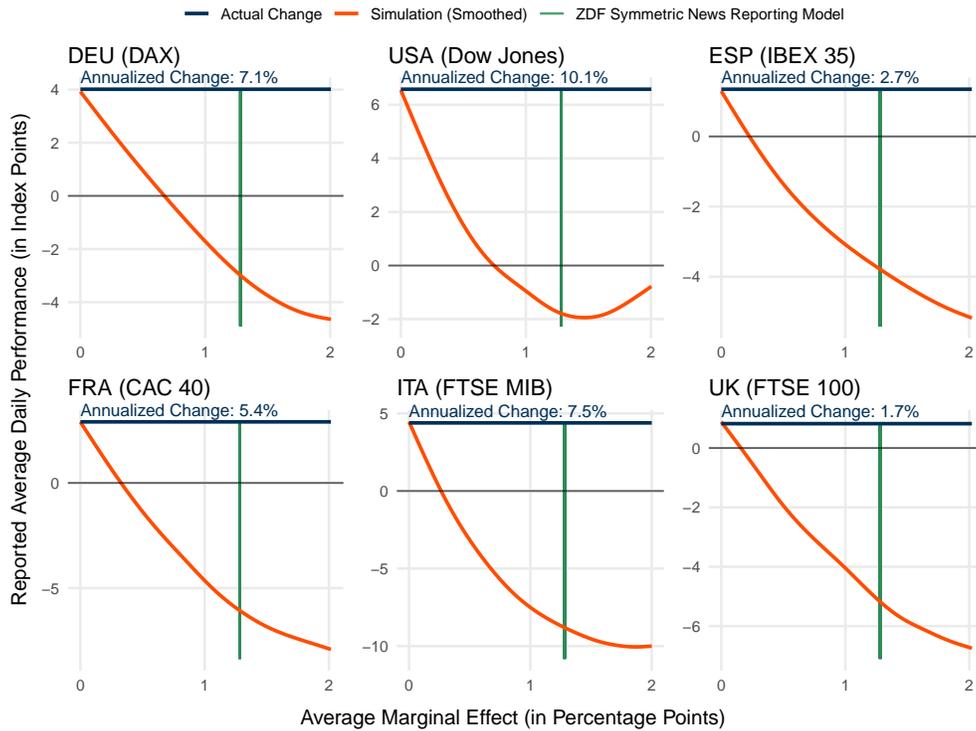
Note: The figure shows simulations of the big news bias for the stock market indices in Figure 1. Indices are rebased to the DAX starting value for comparability. Simulations are based on the symmetric news reporting model in Section 3.3. The horizontal axis shows the implied marginal effect of a 10-point index change on the reporting probability. The vertical axis shows the average index change on simulated reporting days. The vertical green line marks the estimated marginal effect for the ZDF nightly news (1.3 percentage points). The overall reporting probability in all simulations is 29 percent, which is the share of days with DAX reports in the nightly news.

6   Conclusion

We document that although stock markets in the United States and Europe rose from 2017 to 2024, average daily stock market performance becomes negative when weighted by media coverage. Our empirical analysis shows that this media negativity bias can arise without any deliberate or inadvertent negative slant in news selection. Instead, it emerges from the interaction between the news media's routine focus on major events—whether positive or negative—and the distribution of underlying events.

Our empirical analysis focuses on stock market coverage in Germany's most-watched nightly news program. We show that larger movements in the country's main stock market index are more likely to be reported, whether positive or negative. We also find that the distribution of daily stock market gains or losses is negatively skewed. This negative skewness, combined with size-based news selection, can account for about half of the gap in average stock market performance between days with and without news coverage—absent any asymmetries in the selection of positive versus negative news.

We have examined the big news bias in reporting on daily stock market performance, where the distribution of underlying events is directly observable. However, the mechanism we highlight applies more broadly whenever media attention is disproportionately allocated to major events and the underlying distribution is (negatively) skewed. For example, economic variables often adjust rapidly during crises but recover only gradually (Ordoñez 2013), and progress in many social and economic domains

14

often consists of steady incremental improvements punctuated by occasional larger setbacks (Rosling et al. 2018). Assessing whether the big news bias extends to these contexts remains an important direction for future research.

Our findings have implications for stock market reporting, particularly the balance between longer-term perspectives and the coverage of day-on-day fluctuations and their often speculative drivers. Short-run market movements are frequently difficult to attribute to specific news (Roll 1988; Cutler et al. 1989; Andersen et al. 2007). A stronger and more regular emphasis on longer-term trends may therefore provide audiences with a perspective that is less sensitive to biases in daily news coverage and more closely aligned with underlying market performance.

References

Albuquerque, Rui (2012), Skewness in Stock Returns: Reconciling the Evidence on Firm Versus Aggregate Returns, in: *The Review of Financial Studies* 25(5), pp. 1630–1673.

Andersen, Torben G., Tim Bollerslev, Francis X. Diebold, and Clara Vega (2007), Real-Time Price Discovery in Global Stock, Bond and Foreign Exchange Markets, in: *Journal of International Economics* 73(2), pp. 251–277.

Baker, H. Kent, Shantanu Dutta, Samir Saadi, and Ligang Zhong (2022), Does Media Coverage Affect Credit Rating Change Decisions? In: *Journal of Banking & Finance* 145, p. 106667.

Barber, Brad M. and Terrance Odean (2008), All That Glitters: The Effect of Attention and News on the Buying Behavior of Individual and Institutional Investors, in: *The Review of Financial Studies* 21(2), pp. 785–818.

Börse Frankfurt (2023), *Glossary*.

Buckman, Shelby R, Adam Hale Shapiro, Moritz Sudhof, Daniel J Wilson, et al. (2020), News sentiment in the time of COVID-19, in: *FRBSF Economic Letter* 8(1), pp. 5–10.

Campbell, John Y. and Ludger Hentschel (1992), No News Is Good News, in: *Journal of Financial Economics* 31(3), pp. 281–318.

Carlini, Federico, Doriana Cucinelli, Daniele Previtali, and Maria Gaia Soana (2020), Don't Talk Too Bad! Stock Market Reactions to Bank Corporate Governance News, in: *Journal of Banking & Finance* 121, p. 105962.

Cattaneo, Matias D., Richard K. Crump, Max H. Farrell, and Yingjie Feng (2024), On Binscatter, in: *American Economic Review* 5(114).

Cutler, David M., James M. Poterba, and Lawrence H. Summers (1989), What Moves Stock Prices? In: *The Journal of Portfolio Management* 15(3), pp. 4–12.

Davis, Steven J, Nicholas Bloom, and SR Baker (Apr. 2022), *Measuring economic policy uncertainty*, NBER Working Paper 21633.

Der Spiegel (2022), TV-Zuschauerzahlen 2022: ZDF liegt beim Publikum vorn, in: *Der Spiegel*.

Dougal, Casey, Joseph Engelberg, Diego García, and Christopher A. Parsons (2012), Journalists and the Stock Market, in: *The Review of Financial Studies* 25(3), pp. 639–679.

Durante, Ruben, Andrea Fabiani, Luc Laeven, and José-Luis Peydró (Apr. 2022), *Media Capture by Banks*, IZA Discussion Paper 15214.

Engelberg, Joseph E. and Christopher A. Parsons (2011), The Causal Impact of Media in Financial Markets, in: *Journal of Finance* 66(1), pp. 67–97.

Fedyk, Anastassia (2024), Front-Page News: The Effect of News Positioning on Financial Markets, in: *The Journal of Finance* 79(1), pp. 5–33.

Gambetti, Luca, Nicolo Maffei-Faccioli, and Sarah Zoi (Apr. 2024), *Is There a Negativity Bias in Economic News Coverage?* Working Paper.

Garz, Marcel (2014), Good News and Bad News: Evidence of Media Bias in Unemployment Reports, in: *Public Choice* 161(3-4), pp. 499–515.

Garz, Marcel and Benjamin Larin (June 2024), *Left-Digit Bias in Household Inflation Expectations*, Working Paper.

Groeling, Tim (2013), Media Bias by the Numbers: Challenges and Opportunities in the Empirical Study of Partisan News, in: *Annual Review of Political Science* 16(1), pp. 129–151.

