The Political Role of Mass Media in an Agenda-Setting Framework: Theory and Evidence

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Statement

I hereby state that the work presented in this dissertation is my own, except for the fourth chapter, which is based on a joint work with Dr. Valentino Larcinese (Department of Government, LSE) and Professor James M. Snyder, Jr. (Department of Economics and Political Science, MIT).

Regarding this chapter, I declare that:

1. the idea of exploiting the time variation in issue coverage by media outlets in order to infer their political position is my own;
2. the idea of investigating the coverage of economic issues as a function of the political affiliation of the incumbent president comes from a conversation between Professor Snyder and myself;
3. the idea of looking at the three-way interaction between the level of the economic figure, the political affiliation of the incumbent president and the variable measuring the propensity to endorse Democratic vs. Republican candidates is my own;
4. the collection of data on issue coverage was mainly done by myself and Professor Snyder;
5. the first draft of the paper was written by Dr. Larcinese;
6. the idea of adopting an econometric specification with time fixed effects comes from Dr. Larcinese.

In accord with the regulations of the University of London, I also certify that I have entirely rephrased the joint work contained in the fourth chapter.

London, October 20th, 2007

(Riccardo Puglisi)

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Statement

We hereby state that we have co-authored with Riccardo Puglisi the paper "Partisan Bias in Economic News: Evidence on the Agenda-Setting Behavior of U.S. Newspapers" (NBER WP no. 13378), on which the fourth chapter of his PhD dissertation is based.
Regarding the part played by Riccardo Puglisi in the joint work, we declare that:

(1) the idea of exploiting the time variation in issue coverage by media outlets in order to infer their political position originally comes from Riccardo;

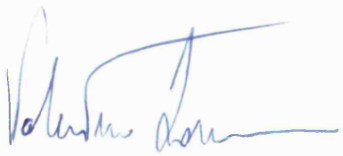
(2) the idea of investigating the coverage of economic issues as a function of the political affiliation of the incumbent president comes from a conversation between James Snyder and Riccardo;

(3) Riccardo suggested the idea of looking at the three-way interaction between the level of the economic figure, the political affiliation of the incumbent president and the variable measuring the propensity to endorse Democratic vs. Republican candidate.

(4) the collection of data on issue coverage was mainly done by Riccardo and James Snyder;

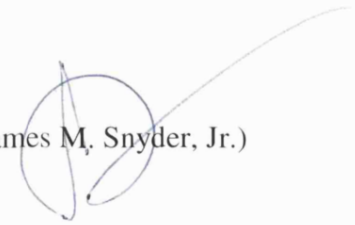
(5) the first draft of the paper was written by Valentino Larcinese;

(6) the idea of adopting an econometric specification with time fixed effects comes from Valentino Larcinese.



London, October 20th, 2007

(Valentino Larcinese)



Cambridge, MA, October 16th, 2007

(James M. Snyder, Jr.)

Certification

I hereby state that the fourth chapter of this dissertation is based on a joint of work of Riccardo Puglisi with Dr. Valentino Larcinese (Department of Government, LSE) and Professor James M. Snyder, Jr. (Department of Economics and Political Science, MIT).
Regarding this chapter, I confirm that:

1) the idea of exploiting the time variation in issue coverage by media outlets in order to infer their political position comes from Riccardo;

2) the idea of investigating the coverage of economic issues as a function of the political affiliation of the incumbent president originates from Professor Snyder and Riccardo;

3) the idea of looking at the three-way interaction between the level of the economic figure, the political affiliation of the incumbent president and the variable measuring the propensity to endorse Democratic vs. Republican candidates comes from Riccardo;

4) the collection of data on issue coverage was mainly done by Riccardo and Professor Snyder;

5) the first draft of the paper was written by Dr. Larcinese;

6) the idea of adopting an econometric specification with time fixed effects comes from Dr. Larcinese.

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(Andrea Prat)

Abstract

In this dissertation I investigate how mass media outlets might act politically by using their agenda-setting power, i.e. by affecting through their coverage the importance readers and viewers attach to different issues. According to the issue ownership hypothesis, as introduced by Petrocik [1996], the choice of the topic being covered can have relevant persuasive effects, to the extent that citizens think that a given political party is better at handling problems related to it, compared to its opponent(s).

I first construct a simple model of electoral competition with two candidates, two issues and one newspaper, which has room for only one story to be published. The model shows how rational citizens are influenced in their voting choice by the story featured on the newspaper, but tend to overreact to stories that go contrary its known editorial policy.

From an empirical point of view, I first study the coverage devoted by the New York Times to Democratic and Republican issues, during the 1946-1997 period. I find that the Times has a Democratic partisanship with some watchdog aspects, since during presidential campaigns it systematically gives more emphasis to the Democratic issues of civil rights, health care, labour and social welfare, but only so when the incumbent president is a Republican, i.e. he is perceived as weak on those issues.

Building on a joint work with James Snyder and Valentino Larcinese, I then study the coverage of economic issues by a large sample of U.S. newspapers during the last decade. I find 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 Democratic, compared to newspapers with pro-Republican endorsement pattern. This result does not seem to be driven by the partisanship of readers.

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Chapter 1

Introduction and literature review

1.1 Introduction

1.1.1 Information and issue salience

Information is a necessary ingredient in the process of making rational decisions. In its more immediate sense, information is understood as the amount of knowledge about a given topic, object or situation. From this point of view, the amount of information available to an individual is conditional to the topic itself. However, in a kind of recursive fashion, rational individuals also entertain some knowledge about the *importance* of the various topics and objects that belong to a given universe. Within a utilitarian perspective, the relevance of different topics is of course a relativistic concept, as it is linked to the preferences of the different individuals judging about it.

On this account, the importance of the various topics has a dual nature, since it both depends on a subjective element, i.e. the preferences of the individual, and on an objective one, i.e. the information about events external to the individual himself or herself. For example, individuals might differ in the relative value they intrinsically attach to their personal and professional life respectively. However, information about external events could affect the relative importance of these two domains at a given time: this would be the case if e.g. an individual happens to learn that he is at risk of losing his job.

Indeed, in order to identify and understand the role played by external events in shaping the importance individuals attach to different issues or domains, the temporal dimension is a crucial aspect to take into account. Starting with a baseline psychological state in which an individual attaches a set of weights to different issues, newly available information might alter this state, by inducing the individual in question to think that something must be done regarding a given topic or situation, or that there is no further need to deal with it. From this perspective, because of its Latin etymology ("things that must be done"), the term "agenda" is very suitable as a definition of the set of priorities

characterising an individual or a group.[1]

The effects of information on the priorities of individuals are relevant both for private and collective choices. When deciding about the allocation of common goods, individuals are endowed with a limited amount of time and resources, and must first decide about which of the various aspects of their collective experience to take care of. The temporal dimension is again essential: at any given point in time individuals must figure out which issue should be their priority, since any problem left untackled might worsen, eventually becoming impossible or unbearably expensive to solve.

This line of reasoning applies to any social group; in particular it applies to polities, i.e. politically organized groups. In a nutshell, the priorities entertained by members of a given polity affect collective outcomes in an indirect way, i.e. passing through the formal and informal mechanisms of decision making characterising that polity. Within large polities, the priorities and beliefs of citizens about matters of common interest can be aggregated into a concept of *public opinion.* Public opinion matters to collective outcomes even in autocratic regimes, to the extent that the ruler cannot freely decide on those outcomes, but is to some degree constrained by the overall consensus of the population. In democratic societies, where citizens typically decide on common matters through majority voting, public opinion does not solely act as a constraint on the temporary discretionary power of those holding some kind of office, but should directly permeate collective outcomes, as it represents a summary of the agendas entertained by citizens.

1.1.2 The mass media as information suppliers and agenda setters

How do citizens acquire information about the state of affairs of their polity, be it a neighborhood, a city, a region or a country? How do they know that problems related to a given issue have taken place? On some issues citizens can rely on direct experience to obtain valuable pieces of information. This is certainly true for relevant economic figures like the inflation and the unemployment rate, whereas citizens can directly learn about the purchasing power of money and the job status of people belonging to the reference group. As more thoroughly discussed in section 4.6, it is comparatively more difficult to have a direct experience of the state of the public budget or the trade deficit. Outside the economics field, crime and health care represent other issues where direct experience plays a relevant role; on the other hand, it is hard for citizens to get directly acquainted with foreign policy events. It must be also noted that, the larger the size of the relevant polity, the smaller the fraction of issues on which direct experience is informationally useful to citizens. Moreover, to the extent that citizens care about the general situation regarding an issue and not only its local or personal aspects, direct experience, even if available, might be little informative or even misleading.

[1] Information about "external events" also includes any knowledge regarding the preferences or choices of other individuals. To the extent that they are positively or negatively affected by the degree of affinity between their preferences and those of their reference group, individuals might play a coordination game, i.e. change their agenda in order to make it more or less similar to the average one in their reference group.

In all those instances where direct experience or word of mouth cannot provide citizens with adequate information, the mass media have often filled the gap. Mass media outlets acquire, process and disseminate information; because of the typically large fixed cost and small marginal costs involved in this process, forms of mass communication appeared only when a sufficiently large demand for "news" (i.e. updated information about current affairs) did emerge.[2]

On one side the mass media respond to citizens' demand for information. On the other one, exactly because the public needs the information to form an opinion and decide on common matters, there are clear incentives on the supply side of the media market to influence and possibly control the information being provided, in order to indirectly affect those opinions and decisions. Many social actors might be interested in influencing the supply of information by the mass media; in the absence of preexisting media outlets, they could do so by directly establishing new ones. Historically, the government itself played a major and anticipatory role, creating powerful means of mass communication for *propaganda* purposes. In fact, the term propaganda denotes the use of the mass media by the ruling government to create and stabilise public consensus.[3]

Demand of information and supply of persuasion: at first sight, the political role of mass media appears to be essentially defined by these two powerful forces. Citizens rely on the mass media to acquire news about current events, but they face the risk that "somebody" distorts the supply of news in order to move opinion in a direction which is favorable to him (or her). This Manichean perspective, whereas ordinary citizens are good folks desiring honest information while the goverment and/or interest groups play in the shadows distorting it, is mitigated by the fact that citizens themselves might like the idea of receiving information that is distorted towards their prior views and beliefs, in order to avoid a sense of cognitive dissonance.[4]

As discussed above, information is often about the comparative importance of different issues: an individual learning that relevant events have taken place with respect to a given topic is induced to think that this topic is more or less salient than what thought before. When the mass media are the source of this information, any influence they might exert on the priorities of the audience typically goes under the tag of *agenda setting effects*. The seminal empirical contribution by McCombs and Shaw [1972] on the 1968 presidential elections in Chapel Hill, North Carolina shows a strong correlation between the *media agenda* (i.e. the relative amount of space and time devoted to the different issues by the news media) and the *public agenda* (i.e. which issues are considered to be the most important by citizens).[5]

[2]For comprehensive accounts on the history of mass communication, see Briggs and Burke [2005] and Fang [1997]. Johann Carolus' *Relation aller Fürnemmen und gedenckwürdigen* ("Collection of all distinguished and commemorable news"), published in 1605 in the city of Strasburg, is widely acknowledged as the first periodical newspaper. The *London Gazette* (1665), the first English newspaper, was preceded in 1643 by the *Mercurius Aulicus*, the first collaborative newsbook. On this, see Raymond [1996].

[3]For an inclusive account on the history of propaganda, see Jowett and O'Donnell [2006].

[4]This argument was first formalised by Mullainathan and Shleifer [2005]. See section 1.2.4 below.

[5]See section 1.2.1 below. Of course this correlation might be due to reverse causality (media outlets cater to the tastes of viewers and readers and hence give more coverage to the topics that their customers

The agenda setting role of mass media outlets is politically relevant, to the extent that the political and electoral choices of citizens are affected by their issue salience, i.e. the comparative importance they attach to different issues. In the context of a representative democracy, citizens might be more willing to vote for a given candidate if they are convinced that the most relevant problems pertain to issues on which they perceive that candidate as more competent. On this account, the increased salience of a given issue interacts with the prior assessment on the comparative competence of candidates and political parties. Using the terminology introduced by Petrocik [1996], this is a theory of issue ownership: a political party owns an issue if the majority of citizens believes that members of that party are on average better at handling problems related to it, than candidates belonging to the other party or parties.

It could also be the case that citizens do not have strong a priori views on the comparative ability of different political actors on a given issue; rather, they might first consider the recent performance of the incumbent government on that issue in order to decide whether they are more confident in its actual skills or in the expected skills of the opposition. Indeed, these policy fields whose ownership depends on the incumbent's recent record -like the economy or foreign policy- are defined by Petrocik *performance issues*.[6] In this case one can argue that an increased amount of coverage devoted to an issue is more favorable to the incumbent government, the more satisfactory is the current state of affairs on the issue itself.

The main focus of the dissertation is hence the political role of mass media as agenda setters. The long-term or performance-based ownership of a given issue determines whether an increased coverage of that issue would be favorable to one political party or the other. This is the main identifying assumption, on the basis of which the agenda setting behaviour of mass media outlets is investigated here, both from a game-theoretical and an empirical point of view.

1.1.3 A theoretical model of electoral competition when mass media have agenda setting effects

On the theoretical side, it is crucial to understand the consequences of issue coverage by mass media outlets on the political and electoral behaviour of *rational* citizens. Under the assumption that news cannot be fabricated, I link the agenda setting power of mass media outlets to the fact that the space and time to print or broadcast stories are limited resources, so that -in the presence of an excess number of newsworthy events- editors and journalists must make an excluding choice, i.e. decide what to cover and what to disregard. Moreover, as made clear by an extensive cognitive psychology literature, rational individuals are endowed with a limited amount of attention, which must be assigned to

consider ex ante more interesting), but some robust experimental evidence shows that the existence and strength of agenda setting effects proper. See again section 1.2.4 for additional references.

[6]Consistently with Petrocik's focus on the United States (which is also the focus of the empirical analyses I perform in chapters 3 and 4), I have framed the discussion on issue ownership in the context of a representative democracy. However, similar insights would apply to an autocratic regime, to the extent that its survival depends on public consensus, and that this consensus is a function of the approval rate of the ruling government on the various policy issues, weighted by their salience.

different and competing tasks: this poses further constraints on the information flows from media channels to the ears, eyes and minds of readers and viewers.

To illustrate the consequences of agenda setting by mass media, in chapter 2 I develop a simple model of electoral competition with two policy issues, two candidates and a single newspaper. Rational voters would like to know whether a given issue requires some action by the politician to be elected: this is the case if a problem related to that issue is known to have occurred. A problem regarding a given issue amounts to a publishable story on the newspaper, but on the newspaper itself there is room for only one story, so that -when problems related to *both* issues have occurred- its managing editor must decide what to publish and what to leave behind. In this simple setup, the ex ante probability with which the story about one issue is published when the other one would be equally publishable (because of the occurence of the related problem) defines the *editorial policy* of the newspaper. In accord with the issue ownership hypothesis, citizens entertain a priori views on which candidate, once elected, would be better at handling problems related to a policy issue, and they agree that one candidate owns one issue, while the other candidate is more competent on the other. Voters would then like to elect the candidate who is better at handling the issue that is more likely to be in need of a policy intervention, conditional on the information provided by the newspaper.

The assumed impossibility of fabricating news and the limited amount of space on the newspaper imply that -for any editorial policy- an unbiased citizen, i.e. somebody with no a priori preference in favor of any of the two candidates, would find it rational to vote for the candidate owning the issue which is featured on the newspaper itself, because of the uncertainty regarding the actual occurence of the other problem. If this unbiased citizen is the median one, its vote is pivotal and elections are won by that candidate. From this it follows that -at least ex post- each candidate would like the newspaper to cover the owned issue at the expense of the other. This contrast between the news preferences of the two candidates has a clear zero-sum component. However, there are good reasons to think that the incumbent politician might enjoy a comparative advantage in its attempt at influencing media coverage. This comparative advantage might for example depend on the fact that media outlets are already closely watching the policies implemented by the incumbent government, since citizens are directly affected by them. Before the elections the government could thus concentrate its efforts on owned issues, in order to tilt media coverage in that direction.

In the chapter I thus compare different scenarios regarding the editorial policy of the newspaper. In the *spin* case the newspaper is captured by the incumbent politician, so that in the presence of both stories the one on the owned issue is published for sure. If on the other hand the editorial policy is *balanced*, the editor of the newspaper would publish each story with equal probabilities. Finally, if the story about the issue owned by the challenger is published for sure, the editorial policy is of a *watchdog* type.

While the issue which is ex post covered on the newspaper determines the identity of the winner, the ex ante editorial policy affects the vote margin. Under the simplifying assumption that both problems are equally likely to arise, if the editorial policy is

balanced the publication of each story triggers the same increase in the number of votes accruing to the candidate owning it, taking the case of no story being published as a benchmark. On the other hand, if there is spin the positive effect of a story about the problem owned by the incumbent on his vote share is smaller than the negative effect of a story about the problem owned by the challenger. *Vice versa* in the case of a watchdog policy. Thus the model implies that negative news for the incumbent produce a stronger electoral reaction than good news, if voters are aware of the fact that mass media are captured by the incumbent himself.

If the two problems are equally serious, voters' welfare does not depend on the editorial policy. However, if the problem owned by the challenger is more serious than the incumbent's one, but not too serious (i.e. the publication of the story owned by the incumbent still triggers his victory), aggregate social welfare is maximised by a watchdog editorial policy.

As discussed above, the demand for information on the media market must face the risk that news supply is altered for persuasion purposes. The final part of chapter is devoted to the analysis of the incentives for the incumbent politician to spin the news in his favor, and induce the newspaper's editor to publish for sure the story about the problem on which he is perceived as more competent, when the other story as well could be published. Under the assumption that he is office-motivated and that spin activity is costless, the model shows that the incentives to spin the news are not straightforward. On this account, one must distinguish between an *ex ante* perspective, i.e. before the uncertainty about the state of the world is resolved, and an *ex post* one, which is relevant when it is known that both problems have occurred, so that they can potentially be published as stories on the newspaper. Ex post it is always optimal for the incumbent to make his favorite story sexier and have it published for sure. On the other hand ex ante incentives depend on whether uninformed voters are present: if all voters are informed, ex ante as well the incumbent prefers to exert spin to the maximum extent. This is the case because by moving the editorial policy in his favor the incumbent is simply maximising the probability of being elected for sure (and correspondingly minimising the one of being certainly defeated).

If uninformed voters are present, the outcome of the elections is uncertain and ex ante incentives depend on the shape of the distribution of the ex ante bias of rational voters, i.e. their idiosyncratic willingness to vote one candidate or the other, before knowing which problems have occurred. Since readers are assumed to be rational Bayesian updaters, the probability for the incumbent to win the elections, conditionally on the type of news being published, is decreasing in the favorability of the editorial policy, even if it is of course higher when the newspaper publishes the favorable story. This is due to the fact that the publication of the favorable story under a more favorable editorial policy is more likely to disguise the presence of the other problem, so that the vote margin for the incumbent is lower and hence his probability of winning the elections. On the other hand, -again under an editorial policy that is completely tilted in favor of the incumbent- the publication of the unfavorable story would be due to the absence

of the story about the problem owned by the incumbent himself, so that his vote margin is similarly compressed, together with his probability of electoral success. Hence an editorial policy that is more tilted towards the story about the incumbent's problem would give a higher ex ante weight to a higher probability of electoral success, but would at the same time depress both probabilities of winning conditional on the story being published. I define these two contrasting channels as a weight effect and a slope effect, respectively.

When the distribution of the ex ante bias is unimodal, i.e. there are more moderate than radical voters, the weight effect dominates over the slope effect, and the incumbent maximises his ex ante payoff by exerting spin to the maximum extent and have the story about the owned problem being published for sure. On the other hand, with a polarised distribution of the bias, i.e. when there are more radical citizens than moderate ones, the slope effect prevails and the model delivers the interesting and *prima facie* counterintuitive result that the incumbent would prefer a watchdog editorial policy by the newspaper. A polarised distribution implies that there are few moderate citizens that would be convinced to vote for the incumbent by the publication of the more favorable story, which in turn is conducive to a smaller weight effect, while the size of the slope effect is left unaltered. Of course in this case a relevant credibility issue emerges, since ex post incentives drive the incumbent in the opposite direction of complete spin.

1.1.4 The political role of mass media as agenda setters: an empirical look

As described above, in chapter 2 I construct a simple game-theoretical model which shows how issue coverage by mass media outlets can affect the electoral choices of rational voters. From a different but connected perspective, the variation in the amount of coverage devoted to long-term and performance issues by a given media outlet might be informative about its political position. In order to extract information about the ideological stance of a media outlet from its agenda setting behaviour, it is necessary to exploit some exogenous variation in the degree with which coverage of a given issue is favorable to different political parties or actors.

A case study: Democratic and Republican issues on the New York Times, 1946-1997

In the case of long-term issue ownership (i.e. issues about which a majority of citizens permanently believes that a given party is more competent than its opponent), one could exploit the variation in coverage inside and outside the electoral campaign. The argument goes as follows: to the extent that citizens, on top of their ideological preferences, make up their mind about whom to vote as elections get closer, it is reasonable to believe that the agenda setting power of mass media outlets correspondingly becomes politically more valuable during the campaign. On the other side, the ex ante perceptions of the public about issue ownership determine whether the increased coverage during the campaign of a given issue is favorable to one party or the other. Hence, a given

media outlet could be defined as leaning towards party A if during electoral campaigns it systematically gives more coverage to issues owned by that party, with decreased or stable coverage of the issues owned by party B.

Other factors might however affect the time variation in issue coverage by a media outlet. First, one should control for the political activity of the incumbent government across the different policy issues, in order to disentangle whether variation in issue coverage arise from a partisan attitude or simply track changes in newsworthy events. Moreover, the media outlet could cover issues differently as a function of the political affiliation of the incumbent government, even after controlling for the activity of the latter across issues. Finally, issue coverage during electoral campaigns, on top of the partisan component, could depend on the political affiliation of the incumbent government. A newspaper, TV or radio channel can be defined as an *electoral watchdog* if during the campaign it gives more coverage to issues over which the incumbent is perceived as less competent than the challenger and/or it devotes less coverage to issues owned by the incumbent. *Vice versa*, a media outlet displaying the opposite behaviour can be defined as an *electoral lapdog*.

In chapter 3 I apply this empirical strategy to describe the political behaviour of the New York Times, from 1946 to 1997. In order to do so, I analyse a random sample of articles that appeared on the Times during the time period, gathered by Frank Baumgartner and Bryan Jones within the Policy Agendas Project.

The main finding of this case study in issue coverage is that the New York Times has a Democratic partisanship, with some watchdog aspects, since during presidential campaigns it systematically gives more emphasis to topics owned by the Democratic party, but only so when the incumbent President is a Republican. This set of Democratic topics comprises stories about civil rights, health care, labor and employment, and social welfare.

The magnitude of the effect is sizeable: when the incumbent President is a Republican, there are 26 percent more stories about Democratic issues during the three months of the presidential campaign than outside of it. The increase is actually larger (around 33 percent) when considering the period starting from the 60s. On the other hand, when the incumbent President is a Democrat, there is no statistically significant change in the count of Democratic stories during the presidential campaign. This is true both for the entire sample and for the post-1960 subperiod, and is consistent with the fact that the partisan effect and the watchdog effect almost cancel each other.

The typical claim in the literature on issue ownership is that the majority of U.S. citizens perceives the Republican party as more competent on the issues of crime and defense. However, data from Gallup polls and the National Election Study (NES) show that this is true only for defense, as in only three presidential campaigns over a total of twelve there is a reversal in the ownership of the issue. On the other hand, in three cases out of seven citizens perceived the Democratic party as more competent than the GOP on the crime issue.[7] The coverage of these two topics is hence separately analysed. When

[7]On this account, the Gallup and NES data gathered for the chapter contributes to the literature

considering the entire time span, there is no statistically significant variation in the count of stories about these two topics during the presidential campaign. This asymmetric behaviour on Democratic and Republican topics during presidential campaigns lends support to the hypothesis of a Democratic partisanship of the Times.

In fact, when looking at the 1961-1997 subsample, the Times gives more coverage to stories about defense during the presidential campaign, when the incumbent president is a Democrat and there is no reversal in the ownership of the issue. Just because the ownership reversal occurs in 1964, 1980 and 1996, this effect would account for the 1968 campaign. When there is ownership reversal the Times *ceteris paribus* dedicates less room to defense stories during the presidential campaign. Moreover, when the incumbent president is a Republican there is actually a decrease in the count of stories about defense as the presidential campaign starts. Taken together, these results corroborate the hypothesis of a watchdog attitude of the Times, because during the presidential campaign there is less coverage of the defense issue when the incumbent President is perceived as more competent on it than the opponent. Regarding the Law & Crime issue, there is no comparable pattern of change in the coverage, both for the entire time period and the post-1960 subsample.

Given the more symmetric behaviour with respect to Democratic topics and the defense issue, the 1961-1997 evidence lends more support to the watchdog hypothesis, and somewhat detracts from the Democratic partisanship one. It is however important to bear in mind the intrinsic salience of the Vietnam War, which could explain in part the results on the coverage of the defense issue during the 60s.

The description of issue coverage on the New York Times crucially exploits the exogeneity of election dates in the U.S. institutional system, so that it is possible to attach a political significance to variations in that coverage, which are triggered by the start of presidential campaigns. However, this empirical strategy does not allow to disentangle the role of demand and supply factors as determinants of this agenda setting behaviour by the Times. In particular, one cannot tell whether the partisan behaviour of the Times is due to the fact that owners and/or editors and/or journalists planned to drive readers on the Democratic side, or that they were simply preaching to the choir, i.e. readers themselves appreciated an increased coverage of Democratic issues during the campaign. By the same token, stakeholders on the supply side could have traded off monetary rewards against the "moral payoff" of acting as watchdogs with respect to the incumbent president, consistently with the journalistic norm. As a demand-side explanation, readers might be exactly asking for a more intense scrutiny of those issues that are likely to have been disregarded by the incumbent president during the term.

All these interpretations are consistent with the data, in the lack of some exogenous variation in the ideological stance on the demand and/or the supply side. On this account, it is true that different members of the Ochs-Sulzberger family took over the post of publisher of the Times, but there were no sizeable and abrupt changes in their

itself on issue ownership, in that it covers a much wider time window than the one analysed by the seminal contribution of Petrocik.

ideological position to be exploited.

Partisan coverage of economic news: a large sample of U.S. newspapers in the last decade

Performance issues -like foreign policy or the management of the economy- represent another fruitful terrain on which it is possible to investigate the political behaviour of mass media outlets as agenda setters. To the extent that the responsibility regarding the status of a performance issue is attributed to the incumbent government, one can argue that the coverage of that performance issue by a given media outlet is more sympathetic to the incumbent if it takes place when the situation on the issue itself is good, than if taking place during difficult times. If the data allows it, one should check whether a given media outlet systematically gives a different amount of coverage to a similarly good or bad situation under governments of different political affiliations. Compared to foreign policy, it is easier to operationalise this kind of empirical approach with data on the coverage of economic issues, because of the availability of objective and largely undisputed statistical measures of their status. In the presence of data on a long enough time period, a measure of the partisan bias on a given economic issue by a media outlet would be given by the differential reaction to a worse condition on the issue as a function of the political affiliation of the incumbent government. Take the case of the unemployment rate, which is a "bad", since a high value and/or increasing value of it denotes a bad news. One can trace out the amount of coverage devoted to unemployment by that media outlet as a function of the underlying level of the unemployment rate and the political affiliation of the incumbent government. The media outlet would be defined as partisan in favor of party A if it systematically gives less coverage to high unemployment when party A rules than when party B does, and vice versa for low unemployment.

Such difference in the slope of coverage could work as an absolute measure of the political bias characterising that media outlet if the time window under consideration is long enough, with sufficient orthogonal variation in the unemployment rate and the political affiliation of the government. If the time period is on the contrary short, the interpretation of the differential slope as an absolute measure of political bias is much less legitimate, because of the likely influence of unobserved time effects, which could be linked to the presence of other newsworthy events. For example, if a strongly relevant event happens to occur when party A governs and unemployment is high, all media outlets could deflect their attention from unemployment to cover this other story, but the identification strategy laid out above would wrongly classify media outlets as more in favor of party A than what they actually are.

When only a short time sample is available, the only legitimate claims that can be advanced regard the *relative* political position of media outlets. In particular, one could check whether the differential coverage of economic issues -as a function of the political affiliation of the incumbent government and the underlying value of the relevant economic variable- is significantly correlated with some measure of the explicit political

position of different media outlets.

Chapter 4, which is based on a paper I have coauthored with Valentino Larcinese and James M. Snyder, Jr., exactly exploits this type of empirical strategy, in order to investigate the coverage of economic issues by a large number of U.S. newspapers over the last decade (and back to the previous decade for a smaller sample of newspapers). Running keyword-based searches on the NewsLibrary electronic archive, we collected monthly and quarterly data on the number of articles that each newspaper published about some relevant economic issues. We match these data on coverage with the actual economic figures and the party affiliation of the incumbent *president*. The focus on the president is justified by the fact that -as shown by an extensive political science literature- the performance of the economy under the term has a strong influence on his (or his party's) vote during the next presidential elections, while there is no robust evidence about the economy affecting outcomes in congressional elections.

As explained above, the empirical exercise consists in studying whether there is any significant cross-sectional correlation between the differential coverage of economic issues by newspapers -as a function of the underlying figure and the political affiliation of the incumbent president- and more explicit measures of their political orientation, in particular the propensity to endorse Democratic vs. Republican candidates in electoral races.[8] In other terms, the exercise presented in chapter 4 amounts to investigating if the political orientation of newspapers "spills over" from the editorial page, where endorsements appear, to the news section, where the power to set the agenda can be used in a partisan fashion by differentially covering the same economic figures as a function of the the incumbent president's party. This would be a manifestation of what we call *agenda bias*.

Our focus is on four key economic variables, which all represent "bads": the unemployment rate, the inflation rate, the federal deficit, and the trade deficit. The idea is that the public might blame the incumbent president for high values of these variables, or correspondingly reward him for low values. In a nutshell, we study whether newspapers with a higher propensity to endorse Democratic candidates give less coverage to a high and/or rising economic figure under a Democratic than a Republican president, compared to the coverage by newspapers with a higher propensity to endorse Republicans. As more formally illustrated in section 4.3.3, this is done by analysing -within a regression framework- a three-way interaction term.

We find some fairly robust evidence of agenda bias in the coverage of the unemployment rate: newspapers with a pro-Democratic endorsement stance significantly publish fewer stories about unemployment when the national unemployment rate is high and the president is a Democrat, than when the unemployment is equally high and the president is a Republican, as compared to newspapers with a pro-Republican endorsement pattern. The size of the estimated effects is not negligible: when the unemployment rate was one percentage point above the average, newspapers with a strong propensity

[8] A (political) endorsement is the public declaration by a given individual or group that he/she/it supports a candidate in an electoral race. In Anglo-Saxon countries like the U.S. or U.K. it is common for newspapers to explictly endorse candidates.

to endorse Republican candidates responded with 15% more articles per month under Bill Clinton than under George W. Bush. Considering the same one percent increase, newspapers with a strong pro-Democratic endorsement policy have 9% less news on unemployment under Clinton than under Bush. Regarding different time windows, the result on agenda bias in the coverage of unemployment is more robust when looking at the subsample of newspapers belonging to a chain or with large circulation. On this account, one could argue that managing editors and journalists of large-scale newspapers are more conscious of the political consequences of their agenda setting power, and act accordingly. In other terms, the link between the endorsement policy and the coverage of economic news might be less noisy when focusing on this subset of newspapers.

On the other hand, there is no evidence of partisan bias in the coverage of the three other economic variables we consider. Taken together, the significance of results on unemployment and the lack of significance on inflation and the two deficits might induce to think that there is little agenda bias on U.S. newspapers regarding economic issues. However, as more thoroughly discussed in section 4.6, the lack of agenda bias on inflation could be explained by the low salience of the issue itself, which is in turn related to the low level of the inflation rate during the time period under consideration. By the same token, because of the dire and directly observable consequences of a high inflation rate on people's lives, it would be interesting to check whether agenda bias on inflation in fact occurred during the 70s and early 80s, i.e. in a period where a two-digit inflation rate was not a rare event. Regarding the budget deficit and the trade deficit, one could instead argue that they are more arcane variables, whose influence on presidential approval is far from clear, since their effects on the personal lives of citizens are not immediate and can hence be substantially discounted.

On this account, survey data from the American National Election Studies 1992-2004 show that unemployment came in second as the "most important problem facing the nation" (with crime being the first one): nearly 10% of respondents mentioned it. As a comparison, less than 0.5% of respondents mentioned inflation, and even counting generously, only about 1.5% of respondents mentioned trade-related issues.

As discussed above, it is crucial to identify the respective influence of demand and supply factors on the partisan position of media outlets. In their study of the ideological slant of the language used by U.S. newspapers Gentzkow and Shapiro [2007] conclude that this slant mainly depends on the political position of readers in the relevant markets and far less on the identity of newspaper owners.[9]

Following this line of reasoning, we investigate whether the agenda bias found for unemployment coverage depends on demand, i.e. the partisanship of readers. While newspapers with higher sales in Democratic areas indeed give more coverage to high unemployment under Bush than under Clinton, as compared to those sold in Republican areas (consistently with Gentzkow and Shapiro [2007]), this correlation is no longer significant when controlling for the ideological leaning of endorsements, properly interacted. On the other hand endorsement partisanship still matters, i.e. Democratic-endorsing

[9]See section 1.2.4 below.

newspapers *ceteris paribus* systematically give more coverage to high unemployment under Bush than under Clinton, in comparison to Republican-endorsing ones. Agenda bias in economic news thus appears to be more connected with the ideological position of editors, i.e. a supply factor, rather than with the one of readers.

This is also confirmed by a case study on the succession of Otis Chandler in the 60s as publisher of the Los Angeles Times, the newspaper owned by his family since 1884. The LA Times used to have a clear conservative slant, which Chandler decided to overturn, in order to make the paper stand as a credible rival of the New York Times. The data show that before 1965 the LA Times systematically gave more coverage to high unemployment and inflation under a Democratic president than a Republican one, while this differential reactivity disappears in the post-1965 period. Indeed, in the 60s -after Otis Chandler took office- the propensity for the LA Times to endorse Democratic candidates steeply increased, but this was not matched at all by a comparatively rapid surge in the Democratic vote in the relevant geographical area.

From a methodological point of view, a salient characteristic of the approach taken up in the chapter is the coding of newspaper articles through an automatic keyword search, instead of a human-based content analysis. One clear advantage of this procedure is that -by definition- it is not intensive in the usage of (costly) human capital. Its low cost allows to gather data on a large number of news outlets for a long time span, with the only restriction consisting in what is available in existing digital archives. More importantly, one can straightforwardly replicate an automatic search, since it is based on a known set of words and/or sentences that are used as classifiers. These advantages must of course be traded off against the cost of achieving a lower degree of precision than the one obtainable with human-based content analysis. As I will argue more extensively in chapter 4's concluding section, any study of mass media behaviour which attempts at reaching a standard of scientific rigor should try and exploit the replicability of machine-based content analysis.

