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Changing Owners, Changing Content: Does Who Owns the News Matter for the News?

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Abstract:

The press is essential for creating an informed citizenry, but its existence depends on attracting and maintaining an audience. It is unclear whether supply-side effects – including those dictated by the owners of the media – influence how the media cover politics, yet this question is essential given their abilities to set the agenda and frame issues that are covered. We examine how ownership influences media behavior by investigating the impact of Rupert Murdoch’s purchase of the *Wall Street Journal* (*WSJ*) in August 2007. We collect data on every front-page story and editorial for 27 months, and we compare the difference in political coverage between the *New York Times* (*NYT*) and *WSJ* using a difference-in-differences design. We show that the amount of political content in the opinion pages of the two papers were unchanged by the sale, but the *WSJ*’s front-page coverage of politics increased markedly relative to the *NYT*. Similar patterns emerge when comparing the *WSJ*’s content to the *USA Today* and the *Washington Post*. Our finding highlights potential limits to journalists’ ability to fulfill their supposed watchdog role in democracies without interference from owners in the boardroom.

The media occupy a curious position in society. On the one hand, a free press is thought to be essential for a democratic and well-functioning society, as it is through the press that the actions of the government and political elites can be revealed and held accountable. On the other hand, the media are profit-maximizing businesses that aspire to maintain and grow their audiences and that often report to owners concerned with profitability. No longer subsidized by political parties – and with a competitive environment that allows consumers to select nearly any media outlet they desire – media companies must create brands for which consumers are willing to pay (Hamilton 2004).

The extent to which there is tension between the aspirational and economic motivations of the press is unclear. We explore this tension by investigating the impact of ownership on coverage decisions; when a new owner takes over a paper, does its political coverage change as a consequence? It may seem obvious that ownership matters for institutions whose coverage decisions define the brand being sold to consumers, but systematic characterizations of the impact of changing ownership are based largely on anecdotes or personal experiences.

Investigating the impact of ownership on coverage decisions is important because it is well known that media can set both the social and political agenda (Iyengar and Kinder 1987). In fact, media firms represent valuable entities with high “amenity potential” given the possibility that owners can systematically influence public opinion through their news outlets (Demsetz and Lehn 1985). Understanding whether political coverage depends on who owns the paper is critically important for assessing the media’s ability to inform citizens about the actions of their government, but few studies examine the factors that determine which content makes its way to the top of reporters’ and editors’ agendas (Nelson et al. 2011 but see, e.g., Dunaway 2008; Larcinese, Snyder and Puglisi 2011; Pew 2011; Wagner and Collins 2014). To contribute to our understanding, we collect data on the content and emphasis given to stories by leading newspapers to characterize how the coverage of politics changes in response to a change in ownership.

In particular, we examine the impact of the sale of the *Wall Street Journal (WSJ)* to Rupert Murdoch on August 1, 2007 by collecting data on the daily content and coverage of the *WSJ* and the *New York Times (NYT)* over 27 months. We compare changes in the front-page and editorial content of the *WSJ* to that of the *NYT* over time to identify whether changing

patterns in political coverage by the *WSJ* can be attributed to Murdoch rather than changes in the news cycle or media environment. We further compare the increased political coverage in the *WSJ* after the transfer of ownership we document to the coverage given by the *USA Today* (*USAT*) and the *Washington Post* (*WaPo*), two papers that differ in the amount of attention they traditionally give to politics.

Our primary interest is whether who controls the media affects the amount of attention given to political issues, and we find clear evidence that it does. The editorial pages of both the *WSJ* and *NYT* were equally likely to address political issues throughout the examined time period, but the *WSJ* became increasingly more likely to feature political stories on its front pages following Murdoch's purchase than the *NYT*, *USAT* and the *WaPo*. Measuring political coverage using the percentage of political stories on the front page and the percentage of political stories above the fold reveals that the front-page coverage of the *WSJ* – which had historically focused less on politics than the *NYT* – was only slightly less focused on politics than the *NYT* following its sale¹.

The fact that the amount of political coverage changed drastically only for the *WSJ* and that the increase only occurred after the sale of the *WSJ* strongly suggests that who owns the media matters. While some of the larger implications of this effect cannot be discerned from this analysis – e.g., what the motivations were for the change we identify; how exactly the coverage changed; the impact of the changes on the opinions of existing and new subscribers – the results unambiguously demonstrate that the ownership of news organizations matters for the news that gets covered. Better understanding the incentives of those responsible for managing and producing the news is, therefore, important for assessing the role of the media in a democracy; if media coverage depends at least in part on who owns the media as we demonstrate, then questions emerge about the extent to which such media are able to fulfill the normative role that they are typically ascribed.

1. The Role of the Media & the Importance of Ownership

Journalists are often trained to view their work's purpose as providing citizens with the information needed to be “free and self-governing” and helping promote the conditions required for accountability in a democratic system (Kovach and Rosenstiel 2001, 12). Indeed,

¹ Moreover, we are also able to use our daily content data to estimate the amount of time that it took for those changes to reveal themselves. The data suggest that the change in political coverage by the *WSJ* was not fully evident until December of 2007 – four months after Murdoch took over.

works in political communication suggest that the information provided by the media can help improve the provision of public goods (Besley and Burgess 2002) and levels of accountability in government, as well as increase levels of political activity among citizens (e.g., Prior 2007; Prat and Strömberg 2005; Snyder and Strömberg 2010). Additionally, a large literature in political science examines the power of media to prime considerations (e.g., Iyengar and Kinder 1987) or frame an event in a manner that affects public opinion by influencing how citizens process information (e.g., Chong and Druckman 2007; Nelson et al. 1997).

Such literatures explore the consequences of media coverage, but they do not explore the processes by which the media choose which information to present to citizen consumers. The decision of which issues to cover is essential for understanding the media's role in shaping citizens' awareness, and such coverage decisions are arguably influenced by a myriad of factors – including both taste and profit motives.

Many explore important questions about how events are covered and whether media outlets are “biased” in their coverage (e.g., Gentzkow and Shapiro 2010; Groseclose and Milyo 2005; Ho and Quinn 2008). Whether events are covered in a slanted direction because of supply-side or demand-side forces is an ongoing debate (see, for example, the summary of Prat and Strömberg 2013), and both theoretical and empirical evidence support both factors (Gentzkow, Shapiro, and Stone 2016; Puglisi and Snyder 2015). On the supply-side, Baron (2006) notes that some organizations may allow for journalists to inject bias into their reporting as an alternative to higher salaries, and some find evidence of owners' preferences affecting the coverage of their respective newspapers to their own benefit (Gilens and Hertzman 2000; Puglisi 2011). Numerous works also argue that there are demand-side pressures created by preferences to consume news consistent with beliefs (e.g., Mullainathan and Shleifer 2005; Gentzkow and Shapiro 2006; Chan and Suen 2008; Stroud 2008).

