Partisan Bias in Economic News: Evidence on the Agenda-Setting Behavior of U.S. Newspapers[1]

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Abstract

We study the agenda-setting political behavior of a large sample of U.S. newspapers during the last decade, and the behavior of smaller samples for longer time periods. We examine the intensity of coverage of economic issues as a function of the underlying economic conditions and the political affiliation of the incumbent president, focusing on unemployment, inflation, the federal budget and the trade deficit. We investigate whether there is any significant correlation between the endorsement policy of newspapers, and the differential coverage of bad/good economic news as a function of the president's political affiliation. We find evidence that newspapers with pro-Democratic endorsement pattern systematically give more coverage to high unemployment when the incumbent president is a Republican than when the president is a Democrat, compared to newspapers with pro-Republican endorsement pattern; and vice versa for low unemployment. When considering different time-windows for which data is available, we find that this relationship is only robust for large-scale newspapers, i.e. those with high circulation and/or belonging to large chains.

We find no evidence of a partisan bias – or at least of a bias that is correlated with the endorsement policy – for stories on inflation, budget deficits or trade deficits.

1 Introduction

News provided by the mass media are the most important source of information on public affairs in modern democratic societies. Hence, media outlets play a fundamental role in keeping the public informed on the decisions of their political representatives as well as on issues and events that are relevant to public decision-making. Time and space available being limited, journalists exercise a considerable degree of discretion on the news worth reporting and on the tone of the reports. It would therefore not be surprising if the political views of individual journalists were reflected in news reported in the mass media.

One of the most important claims about news in the mass media is the agenda-setting hypothesis. The idea is that editors and journalists have a large degree of freedom in deciding what is newsworthy and what is not, and these choices influence the perception of citizens about which issues are relevant and to what extent. Cohen [1963] stated it eloquently: the press "may not be successful much of the time in telling people what to think, but it is stunningly successful in telling its readers what to think about."

In this paper we try to gauge the extent of such an agenda bias for a large number of U.S. newspapers over the period 1996-2005. For smaller sets of newspapers we were able to gather data back to 1992 and 1988. Exploiting the NewsLibrary electronic archive, we collected monthly and quarterly data on the number of articles that each newspaper reported on relevant economic issues (unemployment, inflation, the federal budget, and trade deficit). These data can be matched with the actual economic figures to try to assess whether outlets systematically over-report or under-report on given issues as depending on those figures and on the party affiliation of the incumbent president. For example, an outlet with a pro-Democratic bias might devote more (less) space to news on unemployment when the president is Republican (Democrat) and unemployment is high or rising.

We do not make any claims about the *absolute* political bias of U.S. newspapers. Instead, we focus here on the *relative* political position of our sample of U.S. newspapers. We study whether there is any meaningful cross-sectional correlation between this differential coverage

of economic issues – as a function of the political affiliation of the incumbent president – and more explicit measures of their political orientation, in particular their endorsements of political candidates. We investigate whether the political orientation of newspapers "spills over" from the editorial page, where endorsements are explictly made, to the news section, where there is room for a differential coverage of the same economic figures as a function of the political affiliation of the incumbent president.

With respect to news, we focus on four key economic variables: the unemployment rate, the inflation rate, the federal deficit, and the trade deficit. These all represent "bads": The incumbent president might be blamed by the public for high values, or rewarded for low values. We check whether newspapers that have a higher propensity to endorse Democratic candidates give less coverage to a given economic issue when the incumbent president is a Democrat and the corresponding economic indicator is high and/or rising, compared to the coverage of newspapers that have a propensity to endorse Republicans.

To formally investigate this hypothesis, we adopt a triple difference-in-differences specification, where the differential slope of economic news with respect to the level of the economic datum – as a function of the political affiliation of the incumbent president – is allowed to be different for newspapers that endorse Democratic candidates more or less than the median newspaper. We do not know whether levels or changes in the economic figures are more newsworthy, so we consider some specifications that focus on levels and other specifications that also consider changes. We also explore different ways of classifying newspapers based on their endorsement patterns, including a two-group division (Democratic-leaning vs. Republican-leaning), a three-group division (Democratic-leaning, neutral, and Republican-leaning), and a continuous measure of the relative propensity to endorse Democratic vs. Republican candidates.

We find fairly robust evidence of political partisanship in the amount of coverage on the unemployment rate. For the 1996-2005 period, no matter how we code newspapers' endorsement choices, we find that newspapers with a pro-Democratic endorsement pattern

systematically publish fewer stories about unemployment when the national unemployment rate is high and the president is a Democrat (i.e., Clinton) than when the national unemployment is equally high and the president is a Republican (i.e. George W. Bush). The opposite is true when the unemployment rate is low. The size of the estimated effects is quite large. Under Clinton, newspapers with a strong propensity to endorse Republican candidates published about four more stories per month on unemployment when the unemployment rate was half a percentage point higher than the average. Under George W. Bush, the corresponding increase is just two stories. The opposite holds for newspapers with strongly pro-Democratic endorsement pattern. Under Clinton, these newspapers published four fewer unemployment stories when the unemployment was half a percentage point higher than average, while they published almost three stories more under George W. Bush.

This result holds when focusing on the contemporaneous or lagged value of the unemployment rate, and also holds when we control for the state unemployment rate. The relationship is less robust when considering a longer time sample on fewer newspapers. It is not statistically significant for the 1992-2005 time period, but it is for the 1988-2005 period. The relationship between endorsement policy and coverage of unemployment is more robust to the period considered when we restrict attention to newspapers that have large circulation or belong to large chains.

On the other hand, we find no evidence of partisan bias in the amount of coverage on any of the other economic issues, the inflation rate, the budget deficit, and the trade deficit. There is no correlation between the differential coverage of Democratic and Republican administrations by newspapers and the endorsement choices of those newspapers.

Before proceeding, we should point out a salient feature and a key limitation of our empirical strategy. First, we code newspaper articles through an automatic keyword search, instead of a human-based content analysis. One advantage of this procedure is that by definition it is not intensive in the usage of human capital. Its low cost means that it can be used to gather data on a large number of news outlets for a long time span, restricted

only by the set of available digital archives. Perhaps more importantly, an automatic search is easily replicated, as it is based on known set of words and/or sentences that are used as classifiers.

Second, we classify articles only according to the topic being covered, without attempting to code whether their tone is positive or negative. Our focus is therefore exclusively on the agenda-setting behavior of newspapers, not on the way issues may be framed through an intentional or unintentional choice of words. It is well known in the literature that coding for tone is difficult, when dealing with such a nuanced object as a newspaper article, even using human-based content analysis. Unless the analyst provides detailed instructions, inter-coder reliability typically falls far short of acceptable standards. And, when the analyst's instructions are very detailed, then results are likely to be driven by what is in these instructions. This suggests that coding for the tone using an automated procedure is also likely to be quite difficult. We view it as an important challenge for future research, however, since the replicability of machine-based content analysis constitutes an extremely valuable feature for the scientific study of mass media.

2 Related Literature

The theory of agenda setting effects is built around the idea that mass media can influence the importance readers and viewers attach to different issues.[1] As Lippmann [1922] notes, news stories provided by mass media outlets are a primary source of information about public affairs, and sometimes the only one. Beginning with the seminal contribution by McCombs and Shaw [1972] on Chapel Hill voters, a host of empirical studies have searched for the presence of agenda-setting effects, i.e. of a causal relationship that goes from the coverage of issues on the mass media to the priorities of the public. Experimental evidence, such as that provided by Iyengar, Kinder and Peters [1982], lends the strongest support to this

[1] For more detailed surveys about the literature on agenda-setting effects, see Erbring, Goldenberg and Miller [1980], Iyengar, Kinder and Peters [1982], Iyengar and Simon [2000] and McCombs [2002].

hypothesis.

Importantly, the choice of the topics covered by the news media need not be politically neutral. There are several ways that media sources can try to use their agenda-setting power to favor one political party or the other.

One way is to exploit the fact that citizens often perceive that one party is better at handling problems related to a given issue. This is the notion of issue ownership, as introduced by Petrocik [1996]. According to Petrocik [1996], on some issues a majority of citizens consistently perceives one party as more competent than the other. These are the so called "owned issues". For example, U.S. citizens on average believe that the Democratic Party is more competent on welfare and civil rights issues, while the Republicans are perceived as more competent on defense issue.[2]

Another way is to exploit issues where citizens do not have consistent beliefs about which party is better at handling problems related to it, but they update their beliefs on the basis of the past and current performance of the incumbent government with respect to these issues. The economy is a primary example of these "performance issues". News about the economy are good news for the incumbent government if the economy is going well, and bad news if the economy is going badly.

If mass media outlets have political preferences and agenda-setting effects, then one should see in the data some consistent relationship between the preferences of media outlets and the way economic issues are covered, as a function of the true economic datum and the "match" between these preferences and the political affiliation of the incumbent government. From this perspective, our empirical exercise provides a test of whether newspapers cover economic news in a manner consistent with the agenda setting hypothesis and with the existence of differences in their political orientation.

Our paper is also related to the growing empirical literature analyzing the political biases of mass media outlets in the United States.

[2] On the basis of Gallup Polls and NES data, Puglisi [2006] provides some additional evidence on issue ownership perceptions in the U.S. from 1948 to 1996.

Ansolabehere, Lessem and Snyder [2006] use panel data to study the political orientation of endorsements of U.S. newspapers. They find that, while in the 40s and in the 50s Republican candidates received more endorsements, this advantage has been constantly reduced in subsequent decades: in the 90s the authors find a slight Democrats' lead (10%) in the average endorsement choice. They also find an upward trend in the average propensity to provide endorsement for candidates already in office. In the 1940s incumbent candidates received 60% of the total endorsements, but this figure has increased to about 90% today.

Regarding the link between news and endorsements, Fridkin Kahn and Kenney [2002] analyze how large newspapers covered 67 Senatorial campaigns across three election years, as a function of their explicit endorsement choices. Through human-based content analysis they code the tone of articles and find that newspapers systematically gave a more favorable coverage to endorsed incumbents.

Lott and Hassett [2004] find an overall liberal bias in the U.S. press. They study a panel of 389 U.S. newspapers from 1991 to 2004 (and a sub-sample of them from 1985 to 2004), focusing on economic news, i.e. looking at how newspapers cover the release of official data on a set of economic indicators. Their identification strategy is based on the fact that newspapers can provide a more positive or negative account of the same statistical figure, depending on the party affiliation of the incumbent president. Lott and Hassett find that there are, on average, between 9.6 and 14.7 percent fewer positive stories when the incumbent president is a Republican, controlling for the economic data being released. Differently from our paper, the main focus of Lott and Hassett is on the tone of coverage and the absolute average political position of U.S. newspapers. They do not estimate different positions for different newspapers.

Groseclose and Milyo [2005] also find a liberal bias in the U.S. press. They trace out which think tanks are quoted by each media outlet considered in their sample. The political leaning of each think tank is recovered by looking at the political position (ADA score) of members of the U.S. Congress who quote the same think-tanks in a non-negative way. The

political leaning of each outlet can then be calculated looking at the frequency with which the various think thanks are quoted. Groseclose and Milyo find that all the outlets in their sample – except Fox News' Special Report and the Washington Times – are located to the left of the average Congress member. At the same time, all outlets but one are located between the average Democrat and the average Republican Congressmen, hence displaying a high degree of centrism.[3]

An account of the agenda setting behavior of the New York Times in the period 1946-1997 is provided by Puglisi [2006], who finds that the Times displays Democratic partisanship, with some watchdog aspects. Puglisi finds that, during presidential campaigns, the New York Times systematically gives more coverage to Democratic topics (civil rights, health care, labor and social welfare) when the incumbent president is a Republican. The New York Times displays a more symmetric type of watchdog behavior after 1960: in the last four decades, during presidential campaigns the Times also gives more coverage to the typically Republican issue of Defense when the incumbent president is a Democrat, and less so when the incumbent is a Republican.

In a recent paper, Gentzkow and Shapiro [2006] provide another measure of media bias based on similarities between the language used by media outlets and congressmen. Exploiting the Congressional Record, they identify "partisan" words and phrases – i.e., those expressions that show the largest difference in the frequency of use between Democratic and Republican representatives. They then measure how frequently these expressions appear in different newspapers. They conclude that the partisan bias of newspapers depends mainly on consumers' ideological leaning and far less on the identity of owners.

Gerber, Karlan and Bergan [2006] use an experimental approach to examine not whether media outlets are biased, but whether they influence political decisions and attitudes. They conduct a randomized control trial just prior to the November 2005 gubernatorial election in

[3] A different type of bias consists in overproviding news that are of interest to a worthy audience, i.e. an audience which is more valuable to advertisers. A formal model that illustrates this mechanism is provided by Stromberg [2004], while evidence on the UK is given in Larcinese [2007].

Virginia and randomly assign individuals in Northern Virginia to (a) a treatment group that receives a free subscription to the Washington Post, (b) a treatment group that receives a free subscription to the Washington Times, or (c) a control group. They find that individuals who were assigned to the Washington Post treatment group were eight percentage points more likely to vote for the Democrat in the 2005 election, while those who were assigned the Washington Times were only four percentage points more likely to vote for the Democrat.[4]

Again on the topic of media influence on political decisions, DellaVigna and Kaplan [2007] use a quasi-experimental approach, and exploit the gradual introduction of Fox News in cable markets in order to estimate its impact on the vote share in presidential elections, between 1996 and 2000. They find that Republicans gained 0.4 to 0.7 percentage points in the towns which started to broadcast Fox News before 2000.

To sum up, our paper is similar to Groseclose and Milyo [2005] and Gentzkow and Shapiro [2006] in that we estimate and analyze the relative political positions of U.S. media outlets. It is also similar to Lott and Hassett [2004] in that we the focus on economic news. Differently from all of these, however (except Puglisi [2006]), it is the only one that analyzes the agenda setting behavior of media outlets. Moreover, it combines in a systematic way the investigation of news coverage with information on the explicit political positions of newspapers, as proxied by their endorsement patterns.