1.1.5 Structure of the thesis

To sum up, the thesis is organised as follows: in the next section of this chapter I will overview the related literature. Chapter 2 is devoted to the analysis of the theoretical model of electoral competition with mass media as agenda-setters. Chapter 3 features the study of the agenda setting behaviour of the New York Times on Democratic and Republican issues, while chapter 4 presents the results on the coverage of economic issues by U.S. newspapers, as correlated with their endorsement choices. Chapter 5 concludes, with some discussion of the areas for future research on the topic. Proofs, tables and figures appear at the end of each chapter.

1.2 Literature review

The main thread of the dissertation consists in understanding how mass media outlets might act in a political fashion through their agenda setting power, i.e. their capability of

influencing the priorities of readers and viewers across issues by changing the amount of coverage devoted to them. This project is essentially multi-disciplinary, as it crosses over the boundaries of economics, political science and communication studies as separate fields of social science.

In this section I will survey the literature that is related to the theoretical and empirical findings contained in the next chapters. The theory of agenda setting effects, as developed within the field of communication studies, is described in section 1.2.1. Particular attention is devoted to the issue ownership hypothesis (Petrocik [1996]), according to which the topic itself covered by media outlets can have sizeable political consequences, to the extent that readers and viewers consider a given party or candidate as more competent on that topic.

In the context of a representative democracy, the broad political implications of the agenda setting power of media outlets must certainly be studied within a theoretical model of voting which allows for the presence of multiple policy issues citizens care about. Agenda setting effects can thus be thought as a change in the salience structure entertained by voters. As section 1.2.2 illustrates, while reasonably weak conditions are sufficient to rule out voting cycles[10] in collective choice models with only one policy issue, these conditions are prohibitively narrow in multidimensional policy spaces. In order to obtain stable equilibria within these spaces, the subsequent literature has added further restrictions and qualifications to the voting game, which are briefly described there. Finally, the section deals with the few voting models where the salience structure is not exogenously given.[11]

Besides the contributions on multidimensional policy spaces, there is a recent and growing political economy literature which attempts at explicitly incorporating mass media behaviour within models of electoral competition. Section 1.2.3 offers an overview and a classification of those. The first group of models is based on a notion of politics as a distributive process, whereas the presence of mass media outlets affects those who are informed and hence targeted by favorable policies. The second group includes those models that are based on a political agency mechanism, i.e. voters punish or reward the incumbent politician on the basis of his past performance, and the mass media might provide valuable information about it. The third group of papers is explicitly focused on the agenda setting behaviour of mass media outlets and on the implications of this on the political equilibrium.

The last section of the survey is devoted to the recent theoretical and empirical contributions on mass media bias. The theoretical side of this literature has developed models where demand or supply factors determine the emergence of politically biased media outlets. On the other hand, its empirical counterpart has put forward various measures of the political position of media outlets, which are meant to be replicable,

[10] As discussed in section 1.2.2, a voting cycle occurs if a policy alternative A beats alternative B in pairwise ballot, which in turn beats alternative C. But alternative C beats alternative A, so that the voting agenda (i.e. the sequence according to which alternatives are put to vote) affects the winning alternative.

[11] The models with an endogenous salience structure which depends on the role played by mass media outlets are mentioned in section 1.2.2 but are discussed in the following section.

meaningful and synthetic. It is indeed clear that any rigorous discussion about the political role of mass media cannot dispense with the availability of reliable indicators of their ideological position.

1.2.1 Mass media effects on public opinion: agenda setting, framing and issue ownership

The theory of agenda setting effects is built around the idea that mass media are capable of influencing the importance readers and viewers attach to different issues[12]. As aptly summarised by Cohen [1963], 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. The world will look different to different people depending on the map that is drawn for them by writers, editors, and publishers of the paper they read." In his *Public Opinion* book, Lippmann [1922] argued that news provided by mass media outlets are a primary source of information, and sometimes the only one, about public affairs: in the absence of information provided by mass media, most events related to public affairs would in fact be "out of reach, out of sight, out of mind" for the large majority of citizens. It follows that editors and journalists can possibly have sizeable degrees of freedom in the choice of what is newsworthy and this way they can influence the perception of citizens about which issues are relevant and to what extent.

As mentioned above, McCombs and Shaw [1972] is the seminal empirical contribution in which such concept of agenda-setting effects has been put to test: during the 1968 U.S. presidential election, a sample of voters in Chapel Hill, North Carolina, was asked to name what were the key issues of the campaign. These reported rankings were then matched with the pattern of news coverage that had characterised available newspapers and network television news in the previous month: the found correlation between these measures of the media and the public agenda was always of a positive sign and typically very large in magnitude.

After McCombs and Shaw [1972], there has been a host of empirical studies striving to test for the presence of agenda-setting effects, either replicating their simple correlation exercise, or adopting more sophisticated empirical designs, ranging from cross sectional and longitudinal to experimental ones. The cross-sectional evidence, as witnessed by the Erbring *et al.* [1980] study, does not lend support to the presence of "unconditional" agenda setting effects; on the contrary, these agenda setting effects apparently depend -in their presence and strength- on contingent characteristics of viewers and readers. In particular, only individuals who do not talk about political issues with their friends and relative are affected by the media agenda. On the contrary, individuals that are embedded in a network of informal political communication with their "neighbors" seem to be substantially insulated from the agenda setting effects of the mass media to which they are exposed.

As discussed by Erbring *et al.* [1980] themselves and Iyengar *et al.* [1982], agenda

[12]This survey of the literature on agenda-setting effects is largely based on Iyengar and Simon [2000] and McCombs [2002].

setting effects have an intrinsically dynamic nature, in the sense that most of the variation in the media and the public agenda seem to occur along the time dimension, with cycles in the attention devoted to different issues by news providers and the general public. Indeed, longitudinal studies of the agenda setting hypothesis typically find a significant correlation between the media and the public agenda[13], but the causal structure of the relationship is not entirely clarified. Omitted variable bias and endogeneity are a serious concern for this type of studies.

One could for example argue that the positive correlation between the media and the public agenda depend on the fact that they both follow the stream of real world events occuring. However, it is possible that editors and journalists, in the choice of newsworthy stories within the dense space of real world events, follow criteria that are systematically different than the ones that the general public would use, when deciding which events are salient. Indeed, if agenda setting effects are present, real world events could affect the public agenda through two different channels, i.e. in a direct fashion through the perception of citizens and indirectly through the effect on mass media coverage. On the other hand, a positive correlation between the issue coverage by mass media and the public agenda could be due to the fact that news providers "ride the wave" of public attention, i.e. they choose to cover more extensively those issues that ex ante are a matter of public concern.

Adopting a simultaneous equation approach, Behr and Iyengar [1985] analyse the links between real world events, television news coverage and the public agenda in the U.S. during the 1974-1980 period. They focus on the issues of energy, inflation and unemployment, showing that only in the case of unemployment real world cues have a direct influence on public concern. Regarding inflation and energy, public concern is driven by news coverage; moreover, the relationship between news coverage and public concern appears to be unidirectional, i.e. media agenda influences public concern, and not vice versa, in accord with the pure theory of agenda-setting effects.

Experimental evidence, as the one provided by Iyengar *et al.* [1982], lends the strongest support to the agenda setting hypothesis. Indeed, this approach has the advantage of creating some truly random variation in the explanatory variable of interest, i.e. the media agenda. Participants in the experiment run by Iyengar *et al.* [1982] were randomly assigned to a treatment and a control group. Both groups had to view what were alleged to be recordings of the previous evening's TV news programme: those in the control group watched the original programme, while individuals in the treatment viewed an altered version of it, with increased coverage of a given national issue. Before and after the experiment, individuals in both groups were administered a questionnaire about the most important problem. Controlling for the ex ante personal agenda, individuals in the treatment group systematically attached a higher ex post importance than those in the control to the issue with magnified media coverage.[14]

[13]Two notable examples are Funkhouser [1973], and MacKuen and Coombs [1981].

[14]Eisensee and Strömberg [2007] adopt an intriguing instrumental variable approach to show the effects of mass media coverage on policy. They show that the amount of disaster relief funds provided by the U.S. government to developing countries is an increasing function of TV coverage of these disasters,

The theory of agenda setting effects applies to the macro-level, i.e. to the influence of media coverage on the importance attached by the public to the various issues. But this influence can go a step further and affect at the micro-level the way readers and viewers think about a given issue.

As noted by McCombs [2002], the effects of mass media on public opinion have some kind of fractal structure: not only can mass media coverage highlight some topic as an object of attention, but -given this topic- it can emphasise some attributes of it, making them salient. Indeed, the theory of *issue priming*[15] describes how readers and viewers, when assessing a given situation or individual, are pushed towards giving a higher weight to the aspect emphasized by the mass media. For example, Iyengar and Kinder [1987] find that the intense coverage of the Iranian hostage crisis during the last days of the 1980 presidential campaign induced citizens to assess Carter and Reagan on their supposed ability to deal with terrorist threats, instead of other topics.

More generally, a given topic or event can be looked at and dealt with from different perspectives: such framing of the message about an event or an issue is typically meant to increase the support of the audience to the position held by the sender of the message itself. These *issue framing* effects appear to be sizeable and capable to induce opinion change at the individual level. For example, regarding the specific issue of government spending in the U.S., Republicans often focus on it in broad and general terms, pointing out the overall need to cut this spending. On the contrary Democrats highlight specific spending programmes, like health care and food stamps. Jacobi [2000] analyses data from the 1992 National Election Study and finds that the opposition to increases in government spending is significantly lower when the question about it is worded in terms of specific programmes.

Political actors find it advantageous to frame a given issue in different ways: regarding the previous example, Republicans are thought to be more willing to cut public expenditures and therefore taxes; in fact, their position is more easily supported if citizens think more about the total amount being spent, than about specific programmes that are thus financed. Conversely, Democrats are typically more eager to sponsor welfare programmes and any hint to specific spending items could activate support for their position, because citizens identify themselves as direct recipients of these programmes and/or are driven by altruistic feelings.

Besides more complicated framing effects, it could be the case that voters on average believe that candidates coming from a given party are better at handling problems related to a given issue. This is the concept of issue ownership, as introduced by Petrocik [1996]. By analysing news content, answers to open-ended questions about issue salience and the vote itself for presidential elections between 1960 and 1992, Petrocik shows that in their political speeches candidates tend to emphasise owned issues: Democrats focus

which in turn negatively depends on the presence of other unrelated newsworthy events, such as the Olympic Games. The authors offer two different explanations for this effect. Media coverage might directly change the information set of politicians, or indirectly trigger their reaction by increasing the salience of the topic among the public. In both cases an agenda-setting mechanism is in place.

[15]See Krosnick and Miller [1996] for a review of the literature on issue priming.

on civil rights and welfare issues, while Republicans give more emphasis to law & crime and defense. He also shows that, when issues owned by the Democratic (Republican) party are salient, self-identified Republicans (Democrats) are less willing to go and vote for their candidate, indipendents tend to vote for the Democratic (Republican) candidate, and the turnout of Democrats (Republicans) increases, together with their vote for their favorite candidate. Moreover, when deciding how to cast their vote, citizens appear to be taking into account how the incumbent is faring on performance issues, e.g. the management of the economy and/or of foreign policy. By performance issues Petrocik refers to those ones for which there is no long term ownership, i.e. citizens do not have strong *a priori* views on which party is better at handling them, so that the crucial determinant of ownership is the recent performance of the incumbent party on the issue itself.

On top of the survey-based results provided by Petrocik [1996], there is also some experimental evidence suggesting the presence of issue ownership effects. In the context of the 1992 senatorial and presidential campaigns in California, Ansolabehere and Iyengar [1994] show that viewers of randomised political ads on TV were more likely to express a voting preference for the candidate that deals with the owned issue rather than the same candidate dealing with the non-owned one, in their case the Republican talking about crime instead of unemployment, and vice versa for the Democrat.

1.2.2 Political equilibrium in multidimensional policy spaces

The theory of social choice revolves around the problem of how a group of individuals can jointly decide about the allocation of goods through a set of established rules. The normative part of social choice is focused on the existence and features of a decision rule which can aggregate individual preferences in a "satisfactory" fashion, i.e. by meeting a set of reasonable criteria. In particular Arrow's Impossibility Theorem (Arrow [1950], here in the stronger version of Arrow [1963]) states that no decision rule can be at the same time non-dictatorial (i.e. not reflecting the preferences of only one individual), universal (i.e. producing a complete and consistent social ordering for any possible preference ordering entertained by individuals), Pareto-efficient and insensitive to irrelevant alternatives.

On the other hand, the positive theory of social choice (borrowing a term used by Persson and Tabellini [2002]) is not concerned with the optimality of decision rules, but rather with the description of the equilibrium outcomes that would arise as a function thereof. Given their overwhelming use in actual social groups and polities, it is no surprise that majority voting mechanisms are the main focus of this theory. In the presence of more than two alternatives or candidates being voted, the crucial descriptive concept is the so called Condorcet winner, i.e. an alternative that would win a majority vote against any other alternative. If there is no Condorcet winner, electoral cycles can arise, in the sense that a platform A, which wins against platform B which in turn prevails over platform C, could be beaten by platform C. It follows that in the lack of a Condorcet winner the winning platform depends on the order with which platforms

are matched in a pairwise vote. On the other hand, the presence of a Condorcet winner implies stability and predictability, in the sense that the procedural aspects of the voting process (namely the agenda, i.e. the sequence of pairwise votes) do not affect the final outcome. As pointed out by Riker [1980], if a Condorcet winner exists the equilibrium outcome of the voting game is solely dictated by tastes, i.e. by the shape of individual preferences. On the other hand, in the lack of a Condorcet winner the equilibrium outcome is also a functon of institutions, of which agenda control is a crucial aspect.

Formally, for a given social group or polity, the presence or lack of a Condorcet winner depends on the dimensionality of the vector p of policies over which its members vote, and on the features of their preferences over these policies.[16] In fact, when the policy space is unidimensional (i.e. p is a scalar), there are some fairly weak conditions on voters' preferences, under which a Condorcet winner always exists, and coincides with the bliss point of the voter that is ranked as median. A sufficient condition for this result is that voters' preferences are single peaked (Black [1948]), while a more general one is the single-crossing property suggested by Gans and Smart [1996].

On the other hand, when the policy space and voters' heterogeneity are multidimensional, a Condorcet winner in the voting game exists under much more restrictive conditions of symmetry on the arrangement of voters' preferences (Plott [1967], Davis, de Groot and Hinich [1972]): a platform p^* is a Condorcet winner if any hyperplane passing through it separates the policy space in such a way that there is an equal number of bliss points in either of the two subspaces being created. Some weaker conditions for the existence of a Condorcet winner can instead be found if the policy space is still multidimensional but the heterogeneity of voters' preferences is shrunk to being unidimensional (Grandmont [1978]).

These general results apply to a direct democracy, i.e. a situation in which policy platforms are directly voted by an assembly of citizens; in fact, modern democracies are representative, in that the most relevant policy choices are made by elected representatives, to whom citizens have delegated the power to decide on their behalf. Consistently with Riker's remark, the delegated nature of political institutions imposes some restrictions on the structure of the voting game. Indeed, the subsequent literature has focused on the way realistic institutional features, once incorporated in a game-theoretic setup, might pin down the equilibrium outcome, i.e. avoiding the indeterminacy of Condorcet cycles.

If citizens are electing their representatives and not directly choosing policy platforms, it is likely that their vote is not only affected by the platforms candidates propose, but also by other factors over which candidates have less control, or no control at all, e.g. an ideological bias in favour of one or the other candidate. Probabilistic voting models (Hinich [1977], Coughlin and Nitzan [1981], Ledyard [1981, 1984]) are based on this idea of an uncertainty faced by candidates regarding the relationship between

[16] As noted by Riker [1980] among others, there is a parallel here between the normative and the positive branch of social choice: it is much easier to obtain a fair decision rule (for the normative theory) or a stable outcome (for the positive one) if one restricts the domain of individual preferences being considered, either in their shape or in the distribution across members of the polity.

proposed policy platforms and the way citizens vote. This uncertainty implies that the probability of receiving a vote from each citizen is a continuously differentiable mapping of policy platforms, and not a step function as in the deterministic set up.[17] In this case, a unique equilibrium of the voting game exists, given that some mild technical conditions on the joint distribution of these external factors are satisfied.

Citizen-candidate models, as introduced by Osborne and Slivinsky [1996] and Besley and Coate [1997], are based upon the idea that each member of the polity (by paying a fixed utility cost) may run as a candidate, but cannot precommit to offer policy platforms that there are different from the one she would prefer as a private citizen. This two-stage game of candidates' entry and voting typically features a sub-game perfect equilibrium with multiplicity as a generic outcome of the entry stage. However, Condorcet cycles are ruled out. If candidates are citizens who cannot precommit, but moreover, in order to run for elections, they must belong to already established political parties, then the parties' constituencies might constrain the identity of candidates and henceforth the policy platforms that can be offered to voters. This is of course a restriction with respect to the general model with any citizen being a potential candidate, but it reflects a relevant feature of modern democracies, in which parties behave as barriers to entry in the political arena. The model presented in chapter 2 is in fact based on this idea of political parties determining candidates' characteristics ex ante, with candidates from one party being more competent on one policy issue than the other, and vice versa for the other issue.

A common feature of all the models of electoral competition discussed above is that the importance attached by citizens to the various issues (i.e. the different dimensions of the vector p) is exogenously given, as it is embedded in their utility function. Indeed, this "salience structure" or "public agenda" has important implications on the features of the political equilibrium itself. For example, in citizen-candidate models with political parties, as in Besley and Coate [2000, 2003], the fact that citizens are equipped with only one vote to cast in the presence of multiple policy issues implies the possibility that -on non-salient issues- the position preferred by the majority of voters might not be implemented in equilibrium. This "inefficiency" result can be actually avoided if the non salient issue is *unbundled* from the salient one, i.e. by letting citizens decide on it with an additional and separate vote.

In the political economy literature proper there are very few exceptions to this hypothesis of an exogenous salience structure. Cantillon [2001] studies how different electoral mechanisms provide different incentives for political parties to introduce emerging issues in their platforms. She assumes that each party, besides deciding which position to take on each of the I issues, has a fixed endowment of "effort" that can be distributed across issues: the effort's share e_i^A devoted to issue i by party A determines the weight $f(e_i^A)$ given by voters in evaluating party A's position on the issue itself. It follows that for each party j there is an endogenous salience structure, which is induced by the vector

[17] In the deterministic case, a given citizen votes for sure for one candidate if she offers strictly more than what offered by the challenger, and would only randomise his vote between the two candidates if the two platforms deliver the same utility level.

of efforts $\{e_i^j\}_{i=1}^I$. A relevant feature of the model is that these salience structures are party-specific: one could interpret them as representing the precommitment of party j, in case its candidate has been elected, to dedicate a fraction e_i^j of time and resources to issue i.

Two other game-theoretic models of endogenous issue salience are Strömberg [2001] and Bernhardt *et al.* [2006]. However, because of the crucial role played by the mass media as agenda-setters in both of them, their description will be postponed to section 1.2.3.

1.2.3 Political economy models with mass media

There is a growing political economy literature which takes into explicit account the role played by the mass media as providers of information to citizens. Within this literature, one can trace at least three different ways of analysing the links between mass media behaviour and the political/electoral process.

The first approach, which is due to Strömberg [2001, 2004a, 2004b], is focused on the idea that the distinction between informed and uniformed voters depends on the access to mass media channels. Politicians are more willing to offer favourable policies to informed citizens, i.e. citizens that have access to the mass media. Indeed, these citizens are potentially aware of the fact that they have been targeted by favourable policies, and can thus reward politicians with their vote. In turn, the increasing returns' nature of information supply that is intrinsic of the mass media makes it optimal to publish articles and broadcast programmes which target large and sufficiently affluent groups. In a world without the mass media, small and internally homogenous groups, which are able to organise themselves into lobbies, can typically obtain favourable policies[18], at the expense of large and unorganised groups, e.g. consumers.[19] On the contrary, the presence and diffusion of the mass media creates a countervailing force in favour of these large groups. In support of his theory, Strömberg provides evidence about the territorial allocation of public funds from the Federal Emergency Relief Administration (FERA) program in the U.S. during the early 30s, as a function of radio diffusion.

The second line of research investigates the links between the information provided by the mass media and the accountability of elected politicians. In an asymmetric information environment, voters must assess the performance of the incumbent politician with respect to the assigned policy tasks. The more mass media outlets inform citizens about this performance, the more will they be able to punish or reward the incumbent with their vote. The incumbent politician will hence have stronger *ex ante* incentives to exert effort. Besley and Burgess [2001] develop a simple model of political agency, in which the effort a reelection-seeking incumbent puts is an increasing function of media access by citizens. The authors test the model against panel data on the sixteen major Indian states during the 1958-1992 period, and find that the responsiveness of

[18]However, this is not the case if in a citizen-candidate frawework voters strategically elect a politician with the opposite bias. See Besley and Coate [2001].

[19]Larcinese [2007] provides UK-based evidence on this overprovision of news that are of interest to a worthy audience.

state governments to falls in food production and flood damage, as proxied by public distribution of food and expenditure on calamity relief, is stronger where newspaper circulation is higher: in particular, what seems to matter is the circulation of newspapers written in the local language.

Again within a political agency framework, the model by Besley and Prat [2006] is based on the idea that politicians face clear electoral incentives to alter the set of news citizens read and watch. In their model bad quality politicians have an incentive to bribe mass media outlets in order to induce them not to publish the news about their bad quality. This media capture by the incumbent government is less likely to occur when there are more independent mass media outlets. This is the case, because each of them must be paid the entire additional revenue that would accrue to the only outlet that would publish the bad news.

Finally, as mentioned in section 1.2.2, some political economy models are explicitly based on the idea that the mass media affect readers and viewers by changing their agenda, i.e. the importance attached to different policy issues.

On this account, in one specification of his model, Strömberg [2001] assumes that the incumbent politician must allocate a fixed budget between a general program of public expenditures, and a specific one, which delivers utility only to a subset of citizens. The utility of each program depends on the incumbent's competence and on some local factors, which are indipendently distributed across citizens: newspapers can publish news about the two programs, that consists of reports about the realised utility of a sample of citizens. The more news are published about each program, the more voters are able to precisely extrapolate the incumbent's competence on it: it follows that in their electoral choice citizens give more weight to the program about which they receive more precise information. This is a micro-founded way of depicting the political effects of mass media as agenda setters: the set of priorities entertained by citizens happens to change because of an induced change in their information set, not their preferences.

Along similar lines, Bernhardt, Krasa and Polborn [2006] propose a model of electoral competition with two mass media outlets, which must decide their editorial policy, i.e. how much coverage to give to good and bad news about the two running candidates. They assume that citizens enjoy politically relevant news because of their entertainment value, and prefer to read stories that are consistent with their political position. Within this framework, the authors show that the polarisation of the electorate might lead to inefficient electoral outcomes, if it is the case that the newspaper read by the median voter is a biased one, i.e. -according to its editorial policy- it would only publish stories that are favourable to one of the two candidates.

1.2.4 Mass media bias: theory and evidence

The recent years have witnessed an increasing amount of research on the topic of mass media bias. On the theoretical side, the main purpose of this literature is to explain the fact that mass media outlets often have a partisan position on political matters. According to some authors, the crucial riddle to solve is why media outlets *en masse*

support a given political side, be it the conservative or the liberal one.[20] Differently from the literature explored in section 1.2.3, the focus here is on media markets by themselves, with less emphasis given to the interaction with the political and electoral process.

The empirical side of this literature is instead concerned with the construction of replicable, meaningful and synthetic measures of the political position of mass media outlets, thus avoiding the lack of scientific rigour characterising any type of anedoctal evidence. While the literature on mass media effects surveyed in section 1.2.1 investigates the causal link between media coverage and public opinion, the empirical contributions on mass media bias are focused on media coverage by itself, striving to find reliable ways to code it on a political/ideological scale.[21]

Theory

Game-theoretic models of the political slant of media outlets can be easily classified according to whether the source of the bias is on the demand or the supply side of the market. Mullainathan and Shleifer [2005] and Gentzkow and Shapiro [2006] and the already cited Besley and Prat [2006] propose demand-driven theories, while Sutter [2001] and Baron [2006] focus on the supply side.

The crucial assumption in Mullainathan and Shleifer [2005] has a behavioural flavour: they posit that readers and viewers hold beliefs they would like to see confirmed by news providers. When news customers share common beliefs, profit-maximizing media outlets find it optimal to select and/or frame stories in order to pander to those beliefs. When beliefs are instead heterogenous, news providers differentiate their offer and segment the market, by providing news stories that are slanted towards the two extreme positions in the spectrum of beliefs.

On the other hand, the model by Gentzkow and Shapiro [2006] does not rely on behavioural assumptions, i.e. on a departure from full rationality. If readers and viewers are Bayesian updaters, have a priori views on the state of the world and are uncertain about the quality of the information about it being provided by media outlets, then the latter have an incentive to slant stories towards their customers' prior, in order to build and keep a reputation for high-quality journalism. The reason for this is that Bayesian agents would tend to believe that pieces of information that go against their prior in fact originate from low-quality news providers.

The two models discussed above share the assumption of profit maximization by news providers. In a different context, Besley and Prat [2006] build a model in which mass media capture by the incumbent government (that translates into the suppression of unfavourable news) occurs because media outlets trade off profits from sales and

[20] The exponential increase in the number of technical papers on mass media bias is however dwarfed by the parallel expansion of the anedoctal-style literature on the topic, especially in the United States. The typical finding of these books is an overall media bias on the opposite side of the author's political convictions. See e.g. Goldberg [2002] and Franken [2003].

[21] This empirical endeavour of course presupposes the presence, possibly the relevance, of persuasion effects as the ones described in section 1.2.1.

advertising against a direct or indirect bribe from the government itself. In this model the profit-maximization assumption is kept, but two different sources of income are traded off by media outlets. Thus, media bias takes place as a favourable treatment of the incumbent government.

Baron [2006] proposes a supply-driven explanation for a persistent media bias, i.e. for a generalised slant of media outlets in favor of a given political position. This is the case if journalists, which are an essential input for news production, are characterised by a common ideological stance, i.e. they are all on average conservative or liberal. It follows that media outlets maximise profits by slanting news stories towards the political bias of journalists, in order to benefit from a lower wage being demanded by the latter in equilibrium.

In fact, the main alternative explanation for media bias on the supply side is that the owners themselves have political preferences that are traded off against the pure profit maximization motive. Depending on the relative strength of these two motivations, a more or less intense slant of the news towards the owner's political preferences would emerge in equilibrium. This argument is put forward by Sutter [2001].[22]

Evidence

As mentioned above, the empirical literature on media bias attempts at finding replicable and intuitive measures of the ideological position of media outlets. A straightforward way to do this consists in investigating their *explicit* political behaviour. For example, in countries like U.K. and the U.S., during electoral campaigns newspapers suggest readers which candidates to vote. On this account, Ansolabehere *et al.* [2006] analyse the political orientation of endorsements by U.S. newspapers in statewide and congressional races, using a panel data design. They find an upward trend in the average propensity to endorse a candidate, and in particular an incumbent one. There are also some changes in the average ideological slant of endorsements: while in the 40s and in the 50s there was a clear advantage to Republican candidates, this advantage continuously eroded in subsequent decades, to the extent that in the 90s there is a slight Democrats' lead in the average endorsement choice.

Endorsements are explicit statements, typically made on editorial pages, which are separate from the other sections of a newspaper. One might instead be interested (and more concerned) about the *implicit* political behaviour of media outlets. Potentially, this is a more insidious way for media outlets to act politically, exactly because readers and viewers might not be entirely aware of the persuasion they are subject to.[23]

[22]The preferences of advertisers represent another potential source of bias for the mass media. In particular, there might be a conflict between those preferences and the ones entertained by readers and viewers, for example on the level of accuracy in news reporting. On this, see Ellman and Germano [2006]. Also, Baron [2005] investigates the biases arising from the fact that interest groups are an important source of news for the mass media regarding the specific sectors where they are involved.

[23]However, as discussed in the previous subsection, the ideological position of a given media outlet can be driven by demand itself, i.e. the ideological position of its readers or viewers. In other terms, readers and viewers are not persuaded into a new political stance, but simply confirmed in their present one.

One can distinguish two broad approaches to the task of teasing out this implicit ideological stance. According to the first approach, followed by Groseclose and Milyo [2005] and Gentzkow and Shapiro [2007], mass media outlets are classified on the basis of the resemblance between what they report and what political actors of a known ideological position do. The second approach, to which the empirical exercises presented in chapters 3 and 4 belong, is instead based on the idea of directly looking at the variation in the type of topics covered by media outlets, or in the tone of this coverage. The paper by Lott and Hassett [2004] is an example of this empirical strategy.

Groseclose and Milyo [2005] have pioneered a subtle cross-sectional design to estimate the ideological position of U.S. mass media outlets. They start by tracing out which think tanks are quoted by various mass media outlets within news stories; in turn, the position of each think tank in the political spectrum is calculated as the weighted sum of the adjusted ADA scores[24] of those representatives in the House and in the Senate that quote it in a non negative way. Adopting a maximum likelihood technique, the authors obtain the stark result that all sampled news providers -except Fox News' Special Report and the Washington Times- are located to the left of the average Congress member, i.e. there are signs of a liberal bias in the U.S. news media. However, the news media also show a remarkable degree of centrism, in the sense that "[...]all outlets but one have ADA scores between the average Democrat and average Republican in Congress." The only media outlet that is located to the left of the average Democrat -in terms of think tank quotes *within news stories*- is the Wall Street Journal.

While Groseclose and Milyo focus on think tank quotes only, Gentzkow and Shapiro [2007] provide another measure of media bias which is based on the similarity between the overall language used by U.S. daily newspapers 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. For example, Democratic representatives typically use the more neutral expression of "estate tax", while Republican ones provocatively talk about the "death tax". The authors then measure how frequently these expressions appear in the sampled newspapers, in order to construct a measure of politically slanted language. Estimating a structural model of the demand and supply of ideological slant in the media market, Gentzkow and Shapiro conclude that the partisan bias of newspapers depends mainly on consumers' ideological leaning and far less on the identity of owners. Newspapers adopting a liberal (conservative) language sell more copies in ZIP codes that are more liberal (conservative), as proxied by the propensity of their inhabitants to donate to Republican or Democratic candidates. On the other hand, once geographical factors are accounted for, the ideological slant of a given newspaper is not significantly correlated with the average ideological slant of those belonging to the same chain.

Regarding the second approach, Lott and Hassett [2004] study the coverage of economic news by looking at a panel of 389 U.S. newspapers from 1991 to 2004, and from

[24]Since 1947, the interest group Americans for Democratic Action (ADA) has tracked how U.S. congressmen vote on key policy issues. These votes are used to rank them according to their liberal stance. Groseclose *et al.* [1999] adjust ADA scores in order to make them comparable across time and chambers.

1985 to 2004 for a subsample comprising the top 10 newspapers and the Associated Press. For each release of official data about a set of economic indicators, the authors analyse how newspapers decide to report on them, as reflected by the tone of the related headlines. The idea is to check whether newspapers display some kind of partisan bias, by giving more positive or negative coverage to the same economic datum, as a function of the political affiliation of the incumbent President. Controlling for the economic data being released, the authors find that there are between 9.6 and 14.7 percent fewer positive stories when the incumbent President is a Republican.[25]

The empirical literature on media bias is closely linked with the one regarding the effects of mass media on political attitudes and decisions. On top of the literature in communications studies which I surveyed in section 1.2.1, there are some recent contributions that do not focus on a specific aspect of media coverage (and its effects on individual attitudes), but rather look at some exogenous variation in the diffusion of a given media outlet, whose political position is assumed to be known. On this account, Gerber, Karlan and Bergan [2006] conduct a randomized control trial just prior to the November 2005 gubernatorial election in 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 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 to the Washington Times were only four percentage points more likely to vote for the Democrat.[26] 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.

[25] As more thoroughly discussed in chapter 4, coding for the tone of an article is harder than for its topic. Unless the analyst provides detailed instructions, inter-coder agreement typically falls short of acceptable standards. And, when the analyst's instructions are very detailed, then results are likely to be driven by these instructions.

[26] This latter effect does not reach statistical significance. 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.

Chapter 2

The Spin Doctor Meets the Rational Voter

2.1 Introduction

In this chapter I develop a simple political economy model to illustrate how the agenda setting power of the mass media can affect electoral outcomes, by shaping the information set enjoyed by voters who are assumed to be rational Bayesian updaters.

When confronted with the problem of electing their representatives for the next term, citizens are interested in obtaining pieces of information about the current state of affairs and the policy platforms offered by candidates. As discussed in the introduction of this dissertation, while on some issues direct experience can provide valuable pieces of information to voters, on some others mass media outlets are the only source of information.

Given (the knowledge of) candidates' characteristics and platforms, the expected suitability of different candidates to the electoral position may depend on the current state of affairs. According to Petrocik's [1996] theory of issue ownership, citizens have an instrumental attitude towards the electoral process, in that they want to elect the candidate who is perceived as better at handling the most pressing problems facing the country. Moreover, they have a priori views about which political party gathers the candidates who have a comparative advantage in solving problems related to a given issue. A political party is said to own an issue if citizens believe that its candidates are comparatively more able to solve problems related to it, given that they occur, than candidates belonging to the other party.

In a multidimensional policy space, as it is the one implicitly assumed by a theory of issue ownership, citizens cast their vote on the basis of the vector of weights they attach to the different issues. In turn the weight attached to a given issue is an increasing function of the number and magnitude of problems related to it that are known to have occurred. The idea is that mass media outlets provide pieces of news about which problems have occurred in the different fields: by shaping their information set, mass media outlets concur in determining the salience structure entertained by citizens, i.e.

in setting their agenda.

When a problem related to a given issue happens, a story about it can be featured on the newspaper or the TV news broadcast. However, it can be the case that problems pertaining to different issues take place at the same time, and more than one story can potentially be published. The physical space on a newspaper and the airing time for a TV news broadcast are scarce resources. This is coupled with the limited amount of attention readers and viewers are typically willing or able to spend.[1] For example, stories on a newspaper are given an implicit ranking by their position, with a higher priority attached to front page ones.

The ranking is even stronger for TV news broadcasts: in this case, the viewer is directly forced by the order with which stories are presented, and by the amount of time devoted to each of them. In general, the managing editor of the newspaper or the TV news program must decide which story is newsworthy, and within this subset of published stories she must decide what to emphasize, namely what to publish or broadcast as the lead story[2].

If citizens are influenced in their voting decision by the topics newspapers and TV news broadcasts decide to cover, political parties have strong incentives to reshape or manipulate the agenda of mass media outlets at their own advantage. In particular, if the issue ownership hypothesis correctly describes how rational citizens vote, then -to be euphemistic- each political party would strongly appreciate the fact that media outlets emphasize events pertaining to the owned issue. This is what political marketing is exactly about.

Take a situation with two parties competing with their candidates for an electoral office. Within an issue ownership perspective, first of all each candidate would focus her campaign on the set of owned issues[3]. Moreover, each candidate would try to induce news providers to feature stories about these owned issues, and disregard potential pieces of news about the policy fields owned by the opponent's party. Such interaction between parties and news providers clearly has some zero sum game features, as the contrasting pressures of the two parties on media outlets may end up offsetting each other.