We take a step back to explore a different, but equally important issue – the discretion involved in choosing whether or not to even cover political issues and how that coverage is affected by who owns the media. The many excellent examinations of whether coverage is “biased” are in some sense secondary to understanding the conditions under which political events are even covered. Moreover, focusing on the extensiveness of political coverage rather

than the nature of political coverage has the added virtue of contributing to our knowledge of media effects while avoiding the many difficult debates about how best to measure bias.

Anecdotal evidence regarding the importance of media owners in shaping their news outlets' content is plentiful. Since buying *The Washington Post*, Jeff Bezos – also the founder and CEO of Amazon.com – has urged the *Post* newsroom to focus on and experiment with projects that have the potential for large-scaled digital growth (Meyer 2014). In the 2016 election cycle, the *New York Observer* – owned by Donald Trump's son-in-law Jared Kushner – endorsed Trump in the Republican primary despite initial pledges that it would not cover him. In fact, some argued that the *New York Observer* “did not hesitate to advance [Trump's] agenda” and pointed out that the *Observer* ran “a lengthy takedown” of Trump's one-time opponent, Marco Rubio (Mahler 2016).

More systematic and quantitative work in political communication has also documented the power of newspaper owners in influencing the coverage of their papers (see e.g., Bagdikian 1997). For instance, the ownership structure (e.g., public versus private) appears to affect: the depth of issue coverage (Dunaway 2008), attention given to the “horse-race” (Dunaway and Lawrence 2015) and the tone of political news stories (Dunaway 2013) because privately owned media often have different goals – and fewer leaders at the helm to impede the achievement of those goals – compared to public media corporations. Others have argued that media owners with a vested interest in the coverage of certain topics (e.g., the *Citizens United* ruling or 1996 Telecommunications Act) cover those topics in a personally beneficial manner (Bailard 2016; Gilens and Hertzman 2000). Additional work suggests that the *NYT* emphasized issues “owned” by Democrats more during presidential campaigns when there was a Republican incumbent president – a shift that was attributed to a desire of the paper's owners to influence the election (Puglisi 2011).

Newspaper owners have also been known to publicize their views so that reporters are able to tailor their coverage without direct intervention (Chomsky 1999). Chomsky (2006) also argues that the owners of the *NYT* have sometimes directly intervened by choosing topics for stories and guiding how stories are framed. An analysis of the correspondence between Turner Catledge, the top editor at the *NYT* for nearly two decades, and former *NYT* owner and publisher Arthur Hays Sulzberger reveals that between 1956 and 1962, Catledge received 156

story suggestions from Sulzberger and at times, Catledge would forward memos from Sulzberger as his own (Chomsky 2006).

We examine the question of whether owners affect media coverage by focusing on Rupert Murdoch's purchase of the *WSJ* – the top-selling daily newspaper in the United States – in August of 2007. Though the transaction involved a purchaser with a portfolio of right-leaning media companies (Jamieson and Cappella 2008), Murdoch was seeking to buy a popular newspaper largely known for its front-page coverage of economic events and news; thus, it was not obvious *a priori* that changes would occur. The paper's relative success (it had one of the highest daily circulations at the time) and the close connection that exists between economic issues and the financial reputation of the company owning the *WSJ* (The Dow Jones Company) arguably lessened the incentives to change the coverage of the *WSJ* and risk alienating its existing audience.

Though there are reasons to think that coverage in the *WSJ* would remain stable after its purchase from the Bancroft family – which had controlled the paper since 1902 – there are also reasons to think that a change may have resulted because of either preference or profit motives. To be clear, our analysis is able to identify whether a shift in coverage occurs with the change in ownership, but we can only speculate about the possible reasons for a shift. One possibility is a difference in taste: perhaps the Bancroft family had a preference for focusing on economic news and this preference – again, seemingly justified by the fact that the *WSJ* continued to be the top-selling daily newspaper in the years leading up to its 2007 sale – led them to focus primarily on economic issues and events. Suggestive evidence of the importance of the Bancrofts' personal convictions is exemplified by the strong resistance that some family members had to selling the *WSJ* to Murdoch because of how he might run the paper even though Murdoch was offering a 67% premium over its share price (Tofel 2011). In contrast, perhaps Murdoch had a difference of taste and a desire to increase political coverage even if it risked subscriptions to the *WSJ*.

Alternatively, Murdoch may have thought that increasing political coverage would result in increased profits – a view consistent with his experiences at other news outlets (e.g., Fox News). Though Hamilton (2004) notes some media outlets have boosted their amount of soft news in an effort to revive disappointing ratings in an increasingly fragmented media era, others suggest that political content can attract audiences (see Prat and Strömberg 2013 for

overview). Even more, from a business perspective, the *WSJ*'s niche economic reporting would possibly allow for higher profit margins vis-à-vis other daily papers.

[FIGURE 1 ABOUT HERE]

We can only evaluate the profitability of decisions in retrospect, but the evidence suggests that circulation of the *WSJ* increased after its sale. Figure 1 plots the annual circulation levels (as of September) of the *NYT* and *WSJ* over nearly 30 years, and if we compare the rate of change from 2007 to 2008, there is some evidence that the latter's circulations actually increased despite the financial crises (the *WSJ*'s circulation increased by 0.006% while those of the *NYT* decreased by -3.58%). The *NYT* did experience steep increases in their circulations in the later years of Figure 1 (i.e., post-2010), but that could be due to many factors: Democrats' losses in the 2010 midterms (Archer forthcoming), a slowly rebounding economy, or the establishment of an online paywall in 2011 that removed free, unrestricted access to their content online.

2. Research Design and Data

To explore whether a change in owners affects the issues covered by the media, we collect data on every front-page story as well as information related to the emphasis given to each story -- whether it occurs above the fold, whether it contains an associated photo, and the size of the headline font -- for periods before and after the ownership change². To help disentangle editorial discretion from coverage decisions, we collect similar data on editorials that attribute authorship to each paper's Editorial Board. Because the content of the front page is arguably more affected by real-world events than editorials, comparing the relative change in coverage across papers and across these parts of the newspaper helps illuminate the nature of the change in focus that may result from a change in ownership and emphasis.