3 Data and empirical strategy

We collected data from the NewsLibrary electronic archive, recording the monthly number of hits on unemployment and inflation, and the quarterly number of hits on the federal budget deficit and the trade deficit. First, through a number of preliminary searches we defined the exact wording of the search strings in order to reduce the number of false positive and false negative hits. Once identified the appropriate keywords to be used in the searches (reported

[4] The latter effect is not statistically significant. However, it is not possible to reject at ordinary confidence levels the null hypothesis that the effects of the two treatment groups on the probability of voting Democrat are equal.

in Table 1), we run an automated search, then retrieving the number of hits on each topic by time unit. The different time unit between unemployment and inflation on one side and the budget and the trade deficit on the other is explained by the corresponding frequency with which the official macroeconomic figure is made available to the public (monthly for the unemployment and the inflation rate, on a quarterly basis for the two deficits).

Overall, we collected data on 140 U.S. newspapers for which electronic archives dating back to 1996 are available to be searched through NewsLibrary. Moreover, there are 100 (50) newspapers for which we could collect data back to 1992 (1988).

3.1 The endorsement data

We were able to gather endorsement data for 101 newspapers. Of these, 80 are also included in the smaller group of newspapers for which we have content data from 1992, and 39 in the group starting in 1988. Table A1 lists the newspapers with endorsement data, together with their average circulation, the chain to which they belong, if any, and information on whether they also belong to the longer 1992 and 1988 datasets.

We obtained the endorsement data for 85 newspapers from Ansolabehere, Lessem and Snyder [2006], and supplemented this with data on 16 additional newspapers searched via the NewsLibrary archive. Regarding the remaining 39 newspapers, in some cases the newspaper has an explicit policy not to endorse candidates for political offices (e.g., the Deseret News in Salt Lake City, the Orange County Register, and the Colorado Springs Gazette). In addition, many smaller ones do not bother to make any endorsement, even though they may not take an explicit editorial stance on the subject.

Following Ansolabehere, Lessem and Snyder [2006] we can calculate the propensity of each newspaper to endorse one of the parties during electoral campaigns. We used a linear regression model to estimate the "partisan bias" in endorsement behavior. Let i index offices,

let j index newspapers and let t index years. Let

$$E_{ijt} = \begin{cases} 1 & \text{if newspaper } j \text{ endorses Democrat for office } i \text{ in year } t \\ -1 & \text{if newspaper } j \text{ endorses Republican for office } i \text{ in year } t \\ 0 & \text{if newspaper } j \text{ makes no endorsement for office } i \text{ in year } t \end{cases}$$

measure the endorsement behavior by each newspaper that makes an endorsement (or an explicit refusal to endorse) in a race.[5] Also, let

$$I_{ijt} = \begin{cases} 1 & \text{if Democrat for office } i \text{ in year } t \text{ is only incumbent} \\ -1 & \text{if Republican for office } i \text{ in year } t \text{ is only incumbent} \\ 0 & \text{if otherwise} \end{cases}$$

measure the incumbency status of the candidates in each race.[6] Finally, we use previous electoral experience to measure non-incumbent quality. Specifically, define a "high-quality" candidate as a candidate who currently holds a U.S. House seat or an elected statewide office other than the office sought. Let

$$Q_{ijt} = \begin{cases} 1 & \text{if Democrat for office } i \text{ in year } t \text{ is only high quality non-incumbent} \\ -1 & \text{if Republican for office } i \text{ in year } t \text{ is only high quality non-incumbent} \\ 0 & \text{otherwise} \end{cases}$$

We estimated the following linear model, exploiting the panel nature of the data.

$$E_{ijt} = \mu_j + \theta_t + \beta_1 I_{ijt} + \beta_2 Q_{ijt} + \epsilon_{ijt} \tag{1}$$

The newspaper-specific fixed effects, μ_j, capture newspapers' partisanship. Note that the

[5] There are a few cases in our sample where a newspaper endorsed both candidates in a race. We drop these from our analysis.

[6] After redistricting there are some U.S. House races with two incumbents running, in which case $I_{ijt} = 0$. There are a few such cases in our sample. If we drop them the results are unchanged.

model also includes year fixed-effects, θ_t, to capture partisan tides.

We estimated the model over the period 1992-2002. The panel is unbalanced, since we do not have endorsement data on some newspapers in the earlier years. Figure 1 reports the histogram of the resulting estimated variable. In the graphic, 0 is the neutral point, positive values indicate a propensity to endorse Democratic candidates and negative values a propensity to endorse Republican candidates. The endorsement variable, which is only based on editorials, indicates a slight prevalence, on average, of pro-Democratic endorsements. On the other side, it also shows a wider dispersion on the Republican side: in other terms there is a prevalence of pro-Democratic endorsers but Republican endorsers tend to be more systematic. Overall, however, most newspapers appear to be rather centrist, in the sense that they are placed in the range $[-0.5, 0.5]$ in the endorsement scale (i.e. within the reported vertical lines). Figure 2 features a scatter plot in which the Democratic endorsement score for each newspaper is represented on the horizontal axis, while the vertical axis displays the average circulation in 1996. Newspapers selling more than 400,000 copies are represented by their name, and smaller papers are represented with dots. Interestingly, the larger newspapers tend to be relatively centrist in their endorsement behavior, as they are typically placed in the range $[-0.5, 0.5]$ on the endorsement scale. The more partisan newspapers, outside this range, tend to have more modest circulation.

The question we address is then whether partisanship is only limited to editorials or rather, in a less transparent way, it is reflected in the content of news in an agenda-setting fashion. To do this we need to compare newspapers' coverage on given issues with the actual statistical figures on inflation, unemployment, budget deficit and trade deficit.

3.2 The economic news data

The key variables in our analysis are the values of the four underlying economic indicators, and the amount of newspaper coverage devoted to the four economic issues. Since newspapers vary greatly in size cross-sectionally (total number of pages, stories, and words), and can also

vary in size over time, we focus on the relative frequency of stories in each newspaper. As mentioned above, Table 1 reports the keywords being used in order to retrieve the number of stories that should be related to the macroeconomic figures during each time period[7]. We proxy the total number of stories in each newspaper in each period by running a search on the word "and".

We estimate whether newspapers cover "good" or "bad" economic news with a different degree of intensity depending on the political affiliation of the incumbent president. The starting point of our analysis is therefore a difference in differences specification, where the relationship between the relative frequency of news about a given economic figure and the level of the figure itself is allowed to have a different slope and a different intercept under the Clinton and George W. Bush presidencies. We then examine the relationship between the differences in the slopes and the endorsement partisanship variable, as described in the previous section.

More formally, let x_t^i be the value of the economic figure regarding issue i at time t, where $i \in \{U, I, B, T\}$. The symbols are as follows: U = unemployment, I = inflation, B = budget deficit, and T = trade deficit. Also, let n_{jt}^i be the relative frequency of stories published by newspaper j during time t about issue i. Table 2 displays summary statistics about the relative frequency of stories and the economic figures of interest for the 1996-2005 period.

In order to take into account the differences in the average amount of coverage devoted to economic news by the various newspapers, we normalize the relative frequency of stories in newspaper j on issue i at time t by subtracting the average relative frequency of stories in that newspaper, i.e. we consider

$$y_{jt}^i = n_{jt}^i - \bar{n}_{j\cdot}^i$$

[7] A potential concern is that all the variation in the coverage of economic news might be driven by editorials themselves. In order to tackle this issue, we have re-run the searches reported on Table 1 excluding the words "editorial" or "editor". All the results we report below are robust to this alternative definition of the dependent variables.

For each newspaper j and each economic issue $i \in \{U, I, B, T\}$, we then run a separate OLS regression:

$$y_{jt}^i = \alpha_j^i + \beta_j^i x_t^i + \gamma_j^i \mathbb{I}_{Dt} + \delta_j^i (x_t^i \cdot \mathbb{I}_{Dt}) + \zeta_j^i t + \lambda_j^i \ln s_{jt} + \epsilon_{jt}^i \quad (2)$$

where $\mathbb{I}_{Dt}$ is a dummy variable indicating that the incumbent president is a Democrat, and $x_t^i \cdot \mathbb{I}_{Dt}$ is the interaction between the level x_t^i of the relevant economic variable and the Democratic incumbent dummy. In addition, we control for a linear time trend and for the logarithm of the total number of articles in each newspaper at time t, s_{jt}. The coefficient δ_j^i represents the difference in how newspaper j reacts to bad economic news when the president is Democratic compared to when the president is a Republican.[8]

Next, we exploit the information we have about the explicit political position of each newspaper, as proxied by its endorsement pattern. In the Figures 3-6 we analyze the relationship between the estimated interaction terms from equation (2) and the estimated propensity to endorse Democratic candidates obtained from equation (1). We do this separately for each of the four economic items. Again, we explicitly report the names of newspapers with circulation above 400,000 copies. The two vertical lines – at $\hat{\mu}_j = -0.5$ and $\hat{\mu}_j = 0.5$ – divide the sample of newspapers, crudely, into those with pro-Republican endorsement pattern, those with a relative neutral patterns, and those with a pro-Democratic pattern. Each graph also displays a bivariate regression line, i.e. the fitted values of a regression of $\widehat{\delta}_j^i$ over $\hat{\mu}_j$ and a constant.

In the case of unemployment news (Figure 3), the relationship between the endorsement variable and the estimated interaction term is negative and statistically significant at the 5% confidence level. This indicates that newspapers with a pro-Democratic editorial partisanship tended to give less coverage to unemployment during periods of high unemployment under

[8] If we had data for a period long enough to cover numerous presidents, it would be possible to treat this interaction term as a measure of the *absolute* pro-Republican bias of a newspaper (positive values imply that the newspaper is more reactive to bad economic news when the incumbent president is a Democrat). However, given the short time span available, the time series variation by itself could easily be misleading. In particular, other newsworthy events and issues could be crowding out economic news more in some years than others.

Clinton than under George W. Bush, as compared to newspapers with a pro-Republican endorsement partisanship. The opposite is true during periods of low unemployment.

Figure 4 displays results regarding the coverage of inflation. The fitted values show a mild and positive relationship between the endorsement variable and the estimated interaction terms. However, this relationship is statistically insignificant (t-value = 0.54). Figure 5 represents the same relationship for the coverage of the budget deficit. In this case the estimated slope is negative and mildly significant at the 10% confidence level. Finally Figure 6 shows the results for the trade deficit, and shows a mildly negative but statistically insignificant relationship (t-value = -0.22) between the estimated interaction terms and the endorsement variable.

3.3 A triple difference in differences specification

This simple two-stage graphical analysis gives a mixed picture regarding the link between the endorsement policy of U.S. newspapers and the differential coverage of economic news. On one hand we find some evidence of a partisan bias in the amount of coverage devoted to unemployment, and perhaps also in the amount of coverage devoted to the federal budget. On the other hand, we find small and statistically insignificant relationships for inflation and the trade deficit.

Here, we perform an even more structured test of the possible link between endorsement patterns and the coverage of economic news. Rather than analyze newspapers one at a time, we estimate the following triple difference-in-differences specification on the entire panel of newspapers:

$$n^i_{jt} = \alpha^i_j + \beta^i_j x^i_t + \gamma^i_j \mathbb{I}_{Dt} + \delta^i (x^i_t \cdot \mathbb{I}_{Dt}) + \phi^i (x^i_t \cdot \mathbb{I}_{Dt} \cdot P_{Dt}) + \zeta^i_j t + \lambda^i_j \ln s_{jt} + \epsilon^i_{jt} \qquad (3)$$

where $\mathbb{I}_{Dt}$ is a dummy variable which equals one for newspapers whose propensity to endorse Democrats is above the median. We refer to this dummy as "mild" Democratic endorse-

ment. In this case our coefficient of interest is ϕ^i. A negative value of ϕ^i implies that those newspapers which tend to endorse Democratic candidates have a relatively pro-Democratic agenda-setting bias on economic item i, compared to newspapers that tend to endorse Republican candidates. Since the specification includes newspaper-specific fixed effects, the dependent variable is simply n^i_{jt}, i.e. the relative frequency of stories about issue i (there is no further need to normalize it). Note also that the coefficients on the underlying economic variable, β^i_j, the dummy variable indicating a Democratic president, γ^i_j, the time trend, ζ^i_j, and the sensitivity to newspaper size, λ^i_j, are all allowed to vary by newspaper. Thus, the specification is quite flexible.

In the baseline specification we control for the *contemporaneous* value of the relevant economic figure (x^i_t), by itself and properly interacted. It is clear that the Bureau of Economic Analysis and the Bureau of Labor Statistics (or any statistical agency assigned to similar tasks) can only publish lagged values of the macroeconomic variables they are responsible for. However, newspapers do not only report on the release of official data (which are clearly related to what happened in the past) but also on other contemporaneous events which may be correlated with the current value of the relevant macroeconomic figure. For example, with respect to unemployment there might be news stories on large layoffs in a given sector or by a particular large firm, or reports of large current spikes in applications at local unemployment agencies. In order to check the robustness of our results with respect to this issue, we have also run all of our specifications using the lagged values of the relevant macroeconomic figure rather than contemporaneous values.

Since it is *a priori* unclear which aspect of an economic figure is deemed as more newsworthy by editors and journalists (whether it is the level thereof, or the change, or both), we also consider an extended specification in which the change in the relevant economic figure is included as a regressor, together with its interaction with the incumbent president dummy,

and the triple interaction with the "mild" Democratic endorsement dummy variable:

$$n^i_{jt} = \alpha^i_j + \beta^i_j x^i_t + \gamma^i_j \mathbb{I}_{Dt} + \delta^i(x^i_t \cdot \mathbb{I}_{Dt}) + \phi^i(x^i_t \cdot \mathbb{I}_{Dt} \cdot P_{Dj}) + \\ \vartheta^i_j \Delta x^i_t + \xi^i(\Delta x^i_t \cdot \mathbb{I}_{Dt}) + \psi^i(\Delta x^i_t \cdot \mathbb{I}_{Dt} \cdot P_{Dj}) + \zeta^i_j t + \lambda^i_j \ln s_{jt} + \tilde{\epsilon}^i_{jt} \quad (4)$$

where Δx_t is the change in x^i_t with respect to its value in month $t-3$ (or quarter $t-1$). In this case the coefficients of interest are both ϕ^i and ψ^i, i.e. the coefficients on the two triple interaction terms.