Harcup, Tony and Deirdre O'Neill (2001), What Is News? Galtung and Ruge Revisited, in: *Journalism Studies* 2(2), pp. 261–280.

— (2017), What Is News?: News Values Revisited (Again), in: *Journalism Studies* 18(12), pp. 1470–1488.

Harrington, David E. (1989), Economic News on Television: The Determinants of Coverage, in: *Public Opinion Quarterly* 53(1), pp. 17–40.

Harvey, Campbell R. and Akhtar Siddique (2023), Conditional Skewness in Asset Pricing: 25 Years of Out-of-Sample Evidence, in: *Critical Finance Review* 12(1-4), pp. 355–366.

Heinz, Matthias and Johan Swinnen (2015), Media Slant in Economic News: A Factor 20, in: *Economics Letters* 132(July 2015), pp. 18–20.

Jensen, Morten B. and Asger Lunde (2001), The NIG-S&ARCH Model: A Fat-Tailed, Stochastic, and Autoregressive Conditional Heteroskedastic Volatility Model, in: *The Econometrics Journal* 4(2), pp. 319–342.

Liu, Betty, Marina Niessner, and Eric C. So (Oct. 2021), *Bad News Bearers: The Negative Tilt of the Financial Press*, Working Paper.

Newman, Nic, Richard Fletcher, Craig T Robertson, Kirsten Eddy, and Rasmus Kleis Nielsen (2022), *Reuters Institute Digital News Report 2022*, Reuters Institute Digital News Report, Oxford: Reuters Institute for the Study of Journalism, University of Oxford.

Ordoñez, Guillermo (2013), The Asymmetric Effects of Financial Frictions, in: *Journal of Political Economy* 121(5), pp. 844–895.

Peress, Joel (2014), The Media and the Diffusion of Information in Financial Markets: Evidence from Newspaper Strikes, in: *The Journal of Finance* 69(5), pp. 2007–2043.

Roberts, Hal, Rahul Bhargava, Linas Valiukas, Dennis Jen, Momin M. Malik, Cindy Bishop, Emily Ndulue, Aashka Dave, Justin Clark, Bruce Etling, Rob Faris, Anushka Shah, Jasmin Rubinovitz, Alexis Hope, Catherine D'Ignazio, Fernando Bermejo, Yochai Benkler, and Ethan Zuckerman (May 2021), *Media Cloud: Massive Open Source Collection of Global News on the Open Web*.

Roll, Richard (1988), R$\hat{2}$, in: *The Journal of Finance* 43(3), pp. 541–566.

Rosling, Hans, Ola Rosling, and Anna Rosling Rönnlund (2018), *Factfulness: Ten Reasons We're Wrong about the World - and Why Things Are Better than You Think*, London: SCEPTRE.

Soroka, Stuart N. (2006), Good News and Bad News: Asymmetric Responses to Economic Information, in: *The Journal of Politics* 68(2), pp. 372–385.

Tetlock, Paul C. (2007), Giving Content to Investor Sentiment: The Role of Media in the Stock Market, in: *The Journal of Finance* 62(3), pp. 1139–1168.

Tetlock, Paul C. (2015), "Chapter 18 - The Role of Media in Finance," in: *Handbook of Media Economics*, ed. by Simon P. Anderson, Joel Waldfogel, and David Strömberg, vol. 1, Handbook of Media Economics, North-Holland, pp. 701–721.

Wilhelmsson, Anders (2009), Value at Risk with Time Varying Variance, Skewness and Kurtosis-the NIG-ACD Model, in: *Econometrics Journal* 12(1), pp. 82–104.

Wirtschaftsjournalist:in (May 2025), *Florian Neuhann reagiert auf die Forschung*, https://www.wirtschaftsjournalistin.com/singlenews/uid-972026/florian-neuhann-reagiert-auf-die-forschung/.

ZDF Unternehmensarchiv (2025), *Einschaltquoten*, Mainz.

Online Appendix for

Stock Market Performance in the Media:
Reporting Big News, Missing the Big Picture?

1

A   Additional Tables and Figures

Table A.1: Summary Statistics on the DAX and ZDF Reporting

Statistic	N	Mean	St. Dev.	Min	Max
DAX Index Mentioned, Percent of Days	1,846	29.04	45.41	0	100
Viewers in Millions	1,842	3.70	0.79	1.12	10.14
Market Share in Percent	1,842	14.61	2.59	4.90	31.40
Length of ZDF Nightly News in Minutes	1,846	28.38	3.09	8.72	54.38
Index Level	1,846	14,020.18	2,225.57	8,441.71	20,426.27
Absolute Daily Change Index Points	1,846	105.55	108.53	0.06	1,277.55
Abs. Change Index, Days with Report	536	159.37	148.64	0.06	1,277.55
Abs. Change Index, Days without Report	1,310	83.54	76.82	0.13	497.39
Daily Change Index Points	1,846	4.01	151.36	−1,277.55	1,016.42
Change Index, Days with Report	536	−10.51	217.78	−1,277.55	1,016.42
Change Index, Days without Report	1,310	9.96	113.08	−497.39	466.08
Excess Kurtosis Index Points	1,846	6.72	0.00	6.72	6.72
Skewness Index Points	1,846	−0.46	0.00	−0.46	−0.46
Absolute Daily Change Percent	1,846	0.78	0.88	0.0005	12.24
Daily Change Percent	1,846	0.03	1.17	−12.24	10.98
Change Percent, Days with Report	536	−0.06	1.74	−12.24	10.98
Change Percent, Days without Report	1,310	0.07	0.84	−5.56	3.88
Duration Live Feed (starting 09/2019)	1,141	1.48	0.19	0.25	3.17

Note: With the exception of the duration of the live feed from the stock market, the variables cover the entire 2017-2024 period. The duration variable is only available starting on 19.09.2019.

Table A.2: Summary Statistics of Control Variables

Statistic	N	Mean	St. Dev.	Min	Max	Notes	Source
'000 passed	1,846	0.10	0.31	0	1	round number passed	OnVista.com
'0,000 passed	1,846	0.003	0.06	0	1	round number passed	OnVista.com
ifo Index: Released	1,846	0.05	0.21	0	1	index released	Investing.com Econ. Calendar
Industry Orders: Released	1,846	0.05	0.22	0	1	index released	Investing.com Econ. Calendar
Unemployment: Released	1,846	0.05	0.21	0	1	index released	Investing.com Econ. Calendar
Annual GDP Growth: Released	1,846	0.03	0.17	0	1	index released	Investing.com Econ. Calendar
Inflation: Released	1,846	0.09	0.29	0	1	index released	Investing.com Econ. Calendar
ECB Base Rate: Released	1,846	0.03	0.18	0	1	index released	Investing.com Econ. Calendar
Fed Base Rate: Released	1,846	0.03	0.17	0	1	index released	Investing.com Econ. Calendar
Trade Balance: Released	1,846	0.05	0.22	0	1	index released	Investing.com Econ. Calendar
ifo Index: Released x Change	1,846	0.08	0.57	0.00	11.60	index released interacted with change	Investing.com Econ. Calendar
Industry Orders: Released x Change	1,846	0.18	1.27	0.00	27.90	index released interacted with change	Investing.com Econ. Calendar
Unemployment: Released x Change	1,846	0.003	0.03	0.00	0.80	index released interacted with change	Investing.com Econ. Calendar
Annual GDP Growth: Released x Change	1,846	0.06	0.58	0.00	11.70	index released interacted with change	Investing.com Econ. Calendar
Inflation: Released x Change	1,846	0.03	0.17	0.00	2.20	index released interacted with change	Investing.com Econ. Calendar
ECB Base Rate: Released x Change	1,846	0.003	0.04	0.00	0.75	index released interacted with change	Investing.com Econ. Calendar
Fed Base Rate: Released x Change	1,846	0.004	0.04	0.00	0.75	index released interacted with change	Investing.com Econ. Calendar
Trade Surplus: Released x Change	1,846	0.12	0.67	0.00	9.60	index released interacted with change	Investing.com Econ. Calendar
ZDF heute Journal Length (Min)	1,846	28.38	3.09	8.72	54.38	length of show	ZDF Unternehmensarchiv
MediaCloud: Total News Stories	1,846	970.76	366.73	3	4,587	number of news stories on any topic (total)	Roberts et al. (2021)
News Sentiment	1,846	−0.03	0.19	−0.67	0.33	daily news sentiment (level)	Buckman et al. 2020
Policy Uncertainty: Level	1,846	137.26	99.73	10.92	1,026.38	daily policy uncertainty (level)	Davis et al. (2022)
Policy Uncertainty: Change	1,846	−10.60	78.91	−562.88	872.82	change in policy uncertainty to previous day	Davis et al. (2022)
MT/ARD: Unemployment Up	1,846	0.002	0.05	0	1	any segment on topic	MediaTenor
MT/ARD: Unemployment Down	1,846	0.01	0.09	0	1	any segment on topic	MediaTenor
MT/ARD: Business Climate Index	1,846	0.02	0.15	0	1	any segment on topic	MediaTenor
MT/ARD: Industry Demand	1,846	0.01	0.08	0	1	any segment on topic	MediaTenor
MT/ARD: ECB Base Rate Expectation	1,846	0.01	0.12	0	1	any segment on topic	MediaTenor
MT/ARD: Inflation Up	1,846	0.06	0.24	0	1	any segment on topic	MediaTenor
MT/ARD: Inflation Down	1,846	0.01	0.12	0	1	any segment on topic	MediaTenor
MT/ZDF: Unemployment Up	1,846	0.02	0.13	0	1	any segment on topic	MediaTenor
MT/ZDF: Unemployment Down	1,846	0.01	0.11	0	1	any segment on topic	MediaTenor
MT/ZDF: Business Climate Index	1,846	0.003	0.06	0	1	any segment on topic	MediaTenor
MT/ZDF: Industry Demand	1,846	0.002	0.04	0	1	any segment on topic	MediaTenor
MT/ZDF: ECB Base Rate Expectation	1,846	0.001	0.02	0	1	any segment on topic	MediaTenor
MT/ZDF: Inflation Up	1,846	0.07	0.26	0	1	any segment on topic	MediaTenor
MT/ZDF: Inflation Down	1,846	0.01	0.12	0	1	any segment on topic	MediaTenor