We collect information on *every* story, article, or unsigned opinion appearing on either the front page or the editorial page of the *NYT* and *WSJ* for every weekday in 2007 and 2008 (excluding holidays on which the papers did not print), and to help identify the potential impact of the 2008 presidential election on coverage, we also collected the same data for the months of March, July and November in 2004. For robustness, we also collect information on the coverage of *USA Today (USAT)* and the *Washington Post (WaPo)* for selected weeks within

² Prior studies that have shown that the front page of the *WSJ* covered business less in 2011 relative to 2007 both in absolute terms and also relative to the *NYT* (Pew 2011), but such analyses focus almost entirely on post-purchase coverage and face difficulties in controlling for potential changes in the news cycle and the media environment.

each month. These two papers not only differ in their baseline proclivity to cover political events, but they also have stable ownership structures over this time period.

Six coders were tasked with reading and coding the front-page stories and editorials. The coders were trained together³ and asked to extract the headline(s) for each of these articles or editorials. Once extracted, each piece was then coded for markers of prominence⁴ and the content of the news coverage. That is, both front-page stories and editorials were classified as mentioning the following political topics: public policy, a federal agency, the president, Congress, the courts, candidates or campaigns and interest groups.

Our primary analysis uses a difference-in-differences design to compare the coverage of the *NYT* and *WSJ* over time. This is an appropriate comparison because both papers are located in New York City, and they compete for subscribers both nationally and locally. In addition, they are two of the top three most prominent papers of record with print circulations (Alliance for Audited Media 2013). Traditionally, the non-editorial coverage of the *WSJ* was characterized as more focused on economic issues than political ones, but the political positions taken by the Editorial Board in editorials were often political and distinctive from those taken by the Editorial Board at the *NYT*. In terms of the “bias” for each, studies routinely identify the *NYT* as a leftward-leaning paper and the *WSJ* as a rightward-leaning paper (e.g., Gentzkow and Shapiro 2010).

To identify the impact of the purchase of the *WSJ* by Rupert Murdoch, we use our newly collected data to compare the extent to which political coverage differs along several metrics: editorials, political stories on the front page and political stories on the front page that are emphasized in various ways. By examining the difference in coverage between the two papers over time, we are able to hold the larger political-social-economic environment fixed without having to identify and control for every newsworthy event because the same events will exert similar pressures on both papers, especially since both are headquartered in New York City.

³ During training, coders were given sample articles to code. Inter-coder reliability was rather high for items, including: above the fold ($\kappa=0.85$), top-right front-page position ($\kappa=0.96$), mentioning the president ($\kappa=0.73$), and mentioning a candidate or campaign ($\kappa=0.57$). Reviewing the differential codings for campaign mentions reveals that when the politics of a current event was being discussed and the positions of candidates were also mentioned as an aside there were differences of opinion as to whether the emphasis of the story was on current policymaking or presidential campaign. For robustness, we estimated models with and without this measure and the results are reassuringly substantively identical.

⁴ For front page news stories, the following were coded as markers of emphasis: whether or not the headline was in bold font, the size of the headline font (largest on page), whether or not the headline is in all caps, if the story is above the fold, if the story is in the top right position and if a photo accompanied the story.

That is, analyzing the difference in coverage over time is important because it allows us to examine how papers respond to identical circumstances while avoiding the impossible task of trying to control for all relevant events that occurred during the time period of our analysis.

The second “difference” in the design involves the comparison of how the difference in coverage patterns for the two papers changed following the sale of the *WSJ* to Rupert Murdoch in August 2007. To the extent that the difference in the coverage changes following this sale, we can interpret the change as being due to the change in ownership. To be clear, both papers in the comparison may change their coverage in response to the purchase of the *WSJ* – perhaps in response to the changing competitive landscape – but the effect we identify is whether the *WSJ* experienced an even larger change.

3. Changing Owners, Changing Coverage?

Figure 2 plots the proportion of political stories and editorials appearing in the weekday papers of the *WSJ* and *NYT* across time – the top row graphs the trends for front-page political stories by week and month and the bottom row depicts the trends for signed editorials.

[FIGURE 2 ABOUT HERE]

It is immediately clear that the difference between the proportion of political stories on the front pages of the *WSJ* and the *NYT* decreases dramatically after Murdoch’s purchase of the *WSJ*. Prior to August 2007 (excluding our 2004 data), only 29.86% of the *WSJ*’s front-page coverage focused on politics on average, compared to an average of 59.83% on the *NYT*’s front pages. After August 2007, the mean percentage of the *WSJ*’s front-page stories jumped to 47.14% compared to 66.59% for the *NYT*.

While some of this may be due to events involving the 2008 presidential election, the election alone cannot explain the large variation we identify. By way of comparison, for the selected months we coded in the 2004 presidential election year, the average percentage of front-page political stories in the *WSJ* was only 38.52% compared to 59.95% for the *NYT*. The fact that the *WSJ*’s political coverage in 2004 was only slightly higher than it was in 2007 prior to Murdoch’s purchase suggests that the 2008 presidential election cannot fully account for the dramatic shift.

The right column of Figure 2 repeats the same analysis for editorials and reveals a starkly different pattern. The editorials for both papers focused nearly exclusively on political

issues prior to Murdoch’s purchase of the *WSJ* – before August 2007, 78.86% and 81.89% of editorials were political in the *WSJ* and *NYT*, respectively – and the relative number of politically-themed editorials in the *WSJ* did not substantially increase after its purchase. (After Murdoch took over, 86.83% and 87.62% of the *WSJ* and *NYT*’s editorials were political⁵.)

Simple t-tests examining the differences in the proportions of political content on the front and editorial pages of the two papers over time suggest the political content on the editorial pages did not meaningfully change in response to the change in ownership; however, the gap in political content on the front page shrank significantly in both substantive and statistical terms (from -0.30 to -0.19; $p=0.001$ ⁶).

To characterize the change more completely and better control for possible unobserved factors, we employ regression models to model the differences in coverage between the *NYT* and *WSJ* using an indicator for the time after the sale of the *WSJ* – *Murdoch* – and time fixed effects to control for variation in political events and remove temporally-based confounders. Specifically, we estimate regressions of the form:

$$(WSJ_t - NYT_t) = \alpha + \beta \times Murdoch + \theta_t \quad (1)$$

where WSJ_t and NYT_t are the proportion of front-page stories or editorials in time period t dealing with politics in each paper, α is the average difference between the *WSJ*’s and *NYT*’s political coverage, β is the change in that difference following the first full week after Murdoch’s purchase of the *WSJ* (which began on August 5, 2007), and θ_t are fixed effects at either the calendar week⁷ ($t=1...51$) or calendar month ($t=1...11$) level. Note that positive values of β represent an increase in the political coverage of the *WSJ* relative to the *NYT* post-Murdoch and negative values represent the opposite.

For clarity, Table 1 reports the results using 2007 and 2008, but the findings are robust to the inclusion of data from 2004 in the time period before Murdoch’s tenure⁸.