As a shortcut, we call model A the one defined by equation (3), and model B the one defined by equation (4).

We also consider a different partition of the endorsement variable, in which dummies are created for pro-Republican newspapers (the top third in terms of their propensity to endorse Republicans), pro-Democrat newspapers (the top third in terms of their propensity to endorse Democrats), and neutrals (the middle third). This partition should pin down more precisely the partisan newspapers, distinguishing them from those with only very mild propensity to endorse one of the candidates. Hence, we re-estimate both model A and model B by including triple interactions with both a pro-Republican and a pro-Democratic endorsement dummy.

Finally, we consider a third specification (for both models) in which the continuous endorsement variable is directly interacted with the level (and change) of the relevant economic variable and the Democratic President dummy. This latter specification parallels the bivariate regressions examined in the previous section.

In order to take into account the fact that the fixed effects may not absorb the entire within-newspaper correlation in the error term, we run all regressions clustering the standard errors by newspaper.

4 Results

Tables 3-6 display results about the unemployment, inflation, budget and trade deficit news respectively. The tables are organized in a similar fashion: the first three columns reports the findings about model A, while the latter three regard model B. In columns [1] and [4] the interaction is with the "mild" Democratic endorsement dummy, while columns [2] and [5] refer to the specification with the three groups of newspapers (Democratic, Republican and neutral ones). In columns [3] and [6] the continuous variable measuring the propensity to endorse Democratic candidates is directly interacted with the Democratic President dummy and the level (and change) of the relevant macroeconomic variable.

The tables report the coefficients on the simple-difference-in-differences (the $\hat{\delta}^i$s and $\hat{\xi}^i$s in equations (3) and (4)) and the ones on the triple difference-in-differences (the $\hat{\phi}^i$s and $\hat{\psi}^i$s). We report t-statistics in brackets below each coefficient.

The results in Table 3 confirm that newspapers with a pro-Democratic-endorsement pattern tended to give less coverage to unemployment in times of high unemployment under Clinton than under George W. Bush, compared to newspapers with a pro-Republican endorsement pattern. The triple interaction between the level of the unemployment rate, the Democratic President dummy and the mild Democratic endorsement dummy (the second row of coefficients in columns [1] and [4]) is negative and statistically significant at 1% confidence level in both models. When we use the continuous endorsement variable, the estimated triple interaction is again negative and statistically significant at ordinary confidence levels in both models, at 5% for model A and 1% for model B. An interesting pattern emerges when looking at the two triple interactions with the Republican endorsement and the Democratic endorsement dummy (columns [2] and [5]). The direction of the point estimates is the one that fits our picture of a partisan bias: the coefficient on the triple interaction with the Republican (Democratic) endorsement dummy is estimated to be positive (negative). However, the estimates suggest that Republican-leaning newspapers are noticeably different in their differential coverage of unemployment from "neutral" newspapers (at 5% confidence

level for model A, and at a mild 10% for model B), while Democratic-leaning ones are not.

The triple interactions with the quarterly change in the unemployment rate are statistically insignificant at standard levels. Moreover, the coefficient on double interaction between the Democratic President dummy and the change in the unemployment rate is always negative and strongly significant. Again, the findings on the double interaction terms (both with the level and the change) should be treated with caution, since the years of the Clinton presidency in the sample were characterized by systematically lower and generally declining unemployment rates, relative to the years under George W. Bush.[9] The negative coefficient on the simple difference-in-differences may simply be driven by a tendency for newspapers on average to be more reactive to high levels and increases of the unemployment rate than to low levels and decreases, with the former more likely to be occurring (and being larger) during the George W. Bush years.

For the other three topics we find no significant and robust relationships between newspaper endorsement patterns and differential news coverage. In Table 4 we analyze news on inflation. In this case all the coefficients on the triple interactions are statistically insignificant, for both model A and model B, and across the various specifications of the endorsement variable. This confirms the results from the two-stage graphical analysis presented in section 3.2. Table 5 shows results for the budget deficit. None of the coefficients on the triple interactions are statistically significant at ordinary confidence levels. Thus, the triple-difference-in-differences analysis does not confirm the finding from the two-stage procedure, of a negative and possibly significant relationship between the interaction terms and the endorsement variable. Finally Table 6 presents the analogous results on the trade deficit. Again, all of the triple interaction terms are statistically indistinguishable from zero.

Some data analysts might be tempted to treat the average difference in slopes across Democratic and Republican presidents (the ϕ^i) as a measure of the average *absolute* level of

[9] Unequal variances t-tests on the levels and the quarterly changes of the unemployment rate strongly reject the null hypotheses that the average levels and changes are equal across the two presidencies (p-value less than .001).

bias across the newspapers in our sample. We are not. The reason is the time sample is too short, so we are only comparing two presidents; the underlying economic conditions were different under the two presidents, so functional form is a major concern; and many other newsworthy events (terrorist attacks, war in Iraq, Monica Lewinsky scandal, O.J. Simpson trial) might have crowded out economic news differentially under the two presidents.

In any case, if one did use the coefficients in this way, the picture would be mixed. For unemployment, the estimated average difference in slopes is negative and significantly different from zero in all six specifications. That is, newspapers on average devoted more attention to unemployment during periods of high unemployment under George W. Bush than under Clinton, and vice versa for periods of low unemployment. This also holds for changes in the unemployment rate, as shown in the columns for model B. These patterns suggest a pro-Democratic bias. The average slope differences also suggest a pro-Democratic bias in the coverage of inflation (see Table 4). On the other hand, for the budget deficit the estimated differences in slopes are always significant and positive, implying that there was more coverage of high budget deficits under Clinton than under George W. Bush, and vice versa with low budget deficits. This suggests a pro-Republican bias in the coverage of budget deficit. On the other hand, the coefficients of budget deficit changes are significant and negative, implying the opposite bias. This second result suggests that interpreting these coefficients can be a rather hazardous endeavour since the budget deficit was generally decreasing under Clinton (at least during the 1996-2000 period) and was increasing during the George W. Bush years.[10] Hence, it is impossible to determine whether the coefficient reflects a partisan bias in coverage or simply a judgement that large changes in deficits are especially newsworthy (especially increases in deficit, since these represent a problem that might require the intervention of the executive). Finally, on trade deficit the pattern of the coefficients is the opposite of what we found on budget deficit: looking at levels the estimates suggest a pro-Democratic bias, but with respect to changes they imply a pro-Republican bias.

[10] An unpaired t-test with unequal variances on the quarterly change in the budget deficit would reject at the 5% confidence level the null hypothesis that the average changes are equal across the two presidencies.

Overall, for reasons previously discussed, these coefficients are hard to interpret and provide a rather unclear picture. Compared to recent literature on media bias (see Lott and Hassett, 2004), we would place little emphasis on such coefficients.

4.1 Magnitude of the effects on unemployment news

To get an idea of the magnitude of the estimated effects, and in particular on the coverage of unemployment, we proceed as follows. First we group newspapers on the basis of their endorsement patterns. Then, for each group, we compute the average predicted change in the number of stories about unemployment under Clinton and under George Bush Jr., if the unemployment rate is half of a percentage point higher than the average unemployment rate under that president.[11]

For each newspaper in the sample we separately calculate the average relative frequency of news about unemployment under the two presidents. We similarly calculate the average monthly number of stories. As a benchmark for computing the effects, we use model A with the continuous endorsement variable (i.e. column [3] in Table 3). Using the estimated coefficients, for each newspaper we calculate the change in the relative frequency of stories about unemployment under Clinton and under Bush when the unemployment rate is half of a percentage point higher. Multiplying these relative changes by the average number of stories, we obtain the estimated change in the number of unemployment stories for each newspaper under each President.

The endorsement variable provides us with a natural way of ordering newspapers according to their explicit political position. In particular, we can cluster newspapers on the basis of the quantile to which they belong, and thus construct average measures of the absolute changes in the number of unemployment news for each considered quantile.

Table 7 compares the coverage of unemployment for newspapers belonging to the first, third and fifth quintile in the endorsement distribution, i.e. newspapers that we would define

[11] Half a percentage point change in the level of the unemployment rate (0.5) is somewhat less than one standard deviation, which is 0.672 for our time sample (see Table 2).

as strongly Republican, "neutral," and strongly Democratic. Columns refer to the political affiliation of the incumbent President, while rows correspond to the different categories of newspapers. The first figure in each cell represents the average change in the number of unemployment stories for that category of newspapers under that incumbent President, while the second figure (the one in parenthesis) is the average percentage change in the relative frequency of unemployment stories (again for a 0.5% increase in the level of the unemployment rate) with respect to the average relative frequency under that President.

The estimated effects are not trivial. For a 0.5% increase in the level of the unemployment rate, under Clinton a strongly Republican newspaper published on average 4.25 more unemployment stories per month (one additional story every week, i.e. almost 24% more with respect to the average), and 2.09 under George W. Bush (one more story every two weeks, which corresponds to an exact 12% increase). On the other hand, under Clinton neutral newspapers published 2.7 less stories when the unemployment rate was 0.5% higher than the average (a 10% decrease), and almost 4 more stories under Bush, i.e. a 15% increase. Finally, strongly Democratic newspapers published 4.44 less stories under Clinton (one story per week less, for a 37% decrease with respect to the average), and almost 3 more under Bush (a 14% increase). There is not much of a difference across different categories of newspapers in the coverage of unemployment under George W. Bush, but what matters for our analysis is the *differential* behavior of newspapers as a function of the political affiliation of the incumbent President. From this perspective one can see that strongly Republican newspapers always give more coverage to high unemployment, but definitely less so when the President is Bush. On the other hand, both neutral and strongly Democratic newspapers gave less coverage to higher unemployment under Clinton (more so the strongly Democratic ones), while under Bush they both gave more coverage to higher unemployment.

A relevant caveat in the interpretation of the absolute changes in the number of news is that the average size of strongly Democratic and strongly Republican newspapers is quite similar (around 2700 and 2500 average articles per month, respectively) while neutral ones

are larger (3850 articles). On this account, the percentage changes in the relative frequency of unemployment stories should give a picture of the results that is less influenced by this scale factor. Moreover, within each group of newspapers the absolute and percentage changes are simply calculated as arithmetic averages, without taking into account the fact that there are large differences in circulation across newspapers.

To tackle issues related to the size of newspapers, we calculate all absolute changes in the number of news as if each newspaper had the same monthly number of stories as the median one in the sample (2,802 stories per month). To address the circulation issue, for each category we compute averages by weighting each newspaper by its relative circulation (within its category). Table 8 displays the corresponding results. The overall pattern of estimated effects is largely confirmed. In fact, the estimated changes in the number of unemployment news are now larger – in absolute value – for strongly Democratic newspapers, both under Clinton and under Bush. The opposite is true for neutral newspapers. Only correcting for the size clearly plays a role here, especially for neutral newspapers: this is indirectly witnessed by the fact that the circulation-weighted percentage changes in the relative frequency of unemployment stories are very similar to non-weighted ones featured in Table 7.

To sum up, the triple difference-in-differences analysis of the coverage of these four macroeconomic figures presents a mixed picture: there are signs of a partisan bias in the amount of coverage devoted to the unemployment rate, while there is no evidence of such a bias (or at least of a bias that is correlated with the endorsement policy) when looking at inflation, budget deficit and trade deficit stories. In the next section we will explore how robust these results are.

5 Robustness checks

5.1 Lagged values of the economic figures

As discussed in section 3.3, it is *a priori* unclear whether newsworthy economic events are more correlated with contemporaneous values of the relevant economic figures, or lagged values. To address this, we re-ran all regressions using the unemployment and inflation rates lagged one month, and the budget and trade deficits lagged one quarter, instead of the contemporaneous figures.

Table 9 parallels Table 3, showing results for the unemployment rate. The pattern of results found there is overall confirmed here: Democratic-leaning newspapers tend to give more coverage to high unemployment rate under George W. Bush than under Clinton, as compared to Republican leaning ones. Coefficients on the triple interactions with the mild Democratic endorsement dummy (columns [1] and [4]) and the continuous endorsement variable (columns [3] and [6]) are slightly more precisely estimated. Note that when controlling for the Democratic and Republican endorsement dummies in model B, the triple interactions with the level of the unemployment rate are both insignificant, while the interactions with changes in the unemployment rate are both statistically significant and positive. This is consistent with the fact that, as compared to neutral newspapers, both Democratic and Republican newspapers are less reactive to increases in the unemployment rate under George W. Bush than under Clinton.

Turning to other economic issues, the lagged-values specification strongly confirms the lack of a significant correlation between the endorsement policy and the differential coverage of inflation, the budget and the trade deficit.[12]

[12] For reasons of space we omit the corresponding tables, which are available upon request.

5.2 Unemployment news, controlling for state-level unemployment

A potential problem with the regressions on the coverage of the unemployment rate is the one of an omitted variable bias. Newspapers typically have a locally concentrated readership that cares about local events, and local aspects of common phenomena. Since there is noticeable variation in unemployment across regions and states, the local unemployment rate in an area or state may represent a newsworthy issue.

Regarding the estimation of our triple interaction terms, one might be concerned that in Democratic-voting areas the local unemployment rate is systematically lower with respect to its average when the incumbent president is a Democrat, possibly because of some public job-creating projects being targeted to the area. If the political partisanship of potential readers in the area where a newspaper sells is positively correlated with its endorsement policy, then it could be the case that the less intense coverage of high unemployment by Democratic-leaning newspapers under a Democratic president is driven by the fact that the *local* unemployment rate is indeed lower in those areas where the newspapers are sold. Then it would not be a matter of a partisan bias trickling down from the editorial page to the economic news section, but of honest reporting on local economic conditions.