Figure A.1: Media Reporting on Six Main National Stock Indices Using Factiva

(A): Binscatter and 5th-Degree Polynomial of Daily Index Change and Media Reporting

● Binscatter ▬ Fitted Polynomial

Percent of Total Index News (vertical axis)

Daily Change in Index Points (horizontal axis)

(B): Actual and Media Reporting Weighted Change
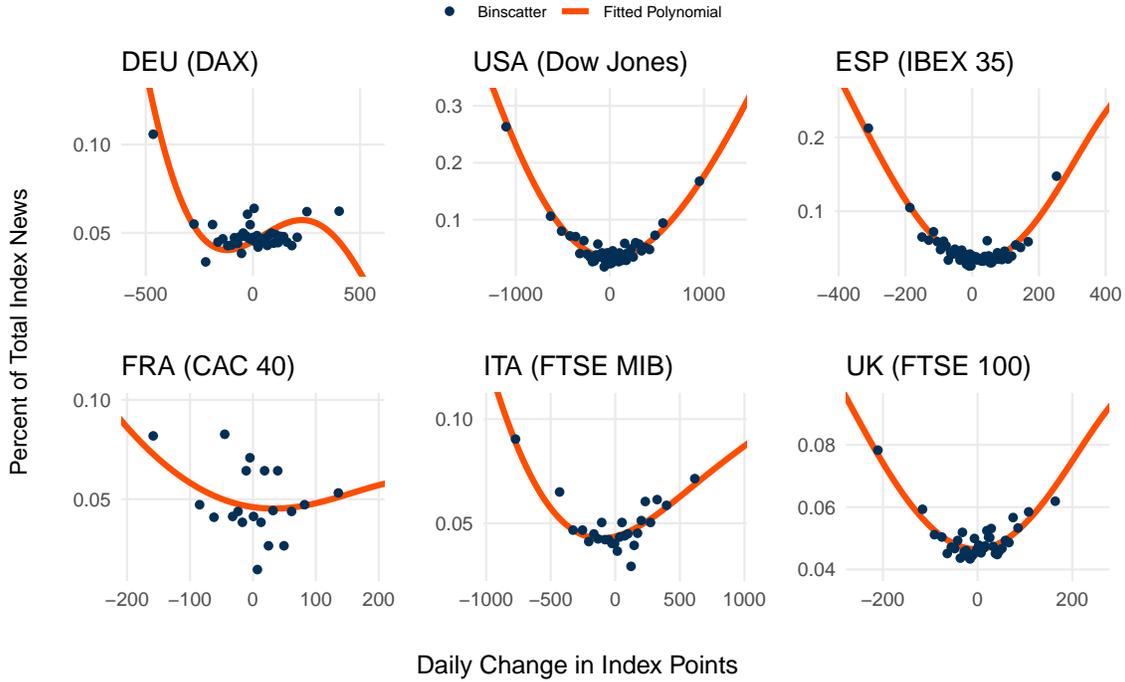
Daily Change in Index Points
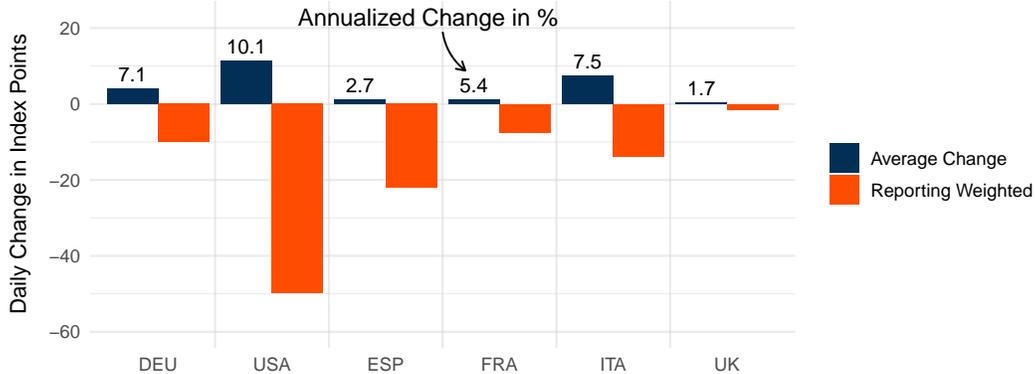
Note: The figure replicates Figure 1 using data on news reporting from Factiva instead of Media Cloud. *Panel A* shows binscatter plots of the daily change in index points of the main national stock market indices of six countries (horizontal axes) against daily media reports on the indices produced by the country's 10 most-read online media (vertical axes). Daily media reporting is the number of daily reports relative to total reports over the period. The data is for the 2017-2024 period. The number of bins is determined by the IMSE-optimal direct plug-in rule (Cattaneo et al. 2024). The curves are fitted 5th-degree polynomials. *Panel B* shows the average daily change of the indices in points. The blue bars are the actual change (the numbers on top are annualized returns in percent). The orange bars are the average daily change of the indices when weighted by media reporting. See Section 2 for the data sources.