However, the incumbent party may enjoy a comparative advantage in its relationship with the mass media. There is a set of reasons for this to be the case. First, there is a natural tendency for journalists to watch attentively the activities of the incumbent politician, as these produce direct consequences on citizens' lives. The incumbent politician can exploit such media attention and purposely concentrate his efforts on owned issues: by reporting what the incumbent is doing, journalists end up emphasizing the policy fields that are owned by the incumbent. Second, the incumbent politician's party

[1] The psychology literature on attention (see e.g. the edited volume by Pashler [1998]) is now flanked by a growing number of theoretical and experimental contributions in economics, whereas the process of attention allocation is treated as a particular instance of the usual problem of allocating a scarce resource. See Gabaix *et al.* [2006] for an experimental test and a survey of this literature.

[2] As discussed in section 1.2.1, besides this choice between different facts and issues, journalists and news editors can also decide which aspect of any given event to emphasize, i.e. how to *frame* it.

[3] In fact, Benoit, Petrocik and Hansen [2003] analyse acceptance speeches and TV ads of U.S. presidential candidates from 1952 through 2000. They show that candidates -and especially Republicans- strongly focus their campaign on owned issues.

can have larger financial resources than the challenger: these resources might be used to set up a more efficient public relations department, which outperforms the challenger's one. Third, the incumbent politician can stipulate an implicit agreement with news providers: in exchange for a more intense coverage of the owned issues now, he could offer easier access to newsworthy pieces of information in the future, of which he is the monopolistic supplier, at least as long as he is in office[4].

In the simple model presented in this chapter an incumbent politician and a challenger compete for an electoral office. I assume that there is a single newspaper, and two issues about which citizens care: one is owned by the incumbent's party, the other by the challenger's. Problems pertaining to the two issues can occur, with given and independent probabilities: if a problem occurs, a verifiable signal is issued, and can be published as a story on the newspaper: however, on the newspaper itself there is room for only one story to be published[5].

In this simple setup, the ex ante probability with which the story about one issue is published when the other one would be equally publishable (because of the occurence of the related problem) defines the editorial policy of the newspaper. I hence define as "spin" the ability of the incumbent politician to make the story about the owned issue more palatable to the newspaper's editor. If there is spin, given that both problems have occurred, the story about the issue owned by the incumbent is always published. I compare this regime of media capture through spin to two other polar cases. If the editorial policy is one of *balanced reporting*, the managing editor is indifferent about which story to publish, i.e. it is as if he decides by tossing a fair coin. In the *watchdog* case the newspaper always gives priority to the issue that is owned by the challenger's party.

As a function of the editorial policy of the newspaper, the model offers predictions about the coverage of issues by the newspaper and the effects of this coverage on the electoral outcome.

First -by construction- the model suggests that ex ante it is more likely to read stories about the issue owned by the incumbent if there is spin than with balanced reporting, and *a fortiori* in the watchdog case. Second, if all voters are informed by reading the newspaper, they elect for sure the candidate whose party owns the issue that is featured in the published story. Third, given that the two problems are equally likely to arise (symmetric case), if there is spin the negative effect on total votes accruing to the incumbent of a story about the challenger's problem is larger in absolute terms than the positive effect of a story about the incumbent's issue, taking the case of no piece of news being published as a benchmark. Vice versa in the watchdog case. These effects

[4] As discussed by Dyck and Zingales [2003] in the context of financial markets, there is often an implicit *quid pro quo* in the relationship between journalists and corporations as institutional sources of information. Corporate sources provide journalists privileged access to information, in exchange for a more favourable coverage.

[5] As noted above, when several newsworthy events take place at the same time, the managing editor of the newspaper is confronted with the choice of what to publish and what to disregard, and the relative emphasis to give to published stories. In this model I depict these decisions in a very stark fashion, by assuming that on the newspaper there is room for only one story to be published.

are on the contrary equal when reporting is balanced.

The model is also suitable to analyse the social welfare costs of spin, which arise when the problem owned by the challenger's party happens to be more serious than the one owned by the incumbent's.

Finally, under the simple assumptions that the incumbent politician is office-motivated and that spin activity is costless, the model is useful to show that the incentives to spin the news are not straightforward. Here it is crucial to distinguish between an *ex ante* perspective, i.e. before the uncertainty about the state of the world is resolved, and an *ex post* one, which is relevant when both problems are known to have occurred and can potentially be published as stories on the newspaper. Ex post it is always optimal for the incumbent to exert spin and induce the editor to publish for sure the favourable story. Ex ante incentives on the contrary depend on whether uninformed voters are present: if all voters are informed, ex ante as well the incumbent prefers to exert spin to the maximum extent.

If uninformed voters are present, ex ante incentives depend on the shape of the distribution of the ex ante bias of rational voters, i.e. of their individual predisposition to vote one candidate or the other, before knowing what has happened in the issue space. When this distribution is unimodal, i.e. there are more moderate than radical voters, the incumbent's ex ante payoff is maximised with complete spin. On the other hand, with a polarised distribution of the bias, i.e. when there are more radical Republicans and Democrats than citizens with a moderate bias, the model delivers the interesting and *prima facie* counterintuitive result that it would be optimal for the incumbent to induce the newspaper to have a watchdog editorial policy, i.e. to publish for sure the story about the issue owned by the *challenger*. Of course in this case a credibility issue emerges, as ex post incentives drive the incumbent in the opposite direction of complete spin.

The chapter is organised as follows: in section 2.2 I discuss the links between the model and the literature overviewed in chapter 1. Section 2.3 presents and solves the model; Section 2.4 concludes, and connects the model to the empirical chapters of the dissertation.

2.2 Links to the literature

The model I develop in this chapter is inherently based upon the literature on agenda setting effects, and in particular on the theory of issue ownership (Petrocik [1996]), which are discussed in section 1.2.1. The influence of mass media coverage on the priorities entertained by the public is depicted here through an information story, whereas newspaper readers are Bayesian rational, but there is a limited amount of space on the newspaper itself, so that they do not know whether a story about the other topic could have been published. Also, readers share a priori views (which are correct) about the relative problem-solving abilities of the two candidates with respect to the two issues. In particular, readers know that the candidate from the Republican (Democratic) party

would completely solve the Republican (Democratic) problem in case it occurs, but could not do anything with the other problem. This is a strark way of formally representing an issue ownership phenomenon.

The model is also related to the literature on political equilibria in multidimensional spaces (section 1.2.2). There are indeed two policy issues citizens care about, but the focus of the model is rather on the role played by the mass media than on the strategic interactions between candidates. This is the case, because the two candidates cannot decide on their policy platforms, which are instead trivially determined by the political party they belong to.[6] From this point of view, the model is similar to citizen candidate models with party control on candidate entry *á la* Besley and Coate [2000, 2003].

Regarding political economy models with mass media (see section 1.2.3), the model is of course characterised by the explicit focus on the agenda setting behaviour of media outlets, as in Strömberg [2001] and Bernhardt, Krasa and Polborn [2006]. It shares with Bernhardt *et al.* the emphasis on the electoral effects of the editorial policy of media outlets. The main difference is that I assume that there is a limited amount of space on the newspaper, so that -in the presence of more than one newsworthy event- the newspaper's editor must always decide which story to publish and which one to leave out, with no room for the contemporaneous publication of both stories. Within the stylised structure of the model, this assumption is meant to portray the fact that media outlets face a limited amount of space and attention, and hence must make an excluding choice. Also, while Bernhardt *et al.* focus on the competition between media outlets, I do not analyse the case of multiple outlets, but concentrate my attention on the incentives to influence the editorial policy of the newspaper faced by the incumbent politician, and on the resulting commitment issues.

From this point of view, the model shares with Besley and Prat [2006] the same idea that politicians face clear electoral incentives to manipulate the information set enjoyed by voters. but its specific focus is different, as my aim is to study agenda-setting effects. Moreover, while Besley and Prat assume that the incumbent politician tries to manipulate mass media outlets by buying their silence on bad news, in the model presented here the incumbent politician is not bribing news providers, but simply exerting spin, i.e. is trying to make the story about the owned problem more palatable to the taste of the managing editor of the newspaper. In other terms, the focus of my model is on agenda setting effects and the role of political marketing in a multidimensional policy space, not on the outright suppression of negative news.[7]

The model is finally related to the growing literature on mass media bias (see section 1.2.4). On the theoretical side, it highlights agenda setting effects as a mechanism through which mass media outlets can produce relevant electoral effects. Of course it shares with Besley and Prat [2006] the focus on the incumbent politician as a likely source

[6] In section 2.3.5 I however discuss the incentives for the incumbent politician to influence the editorial policy of the newspaper.

[7] To be more precise, when the only problem taking place relates to the issue owned by the challenger's party, the newspaper publishes for sure the corresponding story, with no further possibilities for the incumbent to block it.

of media bias. On the empirical side, the model indeed suggests that the agenda setting behaviour of media outlets can be used as a criterion to investigate their ideological position. This suggestion is explicitly taken up in the following chapters.

2.3 The model

2.3.1 Signals and news

Citiziens must elect their representative for the next term. There is an incumbent politician and a challenger: for concreteness, I assume that the incumbent is a Republican, while the challenger is a Democrat. Citizens want to elect the politician who is thought to be better at handling the most pressing problem facing the country. Moreover, they entertain a priori views about the relative abilities of candidates belonging to different parties in handling different issues, in accord with the theory of issue ownership. In order to keep the model tractable, I assume that there are only two issues, one being owned by the Republican party, the other by the Democratic one. In the present context, I will define issue "a" as being owned by party "A" if voters prefer to elect a candidate from party A, given that they know for sure that some problem is arising in that field, while no problem pertaining to other field has happened. To fix ideas, let the issue owned by the Republicans be Homeland Security, and Health Care the one owned by the Democrats[8].

More formally, I assume that the state of nature comprises two events, i.e. $x_R \in \{0,1\}$ and $x_D \in \{0,1\}$. $x_R = 1$ stands for the occurence of a problem in the Republican field, while $x_R = 0$ means the lack of such problem; the same applies to x_D. I assume that the two events are independent and that $pr(x_i = 1) \equiv p_i \in (0,1)$, with $i \in \{R, D\}$. I will also specifically focus on the symmetric case in which $p_R = p_D = p$.

Given that $x_i = 1$, with $i \in \{R, D\}$, a verifiable signal s_i is issued: this signal can be published on the newspaper as a piece of news. Voters read the newspaper and acquire valuable information that can be used to optimally cast their vote during the forthcoming elections. In the present set up, signals are perfect, i.e. $pr(s_i = 1 \,|x_i = 1) = 1$ for both fields. Coming back to the initial example, the problem in the Homeland Security field is represented by the threat of a terroristic attack and $s_R = 1$ could stand for the discovery of an Al Qaida cell in Chicago; on the other side, the relevant problem in the Health Care field could be represented by gaps in coverage in the private insurance system and $s_D = 1$ is the release of figures about the number of individuals not being covered by any form of health insurance.

The crucial assumption is that the newspaper can publish only one piece of news during the campaign, and thus is confronted with a choice when both problems occur, i.e. when $x_R = x_D = 1$: this happens with ex ante probability $p_R \cdot p_D$.

In the real world, when many events happen, the managing editor of a newspaper must decide which event shall become the lead story of the day, and be published on the front page. I will denote with $\bar{p}$ the probability with which the signal about the

[8]See section 3.3.1 for an analysis of issue ownership in the U.S., from the 50s to the late 90s.

Republican problem s_R is published, given that the signal about the Democratic problem as well has been issued and can potentially be published. Within this simple setup with two issues and room for only one story to be published, $\bar{p}$ represents the *editorial policy* of the newspaper. Even if $\bar{p}$ is a continuous variable, I will mainly focus my attention on three polar cases: in the first case (the one of *balanced reporting*) the newspaper hasn't any ideological bias and is not subject to any influence by the incumbent politician, and thus publishes the Republican news with given probability $\bar{p} = \frac{1}{2}$ when both problems occur. In the second case, there is *spin* by the incumbent politician, i.e. he is able to make the news about the owned problem being published for sure when both problems occur, i.e. $\bar{p} = 1$. In the third case the editorial policy is of a watchdog kind and the newspaper -in the presence of both problems- would publish the story about the problem owned by the challenger's party.

More formally, $n \in \{\varnothing, D, R\}$ is the piece of news that the newspaper decides to publish; of course, when no problem occurs, i.e. with probability $(1 - p_R)(1 - p_D)$ no news with political content can be published and thus nothing appears on the front page: $n = \varnothing$. When the Republican problem occurs while the Democratic one does not, which happens with probability $p_R(1 - p_D)$, the Republican news is published for sure, i.e. $pr(n = R \,|\, s_R = 1, s_D = 0) = 1$. The converse is true when the Democratic problem occurs in the lack of the Republican one, i.e. $pr(n = D \,|\, s_R = 0, s_D = 1) = 1$; finally, as mentioned before, $pr(n = R \,|\, s_R = 1, s_D = 1) \equiv \bar{p}$. The crucial assumption here is that the editor of the newspaper always wants to publish a story (e.g. because of revenue reasons) but is left with a choice when more than one story is potentially publishable.

The ex ante probability of reading a Democratic news, given p_R, p_D and $\bar{p}$, can be written as follows:

$$pr(n = D) = p_D(1 - p_R \cdot \bar{p}) \tag{2.1}$$

which is of course decreasing in $\bar{p}$. Conversely, the ex ante probability of reading a Republican news is the following:

$$pr(n = R) = p_R[1 - p_D(1 - \bar{p})] \tag{2.2}$$

In the symmetric case, it is straightforward to check that with balanced reporting it is equally likely ex ante to read a piece of news about the Republican or the Democratic problem. In the presence of spin, it is more likely to read a piece of news about the Republican problem than about the Democratic one, and vice versa in the watchdog case.

In the asymmetric case, a weaker result can be established:

Proposition 1 *In the asymmetric case, with balanced reporting the ex ante probability of reading a piece of news about the Republican issue is higher (lower) than the one of reading about the Democratic problem iff $p_R > p_D$ ($p_R < p_D$).*

If there is spin, the ex ante likelihood of a piece of news about the Republican problem is higher than the one of reading about the Democratic one iff $p_R > \frac{p_D}{1+p_D}$. When the

? Who is incumbent?

newspaper behaves like a watchdog, it is more likely to read the Republican news if $p_R > \frac{p_D}{1-p_D}$.

Proposition 1 states that in the general case, with balanced reporting it is more likely ex ante to read news about the Republican problem than about the Democratic one as long as $p_R > p_D$, i.e. the relationship between the ex ante probabilities of the two problems is directly translated into the issue balance of the newspaper. With spin, the condition for having a higher ex ante probability of news about the Republican problem than about the Democratic one is on the other hand weaker, as $\frac{p_D}{1+p_D} < p_D$. Vice versa when the editorial policy is of a watchdog type.

2.3.2 News and voting behaviour

As mentioned in the previous section, voters acquire pieces of information about the true state of the world by reading the newspaper during the campaign: even if signals are perfect, the newspaper has only one slot on the front page and thus voters are equipped with a less than perfect information structure. I assume that there is a continuum of rational voters who must decide on whether to reconfirm the incumbent or elect the challenger: all citizens ex ante know p_R and p_D, and can read the piece of news $n \in \{\varnothing, D, R\}$ on the newspaper. However, citizens differ among themselves according to an ex ante bias η in favour of the challenger.

Voters' optimal decision rule is represented in the following table:

$\underline{v}(n, \bar{p}; \eta) = 1$	$\Leftrightarrow$	$E(x_R - x_D \,\vert n; \bar{p}) > \eta$
$v(n, \bar{p}; \eta) = \frac{1}{2}$	$\Leftrightarrow$	$E(x_R - x_D \,\vert n; \bar{p}) = \eta$
$v(n, \bar{p}; \eta) = 0$	$\Leftrightarrow$	$E(x_R - x_D \,\vert n; \bar{p}) < \eta$

(2.3)

where $v(n, \bar{p}; \eta)$ is the probability of a citizen with bias η voting for the Republican incumbent, when she reads the story n on the newspaper, as a function of $\bar{p}$; $E(.)$ is the expectation operator and η, as mentioned above, is the bias in favour of the Democratic challenger. This bias factor η is distributed in the population according to the known cumulative distribution function $\underline{G}(.)$, which is symmetric around zero, i.e. $G(0) = \frac{1}{2}$, and $G(y) = 1 - G(-y)$, for all y. One should note how in this model there is no aggregate uncertainty, as the factor η determines an empirical distribution of votes for the two candidates, which is certain[9].

The decision rule featured in table 2.3 can be rationalised as follows. Suppose that the occurence of the Democratic or the Republican problem implies a utility cost of one to each citizen, unless the candidate who owns the issue is elected, in which case the problem is solved entirely. On the other hand, the elected candidate cannot do anything about the problem he does not own. Conditionally on the editorial policy $\bar{p}$ and the published story n, the expected utility for a citizen with bias η of voting the Republican

[9]The only exception occurs with the measure-zero fraction of voters for which $E(x_R - x_D \,\vert n; \bar{p}) = \eta$: these voters mix their vote with equal probabilities, as implied by decision rule (2.3).

candidate can be written as

$$u_R(n, \bar{p}; \eta) = E(-x_D \,|n; \bar{p})$$

where the utility cost of one is incurred only if the Democratic problem occurs. On the other hand, the expected utility of voting Democrat is the following:

$$u_D(n, \bar{p}; \eta) = E(-x_R \,|n; \bar{p}) + \eta.$$

This voter would reelect the incumbent if $u_R(n, \bar{p}; \eta) > u_D(n, \bar{p}; \eta)$, which corresponds to the decision rule stated above.

Let $\pi(\bar{p}, n)$ be the probability of the incumbent being reelected when the story n is published, again as a function of $\bar{p}$. Likewise, let $f(\bar{p}, n) \equiv G\left[E(x_R - x_D \,|n; \bar{p})\right]$ be the share of citizens voting for the incumbent when the piece of news n is published, given $\bar{p}$. The electoral prospects of the incumbent can be summarised as follows:

$\pi(\bar{p}, n) = 1$	$\Leftrightarrow$	$f(\bar{p}, n) > \frac{1}{2}$
$\pi(\bar{p}, n) = \frac{1}{2}$	$\Leftrightarrow$	$f(\bar{p}, n) = \frac{1}{2}$
$\pi(\bar{p}, n) = 0$	$\Leftrightarrow$	$f(\bar{p}, n) < \frac{1}{2}$

The incumbent is reconfirmed in office for sure if more than half of the population votes for him; he is for sure defeated if more than a half of citizens votes for the challenger, while he stands a 50/50 chance of being reelected if votes are equally split.

Within this framework, it is easy to prove the following proposition:

Proposition 2 *If there is no aggregate uncertainty, the following statements are true:*

a. *if the story about the Republican problem is published on the newspaper, the Republican incumbent is reelected for sure;*

b. *if the story about the Democratic problem is published, the challenger is elected for sure;*

c. *If no political news appear on the newspaper, the incumbent and the challenger are equally likely to be elected.*

Proof. *In the appendix.* ■

The probability for the incumbent to be reelected depends on the voting behaviour of the median citizen, namely the one characterised by $\eta = 0$. In general, when citizens read on the newspaper a story about the Republican problem, they are sure that the Republican problem is present, as the signal is perfect, but they do not know whether the Democratic problem has occurred as well. By Bayes' rule, the ex post probability of $x_D = 1$ given $n = R$ can be calculated as follows:

$$pr(x_D = 1 \,|n = R) = \frac{p_R p_D \bar{p}}{p_R(1 - p_D) + p_R p_D \bar{p}}.$$

This probability is always less than one. Therefore the median voter's dominant strategy when $n = R$ is to reelect for sure the Republican incumbent, as with some non-null probability the Democratic problem is truly absent. It is certainly absent under the watchdog regime, as in that case it would have been published for sure. For further reference, it is important to note that this ex post probability is an increasing function of the editorial policy $\bar{p}$. By the same token, when $n = D$, the ex post probability of $x_R = 1$ is given by

$$pr(x_R = 1 \,|n = D) = \frac{p_R p_D (1 - \bar{p})}{(1 - p_R)p_D + p_R p_D (1 - \bar{p})},$$

which again is always less than one. Hence, when $n = D$, the median voter finds it optimal to elect the challenger for sure. Furthermore, this ex post likelihood of having a Republican problem when $n = D$ is decreasing in $\bar{p}$, in all its relevant range[10], and equals zero when $\bar{p} = 1$. Finally, when $n = \varnothing$, citizens are sure that neither problem has occurred. In particular, the median voter is exactly indifferent between the two candidates, so that the symmetric decision rule dictates $v(n = \varnothing, \bar{p}; \eta = 0) = \frac{1}{2}$: therefore the incumbent is reconfirmed with probability $\frac{1}{2}$.

Consistently with Petrocik's findings, the model thus suggests a causal link between issue coverage by the media during campaigns and the electoral outcome. However, it does so within a framework where voters/readers are rational Bayesian updaters, but enjoy a less than complete information about the current state of affairs.

2.3.3 The electoral effects of news

What are the overall effects on the electoral outcome of what is published on the newspaper, as a function of its editorial policy? In terms of reelection probabilities, proposition 2 shows that, in the lack of aggregate uncertainty, the winning candidate is for sure the one whose owned story[11] has been published on the newspaper. This is always the case, regardless of the spin regime, i.e. the value taken by the editorial policy $\bar{p}$. However, one could be interested not only in the probability of the incumbent winning the electoral contest, but also in the number of votes he gathers in equilibrium, as a function of n and $\bar{p}$.

Along these lines, one could take the case of no news, i.e. $n = \varnothing$, as a benchmark, and consider the differential effect of a Republican and a Democratic story on the overall votes received by the incumbent. More formally, one would be interested in comparing $|E(f(\bar{p}, R) - f(\bar{p}, \varnothing))|$ against $|E(f(\bar{p}, D) - f(\bar{p}, \varnothing))|$, where again $E(.)$ is the expectation operator.

In the symmetric case of $p_R = p_D = p$, one can prove the following proposition:

[10] The intuition behind these two monotonicity results in the ex post probabilities is quite straightforward. When the piece of news about the Republican problem is published, the higher $\bar{p}$, the more likely it is that the Democratic problem was indeed present, but the newspaper decided to give room to the Republican one. Conversely, when $n = D$, the higher $\bar{p}$, the less likely it is that the Republican problem is present, as it is more likely that it would be directly published on the newspaper as a piece of news.

[11] More precisely, a story signalling the presence of a problem in the owned field.

Proposition 3 *In the symmetric case, if the editorial policy is balanced, the effect on the number of votes accruing to the incumbent of a story about the Republican problem is the same in absolute terms as the effect of a story about the Democratic problem.*

If there is spin, the electoral effect of the Democratic story is larger than the one stemming from the Republican story. Vice versa when the editorial policy is of a watchdog type.

Proof. *In the appendix.* ■

This proposition is focused on the differential effects on the electoral outcome of a piece of news about the problem owned by the incumbent (i.e. a story that is favourable to the incumbent) *versus* a story about the problem owned by the challenger (i.e. an unfavourable story), as a function of the editorial policy. If such policy is balanced, these differential effects on the number of votes gathered by the incumbent are the same. On the contrary, in the presence of spin the electoral effect of the less favourable piece of news is stronger than the one stemming from the favourable story. In fact, when the editorial policy of the newspaper is tilted in favor of the incumbent, voters attach a higher ex post probability to the presence of the Democratic problem when $n = R$, and a lower ex post probability to the Republican problem when $n = D$. When $\bar{p} = 0$, the publication of the Republican story triggers a vote gain for the incumbent which is larger than the loss connected with the publication of the Democratic story.

Thus, the model predicts that, when the media are captured by the incumbent government, news that are "bad" from his perspective have a stronger impact on the number of votes received by him than good news: this result indeed resonates with some arguments put forward in the political science literature, for example the claim by Campbell *et al.* [1960] (as quoted in Hibbs [2000]), according to which "[...]A party already in power is rewarded much less for good times than it is punished for bad times [...]". Proposition 3 suggests that this difference between the electoral punishment and reward of the incumbent's performance may be linked with the role of mass media as agenda setters, and be a function of the comparative advantage of the incumbent himself in dealing with them, as compared to the challenger.

2.3.4 The welfare effects of the spin regime

Up to now, I have assumed that the two problems are equally serious from the point of view of citizens (see section 2.3.2). Intuitively, this implies that the editorial policy has no effects on citizens' welfare, even if it affects the electoral outcome. Indeed, when both problems have occurred and the story to be published depends on the editorial policy $\bar{p}$, voters are indifferent about which politician to elect, exactly because the solution of one problem comes with the other problem being left unsolved, and no problem is more serious than the other.

In this section I break the symmetry in the seriousness of the two problems, and in particular -in order to focus on the potential welfare costs of media capture by the incumbent- I assume that the problem owned by the challenger is more serious than the

one owned by the incumbent[12]. To be more specific, the utility cost of the Republican problem is again normalised to one, while the utility cost of the Democratic one equals $c_D > 1$. It follows that the decision rule (2.3) for a voter with bias η can be rewritten as

$v(n, \bar{p}; \eta) = 1$	$\Leftrightarrow$	$E(x_R - c_D x_D \mid n; \bar{p}) > \eta$
$v(n, \bar{p}; \eta) = \frac{1}{2}$	$\Leftrightarrow$	$E(x_R - c_D x_D \mid n; \bar{p}) = \eta$
$v(n, \bar{p}; \eta) = 0$	$\Leftrightarrow$	$E(x_R - c_D x_D \mid n; \bar{p}) < \eta$

If the Democratic problem is more serious than the Republican one, it is straighforward to check that the Democratic challenger would *a fortiori* win when the Democratic story is published on the newspaper. When $n = R$, it is still the case that the Republican incumbent is reelected for sure if the seriousness of the Democratic problem is not too large. More formally:

Claim 1 *If $p_D \cdot c_D < 1$, when the Republican story is published the Republican incumbent wins the elections for sure, regardless of the editorial policy $\bar{p}$.*

Proof. In the appendix. ■

The intuition behind this claim is that the seriousness of the Democratic problem might induce readers to disregard the publication of the Republican story and vote for the Democratic candidate. Also, the more probable the Democratic problem on an *ex ante* basis (as represented by p_D), the larger the effect of the seriousness thereof.

The relevant question here concerns the welfare effects of the editorial policy $\bar{p}$. As there is a plurality of citizens who differ according to their bias η, a measure of social welfare must aggregate the utilities of these citizens. A relatively agnostic way of doing this is to adopt an utilitarian perspective, and calculate total welfare as the unweighted sum of citizens' utilities. If this is the case, the following proposition holds:

Proposition 4 *When the problem owned by the challenger's party is more serious than the one owned by the incumbent's, total welfare of citizens is maximized by an editorial policy of a watchdog type (i.e. by $\bar{p} = 0$).*

Proof. In the appendix. ■

The proposition suggests that the welfare-maximizing editorial policy is the one that gives priority to the most serious problem. If this problem happens to be the one owned by the challenger's party, then the socially efficient editorial policy has some watchdog flavour into it, as it gives preferential coverage to the topic on which the incumbent's party is perceived as weak[13]. By the same token, any comparative advantage of the incumbent in exerting spin would entail a welfare costs for citizens, to the extent that the incumbent exploits such advantage by setting $\bar{p} = 1$. This is the topic of the next section.

[12] Again within an issue ownership framework, Gautier and Souberyan [2006] analyse how political cycles can arise from the fact that the incumbent politican contributes to the solving of the owned problem, henceforth increasing the comparative seriousness of the problem owned by the challenger.

[13] Bernhardt, Krasa and Polborn [2006] similarly show that the editorial policy of the newspaper read by the median voter could induce inefficient electoral outcomes. This happens when the newspaper has an editorial policy in favor of one candidate, but the realized quality of the other candidate is higher.

2.3.5 The incumbent's incentives to spin activity

Regarding the incumbent's incentives with respect to spin activity, one can distinguish between an *ex post* perspective, i.e. after the realisation of the contingency in which both the Republican and the Democratic problem arise, and an *ex ante* one, i.e. before the state of nature is realised. In the framework developed here the spin activity by the incumbent politician can effectively take place only when both the Republican and the Democratic story are publishable, and the managing editor of the newspaper could be induced to give priority to the incumbent's story. However, it is relevant to know whether such ex post incentives to exert spin are matched by similar incentives ex ante, or some commitment issues arise, because of a discrepancy between the ex ante and the ex post stage.

I assume that the incumbent politician is risk neutral and office motivated, namely he obtains an ego-rent $R > 0$ if reelected for the next term and zero otherwise. Moreover, in what follows I will assume that the incumbent can directly and at no cost fix $\bar{p}$.

As discussed in the previous sections, the model is characterised by a lack of aggregate uncertainty, both in the version with the two problems being equally serious, and in the one where the Democratic problem is more serious than the Republican one. The only knife-edge case occurs when $n = \varnothing$, as pivotal voters (i.e. those with $\eta = 0$) are indifferent between the two candidates and mix their vote with equal probabilities. It is also generally the case that the Republican candidate is reelected for sure when $n = R$ and the challenger wins when $n = D$. The only exception occurs when the Democratic problem is so serious that there are values of $\bar{p}$, such that the Democratic challenger would prevail even when $n = R$ (see Claim 1). Within this framework, it is straightforward to prove the following proposition:

Proposition 5 *When there is no aggregate uncertainty and the two problems are equally serious, both ex ante and ex post it is optimal for the incumbent politician to exert spin to the maximum extent and fix* $\bar{p} = 1$.

The same holds when the Democratic problem is more serious than the Republican one, under the condition that $p_D \cdot c_D < 1$.

Proof. *In the appendix.* ■

The lack of aggregate uncertainty implies that the incumbent politician is not facing any commitment issue, as both his ex ante and ex post payoff are strictly increasing in $\bar{p}$. The former result is in turn due to the fact that he is sure to win the elections when $n = R$, and sure to be defeated when $n = D$. In other words, the probabilities of the incumbent being reelected when $n = R$ or $n = D$ are independent of $\bar{p}$: hence, by setting $\bar{p} = 1$, the incumbent is merely maximizing the probability of the favourable event $n = R$ (and of course minimizing the likelihood of $n = D$), without any adverse effect on the *conditional* probabilities of winning the elections. It is exactly this lack of aggregate uncertainty that makes $\pi(\bar{p}, R)$ and $\pi(\bar{p}, D)$ independent of $\bar{p}$.

In order to have a larger picture of the commitment issue, it is useful to consider a more general model, which makes the electoral outcome probabilistic, by allowing

for the presence of noise voters[14]. However, in order to obtain closed-form solutions, I will restrict my attention to the simpler case in which the Democratic and Republican problems are equally serious.

More formally, in the general case only a fraction $\mu \in (0,1]$ of voters are informed, i.e. they read the newspaper during the campaign, and respond in a consistent way to what they read. In particular, in order to cast their vote, they follow decision rule (2.3), given their individual bias η. The remainder share of citizens is on the contrary made of uninformed individuals, who decide how to vote without reading the newspaper. From the point of view of the other political actors featured in the model, how these uninformed citizens will vote is not a priori certain. Thus, let ξ be the fraction of uninformed voters who vote for the challenger: ξ is the realization of a symmetric random variable with finite support $[0,1]$, cumulative distribution function $H(.)$ and density function $h(.)$. The symmetry of the random variable ξ around $\frac{1}{2}$ implies that uninformed voters are *unbiased*, as the probability that a fraction less than $\bar{\xi}$ votes for the incumbent is exactly equal to the probability that a fraction less than $\bar{\xi}$ votes for the challenger. Summing up, given $\bar{p}$ and $n \in \{\varnothing, D, R\}$, the incumbent wins the elections if

$$\mu \cdot f(\bar{p}, n) + (1-\mu)(1-\xi) > \mu[1 - f(\bar{p}, n)] + (1-\mu) \cdot \xi \tag{2.4}$$

In order to simplify the analysis, I will henceforth assume that ξ, the fraction of uninformed citizens casting their vote for the challenger, is distributed according to a uniform distribution on the interval $[0,1]$.

Within this general set up, one can prove the following proposition, in which the ex ante incentives to engage in spin activity depend on the polarisation of the informed electorate:

Proposition 6 *When spin activity is costless and uninformed voters are present, ex post it is always optimal for the incumbent politician to exert spin to the maximum extent and fix* $\bar{p} = 1$.

When uninformed voters are present and uniformly distributed, ex ante incentives to exert spin depend on the distribution of the ex ante bias η *of informed voters, in the following way:*

a) If η *is distributed according to a unimodal distribution, it is optimal to spin the news completely and fix* $\bar{p} = 1$.

b) If η *is distributed according to a uniform distribution, the incumbent politician is ex ante indifferent to the final level of spin.*

c) If η *is distributed according to a U-shaped distribution, it would be optimal for the incumbent to fix* $\bar{p} = 0$.

Proof. *In the appendix.* ■

[14] See Baron [1994].

As detailed in the appendix, there is a tradeoff involved in the ex ante choice of the editorial policy $\bar{p}$: a higher $\bar{p}$ gives a higher weight to $\pi(\bar{p}, R) > \pi(\bar{p}, D)$, but both these conditional probabilities are themselves decreasing in $\bar{p}$. I will call the former a *weight effect* and the second a *slope effect*.

Regarding the weight effect, by increasing marginally $\bar{p}$, the incumbent gives more weight to the case in which the Republican news is published, at the expense of the case in which the Democratic story is. This effect is of course positive, as the probability of being reelected is higher when the story about the owned issue is published. On the other side, the slope effect depends on the fact that with noise voters the conditional probabilities of being reelected are an increasing function of the fraction of rational citiziens that vote for the incumbent. In turn, because of Bayes' rule, these fractions of rational citizens voting for the incumbent are decreasing functions of $\bar{p}$. If rational voters read a Republican story and know that $\bar{p}$ is very high, they would attribute a correspondingly high probability to the fact that the Democratic problem is present, but has been disgregarded to leave room to the Republican story. Hence, citizens starting with a moderate bias in favour of the Democrats would not be convinced by the Republican story to reelect the incumbent. By the same token, if rational voters read a Democratic story and know that $\bar{p}$ is high, they would attach a high probability to the fact that there is no Republican problem out there. In particular, if $\bar{p}$ equals one, the fact of reading the Democratic story is sufficient to conclude that there is no Republican problem to be tackled by the next president. If this is the case, citizens that start with a strong bias in favour of the Republicans would be convinced to vote for the Democratic candidate.

When there are no uninformed voters, the slope effect is null, as the electoral outcome is a deterministic function of the voting behaviour of the citizen with median bias $\eta = 0$. It follows that ex ante as well the incumbent finds it optimal to fix $\bar{p} = 1$.

However, when noise voters are present, the solution of the trade off depends on the shape of the distribution of informed voters, as the conditional probabilities of being reelected positively depend on the fraction of rational citizens voting for the incumbent, and these fractions are in turn decreasing with $\bar{p}$. With a U-shaped distribution, the rational electorate is polarised, in the sense that there are large groups of strong Republicans and Democrats, and a relatively small mass of moderate voters.