In order to address this issue, we re-ran all the six regressions in Table 3 controlling for the level and change of the unemployment rate in the state where each newspaper is based[13]. The results are reported in Table 8. Again we find a systematic, positive, correlation between the endorsement policy and the differential coverage of unemployment. The size and significance of the coefficients on the triple interaction terms are comparable to the ones reported in Table 3. The coefficients on the level of the unemployment rate in the state is significant at standard confidence levels, and positive. Similarly, the coverage of unemployment is positively and significantly correlated with the quarterly change in the state level unemployment rate.

[13]Because of problems of multicollinearity, while the slope of unemployment news with respect to the national unemployment rate is allowed to be newspaper-specific, the slopes with respect to state level unemployment rate and its change are common across newspapers.

5.3 Wider time windows: 1992-2005 and 1988-2005

In this section we check whether the relationship between the endorsement choices by newspapers and the partisan coverage of unemployment is robust to the time period being analyzed, and in particular to the consideration of a longer time window. In fact, given that we rely for our searches on electronic archives, there is a trade off between the length of the time span and the number of newspapers for which data are available.[14] Since we are interested in the cross-sectional relationship between the endorsement policy and the coverage of economic news as a function of the political affiliation of the incumbent president, up to now we have focused on a time span that incorporates an equal number of years under two presidents of a different political affiliation, and a large number of newspapers for which we were able to gather endorsement data. We can, however, trade off between the dataset's length and width. Along these lines, Table 9 compares results regarding the 1996-2005, the 1992-2005 and the 1988-2005 time windows. As already discussed in section 3.1, we can match coverage and endorsement data for 101 newspapers in the 1996-2005 time span, which shrink to 80 (39) when considering the 1992-2005 (1988-2005) windows.

In the table we again consider both model A and model B, but only show findings for the triple interactions involving the continuous measure of the endorsement choice. Columns [1] and [4] display results for the 1996-2005 period and hence correspond to columns [3] and [6] in Table 3. Columns [2] and [5] refer to newspapers with data back to 1992, while columns [3] and [6] refer to newspapers with 1988-2005 data. Regarding the 1992-2005 time window, it turns out that the relationship between the endorsement policy and the differential coverage of unemployment is no longer significant at ordinary confidence levels, both for model A and model B. The same finding emerges when controlling for lagged values of the unemployment rate, instead of contemporaneous ones. Regarding the double interaction term between the Democratic President dummy and the level (and quarterly change) of the unemployment

[14] See section 3.1 above and Table A1 for the actual number and names of newspapers covered along the three different time windows.

rate, the estimated coefficients are negative and strongly significant, as with the 1996-2005 time sample.

Looking at the 1988-2005 time span, the coefficient on the triple interaction with the level of the unemployment rate is again statistically significant at the 5% confidence level, both for model A and model B. Finally the double interactions between the Democratic President dummy and the unemployment level and change show a negative point estimate and are statistically significant at the 1% confidence level.

5.4 Chain-based and large newspapers

The previous section has shown that the relationship between the endorsement choices and the partisan coverage of unemployment is not entirely robust to the time-window under consideration. In this section we explore the robustness of this relationship for the subsample of large-scale newspapers, i.e. those that sell a large number of copies and/or belong to large chains. It could in fact be the case that managing editors and journalists of large-scale newspapers are (more) conscious of the political facets of their agenda setting behavior, and act accordingly. In other terms, the relationship between the endorsement policy and the coverage of economic news might be less noisy (and hence less susceptible to sample size) when restricting our attention to this subset of newspapers.

In order to operationalize this concept of large-scale newspapers, we focus on newspapers with 1996 circulation above 400,000 copies and/or newspapers belonging to large chains, as of the same year.[15] Table 10 replicates the format of Table 9 and displays results on this subset of newspapers, separately considering those for which data back to 1996, 1992 and 1988 are available. There are 71 large-scale newspapers if one considers the 1996-2005 time-window, which shrink to 59 (32) on the 1992-2005 (1988-2005) span. As in Table 9, only results on the triple interaction with the continuous endorsement variable are reported, both for model A and model B.

[15] Summary data on circulation and chains to which sampled newspapers belong are shown in Table A1.

For all three time-windows, the table shows a significant and negative relationship between the relative frequency of unemployment news and the triple interaction term between the Democratic endorsement variable, the Democratic President dummy, and the level of the unemployment rate. This holds for both model A and model B.

6 Discussion and conclusions

In this paper we have analyzed the relationship between the endorsement policy of U.S. newspapers and the coverage of economic issues, as a function of the true economic datum and the political affiliation of the incumbent president. Considering the last decade, there is some evidence that newspapers endorsing more Democratic candidates give less coverage to high unemployment under Clinton than under George W. Bush, as compared to more Republican-leaning ones. Vice versa for low unemployment. This relationship is robust to controlling for the change in the unemployment rate, and to using lagged vs. contemporaneous economic figures. It is also robust to controlling for the level and change of the unemployment rate in the state where each newspaper is based. On the other hand, it is not very robust to the time-window being considered, as it is statistically insignificant for the 1992-2005 period, while it is significant for the 1988-2005 period. In fact, when considering the subset of large-scale newspapers, i.e. high-circulation ones and those belonging to large chains, it turns out that the link between endorsement partisanship and the differential coverage of unemployment is robust to the time sample. On the other hand, there is no evidence of a systematic correlation between the endorsement policy and the coverage of inflation, the budget deficit and the trade deficit.

All in all, the evidence gathered and analyzed here suggests that there is some link between the positions taken by the editorial staff on the editorial page and the agenda-setting choices taken in the news room with regard to economic news. However, to the extent that our keywords-based searches are able to confine false positives and false negatives to an

acceptable amount, our findings reject the hypothesis of a systematic partisan bias in the agenda-setting behavior of the economic news room. This is the case, because the issues of inflation, the budget and the trade deficit do not show any sign of a differential coverage that is correlated with the endorsement partisanship of the newspaper. As discussed in the introduction, we only study the agenda-setting behavior of newspapers. We cannot detect any framing of economic events done through tone, even if it is correlated with the political affiliation of the incumbent president and the endorsement partisanship of the newspaper. In any case, one can reject the hypothesis that political views entertained at the editorial page level have an across-the-board influence on the coverage of *all* economic news.

The dataset and type of analysis presented here can be extended in several directions. First of all, it would be worthwhile to try and gather data on additional newspapers for the early 90s and late 80s, in order to shed some further light on the robustness of our results with respect to the time-window being considered. Moreover, historical electronic archives like ProQuest can be used to construct long time series on the coverage of economic issues by a handful of newspapers.

Secondly, any debate on the extent of "mass media bias" in the U.S. should be put into a comparative perspective.[16] Given that the economy represents a salient issue in almost all countries, one could use the same keywords-based search procedure on the electronic archives of newspapers and media outlets in other countries, and construct similar datasets to the one analyzed here. The purpose of such an exercise would be to compare – on a cross-country basis – the amount of within-country variation in the differential coverage of relevant economic figures, as a function of the political affiliation of the incumbent government and the level itself of the economic datum. We are currently collecting the data to do this for a variety of newspapers in the U.K..

Finally, one can apply this framework to actors that are different from mass media outlets

[16] See Gentzkow, Glaeser and Goldin [2006] for a time-series comparison of the extent of bias on the U.S. press in the coverage of two political scandals, the Crédit Mobilier in the 1870s and the Teapot Dome in the 1920s.

proper. For example, we are currently applying it to members of Congress (somewhat analogously to Groseclose and Milyo [2005]). Specifically, we are analyzing speeches in the congressional record to check whether representatives talk about economic issues with frequencies that are systematically correlated with the level of the underlying economic figure, their political affiliation and the one of the incumbent president, and/or the one of the majority in the chamber itself.

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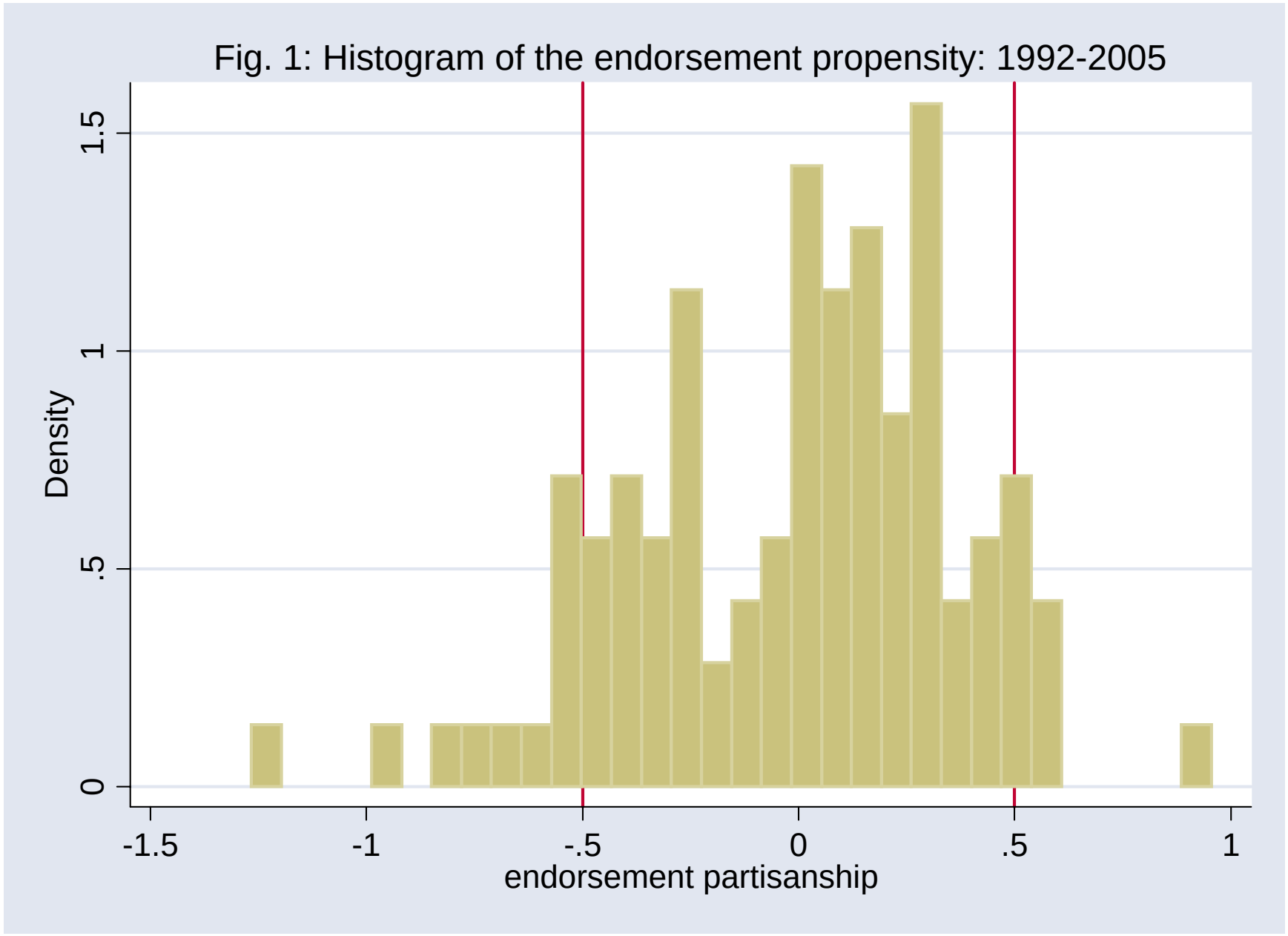
Fig. 1: Histogram of the endorsement propensity: 1992-2005
Density
0
.5
1
1.5
-1.5
-1
-.5
0
.5
1
endorsement partisanship