⁵ That said, while we focus on the amount of political coverage, others have found that editorials in the *WSJ* became less supportive of economic government intervention and more likely to mention Democrats post-transition. The *WSJ*’s editorial page also became more negative towards Democrats and more positive towards Republicans. Similar changes did not occur in the editorial pages of the *NYT* or *Washington Times*, papers with liberal and conservative editorial views, respectively, who did not experience changes in ownership (Wagner and Collins 2014). Kahn and Kenney (2002) suggest there is a relationship between the explicit political positioning of newspaper editorials and the papers’ supposedly objective news content. Other analyses also find a positive relationship between bias scores for newspaper editorials and three measures of news reporting (Ho and Quinn 2008).

⁶ See Online Appendix A for results.

⁷ Because of the misalignment of full weeks in 2007 and 2008, December 29-31, 2008, are dropped from analyses so that only full weeks are included.

⁸ See Online Appendix A for analyses including 2004 data.

[TABLE 1 ABOUT HERE]

Confirming the patterns evident in Figure 2, the first column of Table 1 reveals that the relative percentage of political editorials did not significantly change following Murdoch's purchase of the *WSJ* – likely because both papers were already publishing such a high proportion of political editorials.

In contrast, the results reported in columns 2 through 4 reveal meaningful and sizeable changes in the *WSJ*'s front-page political coverage regardless of whether calendar week or calendar month fixed effects are used to account for news cycle effects. While the *WSJ* contained nearly half as many front-page political stories as the *NYT* prior to the purchase by Murdoch, that difference fell considerably post-purchase. Prior to August 2007, there was a 30-percentage-point average gap between the *NYT* and the *WSJ*, but that gap shrank by 10 percentage points on average (roughly 35%) after Murdoch's purchase. While it is true that each paper boosted its political coverage in 2008 relative to 2007 because of the presidential election, the *WSJ* did so at a rate (57.87%) far greater than the *NYT* (11.30%).

To measure whether the attention given to political events also changed in response to the change in ownership, Figure 3 plots the proportion of political stories (by week) above the fold of the front page for the *NYT* and *WSJ*. The patterns suggest that in the select months for 2004 and most of 2007, the *NYT* had a higher proportion of front-page political stories above the fold than the *WSJ*, but that this difference decreased substantially in 2008. Indeed, 44.84% of front-page stories in the *NYT*, on average, were both political and above the fold in the select months for 2004, compared to only 27.60% for the *WSJ*. Between January 2007 and August 2007, the percentage of political, above-the-fold front-page stories was 41.31% in the *NYT* and 14.61% in the *WSJ* – percentages that changed to 37.19% for the *NYT* and 27.49% for the *WSJ* following Murdoch's purchase of the *WSJ*.

[FIGURE 3 ABOUT HERE]

Table 2 confirms the significance of this change by predicting the difference in political front-page stories located above the fold (operationalized as *WSJ* minus *NYT*) before versus after Murdoch. The results reveal a sizable increase in the emphasis of political stories following the sale of the *WSJ* – the *NYT* went from having 26.7 percentage points more political stories above the fold than the *WSJ* (from January to August 2007) to just 9.69 percentage points more than the *WSJ* after Murdoch's purchase. While it is hard to determine

definitively whether this is due to an increase in the number of political stories, the emphasis given to political stories, or both, it is clear that relatively more political stories were being promoted after Murdock took over the *WSJ*⁹.

[TABLE 2 ABOUT HERE]

Columns 2 and 3 of Table 2 explore the results for other measures of emphasis: the percentages of stories that were both political and in the top right position of the two papers' front pages (placement in the top right of the front page has historically signaled that the article is the most important of the day), and the percentage of front page political stories with a photo. While the gap between the differences in these percentages closes over time, such changes are neither substantively nor statistically impressive. These effects are not completely attributable to more political events occurring post-purchase than before because the results of all three models are robust to the inclusion of data from the 2004 presidential election year (Table A3 of Online Appendix A).

The results of Tables 1 and 2 demonstrate that political coverage increased in response to a change in ownership at the *WSJ*, but sheds no light onto what was being included in that additional coverage. To do so, we compare the changes in the frequencies of key words related to politics within the headlines of editorials and front-page stories over time. Table 3 presents the percentage increase in the frequency of each word for both papers' editorial (columns 1 and 2) and front-page (columns 3 and 4) headlines from before Murdoch's purchase of the *WSJ* to after¹⁰.

[TABLE 3 ABOUT HERE]

Similar to Wagner and Collins (2014), Table 3 reveals clear evidence of the *WSJ*'s editorial page headlines increasing their mentions of the word "Democrat(s)" and doing so at a rate much greater than *NYT* editorials (650% vs. 100%). Additionally, the *WSJ* editorial page headlines increased mentions of Obama at a rate much larger than any of the other words listed in Table 3. More strikingly, there was a larger percentage increase for all of the key political words in Table 3 on the *WSJ*'s front-page headlines compared to the *NYT*'s front-page headlines. The largest relative increases for the *WSJ* occurred in its front-page mentions of

⁹ This effect is robust to controlling for the difference in the number of political front-page stories for each paper, which does suggest that not only was the *WSJ* more likely to cover politics on its front page, but it was also more likely to emphasize that political content. Analyses can be made available upon request.

¹⁰ See Online Appendix B for the raw frequencies of words mentioned before and after Murdoch's purchase of the *WSJ*.

presidential candidates running in 2008, particularly Obama and McCain. While this analysis cannot tell us the tone of the coverage of each party, candidate or key figure, it does provide insight into one of the ways in which the *WSJ* boosted its front-page and editorial political content: by focusing more on the candidates for office, particularly Obama.

3.1 Is it All About the Campaign?

One potential concern with the results thus far is that the increase in the *WSJ*'s front-page political content between 2007 and 2008 may have been due to the presidential election. The fact that similar results emerge when we include coverage of the 2004 presidential election provides some evidence that this is not likely to be the case, but we further probe the robustness of our findings by repeating the analysis after removing all stories that focus on the campaign and candidates. That is, this section asks: is there an increase in stories focused on public policy, a federal agency, the president, Congress, the courts, or interest groups but that do not mention presidential candidates or campaigns?

Table 4 reports the results. Similar to before, the results in columns 1 and 2 suggest that there are not significant changes in the difference in political editorials between the two papers over time. The results of column 3, however, reveal that there are significant changes in the difference between the two papers' political front-page content before and after Murdoch's acquisition of the *WSJ*. Column 3 of Table 4 reports a positive and significant ($b=0.11$; $p=0.001$) bivariate relationship between the difference in the two papers' political front-page stories and the sale of the *WSJ* (*Murdoch*). Including calendar week fixed effects to control for time-varying content in column 4 only increases the magnitude of the estimated effect ($b=0.16$; $p=0.00$).