With a polarised electorate, the slope effect dominates the weight effect, and the incumbent politician *ex ante* would find it optimal to commit to $\bar{p} = 0$. The intuition behind this result goes as follows: with a bimodal distribution of the bias, there are few moderate citizens that would be induced to tilt their vote towards the incumbent, as a function of the piece of news they read. The positive weight effect of increasing $\bar{p}$ is therefore "emptied" by the scarcity of moderate swing voters. On the other hand, the slope effect is still present, and does not depend on the distribution of the bias.

The crucial point here is that a credibility issue emerges, as citizens know that ex post the incumbent politician always finds it optimal to fix $\bar{p} = 1$, and push his preferred story on the newspaper. It is unclear which kind of commitment technologies the in-

cumbent politician could adopt, in order to solve the time inconsistency problem. Even if private ownership of mass media outlets could increase the transaction costs faced by the incumbent government when trying to strike a deal with them, it would not completely eliminate the comparative advantage of the incumbent vis-à-vis the challenger in this relationship.

2.4 Concluding remarks

In accord with the main thread of the dissertation, in this chapter I have developed a simple model of electoral competition, characterised by the fact that mass media have agenda-setting effects: information conveyed to citizens by a newspaper determine their salience structure, on the basis of which they cast their vote. In accord with Petrocik's [1996] concept of issue ownership, voters want to elect the politician who is thought to be better at handling the most relevant problem facing the country, and they entertain a priori views about the relative abilities of candidates belonging to different parties with respect to different problems. Within a simplified setup with one newspaper and two issues, I assume that the occurence of a problem regarding each of these two issues represents a newsworthy story, which can be published on the newspaper.

The crucial idea is that there is a limited amount of space on the newspaper itself, so that -when both problems occur- the managing editor of the newspaper must decide which story to publish. In this set up, "spin" stands for the activity through which the incumbent politician makes the story about the owned issue more palatable to the newspaper's editor. I compare the case in which the incumbent politician can make his favorite story prevail and be published for sure, to the case in which the managing editor of the newspaper -if a choice must be made- is indifferent about what to publish, i.e. there is balanced reporting. I also look at the case when the newspaper's editor -in a watchdog kind of way- gives priority to the story about the problem over which the incumbent is perceived as less competent than the challenger.

The model thus offers two testable predictions about the electoral effects of news, a counterintuitive insight about the incentives to manipulate mass media outlets, and a suggestion about how to estimate their partisan position.

The first prediction is that there is a causal link between the topics being covered by mass media outlets during the campaign and the electoral outcome. In fact, if all voters are informed by the newspaper, the model predicts that they would elect for sure the candidate whose story is published, i.e. the Republican one if the story about the Republican problem is published, and the Democrat if the Democratic story is published. This is consistent with some of Petrocik's [1996] findings about the link between the coverage of Democratic and Republican topics during presidential campaigns and the electoral outcome.

The second prediction is that voters would more strongly react to news about issues owned by the challenger, if it is known that the editorial policy of the newspaper is captured by the incumbent. In particular, the model predicts that in the spin case the

(negative) effect on total votes accruing to the incumbent himself of a story about the issue owned by the challenger is larger in absolute terms than the positive effect of a story about the incumbent's issue, taking the case of no piece of news being published as a benchmark. Vice versa when the editorial policy is of a watchdog type. These effects are on the contrary equal if the editorial policy is balanced.

A counterintuitive insight arising out of the model is that the incumbent government (or any other politically motivated actor) may face diverging ex ante and ex post incentives to manipulate the news media. While ex post it is always optimal for the incumbent to spin the news and have the story about the owned problem being published for sure, at the expense of the one owned by the challenger, it might be ex ante optimal for the incumbent that the newspaper followed a watchdog-like editorial policy, which would give priority to the problem owned by the challenger. This only occurs when there is aggregate uncertainty about the electoral outcome (i.e. uninformed voters are present) and there is polarisation in the ideological stance of informed citizens. The intuition behind this result is that with a polarised electorate there are fewer moderate readers that would be convinced to vote for the Republican incumbent by the (ex ante more frequent) presence of the Republican story. On the other hand, the Bayesian mechanism -through which rational voters take into account the bias of the editorial policy when assessing the likelihood of the problem not featured on the newspaper- would still reduce the ex post probability of the Republican incumbent being reelected, conditionally on the news being published. A commitment problem arises here, because ex post, i.e. given the occurence of both problems, the incumbent would always find it optimal to spin the news to the maximum extent.

Finally, as similarly argued by Baron [2006], the model suggests to look at the ex ante choice of issues covered by media outlets, in order to investigate their ideological position. Indeed, to the extent that different policy issues are more or less electorally advantageous to different political parties, this ex ante choice might reveal something about the political stance of that media outlet. From an empirical point of view, there are different ways of implementing this suggestion. First, one can analyse the variation in the coverage of owned issues across different media outlets, in order to classify them on an ideological scale. A second approach would be to analyse the time series variation in the coverage of topics by a given media outlet. The purpose of this exercise is to check whether during electoral campaigns (i.e. when the agenda setting power of the media outlet has the highest potential of influencing voters' choices) there is in fact an increase in the coverage of issues owned by one political party or the other. This is the route followed in the next chapter to investigate the editorial policy of the New York Times, from 1946 to 1997.

As mentioned in section 1.2.1, Petrocik [1996] classifies policy issues on the basis of the role played by the incumbent's performance. While on some issues (like health care and defense in the U.S.) citizens hold stable views on the more competent party, performance issues are those (like foreign policy and the economy) that are favourable to the incumbent government if its recent record in dealing with them is satisfactory, and to

the challenger if it is not. One could then argue that the coverage of these performance issues by a given media outlet is favourable to the incumbent if it takes place when the situation on the issue itself is good, and unfavourable when this coverage happens during bad times. This allows to classify media outlets on an ideological scale according to how the coverage of the issue changes with the situation and the political affiliation of the incumbent government. While it is rather difficult to come up with a reliable indicator of the status and prestige of a country in foreign policy, objective indicators of the state of the economy like the unemployment and the inflation rate are readily available. This is the approach taken in chapter 4, where data on the coverage of the economy by a large sample of U.S. newspapers during the last decade are matched with a measure of the explicit political position of their editorial pages: the propensity to endorse Democratic versus Republican candidates in statewide and congressional races.[15]

Finally, one could empirically investigate the relationship itself between the mass media -taken as a whole- and the incumbent government, which is the main focus of the model. The idea would be to look at the cross-country variation in issue coverage by media outlets, in order to check whether indices of media freedom are systematically correlated with the amount of coverage devoted to issues owned by the incumbent party, especially during electoral campaigns.

[15] As discussed in sections 1.2.4 and 2.2, an important caveat regarding the type of claims that can be derived from these empirical approaches is that it is particularly difficult to isolate the influence of demand and supply factors on issue coverage. In other terms, identifying the political stance of a newspaper is much easier than identifying its determinants, which would typically require some exogenous variation in one of the two sets of factors. More on this in chapter 4, and especially section 4.5.5.

2.A Proofs

Proof of Proposition 2. Starting from statement a), the incumbent is reelected for sure if $G\left[E(x_R - x_D \,|n = R; \bar{p})\right] > \frac{1}{2}$. Given that $G(0) = \frac{1}{2}$, and the fact that $G(.)$ is an increasing function, it will suffice to show that $E(x_R - x_D \,|R; \bar{p}) > 0$, i.e. that the median voter strictly prefers the incumbent over the challenger. But this is exactly the case, as

$$E(x_R - x_D \,|R; \bar{p}) = 1 - \frac{p_R p_D \bar{p}}{p_R(1-p_D) + p_R p_D \bar{p}} = \frac{p_R(1-p_D)}{p_R(1-p_D) + p_R p_D \bar{p}} \tag{2.5}$$

is strictly greater than zero. Hence $\pi(\bar{p}, R) = 1$, for all $\bar{p}$.

Regarding statement b), the median voter's utility when $n = D$ reads as follows:

$$E(x_R - x_D \,|D; \bar{p}) = -\frac{(1-p_R)p_D}{(1-p_R)p_D + p_R p_D(1-\bar{p})}, \tag{2.6}$$

which is always strictly less than zero, for all values of the exogenous parameters. Thus, when $n = D$, a strict majority of voters prefers to elect the Democratic challenger, and $\pi(\bar{p}, D) = 0$. Finally, when $n = \varnothing$, citizens are sure that no problem in either field has occurred and therefore their voting choice depends only on whether η is greater or smaller than zero. However, the median voter is exactly indifferent between the two candidates: in fact

$$E(x_R - x_D \,|\varnothing; \bar{p}) = 0$$

so that she will mix her voting decision with equal probabilities and $\pi(\bar{p}, \varnothing) = \frac{1}{2}$. ■

Proof of Proposition 3. First, it is true that $E[f(\bar{p}, n = \varnothing)] = G[E(x_R - x_D \,|\varnothing; \bar{p})] = G(0) = \frac{1}{2}$. Then, using expression (2.5), one can obtain a closed form solution for the share of votes accruing to the incumbent when $n = R$, i.e.

$$f(\bar{p}, R) \equiv G[E(x_R - x_D \,|n = R; \bar{p})] = G\left[\frac{p(1-p)}{p(1-p) + p^2 \cdot \bar{p}}\right]$$

which is decreasing in $\bar{p}$. It follows that

$$|E(f(\bar{p}, R) - f(\varnothing))| = G\left[\frac{p(1-p)}{p(1-p) + p^2 \cdot \bar{p}}\right] - \frac{1}{2}, \tag{2.7}$$

as $E(x_R - x_D \,|R; \bar{p})$ is greater than zero.

On the other side, by making use of expression (2.6), the share of votes the incumbent receives when $n = D$ reads as follows:

$$f(\bar{p}, D) \equiv G[E(x_R - x_D \,|n = D; \bar{p})] = G\left[-\frac{p(1-p)}{p(1-p) + p^2 \cdot (1-\bar{p})}\right]. \tag{2.8}$$

This share is again decreasing in $\bar{p}$. Using the previous result about $f(\varnothing)$, expression

(2.8) and the symmetry of $G(.)$, one can obtain the following:

$$|E(f(\bar{p}, D) - f(\varnothing))| = G\left[\frac{p(1-p)}{p(1-p) + p^2 \cdot (1-\bar{p})}\right] - \frac{1}{2}, \tag{2.9}$$

as $\pi(D; \bar{p})$ is surely less than zero.

Let us define the function $g(\bar{p}) \equiv |E(f(\bar{p}, D) - f(\varnothing))| - |E(f(\bar{p}, R) - f(\varnothing))|$. From equations (2.7) and (2.9), this function boils down to the following:

$$g(\bar{p}) = G\left[\frac{p(1-p)}{p(1-p) + p^2 \cdot (1-\bar{p})}\right] - G\left[\frac{p(1-p)}{p(1-p) + p^2 \cdot \bar{p}}\right].$$

It is easy to see how $g(\bar{p})|_{\bar{p}=\frac{1}{2}} = 0$, and $g'(\bar{p}) > 0$: hence the result in the proposition is proven. ■

Proof of Claim 1. When $n = R$, the Republican incumbent is reconfirmed into office if the median citizen votes for him, i.e. if

$$1 - c_D \frac{p_R p_D \bar{p}}{p_R(1-p_D) + p_R p_D \bar{p}} > 0.$$

This condition can be rewritten as

$$c_D < 1 + \frac{1-p_D}{p_D \cdot \bar{p}}. \tag{2.10}$$

The right hand side of inequality (2.10) is decreasing in the editorial policy $\bar{p}$. This is the case, because the larger $\bar{p}$, the more readers know that there is a higher ex post probability that the Democratic news has been left out from the newspaper. It is easy to check that, under the assumption that $c_D p_D < 1$, this inequality is satisfied even when $\bar{p} = 1$, hence it is so for all values of $\bar{p}$. ■

Proof of Proposition 4. The proof looks at two different cases, as a function of whether (as stated by Claim 1) the Republican candidate wins the elections for sure when the Republican news is published, for all values of $\bar{p}$. As discussed in the text, it is in fact straightforward to check that -when $c_D > 1$- the Democratic challenger would *a fortiori* always win the elections when the Democratic story is published.

First, suppose that $p_D \cdot c_D < 1$, i.e. Claim 1 holds. Hence the expected utility of a citizen with *ex ante* bias η, as a function of the editorial policy $\bar{p}$, reads as follows:

$$u(\bar{p}; \eta) = (1-p_R)p_D \cdot \eta + p_R p_D \bar{p} \cdot (-c_D) + p_R p_D (1-\bar{p})[-1+\eta] + (1-p_R)(1-p_D)\frac{1}{2}\eta,$$

which can be rewritten as

$$u(\bar{p}; \eta) = \frac{1}{2}\eta[1 + p_D - p_R + p_R p_D] - p_R p_D + p_R p_D \bar{p}(1 - c_D - \eta).$$

If we adopt a utilitarian perspective, the social welfare of citizens is calculated as the

unweighted sum of their utilities:

$$U(\bar{p}) \equiv \int_{-\infty}^{+\infty} u(\bar{p};\eta)dG(\eta) = p_R p_D \bar{p}(1-c_D) - p_R p_D, \tag{2.11}$$

where I have exploited the fact that η is a symmetric distribution around zero, and hence its expectation is zero. When $c_D = 1$, total welfare does not depend on the editorial policy $\bar{p}$, while when $c_D > 1$ the welfare-maximizing editorial policy is $\bar{p} = 0$.

Second, assume that $p_D \cdot c_D \geq 1$. It follows that there exists a threshold level of the editorial policy $\bar{p}^* = \frac{1-p_D}{(c_D-1)p_D}$, such that if $\bar{p} > \bar{p}^*$ the Democratic candidate is elected for sure even when $n = R$. If $\bar{p} < \bar{p}^*$ the Republican incumbent is reconfirmed for sure while the median voter is indifferent between the two candidates when $\bar{p} = \bar{p}^*$. If $\bar{p} > \bar{p}^*$, the expected utility of a citizen with bias η can be written as follows:

$$u(\bar{p};\eta) = -p_R + \eta\left[p_D + p_R - p_R p_D + \frac{1}{2}(1-p_R)(1-p_D)\right],$$

so that total welfare is

$$U(\bar{p}) = -p_R.$$

If $\bar{p} < \bar{p}^*$, the candidate who owns the issue featured on the newspaper wins the elections, hence total welfare is again expressed by the function (2.11). On this subdomain the welfare-maximizing editorial policy is $\bar{p} = 0$, which implies that total welfare equals $-p_R p_D$. This level of total welfare is in turn always larger than $-p_R$. ■

Proof of Proposition 5. The proposition deals with both the case of the two problems being equally serious, and the case in which the Democratic problem is more serious than the Republican one, but not "too serious", as implied by the condition that $p_D \cdot c_D < 1$. Claim 1 hence implies that the Republican candidate is reelected for sure when $n = R$, regardless of the editorial policy $\bar{p}$. First, I will show that *ex post*, namely when $x_R = x_D = 1$, it is always optimal for the incumbent politician to spin completely the newspaper, and fix $\bar{p} = 1$. Indeed, by Proposition 2, when $n = R$ the incumbent is reelected for sure, while he is surely defeated when $n = D$: hence the incumbent decides to spin the newspaper completely, in order to obtain a sure gain of $R > 0$. This is also true for the case in which the Democratic problem is more serious, but not too much, as discussed above.

Second, regarding ex ante incentives in the case of two problems being equally serious, let $\bar{p}^C \in [0,1]$ the level of spin to which the incumbent politician can precommit: his expected payoff, as a function of $\bar{p}^C$, can be written as follows:

$$E\Pi(\bar{p}^C) = R\left\{\pi(\bar{p}^C, R)\left[p_R(1-p_D) + p_R p_D \bar{p}^C\right] + \pi(\bar{p}^C, D)\left[(1-p_R)p_D + p_R p_D(1-\bar{p}^C)\right] + k\right\}, \tag{2.12}$$

where $k \equiv \frac{1}{2}[(1-p_R)(1-p_D)]$ is the probability of winning the elections given $n = \varnothing$, weighted by the ex ante likelihood of $n = \varnothing$. But in this set up without aggregate uncertainty, it is true that $\pi(\bar{p}^C, R) = 1$ and $\pi(\bar{p}^C, D) = 0$, for all values of $\bar{p}^C$: therefore the ex ante payoff $E\Pi(\bar{p}^C)$ is strictly increasing in $\bar{p}^C$, and the incumbent, ex ante as

well, finds it optimal to fix $\bar{p}^C = 1$. It is easy to check how the same reasoning applies to the case of a comparatively more serious Democratic problem. ■

Proof of Proposition 6. Regarding the first part of the proposition, the probability of the incumbent being reelected, given $n = R$ and the expected spin $\bar{p}^E$, can be written as follows:

$$\pi(\bar{p}^E, R) = \frac{1-2\mu}{2(1-\mu)} + \frac{\mu}{1-\mu} \cdot f(\bar{p}^E, R),$$

which is derived by making use of condition (2.4) and exploiting the fact that ξ is uniformly distributed on the interval $[0,1]$. Given that η is distributed according to the known cdf $G(.)$, $f(\bar{p}^E, R)$ equals $G\left(\frac{p_R(1-p_D)}{p_R(1-p_D)+p_R p_D \bar{p}^E}\right)$. By the same token, the probability of confirming the incumbent in office when $n = D$ can be written as follows:

$$\pi(\bar{p}^E, D) = \frac{1-2\mu}{2(1-\mu)} + \frac{\mu}{1-\mu} \cdot f(\bar{p}^E, D),$$

where $f(\bar{p}^E, D) = G\left(-\frac{(1-p_R)p_D}{(1-p_R)p_D+p_R p_D(1-\bar{p}^E)}\right)$. Given that $G(.)$ is an increasing function, it is true that $\pi(\bar{p}^E, R) > \pi(\bar{p}^E, D)$ for all $\bar{p}^E \in [0,1]$, and the first part of the proposition is proven.

Regarding the second part of the proposition, let $\bar{p}^C \in [0,1]$ the editorial policy to which the incumbent politician can commit ex ante: his expected payoff, as a function of $\bar{p}^C$, is given by expression (2.12).

Within the general model with uninformed voters, there is a tradeoff involved in the choice of $\bar{p}^C$: a higher $\bar{p}^C$ gives a higher weight to $\pi(\bar{p}^C, R) > \pi(\bar{p}^C, D)$, but both these conditional probabilities are themselves decreasing in $\bar{p}^C$. The static problem solved by the incumbent politician is the following:

$$\max_{\bar{p}^C} E\Pi(\bar{p}^C) \qquad \text{(P)}$$
$$\text{s.t. } \bar{p}^C \in [0,1]$$

In order to prove the second part of the proposition, I will adopt some notational shortcuts. Let $\tilde{x} \equiv \frac{p_R(1-p_D)}{p_R(1-p_D)+p_R p_D \bar{p}^C} = E(x_R - x_D \,|R; \bar{p}^C)$ and $\tilde{y} \equiv -\frac{(1-p_R)p_D}{(1-p_R)p_D+p_R p_D(1-\bar{p}^C)} = E(x_R - x_D \,|D; \bar{p}^C)$. Moreover, let $\tilde{G}(x) \equiv \frac{1-2\mu}{2(1-\mu)} + \frac{\mu}{1-\mu}G(x)$, and let $\tilde{g}(x)$ be similarly defined, i.e. $\tilde{g}(x) \equiv \frac{1-2\mu}{2(1-\mu)} + \frac{\mu}{1-\mu}g(x)$. After some manipulation, the first derivative of $E\Pi(\bar{p}^C)$ can be written as:

$$E\Pi'(\bar{p}^C) = M \cdot [G(\tilde{x}) - G(\tilde{y}) + g(\tilde{y}) \cdot \tilde{y} - g(\tilde{x}) \cdot \tilde{x}],$$

where $M \equiv \frac{R\mu}{1-\mu} p_R p_D$, and $\tilde{x}$ and $\tilde{y}$ are (decreasing) functions of $\bar{p}^C$.

Regarding point a) in the proposition, the idea is to search for a sufficient condition, such that $E\Pi'(\bar{p}^C) > 0$, for all $\bar{p}^C \in [0,1]$: if this is the case, it is optimal for the incumbent to fix $\bar{p}^C = 1$. This condition is fulfilled if

$$G(\tilde{x}) - g(\tilde{x}) \cdot \tilde{x} > G(\tilde{y}) - g(\tilde{y}) \cdot \tilde{y}$$

for all $\bar{p}^C \in [\tilde{p}, 1]$. Define $M(x) \equiv G(x) - g(x) \cdot x$: just because $\tilde{x} > 0 > \tilde{y}$ for all $\bar{p}^C$ in the relevant range, to obtain the result it will suffice to show that $M(x)$ is an increasing function of x. Assuming that $g(.)$ is differentiable, this condition boils down to the following:

$$M'(x) = -g'(x) \cdot x > 0$$

But this exactly corresponds to the condition that η is unimodal around zero. Therefore the first derivative of $E\Pi(\bar{p}^C)$ is positive in the relevant range.

By the same token, if η is uniformly distributed, it is true that $g'(x) = 0$, for all x. Then $M(x)$ does not depend on x, and in turn $E\Pi(\bar{p}^C)$ does not depend on $\bar{p}^C$, so that the incumbent is ex ante indifferent to the level of spin he could possibly commit to.

Finally, when η is U-shaped around zero, it is true that $g'(x) \cdot x > 0$. This condition exactly implies that $M'(x) < 0$, so that the incumbent would ex ante prefer to commit to $\bar{p}^C = 0$, i.e. to a watchdog-like editorial policy. ■

Chapter 3

Being the New York Times

3.1 Introduction

In the previous chapter I have developed a simple political economy model to illustrate how the agenda setting power of the mass media can influence electoral outcomes, by shaping the priorities entertained by voters, who are assumed to be rational Bayesian updaters.

In accord with the issue ownership hypothesis, such agenda-setting ability could have relevant electoral effects, to the extent that citizens on average think that a given party or candidate is more capable of handling problems related to a given issue, and would vote for that party if such issue turns out to be the most salient one.

However, there is very little evidence on whether and how mass media make use of their agenda-setting power on political matters. On this regard, it is natural to ask whether a newspaper or a TV news broadcast systematically changes its coverage of issues during electoral campaigns (when this coverage could be more influential), by tilting it towars topics over which a given political party is perceived as more capable by the majority of citizens. This would be consistent with the said newspaper being partisan in favour of that party.

During the electoral campaign a newspaper could behave differently as a function of the political affiliation of the incumbent government. It could in fact act as a *watchdog*, by differentially giving less coverage to issues over which the incumbent government's party is perceived as strong. Or *vice versa* it could act as a lapdog, by devoting more space to those issues which are owned by the incumbent's party. Finally, it would be relevant to understand whether outside of the electoral campaign the newspaper gives more coverage to topics owned by the incumbent government's party, controlling for the government's activity on these issues.

I answer these questions by analysing a large dataset of stories published on the New York Times between 1946 and 1997, and focusing my attention on U.S. presidential campaigns. This random sample of articles on the Times was collected by Frank Baumgartner, Bryan Jones and John Wilkerson within the Policy Agendas Project and classified according to the major topic being addressed. Within the set of coded topics, I classify a given topic as being owned by the Republican or the Democratic party if a

majority of citizens believes that such party is better at handling problems related to it than the opponent.

The main finding of this analysis is that the New York Times has a Democratic partisanship, with some watchdog aspects, in that during the presidential campaign it systematically gives more emphasis to Democratic topics, but only so when the incumbent President is a Republican. This set of Democratic topics comprises stories about civil rights, health care, labor and employment, and social welfare.

This effect of more stories about Democratic issues during the presidential campaign is sizeable: when the incumbent President is a Republican, there are 26 percent more stories about Democratic issues during the three months of the campaign than outside of it. The increase is actually larger (around 33 percent) when one considers the period starting from the 60s. On the contrary, if the incumbent President is a Democrat, there is no discernible change in the count of Democratic stories when the presidential campaign starts. This is true both for the entire sample and for the post-1960 subperiod, and is consistent with the fact that the partisan effect and the watchdog effect almost cancel each other.

The typical claim in the issue ownership literature is that the Republican party owns the issues of crime and defense.[1] In fact, an analysis of Gallup polls and the National Election Study (NES) shows that this is the case for defense, as in only three campaign years over a total of twelve there is a reversal in the ownership of the issue. On the other hand, in three cases out of seven (a shorter time series of polls is available here) was the Democratic party perceived as more competent than the GOP on the crime issue. Therefore I separately analyze the coverage of the two topics on the Times. If one considers the entire time span (from 1946 to 1997), one cannot find any systematic variation in the count of stories about these two topics during the presidential campaign. This asymmetric behaviour on Democratic and Republican topics during presidential campaigns is consistent with a Democratic partisanship of the New York Times.

However, when restricting the attention to the 1961-1997 subsample, the Times gives more room to stories about defense during the presidential campaign, when the incumbent president is a Democrat and there is no reversal in the ownership of the issue. Just because the ownership reversal occurs in 1964, 1980 and 1996, this effect would account for the 1968 campaign. When there is ownership reversal the Times *ceteris paribus* dedicates less room to defense stories during the presidential campaign. Moreover, under the incumbency of a Republican President there is actually a decrease in the count of stories about defense as the presidential campaign starts. Taken together, these findings are consistent with a watchdog attitude of the Times, because during the presidential campaign there is less coverage of the defense issue when the incumbent President is perceived as more competent on it than the opponent. Regarding the Law & Crime issue, there is no comparable pattern of change in the coverage, both for the entire time period and the post-1960 subsample.

Given the more symmetric behaviour with respect to Democratic topics and the

[1] See Petrocik [1996].

defense issue, the evidence regarding the 1961-1997 period lends more support to the hypothesis that the Times is a watchdog newspaper, and somewhat detracts from the Democratic partisanship hypothesis. As mentioned in the introductory chapter, one should bear in mind the intrinsic salience of the Vietnam War, which could explain in part the results on the coverage of the defense issue during the 60s.

In the interpretation of the econometric results, it is necessary to check whether any time variation in the choice of stories by the Times is in fact mirroring some contemporaneous variation in the activity of other political actors, and in particular of the incumbent President. As a proxy for the intensity of presidential activity on a given subset of issues at a given time, I use the relative frequency of Executive Orders concerning these issues, which are enacted by the incumbent President during the time period.

Controlling for this proxy of presidential activity across issues, still the Times - outside of the presidential campaign- systematically gives more coverage to Democratic issues when the incumbent President is a Democrat, and to defense stories when he is a Republican. This finding about Democratic stories helps understand the previous results: when the incumbent President is a Democrat, the aggregate count of stories about Democratic topics is already high outside the presidential campaign, and the presidential campaign does not produce any additional effect.

Such pattern of correlations does hold for both the entire sample and the post-1960 period, where the magnitude and significance of the effect is stronger for defense stories. On the other hand, there is no statistically significant correlation between the political affiliation of the President and the coverage of the Law & Crime issue.

There are three key identifying assumptions which substantiate my empirical analysis. The first assumption is that the issue ownership hypothesis is correct. In other terms, the induced salience of an issue would give an electoral advantage to a given candidate, to the extent that there is a majority of voters who believe this candidate to be better at handling it, than his opponent.

The second assumption can be summarised by the statement: "all publicity is good publicity". The idea is that any story regarding an issue owned by a given candidate or party, no matter how negative, would not induce readers to change their perception about the ownership of the issue itself[2]. The third one is that -as mentioned above- Executive Orders proxy for the activity of the incumbent President with respect to the various issues.

This analysis of the issue coverage by the New York Times contributes to the growing empirical literature on the measurement of mass media bias, which I have reviewed in section 1.2.4. The main features of my approach are the following:

1. I am interested in the *agenda-setting* behaviour of the newspaper, i.e. in its coverage of various policy issues. The agenda-setting framework, coupled with the issue ownership hypothesis, provides an intuitive way to think about the political stance of the newspaper.

[2]As better detailed in section 3.4.1, some recent experimental evidence lends support to this assumption.

2. My focus is on the *time variation* of the issue coverage by the Times, and in particular on how such coverage changes during *presidential campaigns.*

3. Given the time series framework and the sample length, I am able to investigate the differential behaviour of the Times during the presidential campaign *as a function of the political affiliation of the incumbent President.* I use the definitions of lapdog and watchdog to classify such differential behaviour.

As a collateral result, this chapter contributes to the literature itself on issue ownership, by presenting survey data from Gallup and the National Election Study which cover a much longer time period than the one analyzed by Petrocik [1996]. The data gathered here broadly confirm, with some qualifications, the issue ownership pattern suggested by Petrocik.

The chapter is organised as follows: in section 3.2 I discuss the links between the empirical approach taken up here and other contributions in the media bias literature. Section 3.3 describes the dataset. In section 3.4 I present the empirical strategy. Section 3.5 discusses the results, with some robustness checks and refinements. Section 3.6 briefly confronts the findings with the theoretical literature on mass media bias and concludes.

3.2 Links to the literature

As discussed in section 1.2.4, there are two main approaches to measure the political position of mass media outlets. According to the first approach, as pioneered by Groseclose and Milyo [2005] and Gentzkow and Shapiro [2007], mass media outlets are coded on the basis of the similarity between what they report and what political actors of a known political stance do. The second approach is instead based on the idea of directly investigating the variation in the type of topics covered by media outlets, or in the tone of this coverage, as in Lott and Hassett [2004].

The analysis developed in this chapter (and in the next one as well) firmly belongs to this second category. It shares with Lott and Hassett the focus on the time variation in media coverage. However, while Lott and Hassett focus on the tone of the articles, in the analysis performed here I simply look at the topics being covered, i.e. at the agenda-setting behaviour. Moreover, my empirical strategy is chiefly based on the variation in issue coverage during presidential campaigns, with an ancillary role played by the political affiliation of the incumbent President. On the other hand Lott and Hassett directly exploit the correlation between the tone of the coverage of economic news and the President's political affiliation.

Because of its relevance and prestige, the other papers on media bias often report explicitly the measured ideological stance of the New York Times. Consistently with the aggregate trend, Ansolabehere *et al.* [2006] for example show that an unquestionable Democratic slant in the endorsement choices of Times in the TriState area (Connecticut, New Jersey and New York) emerged in the first half of the 70s, while during the 40s, 50s and 60s there was a slight advantage to Republican candidates. It is however true that

in New York State the Times endorsed more Democratic than Republican candidates already as of the second half of the 50s.

In their study of think tank quotes Groseclose and Milyo estimate for the Times an adjusted ADA score of 73.7 (maximum likelihood estimation). (Adjusted) ADA scores attribute a larger score to more liberal congressmen, on a 0-100 scale. Just to have a rough idea of the relative position of the New York Times, the score for Joe Lieberman (D, Ct.) is 74.2, while the one for Constance Morella (R, Md.) is 68.2. From this perspective, the Times appears as a moderately Democratic newspaper.

Similarly to what found by Groseclose and Milyo, Gentzkow and Shapiro [2007] find that the New York Times, the Los Angeles Times and the Washington Post are similar to one another in the slant of the language used and are noticeably to the left of the Washington Times.

Coming to the coverage of economic news, Lott and Hassett find that in the 1985-2004 period the Times published fewer positive stories under a Republican incumbent, but such effect is mildly significant (at the 10% level) only in one specification.

3.3 Data description

3.3.1 Evidence on issue ownership

The seminal contribution in the issue ownership literature is Petrocik [1996]. In fact, all subsequent contributions that are based on an issue ownership hypothesis take as given Petrocik's partition of issues into Democratic, Republican and performance ones[3]. However, Petrocik substantiates such a classification with survey data covering a relatively short time period, which spans from 1988 to 1991 only. It is therefore empirically unclear whether the ownership status of policy issues, as stated by Petrocik, is indeed a long-term phenomenon.

My contribution to this literature is to collect survey data on issue ownership which cover a longer time period than Petrocik's. Using Gallup surveys, and the National Election Study when Gallup data is not available, I am able to gather issue ownership percentages[4] that date back to 1972 for the issues of social welfare and crime, to 1956 for civil rights, and to 1948 for defense. These data are presented in Table 3.1.

I use Gallup polls as the primary source of information, because of the more direct way its questions about issue ownership are worded, when compared with the NES. According to the typical Gallup format respondents are asked about which party or candidate they think is better at handling a given issue; thus, the question itself specifies the issue about which respondents must express their views.

By contrast, one can obtain information about issue ownership from the NES only in a indirect fashion. Since 1960 the NES has administered a question about the most important problem facing the country. Starting from 1972, this question about the most

[3]See Ansolabehere and Iyengar [1994], Feeley [2001], Benoit, Hansen and Petrocik [2003].

[4]By issue ownership percentages I am referring to the percentage of respondents believing that a Democrat is better able of handling a given issue, minus the percentage trusting a Republican more.

important problem (henceforth, MIP) has been coupled with one about "[...]which political party [...]would be most likely to get the government to do a better job in dealing with this problem [...]".[5] Such survey design could suffer from a selection bias (unobservable factors determining the answer to the MIP question could be correlated with factors affecting the answer to the ownership one), and from a low degree of statistical reliability, given the possibly small number of respondents naming a given issue as the most salient one.

Regarding Gallup polls, I have searched for all questions about the ownership status of a given issue during presidential election years, from 1948 to 1996. In particular, I am interested in questions concerning those issues which, following Petrocik [1996], one would *ex ante* code as permanently owned by the Republican or the Democrats, namely defense and crime on the Republican side, and civil rights, welfare and health care on the Democratic side. When, for a given year, the ownership question about an issue was asked more than once (e.g. more than one question about civil rights being administered during the same presidential year, or about different facets of the same issue), I average the issue ownership percentage, in order to obtain a synthetic measure[6].

Regarding the civil rights and the welfare issues, Table 3.1 broadly confirms Petrocik's claim about a permanent Democratic ownership thereof, albeit with some qualifications.

As discussed by Carmines and Stimson [1990], a more precise stance of the Democratic party on the race issue emerged during the late 50s, and consolidated during the early 60s; this was mainly due to the increasingly weak bargaining position of the Southern Democrats within their party. The first column of Table 3.1 shows that in 1956 and 1960 there was a tiny Democratic advantage on the ownership of civil rights, which exploded in 1964, with a lead of almost 35 percent. Since then, the Democrats have maintained an advantage of at least 10 percent on the issue.

Data concerning the welfare issue, i.e. about which party would be better at "helping the poor and the needy", cover a shorter time span, starting from 1972. Here there is a sizeable and permanent perceived advantage for the Democrats, which shows much less time variation than for the race issue. Unluckily, pieces of information about the issue of health care are available only for 1992 and 1996 (Gallup), with a Democrats' advantage being above 20 percent.

On the other hand, the pieces of information I have gathered provide a more complex picture of the "Republican" issues of domestic and international security.

Regarding the crime issue, I obtain ownership percentages for seven presidential elections, from 1972 to 1996: in 1972, 1980, 1984 and 1988 there is a Republican advantage, which reaches its peak in 1984, with a lead of almost 39 percent. In 1976, 1992 and 1996 there is in fact a reversal, with a clear Democratic advantage. Since during three presidential years over a sample of seven there is a Democratic lead, it is not entirely

[5] In the NES, the questions about the most important problem and the ownership status of that problem are respectively coded as `VCF0875` and `VCF9012`.