Fig. 2: Average circulation and endorsement partisanship

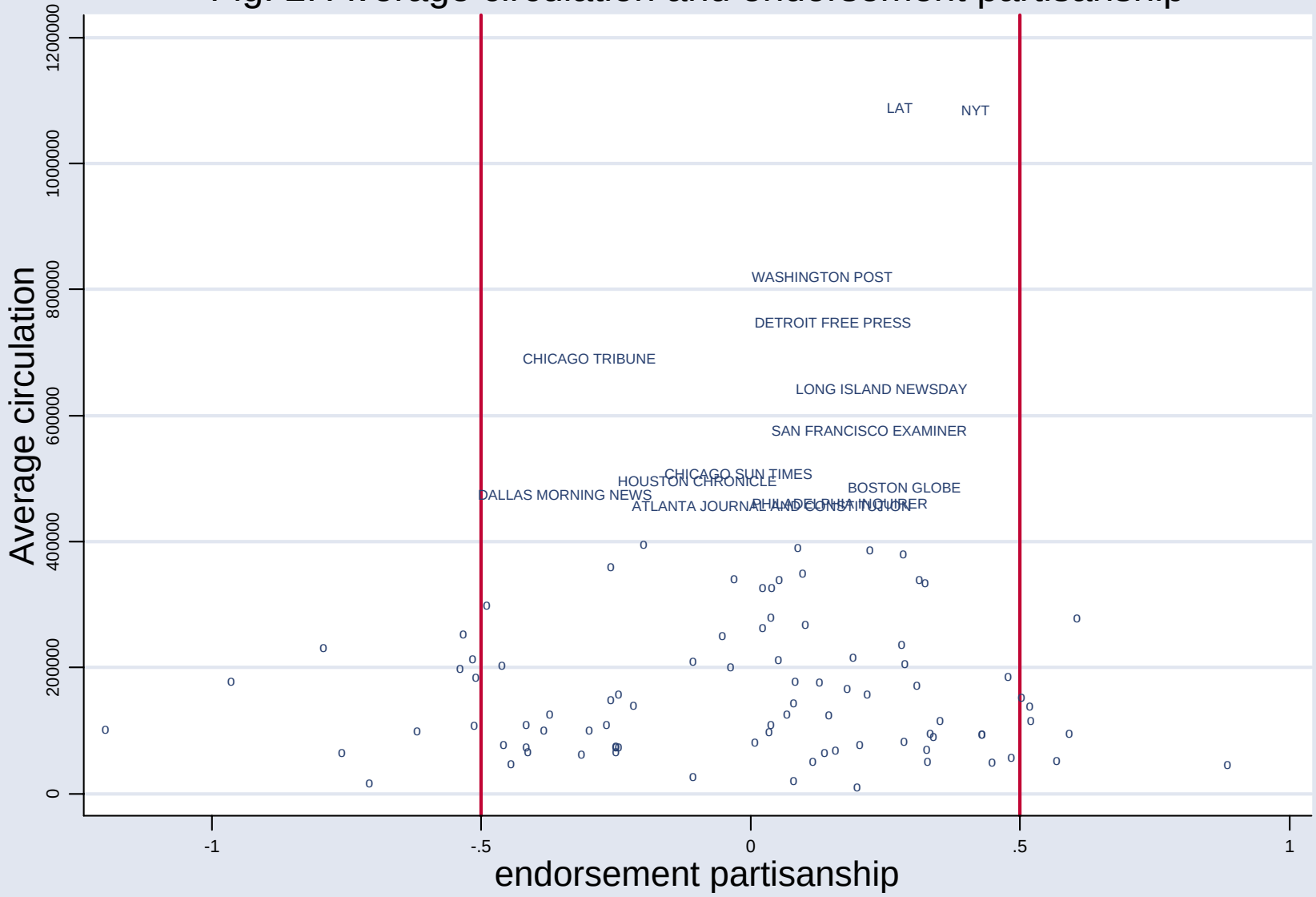

Fig. 3: Endorsement policy and partisan coverage of unemployment

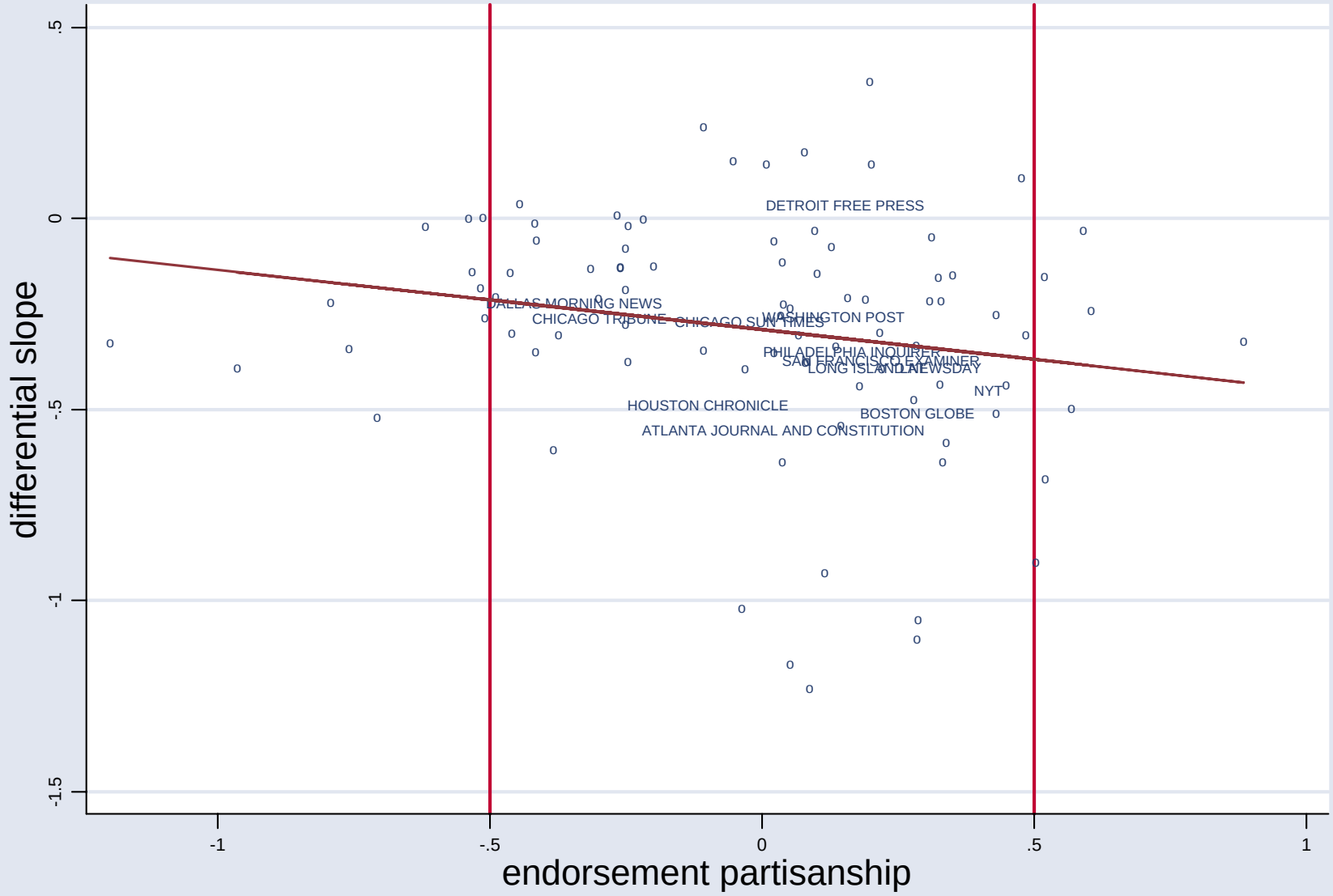

Fig. 4: Endorsement policy and partisan coverage of inflation

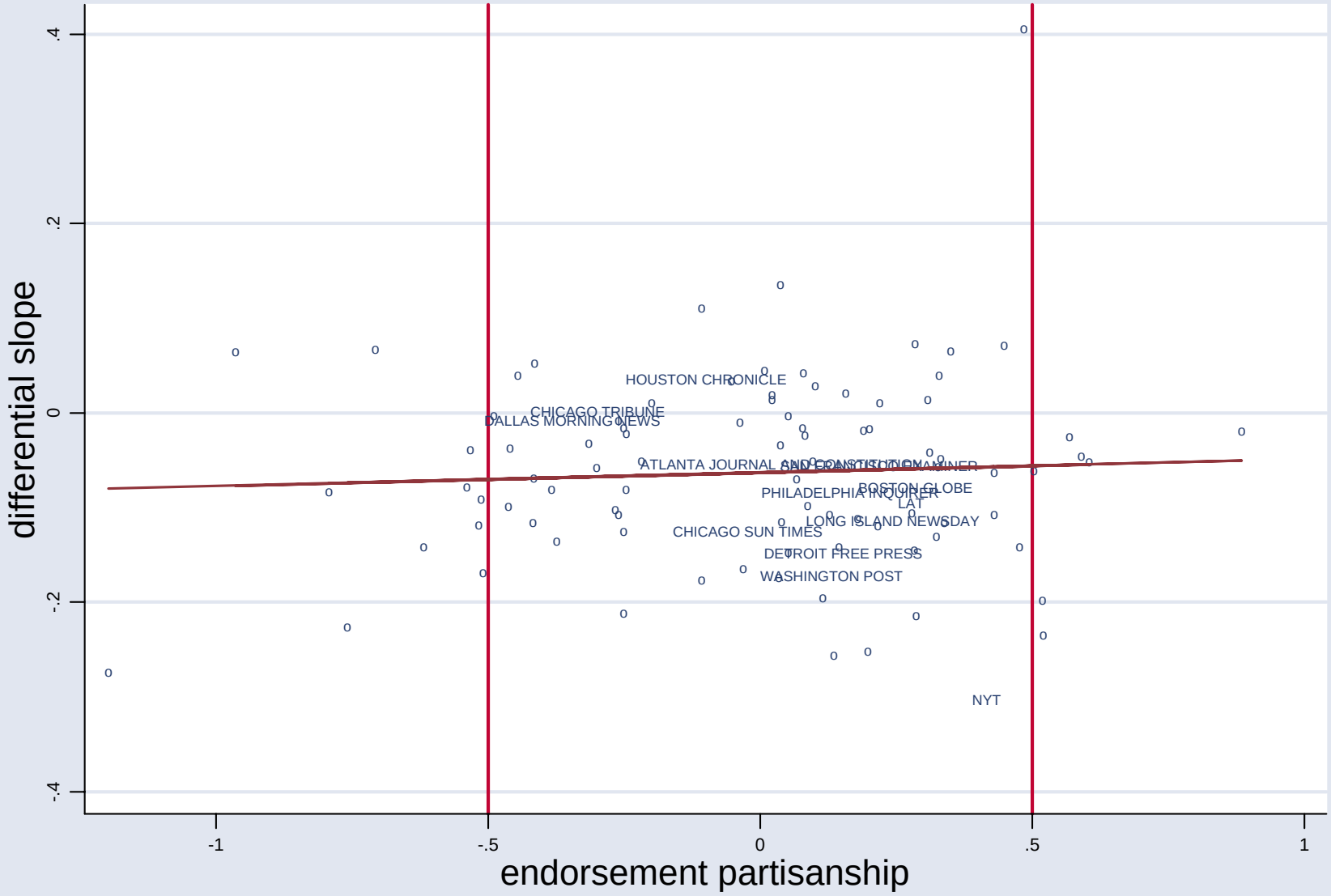

Fig. 5: Endorsement policy and partisan coverage of budget deficit

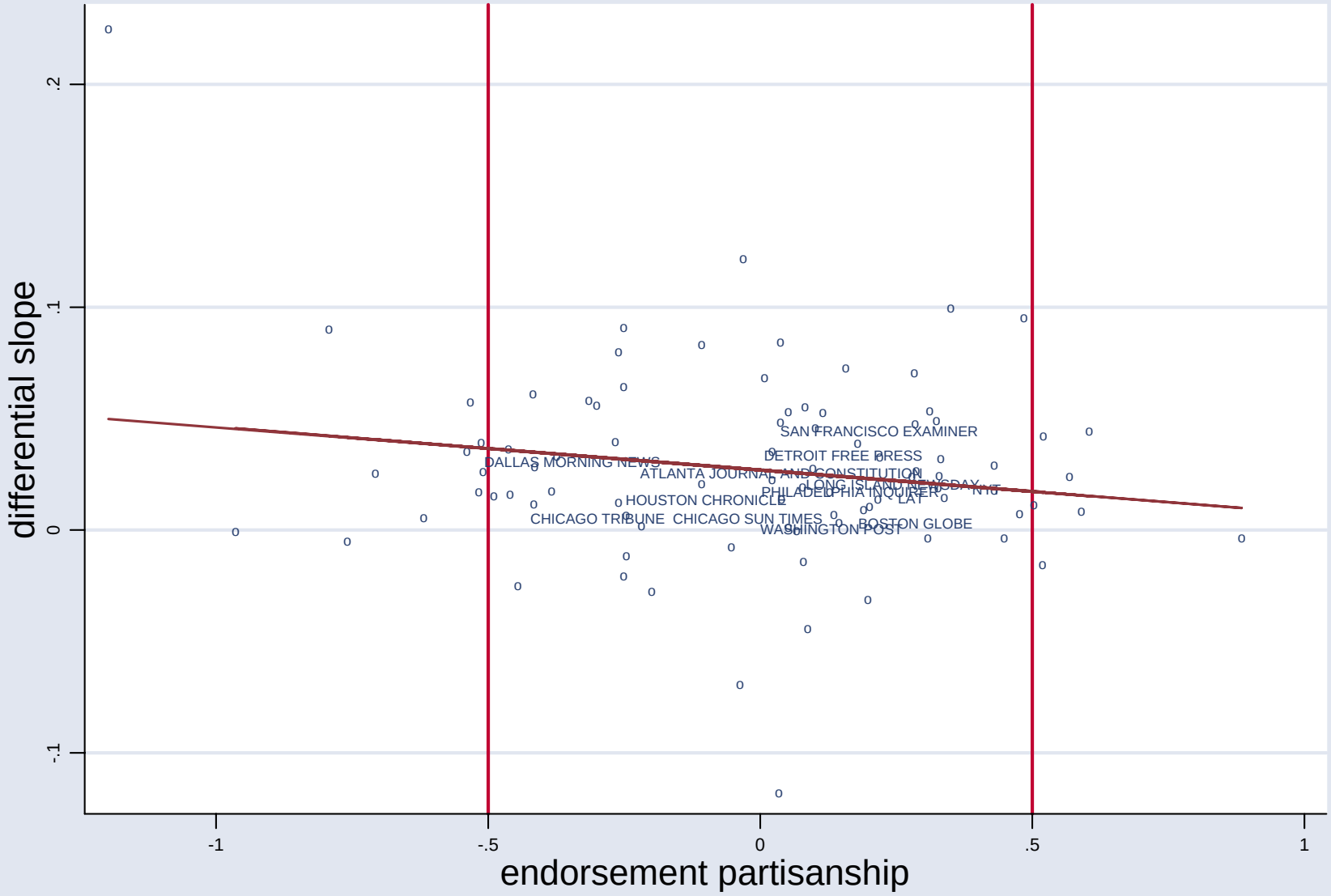

Fig. 6: Endorsement policy and partisan coverage of trade deficit

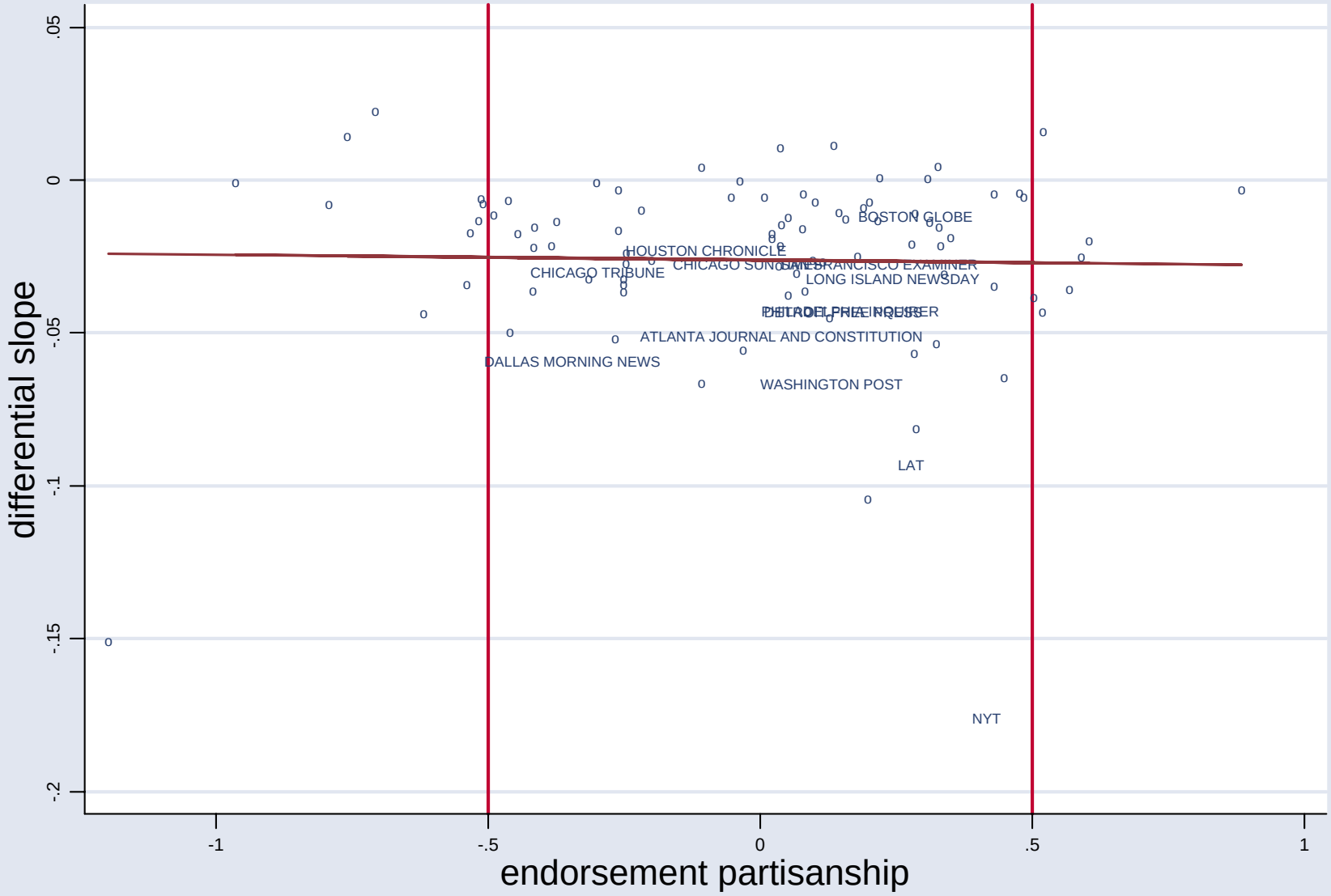

Table 1: variable definitions

symbol	variable	definition	source
e_{Ut}	Unemployment	Monthly unemployment rate	BLS, LNS 14000000
e_{It}	Inflation	Monthly inflation rate, on annual basis	
e_{Bt}	Budget deficit	Quarterly federal deficit, as percentage of GDP	BEA: NIPA Tables 3.2 and 1.1.5
e_{Tt}	Trade deficit	Quarterly trade deficit, as percentage of GDP	BEA: NIPA Tables 4.1 and 1.1.5
n_{jt}^{U}	Relative frequency of unemployment stories	Relative frequency of unemployment stories during month t on newspaper j	electronic search on www.NewsLibrary.com: (unemployment OR jobless)
n_{jt}^{I}	Relative frequency of inflation stories	Relative frequency of inflation stories during month t on newspaper j	electronic search on www.NewsLibrary.com: (inflation)
n_{jt}^{B}	Relative frequency of budget deficit stories	Relative frequency of budget deficit/surplus stories during quarter t on newspaper j	electronic search on www.NewsLibrary.com: "government debt" OR "government surplus" OR "government deficit" OR "federal debt" OR "federal surplus" OR "federal deficit"
n_{jt}^{T}	Relative frequency of trade deficit stories	Relative frequency of trade deficit/surplus stories during quarter t on newspaper j	electronic search on www.NewsLibrary.com: ("trade balance" OR "trade deficit" OR "trade surplus")

Table 2: summary statistics, 1996-2005

symbol	variable	Obs.	Mean	Median	Std. Dev.	Min	Max
x_{Ut}	Monthly unemployment rate	120	5.013	5.100	0.672	3.800	6.300
x_{It}	Monthly inflation rate	120	2.514	2.579	0.759	1.067	4.687
x_{Bt}	Quarterly budget deficit	40	1.047	1.229	1.936	-2.209	4.114
x_{Tt}	Quarterly trade deficit	40	3.432	3.604	1.579	1.070	6.166
n_{jt}^{U}	Relative frequency of unemployment stories	12019	0.699	0.639	0.380	0	3.138
n_{jt}^{I}	Relative frequency of inflation stories	12019	0.575	0.482	0.402	0	3.824
n_{jt}^{B}	Relative frequency of budget deficit stories	4013	0.127	0.103	0.106	0	1.887
n_{jt}^{T}	Relative frequency of trade deficit stories	4013	0.058	0.041	0.063	0	0.539

Notes: all economic figures and relative frequencies of stories are expressed in percentage points.

Table 3: coverage of unemployment, 1996-2005: triple difference in difference regressions, contemporaneous values of the unemployment rate

	level of the unemployment rate, model A			level & change of the unemployment rate, model B		
	[1] Democratic vs Republican leaning endorsements	[2] Democratic vs neutral vs Republican leaning endorsements	[3] endorsement as a continuous variable	[4] Democratic vs Republican leaning endorsements	[5] Democratic vs neutral vs Republican leaning endorsements	[6] endorsement as a continuous variable
unemployment rate * Democratic President dummy	-0.201628***	-0.321338***	-0.280162***	-0.139666***	-0.245330***	-0.227983***
	[6.91]	[5.32]	[10.01]	[5.32]	[4.12]	[8.39]
unemployment rate * Democratic President dummy * 'mild' Democratic endorsement	-0.153342***	-	-	-0.172488***	-	-
	[2.83]			[3.31]		
unemployment rate * Democratic President dummy * Republican endorsement dummy	-	0.142422**	-	-	0.112685*	-
		[2.15]			[1.74]	
unemployment rate * Democratic President dummy * Democratic endorsement dummy	-	-0.014462	-	-	-0.054862	-
		[0.19]			[0.71]	
unemployment rate * Democratic President dummy * Democratic endorsement	-	-	-0.149528**	-	-	-0.170943***
			[2.42]			[2.82]
change in the unemployment rate * Democratic President dummy	-	-	-	-0.294227***	-0.328930***	-0.264060***
				[7.08]	[7.11]	[7.79]
change in the unemployment rate * Democratic President dummy * 'mild' Democratic endorsement dummy	-	-	-	0.058375	-	-
				[0.86]		
change in the unemployment rate * Democratic President dummy * Republican endorsement dummy	-	-	-	-	0.084028	-
					[1.16]	
change in the unemployment rate * Democratic President dummy * Democratic endorsement dummy	-	-	-	-	0.111099	-
					[1.31]	
change in the unemployment rate * Democratic President dummy * Democratic endorsement	-	-	-	-	-	0.108902
						[1.10]
newspaper-specific fixed effects	yes	yes	yes	yes	yes	yes
newspaper-specific Democratic President dummy	yes	yes	yes	yes	yes	yes
newspaper-specific slope wrt unemployment	yes	yes	yes	yes	yes	yes
newspaper-specific time trend & sensitivity to size	yes	yes	yes	yes	yes	yes
Observations	12019	12019	12019	12019	12019	12019
No. of newspapers	101	101	101	101	101	101
R squared	0.61	0.61	0.61	0.62	0.62	0.62

Notes: The table displays findings for a fixed effects specification where the relative frequency of stories about unemployment is regressed against a dummy for the incumbent President being a Democrat, the contemporaneous unemployment rate and an interaction term between the two, plus a linear time trend and the log of the total number of stories (model A) . In model B, the quarterly change in the unemployment rate and its interaction with the incumbent President dummy appear as additional regressors. The coefficients on the incumbent President dummy, on the slope with respect to the unemployment rate (and its change), are all newspaper-specific. The same is true for the coefficients on the time trend and the log of total number of stories. The differential slope with respect to the unemployment rate under a Democratic vs a Republican incumbent President is common across newspapers. The same holds for the change in the unemployment rate.