[TABLE 4 ABOUT HERE]

Moreover, consistent with the impact being due to the change of ownership at the *WSJ*, the decreased difference is due almost entirely to changes at the *WSJ*: the *WSJ* shifted from 29.15% of front-page stories having political content (excluding mentions of campaigns and candidates) before Murdoch's purchase to 45.58% after his purchase. During the same time periods, the *NYT* experienced a much smaller increase from 58.28% political (non-campaign) front-page stories to 63.16%.

3.2 Comparing Changes in the *WSJ* to Changes in Other Papers

To ensure the robustness of our characterization, we also compare the coverage of the *WSJ* to two other prominent papers with a national audience, the *USA Today (USAT)* and the *Washington Post (WaPo)*. The Graham family famously owned the *WaPo* for 80 years up until Jeff Bezos's purchase of the paper in the fall of 2013¹¹ (Farhi 2013), and *USAT* has been owned by the Gannett Company since its initial development and publication in 1981 and 1982, respectively.

We collect information on the number of political stories and total stories on the front pages of these additional papers for the first full week of every month we examine (i.e., for all of 2007 and 2008 and the months of March, July, and November for 2004), and we code the text of each front-page story. (Online Appendix D graphs the time series of coverage over time for the four papers.)

Unlike the *NYT*, the content of *USAT* is often less politically focused which means that there is more room for an increase in coverage because of the 2008 election. We initially replicate our previous analyses by differencing the average weekly amount of political coverage in the *WSJ* relative to the *WaPo* and *USAT*; while the percentage of the *WSJ*'s political front-page stories in the first week of every month increased by 21.27 percentage points, on average, after Murdoch's purchase of the paper, the *USAT* and *WaPo* only experienced increases of 3.45 and 1.93 percentage points, respectively, during the same time period. Columns 1 and 3 of Table 5 shed light on the significance of those differences in changes among the *WSJ* and each of the two new comparison papers. In each case, the bivariate regressions suggest the gaps between the *WSJ* and the other papers decreased at a significant rate. Columns 2 and 4 of Table 5 confirm that the 18- and 19-point decreases in the *WSJ*'s gap in political coverage relative to the *USAT* and *WaPo*, respectively, remain substantively similar after using fixed effects for calendar months to control for changing news cycles over time. The p-value for the key coefficient in Column 4 comparing the *WSJ* to *WaPo* is only marginally significant ($p=0.15$, two-tailed) but it is in the anticipated direction and it reaches conventional levels of significance in a one-tailed test.

[TABLE 5 ABOUT HERE]

We can also pool the results and use a model that explores the impact of the change in ownership on coverage by estimating a specification predicting the percentage of political

¹¹ There was a change in publisher in February 2008 and in executive editor in July 2008 (see Ahrens 2008).

stories as a function of idiosyncratic paper effects and time using variations on the following specification:

$$y_{it} = \alpha + \beta_1 I_{WSJ} + \beta_2 I_{USAT} + \beta_3 I_{WAPo} + \delta \text{Murdoch} + \beta_4 (I_{WSJ} * \text{Murdoch}) + \beta_5 (I_{USAT} * \text{Murdoch}) + \beta_6 (I_{WAPo} * \text{Murdoch}) + \delta \text{Murdoch} + \tau_t$$

where I_{WSJ} , I_{USAT} , and I_{WAPo} are indicators for whether paper i is the *WSJ*, *USAT* or *WaPo* respectively (the excluded paper is the *NYT*), *Murdoch* is an indicator if the date t is after the sale of the *WSJ* and τ_t capture the effects of time modelled using either calendar month fixed effects or a time trend. Critical for our investigation are the interaction effects β_4 , β_5 , and β_6 that capture how coverage changes following the sale of the *WSJ*. Although we include paper and time fixed effects to account for systematic changes, we also cluster the standard errors by paper to allow for different error structures using the wild cluster bootstrap (Cameron, Gelbach, and Miller 2008) when feasible (note that we did not need to do so in prior analyses because the dependent variable of interest was the difference in coverage)¹².

[TABLE 6 ABOUT HERE]

The results of this pooled analysis are presented in Table 6. Specifications (1) and (2) in Table 6 compare the coverage of the *WSJ* to a pooled comparison of the *NYT*, *USAT*, and *WaPo* with (specification 2) and without (specification 1) calendar month fixed effects to control for differences in the political news cycle across a given year. The results, unsurprisingly, confirm earlier findings – while the *WSJ* is systematically less likely to cover politics by 44% on average relative to the other papers, the percentage of front-page political coverage post-purchase increases between 13% (specification 2) and 17% (specification 1). Moreover, while a small fraction of this increase affects all papers, 12% of each estimated increase is unique to the *WSJ*. Digging deeper and estimating a model with paper fixed effects and separate effects by paper reveals continued support for the claim that the *WSJ* experienced a substantively and statistically distinctive change in coverage after its sale to Rupert Murdoch. Prior to the sale, the *WSJ* front page had 28% fewer political stories than the *NYT*, but the difference shrank by 16% following the sale. While the *WSJ* is still less likely to cover political events than the *NYT* and other major papers – perhaps owing to its legacy as

¹² This dataset has an $N=108$: 27 weeks (one for each of the three months used previously from 2004, as well as one for each month in 2007 and 2008) for each paper. Our ability to estimate clustered standard errors is limited for some specifications given the small number of cases per paper and the inclusion of interactions alongside paper and time fixed effects.

the national economic paper of record – there is, nonetheless, clear evidence that the content shifted dramatically following its sale to Rupert Murdoch. Moreover, the increase in political coverage was not largely attributable to trends that produced a shift in the other papers, as most of the increase we observe is unique to the *WSJ*¹³.

Taken together, examining the shifts in the political content on the front page of the *WSJ* against those on the front pages of the *NYT*, *USAT* and the *WaPo* provides consistent evidence that the *WSJ* experienced increases in its political content at a rate that far outpaced its peer group of nationally circulated newspapers. Moreover, this increase is greater than what might be expected from the 2008 election alone because it is greater than the changes we observe in 2004, and evidence of the shift remains even after excluding stories that focus on the 2008 campaign. As a result, our findings suggest that owners can meaningfully influence their outlets' coverage – particularly the news that makes the front pages of their papers – and that better understanding the incentives and impact of owners' decisions is important for understanding the role of the media.