[6] As Table 3.15 and 3.16 show, the yearly frequency with which Gallup asked questions about the ownership status of issues is increasing across time, exponentially so during the late 80s and the 90s.

clear whether one can safely code the crime issue as a Republican one.[7]

Finally, the issue of defense and foreign policy, which is covered by the longest stream of Gallup surveys, clearly shows a pattern of Republican ownership. In nine out of twelve cases there is a GOP lead, with a minimum of less than one percent in 1948 and a peak of more than 44 percent in 1992. The three exceptions occur in 1964, 1980 and 1996. In 1964 Gallup posed two survey questions about the handling of the Vietnam war[8], and respondents largely attributed a primacy to Johnson's party, with a difference of almost 42 percent. In 1980 ten questions about foreign policy and defense were asked, with two concerning the Iran situation. A problem with these polls is that the most recent ones were administered in the early days of September, so that the final part of the hostage crisis in Iran did not receive any coverage by Gallup. In 1996 there was a clear advantage of Bill Clinton over Bob Dole on the issue. One should however notice how in that year Clinton enjoyed an ownership advantage over Dole on almost all issues.

3.3.2 The New York Times dataset

Data about the coverage of issues by the New York Times is taken from the Policy Agendas Project[9].

Together with data about Congressional Hearings, Public Laws and Executive Orders, the Project features a random sample of stories from the New York Times Index, from 1946 to 1997, for a total of 38,470 stories. Each story is classified according to the major topic being addressed, among a set of 27 topics. The dataset provides additional pieces of information about the position of the story on the newspaper (on the front page or in internal pages), and its geographical and institutional relevance.

Stories are also classified according to whether they deal with local events, i.e. those occurring in New York City or in the so called TriState area (Connecticut, New Jersey and New York), or not. Moreover, each piece of news is coded according to whether it features domestic events, foreign events with U.S. involvement, or foreign events without U.S. involvement. Finally, stories are classified according to whether they mention actions by some tier of the U.S. government.

While in the original dataset the unit of observation is the single story, I construct monthly counts of stories about the different topics. I also interact the major topic of the story with its various geographical, institutional and positional features I have mentioned above, in order to obtain more specific time series for each given topic.

In Table 3.2 I present some descriptive figures about the relative frequencies of issues covered by the New York Times in its articles. For reference, I report the name and

[7]One should also bear in mind that the crime issue is the one for which I most frequently use the NES as an ancillary source of information.

[8]See Table 3.15 for the specific questions being asked.

[9]See the Project's website at `http://www.policyagendas.org`. The data used here were originally collected by Frank R. Baumgartner and Bryan D. Jones, with the support of National Science Foundation grant number SBR 9320922, and were distributed through the Center for American Politics and Public Policy at the University of Washington and/or the Department of Political Science at Penn State University. Neither NSF nor the original collectors of the data bear any responsibility for the analysis reported here.

the identification number of the topic, as coded in the original dataset by Baumgartner and Jones. Topics are ordered according to the relative frequency of stories (column [1]). Column [2] displays the relative frequency of stories regarding NYC and dealing with the different issues. Column [3] does the same for TriState stories, while column [4] refers to stories that do not have a link with either the TriState or NYC.

The most frequent topic for a story in the New York Times is Banking, Finance and Domestic Commerce, with 15 percent of stories. International Affairs rank second, with more than 13 percent of stories, which confirms the common perception of the Times as a newspaper with a clear focus on international events. The third topic is Federal Government Operations (8 percent of stories), closely followed by Defense, with more than 7 percent of stories. Some topics are very relevant at the local level, while they are much less so at the federal one: this is the case for stories about State and Local Administration (almost by definition), about Law & Crime and about Housing.

The last two rows of Table 3.2 report the relative frequency of stories about those aggregates of topics which, in accord with the issue ownership dataset, I classify as Democratic and Republican ones[10]. The set of Democratic issues comprises Civil Rights, Health Care, Labor & Employment and Social Welfare; the set of Republican ones comprises Defense and Law & Crime. As discussed above, the ownership of the Crime issue by the GOP is not without dispute.

More than 8 percent of all stories are about Democratic topics, while the corresponding figure for Republican ones is about 13 percent. The relative advantage of Republican issues over Democratic ones on the pages of the New York Times is around 6 percent for New York City stories, and around 5 percent for federal ones; it is less than one percent for TriState stories.

The primacy of Banking & Finance as the modal topic on the Times could be due to the fact that there is a large number of short stories about the stock market, which are picked up by the random sampling. In fact, when one looks at the front page, a different pattern emerges, as shown by Table 3.3. The most covered topic on the front page is International Affairs (18 percent of stories). Federal Government Operations and Defense follow, with slightly more than 15 percent of stories each. It turns out that Banking and Finance stories constitute only 3.8 percent of the total stories on the front page, compared with almost 16 percent on internal pages.

Coming back to the comparison between Democratic and Republican issues, the last two rows of Table 3.3 show that the relative advantage of stories about Republican topics over Democratic ones, being less than 5 percent on internal pages, jumps to more than 11 percent on the front page.

3.3.3 The Executive Orders dataset

The Policy Agendas Project features all Executive Orders enacted by Presidents of the United States, from 1945 to 2001. As mentioned in the introduction, I use this dataset in order to proxy for the activity of incumbent Presidents across issues.

[10] See section 3.4.4 below.

Executive Orders are classified according to their major topic, within a set of 19 issues. There are eight topics less in the Executive Orders dataset than in the New York Times one.

In Table 3.4 I report some summary statistics about the relative frequency of Executive Orders dealing with the various issues. Topics have been ordered according to their frequency (column [1]). The most frequent topic is Federal Government Operations, with more than 23 percent of all Executive Orders: it comprises acts of organisation of the Executive, presidential appointments, and the like. Defense is the second topic by relative frequency, with around 21 percent of all orders, while International Affairs comes third, with 11 percent.

As in the previous tables about the Times, the last two rows of Table 3.4 display the relative frequency of Executive Orders concerning Democratic and Republican issues.

In columns [2] and [3] I report the relative frequency of Executive Orders dealing with the various issues, conditionally on the political affiliation of the incumbent President. Some sizeable differences emerge: for example, there are almost 26 percent Executive Orders about Federal Government Operations under a Republican incumbent, while the corresponding figure is 21.5 percent for Democratic incumbents. Under a Democratic incumbent almost 12 percent of orders concern Labor & Employment and around 5 percent concern Civil Rights; the corresponding numbers for Republican incumbents amount to 7 and 3 percent respectively. On the other hand, around 3 percent of Executive Orders are about Macroeconomics and Banking & Finance, while the corresponding figures under a Democratic incumbent do not reach 2 percent.

Given the conditional behaviour of Executive Orders about Civil Rights and Labor & Employment, which is matched by a similar behaviour of Health Care Orders[11], there are more than 18 percent Executive Orders about Democratic Topics when the incumbent President is a Democrat, as compared to 12 percent under a Republican one. On the other hand, the share of Executive Orders about Republican topics is quantitatively similar for both Republican and Democratic presidents (22 and 23 percent respectively).

3.4 Empirical strategy

3.4.1 Identifying assumptions

In order to analyse the political behaviour of the New York Times, I focus on the time series variation in the choice of issues being addressed in its articles.

In a political system like the U.S., presidential elections play the most crucial role. Thus, the presidential campaign is the period during which the agenda setting power of a newspaper is most valuable, as it is likely that voters make up their mind about whether and whom to vote for President immediately before the elections, i.e. during the campaign period.

[11] Executive Orders about Social Welfare in fact follow an opposite pattern, but this effect is not strong enough to cancel out -within the aggregate of Democratic topics- the pattern found for the other three topics.

The empirical analysis performed here and the interpretation of its findings are based on the following set of identifying assumptions:

(1) The issue ownership hypothesis holds.

(2) "All publicity is good publicity".

(3) The relative share of Executive Orders about a subset of issues proxies the relative intensity of the activity of the incumbent President with respect to those issues.

The choice *per se* of the issues a newspaper covers during the presidential campaign has an electoral effect, to the extent that the first two assumptions hold. First, it must be the case that the majority of voters reckons candidates belonging to a given political party as better capable of handling problems related to a given issue, than candidates belonging to the rival party.[12] In fact, the opinion polls I have analyzed in section 3.3.1 shows that Democrats are perceived as more competent than Republicans on civil rights and welfare issues, while the opposite holds (albeit with some time variation) on the defense issue.

Second, an increased amount of stories about an issue owned by a given party has the predicted effect of favoring that political party, if these stories are never too negative about the relative performance -on the issue itself- of the political party in question, or at least are so perceived by readers. The experimental evidence gathered by Baum and Gussin [2004] provides some support to this assumption. The authors asked 110 coders to classify the content of 399 news stories from the 2000 presidential campaign, and to assess whether each news item would be favourable to the Republican or the Democratic candidate. In a randomised fashion, half of the articles and TV transcripts were not identified according to their source, i.e. the authors, before submitting the news story to the coders, deleted any reference to the newspaper or TV news broadcast from which the story was taken. One quarter of the news stories was on the other hand correctly identified, while the last quarter was incorrectly identified, and tagged as originating from media outlets with opposite partisan stance with respect to the original source. The authors find that coders, when assessing the favorability of a given news story, are much more influenced by the balance of owned topics being covered (i.e. whether each news story deals more with topics owned by the Republican vs. the Democratic party) than by the source of the story itself.

Any change in the issue balance of stories being published by the Times during the presidential campaign can be attributed to the strategic choice of the newspaper itself if no other newsworthy political actor is changing its behaviour of news creation along the same time pattern. The prime suspect from such perspective is of course the incumbent President.

[12]Of course it would be better to have information about the beliefs entertained by the (potential) readers themselves of the newspaper in question. Since this type of data is not directly available, I use here data on issue ownership for the entire population.

Assumption (3) tackles this point, by stating that the relative frequency of Executive Orders concerning a given set of issues enacted by the incumbent President at time t should proxy for the share of time and effort his administration devotes to those issues.

3.4.2 Some definitions

As it is implicit in the preceding discussion, there are two main control variables which are relevant for analysing the political behaviour of a newspaper along the time series dimension.

The first of these variables is the political affiliation of the incumbent President.

Within an issue ownership framework, it is natural to ask whether the newspaper -during non-campaign periods- systematically gives more coverage to issues over which the incumbent President is perceived as strong or weak.

It could be the case that the newspaper gives more coverage to issues owned by the incumbent President because it merely reports on his level of activity across issues. In order to try and disentangle the presence of a bias by the newspaper, one should therefore control for the intensity of the activity of the incumbent administration towards the various issues. In my empirical specification I use the relative frequency of Executive Orders as a proxy for this relative intensity.

To the extent that the proxy captures the underlying omitted variable, a more intense coverage of issues owned by the incumbent President could be due to various reasons that do not exclude each other.

First, this bias could be due to the fact that the newspaper is acting as a pressure group with respect to these issues, and is taking into account the fact that the incumbent could be more responsive to pressures that regard owned issues.

Alternatively, this bias could be explained within a political agency framework. If the issue ownership hypothesis holds, citizens would tend to elect a President who is strong on issues that they reckon as salient. Ex post, they want to assess the performance of the elected president on these issues, and therefore demand pieces of information about what the president is delivering during the term. The newspaper responds to this demand for specific information by publishing more stories concerning the issues owned by the incumbent President.

A third explanation has some behavioural flavor. If citizens expect the incumbent President to be more active on owned issues, then they are *a priori* more interested in stories about these issues. The newspaper accomodates this expectation by publishing more stories about issues owned by the incumbent, as any deviation that goes against the readers' ex ante bias could create a cognitive dissonance effect, which in turn may lower the newspaper's readership and advertising revenue.[13]

Conversely, it could be the case that the newspaper -outside of the electoral campaign- features more stories about the topics over which the incumbent President is weak, still controlling for presidential activity across issues. Such bias could be due to the fact that

[13]This argument resonates with the model by Mullainathan and Shleifer [2005], discussed in section 1.2.4.

the newspaper acts as a permanent watchdog with respect to the incumbent President, and concentrates its attention on the issues over which she is perceived as weak by public opinion.

The main focus of this chapter is on the electoral behaviour of the New York Times. Indeed, the second control variable which is relevant within a time series framework is the campaign status, i.e. the fact of being under the presidential campaign. A crucial aspect of the U.S. electoral system is that the date of presidential elections is exogenously fixed: the law commands that they must be held on the first Tuesday following the first Monday of November, every four years. While the end point of the presidential campaign is exogenously fixed by Election Day, the starting point is not exogenous, as it depends on the choices made by the agents involved, i.e. the candidates and the candidates' parties, the mass media and the public. Nonetheless, a typical dictum is that the presidential campaign starts on Labor Day, namely the first Monday in September. Alternatively, one could think about the Convention of the challenger's party as an earlier starting point for the campaign.

My empirical strategy is focused on the comparison between the coverage of electorally relevant topics inside and outside of the presidential campaign.

The mechanism at play here is that the newspaper, by increasing during the presidential campaign period the frequency of articles about issues owned by a given candidate, would induce its readers, at the margin, to go to the ballot and vote for the candidate in question. Given the three identifying assumptions stated above, such increased coverage of owned issues during the presidential campaign would be a symptom of the fact that the newspaper is partisan towards the candidate owning these issues. Moreover, one should check that such increase in the coverage of owned issues does not take place with respect to both Democratic and Republican ones. It is the asymmetry in the increased coverage of Democratic (Republican) issues that is consistent with a corresponding Democratic (Republican) partisanship of the newspaper.

This discussion can be summarised in the following definition:

Definition 1 *A newspaper has a Democratic (Republican) partisanship if during the presidential campaign it devotes more space to issues owned by the Democratic (Republican) party, with no increased coverage of Republican (Democratic) issues.*

It could be the case that during presidential campaigns the Times behaves differently, as a function of the political affiliation of the incumbent President. Over and above the electoral partisanship of the newspaper, as described by Definition 1, the effects of the political affiliation of the incumbent President on issue coverage could be given an interpretation within a lapdog/watchdog dichotomy.

The idea is the following: if -during the presidential campaign- the New York Times gives *less* emphasis to Democratic topics and/or more emphasis to Republican topics when the incumbent is a Democrat, over and above its Democratic or Republican partisanship, this is consistent with the fact that the newsaper acts as an *electoral watchdog* with respect to the incumbent President. This is so because the newspaper differentially

focuses the attention away from topics over which the incumbent President is on average perceived as strong, towards topics over which he is perceived as weak.

On the contrary, if the newspaper differentially gives more emphasis to Democratic topics and less to Republican ones when the incumbent is a Democrat, the newspaper is said to behave as an *electoral lapdog* towards the incumbent President. Again, this interaction effect is additive with respect to the partisanship component.

This analysis is summarised in the following definitions:

Definition 2 *A newspaper is an electoral lapdog of the incumbent President if, ceteris paribus, during the presidential campaign it devotes more space to the issues over which the incumbent is strong, and/or less to issues over which the incumbent is weak.*

Definition 3 *A newspaper acts as an electoral watchdog if, ceteris paribus, during the presidential campaign it dedicates more space to the issues over which the incumbent is weak, and/or less space to the issues over which the incumbent is strong.*

3.4.3 A difference in difference approach

Given the three identifying assumptions stated above and the definitions introduced in the preceding section, the electoral behaviour of the New York Times can be analyzed through a difference in difference approach. In order to illustrate the link between the estimated coefficients and the definitions given in the previous section, I will use a simple linear specification.

Let y_t^{DEM} be the relative frequency of stories about Democratic topics the Times publishes during period t. One can write the following difference in difference specification for y_t^{DEM}:

$$y_t^{DEM} = \beta_0 + \beta_1 \mathbb{I}(incP_t = D) + \beta_2 \mathbb{I}(Pcamp_t = 1) + \beta_3 \mathbb{I}(incP_t = D \;\&\; Pcamp_t = 1) + \delta z_t^{DEM} + \varepsilon_t \quad (3.1)$$

where $\mathbb{I}(incP_t = D)$ is a dummy that equals one when the incumbent President at time t is a Democrat, $\mathbb{I}(Pcamp_t = 1)$ is a dummy that equals one during the presidential campaign period[14], and the third dummy represents the interaction term, i.e. it equals one when there is a presidential campaign and the incumbent President is a Democrat; finally z_t^{DEM} stands for the relative frequency of Executive Orders concerning Democratic topics enacted by the incumbent President at time t, and ε_t is the error term.

In a specular fashion, one can write the following linear equation for y_t^{REP}, the relative frequency of stories about Republican topics published by the Times during period t:

[14] Across all specifications presented in section 3.5, the presidential campaign dummy equals one for the months of August, September and October immediately before the presidential elections.

$$y_t^{REP} = \gamma_0 + \gamma_1 \mathbb{I}(incP_t = R) + \gamma_2 \mathbb{I}(Pcamp_t = 1) + \gamma_3 \mathbb{I}(incP_t = R \ \& \ Pcamp_t = 1) + \zeta z_t^{REP} + \eta_t \quad (3.2)$$

where $\mathbb{I}(incP_t = R)$ is a dummy for the incumbent President being a Republican, $\mathbb{I}(Pcamp_t = 1)$ is defined as above, and the third dummy represents the interaction between the presidential campaign and the incumbent President being a Republican; z_t^{REP} is the relative frequency of executive orders about Republican topics enacted by the incumbent President during the time period, while η_t is the error term.

The coefficient β_1 on the first dummy in equation (3.1) refers to the newspaper's behaviour on Democratic stories during the term, as a function of the political affiliation of the incumbent President. If β_1 turns out to be statistically different from zero and positive, this is consistent with the newspaper finding it worthwhile to emphasize Democratic issues when the incumbent President is a Democrat, even after controlling for the pattern of Executive Orders. On the contrary, if β_1 happens to be negative, this is consistent with the fact that the newspaper is acting as a permanent watchdog with respect to the incumbent. A parallel reasoning can be applied to the coefficient γ_1 in equation (3.2).

The partisan behaviour of the New York Times, as characterised by Definition 1, can be disentangled by looking at the two coefficients β_2 and γ_2: if β_2 is statistically different from zero and positive, while γ_2 is not statistically different from zero or negative, this is consistent with the newspaper having a Democratic partisanship. Conversely, if γ_2 is statistically significant and positive, while β_2 is indistinguishable from zero or negative, this is a symptom of the fact that the newspaper has a Republican partisanship.

The interaction terms are meant to capture the differential behaviour of the newspaper during the presidential campaign, as a function of the political color of the incumbent President. If β_3 is positive and statistically significant, this is consistent with the fact that on Democratic topics the New York Times is captured by the incumbent President during the presidential campaign, i.e. it acts as an electoral lapdog. Conversely, if β_3 is found to be negative and significant, this is consistent with the newspaper acting as an electoral watchdog of the incumbent President during the presidential campaign, on Democratic issues. Again in a specular fashion, γ_3 represents the electoral lapdog or watchdog behaviour of the New York Times on Republican topics. In fact, if γ_3 is found to be statistically significant and negative (positive), this is consistent with the New York Times acting as an electoral watchdog (lapdog) of the incumbent President on Republican topics.

A pair of difference in difference tables can further clarify the interpretation of the coefficients:

Democratic topics	campaign	no campaign	simple difference
Democratic President	$y^D_{Dc} = \beta_0 + \beta_1 + \beta_2 + \beta_3$	$y^D_{Dn} = \beta_0 + \beta_1$	$\Delta y^D_D = \beta_2 + \beta_3$
Republican President	$y^D_{Rc} = \beta_0 + \beta_2$	$y^D_{Rn} = \beta_0$	$\Delta y^D_R = \beta_2$
simple difference	$y^D_{Dc} - y^D_{Rc} = \beta_1 + \beta_3$	$y^D_{Dn} - y^D_{Rn} = \beta_1$	$\Delta y^D_D - \Delta y^D_R = \beta_3$

Republican topics	campaign	no campaign	simple difference
Republican President	$y^R_{Rc} = \gamma_0 + \gamma_1 + \gamma_2 + \gamma_3$	$y^R_{Rn} = \gamma_0 + \gamma_1$	$\Delta y^R_R = \gamma_2 + \gamma_3$
Democratic President	$y^R_{Dc} = \gamma_0 + \gamma_2$	$y^R_{Dn} = \gamma_0$	$\Delta y^R_D = \gamma_2$
simple difference	$y^R_{Dc} - y^R_{Rc} = \gamma_1 + \gamma_3$	$y^R_{Dn} - y^R_{Rn} = \gamma_1$	$\Delta y^R_D - \Delta y^R_R = \gamma_3$

where the part concerning Executive Orders has been omitted for the sake of clarity. The estimated β_2 and γ_2 coefficients can be directly read through Definition 1. On the other hand, the differential behaviour of the New York Times during the presidential campaign as a function of the political affiliation of the incumbent President is captured by β_3 and γ_3.

3.4.4 Democratic vs Republican topics

Within the set of topics coded by Baumgartner and Jones in the New York Times dataset, I classify the following issues as being owned by the Democrats:

1. Civil Rights
2. Health Care
3. Labor and Employment
4. Social Welfare

For each month, I count the total number of stories about these four topics: this aggregate count represents the number of stories about Democratic topics. Broadly following the survey evidence on issue ownership, I consider Law & Crime and Defense as Republican issues, but I study them separately in the econometric analysis proper, as only the latter can be considered as a firm Republican issue, while there is non negligible variation in the ownership status of the former, as witnessed by Gallup and NES polls.

Apart from the unconditional, monthly count of stories about Democratic topics, Defense and Law & Crime, I also interact the topic with various characteristics of the stories themselves, as classified by Baumgartner and Jones. In the case of stories about Democratic topics and Law & Crime, I consider domestic ones, stories that deal with New York City, stories regarding the TriState, non-local stories (i.e. those that do not deal with NYC or the TriState), front page ones and stories not on the front page. On the other hand, in the case of Defense stories I consider the subset of domestic stories, non-domestic ones, front page ones and stories on internal pages.

3.4.5 Econometric specification

In order to analyze the time series behaviour of the Times in the issue space, I use a count data model. As it is standard in the literature (see Cameron and Trivedi [1998] and Wooldridge [2001]), I adopt a Poisson model, with a log-linear specification of the conditional expectation.

Let x_t^{DEM} be the count of stories about Democratic issues published by the Times during period t. Its conditional expectation can be written as follows:

$$E(x_t^{DEM} \mid \mathbf{z}_t^{DEM}) = \exp\left[\begin{array}{c} \beta_0 + \beta_1 \mathbb{I}(incP_t = D) + \beta_2 \mathbb{I}(Pcamp_t = 1) \\ +\beta_3 \mathbb{I}(inc_t = D \ \& \ Pcamp_t = 1) + \delta' \mathbf{w}_t^{DEM} \end{array}\right] \tag{3.3}$$

where $\mathbf{w}_t^{DEM}$ is a set of controls. Equation (3.3) corresponds to equation (3.1), having assumed a log-linear Poisson model.

By the same token, the conditional expectation for x_t^{REP-d}, i.e. the count of stories about Defense at time t, can be written as:

$$E(x_t^{REP-d} \mid \mathbf{z}_t^{REP-d}) = \exp\left[\begin{array}{c} \gamma_0 + \gamma_1 \mathbb{I}(incP_t = R) + \gamma_2 \mathbb{I}(Pcamp_t = 1) \\ +\gamma_3 \mathbb{I}(inc_t = R \ \& \ Pcamp_t = 1) + \zeta' \mathbf{w}_t^{REP-d} \end{array}\right]$$

I adopt the same specification for x_t^{REP-c}, namely the count of stories about Law & Crime.

Regarding control variables, the presidential campaign dummy equals one for the months of August, September and October immediately before the presidential elections. The vectors $\mathbf{w}_t^{DEM}$, $\mathbf{w}_t^{REP-d}$ and $\mathbf{w}_t^{REP-c}$ always include a linear and quadratic time trend, a set of monthly dummies (January is the baseline month), and the total number of stories at time t. This last variable should control for the time-varying size of the Times. Moreover, $\mathbf{w}_t^{DEM}$ includes the relative frequency of Executive Orders about Democratic issues enacted by the incumbent President during period t. The same is true for $\mathbf{w}_t^{REP-d}$ and $\mathbf{w}_t^{REP-c}$. For each sub-category of stories (e.g. domestic stories about Democratic issues) I also control for the total number of stories pertaining to that category that the Times publishes in each period (in the example: total number of domestic stories per month). Given the observed reversals in the ownership status of the Defense and Law & Crime issues (see section 3.3.1 above), I include a separate dummy for the presidential campaigns during which such reversals occur. These campaigns are 1964, 1980 and 1996 for Defense, and 1976, 1992 and 1996 for Law & Crime. Finally, in order to control for the underlying real world events, in the case of Defense stories I include the number (expressed in thousands) of U.S. soldiers killed-in-action (KIA) during the time period[15].

Standard errors are calculated using the Huber/White sandwich formula, in order to obtain inferences that are robust to non-Poisson heteroskedasticity.

[15] I thank Douglas Hibbs for kindly providing the KIA data.

time series correlation

What is a time period?

3.5 Results

This section is divided in four parts. In the first part I show results for the baseline specification described above. In the second part I add controls that are related to the political situation at the local level and the identity of the New York Times publisher. In the third subsection I focus on the more recent time sample, i.e. from 1961 to 1997. In the last subsection I perform some further robustness checks regarding the autocorrelation structure of the error term.

3.5.1 Baseline specification

The baseline results concerning Democratic topics and the two Republican ones are featured on Tables 3.5, 3.6 and 3.7. In each table, the first column refers to all stories, while the subsequent ones stand for the different subcategories of stories. For each explanatory variable, the incidence rate ratio[16] is reported, with robust z-statistics in brackets.

The main message stemming from the joint examination of these tables is that the New York Times systematically publishes more stories about Democratic topics during presidential campaigns, but only so when the incumbent president is a Republican. In fact, regarding the Republican issues of Defense and Law & Crime, there is no systematic variation in the coverage during presidential campaigns. The only exception is represented by front page stories. When the incumbent President is a Republican, there are more front page stories about Law & Crime and less about Defense, as the presidential campaign starts.

The overall pattern of results is consistent with the New York Times showing a Democratic partisanship, with some watchdog aspects, in that there is a systematic increase in the count of stories about Democratic topics during the presidential campaign, which occurs only when the incumbent President is perceived as weak on these issues, i.e. he is a Republican.

In particular, when the incumbent President is a Republican, there are on average around 26.6 percent more stories about Democratic topics as the presidential campaign starts (Table 3.5, column [1]). When significant, the magnitude of the effect is comparable across different subsets of stories, apart from NYC ones: in this case, there are more than double the number of stories about Democratic topics during the presidential campaign and under a Republican incumbent. The effect is strongly significant (at the one percent level) for all stories, NYC ones and those not on the front page. It is significant at the 5 percent level for domestic stories.

The interaction term is always estimated to be negative across all subcategories of news (incidence rate ratios below one), and it is significantly different from zero at ordinary confidence levels for all stories (10 percent) and domestic ones (5 percent). In

[16]The incidence rate ratio represents the relative change in the dependent variable which is associated with a unitary change of the explanatory variable. In the case of a dummy variable, an incidence rate ratio of $1+y$, with $y>0$, stands for the fact that there are on average y percent more successes (in my case: stories) when the dummy equals one, as compared to the case when the dummy equals zero.

any case, one can never reject the hypothesis that the presidential campaign does not produce any change in the count of stories about Democratic topics when the incumbent President is a Democrat. This is shown by the p-value on the corresponding t-test, which is reported below the coefficients under each column in Table 3.5.

Regarding the effects of the political affiliation of the incumbent President on Democratic stories, a consistent pattern emerges: during the term there are systematically more stories about Democratic topics when the President is a Democrat, even after controlling for presidential activity, as proxied by the relative frequency of Executive Orders. There are on average around 18 percent more stories about Democratic topics under a Democratic incumbent (Table 3.5, column [1]). The magnitude of such an effect is comparable for domestic stories, non-local stories and stories not on the front page, while it is larger (more than 27 percent) for front page ones. This larger coverage of Democratic topics during the term when the President is a Democrat helps understand the results concerning the Times behaviour during the presidential campaign: when the incumbent is a Democrat the aggregate count of stories about Democratic topics is already high outside the presidential campaign, and the presidential campaign does not produce any additional effect.

The fourth row in the table displays the effect of the relative share of Executive Orders. In only one cases out of seven is the incidence rate ratio larger than one, indicating a positive correlation between the share of Executive Orders about Democratic topics and the count of stories on the Times. However, this effect is not statistically significant. The same holds true for the six cases in which the point estimate of the incidence rate ratio is less than one.

Finally, the larger is the newspaper (as proxied by the total number of stories being sampled each month), the higher is the count of stories about Democratic topics (column [1]): this is a scale effect, which is very precisely estimated. When considering the various subcategories of articles, the total number of stories in each of them is significantly correlated with the count of Democratic stories, while the size of the newspaper is no longer so.

Table 3.6 shows estimation results for the Defense issue. The presidential campaign dummy and the interaction are never significantly correlated with the count of stories about Defense (incidence rate ratios are indistinguishable from one). This is also the case for the ownership-reversal dummy, which -as said above- equals one for the 1964, 1980 and 1996 campaigns. However, it turns out that there are systematically *less* Defense stories on the front page during the presidential campaign, when the incumbent President is a Republican. This is witnessed by the fact that the p-value on the corresponding t-test is around 0.05, thus rejecting the null hypothesis of no effects of the presidential campaign under a Republican incumbent.

In a parallel fashion to what found for stories about Democratic issues, there are systematically more stories about Defense when the incumbent President is a Republican. This correlation is significant at ordinary confidence level for all categories of news but domestic ones. The point estimates imply that there are around 10 percent more

articles about Defense under a Republican incumbent than a Democrat, if one considers all stories, non-domestic ones and stories on internal pages. Such increase amounts to 20 percent in the case of front page stories.

Moreover, one should notice that the correlation between Defense stories and Executive Orders is always estimated to be positive, but is larger in magnitude and statistically significant only for domestic stories. On the other hand, the number of killed in action (KIA) is a strongly significant and positive predictor of Defense stories, for all categories of news.

Regarding Law & Crime stories (see Table 3.7), the coefficients on the presidential campaign dummy and the interaction are never significantly different from zero (incidence rate ratios different from one). This holds for the ownership-reversal dummy as well. In fact, when the incumbent President is a Republican, there are significantly more front page articles about Law & Crime as the presidential campaign kicks in. In particular, one can reject the null hypothesis of no effects of the presidential campaign under a Republican incumbent.

Finally, the correlation between Law & Crime articles and Executive Orders is always estimated to be positive, but it is statistically significant only for the subset of domestic stories.

3.5.2 Additional controls: New York State Governor, New York City Mayor and publisher's identity

As discussed in section 3.3.2, the New York Times can be considered the main newspaper for the city of New York, and for the states of New York, Connecticut and New Jersey (the TriState area). Hence, one would like to check whether the results obtained in the preceding section are robust to the inclusion of controls related to the political situation in New York City and in the State of New York, which is the most important one within the TriState area. In particular, the idea is to control for the political affiliation of the incumbent Governor of New York State, and of the incumbent New York City Mayor.

Second, the ownership structure of the Times could have effects on the equilibrium supply of stories. The New York Times was founded in 1851 by Henry J. Raymond and George Jones, and in 1896 was bought by Adolph S. Ochs. Since then, the Ochs-Sulzberger family has continuously kept the ownership of the newspaper. However, in the time span covered by the dataset four different members of the Ochs-Sulzberger family have played the role of publisher: Arthur Hays Sulzberger, son-in-law of Adolph S. Ochs, from April 1935 to April 1961, Orvil Dryfoos, son-in-law of Arthur Hays Sulzberger, from May 1961 to May 1963, Arthur Ochs Sulzberger, from June 1963 to January 1992, and finally Arthur Sulzberger Jr., son of Arthur Ochs Sulzberger, from February 1992 to nowadays.

In Table 3.8 the monthly count of stories about Democratic topics is regressed against the set of variables used in Table 3.5, plus five additional dummies, that control for the political affiliation of the incumbent NYS Governor, of the incumbent NYC Mayor, and the publisher's identity. The NYS Governor dummy equals one when the incumbent is a

Democrat, and zero otherwise. The same applies to the NYC Mayor dummy[17]. Regarding the publisher's identity, I use three different dummies for the last three publishers, and leave Arthur Hays Sulzberger as the baseline publisher.

Tables 3.9 and 3.10 display results for the count of stories about Defense and Law & Crime, respectively. Here the dummy variables for the political affiliation of the incumbent NYS Governor and NYC Mayor equal one for a Republican incumbent.

The joint inspection of these three tables confirms the findings obtained with the baseline specification. There are systematically more stories about Democratic topics during the presidential campaign, but less so when the incumbent President is a Democrat. In fact, one cannot reject at ordinary confidence levels the null hypothesis of no effects of the presidential campaign under a Democratic incumbent. The size and level of significance of the coefficients on the presidential campaign dummy and the interaction are very similar to those found under the baseline specification.

On the other hand, some discrepancies emerge when looking at the partial correlation with the political affiliation of the incumbent President. It is still the case that -during the term- there are more stories about Democratic issues when the President happens to be a Democrat, but the size of the coefficient and the significance level are smaller than the ones obtained with the baseline specification. The point estimate for all stories and domestic ones implies a 10 percent increase in the coverage of Democratic topics when the incumbent President is a Democrat, which should be compared with a 18 percent increase in the baseline regression. The only exception to this pattern of decreased size and significance occurs with TriState stories: when controlling for the political affiliation of the NYS Governor and NYC mayor, there are on average around 39 percent more Democratic stories under the presidency of a Democrat. This is coupled with a 77 percent increase in the coverage of TriState stories about Democratic issues, when the incumbent NYS Governor is a Democrat (Table 3.8, column [4]). Both partial correlations are strongly significant. Moreover, if one considers all stories, there are 10 percent more articles about Democratic issues when the incumbent NYS Governor is a Democrat.

The correlation of Democratic stories with the political affiliation of the incumbent NYC Mayor shows an opposite pattern: there are significantly *less* articles about Democratic issues under a Democratic NYC Mayor, i.e. the Times appears to act as a permanent watchdog towards Republican NYC Mayors.

Finally, there are more stories about Democratic topics under the last two publishers, i.e. Arthur Ochs Sulzberger and Arthur Sulzberger Junior. The effect is large and precisely estimated for all stories, domestic and non-local ones.

Regarding Defense stories, there are no significant effects of the presidential campaign and of the campaign interacted with the political affiliation of the incumbent President. Again, the only exception occurs with front page stories. There are systematically *less* Defense stories on the front page during the presidential campaign, when the incumbent

[17]Vincent R. Impellitteri was Mayor of New York City from 1950 to 1953, and was in fact elected as an Independent. However, because of his lifelong affiliation to the Democratic Party, I have coded him as a Democrat.

President is a Republican, as shown by the p-value on the corresponding t-test (Table 3.9, column [4]).