The focus of the analysis is on the triple interaction between the unemployment rate, the Democratic President dummy and different measures of the propensity to endorse Democratic versus Republican candidates by each newspaper. In columns [1] and [4] the interaction is with a 'mild' Democratic endorsement dummy, which equals one if the score for the propensity to endorse Democratic candidates is larger than the median, and zero otherwise. In columns [2] and [5] there are two triple interactions, respectively with a Democratic endorsement dummy which equals one if the endorsement score is above the 66th percentile, and with a Republican endorsement one which equals one for newspapers with an endorsement score below the 33th percentile. In columns [3] and [6] the continuous variable measuring the propensity to endorse Democratic candidates is directly interacted with the unemployment rate and the Democratic President dummy. The same holds for the interactions with the change in the unemployment rate (columns from [4] to [6]). Standard errors are clustered by newspaper. Below each coefficient, t statistics are reported in brackets. *** indicates that the coefficient is significantly different from zero at the 1% level. ** (*) indicates 5% (10%) significance.

Table 4: coverage of inflation, 1996-2005: triple difference in difference regressions, contemporaneous values of the inflation rate

	level of the inflation rate, model A			level & change of the inflation rate, model B		
	[1] Democratic vs Republican leaning endorsements	[2] Democratic vs neutral vs Republican leaning endorsements	[3] endorsement as a continuous variable	[4] Democratic vs Republican leaning endorsements	[5] Democratic vs neutral vs Republican leaning endorsements	[6] endorsement as a continuous variable
inflation rate * Democratic President dummy	-0.061984***	-0.061180***	-0.064633***	-0.045799***	-0.040946**	-0.044024***
	[4.87]	[3.81]	[6.30]	[3.63]	[2.53]	[4.20]
inflation rate * Democratic President dummy * 'mild' Democratic endorsement	-0.005548	-	-	0.003169	-	-
	[0.27]			[0.15]		
inflation rate * Democratic President dummy * Republican endorsement dummy	-	-0.011217	-	-	-0.014663	-
		[0.52]			[0.69]	
inflation rate * Democratic President dummy * Democratic endorsement dummy	-	0.000313	-	-	0.004613	-
		[0.01]			[0.17]	
inflation rate * Democratic President dummy * Democratic endorsement	-	-	0.019347	-	-	0.029028
			[0.58]			[0.84]
change in the inflation rate * Democratic President dummy	-	-	-	-0.093504***	-0.119104***	-0.113633***
				[5.24]	[5.67]	[8.79]
change in the inflation rate * Democratic President dummy * 'mild' Democratic endorsement dummy	-	-	-	-0.039444	-	-
				[1.54]		
change in the inflation rate * Democratic President dummy * Republican endorsement dummy	-	-	-	-	0.022577	-
					[0.71]	
change in the inflation rate * Democratic President dummy * Democratic endorsement dummy	-	-	-	-	-0.005255	-
					[0.17]	
change in the inflation rate * Democratic President dummy * Democratic endorsement	-	-	-	-	-	-0.031419
						[0.97]
newspaper-specific fixed effects	yes	yes	yes	yes	yes	yes
newspaper-specific Democratic President dummy	yes	yes	yes	yes	yes	yes
newspaper-specific slope wrt inflation	yes	yes	yes	yes	yes	yes
newspaper-specific time trend & sensitivity to size	yes	yes	yes	yes	yes	yes
Observations	12019	12019	12019	12019	12019	12019
No. of newspapers	101	101	101	101	101	101
R squared	0.71	0.71	0.71	0.71	0.71	0.71

Notes: The table displays findings for a fixed effects specification where the relative frequency of stories about inflation is regressed against a dummy for the incumbent President being a Democrat, the contemporaneous inflation rate and an interaction term between the two, plus a linear time trend and the log of the total number of stories (model A) . In model B, the quarterly change in the inflation rate and its interaction with the incumbent President dummy appear as additional regressors. The coefficients on the incumbent President dummy, on the slope with respect to the inflation rate (and its change), are all newspaper-specific. The same is true for the coefficients on the time trend and the log of total number of stories. The differential slope with respect to the inflation rate under a Democratic vs a Republican incumbent President is common across newspapers. The same holds for the change in the inflation rate.

The focus of the analysis is on the triple interaction between the inflation rate, the Democratic President dummy and different measures of the propensity to endorse Democratic versus Republican candidates by each newspaper. In columns [1] and [4] the interaction is with a 'mild' Democratic endorsement dummy, which equals one if the score for the propensity to endorse Democratic candidates is larger than the median, and zero otherwise. In columns [2] and [5] there are two triple interactions, respectively with a Democratic endorsement dummy which equals one if the endorsement score is above the 66th percentile, and with a Republican endorsement one which equals one for newspapers with an endorsement score below the 33th percentile. In columns [3] and [6] the continuous variable measuring the propensity to endorse Democratic candidates is directly interacted with the inflation rate and the Democratic President dummy. The same holds for the interactions with the change in the inflation rate (columns from [4] to [6]). Standard errors are clustered by newspaper. Below each coefficient, t statistics are reported in brackets. *** indicates that the coefficient is significantly different from zero at the 1% level. ** (*) indicates 5% (10%) significance.