Figure A.2: Panel C of Figure 1 for the Time Period 2010-2017
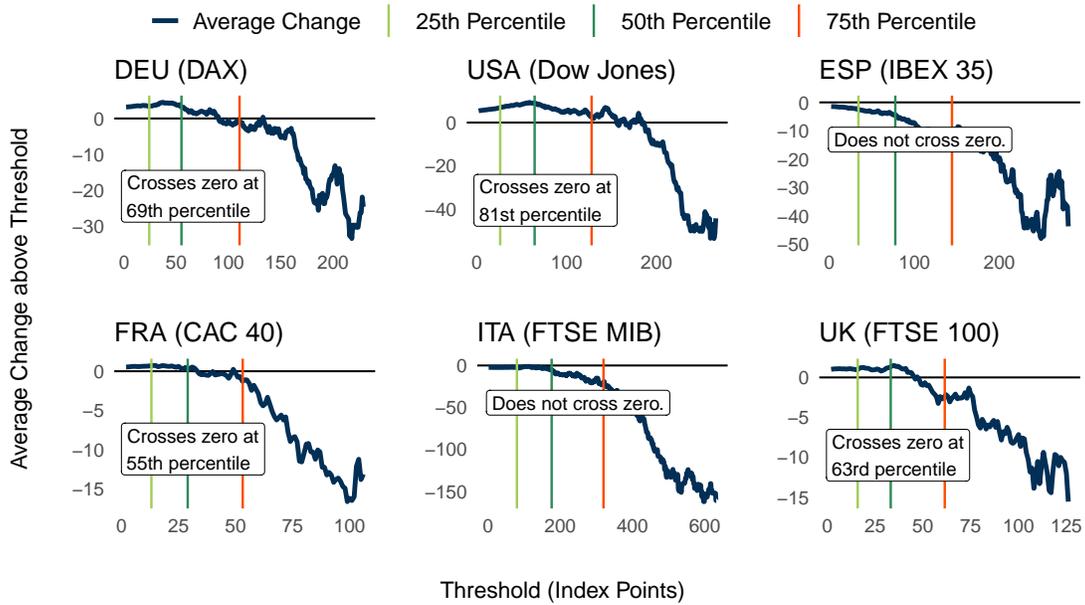
Note: The figure above replicates Figure 1C. It is created by computing the average change in the index when limiting daily changes to those whose absolute value lies above the threshold indicated on the vertical axis. For example, the value at 100 shows the average change on days with absolute changes above 100 index points. The three vertical lines visualize the distribution of changes by showing the 25th, 50th, and 75th percentile. In addition, the figure indicates at which percentile of daily changes, the average turns negative. For visualization, we restrict the figure to absolute changes below the 95th percentile.

Figure A.3: Actual and (Non-)Reported DAX Performance in ZDF heute journal
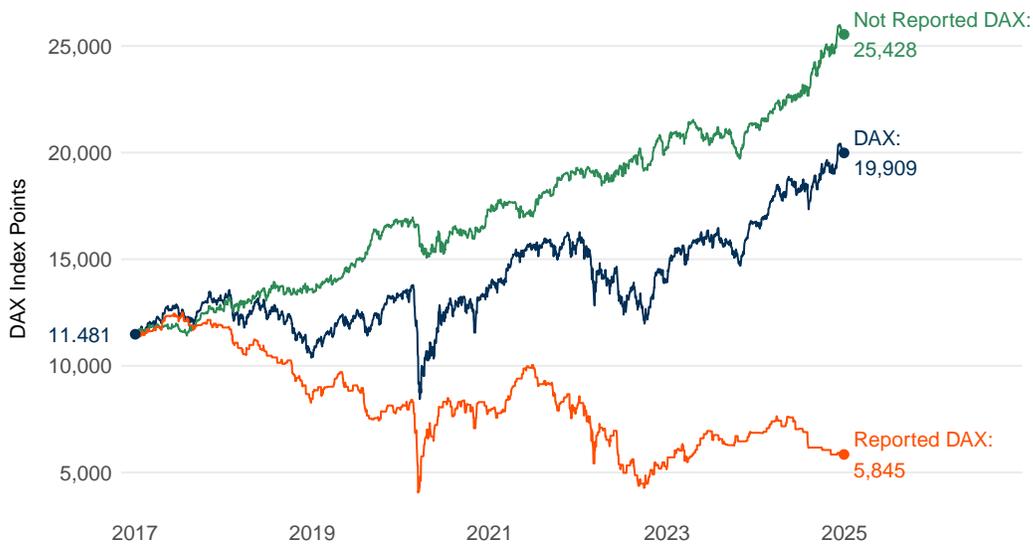
Note: The figure shows the actual and (non-)reported DAX in Germany's ZDF heute journal. The blue line represents the actual DAX index level. The orange line corresponds to a hypothetical DAX index obtained by summing the changes in the DAX on days when it is reported in the news, assuming a zero change on days when it is not reported. The green line corresponds to a hypothetical DAX index obtained by summing the changes in the DAX on days when it is not reported in the news, assuming a zero change on days when it is reported.

5

Table A.3: Summary Statistics for Daily Changes of Indices in Figure 1

Stock Index	Statistic	Measured in Points	Measured in Percent
DAX	Daily Change	4.15	0.03
	Absolute Daily Change	105.60	0.78
	Skewness	-0.47	-0.41
	Excess Kurtosis	6.39	14.06
Dow Jones	Daily Change	11.33	0.04
	Absolute Daily Change	211.08	0.72
	Skewness	-0.74	-0.59
	Excess Kurtosis	10.23	22.01
IBEX 35	Daily Change	1.10	0.02
	Absolute Daily Change	70.31	0.79
	Skewness	-0.90	-0.95
	Excess Kurtosis	9.53	16.82
CAC 40	Daily Change	1.23	0.03
	Absolute Daily Change	45.15	0.76
	Skewness	-0.63	-0.71
	Excess Kurtosis	7.22	13.53
FTSE MIB	Daily Change	7.36	0.04
	Absolute Daily Change	204.53	0.87
	Skewness	-1.20	-1.56
	Excess Kurtosis	10.19	21.31
FTSE 100	Daily Change	0.51	0.01
	Absolute Daily Change	45.30	0.64
	Skewness	-0.91	-0.88
	Excess Kurtosis	9.14	16.04

Note: Daily changes of the national stock market indices in Figure 1 measured in both index points and in percentage points.

Figure A.4: ZDF Nightly News Reporting on Daily DAX Change 18.10.2022

Note: Screenshot of nightly news report on the daily change of the DAX on October 18, 2022. The orange highlight of the change in index points and in percent is part of the original broadcast.

Table A.4: Logit Results for the News Reporting Model

(A) Logit Coefficients

	(1)	(2)	(3)
Constant	−1.6805***	−1.5722***	−1.5722***
	(0.0850)	(0.1162)	(0.1162)
Abs. Change Index Points	0.0070***		0.0059***
	(0.0006)		(0.0008)
Abs. Change Index Points x Pos. Change		0.0059***	
		(0.0008)	
Abs. Change Index Points x Neg. Change		0.0080***	0.0021*
		(0.0009)	(0.0012)
Neg. Change		−0.2055	−0.2055
		(0.1710)	(0.1710)
N	1846	1846	1846
R2 Adj.	0.082	0.082	0.082

(B) Implied Average Marginal Effects

	(1)	(2)	(3)
Abs. Change Index Points	0.0013***		0.0011***
	(0.0001)		(0.0001)
Abs. Change Index Points x Pos. Change		0.0011***	
		(0.0001)	
Abs. Change Index Points x Neg. Change		0.0015***	0.0004*
		(0.0001)	(0.0002)
Neg. Change		−0.0378	−0.0378
		(0.0315)	(0.0315)
N	1846	1846	1846

Note: *Panel A* contains the results of estimating different versions of the logit news reporting model in (1). The model estimated in column (1) is the symmetric version of the news reporting model in (1). The model estimated in column (2) is the news reporting model in (1). The model estimated in column (3) is equivalent to the model in column (2) but reformulated so as to test the statistical significance of the difference between the slope parameters for positive index changes and negative index changes. *Panel B* reports the average marginal effects of a one-index-point change. Heteroscedasticity-robust standard errors in brackets. ***$p < 0.01$; **$p < 0.05$; *$p < 0.1$