Similarly to what found with the baseline specification, there are significantly more stories about Defense when the incumbent President is a Republican. The coefficient is now larger and more precisely estimated, with the exception of front page stories. In particular, if one considers all stories (column [1]) there are around 27 percent more Defense stories under the presidency of a Republican. On the other hand, there is no significant correlation between Defense stories and the political affiliation of the NYS Governor, while there are systematically more Defense articles when the incumbent NYC Mayor is a Republican. Regarding the publishers' effects, the second and the third publisher are associated with significantly more stories about Defense.

Coming to the Law & Crime issue, Table 3.10 shows that the presidential campaign dummy and the interaction term between the campaign and the political affiliation of the President are not significantly correlated with the count of stories about the topic, for all categories of news. This is also the case for the ownership-reversal dummy. As with the baseline specification, there are more front page stories about Law and Crime during the campaign when the incumbent President is a Republican.

Finally, there is some positive and significant correlation between Law & Crime stories and the incumbent NYC Mayor being a Republican (for all stories, domestic and TriState ones), and the same is true for the last two publishers.

3.5.3 The New York Times' behaviour as of the 60s

The purpose of this section is to investigate the editorial choices of the Times in more recent years, namely from 1961 to 1997. A closer look to the behaviour of the New York Times as of the 60s is motivated by the availability of more detailed pieces of information about issue ownership. Moreover, as illustrated in section 3.3.1, the issue of Civil Rights clearly emerges as a Democratic one only with the Kennedy and Johnson presidency.

In the present exercise I control for the same set of additional variables I have used in the previous section, i.e. the political affiliation of the incumbent NYS Governor and NYC Mayor, and the publisher's identity.

Table 3.11 displays results about Democratic stories. The overall pattern of findings quite closely corresponds to the ones obtained with the previous specification. During the presidential campaign there are more stories about Democratic topics, but only so when the incumbent President is a Republican. The magnitude of the effect is larger during the more recent time span. If one considers all stories, the Times publishes around 33 percent more Democratic stories during the campaign under a Republican incumbent, and 27 percent more in the case of domestic stories. Regarding NYC stories, the increase in the coverage of Democratic topics during the presidential campaign is more than threefold. In the post-1960 period, there is also a statistically significant increase in the count of front page stories about Democratic issues. The size of the effect is large, with a more than twofold increase. The interaction term between the presidential campaign dummy and the political affiliation of the incumbent President is

significant at the 5 percent level for domestic stories and NYC ones.

Outside of the presidential campaign, again there are more stories about Democratic issues under the presidency of a Democrat. If one considers all stories, there are on average around 13 percent more Democratic stories under a Democratic President. In the post-1960 subsample there is a larger and more significant positive correlation between the count of stories about Democratic topics and the incumbent NYS Governor being a Democrat. In particular, there are around twice the number of TriState stories under a Democratic NYS Governor, and almost three times the number of front page stories. The negative correlation between Democratic stories and the incumbent NYC Mayor being a Democrat is confirmed in the more recent subsample, as the positive correlation with the last two publishers.

Regarding stories about Defense, Table 3.12 shows a pattern of results that is quite different from the one found on the entire time sample. When the incumbent President is a Democrat and there is no reversal in the ownership of the issue, the Times systematically publishes more stories about Defense, as the presidential campaign starts. Such result should be taken with some caution, just because -in the post-1960 period- the only presidential year under a Democratic incumbent during which there is no reversal in the ownership of the Defense issue is 1968, i.e. in the middle of the Vietnam War.

The effect of the 1968 campaign is strongly significant (one percent significance level) and large in magnitude for all stories, domestic ones and those not on the front page. The correlation is smaller and slightly less significant for non-domestic stories. On the other hand, the coefficient on the ownership reversal dummy, when significantly different from zero (as it is the case for domestic stories and those on internal pages), is estimated to be negative.

The coefficient on the interaction between the presidential campaign and the incumbent President being a Republican is estimated to be negative (incidence rate ratios less than one) and significantly so for all categories of stories but front page ones. In particular, for all stories and front page ones one can reject at the 10 percent level the null hypothesis that the Times does not change the coverage of Defense stories during the presidential campaign under a Republican incumbent. The joint inspection of the incidence rate ratios suggests that there is indeed a *decrease* in the count of all stories and front page ones about Defense. Below the p-values on the test about the effect of the campaign under a Republican President, I report the p-values of a similar test on whether there is a change in the count of Defense stories during the presidential campaigns that are characterised by a reversal in the ownership of the issue. At ordinary confidence levels one can never reject the null hypothesis of no effects.

Finally it must be noticed that outside of the presidential campaign there are systematically more Defense stories when the incumbent President is a Republican, around 50 percent. The correlation is very precisely estimated (one percent level) for all but front page stories. Overall, the set of estimated coefficient is consistent with a watchdog attitude of the Times during the presidential campaign, as there are more Defense stories during the 1968 campaign, while there is a decrease in such count during the

campaign when the incumbent President is perceived as more competent on the issue, i.e. he is a Republican. Moreover, in those campaign years that are characterised by a reversal in the ownership of the issue, which all occur under a Democratic incumbent, the Times is marginally less inclined to publish stories about it.

Table 3.13 presents results about Law & Crime stories. As with the entire time sample, there are no remarkable movements in the count of stories about the issue during presidential campaigns. Similarly to what found in Table 3.10, when the incumbent President is a Republican and the presidential campaign starts there are significantly more front page stories about Law & Crime. This is also the case for TriState stories. Differently from previous results, there are systematically more non-local stories about the issue under the incumbency of a Republican President. Finally, there are more Law & Crime stories under a Republican NYC Mayor and under the last publisher.

3.5.4 Robustness checks

One relevant concern about the validity of these findings is that the autocorrelation of the right hand side variables might excessively deflate the estimated standard errors. In order to address this issue, I have run all regressions on collapsed data.[18] To do so, I calculate the average of all variables for each presidential term and each campaign, so that I am left with 27 observations for the entire sample, and 18 for the post-1960 period. On this collapsed data I run Poisson regressions, with heteroskedasticity-robust standard errors.

The results obtained in the previous sections are robust to this check. In Table 3.14 I summarise the results of the exercise on Democratic topics, Defense and Law & Crime, when the baseline specification (see section 3.5.1 above) is applied to all stories[19], both for the entire time sample and the post-1960 period.

Consistently with what done before, the incumbent President dummy equals one under a Democratic President when dealing with Democratic stories (Table 3.14, columns [1] and [4]), *vice versa* for Defense and Law & Crime stories. The interaction term between the presidential campaign dummy and the incumbent President one is defined accordingly.

Regarding Democratic issues, there are systematically more articles about them during the presidential campaign, when the incumbent President is a Republican. The coefficient on the presidential campaign dummy is highly significant for both the entire sample and the more recent period, at the one and 5 percent level respectively. The point estimates imply a 22 percent and a 25 percent increase in the coverage of these topics during the campaign, under the incumbency of a Republican President. The coefficients on the interaction term are estimated to be negative (incidence rate ratios less than one), but not significantly so.[20] Again, in both cases one cannot reject at ordinary confidence level the null hypothesis that the presidential campaign does not

[18] See Bertrand *et al.* [2004] for a full discussion of the issue.

[19] Results on the different subcategories of news are available upon request.

[20] In fact, in the case of domestic stories (not reported in the table) the interaction term is significantly different from zero at the one percent level for the entire sample, and at 5 percent for the post-1960 one.

produce any change in the count of Democratic stories under a Democratic President.

When considering the entire time sample, Defense stories do not display any systematic change during the presidential campaign (column [2]), as in Table 3.6. The coefficient on the ownership reversal dummy is mildly significant at 10 percent level, implying a 45 percent increase in the count of Defense stories during the presidential campaign when such reversal occurs. However, a joint test on the presidential campaign dummy and the ownership reversal one cannot reject the null hypothesis that there is no overall change in the count of Defense stories, during the presidential campaigns that are characterised by such reversal. Apart from this, number of KIA and the relative frequency of Executive Orders are strongly and significantly correlated with the count of Defense articles.

On the other hand, in the post-1960 sample the analysis of the collapsed dataset shows that there are systematically less stories about Defense during the presidential campaign, when the incumbent President is a Republican. The effect is large and very precisely estimated (one percent confidence level). Under a Republican President there are systematically more stories about Defense. The magnitude and significance of these two effects correspond to what found on the non-collapsed dataset (see section 3.5.3). This is not the case for the presidential campaign dummy, which should account for the 1968 campaign: its coefficient is estimated to be positive (incidence rate ratio larger than one), but is not statistically significant. The same is true for the ownership reversal dummy.

Finally, stories about Law & Crime display the same (absence of) pattern that has been discussed in the previous sections.

3.6 Discussion and conclusions

This chapter provides new evidence about the political behaviour of the New York Times, by analysing the time series variation in the count of stories about politically relevant topics. The main finding is that the Times displays a Democratic partisanship, with some watchdog aspects. This is the case, because there are systematically more stories about Civil Rights, Health Care, Labour and Social Welfare during the presidential campaign, but only so when the incumbent President is a Republican. This is true for both the entire sample and the more recent 1961-1997 subperiod.

When looking at the entire 1946-1997 sample, the Democratic partisanship hypothesis finds confirmation in the fact that there is no comparable variation during the presidential campaign in the count of stories about Defense and Law & Crime, which -as broadly confirmed by the analysis of Gallup Polls and the NES- represent more favourable issues for the GOP.

On the other hand, there are signs of a more symmetric watchdog behaviour of the Times when considering the more recent period, as the Defense issue is covered more heavily during the presidential campaign when the incumbent President is a Democrat and there is no reversal in the ownership of the issue itself. In fact, when the President

is a Republican, there are less Defense stories overall and on the front page as the presidential campaign starts. A caveat here is that the only presidential campaign under a Democratic incumbent with no ownership reversal is the 1968 one, i.e. in the middle of the Vietnam War.

As an additional caveat, it must be noted that the relative frequency of Executive Orders about a given set of topics, which is used here as a proxy for the intensity of the activity of the incumbent President on these topics, is not very strongly correlated with the news coverage by the Times. This is especially true for Democratic issues. It is unclear whether such lack of a significant correlation depends on the fact that the Times is not very much influenced in its coverage by the month-by-month variation in Executive Orders, or that the unweighted frequency thereof is not an adequate proxy for presidential activity. It could well be the case that Executive Orders should be weighted by their importance, or that other facets of presidential activity, like speeches and press conferences, are a better signal of the intensity of the President's effort across issues.

The significance of my results about the differential news coverage of the Times during presidential campaigns is robust to these arguments, to the extent that the measurement error attached to executive orders is not systematically correlated with the political affiliation of the incumbent President and the campaign status. In particular, one might be concerned with the possibility that the supposed watchdog behaviour of the Times on Democratic issues is explained by the fact that Republican incumbents strongly focus their campaign on these Democratic issues, and that this is not captured at all by the variation in Executive Orders. However, Benoit, Hansen and Petrocik [2003] provide a computer content analysis of acceptance speeches and TV ads of presidential candidates from 1952 through 2000: this analysis shows that Republican candidates strongly focus their campaign on owned issues (i.e. they relatively shy away from discussing welfare issues), while Democratic candidates are more balanced in the coverage of owned and not owned issues. Such ancillary evidence on candidates' campaign strategies strongly rejects the hypothesis that Republicans tend to focus on issues owned by the Democrats.

Consistently with the main thread of the dissertation, the methodology I have applied here to the New York Times is focused on the agenda-setting behaviour of the newspaper, i.e. on the time variation in the coverage of policy relevant issues. Such agenda-setting framework, coupled with the issue ownership hypothesis, provides a natural way to think about the political stance of the newspaper.

How do these findings relate to the theoretical literature on mass media bias? It is clearly the case that the systematic variations in the editorial choices of the Times I have shown to occur during presidential campaigns are consistent with media bias, i.e. with a precise political stance of the newspaper, which emerges outside the editorials' page proper. However, given the structure of the available data, it is hard to test the empirical validity of supply-led stories *á la* Baron against demand-driven ones, as those suggested by Mullainathan and Shleifer, and Gentzkow and Shapiro. Moreover, one cannot rule out the role played by the political bias of the owner, especially in the case

of a newspaper like the Times. This latter argument is corroborated by the fact that some of the changes in the publisher's identity have a systematic impact on the count of stories about Democratic topics and -to a lesser extent- about Law & Crime, even after controlling for a linear and quadratic time trend.

The idea of a watchdog behaviour by news providers is quite well established within the journalism literature[21], where it works as a normative benchmark, but it also appears in the political economy one.[22]

In this case too both a supply and a demand-led story would be compatible with the data. Journalists and publishers alike could trade off monetary rewards against the "moral payoff" of acting as watchdogs with respect to the incumbent government. On the other hand, readers and viewers might be exactly demanding a more intense coverage of issues over which there is more uncertainty regarding the incumbent's performance. It could also be the case that consumers of news hold a priori beliefs about what policy areas are more likely to be characterised by a poor performance by the incumbent. A desire to see news providers confirming these beliefs, or a Bayesian inclination to attach a higher expectation of quality reporting to those that do so, could contribute to explaining what I denote as a watchdog behaviour during presidential campaigns. On this account, it would be useful to have some survey-based evidence on the type of informational needs and beliefs held by readers.

As further discussed in section 4.5.5 of the next chapter, in order to disentangle these different theories of media bias, one would need time series data with some exogenous variation in the ownership of media outlets and/or the ideological leaning of readers. In the case of the New York Times different individuals belonging to the Ochs-Sulzberger have in turn taken up the position of publisher, but their ideological continuity was substantial.[23]

[21] See for example Bennett and Serrin [2005].

[22] Such concept of "media as watchdogs" is central in the Downsian setup of Chan and Suen [2003] and it is largely implicit in the political agency framework of Besley and Burgess [2002] and Besley and Prat [2005].

[23] In section 4.5.5 we instead look at the succession of Otis Chandler as publisher of the family owned LA Times, which represented a much more radical change in the ideological line of the newspaper.

Table 3.1: Perceived Issue Handling Competence of Parties, Democrats' advantage

	civil rights	welfare	health care	law & crime	defense
1948	.	.	.	.	-0.58
1952	.	.	.	.	-24.85
1956	2.42	.	.	.	.
1960	3.46	.	.	.	-16.24
1964	34.94	.	.	.	**41.95**
1968	11.11	.	.	.	-14.10
1972	10.94 (NES)	27.36 (NES)	.	-23.82	-20.95
1976	16.98	30.11	.	**9.15 (NES)**	-14.59
1980	25.55	25.08	.	-15 (NES)	**8.81**
1984	29.81	34.67	.	-38.89 (NES)	-8.24
1988	23.26	29.40	.	-9.30	-5.76
1992	16.76	35.30	27.88	**3.94**	-44.32
1996	14.46	16.65	21.12	**9.79**	**8.15**

Notes: for each issue and each presidential year, I report the difference between the percentage of respondents believing that a Democrat would be better able of handling that issue and the percentage of respondents believing that a Republican would be. When not stated otherwise, the data come from Gallup polls, as detailed in table 3.A.1 and 3.A.2. NES data are presented in table A.3. Issue ownership figures that do not conform with Petrocik [1996] are highlighted.

Table 3.2: Relative frequencies of stories on the New York Times (1946-1997), by topic and geographical locatior

	Major Topic	[1] All stories	[2] NYC stories	[3] TriState stories	[4] Non-local stories
15	Banking, Finance and Dom. Commerce	15.14	6.00	7.12	16.91
19	International Affairs	13.10	1.29	0.41	15.64
20	Federal Government Operations	8.16	1.57	3.79	9.29
16	Defense	7.35	1.01	1.23	8.64
28	Arts and Entertainment	6.34	5.66	2.63	6.81
12	Law, Crime and Family Issues	5.72	15.12	11.30	4.18
24	State and Local Government Admin.	5.21	21.13	26.77	1.31
99	Other	4.80	4.56	2.69	5.05
6	Education	3.98	9.37	8.20	2.99
10	Transportation	3.48	6.63	5.78	2.91
3	Health	2.98	4.18	5.02	2.64
5	Labor & Employment	2.68	2.96	2.89	2.63
17	Space, Science, Technology and Comm.	2.19	0.69	0.79	2.50
18	Foreign Trade	2.13	0.13	0.26	2.54
8	Energy	2.01	1.16	2.07	2.09
2	Civil Rights	1.98	1.82	2.13	1.98
14	Sports and Recreation	1.88	0.82	1.78	2.00
1	Community Development & Housing	1.81	8.17	5.17	0.81
30	Macroeconomics	1.78	0.19	0.50	2.07
29	Death Notices	1.73	0.25	0.61	2.00
7	Environment	1.42	1.82	3.39	1.16
31	Churches and Religion	1.29	1.35	0.96	1.32
4	Agriculture	1.07	0.35	0.93	1.16
13	Social Welfare	0.68	1.35	1.72	0.50
21	Public Lands and Water Management	0.64	1.13	1.28	0.52
27	Fires	0.25	1.07	0.44	0.14
26	Weather and Natural Disasters	0.20	0.22	0.15	0.20
		100	**8.27**	**8.91**	**82.83**
DEM	Democratic topics	8.32	10.31	11.76	7.75
REP	Republican topics	13.07	16.13	12.52	12.82

Notes: Democratic stories comprise Civil Rights, Health Care, Labor & Employment and Social Welfare ones. Republican stories comprise Defense and Law & Crime ones.

Table 3.3: Relative frequencies of stories on the New York Times (1946-1997): front page and internal pages

	Major Topic	[1] All stories	[2] Stories not on the front page	[3] Front page stories
19	International Affairs	13.10	12.74	18.37
20	Federal Government Operations	8.16	7.69	15.23
16	Defense	7.35	6.82	15.19
24	State and Local Government Admin.	5.21	5.07	7.35
12	Law, Crime, and Family Issues	5.72	5.72	5.78
15	Banking, Finance and Dom. Commerce	15.14	15.90	3.76
5	Labor & Employment	2.68	2.62	3.59
1	Macroeconomics	1.78	1.70	2.89
10	Transportation	3.48	3.52	2.81
2	Civil Rights	1.98	1.93	2.77
6	Education	3.98	4.07	2.72
8	Energy	2.01	1.98	2.48
18	Foreign Trade	2.13	2.12	2.39
3	Health	2.98	3.04	2.15
14	Community Development and Housing	1.81	1.79	1.98
17	Space, Science, Technology & Comm.	2.19	2.22	1.86
99	Other	4.80	5.02	1.49
28	Arts and Entertainment	6.34	6.69	1.16
31	Churches and Religion	1.29	1.30	1.16
13	Social Welfare	0.68	0.65	1.11
4	Agriculture	1.07	1.07	1.07
7	Environment	1.42	1.45	0.95
30	Death Notices	1.73	1.81	0.54
29	Sports and Recreation	1.88	1.98	0.41
21	Public Lands and Water Management	0.64	0.66	0.29
26	Weather and Natural Disasters	0.20	0.19	0.29
27	Fires	0.25	0.25	0.25
		100	**93.70**	**6.30**
DEM	Democratic topics	8.32	8.23	9.62
REP	Republican topics	13.07	12.54	20.97

Notes: Democratic stories comprise Civil Rights, Health Care, Labor & Employment and Social Welfare ones. Republican stories comprise Defense and Law & Crime ones.

Table 3.4: Relative frequencies of Executive Orders, 1946-1997

	Major Topic	[1] Entire sample	[2] Democratic Presidents	[3] Republican Presidents
20	Federal Government Operations	23.43	21.50	25.76
16	Defense	20.79	21.34	20.13
19	International Affairs	11.35	11.31	11.39
5	Labor & Employment	9.56	11.58	7.12
21	Public Lands and Water Manag.	6.16	7.08	5.05
18	Foreign Trade	4.40	3.81	5.11
2	Civil Rights	4.05	4.93	2.98
15	Banking, Finance and Dom. Commerce	2.43	1.82	3.17
1	Macroeconomics	2.38	1.93	2.91
10	Transportation	2.35	2.20	2.52
8	Energy	2.29	2.36	2.20
17	Space, Science, Tech. & Comm.	1.94	1.72	2.20
12	Law, Crime, and Family	1.70	1.72	1.68
7	Environment	1.58	1.61	1.55
14	Community Development and Housing	1.50	1.29	1.75
3	Health	1.44	1.93	0.84
4	Agriculture	1.03	0.86	1.23
6	Education	1.00	0.80	1.23
13	Social Welfare	0.65	0.21	1.17
DEM	Executive Orders on Democratic topics	15.69	18.66	12.10
REP	Executive Orders on Republican topics	22.49	23.06	21.81

Notes: Democratic topics comprise Civil Rights, Health Care, Labor & Employment and Social Welfare. Republican topics comprise Defense and Law & Crime.

Table 3.5: Poisson estimates for count of stories on Democratic topics, baseline specification

	[1] all stories	[2] domestic stories	[3] non-local stories	[4] TriState stories	[5] NYC stories	[6] front page stories	[7] stories not on the front page
Incumbent President is a Democrat	1.179***	1.192***	1.183***	1.105	1.204	1.275*	1.167***
	[4.32]	[4.29]	[3.93]	[0.81]	[1.38]	[1.69]	[3.94]
Presidential campaign dummy	1.266***	1.231**	1.167	1.091	2.635***	1.68	1.246***
	[2.90]	[2.49]	[1.64]	[0.28]	[3.72]	[1.33]	[2.69]
interaction: Presidential campaign & incumbent President is a Democrat	0.810*	0.762**	0.848	0.891	0.541	0.475	0.834
	[1.71]	[2.48]	[1.13]	[0.24]	[1.46]	[1.16]	[1.52]
relative frequency of Executive Orders	0.934	0.955	0.911	0.828	1.335	0.772	0.948
	[0.76]	[0.50]	[0.92]	[0.65]	[0.93]	[0.69]	[0.62]
total number of stories	1.014***	1.004	0.999	1	0.995	0.997	0.999
	[18.78]	[1.15]	[0.21]	[0.06]	[1.52]	[0.90]	[0.08]
total number of stories in the considered subset	-	1.014***	1.019***	1.113***	1.166***	1.226***	1.016**
		[2.67]	[3.86]	[5.36]	[7.59]	[7.98]	[2.23]
p value for no effects of the campaign when the incumbent is a Democrat	0.82	0.5	0.94	0.94	0.37	0.69	0.72
Monthly dummies	yes	yes	yes	yes	yes	yes	yes
Time trend	yes	yes	yes	yes	yes	yes	yes
Time trend squared	yes	yes	yes	yes	yes	yes	yes
Observations	624	624	624	624	624	624	624
Pseudo R2	0.16	0.15	0.13	0.12	0.12	0.11	0.16

Notes: Poisson regressions of the number of stories about Democratic topics (Civil Rights, Health Care, Labor & Employment and Social Welfare), for different categories of news. For each explanatory variable, incidence rate ratios (IRR) are reported, with robust z statistics in brackets. *** indicates that the coefficient is significantly different from zero at the 1% level. ** (*) indicates 5% (10%) significance.

Table 3.6: Poisson estimates for count of stories on Defense, baseline specification

	[1] all stories	[2] domestic stories	[3] non-domestic stories	[4] front page stories	[5] stories not on the front page
Incumbent President is a Republican	1.102**	1.095	1.118**	1.220*	1.089*
	[2.02]	[1.10]	[2.03]	[1.82]	[1.65]
Presidential campaign dummy	1.064	1.09	1.069	0.879	1.092
	[0.35]	[0.47]	[0.38]	[0.35]	[0.43]
interaction: Presidential campaign & incumbent President is a Republican	0.806	0.694	0.923	0.573	0.846
	[1.09]	[1.35]	[0.39]	[1.14]	[0.73]
dummy for campaign years with issue ownership reversal ('64, '80, '96)	1.029	1.04	1.08	0.86	1.056
	[0.11]	[0.14]	[0.27]	[0.26]	[0.20]
monthly Killed In Action (KIA), thousands	1.348***	1.147**	1.472***	1.359***	1.341***
	[6.70]	[2.53]	[6.48]	[3.31]	[6.14]
relative frequency of Executive Orders	1.127	1.430**	1.069	1.014	1.129
	[1.16]	[2.35]	[0.55]	[0.06]	[1.11]
total number of stories	1.014***	0.998	0.997	0.998	1
	[15.23]	[0.34]	[1.48]	[1.08]	[0.03]
total number of stories in the considered subset	-	1.020**	1.063***	1.224***	1.016
		[2.37]	[8.66]	[11.26]	[1.47]
p value for no effects of the campaign when the incumbent is a Republican	0.22	0.2	0.92	0.07	0.54
Monthly dummies	yes	yes	yes	yes	yes
Time trend	yes	yes	yes	yes	yes
Time trend squared	yes	yes	yes	yes	yes
Observations	624	624	624	624	624
Pseudo R2	0.24	0.16	0.22	0.18	0.22

Notes: Poisson regressions of the number of stories about Defense, for different categories of news. For each explanatory variable, incidence rate ratios (IRR) are reported, with robust z statistics in brackets. *** indicates that the coefficient is significantly different from zero at the 1% level. ** (*) indicates 5% (10%) significance.

Summary statistics!

% Most important topic.

What is variance in defense relative to health, etc.

Table 3.7: Poisson estimates for count of stories on Law & Crime, baseline specification

	[1] all stories	[2] domestic stories	[3] non-local stories	[4] TriState stories	[5] NYC stories	[6] front page stories	[7] stories not on the front page
Incumbent President is a Republican	0.978	0.963	1.022	0.821	1.031	0.954	0.982
	[0.48]	[0.78]	[0.34]	[1.52]	[0.29]	[0.23]	[0.39]
Presidential campaign dummy	1.005	1.033	0.899	1.433	1.107	1.801	0.956
	[0.03]	[0.18]	[0.45]	[1.00]	[0.33]	[1.09]	[0.26]
interaction: Presidential campaign & incumbent President is a Republican	1.127	0.956	1.31	1.08	0.731	1.36	1.111
	[0.62]	[0.24]	[1.06]	[0.22]	[0.79]	[0.53]	[0.56]
dummy for campaign years with issue ownership reversal ('76, '92, '96)	0.966	1.071	0.907	1.358	0.763	0.346	1.034
	[0.21]	[0.40]	[0.51]	[0.87]	[0.51]	[1.05]	[0.20]
relative frequency of Executive Orders	1.215	1.400*	1.181	1.667	1.22	1.723	1.182
	[1.01]	[1.76]	[0.67]	[1.11]	[0.37]	[0.73]	[0.86]
total number of stories	1.015***	1.005	0.992	1.006*	1.001	1.003	1
	[15.22]	[0.98]	[1.46]	[1.78]	[0.31]	[0.86]	[0.05]
total number of stories in the considered subset	-	1.015**	1.026***	1.110***	1.146***	1.213***	1.016*
		[2.13]	[3.70]	[6.70]	[8.53]	[7.17]	[1.75]
p value for no effects of the campaign when the incumbent is a Republican	0.36	0.92	0.36	0.11	0.49	0.03	0.65
Monthly dummies	yes	yes	yes	yes	yes	yes	yes
Time trend	yes	yes	yes	yes	yes	yes	yes
Time trend squared	yes	yes	yes	yes	yes	yes	yes
Observations	624	624	624	624	624	624	624
Pseudo R2	0.16	0.16	0.09	0.16	0.15	0.11	0.15

Notes: Poisson regressions of the number of stories about Law & Crime, for different categories of news. For each explanatory variable, incidence rate ratios (IRR) are reported, with robust z statistics in brackets. *** indicates that the coefficient is significantly different from zero at the 1% level. ** (*) indicates 5% (10%) significance.

Table 3.8: Poisson estimates for count of stories on Democratic topics, controlling for NYS Governor, NYC Mayor and NYT publisher

	[1] all stories	[2] domestic stories	[3] non-local stories	[4] tristate stories	[5] NYC stories	[6] front page stories	[7] stories not on the front page
Incumbent President is a Democrat	1.110**	1.101*	1.05	1.389**	1.265	1.176	1.100*
	[2.18]	[1.91]	[0.85]	[2.18]	[1.42]	[0.84]	[1.90]
Presidential campaign dummy	1.267***	1.230**	1.172*	1.033	2.613***	1.683	1.246***
	[2.96]	[2.54]	[1.69]	[0.10]	[3.72]	[1.34]	[2.80]
interaction: Presidential campaign & incumbent President is a Democrat	0.802*	0.755**	0.84	0.891	0.513	0.465	0.825
	[1.69]	[2.49]	[1.11]	[0.25]	[1.60]	[1.18]	[1.53]
Incumbent NYS Governor is a Democrat	1.103*	1.08	0.974	1.774***	1.326	1.17	1.097
	[1.68]	[1.28]	[0.43]	[3.46]	[1.34]	[0.69]	[1.56]
Incumbent NYC Mayor is a Democrat	0.863**	0.877**	0.933	0.610***	0.646*	1.058	0.847***
	[2.45]	[2.11]	[1.05]	[2.75]	[1.90]	[0.25]	[2.70]
Orvil Dryfoos publisher dummy	0.928	0.917	1.038	0.544	0.515	0.915	0.925
	[0.58]	[0.66]	[0.25]	[1.18]	[1.19]	[0.19]	[0.54]
Arthur Ochs Sulzberger publisher dummy	1.305**	1.378***	1.428**	0.591	1.108	1.927	1.256*
	[2.25]	[2.68]	[2.54]	[1.27]	[0.23]	[1.30]	[1.83]
Arthur Sulzberger Jr. publisher dummy	1.483**	1.655***	1.808***	0.427	0.78	2.242	1.437*
	[2.10]	[2.69]	[2.70]	[1.30]	[0.35]	[1.04]	[1.90]
p value for no effects of the presidential campaign when the incumbent President is a Democrat	0.9	0.45	0.91	0.83	0.46	0.67	0.81
Monthly dummies	yes	yes	yes	yes	yes	yes	yes
Time trend and time trend squared	yes	yes	yes	yes	yes	yes	yes
Executive Orders and total number of stories	yes	yes	yes	yes	yes	yes	yes
Observations	624	624	624	624	624	624	624
Pseudo R2	0.17	0.15	0.14	0.13	0.13	0.11	0.17

Notes: Poisson regressions of the number of stories about Democratic topics (Civil Rights, Health Care, Labor & Employment and Social Welfare), for different categories of news. For each explanatory variable, incidence rate ratios (IRR) are reported, with z statistics in brackets. *** indicates that the coefficient is significantly different from zero at the 1% level. ** (*) indicates 5% (10%) significance.

Table 3.9: count of stories on Defense, controlling for NYS Governor, NYC Mayor and NYT publisher

	[1] all stories	[2] domestic stories	[3] non-domestic stories	[4] front page stories	[5] stories not on the front page
Incumbent President is a Republican	1.274***	1.212*	1.319***	1.214	1.268***
	[3.55]	[1.75]	[3.62]	[1.21]	[3.21]
Presidential campaign dummy	1.071	1.115	1.083	0.843	1.103
	[0.39]	[0.58]	[0.43]	[0.45]	[0.48]
interaction: Presidential campaign & incumbent President is a Republican	0.838	0.69	0.98	0.617	0.877
	[0.86]	[1.37]	[0.09]	[0.99]	[0.56]
dummy for campaign years with issue ownership reversal ('64, '80, '96)	1.073	1.012	1.119	0.95	1.096
	[0.28]	[0.04]	[0.40]	[0.09]	[0.34]
monthly Killed In Action (KIA), thousands	1.311***	1.153***	1.418***	1.277**	1.310***
	[6.51]	[2.64]	[6.14]	[2.14]	[6.04]
Incumbent NYS Governor is a Republican	0.929	1.106	0.885	1.002	0.926
	[0.99]	[0.87]	[1.52]	[0.01]	[0.97]
Incumbent NYC Mayor is a Republican	1.138	0.903	1.151*	1.214	1.115
	[1.59]	[0.79]	[1.70]	[1.01]	[1.29]
Orvil Dryfoos publisher dummy	1.642***	1.23	1.765***	1.057	1.678***
	[2.96]	[0.78]	[2.88]	[0.15]	[2.72]
Arthur Ochs Sulzberger publisher dummy	1.880***	1.289	2.336***	1.126	1.972***
	[3.60]	[0.97]	[4.42]	[0.29]	[3.52]
Arthur Sulzberger Jr. publisher dummy	1.378	1.439	1.483	0.451	1.491
	[1.11]	[0.84]	[1.18]	[0.96]	[1.32]
p value for no effects of the presidential campaign when the incumbent President is a Republican	0.4	0.22	0.67	0.07	0.81
Monthly dummies	yes	yes	yes	yes	yes
Time trend and time trend squared	yes	yes	yes	yes	yes
Executive Orders and total number of stories	yes	yes	yes	yes	yes
Observations	624	624	624	624	624
Pseudo R2	0.25	0.16	0.23	0.19	0.23

Notes: Poisson regressions of the number of stories about Defense, for different categories of news. For each explanatory variable, incidence rate ratios (IRR) are reported, with robust z statistics in brackets. *** indicates that the coefficient is significantly different from zero at the 1% level. ** (*) indicates 5% (10%) significance.

Table 3.10: count of stories on Law & Crime, controlling for presidential activity, NYS Governor, NYC Mayor and NYT publisher

	[1] all stories	[2] domestic stories	[3] non-local stories	[4] tristate stories	[5] NYC stories	[6] front page stories	[7] stories not on the front page
Incumbent President is a Republican	1.025	1.029	1.094	0.804	1.016	1.011	1.029
	[0.42]	[0.46]	[1.11]	[1.33]	[0.10]	[0.04]	[0.47]
Presidential campaign dummy	0.988	1.02	0.913	1.316	0.986	1.658	0.942
	[0.07]	[0.11]	[0.38]	[0.76]	[0.05]	[0.94]	[0.34]
interaction: Presidential campaign & incumbent President is a Republican	1.165	0.98	1.331	1.082	0.8	1.445	1.147
	[0.78]	[0.10]	[1.09]	[0.22]	[0.58]	[0.64]	[0.71]
dummy for campaign years with issue ownership reversal ('76, '92, '96)	0.954	1.045	0.822	1.663	0.865	0.317	1.02
	[0.27]	[0.25]	[0.99]	[1.39]	[0.27]	[1.08]	[0.11]
Incumbent NYS Governor is a Republican	0.931	0.902	0.819**	0.829	1.242	0.972	0.931
	[1.04]	[1.44]	[2.07]	[1.03]	[1.49]	[0.10]	[1.02]
Incumbent NYC Mayor is a Republican	1.122*	1.188**	1.007	1.810***	1.206	1.176	1.113
	[1.67]	[2.29]	[0.09]	[3.15]	[1.23]	[0.54]	[1.54]
Orvil Dryfoos publisher dummy	0.779	0.808	0.938	0.823	0.477	0.249	0.834
	[1.08]	[0.92]	[0.25]	[0.36]	[1.59]	[1.30]	[0.80]
Arthur Ochs Sulzberger publisher dummy	1.452**	1.529**	1.890***	0.99	0.963	1.167	1.471**
	[2.08]	[2.29]	[2.65]	[0.02]	[0.11]	[0.26]	[2.03]
Arthur Sulzberger Jr. publisher dummy	1.437	1.556*	2.180**	0.523	0.629	1.655	1.441
	[1.50]	[1.74]	[2.57]	[0.98]	[0.81]	[0.52]	[1.43]
p value for no effects of the presidential campaign when the incumbent President is a Republican	0.3	1	0.28	0.2	0.42	0.03	0.56
Monthly dummies	yes	yes	yes	yes	yes	yes	yes
Time trend and time trend squared	yes	yes	yes	yes	yes	yes	yes
Executive Orders and total number of stories	yes	yes	yes	yes	yes	yes	yes
Observations	624	624	624	624	624	624	624
Pseudo R2	0.17	0.17	0.1	0.17	0.16	0.11	0.16

Notes: Poisson regressions of the number of stories about Law & Crime, for different categories of news. For each explanatory variable, incidence rate ratios (IRR) are reported, with robust z statistics in brackets. *** indicates that the coefficient is significantly different from zero at the 1% level. ** (*) indicates 5% (10%) significance.