Table 5: coverage of budget deficit/surplus, 1996-2005: triple difference in difference regressions, contemporaneous values of the budget deficit

	level of the budget deficit, model A			level & change of the budget deficit, model B		
	[1] Democratic vs Republican leaning endorsements	[2] Democratic vs neutral vs Republican leaning endorsements	[3] endorsement as a continuous variable	[4] Democratic vs Republican leaning endorsements	[5] Democratic vs neutral vs Republican leaning endorsements	[6] endorsement as a continuous variable
budget deficit * Democratic President dummy	0.028832***	0.021552**	0.026883***	0.033022***	0.028307***	0.030559***
	[3.83]	[2.54]	[6.40]	[3.95]	[2.82]	[6.43]
budget deficit * Democratic President dummy * 'mild' Democratic endorsement	-0.003847	-	-	-0.004891	-	-
	[0.45]			[0.51]		
budget deficit * Democratic President dummy * Republican endorsement dummy	-	0.011462	-	-	0.006884	-
		[0.97]			[0.51]	
budget deficit * Democratic President dummy * Democratic endorsement dummy	-	0.004556	-	-	-0.000102	-
		[0.47]			[0.01]	
budget deficit * Democratic President dummy * Democratic endorsement	-	-	-0.016968	-	-	-0.019481
			[0.96]			[0.96]
change in the budget deficit * Democratic President dummy	-	-	-	-0.033943***	-0.029417***	-0.027275***
				[3.82]	[3.33]	[4.46]
change in the budget deficit * Democratic President dummy * 'mild' Democratic endorsement dummy	-	-	-	0.012852	-	-
				[1.03]		
change in the budget deficit * Democratic President dummy * Republican endorsement dummy	-	-	-	-	-0.003175	-
					[0.22]	
change in the budget deficit * Democratic President dummy * Democratic endorsement dummy	-	-	-	-	0.008926	-
					[0.60]	
change in the budget deficit * Democratic President dummy * Democratic endorsement	-	-	-	-	-	0.031641
						[1.24]
newspaper-specific fixed effects	yes	yes	yes	yes	yes	yes
newspaper-specific Democratic President dummy	yes	yes	yes	yes	yes	yes
newspaper-specific slope wrt budget deficit	yes	yes	yes	yes	yes	yes
newspaper-specific time trend & sensitivity to size	yes	yes	yes	yes	yes	yes
Observations	4013	4013	4013	4013	4013	4013
No. of newspapers	101	101	101	101	101	101
R squared	0.52	0.52	0.52	0.53	0.53	0.53

Notes: The table displays findings for a fixed effects specification where the relative frequency of stories about the budget deficit/surplus is regressed against a dummy for the incumbent President being a Democrat, the contemporaneous budget deficit as a percentage of GDP and an interaction term between the two, plus a linear time trend and the log of the total number of stories (model A) . In model B, the quarterly change in the budget deficit and its interaction with the incumbent President dummy appear as additional regressors. The coefficients on the incumbent President dummy, on the slope with respect to the budget deficit (and its change), are all newspaper-specific. The same is true for the coefficients on the time trend and the log of total number of stories. The differential slope with respect to the budget deficit under a Democratic vs a Republican incumbent President is common across newspapers. The same holds for the change in the budget deficit.

The focus of the analysis is on the triple interaction between the budget deficit, the Democratic President dummy and different measures of the propensity to endorse Democratic versus Republican candidates by each newspaper. In columns [1] and [4] the interaction is with a 'mild' Democratic endorsement dummy, which equals one if the score for the propensity to endorse Democratic candidates is larger than the median, and zero otherwise. In columns [2] and [5] there are two triple interactions, respectively with a Democratic endorsement dummy which equals one if the endorsement score is above the 66th percentile, and with a Republican endorsement one which equals one for newspapers with an endorsement score below the 33th percentile. In columns [3] and [6] the continuous variable measuring the propensity to endorse Democratic candidates is directly interacted with the budget deficit and the Democratic President dummy. The same holds for the interactions with the change in the budget deficit (columns from [4] to [6]). Standard errors are clustered by newspaper. Below each coefficient, t statistics are reported in brackets. *** indicates that the coefficient is significantly different from zero at the 1% level. ** (*) indicates 5% (10%) significance.

Table 6: coverage of trade deficit/surplus, 1996-2005: triple difference in difference regressions, contemporaneous values of trade deficit

	level of the trade deficit, model A			level & change of the trade deficit, model B		
	[1] Democratic vs Republican leaning endorsements	[2] Democratic vs neutral vs Republican leaning endorsements	[3] endorsement as a continuous variable	[4] Democratic vs Republican leaning endorsements	[5] Democratic vs neutral vs Republican leaning endorsements	[6] endorsement as a continuous variable
trade deficit * Democratic President dummy	-0.025258***	-0.025108***	-0.027131***	-0.030659***	-0.029697***	-0.031657***
	[6.17]	[6.45]	[7.78]	[6.26]	[6.83]	[8.04]
trade deficit * Democratic President dummy * 'mild' Democratic endorsement	-0.003705	-	-	-0.002037	-	-
	[0.53]			[0.26]		
trade deficit * Democratic President dummy * Republican endorsement dummy	-	0.000102	-	-	-0.001225	-
		[0.02]			[0.15]	
trade deficit * Democratic President dummy * Democratic endorsement dummy	-	-0.005939	-	-	-0.004547	-
		[0.68]			[0.48]	
trade deficit * Democratic President dummy * Democratic endorsement	-	-	-0.00025	-	-	0.004121
			[0.02]			[0.24]
change in the trade deficit * Democratic President dummy	-	-	-	0.055842***	0.052476***	0.048359***
				[4.65]	[5.24]	[6.69]
change in the trade deficit * Democratic President dummy * 'mild' Democratic endorsement dummy	-	-	-	-0.014094	-	-
				[0.93]		
change in the trade deficit * Democratic President dummy * Republican endorsement dummy	-	-	-	-	0.006135	-
					[0.32]	
change in the trade deficit * Democratic President dummy * Democratic endorsement dummy	-	-	-	-	-0.017629	-
					[1.13]	
change in the trade deficit * Democratic President dummy * Democratic endorsement	-	-	-	-	-	-0.04341
						[1.14]
newspaper-specific fixed effects	yes	yes	yes	yes	yes	yes
newspaper-specific Democratic President dummy	yes	yes	yes	yes	yes	yes
newspaper-specific slope wrt trade deficit	yes	yes	yes	yes	yes	yes
newspaper-specific time trend & sensitivity to size	yes	yes	yes	yes	yes	yes
Observations	4013	4013	4013	4013	4013	4013
No. of newspapers	101	101	101	101	101	101
R squared	0.74	0.74	0.74	0.76	0.76	0.76

Notes: The table displays findings for a fixed effects specification where the relative frequency of stories about the trade deficit/surplus is regressed against a dummy for the incumbent President being a Democrat, the contemporaneous trade deficit as a percentage of GDP and an interaction term between the two, plus a linear time trend and the log of the total number of stories (model A) . In model B, the quarterly change in the trade deficit and its interaction with the incumbent President dummy appear as additional regressors. The coefficients on the incumbent President dummy, on the slope with respect to the trade deficit (and its change), are all newspaper-specific. The same is true for the coefficients on the time trend and the log of total number of stories. The differential slope with respect to the trade deficit under a Democratic vs a Republican incumbent President is common across newspapers. The same holds for the change in the budget deficit.

The focus of the analysis is on the triple interaction between the trade deficit, the Democratic President dummy and different measures of the propensity to endorse Democratic versus Republican candidates by each newspaper. In columns [1] and [4] the interaction is with a 'mild' Democratic endorsement dummy, which equals one if the score for the propensity to endorse Democratic candidates is larger than the median, and zero otherwise. In columns [2] and [5] there are two triple interactions, respectively with a Democratic endorsement dummy which equals one if the endorsement score is above the 66th percentile, and with a Republican endorsement one which equals one for newspapers with an endorsement score below the 33th percentile. In columns [3] and [6] the continuous variable measuring the propensity to endorse Democratic candidates is directly interacted with the trade deficit and the Democratic President dummy. The same holds for the interactions with the change in the trade deficit (columns from [4] to [6]). Standard errors are clustered by newspaper. Below each coefficient, t statistics are reported. *** indicates that the coefficient is significantly different from zero at the 1% level. ** (*) indicates 5% (10%) significance.

Table 7: estimated changes in the number of unemployment news, strongly Republican vs. neutral vs. strongly Democratic newspapers, 1996-2005

	incumbent President is Bill Clinton		incumbent President is George W. Bush	
Strongly Republican newspapers	4.25	(+23.82%)	2.09	(+12.00%)
neutral newspapers	-2.7	(-9.94%)	3.92	(+15.11%)
Strongly Democratic newspapers	-4.44	(-37.41%)	2.83	(+14.10%)

Notes: The first entry in each cell is the average change in the monthly number of news about unemployment when the unemployment rate is half of a percentage point higher, for different categories of newspapers, under the presidency of Bill Clinton and George W. Bush respectively. The second entry in each cell is the average percentage change in the relative frequency of unemployment stories, again for the same half-a-percentage-point positive variation in the level of the unemployment rate. Strongly Republican (Democratic) newspapers are defined as those which belong to the first (last) quintile in the distribution of the Democratic endorsement score. Neutral newspapers are those that belong to the distribution's third quintile. Estimates are based on model A, with the endorsement score as a continuous variable (Table 3, column 3).

Table 8: estimated changes in the number of unemployment news, strongly Republican vs. neutral vs. strongly Democratic newspapers, 1996-2005, controlling for circulation and size

	incumbent President is Bill Clinton		incumbent President is George W. Bush	
Strongly Republican newspapers	4.15	(+22.18%)	1.8	(+10.78%)
neutral newspapers	-1.91	(-9.34%)	2.71	(+14.50%)
Strongly Democratic newspapers	-4.89	(-25.13%)	3.75	(+15.73%)

Notes: Differently from Table 7, here the absolute changes in the number of stories are calculated as if each newspaper had the same size as the median one in the sample, i.e. 2802 total stories per month. Moreover, within each of the three categories of newspapers we use weighted averages instead of arithmetic ones, with weights given by the relative circulation of each newspaper with respect to the total circulation within that category. See Table 7 for further clarifications.

Table 9: coverage of unemployment, 1996-2005: triple difference in difference regressions, lagged values of the unemployment rate

	level of the unemployment rate, model A			level & change of the unemployment rate, model B		
	[1] Democratic vs Republican leaning endorsements	[2] Democratic vs neutral vs Republican leaning endorsements	[3] endorsement as a continuous variable	[4] Democratic vs Republican leaning endorsements	[5] Democratic vs neutral vs Republican leaning endorsements	[6] endorsement as a continuous variable
unemployment rate * Democratic President dummy	-0.207422*** [6.96]	-0.335369*** [5.31]	-0.294128*** [10.18]	-0.130863*** [4.98]	-0.233945*** [3.88]	-0.218712*** [8.06]
unemployment rate * Democratic President dummy * 'mild' Democratic endorsement	-0.169518*** [3.04]	-	-	-0.171718*** [3.29]	-	-
unemployment rate * Democratic President dummy * Republican endorsement dummy	-	0.144433** [2.11]	-	-	0.103412 [1.59]	-
unemployment rate * Democratic President dummy * Democratic endorsement dummy	-	-0.016191 [0.20]	-	-	-0.052537 [0.68]	-
unemployment rate * Democratic President dummy * Democratic endorsement	-	-	-0.165535** [2.60]	-	-	-0.172175*** [2.93]
change in the unemployment rate * Democratic President dummy	-	-	-	-0.412241*** [8.66]	-0.536950*** [12.84]	-0.417190*** [11.94]
change in the unemployment rate * Democratic President dummy * 'mild' Democratic endorsement dummy	-	-	-	-0.010842 [0.16]	-	-
change in the unemployment rate * Democratic President dummy * Republican endorsement dummy	-	-	-	-	0.182391** [2.46]	-
change in the unemployment rate * Democratic President dummy * Democratic endorsement dummy	-	-	-	-	0.179777** [2.22]	-
change in the unemployment rate * Democratic President dummy * Democratic endorsement	-	-	-	-	-	0.045161 [0.40]
newspaper-specific fixed effects	yes	yes	yes	yes	yes	yes
newspaper-specific Democratic President dummy	yes	yes	yes	yes	yes	yes
newspaper-specific slope wrt unemployment	yes	yes	yes	yes	yes	yes
newspaper-specific time trend & sensitivity to size	yes	yes	yes	yes	yes	yes
Observations	12011	12011	12011	12011	12011	12011
No. of newspapers	101	101	101	101	101	101
R squared	0.61	0.61	0.61	0.63	0.63	0.63

Notes: All regressions are run controlling for the lagged value of the unemployment rate. See notes on Table 3 for further clarifications.