Table A.5: Marginal Effects (Logit) for the News Reporting Model with Controls

	Main Model			+ Weekday FE			– 95% Quantile of Changes			+ Left-Digit Bias & Moderator FE			+ Macro-event Controls			+ Macro-uncertainty Controls			+ News Pressure Controls			+ Media Tenor (ZDF)			+ Media Tenor (ARD)		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)
Abs. Change Index Points	0.0013***	0.0011***		0.0013***	0.0011***		0.0013***	0.0010***		0.0013***	0.0010***		0.0015***	0.0012***		0.0015***	0.0012***		0.0015***	0.0012***		0.0015***	0.0012***		0.0015***	0.0012***	
	(0.0001)	(0.0001)		(0.0001)	(0.0002)		(0.0002)	(0.0002)		(0.0002)	(0.0002)		(0.0002)	(0.0002)		(0.0002)	(0.0002)		(0.0002)	(0.0002)		(0.0004)	(0.0004)		(0.0004)	(0.0004)	
Abs. Change Index Points x Pos. Change			0.0011***			0.0011***			0.0010***			0.0010***			0.0012***			0.0012***			0.0012***			0.0012***			0.0012***
			(0.0001)			(0.0002)			(0.0002)			(0.0002)			(0.0002)			(0.0002)			(0.0002)			(0.0004)			(0.0004)
Abs. Change Index Points x Neg. Change		0.0004*	0.0015***		0.0004*	0.0015***		0.0006**	0.0016***		0.0006**	0.0016***		0.0005**	0.0017***		0.0005*	0.0017***		0.0005*	0.0017***		0.0005*	0.0017***		0.0005*	0.0017***
		(0.0002)	(0.0002)		(0.0002)	(0.0002)		(0.0003)	(0.0002)		(0.0003)	(0.0002)		(0.0003)	(0.0004)		(0.0003)	(0.0004)		(0.0003)	(0.0004)		(0.0003)	(0.0004)		(0.0003)	(0.0004)
Neg. Change		-0.0378	-0.0378		-0.0361	-0.0361		-0.0473	-0.0473		-0.0471	-0.0471		-0.0420	-0.0420		-0.0406	-0.0406		-0.0389	-0.0389		-0.0399	-0.0399		-0.0421	-0.0421
		(0.0312)	(0.0312)		(0.0298)	(0.0298)		(0.0316)	(0.0316)		(0.0317)	(0.0317)		(0.0314)	(0.0314)		(0.0316)	(0.0316)		(0.0330)	(0.0330)		(0.0329)	(0.0329)		(0.0332)	(0.0332)
'000 passed										0.0194	0.0170	0.0170	0.0161	0.0148	0.0148	0.0139	0.0129	0.0129	0.0119	0.0109	0.0109	0.0122	0.0111	0.0111	0.0127	0.0115	0.0115
										(0.0368)	(0.0368)	(0.0368)	(0.0357)	(0.0357)	(0.0357)	(0.0357)	(0.0357)	(0.0357)	(0.0357)	(0.0357)	(0.0357)	(0.0357)	(0.0356)	(0.0356)	(0.0359)	(0.0359)	(0.0359)
'0,000 passed										-0.0027	-0.0193	-0.0193	0.1613	0.1388	0.1388	0.1873	0.1625	0.1625	0.2030	0.1785	0.1785	0.3018	0.2758	0.2758	0.0690	0.0471	0.0471
										(0.3232)	(0.3337)	(0.3337)	(0.3680)	(0.3814)	(0.3814)	(0.3624)	(0.3798)	(0.3798)	(0.3680)	(0.3838)	(0.3838)	(0.3708)	(0.4129)	(0.4129)	(0.2844)	(0.2760)	(0.2760)
ECB Base Rate: Released													0.1617**	0.1653**	0.1653**	0.1626**	0.1660**	0.1660**	0.1636**	0.1667**	0.1667**	0.1590**	0.1623**	0.1623**	0.1776**	0.1823**	0.1823**
													(0.0751)	(0.0754)	(0.0754)	(0.0750)	(0.0754)	(0.0754)	(0.0797)	(0.0802)	(0.0802)	(0.0781)	(0.0786)	(0.0786)	(0.0806)	(0.0809)	(0.0809)
ECB Base Rate: Released x Change													-0.2501	-0.2146	-0.2146	-0.2421	-0.2087	-0.2087	-0.2248	-0.1914	-0.1914	-0.2618	-0.2271	-0.2271	-0.1966	-0.1610	-0.1610
													(0.3256)	(0.3144)	(0.3144)	(0.3221)	(0.3115)	(0.3115)	(0.3294)	(0.3173)	(0.3173)	(0.3208)	(0.3096)	(0.3096)	(0.3111)	(0.2989)	(0.2989)
Fed Base Rate: Released													0.0871	0.0880	0.0880	0.0857	0.0865	0.0865	0.0864	0.0875	0.0875	0.0963	0.0971	0.0971	0.0836	0.0847	0.0847
													(0.0864)	(0.0865)	(0.0865)	(0.0861)	(0.0861)	(0.0861)	(0.0872)	(0.0873)	(0.0873)	(0.0880)	(0.0879)	(0.0879)	(0.0870)	(0.0871)	(0.0871)
Fed Base Rate: Released x Change													-0.1521	-0.1482	-0.1482	-0.1512	-0.1471	-0.1471	-0.1517	-0.1482	-0.1482	-0.2049	-0.2004	-0.2004	-0.1446	-0.1408	-0.1408
													(0.3345)	(0.3361)	(0.3360)	(0.3333)	(0.3345)	(0.3345)	(0.3425)	(0.3440)	(0.3440)	(0.3195)	(0.3208)	(0.3208)	(0.3423)	(0.3449)	(0.3449)
Annual GDP Growth: Released													-0.1164*	-0.1218**	-0.1218**	-0.1159*	-0.1214**	-0.1214**	-0.1166*	-0.1221**	-0.1221**	-0.1193*	-0.1242*	-0.1242*	-0.1118	-0.1173*	-0.1173*
													(0.0607)	(0.0595)	(0.0595)	(0.0613)	(0.0602)	(0.0602)	(0.0679)	(0.0677)	(0.0677)	(0.0658)	(0.0656)	(0.0656)	(0.0690)	(0.0688)	(0.0688)
Annual GDP Growth: Released x Change													0.0263	0.0277	0.0277	0.0261	0.0275	0.0275	0.0254	0.0268	0.0268	0.0274	0.0288	0.0288	0.0268	0.0282	0.0282
													(0.0277)	(0.0279)	(0.0279)	(0.0271)	(0.0273)	(0.0273)	(0.0281)	(0.0283)	(0.0283)	(0.0272)	(0.0274)	(0.0274)	(0.0296)	(0.0300)	(0.0300)
ifo Index: Released													0.0225	0.0231	0.0231	0.0158	0.0170	0.0170	0.0179	0.0190	0.0190	0.0119	0.0130	0.0130	-0.0217	-0.0223	-0.0223
													(0.0609)	(0.0618)	(0.0618)	(0.0605)	(0.0614)	(0.0614)	(0.0608)	(0.0618)	(0.0618)	(0.0608)	(0.0617)	(0.0617)	(0.0626)	(0.0632)	(0.0632)
ifo Index: Released x Change													0.0197	0.0197	0.0197	0.0242	0.0237	0.0237	0.0235	0.0231	0.0231	0.0217	0.0213	0.0213	0.0238	0.0236	0.0236
													(0.0234)	(0.0248)	(0.0248)	(0.0234)	(0.0248)	(0.0248)	(0.0239)	(0.0253)	(0.0253)	(0.0239)	(0.0252)	(0.0252)	(0.0291)	(0.0300)	(0.0300)
Industry Orders: Released													0.1201*	0.1180*	0.1180*	0.1150*	0.1133*	0.1133*	0.1161*	0.1145*	0.1145*	0.1187*	0.1166	0.1166	0.1135*	0.1120	0.1120
													(0.0642)	(0.0645)	(0.0645)	(0.0647)	(0.0649)	(0.0649)	(0.0681)	(0.0684)	(0.0684)	(0.0712)	(0.0713)	(0.0713)	(0.0688)	(0.0691)	(0.0691)
Industry Orders: Released x Change													0.0020	0.0021	0.0021	0.0031	0.0031	0.0031	0.0024	0.0024	0.0024	0.0023	0.0025	0.0025	0.0014	0.0014	0.0014
													(0.0094)	(0.0094)	(0.0094)	(0.0096)	(0.0096)	(0.0096)	(0.0099)	(0.0099)	(0.0099)	(0.0118)	(0.0117)	(0.0117)	(0.0108)	(0.0108)	(0.0108)
Inflation: Released													0.0523	0.0534	0.0534	0.0494	0.0508	0.0508	0.0498	0.0512	0.0512	0.0437	0.0457	0.0457	0.0542	0.0557	0.0557
													(0.0439)	(0.0437)	(0.0437)	(0.0439)	(0.0438)	(0.0438)	(0.0455)	(0.0454)	(0.0454)	(0.0442)	(0.0441)	(0.0441)	(0.0454)	(0.0453)	(0.0453)
Inflation: Released x Change													-0.0281	-0.0331	-0.0331	-0.0205	-0.0254	-0.0254	-0.0224	-0.0270	-0.0270	-0.0107	-0.0159	-0.0159			
													(0.0655)	(0.0640)	(0.0640)	(0.0653)	(0.0639)	(0.0639)	(0.0658)	(0.0646)	(0.0646)	(0.0641)	(0.0626)	(0.0626)	(0.0626)	(0.0614)	(0.0613)
Trade Balance: Released													0.0725	0.0742	0.0742	0.0690	0.0710	0.0710	0.0690	0.0707	0.0707	0.0713	0.0730	0.0730	0.0599	0.0616	0.0616
													(0.0698)	(0.0698)	(0.0698)	(0.0708)	(0.0707)	(0.0707)	(0.0726)	(0.0727)	(0.0727)	(0.0718)	(0.0720)	(0.0720)	(0.0713)	(0.0713)	(0.0713)
Trade Surplus: Released x Change													-0.0076	-0.0074	-0.0074	-0.0056	-0.0056	-0.0056	-0.0065	-0.0065	-0.0065	-0.0072	-0.0072	-0.0072	-0.0030	-0.0027	-0.0027
													(0.0192)	(0.0193)	(0.0193)	(0.0193)	(0.0194)	(0.0194)	(0.0194)	(0.0195)	(0.0195)	(0.0191)	(0.0192)	(0.0192)	(0.0195)	(0.0198)	(0.0198)
Unemployment: Released													-0.0318	-0.0323	-0.0323	-0.0357	-0.0359	-0.0359	-0.0373	-0.0375	-0.0375	0.0450	0.0442	0.0442	-0.0358	-0.0358	-0.0358
													(0.0495)	(0.0496)	(0.0496)	(0.0496)	(0.0497)	(0.0497)	(0.0504)	(0.0505)	(0.0505)	(0.0654)	(0.0656)	(0.0656)	(0.0503)	(0.0504)	(0.0504)
Unemployment: Released x Change													-0.1499	-0.1974	-0.1974	-0.1115	-0.1609	-0.1609	-0.1181	-0.1663	-0.1663	-0.2326	-0.2832	-0.2832	-0.1062	-0.1587	-0.1587
													(0.3143)	(0.3153)	(0.3153)	(0.3200)	(0.3209)	(0.3209)	(0.3221)	(0.3244)	(0.3244)	(0.3247)	(0.3279)	(0.3279)	(0.3191)	(0.3217)	(0.3217)
News Sentiment																0.0542	0.0497	0.0497	0.0460	0.0418	0.0418	0.0347	0.0309	0.0309	0.0524	0.0479	0.0479
																(0.0860)	(0.0860)	(0.0860)	(0.0861)	(0.0860)	(0.0860)	(0.0856)	(0.0855)	(0.0855)	(0.0871)	(0.0870)	(0.0870)
Policy Uncertainty: Change																0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
																(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Policy Uncertainty: Level																-0.0001	-0.0001	-0.0001	-0.0002	-0.0001	-0.0001	-0.0001	-0.0001	-0.0001	-0.0002	-0.0002	-0.0002
																(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
ZDF heute Journal Length (Min)																			0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0004	0.0004	0.0004
																			(0.0033)	(0.0033)	(0.0033)	(0.0033)	(0.0033)	(0.0033)	(0.0032)	(0.0032)	(0.0032)
MediaCloud: Total News Stories																			-0.0001	-0.0001	-0.0001	-0.0001*	-0.0001*	-0.0001*	-0.0000	-0.0000	-0.0000
																			(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
MT: Business Climate Index																						0.0958	0.0715	0.0715	0.1458	0.1527	0.1527
																						(0.2122)	(0.2024)	(0.2024)	(0.1047)	(0.1064)	(0.1064)
MT: Business Climate Index x Ifo Change																						0.0533	0.0658	0.0658	-0.0034	-0.0040	-0.0040
																						(0.1399)	(0.1397)	(0.1397)	(0.0420)	(0.0444)	(0.0444)
MT: ECB Base Rate Expectation																						0.7283***	0.7287***	0.7287***	0.0743	0.0776	0.0776
																						(0.1005)	(0.1013)	(0.1013)	(0.0895)	(0.0904)	(0.0904)
MT: Industry Demand																						0.0292	0.0174	0.0174	0.0914	0.0952	0.0952
																						(0.3159)	(0.3020)	(0.3020)	(0.1168)	(0.1170)	(0.1170)
MT: Inflation Down																						-0.0013	-0.0071	-0.0071	-0.1142	-0.1131	-0.1131
																						(0.0889)	(0.0885)	(0.0885)	(0.0928)	(0.0921)	(0.0921)
MT: Inflation Up																						0.0363	0.0341	0.0341	-0.0425	-0.0481	-0.0481
																						(0.0428)	(0.0427)	(0.0427)	(0.0423)	(0.0426)	(0.0426)
MT: Unemployment Down																						-0.1806**	-0.1799**	-0.1799**	0.2255	0.2268	0.2268
																						(0.0907)	(0.0920)	(0.0920)	(0.1630)	(0.1614)	(0.1614)
MT: Unemployment Up																						-0.1297**	-0.1269**	-0.1269**	0.2534	0.2334	0.2334
																						(0.0736)	(0.0741)	(0.0741)	(0.4284)	(0.4485)	(0.4485)
N	1846	1846	1846	1846	1846	1846	1753	1753	1753	1753	1753	1753	1753	1753	1753	1753	1753	1753	1753	1753	1753	1753	1753	1753	1753	1753	1753
R2 Adj.	0.082	0.082	0.082	0.086	0.085	0.085	0.072	0.073	0.073	0.071	0.071	0.071	0.066	0.067	0.067	0.088	0.088	0.088	0.087	0.087	0.087	0.083	0.083	0.083	0.084	0.084	0.084
Weekday FE				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Moderator FE										✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Month FE													✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year FE													✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Note: The table presents the average marginal effects of the logit news reporting model in (1) with additional controls. Columns (1)-(3) reproduce the baseline specifications (without controls). Columns (4)-(27) introduce various sets of control variables and fixed effects. Heteroscedasticity-robust standard errors in brackets. ***$p < 0.01$; **$p < 0.05$; *$p < 0.1$