Table 3.11: count of stories on Democratic topics, from 1961 to 1997, controlling for NYS Governor, NYC Mayor and NYT Publisher

	[1] all stories	[2] domestic stories	[3] non-local stories	[4] tristate stories	[5] NYC stories	[6] front page stories	[7] stories not on the front page
Incumbent President is a Democrat	1.128**	1.115*	1.058	1.399*	1.37	1.086	1.128**
	[2.05]	[1.74]	[0.79]	[1.85]	[1.57]	[0.37]	[1.98]
Presidential campaign dummy	1.326***	1.269**	1.201*	0.934	3.360***	2.195*	1.290***
	[3.18]	[2.53]	[1.73]	[0.19]	[4.24]	[1.93]	[2.86]
interaction: Presidential campaign & incumbent President is a Democrat	0.765	0.735**	0.864	0.541	0.412**	0.446	0.787
	[1.56]	[2.09]	[0.71]	[1.16]	[2.00]	[1.11]	[1.49]
relative frequency of Executive Orders	1.03	1.038	0.976	1.038	1.488	0.616	1.069
	[0.30]	[0.37]	[0.21]	[0.12]	[1.30]	[1.07]	[0.69]
Incumbent NYS Governor is a Democrat	1.237**	1.225*	1.085	1.995***	1.296	2.885**	1.177
	[2.04]	[1.89]	[0.70]	[2.67]	[0.75]	[2.33]	[1.57]
Incumbent NYC Mayor is a Democrat	0.816***	0.833**	0.893	0.526***	0.653*	0.749	0.815***
	[2.87]	[2.54]	[1.45]	[2.92]	[1.73]	[1.04]	[2.81]
Arthur Ochs Sulzberger publisher dummy	1.457***	1.593***	1.455**	0.747	2.919*	2.149*	1.409**
	[2.85]	[3.69]	[2.46]	[0.59]	[1.83]	[1.68]	[2.41]
Arthur Sulzberger Jr. publisher dummy	1.574**	1.784***	1.723***	0.697	1.726	2.181	1.525**
	[2.53]	[3.32]	[2.63]	[0.54]	[0.75]	[1.19]	[2.30]
p value for no effects of the presidential campaign when the incumbent President is a Democrat	0.93	0.59	0.85	0.1	0.45	0.98	0.91
Monthly dummies	yes	yes	yes	yes	yes	yes	yes
Time trend and time trend squared	yes	yes	yes	yes	yes	yes	yes
Executive Orders and total number of stories	yes	yes	yes	yes	yes	yes	yes
Observations	444	444	444	444	444	444	444
Pseudo R2	0.17	0.16	0.13	0.16	0.13	0.16	0.16

Notes: Poisson regressions of the number of stories about Democratic topics (Civil Rights, Health Care, Labor & Employment and Social Welfare), for different categories of news. For each explanatory variable, incidence rate ratios (IRR) are reported, with z statistics in brackets. *** indicates that the coefficient is significantly different from zero at the 1% level. ** (*) indicates 5% (10%) significance.

Table 3.12: count of stories on Defense, from 1961 to 1997, controlling for NYS Governor, NYC Mayor and NYT publisher

	[1] all stories	[2] domestic stories	[3] non-domestic stories	[4] front page stories	[5] stories not on the front page
Incumbent President is a Republican	1.519***	1.523***	1.506***	1.473*	1.492***
	[5.08]	[2.86]	[4.40]	[1.70]	[4.62]
Presidential campaign dummy	1.610***	2.147***	1.432**	0.521	1.837***
	[3.84]	[3.06]	[2.47]	[1.15]	[4.74]
interaction: Presidential campaign & incumbent President is a Republican	0.483***	0.390***	0.602***	1.007	0.450***
	[5.25]	[3.05]	[2.64]	[0.01]	[5.47]
dummy for campaign years with issue ownership reversal ('64, '80, '96)	0.725	0.539*	0.883	1.204	0.700*
	[1.60]	[1.81]	[0.49]	[0.26]	[1.78]
monthly Killed In Action (KIA), thousands	1.338***	0.825	1.510***	0.925	1.395***
	[2.76]	[1.05]	[4.05]	[0.34]	[2.95]
Incumbent NYS Governor is a Republican	0.724**	0.875	0.692***	0.79	0.724**
	[2.37]	[0.60]	[2.68]	[0.63]	[2.28]
Incumbent NYC Mayor is a Republican	1.209*	1.059	1.224**	1.478	1.175
	[1.83]	[0.34]	[2.06]	[1.56]	[1.51]
Arthur Ochs Sulzberger publisher dummy	1.207	1.286	1.206	1.619	1.129
	[1.12]	[0.96]	[0.96]	[1.56]	[0.66]
Arthur Sulzberger Jr. publisher dummy	1.125	1.617	1.052	0.462	1.175
	[0.48]	[1.25]	[0.18]	[1.03]	[0.64]
p value for no effects of the presidential campaign when the incumbent President is a Republican	0.06	0.43	0.37	0.06	0.16
p value for no effects of the presidential campaign during ownership reversal campaigns	0.43	0.6	0.3	0.3	0.2
Monthly dummies	yes	yes	yes	yes	yes
Time trend and time trend squared	yes	yes	yes	yes	yes
Executive Orders and total number of stories	yes	yes	yes	yes	yes
Observations	444	444	444	444	444
Pseudo R2	0.24	0.11	0.25	0.2	0.22

Notes: Poisson regressions of the number of stories about Defense, for different categories of news. For each explanatory variable, incidence rate ratios (IRR) are reported, with robust z statistics in brackets. *** indicates that the coefficient is significantly different from zero at the 1% level. ** (*) indicates 5% (10%) significance.

Table 3.13: count of stories on Law & Crime, from 1961 to 1997, controlling for NYS Governor, NYC Mayor and NYT publisher

	[1] all stories	[2] domestic stories	[3] non-local stories	[4] tristate stories	[5] NYC stories	[6] front page stories	[7] stories not on the front page
Incumbent President is a Republican	1.073	1.071	1.210**	0.844	0.947	1.217	1.059
	[1.16]	[1.04]	[2.17]	[0.92]	[0.34]	[0.71]	[0.90]
Presidential campaign dummy	1.034	1.082	1.079	1.461	0.71	2.065	0.981
	[0.17]	[0.39]	[0.29]	[0.86]	[0.91]	[1.17]	[0.10]
interaction: Presidential campaign & incumbent President is a Republican	1.097	0.987	1.025	1.206	1.016	1.117	1.091
	[0.45]	[0.06]	[0.09]	[0.46]	[0.03]	[0.18]	[0.42]
dummy for campaign years with issue ownership reversal ('76, '92, '96)	0.954	1.003	0.837	1.438	1.074	0.301	1.031
	[0.26]	[0.01]	[0.82]	[0.98]	[0.13]	[1.12]	[0.16]
relative frequency of Executive Orders	1.096	1.226	1.183	1.426	0.947	1.462	1.074
	[0.44]	[0.98]	[0.70]	[0.62]	[0.10]	[0.48]	[0.33]
Incumbent NYS Governor is a Republican	0.830*	0.862	0.641***	0.733	1.468*	1.045	0.821**
	[1.93]	[1.45]	[3.15]	[1.21]	[1.92]	[0.10]	[2.06]
Incumbent NYC Mayor is a Republican	1.226***	1.275***	1.126	1.980***	1.335*	1.195	1.216***
	[2.76]	[3.11]	[1.30]	[3.42]	[1.70]	[0.54]	[2.66]
Arthur Ochs Sulzberger publisher dummy	1.384	1.298	1.738**	0.822	0.978	1.897	1.353
	[1.61]	[1.31]	[2.54]	[0.45]	[0.05]	[0.79]	[1.50]
Arthur Sulzberger Jr. publisher dummy	1.562*	1.614**	2.152***	0.581	0.87	4.188	1.46
	[1.91]	[1.99]	[3.07]	[0.94]	[0.23]	[1.40]	[1.59]
p value for no effects of the presidential campaign when the incumbent President is a Republican	0.38	0.62	0.63	0.06	0.29	0.04	0.65
Monthly dummies	yes	yes	yes	yes	yes	yes	yes
Time trend and time trend squared	yes	yes	yes	yes	yes	yes	yes
Executive Orders and total number of stories	yes	yes	yes	yes	yes	yes	yes
Observations	444	444	444	444	444	444	444
Pseudo R2	0.15	0.15	0.09	0.17	0.16	0.11	0.14

Notes: Poisson regressions of the number of stories about Law & Crime, for different categories of news. For each explanatory variable, incidence rate ratios (IRR) are reported, with robust z statistics in brackets. *** indicates that the coefficient is significantly different from zero at the 1% level. ** (*) indicates 5% (10%) significance.

Table 3.14: Poisson estimates on the collapsed dataset, entire sample and post-1960 subsample

	entire sample			post-1960 subsample		
	[1] Democratic stories	[2] Defense stories	[3] Law & Crime stories	[4] Democratic stories	[5] Defense stories	[6] Law & Crime stories
Incumbent President dummy	1.180**	1.045	0.968	1.316*	1.538***	0.882
	[2.09]	[0.39]	[0.42]	[1.79]	[4.12]	[0.86]
Presidential campaign dummy	1.221***	0.829	0.979	1.252**	1.305	0.926
	[2.76]	[1.36]	[0.13]	[2.52]	[1.17]	[0.37]
interaction: Presidential campaign & incumbent President dummy	0.817	1.043	1.297	0.766	0.574***	1.342
	[1.46]	[0.23]	[1.16]	[1.38]	[2.68]	[1.26]
dummy for campaign years with issue ownership reversal	-	1.451*	0.931	-	0.984	0.982
		[1.94]	[0.44]		[0.05]	[0.10]
number of Killed In action (KIA), thousands	-	1.919***	-	-	1.46	-
		[4.05]			[1.22]	
relative frequency of Executive Orders	1.036	2.441**	29.055	1.038	2.727*	28.525
	[0.16]	[2.04]	[1.19]	[0.18]	[1.95]	[1.13]
p value for no effects of the campaign when the incumbent owns the issue	0.98	0.42	0.09	0.82	0.15	0.13
Time trend and time trend squared	yes	yes	yes	yes	yes	yes
Total number of stories	yes	yes	yes	yes	yes	yes
Observations	27	27	27	18	18	18
Pseudo R2	0.1	0.28	0.16	0.12	0.36	0.13

Notes: Poisson regressions of the total number of stories about Democratic topics, Defense and Law & Crime. For Democratic stories (columns [1] and [3]) the incumbent President dummy equals one when the incumbent President is a Democrat. Vice versa for Defense and Law & Crime (columns [2], [3], [5] and [6]). The interaction term is defined accordingly. Campaign years with issue ownership reversal are 1964, 1980 and 1996 for Defense and 1976, 1992 and 1996 for Law & Crime. For each explanatory variable, incidence rate ratios (IRR) are reported, with robust z statistics in brackets. *** indicates that the coefficient is significantly different from zero at the 1% level. ** (*) indicates 5% (10%) significance.

Table 3.15: detailed list of Gallup polls on issue ownership. Defense and foreign policy.

year	gallup number	question no	start date	end date	topic	exact wording	Problem is better handled by				no of respondents
							Democrats	Republicans	difference	yearly average diff.	
1948	412T	qn3_2	06/02/1948	11/02/1948	Soviet Union	deal with Soviet Union and other countries	34.15	33.14	1.01	-	1584
1948	420	qn15b_K	16/06/1948	16/06/1948	foreign policy	deal with world affairs	34.50	36.67	-2.17	-0.58	1606
1952	496	qn10b	23/07/1952	23/07/1952	defense/foreign policy	keep country at peace	31.62	34.53	-2.91	-	2992
1952	506	qn18d	07/10/1952	07/10/1952	defense (Korea)	handle Korean situation	18.58	65.37	-46.79	-24.85	3078
1960	627	qn53e	26/04/1960	26/04/1960	defense/foreign policy	keep US out of World War III	27.10	38.87	-11.77	-	2727
1960	627	qn53a	26/04/1960	26/04/1960	Soviet Union	deal with Soviet Union's leaders	29.77	50.48	-20.71	-16.24	2728
1964	697	qn5b	04/08/1964	04/08/1964	defense (Vietnam)	handle situation getting worse in Vietnam	61.03	18.71	42.32	-	3197
1964	696	qn7d	04/08/1964	04/08/1964	defense (Vietnam)	handle situation getting worse in Vietnam	56.36	14.77	41.59	41.96	3020
1968	763	qn11	13/06/1968	18/06/1968	defense (Vietnam)	better job of dealing with Vietnam war	41.35	41.13	0.22	-	3197
1968	766	qn13	07/08/1968	12/08/1968	defense (Vietnam)	better job of dealing with Vietnam war	26.97	54.06	-27.09	-	3152
1968	767	qn18a	30/08/1968	30/08/1968	defense (Vietnam)	better job of dealing with Vietnam war	27.89	47.20	-19.31	-	3148
1968	768	qn8	19/09/1968	24/09/1968	defense (Vietnam)	better job of dealing with Vietnam war	25.86	44.78	-18.92	-	3182
1968	770	qn14	17/10/1968	22/10/1968	defense (Vietnam)	better job of dealing with Vietnam war	30.14	45.37	-15.23	-	3251
1968	637	qn63e	18/10/1968	23/10/1968	defense/foreign policy	keep US out of World War III	27.14	40.80	-13.66	-	2988
1968	637	qn63a	18/10/1968	23/10/1968	Soviet Union	deal with Soviet Union's leaders	38.55	43.24	-4.69	-14.10	2988
1972	858	qn11	19/09/1972	19/09/1972	defense (Vietnam)	better job of dealing with Vietnam situation	25.90	58.29	-32.39	-	3263
1972	859	qn9	10/10/1972	10/10/1972	defense/foreign policy	keep US out of World War III	26.15	35.66	-9.51	-20.95	2914
1976	959	qn15l	21/09/1976	21/09/1976	defense	handle national defense	29.00	43.95	-14.95	-	2662
1976	959	qn15d	21/09/1976	21/09/1976	defense/foreign policy	keep US out of war	27.69	41.62	-13.93	-	2662
1976	959	qn15a	21/09/1976	21/09/1976	foreign policy	handle relations with other nations	24.94	50.86	-25.92	-	2662
1976	959	qn15g	21/09/1976	21/09/1976	Soviet Union	deal with Soviet Union	22.31	47.11	-24.80	-	2662
1976	960	qn9d	05/10/1976	05/10/1976	defense	handle national defense	40.95	38.90	2.05	-	2725
1976	960	qn9b	05/10/1976	05/10/1976	defense/foreign policy	keep US out of war	33.25	45.36	-12.11	-	2725
1976	960	qn9a	05/10/1976	05/10/1976	foreign policy	handle relations with other nations	34.24	46.75	-12.51	-14.60	2725
1980	GP 156G	qn4e	27/05/1980	27/05/1980	defense/foreign policy	keep US out of war	46.60	20.14	26.46	-	2820
1980	GP 156G	qn4g	27/05/1980	27/05/1980	foreign policy (Iran)	handle the Iranian situation	34.04	28.44	5.60	-	2820
1980	GP 156G	qn4f	27/05/1980	27/05/1980	Soviet Union	deal with Soviet Union	35.11	30.00	5.11	-	2820
1980	The Gallup Poll	qn7gD	09/09/1980	09/09/1980	defense/foreign policy	keep US out of war	49.73	24.58	25.15	-	2819
1980	The Gallup Poll	qn7gK	09/09/1980	09/09/1980	environment	deal with environmental problem	37.96	29.05	8.91	-	2819
1980	The Gallup Poll	qn7gA	09/09/1980	09/09/1980	foreign policy	handle foreign relations	43.53	34.69	8.84	-	2819
1980	The Gallup Poll	qn7gS	09/09/1980	09/09/1980	foreign policy	increase respect for US overseas	31.82	41.22	-9.40	-	2819
1980	The Gallup Poll	qn7gG	09/09/1980	09/09/1980	foreign policy (Iran)	handle the Iranian situation	33.20	37.99	-4.79	-	2819
1980	The Gallup Poll	qn7gR	09/09/1980	09/09/1980	foreign policy (Israel)	deal with Arab-Israeli situation	46.54	28.88	17.66	-	2819
1980	The Gallup Poll	qn7gE	09/09/1980	09/09/1980	Soviet Union	deal with Soviet Union	40.16	35.62	4.54	8.81	2819
1984	GP 240G	qn7b	10/08/1984	12/08/1984	defense/foreign policy	keep country out of war	46.64	35.54	11.10	-	2720
1984	GP 240G	qn7e	10/08/1984	12/08/1984	foreign policy	handle foreign relations	33.29	49.52	-16.23	-	2720
1984	GP 240G	qn7o	10/08/1984	12/08/1984	foreign policy	increase respect for US overseas	33.44	48.13	-14.69	-	2720
1984	GP 240G	qn7k	10/08/1984	12/08/1984	foreign policy (Central America)	deal with situation in Central America	34.35	41.30	-6.95	-	2720
1984	GP 240G	qn7f	10/08/1984	12/08/1984	Soviet Union	deal with Soviet Union	33.97	48.40	-14.43	-8.24	2720
1988	Ad hoc telephone survey 2	qn3b	13/05/1988	15/05/1988	defense/foreign policy	keep country out of war	40.57	36.60	3.97	-	1640
1988	Ad hoc telephone survey 2	qn3c	13/05/1988	15/05/1988	Soviet Union	deal with Soviet Union	29.35	48.49	-19.14	-	1640
1988	Democratic Convention	qn11a	21/07/1988	22/07/1988	defense/foreign policy	keep country out of war	49.57	32.09	17.48	-	5792
1988	Democratic Convention	qn11e	21/07/1988	22/07/1988	foreign policy (Soviet Union)	manage relations with Soviet Union and other foreign countries	34.05	49.93	-15.88	-	5792
1988	Republican Convention	qn8a	18/08/1988	19/08/1988	defense/foreign policy	keep country out of war	34.48	49.73	-15.25	-5.76	1382
1992	January In-Depth Survey	qn20d	03/01/1992	06/01/1992	foreign policy	handle foreign affairs	27.90	56.79	-28.89	-	4852
1992	March Campaign Benchmark	qn20l	20/03/1992	22/03/1992	defense	handle national defense	20.64	71.49	-50.85	-	1543
1992	March Campaign Benchmark	qn20d	20/03/1992	22/03/1992	foreign policy	handle foreign affairs	21.77	69.66	-47.89	-	1543
1992	Pre-Democratic Convention Poll	qn10e	06/07/1992	08/07/1992	foreign policy	handle foreign affairs	14.06	62.60	-48.54	-	1554
1992	Pre-Democratic Convention	qn7b	09/07/1992	10/07/1992	foreign policy	handle foreign policy	16.20	60.71	-44.51	-	1158
1992	Post-Democratic Convention Poll	qn9d	17/07/1992	18/07/1992	foreign policy	handle foreign affairs	24.79	64.03	-39.24	-	1170
1992	Pre Republican Convention Poll	qn12a	10/08/1992	12/08/1992	foreign policy	handle foreign affairs	30.20	61.55	-31.35	-	1531
1992	Post GOP Convention	qn4b	21/08/1992	21/08/1992	foreign policy	handle foreign policy	23.99	69.79	-45.80	-	698
1992	Post-Republican Convention Poll	qn11a	21/08/1992	23/08/1992	foreign policy	handle foreign affairs	19.33	72.57	-53.24	-	1191
1992	Labor Day Benchmark	qn14a	31/08/1992	02/09/1992	foreign policy	handle foreign affairs	24.43	66.93	-42.50	-	1573
1992	Fall In-Depth Benchmark	qn20a	11/09/1992	15/09/1992	foreign policy	handle foreign affairs	20.10	72.97	-52.87	-	1808
1992	Campaign Issues	qn5g	11/10/1992	11/10/1992	foreign policy	handle foreign policy	21.37	64.38	-43.01	-	424
1992	Pres Election October Benchmark	qn14b	23/10/1992	25/10/1992	foreign policy	handle foreign affairs	18.08	65.53	-47.45	-44.32	1602
1996	July Wave 1	qn9k	18/07/1996	21/07/1996	foreign policy	handle foreign affairs	44.93	38.73	6.20	-	1010
1996	General Election Tracking poll week 5	qn34b	30/09/1996	06/10/1996	foreign policy	handle foreign affairs	47.75	39.47	8.28	-	3255
1996	General Election Tracking poll week 6	qn34b	07/10/1996	13/10/1996	foreign policy	handle foreign affairs	48.52	39.44	9.08	-	3805
1996	General Election Tracking poll week 7	qn34b	14/10/1996	20/10/1996	foreign policy	handle foreign affairs	49.10	38.29	10.81	-	3686
1996	October Pre-Election Roundup	qn11h	25/10/1996	27/10/1996	foreign policy	handle foreign affairs	47.56	41.69	5.87	-	461
1996	General Election Tracking poll week 8	qn34b	21/10/1996	27/10/1996	foreign policy	handle foreign affairs	48.73	38.13	10.60	-	3763
1996	General Election Tracking poll week 9	qn34b	28/10/1996	03/11/1996	foreign policy	handle foreign affairs	49.19	37.82	11.37	-	4939
1996	General Election Tracking Poll OJ Study	qn34b	21/10/1996	03/11/1996	foreign policy	handle foreign affairs	43.86	40.86	3.00	8.15	567

Table 3.16: detailed list of Gallup polls on issue ownership. Civil rights, welfare state, health care and crime.

year	gallup number	question no	start date	end date	topic	exact wording	Problem is better handled by				no of respondents
							Democrats	Republicans	difference	yearly average diff.	
1956	564	qn15	08/05/1956	08/05/1956	civil rights	handle segregation (relation between whites and Negroes)	28.41	25.99	2.42	2.42	1901
1960	627	qn53f	26/04/1960	26/04/1960	civil rights	handle racial integration in schools	33.84	30.38	3.46	3.46	2722
1964	696	qn12	04/08/1964	04/08/1964	civil rights	handle relations between the whites and the Negroes	49.33	17.51	31.82	-	3513
1964	696	qn97	04/08/1964	04/08/1964	civil rights	handle situation between whites and Negroes getting worse	57.22	19.16	38.06	34.94	3513
1968	637	qn63f	18/10/1968	23/10/1968	civil rights	handle racial integration in schools	35.04	23.93	11.11	11.11	2988
1976	959	qn15r	21/09/1976	21/09/1976	civil rights	guarantee civil rights	42.37	25.39	16.98	16.98	2662
1980	GP 156G	qn4h	27/05/1980	27/05/1980	civil rights	deal with racial problems	41.13	19.50	21.63	-	2820
1980	The Gallup Poll	qn7gH	09/09/1980	09/09/1980	civil rights	deal with racial problems	46.93	25.01	21.92	-	2819
1980	The Gallup Poll	qn7gQ	09/09/1980	09/09/1980	civil rights	improve things for minorities (incl. blacks and Hispanics)	48.32	21.21	27.11	23.55	2819
1984	GP 240G	qn7d	10/08/1984	12/08/1984	civil rights	improve things for minorities (incl. blacks and Hispanics)	54.38	24.57	29.81	29.81	2720
1988	Ad hoc telephone survey 2	qn3h	13/05/1988	15/05/1988	civil rights	protect the civil rights of minority groups	49.04	25.78	23.26	23.26	1640
1992	January In-Depth Survey	qn20g	03/01/1992	06/01/1992	civil rights	handle race relations	50.76	30.44	20.32	-	4852
1992	March Campaign Benchmark	qn20g	20/03/1992	22/03/1992	civil rights	handle race relations	40.32	41.73	-1.41	-	1543
1992	May Wave 1	qn21	07/05/1992	10/05/1992	civil rights	improve conditions for minorities in urban areas	35.74	21.40	14.34	-	4007
1992	Pre-Democratic Convention	qn7d	09/07/1992	10/07/1992	civil rights	handle race relations	38.89	23.63	15.26	-	1158
1992	Post-Democratic Convention Poll	qn9g	17/07/1992	18/07/1992	civil rights	handle race relations	57.57	22.27	35.30	16.76	1170
1996	July Wave 1	qn9j	18/07/1996	21/07/1996	civil rights	handle gay marriages	41.33	26.87	14.46	14.46	1010
1976	959	qn15m	21/09/1976	21/09/1976	welfare state	deal with welfare situation	51.88	25.54	26.34	-	2662
1976	959	qn15p	21/09/1976	21/09/1976	welfare state	provide for the poor and the elderly	57.48	23.59	33.89	30.12	2662
1980	The Gallup Poll	qn7gO	09/09/1980	09/09/1980	welfare state	help the poor and needy	48.00	22.92	25.08	25.08	2819
1984	GP 240G	qn7l	10/08/1984	12/08/1984	welfare state	help the poor and needy	59.61	24.94	34.67	34.67	2720
1988	Ad hoc telephone survey 2	qn3f	13/05/1988	15/05/1988	welfare state	help the poor and needy	53.81	24.41	29.40	29.40	1640
1992	January In-Depth Survey	qn20h	03/01/1992	06/01/1992	welfare state	handle poverty and homelessness	62.16	23.98	38.18	-	4852
1992	March Campaign Benchmark	qn20h	20/03/1992	22/03/1992	welfare state	handle poverty and homelessness	58.07	25.65	32.42	35.30	1543
1996	April Wave 1	qn17e	09/04/1996	10/04/1996	handle welfare	welfare state	50.32	37.42	12.90	-	1010
1996	July Wave 1	qn9b	18/07/1996	21/07/1996	handle welfare policy	welfare state	48.55	30.94	17.61	-	1010
1996	October Pre-Election Roundup	qn11b	25/10/1996	27/10/1996	handle welfare policy	welfare state	56.05	36.60	19.45	16.65	461
1992	January In-Depth Survey	qn20c	03/01/1992	06/01/1992	health care	handle health care policy	59.39	27.06	32.33	-	4852
1992	March Campaign Benchmark	qn20c	20/03/1992	22/03/1992	health care	handle health care policy	54.23	31.26	22.97	-	1543
1992	Pre-Democratic Convention Poll	qn10b	06/07/1992	08/07/1992	health care	handle health care policy	33.38	23.30	10.08	-	1554
1992	Post-Democratic Convention Poll	qn9c	17/07/1992	18/07/1992	health care	handle health care policy	61.94	20.30	41.64	-	1170
1992	Post GOP Convention	qn4g	21/08/1992	21/08/1992	health care	handle health care	58.08	32.12	25.96	-	698
1992	Post-Republican Convention Poll	qn11e	21/08/1992	23/08/1992	health care	handle health care policy	54.29	32.54	21.75	-	1191
1992	Labor Day Benchmark	qn14e	31/08/1992	02/09/1992	health care	handle health care policy	61.70	26.76	34.94	-	1573
1992	Campaign Issues	qn5h	11/10/1992	11/10/1992	health care	handle health care	58.05	22.84	35.21	-	424
1992	Pres Election October Benchmark	qn14f	23/10/1992	25/10/1992	health care	handle health care	49.56	23.55	26.01	27.88	1602
1996	April Wave 1	qn17d	09/04/1996	10/04/1996	health care	handle health care	55.68	33.76	21.92	-	1010
1996	July Wave 1	qn9e	18/07/1996	21/07/1996	health care	handle Medicare	49.18	30.07	19.11	-	1010
1996	1996 Election	qn12c	05/08/1996	07/08/1996	health care	handle Medicare	48.86	30.33	18.53	-	986
1996	General Election Tracking poll week 5	qn34h	30/09/1996	06/10/1996	health care	handle Medicare	49.97	29.07	20.90	-	1601
1996	General Election Tracking poll week 6	qn34h	07/10/1996	13/10/1996	health care	handle Medicare	51.11	30.03	21.08	-	3805
1996	General Election Tracking poll week 7	qn34h	14/10/1996	20/10/1996	health care	handle Medicare	50.37	30.26	20.11	-	3686
1996	October Pre-Election Roundup	qn11c	25/10/1996	27/10/1996	health care	handle health care policy	60.50	33.62	26.88	-	461
1996	October Pre-Election Roundup	qn11e	25/10/1996	27/10/1996	health care	handle Medicare	56.69	36.27	20.42	21.12	461
1972	858	qn12	19/09/1972	19/09/1972	crime	better job of dealing with crime and lawlessness	26.23	50.05	-23.82	-23.82	3263
1988	Republican Convention	qn8d	18/08/1988	19/08/1988	crime	fight crime	33.97	43.27	-9.30	-9.30	1382
1992	Pre-Democratic Convention	qn7c	09/07/1992	10/07/1992	crime	handle crime	24.80	24.43	0.37	-	1158
1992	Pre Republican Convention Poll	qn12e	10/08/1992	12/08/1992	crime	handle crime and drugs	51.15	34.66	16.49	-	1531
1992	Post GOP Convention	qn4c	21/08/1992	21/08/1992	crime	handle crime	41.30	40.89	0.41	-	698
1992	Fall Tracking Poll	qn11b	09/10/1992	11/10/1992	crime	handle crime	39.07	33.56	5.51	-	1567
1992	Campaign Issues	qn5e	11/10/1992	11/10/1992	crime	handle crime	34.04	35.88	-1.84	-	424
1992	Pres Election October Benchmark	qn14g	23/10/1992	25/10/1992	crime	handle crime	31.88	29.20	2.68	3.94	1602
1996	July Wave 1	qn9g	35264	35267	crime	handle crime	43.91	34.68	9.23	-	1010
1996	1996 Election	qn12e	35282	35284	crime	handle crime	43.6	33.44	10.16	-	986
1996	General Election Tracking poll week 4	qn31	35331	35337	crime	handle drug abuse	44.66	37.69	6.97	-	1109
1996	October Pre-Election Roundup	qn11g	35363	35365	crime	handle crime	53.9	37.71	16.19	-	461
1996	General Election Tracking Poll OJ Study	qn31	35359	35372	crime	handle drug abuse	44.3	37.89	6.41	9.79	1129

Table 3.17: National Election Study data on Most Important Problem and Issue Ownership, 1972-1996

year	racial problems [8]		social welfare [9]		public order [7]		defense & foreign affairs [3]		no of
	% MIP	% Dem. Adv.	% MIP	% Dem. Adv.	% MIP	% Dem. Adv.	% MIP	% Dem. Adv.	respondents
1972	**6.54**	**10.94**	**10.76**	**27.36**	19.62	-11.40	33.90	-10.09	994
1976	0.80	14.29	34.85	43.49	**8.15**	**9.15**	5.11	-6.74	1742
1980	0.07	-100	14.83	-4.06	**1.48**	**-15.00**	32.10	-28.21	1349
1984	0.39	85.71	23.31	11.89	**4.04**	**-38.89**	33.48	-7.78	1780
1988	0.84	42.86	21.97	25.82	20.82	-3.21	9.72	-15.72	1657
1992	1.26	41.67	37.09	42.07	11.86	-19.11	3.15	11.86	1906
1996	2.96	45.45	37.58	25.27	28.57	-13.08	4.38	3.45	777

Notes: data being used in table 3.1 are highlighted.

Chapter 4

Partisan Bias in Economic News

4.1 Introduction

In chapter 2 I have presented a simple political economy model that shows the effects of issue coverage by the mass media on the priorities entertained by rational voters, and hence on their subsequent electoral behaviour. To the extent that the public stably believes that candidates belonging to a political party are better at handling a given policy issue than those belonging to the other party (or parties), media outlets might pursuit a political agenda by giving more coverage -during the electoral campaign- to issues owned by one party or the other. In the previous chapter I have thus analysed the time variation in the coverage of owned issues by the New York Times from 1946 to 1997, in order to derive some conclusions on its political position and its attitude towards the incumbent President.

Performance issues -like foreign policy or the management of the economy- provide another methodologically fertile terrain on which it is possible to investigate political biases in the agenda setting behaviour of mass media outlets. A performance issue happens to be favourable to the incumbent government if its recent record in dealing with them is satisfactory, and to the challenger if it is not. One could then argue that the coverage of a performance issue by a given media outlet is sympathetic to the incumbent if it takes place when the situation on the issue itself is good, while it is unfavourable if taking place during dire times.

In this chapter, which is based on a paper co-written with Valentino Larcinese and James M. Snyder, Jr., I study the coverage of economic issues by a large number of U.S. newspapers over the period 1996-2005. For a smaller set of newspapers we are able to go back to 1988. Running keyword-based searches on the NewsLibrary electronic archive, we collected monthly and quarterly data on the number of articles that each newspaper published about some relevant economic issues. These data on coverage can be matched with the actual economic figures, with the purpose of assessing whether media outlets systematically over-report or under-report on given issues as a function of those figures and of the party affiliation of the incumbent president. An outlet with a pro-Democratic bias might for example devote more space to news on unemployment when the president is Republican than when he is a Democrat, and the unemployment rate is high and/or

rising. Vice versa when the unemployment rate is low and/or declining. We choose to focus on the political affiliation of the incumbent president, because - as consistently shown by an extensive literature (see e.g. Fair [1978], Tufte [1978], Hibbs [1987], Erikson [1989]) - the performance of the economy under his term has a strong influence on his (or his party's) vote during the next presidential elections.[1]

Differently from some of the studies surveyed in section 1.2.4 and what done in chapter 3 regarding the New York Times, we do not advance any claims about the *absolute* political position of U.S. newspapers.[2] Instead, our focus is on the political position of the newspapers *relative* to each other. In particular, our empirical strategy consists in exploiting prior knowledge on the political leaning of newspapers and matching it with their observed agenda-setting behaviour. We investigate whether there is any significant cross-sectional correlation between the differential coverage of economic issues – as a function of the underlying figure and the political affiliation of the incumbent president – and more explicit measures of political orientation, in particular the propensity to endorse Democratic vs. Republican candidates in electoral races. Put another way, our exercise amounts to examining if the political orientation of newspapers "spills over" from the editorial page, where endorsements are explictly made, to the news section, where differential coverage of the same economic figures under presidents of different political affiliations can then be interpreted as a partisan usage of agenda-setting power, i.e. a manifestation of *agenda bias*.

We focus on four key economic variables, which all represent "bads": the unemployment rate, the inflation rate, the federal deficit, and the trade deficit. The incumbent president might be blamed by the public for high values, or rewarded for low values. Hence, we check whether newspapers that are characterised by a higher propensity to endorse Democratic candidates give less coverage to a given economic issue when the incumbent president is a Democrat than when he is a Republican, and the corresponding economic figure is high and/or rising, compared to the coverage of newspapers that have a propensity to endorse Republicans. Formally, within a regression framework this is accomplished by analysing a three-way interaction term. Moreover, since it is *a priori* unclear whether levels or changes in the economic figures are more newsworthy, both specifications that focus on levels and specifications that focus on changes are considered.