Table 10: coverage of unemployment, 1996-2005: triple difference in difference regressions, controlling for state-level unemployment

	level of the unemployment rate, model 1			level & change of the unemployment rate, model 2		
	[1] Democratic vs Republican leaning endorsements	[2] Democratic vs neutral vs Republican leaning endorsements	[3] endorsement as a continuous variable	[4] Democratic vs Republican leaning endorsements	[5] Democratic vs neutral vs Republican leaning endorsements	[6] endorsement as a continuous variable
unemployment rate * Democratic President dummy	-0.201884***	-0.323658***	-0.281088***	-0.129242***	-0.240619***	-0.220460***
	[6.77]	[5.57]	[10.27]	[4.68]	[4.15]	[8.19]
unemployment rate * Democratic President dummy * 'mild' Democratic endorsement	-0.154705***	-	-	-0.178076***	-	-
	[2.93]			[3.48]		
unemployment rate * Democratic President dummy * Republican endorsement dummy	-	0.144130**	-	-	0.120186*	-
		[2.24]			[1.89]	
unemployment rate * Democratic President dummy * Democratic endorsement dummy	-	-0.012108	-	-	-0.053693	-
		[0.16]			[0.72]	
unemployment rate * Democratic President dummy * Democratic endorsement	-	-	-0.148751**	-	-	-0.177303***
			[2.35]			[2.86]
change in the unemployment rate * Democratic President dummy	-	-	-	-0.287658***	-0.314867***	-0.253018***
				[6.93]	[6.90]	[7.67]
change in the unemployment rate * Democratic President dummy * 'mild' Democratic endorsement dummy	-	-	-	0.067135	-	-
				[1.00]		
change in the unemployment rate * Democratic President dummy * Republican endorsement dummy	-	-	-	-	0.06947	-
					[0.96]	
change in the unemployment rate * Democratic President dummy * Democratic endorsement dummy	-	-	-	-	0.116459	-
					[1.40]	
change in the unemployment rate * Democratic President dummy * Democratic endorsement	-	-	-	-	-	0.125822
						[1.29]
state-level unemployment rate	0.044760***	0.044308***	0.043994***	0.038287**	0.037421**	0.037777**
	[2.71]	[2.68]	[2.63]	[2.19]	[2.07]	[2.10]
change in the state-level unemployment rate	-	-	-	0.047579***	0.047941***	0.047412***
				[3.20]	[3.15]	[3.13]
newspaper-specific fixed effects	yes	yes	yes	yes	yes	yes
newspaper-specific Democratic President dummy	yes	yes	yes	yes	yes	yes
newspaper-specific slope wrt unemployment	yes	yes	yes	yes	yes	yes
newspaper-specific time trend & sensitivity to size	yes	yes	yes	yes	yes	yes
Observations	12019	12019	12019	12019	12019	12019
No. of newspapers	101	101	101	101	101	101
R squared	0.61	0.61	0.61	0.63	0.63	0.63

Notes: All regressions correspond to the ones reported in Table 3. As additional controls, we include the contemporaneous level and change of the state-level unemployment rate. See notes on Table 3 for further clarifications.

Table 11: coverage of unemployment, different time windows (1996-2005, 1992-2005 and 1988-2005)

	level of the unemployment rate, model A			level & change of the unemployment rate, model B		
	[1] 1996-2005	[2] 1992-2005	[3] 1988-2005	[4] 1996-2005	[5] 1992-2005	[6] 1988-2005
unemployment rate * Democratic President dummy	-0.201628***	-0.131433***	-0.184494***	-0.139666***	-0.151161***	-0.183750***
	[6.91]	[14.11]	[12.19]	[5.32]	[15.77]	[12.21]
unemployment rate * Democratic President dummy * Democratic endorsement	-0.153342***	-0.033829	-0.114814**	-0.172488***	-0.036953	-0.117743**
	[2.83]	[0.85]	[2.34]	[3.31]	[0.91]	[2.39]
change in the unemployment rate * Democratic President dummy	-	-	-	-0.294227***	-0.417336***	-0.433169***
				[7.08]	[11.21]	[9.69]
change in the unemployment rate * Democratic President dummy * Democratic endorsement	-	-	-	0.058375	-0.04361	-0.068567
				[0.86]	[0.39]	[0.45]
newspaper-specific fixed effects	yes	yes	yes	yes	yes	yes
newspaper-specific Democratic President dummy	yes	yes	yes	yes	yes	yes
newspaper-specific slope wrt unemployment	yes	yes	yes	yes	yes	yes
newspaper-specific time trend & sensitivity to size	yes	yes	yes	yes	yes	yes
Observations	12019	13349	8375	12019	13349	8375
No. of newspapers	101	80	39	101	80	39
R squared	0.61	0.66	0.65	0.62	0.67	0.66

Notes: Regression results about the coverage of unemployment for three different time periods are reported, both for model A and model B. The variable of interest is the triple interaction between the contemporaneous level unemployment rate, the Democratic President dummy and the continuous variable measuring the endorsement policy. The triple interaction with the quarterly change in the unemployment rate is also reported. Columns [1] and [4] exactly correspond to columns [3] and [6] in Table 3. Columns [2] and [5] display data about newspapers with available data back to 1992, while columns [3] refer to newspapers with available data back to 1988. See notes about Table 3 for further clarifications.

Table 12: coverage of unemployment, large-scale newspapers, different time windows (1996-2005, 1992-2005 and 1988-2005)

	level of the unemployment rate, model A			level & change of the unemployment rate, model B		
	[1] 1996-2005	[2] 1992-2005	[3] 1988-2005	[4] 1996-2005	[5] 1992-2005	[6] 1988-2005
unemployment rate * Democratic President dummy	-0.282364***	-0.128768***	-0.192311***	-0.222564***	-0.148670***	-0.191571***
	[8.74]	[13.35]	[11.71]	[7.08]	[14.59]	[11.65]
unemployment rate * Democratic President dummy * Democratic endorsement	-0.199180**	-0.089000**	-0.118829**	-0.224564***	-0.090103**	-0.123529**
	[2.51]	[2.55]	[2.12]	[2.87]	[2.46]	[2.20]
change in the unemployment rate * Democratic President dummy	-	-	-	-0.291514***	-0.422608***	-0.440924***
				[7.44]	[9.73]	[8.39]
change in the unemployment rate * Democratic President dummy * Democratic endorsement	-	-	-	0.116644	-0.010728	-0.032605
				[0.99]	[0.07]	[0.19]
newspaper-specific fixed effects	yes	yes	yes	yes	yes	yes
newspaper-specific Democratic President dummy	yes	yes	yes	yes	yes	yes
newspaper-specific slope wrt unemployment	yes	yes	yes	yes	yes	yes
newspaper-specific time trend & sensitivity to size	yes	yes	yes	yes	yes	yes
Observations	8484	9863	6883	8484	9863	6883
No. of newspapers	71	59	32	71	59	32
R squared	0.59	0.65	0.64	0.61	0.67	0.65

Notes: Regression results about the coverage of unemployment on large-scale newspapers for three different time periods are reported, both for model A and model B. Large-scale newspapers are defined as those with yearly circulation above 400,000 copies and/or belonging to large chains. The variable of interest is the triple interaction between the contemporaneous level unemployment rate, the Democratic President dummy and the continuous variable measuring the endorsement policy. The triple interaction with the quarterly change in the unemployment rate is also reported. Columns [1] and [4] exactly correspond to columns [3] and [6] in Table 3. Columns [2] and [5] display data about newspapers with available data back to 1992, while columns [3] refer to newspapers with available data back to 1988. See notes about Table 3 for further clarifications.

Table A1: list of sampled newspapers with endorsement data

ID	Newspaper	State	Chain	Circulation	1988?	1992?
AK	Akron Beacon Journal	OH	Knight Ridder	150,805	1	1
AJ	Albuquerque Journal	NM		142,847	0	0
AS	Anchorage Daily News	AK	Mcclatchy Company	60,141	1	1
AT	Atlanta Journal and Constitution	GA	Cox Newspapers	457,425	1	1
AGCB	Augusta Chronicle	GA	Morris Communications	76,063	0	0
AASB	Austin American Statesman	TX	Cox Newspapers	180,505	0	1
BS	Baltimore Sun	MD	Tribune Co	351,986	0	1
BD	Bangor Daily News	ME		70,885	0	1
BE	Bergen County Record	NJ	North Jersey	159,490	1	1
BI	Birmingham News	AL	Advance Publications	205,388	0	0
BK	Bismark Tribune	ND	Lee Enterprises	29,706	0	0
BL	Bloomington Pantagraph	IL	Lee Enterprises	49,676	0	1
BG	Boston Globe	MA	New York Times	487,172	1	1
BNHB	Boston Herald	MA		300,831	0	1
BN	Buffalo News	NY		270,809	0	1
CR	Cedar Rapids-Iowa City Gazette	IA		68,442	0	1
CDMB	Charleston Gazette	WV		96,379	0	0
CIZB	Charleston Gazette	WV		96,379	0	0
CO	Charlotte Observer	NC	Knight Ridder	238,925	1	1
CSTB	Chicago Sun Times	IL	Sun Times Media Group	508,095	1	1
CHTB	Chicago Tribune	IL	Tribune Co	690,238	1	1
CK	Cincinnati Post	OH	E.W. Scripps	80,500	0	1
CPDB	Cleveland Plain Dealer	OH	Advance Publications	398,186	0	1
CS	Columbia State	SC	Knight Ridder	127,615	1	1
CLDB	Columbus Dispatch	OH		255,346	0	1
CL	Columbus Ledger-Enquirer	GA	Knight Ridder	51,895	0	0
OK	Daily Oklahoman	OK		215,362	1	1
DM	Dallas Morning News	TX	Belo Corp	475,123	1	1
DDNB	Dayton Daily News	OH	Cox Newspapers	159,793	0	1
NJ	Daytona Beach News-Journal	FL		97,819	0	0
DP	Denver Post	CO	Media News Group	344,063	0	1
RM	Denver Rocky Mountain News	CO	E.W. Scripps	361,622	0	1
FP	Detroit Free Press	MI	Knight Ridder	749,063	1	1
NT	Duluth News-Tribune	MN	Knight Ridder	53,424	0	0
ET	Erie Times-News	PA		67,866	0	0
EC	Evansville Courier and Press	IN		85,397	0	1
JG	Fort Wayne News-Sentinel	IN	Knight Ridder	112,212	0	1
ST	Fort Worth Star-Telegram	TX	Knight Ridder	329,099	0	1
FB	Fresno Bee	CA	Mcclatchy Company	154,004	1	1
GPTB	Gary Post-Tribune	IN	Sun Times Media Group	67,254	1	1
GB	Greensboro News And Record	NC		97,950	0	1
HRNB	Harrisburg Patriot-News	PA	Advance Publications	102,813	1	1
HC	Hartford Courant	CT	Tribune Co	218,950	0	1
HDNB	Hays Daily News	KS		11,900	0	0
HCBF	Houston Chronicle	TX	Hearst Corp	496,765	1	1
FTUB	Jacksonville Florida Times-Union	FL	Morris Communications	180,332	0	0
KC	Kansas City Star	MO	Knight Ridder	282,316	0	1
KYPB	Kentucky Post	KY	E.W. Scripps	80,500	0	1
KX	Knoxville News-Sentinel	TN	E.W. Scripps	127,420	0	1
LVRB	Las Vegas Review-Journal	NV	Stephens Media Group	186,442	0	0
JW	Lawrence Journal-World	KS		18,533	0	1
LH	Lexington Herald Leader	KY	Knight Ridder	119,105	1	1
LJSB	Lincoln Journal Star	NE	Lee Enterprises	77,003	0	0
LB	Long Beach Press-Telegram	CA	Media News Group	111,977	0	1

Notes: the last two columns specify whether data back to 1988 and to 1992 are available.

Table A1 (cont.): list of sampled newspapers with endorsement data

ID	Newspaper	State	Chain	Circulation	1988?	1992?
NWDB	Long Island Newsday	NY	Tribune Co	642,105	1	1
LA	Los Angeles Daily News	CA	Media News Group	201,794	1	1
LAT	Los Angeles Times	CA	Tribune Co	1,088,391	1	1
MT	Macon Telegraph	GA	Knight Ridder	71,624	0	0
UL	Manchester Union Leader	NH		66,735	0	1
CA	Memphis Commercial Appeal	TN	E.W. Scripps	178,020	0	1
MH	Miami Herald	FL	Knight Ridder	388,989	1	1
MWSB	Milwaukee Journal Sentinel	WI		328,319	0	1
MN	Minneapolis Star Tribune	MN		381,854	1	1
MBRB	Mobile Register	AL	Advance Publications	101,320	0	1
MS	Modesto Bee	CA	Mcclatchy Company	83,487	0	1
NHRB	New Haven Register	CT	Journal Register Co	100,500	1	1
TP	New Orleans Times-Picayune	LA	Advance Publications	264,702	0	1
NYT	New York Times	NY	New York Times	1,086,293	1	1
PBPB	Palm Beach Post	FL	Cox Newspapers	175,188	0	1
JS	Peoria Journal Star	IL	Copley Press	76,476	0	1
DN	Philadelphia Daily News	PA	Knight Ridder	188,199	1	1
PI	Philadelphia Inquirer	PA	Knight Ridder	461,404	1	1
PG	Pittsburgh Post Gazette	PA	Block Family	213,847	0	1
OR	Portland Oregonian	OR	Advance Publications	342,756	1	1
AC	Press of Atlantic City	NJ		76,569	1	1
RTDB	Richmond Times-Dispatch	VA	Media General	233,902	1	1
RO	Roanoke Times	VA	Landmark Communication	119,349	0	1
SB	Sacramento Bee	CA	Mcclatchy Company	280,592	1	1
SAEC	San Antonio Express News	TX	Hearst Corp	212,438	0	1
SFCB	San Francisco Examiner	CA		577,139	1	1
SF	Santa Fe New Mexican	NM		23,363	0	0
SA	Santa Rosa Press Democrat	CA	New York Times	93,199	0	0
HT	Sarasota Herald-Tribune	FL	New York Times	111,498	0	0
IG	Seattle Post-Intelligencer	WA	Hearst Corp	207,174	1	1
SE	Seattle Times	WA		392,441	1	1
JR	Springfield State Journal-Register	IL	Copley Press	64,399	1	1
SL	St. Louis Post Dispatch	MO	Pulitzer Inc	337,235	1	1
SP	St. Paul Pioneer Press	MN	Knight Ridder	204,012	1	1
SPTB	St. Petersburg Times	FL		342,439	1	1
TNTB	Tacoma News Tribune	WA	Mcclatchy Company	126,984	0	1
TD	Tallahassee Democrat	FL	Knight Ridder	55,478	0	0
TT	Tampa Tribune	FL	Media General	253,576	0	1
TB	Toledo Blade	OH	Block Family	146,429	0	0
ADSB	Tucson Arizona Daily Star	AZ	Pulitzer Inc	141,167	0	1
TLWB	Tulsa World	OK		168,947	0	1
VC	Vancouver Columbian	WA		53,278	0	0
WP	Washington Post	DC		820,801	1	1
WT	Washington Times	DC		103,946	0	1
WE	Wichita Eagle	KS	Knight Ridder	103,033	1	1
WB	Wilkes-Barre Times Leader	PA	Knight Ridder	48,478	0	1
WO	Worcester Telegram and Gazette	MA	New York Times	110,432	0	1

Notes: the last two columns specify whether data back to 1988 and to 1992 are available.