Figure A.5: Daily DAX Performance in Index Points and ZDF Reporting
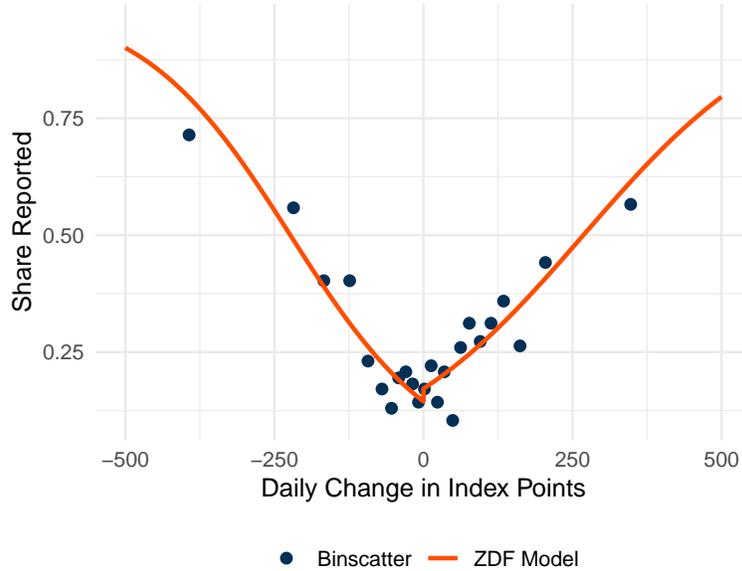
Table A.6: Decomposition Including Nightly News without Live Feeds from Frankfurt

	Data	Reporting Model	Symmetric Reporting Model
(1) Average DAX Change on Days with Report	−10.51	−10.52	−3.99
(2) Average DAX Change on Days without Report	+9.42	+9.41	+7.07
(3) Difference between (1) and (2)	−19.93	−19.93	−11.06

B Media Cloud and Factiva

We start with the list of most-read online media outlets for each country according to the Reuters Institute Digital News Report (Newman et al. 2022). Next, we identify the ten most-read media outlets available on Media Cloud and the ten most-read media outlets on Factiva, two large databases for online news. If the database does not include a specific outlet on the list of most-read online media outlets according to the Reuters Institute Digital News Report or does not refer to a specific media outlet (e.g. sometimes the Reuters report lists "local newspaper"), we replace it by the next highest-ranked outlet. The resulting list of outlets is shown in Table B.1. While we focus on online outlets, Factiva either only lists the print version or is unclear as to whether the print or online version of a given newspaper is included in its data in five instances. In these cases, we rely on the print/ambiguous version.[15] Media Cloud, on the other hand, only includes online outlets. After identifying the relevant outlets, we search for articles on Factiva using the following search terms: DEU: "dax" AND punkt*; USA: "dow jones"

---

[15]The five outlets are: The Guardian (UK), Mail (UK), Le Parisien (FRA), Ouest France (FRA), El País (ESP).