4. Conclusion

Democracies rely on the “fourth estate” to provide critical coverage of the elites representing the masses. It is well known that the media have powerful effects through framing, priming and setting the agenda for political and social discourse, but characterizations of the processes leading to the selection of some content over other is comparatively rare. We collect and analyze new data from real-world newspaper coverage to demonstrate that a powerful way that agenda-setting can occur is through the influences of media owners.

We find evidence consistent with the claim that who owns the news matters when it comes to the content on the front pages of the *WSJ*, one of the top newspapers in America. We show that the amount of front-page political coverage in the *WSJ* – and also the emphasis that is given to political events – increased markedly after the sale of the paper to Rupert Murdoch relative to the change in front-page political coverage in the *NYT*, *USAT* and the *WaPo*. While our analysis does not probe the important question of how those political events were

¹³ While the 95% confidence interval for the shift that is unique to the *WSJ* ranges from [-0.02,0.21] with a point estimate of 0.10 recall that this assumes that the transition occurs immediately upon the sale of the *WSJ*. If we allow a few weeks for an effect to emerge the point estimate of the interaction increases to 0.20 with a 95% confidence interval ranging from [.10,.32].

covered, the fact that more politics was being covered is suggestive of the impact of ownership on the stories being covered by the press.

Our findings highlight the essential tension facing journalists and the “free press.” While the media are free from governmental interference, they are still a political institution in that they are entrenched in policymaking and elections; that is, they are an institution “that acts apart from, but in the middle of, politics” (Esser 2001, 22). Even more, they are not free from market forces and the necessity of delivering profits or other benefits to their owners. And though this particular case may have led to increased political coverage in a major national newspaper – a result that could be beneficial at least at face value – not all instances of ownership influence lead to the same result. For instance, conservative billionaire and political influencer Sheldon Adelson’s purchase of the *Las Vegas Review-Journal* in 2015 led to changes in the paper’s journalistic practices that undercut editorial freedom (particularly freedom in covering Adelson’s business, legal, and political affairs) to the point where reporters and editors left the paper (Peralta 2015; Wagner 2016). Further, Murdoch’s own news outlets in the UK are known to have pointed political agendas and to have boasted about their influence over elections (Douglas 2010). Future work might examine the structure of news outlets’ ownership in cross-national contexts to deepen our understanding of these key findings as well as how differences in political institutions and the media environment affect one another.

Given the critical role that the press occupies in creating informed citizens and holding elected officials responsible for their actions, the impact of changing ownership we document suggests many critical questions remain regarding the incentives for why the press chooses to cover the stories and events that it chooses to cover. Future qualitative and quantitative work might delve deeper into the personal motivations of owners’ decisions to affect news coverage (e.g., in support of one policy or not as in Bailard 2016 and Gilens and Hertzman 2000) because this will help us better understand the types of incentives that lead to particular changes in news coverage, as well as the specific effects such coverage changes have on public opinion about various policies, practices, and politicians.

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TABLES

Table 1 Differences in Political Content

	Editorials [by Week] (1)	Front-Page [by Week] (2)	Front-Page [by Week] (3)	Front-Page [by Month] (4)
Murdoch	0.02	0.10***	0.15***	0.15**
(Std. Err.)	(0.03)	(0.03)	(0.04)	(0.06)
Intercept	-0.03	-0.30***	-0.62***	-0.47***
	(0.02)	(0.03)	(0.12)	(0.10)
Weekly Fixed				
Effects	No	No	Yes	
Monthly Fixed				
Effects				Yes
N	104	104	104	24
R²	0.008	0.09	0.50	0.47

Note: * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$, two-tailed.

Table 2 Differences in Emphasis of Political Front-Page Stories by Week

	Stories Above the Fold (1)	Stories in Top Right (2)	Stories with a Photo (3)
Murdoch	0.16***	0.03	0.04
(Std. Err.)	(0.03)	(0.02)	(0.03)
Intercept	-0.49***	-0.12**	-0.15*
	(0.10)	(0.05)	(0.08)
Weekly Fixed			
Effects	Yes	Yes	Yes
N	104	104	104
R²	0.66	0.49	0.58

Note: * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$, two-tailed.

Table 3 Percent Change in Frequency of Key Words in Headlines Before and After Murdoch

	% Change in NYT Editorial (1)	% Change in WSJ Editorial (2)	% Change in NYT Front-Page (3)	% Change in WSJ Front-Page (4)
Democrat	100	650	69.70	155.56
Republican	300*	0	100	200
GOP	100*	100	44.44	200
Bush	50	500	41.67	42.86
Pelosi	100*	700	-100	0
Obama	900*	2,650	1,038.46	3,150
McCain	900*	850	825	3,100
Clinton	200*	133.33	435.71	1,266.67

Note: * denotes values that equaled 0 before Murdoch's purchase of the *WSJ* but were transformed to equal 1 so that percentage changes could be calculated. Cell entries are the percent change in the frequencies of each word in the headlines of both editorials (columns 1 and 2) and front-page stories (columns 3 and 4) from before to after Murdoch's purchase. Frequency counts include both the singular and plural (or possessive) forms of each word.

Table 4 Differences in Political Content Excluding Stories About Campaign

	Editorials [by Week] (1)	Editorials [by Week] (2)	Front-Page [by Week] (3)	Front-Page [by Week] (4)
Murdoch	0.03	0.02	0.11***	0.16***
(Std. Err.)	0.03	0.03	0.03	0.04
Intercept	-0.03	-0.02	-0.29***	-0.61***
	0.02	0.09	0.03	0.12
Weekly Fixed Effects	No	Yes	No	Yes
N	104	104	104	104
R²	0.009	0.52	0.10	0.50

Note: * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$, two-tailed. Stories about campaigns or candidates excluded from coding of political stories.

Table 5 Differences in Political Content –
Comparisons with *USA Today* and *Washington Post*

	Front-Page vs. <i>USAT</i> (1)	Front-Page vs. <i>USAT</i> (2)	Front-Page vs. <i>WaPo</i> (3)	Front-Page vs. <i>WaPo</i> (4)
Murdoch	0.18***	0.16*	0.19***	0.15
(Std. Err.)	(0.06)	(0.08)	(0.06)	(0.10)
Intercept	-0.55***	-0.54***	-0.61***	-0.53***
	(0.05)	(0.13)	(0.05)	(0.16)
Fixed Effects				
	No	Yes	No	Yes
N	24	24	24	24
R²	0.27	0.57	0.30	0.43

Note: * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$, two-tailed. Data consists of coding for first full week in each month. Results are substantively similar including data from selected months in 2004.