AND point*, UK: "ftse 100" AND point*; FRA: "cac 40" AND point*; "ftse mib" AND punt*; "IBEX" AND punto*. On Media Cloud, we include references to "percent" if this substantially increases the number of search results. The search terms for Media Cloud are: DEU: "dax" AND (punkt* OR prozent*); USA: "dow jones" AND percent*; UK: "ftse 100" AND percent*, FRA: "cac 40" AND (point* OR "pour cent"); ITA: "FTSE MIB" AND punt*; ESP: "IBEX 35" AND punto*. Table B.2 shows summary statistics of the Factiva and Media Cloud data respectively.

Table B.1: Factiva and Media Cloud: Inclusion of News Outlets in Data Collection

Country	Outlet	Readers (%)	Factiva	Mediacloud	Country	Outlet	Readers (%)	Factiva	Mediacloud
DEU	t-online	16			FRA	20minutes	17	✓	✓
	ARD news	15				regional or local newspaper	13		
	Spiegel	13	✓	✓		bfm tv	13		✓
	Regional/local	13				tf1 news	12		
	Bild.de	13	✓	✓		france info	11		✓
	n-tv	12	✓	✓		le parisien	10	✓	✓
	web.de	12		✓		brut	10		
	focus	12	✓	✓		cnews	9	✓	✓
	gmx	10				yahoo	9		
	welt	9	✓	✓		m6	9		
	zdf (heute)	8		✓		mediapart	8	✓	✓
	zeit	7	✓	✓		le huffpost	7		
	sueddeutsche	7	✓	✓		le point	7	✓	✓
	Public/regional news TV	7				l'internaute	6	✓	✓
	stern	6	✓	✓		rtl online	6	✓	✓
	faz	5	✓			ouest france	6	✓	✓
USA	yahoo	16			ITA	fanpage	21	✓	
	cnn	14	✓	✓		tgcom24online	21	✓	✓
	fox news	14	✓	✓		ansa	18	✓	✓
	local television	14				skytg24	18	✓	
	NYT	12	✓	✓		la repubblica	15	✓	✓
	NBC/MSNBC	11	✓	✓		il corriere della sera	14	✓	✓
	washington post	10	✓	✓		rai news	11		✓
	buzzfeed	9	✓	✓		notizie libero	10		
	local radio news online	9				commercial radio news online	10		
	cbs	8	✓	✓		il fatto	9	✓	✓
	abc	8	✓	✓		huffpost	9	✓	
	msn	8				regional or local newspaper	9		
	npr news online	8	✓	✓		il sole 24 ore	8	✓	✓
	other regional or local newspapers	8				tgla7 online	8		
	usa today	8	✓	✓		quotidiano.net (la nazione)	7	✓	
	huff post	8				il post	7		
ESP	el pais	18	✓	✓	UK	bbc	43	✓	✓
	okdiario	13	✓	✓		guardian	18	✓	✓
	antena 3	13	✓	✓		sky	13	✓	✓
	el mundo	13	✓	✓		mailonline	12	✓	✓
	20 minutos	13	✓	✓		regional or local newspaper	9		
	el confidencial	12	✓	✓		telegraph	6	✓	✓
	el diario	12	✓	✓		independent/i100	5	✓	✓
	regional/local public tv / radio news online	12				mirror	5	✓	
	regional or local newspaper online	12				sun	5	✓	✓
	marca	11	✓	✓		huffpost	5		✓
	la vanguardia	9	✓	✓		itv news	5		✓
	abc	9	✓	✓		metro online	5		
	el espanol	8				msn	4		
	telecinco	8				the times	4	✓	✓
	rtve	8				yahoo	4		
	regional/local private tv / radio news online	8				buzzfeed	4		

Note: Most-read online media outlets by country according to the Reuters Institute Digital News Report by Newman et al. (2022) and outlets available on Factiva and Media Cloud. The entries colored in blue do not refer to specific outlets.

Table B.2: Summary Statistics of Media Data

(A) Factiva

Country	Index	Mean	Median	SD	Min	Max	Days
DEU	DAX	8.36	6	8.65	0	206	2,029
USA	Dow Jones	1.10	0	1.90	0	21	2,011
ESP	IBEX 35	1.72	1	2.26	0	21	2,046
FRA	CAC 40	0.16	0	0.44	0	4	2,048
ITA	FTSE MIB	0.69	0	0.96	0	8	2,032
UK	FTSE 100	7.23	7	2.56	1	23	2,020

(B) Media Cloud

Country	Index	Mean	Median	SD	Min	Max	Days
DEU	DAX	5.39	5	3.67	0	32	2,029
USA	Dow Jones	2.53	1	3.46	0	39	2,011
ESP	IBEX 35	2.36	2	2.04	0	15	2,046
FRA	CAC 40	0.25	0	0.64	0	7	2,048
ITA	FTSE MIB	2.45	2	2.42	0	16	2,032
UK	FTSE 100	1.96	1	2.07	0	15	2,020

Note: Number of daily articles in the ten most-read online media outlets according to Factiva and Media Cloud. All days with open stock markets from 2017 to 2024.

C   Replication of Analysis in Basis Points

Figure C.1: Comparing the CDFs of the News Reporting Model in Basis Points with the Data
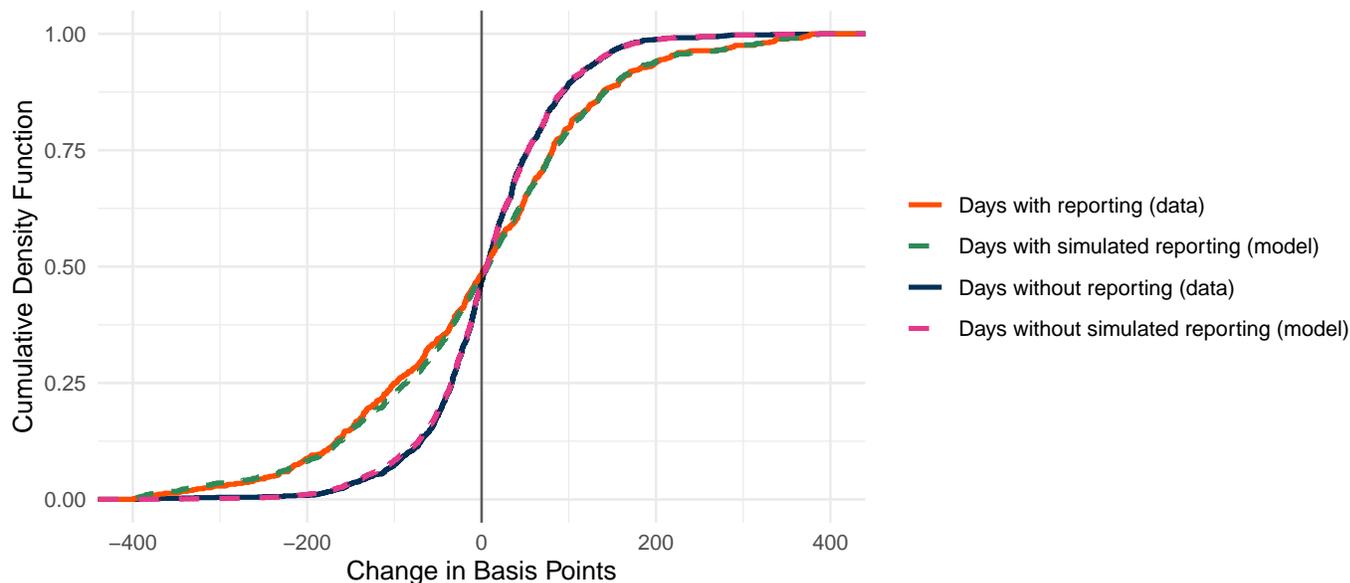

Note: The CDFs labeled "model" are based on our news reporting model in (1) with DAX changes measured in basis points and 100 million draws from the 2017-2024 distribution of daily DAX changes. For each draw, news (non-)reporting is simulated using the estimated news reporting model in (1) in basis points. The CDFs labeled "data" display the empirical 2017-2024 CDFs of daily DAX changes.