Table 6 Pooled Analysis of Political Coverage

	Front-Page [by Week] (1)	Front-Page [by Week] (2)	Front-Page [by Week] (3)
<i>WSJ</i>	-0.44 [-0.55,-0.33]	-0.44 [-0.55,-0.33]	-0.28 [-0.37,-0.19]
<i>WaPo</i>			0.28 [0.20,0.38]
<i>USAT</i>			0.21 [0.12,0.30]
Murdoch X	0.12	0.12	0.10
<i>WSJ</i>	[0.10,0.14]	[0.10,0.14]	[-0.02,0.21]
Murdoch X			-0.05
<i>WaPo</i>			[-0.17,0.06]
Murdoch X			-0.02
<i>USAT</i>			[-0.13,0.10]
Murdoch	0.05 [0.03,0.07]	0.01 [-0.02,0.04]	0.07 [-0.01,0.16]
Intercept	0.78 [0.67,0.89]	0.81 [0.78,0.85]	0.62 [0.55,0.68]
Month Fixed Effects	No	Yes	No
N	108	108	108
R²	0.59	0.61	0.78

Note: 95% confidence intervals reported. Specifications (1) and (2) use wild bootstrap standard errors (Cameron, Gelbach, and Miller 2008) clustered by paper. Data consist of the first full week of each month in 2007 and 2008 as well as three months from 2004. *Murdoch* is an indicator for weeks following the sale of the *WSJ* in August 2007.

FIGURES

Figure 1 Weekday Circulation Levels of *NYT* and *WSJ*

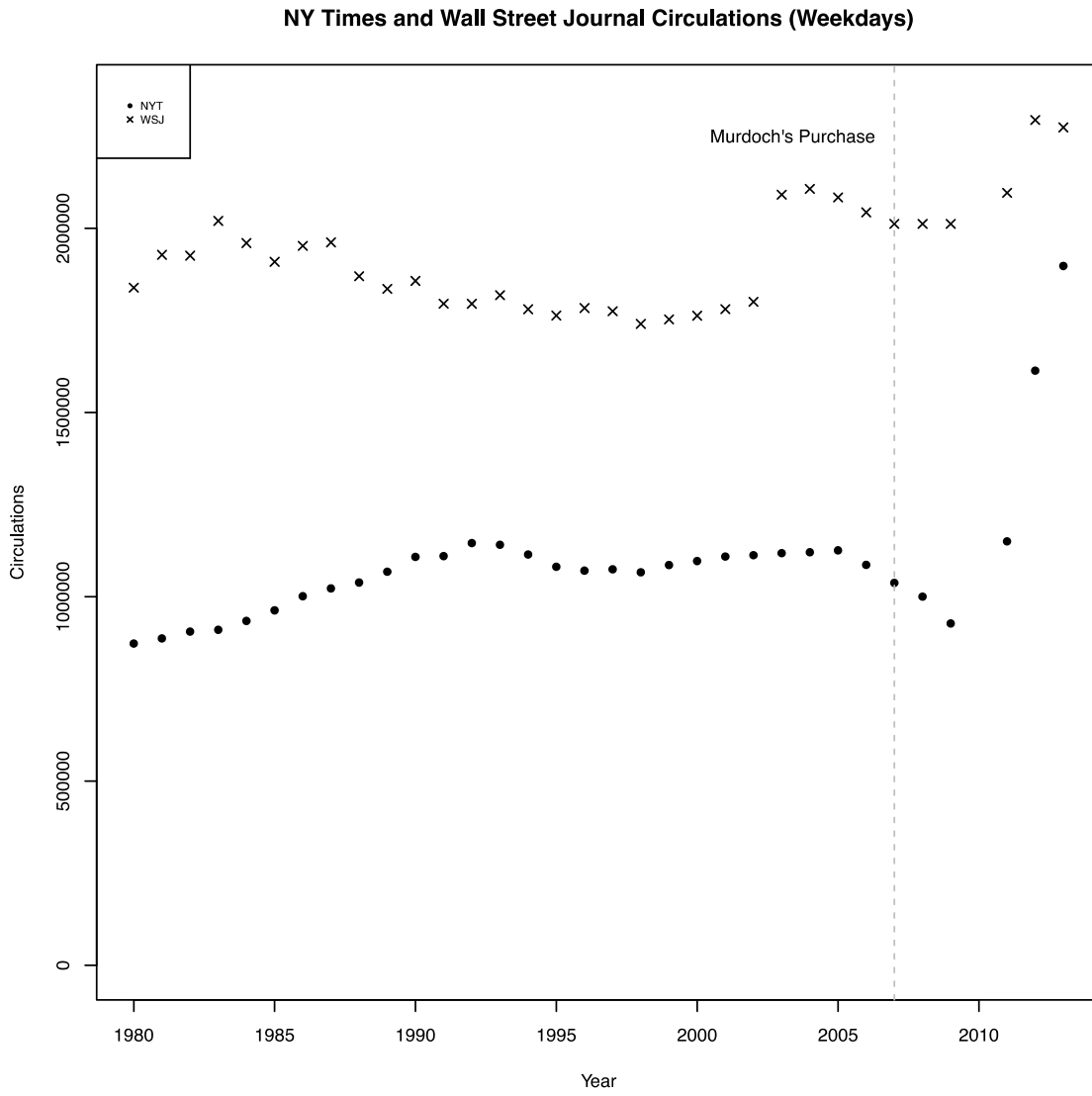
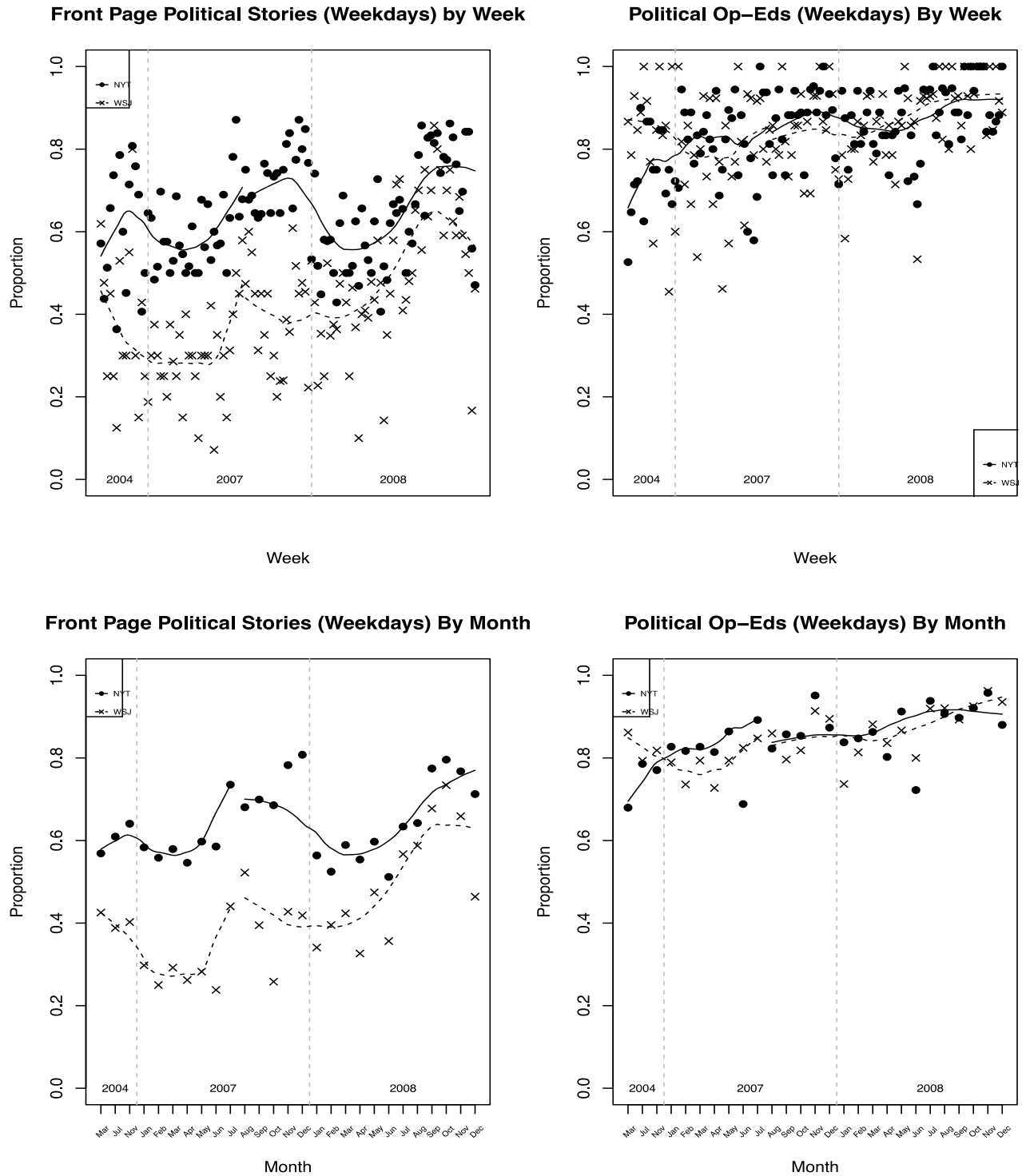
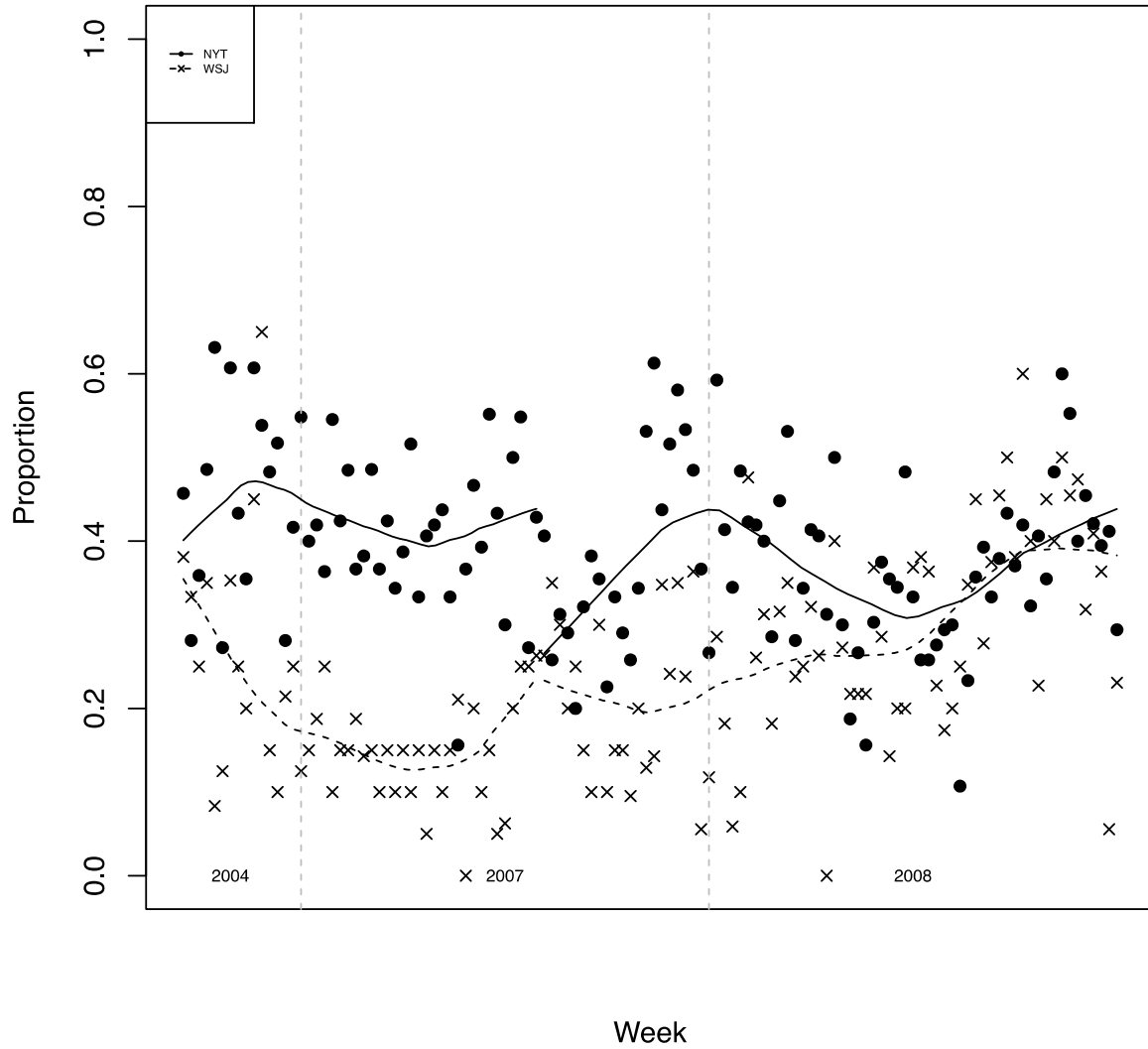


Figure 2 Proportion of Political Front-Page Stories and Editorials Across Time



Note: Figures include smoothing curve line fitted by LOESS with smoothing parameter set to 0.4 and 0.5 for weekly and monthly data, respectively.

Figure 3. Proportion of Political Stories Above the Fold



Note: Figure includes smoothing curve line fitted by LOESS with smoothing parameter set to 0.4.