Table C.1: Simulation of ZDF Reporting Bias in Basis Points

	Data	Reporting Model	Symmetric Reporting Model
(1) Average DAX Change on Days with Report	−5.94	−5.95	−0.47
(2) Average DAX Change on Days without Report	+7.34	+7.34	+5.10
(3) Difference between (1) and (2)	−13.28	−13.30	−5.57

Note: Average change in basis points of the DAX on days with (simulated) news reports and days without (simulated) news reports. The "Reporting Model"-column contains the simulated values based on the estimated news reporting model in (1) with DAX changes measured in basis points. The "Symmetric Reporting Model"-column contains simulated values based on the estimated news reporting model in (1) with DAX changes measured in basis points and assuming symmetry for positive and negative changes.

Figure C.2: Simulation of Average News Report in Basis Points
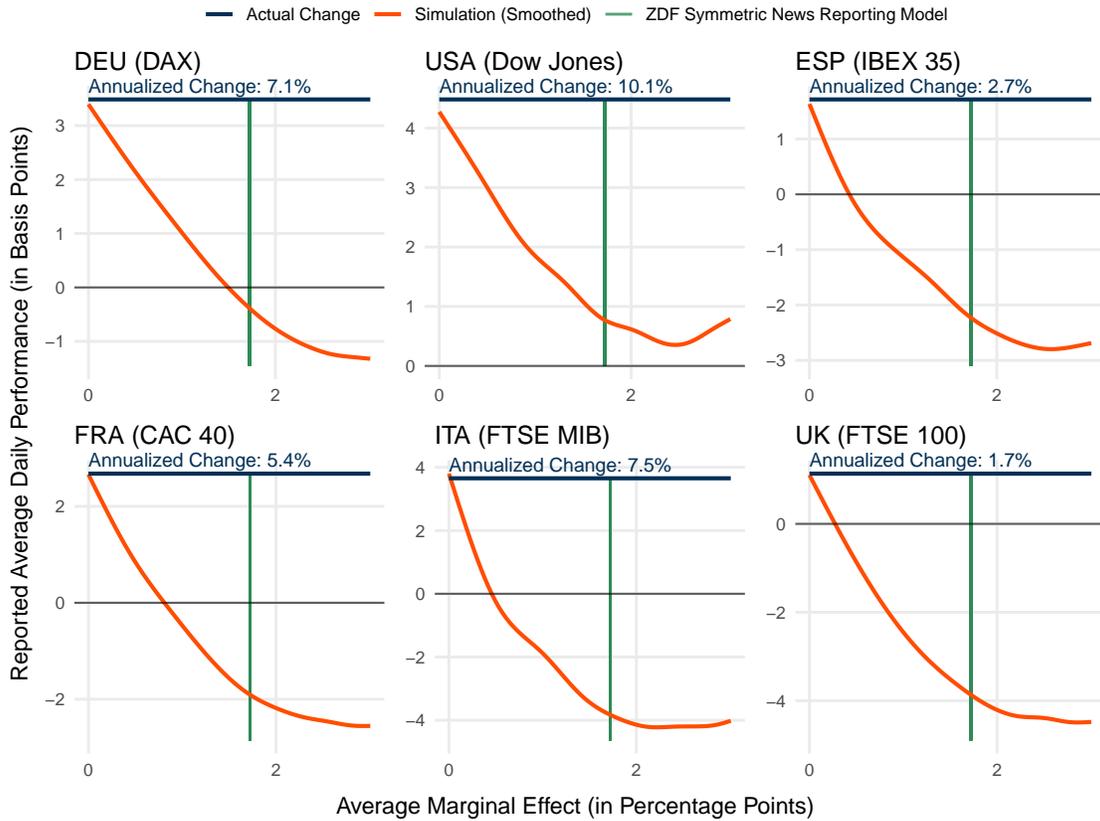
Note: Replication of Figure 4 with index changes measured in basis points. All simulations are based on the symmetric version of the news reporting model in (1) with index changes measured in basis points instead of index points. The baseline symmetric news reporting model (marked by the vertical green line) is estimated based on the ZDF nightly news. Each panel plots the average daily performance on days with simulated reports on the vertical axis as a function of the slope parameter of the symmetric reporting model on the horizontal axis. The values on the horizontal axis are the implied average marginal effects on the probability of reporting of a DAX change that is 10 basis points larger in magnitude. For each value of the slope, we chose the intercept to obtain an overall probability of reporting on index changes of 29 percent, which is the share of days with DAX reports on the ZDF nightly news live feed. We obtain the average daily performance on days with simulated reports for each slope value by simulating (non-)reporting of the daily index changes over the 2017-2024 period 1,000 times and computing the average daily performance on days with simulated news reports.

D Analysis of Weekly Changes

Table D.1: Reporting Weekly DAX Performance on the ZDF Nightly News in Percent

(A) Logit Regression Coefficients

	(1)	(2)	(3)
Constant	−2.8031***	−2.5355***	−2.5355***
	(0.2463)	(0.3240)	(0.3240)
Abs. Change Pct.	0.2298***		0.1639
	(0.0706)		(0.1155)
Abs. Change Pct. x Pos. Change		0.1639	
		(0.1155)	
Abs. Change Pct. x Neg. Change		0.2828**	0.1189
		(0.1201)	(0.1667)
Neg. Change		−0.5986	−0.5986
		(0.5322)	(0.5322)
Num.Obs.	360	360	360

(B) Logit Average Marginal Effects

	(1)	(2)	(3)
Abs. Change Pct.	0.0183***		0.0130
	(0.0060)		(0.0094)
Abs. Change Pct. x Pos. Change		0.0130	
		(0.0094)	
Abs. Change Pct. x Neg. Change		0.0224**	0.0094
		(0.0098)	(0.0132)
Neg. Change		−0.0473	−0.0473
		(0.0423)	(0.0423)
Num.Obs.	360	360	360

Note: Logit results for reporting weekly DAX changes based on (1) using weekly DAX changes measured in percentage points. The ZDF nightly news reports weekly DAX changes in 33 of the 360 weeks between 2017 and 2024. These reports are always expressed in percent, which is why we implement (1) for weekly DAX changes measured in basis points. Panel (A) shows logit regression coefficients and Panel (B) shows the average marginal effects. Heteroscedasticity-robust standard errors in brackets. ***$p < 0.01$; **$p < 0.05$; *$p < 0.1$

Table D.2: Decomposition of Reporting of Weekly Changes in Basis Points

	Real	Reporting Model	Symmetric Reporting Model
(1) Average DAX Change in Weeks with Report	-43.02	-45.07	-47.03
(2) Average DAX Change in Weeks without Report	19.86	19.88	20.12
(3) Difference Between (1) and (2)	-62.88	-64.95	-67.16

Note: The table replicates the decomposition in Table 1 for weekly DAX changes measured in basis points. The ZDF nightly news reports weekly DAX changes in 33 of the 360 weeks between 2017 and 2024. These reports are always in percent, which is why we implement (1) for weekly DAX changes measured in basis points. The "Reporting Model"-column contains simulated values based on the news reporting model in (1) with weekly changes in percentage points and the logit parameter estimates in Table D.1, column (2). The "Symmstric Reporting Model"-column contains simulated values based on the symmetric version of the news reporting model in (1) with weekly changes in percentage points and the logit parameter estimates in Table D.1, column (1). The results in the table show that the big news bias can account for the data. The bad-news selection bias does not play a role as there is an offset between the higher probability of reporting larger compared to smaller negative weekly changes in the DAX and a lower overall probability of reporting negative weekly changes, see the results in Table D.1, column (2). Put differently, there is an offset because relatively small weekly changes are less likely to be reported if they are negative while relatively large weekly changes are more likely to be reported if they are negative.