[1] MacKuen, Erikson and Stimson [1992] trace out an indirect mechanism of influence, whereas the state of the economy (namely the unemployment rate and GDP growth) affects the perceptions about it entertained by voters. In turn these perceptions affect the approval rate of the incumbent president and his vote share during the next elections. On the other hand, Erikson [1990] convincingly points out that there is no robust evidence about the economy producing any significant effects on the outcome of congressional elections.

[2] As argued in section 4.4, -because of the relatively short time span we consider- unobserved time effects might influence the *average* differential coverage of the same economic figure under presidents of different political affiliations. This would for example happen if other newsworthy events occur when unemployment is high and Clinton is President, thus displacing unemployment coverage across all newspapers, while nothing relevant occurs when the President is George W. Bush and the unemployment is equally high. On the other hand, the analysis of the New York Times presented in the previous chapter exploits the much longer time span and the differential coverage of Republican and Democratic issues in order to make claims about its absolute political position.

We find some fairly robust evidence of agenda bias in the coverage of the unemployment rate. Newspapers with a pro-Democratic endorsement pattern systematically publish fewer pieces about unemployment when the national unemployment rate is high and the president is a Democrat, than when the national unemployment is equally high and the president is a Republican, as compared to newspapers with a pro-Republican endorsement stance. The size of the estimated effects is not negligible. When the unemployment rate was one percentage point above the average, newspapers with a strong propensity to endorse Republican candidates reacted with 15% more articles per month under Clinton than under George W. Bush. For the same one percent increase, newspapers with a strong pro-Democratic endorsement policy have 9% less news on unemployment under Clinton than under Bush. Regarding different time windows, the result on unemployment coverage is more robust when looking at the subsample of newspapers belonging to a chain or with large circulation. On the other hand, there is no evidence of partisan bias in the coverage of any of the other economic variables we consider.

As discussed throughout the thesis, it is important to pin down the respective roles played by demand and supply factors in determining the partisan position of media outlets. In their study of the ideological slant of the language used by U.S. newspapers Gentzkow and Shapiro [2007] conclude that the partisan bias of newspapers depends mainly on consumers' ideological leaning and far less on the identity of owners.

Following this thread, we hence check whether the agenda bias found for unemployment coverage depends on demand, i.e. the partisanship of readers. While newspapers with higher sales in Democratic areas indeed tend to give more coverage to high unemployment under Bush than under Clinton as compared to those sold in Republican areas (consistently with Gentzkow and Shapiro [2007]), this correlation is no longer significant when controlling for the ideological leaning of endorsements, properly interacted. On the other hand endorsement partisanship still matters, i.e. Democratic endorsing newspapers *ceteris paribus* give systematically more coverage to high unemployment under Bush than under Clinton as compared to Republican endorsing ones. On this account, agenda bias in economic news seems more connected with the partisan position of editors, i.e. a supply factor, rather than with the ideological tastes of readers.

The chapter is organised as follows: in section 4.2 I discuss the links between the empirical approach followed here and the other empirical contributions on mass media bias reviewed in section 1.2.4. In section 4.3 I describe the economic news and endorsement data, and lay out our empirical strategy. Section 4.4 presents the main results, while section 4.5 is devoted to the robustness checks. Finally section 4.6 concludes, with some discussion of the methodological features of our approach.

4.2 Links to the literature

Similarly to the study of New York Times which is the focus of chapter 3, the analysis of economic news performed here firmly belongs to the category of media bias studies that are based on the time variation in issue coverage, without relying on the resemblance

between what media outlets report and what political actors of a known ideological position do. As mentioned in the introduction of this chapter, while the analysis of the New York Times is based on the long term ownership of policy issues and the variation in issue coverage during presidential campaigns, the empirical strategy employed here is grounded on the interaction between the coverage of a performance issue like the economy, the underlying economic figures and the political affiliation of the incumbent President.

As compared to previous contributions, the novelty of the approach taken up here is given by the idea of combining machine-based replicable data on issue coverage with information on explicit endorsement patterns. In this sense, the paper I have coauthored with Larcinese and Snyder constitutes a methodological bridge between the second category of media bias studies and the analysis of the explicit political orientation of media outlets. Indeed, the bulk of the endorsement data used here is taken from the already cited work by Ansolabehere, Lessem and Snyder [2006].[3]

Making use of human-based content analysis, 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. They code the tone of the articles and find that newspapers systematically gave a more favourable coverage to endorsed incumbents.[4]

Regarding the other recent contributions on mass media bias, the analysis performed here shares with Gentzkow and Shapiro [2007] the focus on relative rather than absolute political positions of U.S. media outlets[5], and the attempt at disentangling the role played by demand and supply as a determinant of partisan bias. From an econometric point of view, it is however based on a reduced-form rather than a structural estimation approach.

Our approach of course shares with Lott and Hassett [2004] the focus on the coverage of economic news. The first point of departure is that our empirical strategy is based on the time variation in the amount of coverage (the agenda setting behaviour), while Lott and Hassett are interested in the time variation in the tone of coverage (the issue framing aspect). Moreover, their study is focused on teasing out the absolute average political position of U.S. newspapers, with little emphasis on the estimation of different ideological positions for different outlets.

[3] See section 4.3 for more details.

[4] Just to have a rough picture of the amount of data one can gather through keyword-based automatic searches, as compared to human-based content analysis, there are about 276,000 articles including the words "unemployment" or "jobless" -during the 1996-2005 period- in the 102 newspapers we were able to match with endorsement data. The human-based content analysis performed by Fridkin Kahn and Kenney [2002] is of course more precise, but it deals with only 5529 articles.

[5] The analysis of think tank quotes by Groseclose and Milyo [2005] provides both a relative and an absolute measure of the ideological positions of U.S. media outlets. In particular, the authors come up with an estimate of the absolute political position by putting congressmen and media outlets on the same ideological scale, as identified by adjusted ADA scores. From this point of view, Gentzow and Shapiro give less emphasis to the possibility of using their measure of language slant to estimate the absolute ideological leaning of U.S. newspapers.

4.3 Data and empirical strategy

Our data on economic news comes from the NewsLibrary electronic archive. We recorded the monthly number of hits on unemployment and inflation, and the quarterly number of hits on the federal budget deficit and the trade deficit.[6] First, through a number of preliminary searches we defined the exact wording of the search strings, with the purpose of reducing the number of false positive and false negative hits. Once identified the appropriate keywords, we run an automated search, then retrieving the number of hits on each topic by time unit. These keywords are reported in Table 4.1. Overall, we collected data on 140 U.S. newspapers for which electronic archives dating back to 1996 are available to be searched through NewsLibrary.

In this section I will first illustrate the procedure we used to calculate the propensity of the various newspapers to endorse Democratic vs. Republican candidates. I will then describe the data on economic news, and present a two-stage preliminary investigation of the data, which would shed some light on the basic idea behind our empirical strategy. In the last part of the section I will move to formally describe our panel specification.

4.3.1 The endorsement data

Among the 140 newspapers with electronically available data covering the 1996-2005 period, we were able to gather endorsement data for 102 newspapers. Table 4.8 lists the newspapers with endorsement data, together with the chain to which they belong, if any.

As mentioned above, we obtained the endorsement data for 85 newspapers from Ansolabehere, Lessem and Snyder [2006], and integrated this with data on 17 additional newspapers searched via the NewsLibrary archive. For the remaining 38 newspapers, in some cases the newspaper is characterised by 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 endorsements, even though they may not explicitly declare it as a voluntary choice.

Following Ansolabehere, Lessem and Snyder [2006] we calculated the propensity of each newspaper to endorse one of the parties during electoral campaigns, controlling for possibly confounding factors. We used a linear regression model to estimate the "partisan bias" in endorsement behavior. Let i index offices, j index newspapers and t index years. Let

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

measure the endorsement behaviour by each newspaper making an endorsement (or

[6] Indeed, the official macroeconomic figure is made available to the public monthly for the unemployment and the inflation rate, and quarterly for the two deficits.

explicitly refusing to endorse) in a race.[7] Moreover, let

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

measure the incumbency status of candidates in each race.[8] Finally, as it is standard in the literature, we used previous electoral experience to measure the quality of non-incumbents. Specifically, we defined as "high-quality" candidates those who currently hold a U.S. House seat or an elected statewide office other than the office sought. Let

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

Exploiting the panel nature of the data[9], we estimated the following linear model for the period 1992-2002:

$$E_{ijt} = NE_j + \theta_t + \beta_1 I_{ijt} + \beta_2 Q_{ijt} + \epsilon_{ijt} \quad (4.1)$$

The newspaper-specific fixed effects, NE_j, are meant to capture newspapers' partisanship.[10] The histogram of the resulting estimated variable is reported in Figure 4.1. 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 ones. The endorsement variable indicates a slight prevalence, on average, of pro-Democratic endorsements.[11] On the other hand, there is also a wider dispersion on the Republican side: in other words there is a prevalence of pro-Democratic endorsers but Republican endorsers tend to be more systematic. Overall, however, most newspapers appear to be moderate, in the sense that they are placed in the range $[-0.5, 0.5]$ of the endorsement scale (i.e. within the vertical lines in Figure 4.1).

Figure 4.2 presents a scatter plot in which the estimated Democratic endorsement score $\widehat{NE}_j$ for each newspaper j is represented on the horizontal axis, while the vertical axis displays the corresponding average circulation figure 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 choices, as they are typically located in the range $[-0.5, 0.5]$ on the endorsement scale. On the other hand, the more partisan newspapers that lie outside

[7] We dropped from our analysis the few cases in our sample where a newspaper endorsed both candidates in a race.

[8] 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.

[9] The panel is unbalanced, since we do not have endorsement data on some newspapers in the earlier years.

[10] To capture partisan tides we also included year fixed-effects, θ_t.

[11] This is in turn consistent with the findings of Ansolabehere, Lessem and Snyder [2006].

this range tend to have more modest circulation.

The question we care about is whether partisan behaviour is only limited to endorsements made on editorial pages or rather, in a less transparent way, it trickles down to the coverage of economic news. To investigate the presence of agenda bias it is hence necessary to compare newspapers' coverage with the actual statistical figures on inflation, unemployment, budget deficit and trade deficit.

4.3.2 The economic news data: a preliminary investigation

The key variables in our empirical analysis are the values of the four underlying economic figures, and the amount of newspaper coverage devoted to these issues. Since newspapers vary greatly in size cross-sectionally (total number of pages, articles, and words), and can also vary in size over time, we focus on the relative frequency of stories in each newspaper. Table 4.1 reports the keywords that we used. As a proxy for the total number of stories in each newspaper in each period we counted the number of articles containing the word "and".[12]

Let EV_t^i be the value of the economic figure regarding issue i at time t, where $i \in \{U, I, B, T\}$ and U stands for "unemployment", I for "inflation", B for "budget deficit", and T for "trade deficit". By the same token, n_{jt}^i is the relative frequency of pieces published by newspaper j during time t about issue i.[13]

In order to properly account for the differences in the average amount of coverage devoted to economic news by the various newspapers, the relative frequency of stories in newspaper j on issue i at time t are normalised by subtracting $\bar{n}_{j\cdot}^i$, the average relative frequency of stories in that newspaper, i.e. we considered

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

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

$$y_{jt}^i = \alpha_j^i + \beta_j^i EV_t^i + \gamma_j^i DP_t + \delta_j^i (EV_t^i \cdot DP_t) + \zeta_j^i t + \lambda_j^i \ln s_{jt} + \epsilon_{jt}^i \qquad (4.2)$$

where DP_t is a dummy variable that equals one when the incumbent president is a Democrat. We also 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 thus represents the difference in how newspaper j reacts to bad economic news when the president is Democratic, compared to its behaviour when the president is a Republican. Positive values indicate that the newspaper is more reactive to bad economic news when the incumbent president is a Democrat.[14]

[12] A potential concern is that all the variation in the coverage of economic news might take place on editorials themselves. Hence, we have re-run the searches excluding the words "editorial" or "editor", in order to exclude coverage happening on editorial pages. I explore the robustness of our results to this narrower definition of coverage in section 4.5.3.

[13] Table 4.2 presents summary statistics on the relative frequency of stories and the economic figures of interest for the 1996-2005 period.

[14] As discussed in footnote 2 of this chaper, if data for a period long enough to cover numerous presi-

Our approach consists in exploiting the information about the explicit political position of each newspaper, as proxied by its endorsement pattern. Figures 4.3, 4.4, 4.5 and 4.6 display the relationship between the estimated interaction terms from equation 4.2 and the estimated propensity to endorse Democratic candidates obtained from equation 4.1. Again, the names of newspapers with circulation above 400,000 copies are explicitly reported. The two vertical lines – at $\widehat{NE}_j = -0.5$ and $\widehat{NE}_j = 0.5$ – crudely divide the sample of newspapers into those with pro-Republican endorsement pattern, those with a relatively neutral patterns, and those with a pro-Democratic endorsement stance. Each graph also features a bivariate regression line, i.e. the fitted values of a regression of $\widehat{\delta}_j^i$ over $\widehat{NE}_j$ and a constant.

In the case of unemployment news (Figure 4.3), the relationship between the endorsement score and the estimated interaction term is negative and statistically significant at the 95% confidence level (t-value = 2.20), using heteroskedasticity-robust standard errors. This finding indicates that newspapers with a Democratic partisanship on the editorial page tended to give less coverage to unemployment during periods of high unemployment under Clinton than under George W. Bush, as compared to newspapers with a pro-Republican endorsement pattern. The opposite holds during periods of low unemployment.

Figure 4.4 displays results about the inflation rate. The fitted regression line shows the presence of a mild and positive relationship between the endorsement variable and the estimated interaction terms. However, this relationship happens to be statistically insignificant (t-value = 0.49). Figure 4.5 represents the same relationship for the coverage of the budget deficit. In this case the estimated slope is negative and statistically insignificant (t-value = 1.24). At last Figure 4.6 displays the results for the trade deficit, and shows a mildly negative but statistically insignificant relationship (t-value = 0.32) between $\widehat{\delta}_j^T$ and $\widehat{NE}_j$.

4.3.3 Panel specification

This simple two-stage graphical analysis offers a mixed picture of the connection between endorsement policy and coverage of economic news. On one hand there is some evidence of a partisan bias in the amount of coverage devoted to unemployment. On the other hand, we found small and statistically insignificant relationships for the three other issues of inflation, the budget and the trade deficit.

It is necessary to implement a more structured test about this connection. Rather than analyzing newspapers one at a time, we fully exploit the panel nature of our data. We hence estimate three-way specifications containing an interaction term between the economic variable EV^i, the indicator for Democratic president DP_t and the newspaper-specific endorsement propensity $\widehat{NE}_j$[15]. Omitting the indicator i of the economic issue,

dents were available, one could treat this interaction term as a measure of the *absolute* pro-Republican bias of a newspaper. However, the shortness of the available time span implies that 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, thus confounding the interpretation of the interaction term. More on this at the end of section 4.4.

[15]From now on, since all specifications include newspaper-specific fixed effects, the dependent variable

one can write a basic three-way specification as follows:[16]

$$n_{jt} = \alpha_j + \beta_1 EV_t + \beta_2 \Delta EV_t + \gamma DP_t + \delta(EV_t \cdot DP_t) + \xi(DP_t \cdot \widehat{NE}_j) + \\ + \vartheta(EV_t \cdot \widehat{NE}_j) + \phi(EV_t \cdot DP_t \cdot \widehat{NE}_j) + \zeta_j t + \lambda \ln s_{jt} + \epsilon_{jt} \quad \text{(Specification A)}$$

where α_j represent newspaper fixed effects, ζ_j is the coefficient on a newspaper-specific time trend and λ is the coefficient on newspaper size (expressed in logarithm). We also control for the change ΔEV_t in the economic variable. The coefficient of interest is ϕ. A negative value of ϕ implies that newspapers which tend to endorse Democratic candidates have a relatively pro-Democratic agenda bias (on economic issue i), as compared to newspapers with a pro-Republican endorsement pattern.

It is of course not possible to include time specific dummies within this specification, since there are other variables that do not vary across newspapers for each time period. However, time dummies could help capture the influence that contemporaneous events might exert on the space devoted to economic news by the generality of newspapers. This is accomplished by Specification B, where time-dummies τ_t are included:

$$n_{jt} = \alpha_j + \tau_t + \xi(DP_t \cdot \widehat{NE}_j) + \vartheta(EV_t \cdot \widehat{NE}_j) + \phi(EV_t \cdot DP_t \cdot \widehat{NE}_j) + \\ + \zeta_j t + \lambda \ln s_{jt} + \epsilon_{jt} \quad \text{(Specification B)}$$

Finally, one can devise an even more demanding specification, whereas $\xi(DP_t \cdot \widehat{NE}_j)$ and $\vartheta(EV_t \cdot \widehat{NE}_j)$ are replaced by newspaper-specific Democratic president effects and newspaper-specific reactivities to the underlying economic figure:

$$n_{jt} = \alpha_j + \zeta_t + \beta_j x_t + \gamma_j DP_t + \phi(EV_t \cdot DP_t \cdot \widehat{NE}_j) + \zeta_j t + \lambda \ln s_{jt} + \epsilon_{jt} \quad \text{(Specification C)}$$

This specification is the most general since newspapers are allowed to react differently to the political affiliation of the incumbent President and the level of the economic variable, not just as a function of their endorsement partisanship, but also of any other unobserved time-invariant newspaper characteristics.

Just because it is *a priori* unclear which aspect of an economic figure editors and journalists reckon as more newsworthy (whether it is the level thereof, or the change, or both), we also re-consider the same three specifications with the change in the relevant economic figure being properly interacted with the Democratic President dummy and the endorsement score, instead of its level.[17] In fact, when focusing on changes no

is simply n^i_{jt}, i.e. the non-normalised relative frequency of stories about topic i. Moreover, to take care of 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.

[16] In the baseline specification we control for the *contemporaneous* value of the relevant economic figure (x_t), by itself and properly interacted. For reasons that will be discussed in Section 5.1, we will also re-run all regressions by using lagged values of the economic variables.

[17] The level of the economic variable is kept as a control.

significant results are found.[18]

4.4 Results

Baseline results about the four economic issues are reported in Table 4.3, with t-statistics in brackets below each coefficient.

The first three columns in Table 4.3 confirm that newspapers with a pro-Democratic-endorsement pattern, compared to pro-Republican newspapers, give less coverage to unemployment in times of high unemployment under Clinton than under George W. Bush. The three-way interaction between the level of the unemployment rate, the Democratic President dummy and the Democratic endorsement variable always comes with the expected negative sign and is significant at the 5% level in all three specifications. Moreover, the magnitude of the coefficient is very stable across the three specifications. On the other hand, we find no statistically significant effect for any of the other economic variables we consider. In the case of inflation, the budget and the trade deficit is the three-way interaction always very far from any acceptable significance level and thus statistically indistinguishable from zero.

In order to calculate the magnitude of the effect for unemployment news we group newspapers into quantiles according to their endorsement score $\widehat{NE}_j$. For each group we compute the difference between the average predicted change in the number of unemployment stories under Clinton and under George Bush Jr., if the unemployment rate is one percentage point higher than the average under that President. We focus on newspapers belonging to the first, third and fifth quintile in the endorsement distribution, i.e. newspapers that we define as, respectively, strongly Republican, "neutral," and strongly Democratic. The estimated effects turn out to be not trivial. Consistently with this idea of agenda bias, newspapers react to a 1% increase in the unemployment rate differently depending on whether the president is a Democrat or a Republican: under a Democratic president a strongly Republican newspaper provides 15% more news on unemployment than if the same 1% increase in the unemployment rate occurs under a Republican president. On the other side, considering again the benchmark of a 1% increase in the unemployment rate, a strongly Democratic newspaper provides 9% less news on unemployment under a Democratic president than under a Republican president. The differential treatment of the same change under the two presidents is instead limited to 1% for a "neutral" newspaper.

As discussed above, some data analysts might be tempted to consider the average difference in slopes across Democratic and Republican presidents (the δs) as a reliable measure of the average *absolute* level of bias across the newspapers in our sample. This is a temptation to resist, for more than one reason. First, the time sample is too short, so the regressions end up comparing only two presidents; second, the underlying economic conditions were different under the two presidents, so functional form happens to be a serious concern; third, many other newsworthy events (terrorist attacks, war in Iraq,

[18]The corresponding tables are not reported but are available upon request.

Monica Lewinsky scandal, O.J. Simpson trial) might have crowded out economic news differentially under the two presidents for the same underlying unemployment rate. As discussed in section 4.2, in comparison with some of the recent literature on media bias (in particular Groseclose and Milyo [2005] and Lott and Hassett [2004]), we would place little emphasis on such coefficients by themselves.

If one felt confident enough to use the coefficients in this way, the resulting picture would still be mixed. The estimated difference in slopes is negative and statistically significant in the case of unemployment, inflation and trade deficit, pointing at an overall pro-Democratic bias. That is, newspapers on average devoted more attention to unemployment (inflation, trade deficit) during periods of high unemployment under George W. Bush than under Clinton, and vice versa for periods of low unemployment. On the other hand, the estimates suggest a pro-Republican bias for the budget deficit. At the same time, budget deficit and unemployment were generally decreasing under Clinton and were increasing during the George W. Bush years. Hence, it is difficult to determine whether the coefficients reflect a partisan bias in coverage or simply a judgement about the importance of the direction of a change (i.e. increases vs. decreases) for a particular economic variable.

Finally, it is worthwhile to notice that the coefficients on the interaction between the unemployment rate and the Democratic endorsement score (the ϑs) are positive and statistically significant. Put differently, Democratic-endorsing newspapers are more reactive in their coverage to high unemployment than Republican-leaning ones, even when controlling for partisan behaviour through the triple interaction.

4.5 Robustness checks

This section is devoted to several robustness checks of the baseline results presented above. We implemented a number of checks for all the economic variables considered and we noticed no change in the conclusions regarding inflation, budget deficit and trade deficit: there is no noticeable statistically significant agenda bias in the coverage of these issues. In this section, therefore, I only report results regarding unemployment, the only economic variable on which agenda bias seems to take place.

4.5.1 Lagged values of the economic figures

It is *a priori* unclear whether newsworthy economic events are more correlated with contemporaneous values of the relevant economic figures, or lagged ones. Of course 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 macroeconomic variables. However, newspapers do not only report on the release of official data (which are related to what happened in the past) but also on day-to-day events which may be correlated with the current value of the relevant macroeconomic figure. For example, considering the case of 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 applica-

tions at local unemployment agencies. It might be useful, therefore, to check if results are sensitive or not to whether we control for the current or the lagged value of the relevant economic variable.

The first three columns of Table 4.4 thus correspond to the first three columns of Table 4.3 but use lagged instead of contemporary unemployment. The results obtained with the baseline specifications are all confirmed. The magnitudes of the coefficients are also very similar (slightly larger under specifications A and B, slightly smaller using specification C). Finally the R-squared show that the overall fit is comparable in the two cases.

4.5.2 Controlling for state-level unemployment

It is typical for the readership of newspapers to be locally concentrated. This readership would care about local stories, and local aspects of common phenomena. Just because there is noticeable variation in unemployment across regions and states, the local unemployment rate in an area or state may represent a newsworthy issue, which is not entirely absorbed by reporting on the national rate. The newsworthiness of the local unemployment rate can potentially cause an omitted variables bias. The idea is the following: in Democratic-voting areas the local unemployment rate could be systematically lower than its average when the incumbent president is a Democrat and the general economic conditions are bad, because of public job-creating projects being targeted to the area. If there is a positive correlation between the political partisanship of potential readers in the area where a newspaper sells and its endorsement policy, then the less intense coverage of high unemployment by Democratic-leaning newspapers under a Democratic president could be explained by the mere fact that the *local* unemployment rate is 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.

To address this issue, we re-ran our regressions controlling for both the level and change of the unemployment rate in the state where each newspaper is based[19]. Columns 4-6 of Table 4.4 display the corresponding results. There is again a systematic correlation between the endorsement policy and the differential coverage of unemployment as a function of the political affiliation of the incumbent President. Morever, the size and significance of the coefficients on the three-way interaction terms are very close to those reported in Table 4.3. The coefficients of the level of the unemployment rate in the state are positive and significant at standard confidence levels. By the same token, the coverage of unemployment is positively and significantly correlated with the change in the state-level unemployment rate. Consequently, we decided to keep state unemployment levels and variations as control variables in the subsequent checks.

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

4.5.3 Excluding editorials

One might be concerned that the previous results about the differential coverage of unemployment are to a large extent driven by what is featured on editorial pages themselves. Therefore we repeated our regressions by excluding editorials from our dependent variable.[20] The results are shown in columns 7-9 of Table 4.4, where the usual A-B-C specifications now include levels and changes in state unemployment rates. The results are very reassuring: the coefficient of the three-way interaction between the unemployment rate, the Democratic President dummy and the endorsement variable is again negative and significant, and its magnitude is only slightly inferior to what found in the previous cases. To sum up, a large part of the differential coverage of unemployment happens on the news pages, not merely on the editorial ones. This suggests that agenda bias on unemployment spills over into the economic news section.

4.5.4 Different time windows

It is natural to 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.[21] On this account, it must be noted that our empirical strategy is ultimately relying on the cross-sectional relationship between the endorsement policy and the time variation in the coverage of economic news as a function of the political affiliation of the incumbent president. Along these lines, Table 4.5 compares results regarding the 1996-2005, the 1992-2005 and the 1988-2005 time windows. As already discussed in section 4.3.1, we can match coverage and endorsement data for 102 newspapers in the 1996-2005 time span, which shrink to 81 (39) when considering the 1992-2005 (1988-2005) windows.

The table again displays results for the three specifications A-B-C defined in section 4.3.3; for reference, columns (10)-(12) repeat the regression results obtained for the 1996-2005 period when controlling for the state-level unemployment rate and its change (columns (4)-(6) of Table 4.4).

Columns (1)-(3) refer to the 1988-2005 period and show that the coefficient on the three-way effect comes with the expected negative sign and is statistically significant, mildly so in specification A and B. One must notice that the magnitude of the coefficient is two-thirds of the one obtained with the baseline specification (columns (1)-(3) of Table 4.3 and columns (4)-(6) of Table 4.4). However, the statistical significance of the three-way interaction coefficient disappears if we consider the period 1992-2005, as shown by columns (4)-(6). Upon inspection of the data, it turns out that two newspapers can be reasonably treated as outliers, as signalled for example by a leverage-versus-

[20] To do so we have re-run the search on unemployment excluding the words "editorial" or "editor". To pin down the size of the news section of each newspaper during each month, we have run a search on the word "and", excluding again the words "editorial" or "editor".

[21] See section 4.3.1 above and Table 4.8 for the actual number and names of newspapers covered within the three different time windows.

squared-residual plot: the Washington Times and the Manchester Union-Leader. The former happens to be endorsement-wise the most extreme newspaper in our sample. The Union-Leader, a decidedly Republican paper, is the only one based in New Hampshire, which in 1992 was hit by the worst depression of the last forty years. Hence, columns (7)-(9) show results for the 1992-2005 when excluding the two newspapers from the sample. Now the coefficient on the triple interaction between the unemployment rate, the Democratic President dummy and the endorsement score is strongly significant for all specifications, with the expected negative sign. However, its magnitude is about half of the one found for the 1996-2005 period.

We also explored how results are robust for the subsample of large-scale newspapers, i.e. those that sell a large number of copies (above 200,000 copies per day on average in 1996) and/or belong to large chains.[22] One could argue that managing editors and journalists of large-scale newspapers are more conscious of the political facets of their agenda-setting power, and act accordingly. In other terms, the link between the endorsement policy and the coverage of economic news might be less noisy (and hence less susceptible to outliers and sample size) when focusing on this subset of newspapers.

There are 72 large-scale newspapers if one considers the 1996-2005 time-window. The number shrinks to 59 in the period 1992-2005 and to 32 for 1988-2005. Results about these three periods are reported in Table 4.6. The three-way interaction turns up to be statistically significant at ordinary confidence level for all time windows and with the expected negative sign. Again, for the period 1988-2005 we notice a reduction of about 1/3 in the size of the coefficient, in comparison with the results of Tables 4.3 and 4.4. This reduction is even stronger for the intermediate 1992-2005 period. On the contrary, when we consider the 1996-2005 period, the coefficient turns out to be substantially larger for chain-based and large newspapers (columns 7-9 in Table 4.6) than for the whole sample (columns 1-3 in Table 4.3). Thus, although the magnitudes of the relevant coefficient may vary by a relevant amount across different time periods, Table 4.6 substantially confirms all the results we found in the previous regressions.

4.5.5 Demand-driven coverage?

As discussed in section 1.2.4 and elsewhere, Gentzkow and Shapiro's [2007] thorough analysis of language similarity between congressmen and U.S. newspapers points at a strong correlation between the ideological position of the latter and the political leaning of their readers. On the other hand, once geographical factors are controlled for, the identity of the owner has very little or no explanatory power on the political leaning of a given newspaper.

In the previous sections we have investigated whether the explicit political position of a newspaper, as proxied by its endorsement choices, is correlated with the partisan coverage of economic news. However, one might be concerned that editors tune their endorsement choices to the ideological leaning of readers, so that the endorsement variable is simply proxying for a demand factor, which also affects economic coverage. According

[22] Table 4.8 specifies the chain, if any, to which each sampled newsaper belongs.

to this view, both endorsement choices and the partisan coverage of economic news are determined by what customers would like to read, with no independent role to be played by the newspaper's editorial position, i.e. a supply factor.

In order to address this concern we proceeded as follows. First, to proxy for the average political position of readers of a given newspaper j, we weighted the average Democratic vote in presidential, senatorial and gubernatorial elections in each county during the time period by the relative sales of that newspaper in that county. Let this variable be NR_j. We then replicated our three baseline specifications by replacing the endorsement variable $\widehat{NE}_j$ with the readership variable NR_j. For all three specifications, we also considered an extended model which includes both $\widehat{NE}_j$ and NR_j, properly interacted with the Democratic President dummy DP_t and the level EV_t of the economic variable.

Table 4.7 displays results for the contemporaneous unemployment rate.[23] When not controlling for the endorsement behaviour, the coefficient on the triple interaction between the unemployment rate, the Democratic President dummy and the voter partisanship variable is negative and statistically significant. However, this triple interaction is no longer significant when introducing back the endorsement controls. On the other hand, the coefficient on the triple interaction with the endorsement score is negative and mildly statistically significant even after controlling for readers' partisanship. A relevant concern here is the correlation between reader and endorsement partisanship, which might create problems of approximate multicollinearity when these variables are twice interacted with the same controls (the Democratic president dummy and the level of the unemployment rate).

However, the raw correlation between the partisanship of endorsements and that of voters is just 0.21, i.e. quite low. While positive, and statistically significant (p-value = .031), it is hardly overwhelming.[24] Evidently there is a lot of "slack" between the political positions of voters and editors.

Since it remains difficult to disentangle the direction of causality with data whose relevant variation is ultimately cross-sectional, a possible empirical strategy consists in using time series data and exploiting some (possibly) exogenous shock in the partisanship of readers across regions, or in the editorial position of newspapers, which could be triggered by a change in ownership or management. An interesting case in hand is represented by the succession of Otis Chandler in 1960 as publisher of the Los Angeles Times, the newspaper owned by his family since 1884. The LA Times used to have a clear conservative slant, which Chandler decided to overturn, in order to make the paper a credible rival of the New York Times. Figure 4.7 displays the time series variation in the propensity of the LA Times to endorse Democratic candidates, and the average yearly

[23] We obtain very similar results (available upon request) when controlling for the lagged level of the unemployment rate.

[24] One relevant concern here is that this low correlation might be driven by the presence in the sample of newspapers that are based in large cities with a politically segmented media market, like Chicago, New York and Los Angeles. However, if we exclude those newspapers (in our case the Chicago Sun-Times, the Chicago Tribune, the Los Angeles Times and the New York Times), the resulting correlation slightly *drops* to 0.2 (p-value = .045).

share of the Democratic vote in presidential, senatorial and gubernatorial elections in California. In the 60s, after Otis Chandler took office, the propensity for the LA Times to endorse Democratic candidates steeply increased, but this was not matched at all by a comparatively rapid surge in the Democratic vote in the relevant geographical area.

The top two scatter plots in Figure 4.8 show the relationship between the actual unemployment rate and the relative frequency of unemployment stories on the LA Times, before and after 1965. In each graph, coverage-unemployment combinations under a Republican (Democratic) President are indexed by a zero (one). The two graphs on the bottom parallel the two on the top, depicting the same relationship for the inflation rate. I also report regression lines between the economic variable and its coverage, as a function of the political affiliation of the incumbent President. The two scatter plots on the left show that before 1965 the LA Times systematically gave more coverage to high unemployment and inflation under a Democratic President than a Republican one[25]. On the other hand, according to the two graphs on the right, in the post-1965 period there is no systematic difference in the slopes under presidents of different political affiliation.

Ideally, it would be necessary to back up this anedoctal evidence with the analysis of a large sample of newspapers displaying enough time series variation in their ownership and management. However, coupled with our previous analysis of endorsement patterns, this case-study suggests that supply side factors might play a non-negligible role in determining the political position of mass media outlets, in this case affecting the partisan coverage of economic news.

4.6 Discussion and conclusions

In the paper coauthored with Valentino Larcinese and James M. Snyder, Jr. we have investigated the relationship between the endorsement policy of U.S. newspapers and the coverage of economic issues, as a function of the true economic figure and the political affiliation of the incumbent president. Considering the last decade, there is strong evidence that newspapers with a propensity to endorse Democratic candidates give less coverage to high unemployment (and more coverage to low unemployment) under Clinton than under George W. Bush, as compared to Republican-leaning newspapers. This relationship is very robust to a number of alternative specifications and robustness checks. 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.

These findings should of course be further explored. On one side, finding evidence of agenda bias only on one economic issue out of four could induce to reject the hypothesis that there is any relevant ideologically slanted agenda setting in economic news on the U.S. press. On the other side, unemployment is, of the four considered, the most salient issue. Moreover, as discussed in the introductory section of this chapter, there is a large body of evidence according to which citizens assess the incumbent president's

[25]This is formally confirmed by proper difference-in-differences regressions.

performance on the basis of the strength of the economy, and vote accordingly in the next presidential elections. It might be also argued that citizens are better able to grasp the significance of a high unemployment rate, because of the dire consequences this might have on their personal lives.

This latter statement likely applies to the inflation rate as well, but the independence of the Federal Reserve makes harder for the general public to establish links between what the incumbent President does and variations in this rate. Moreover, even if citizens are by and large unaware of the institutional independence of the FED, in the time period under consideration inflation was very low[26], so that the public did not perceive it as a serious problem policy makers had to tackle. It is also interesting to note that - in the long run analysis of the LA Times presented in section 4.5.5 - the succession of Otis Chandler as publisher seemed to matter not only with regards to the partisan coverage of unemployment, but for inflation too. Indeed, during the longer time period considered for this case-study, the inflation rate was often higher than in the more recent period, sometimes much higher, like in the late 40s, the 70s and the early 80s. At those times the public perceived the rise in the cost of living as a very serious issue.

Finally, the budget deficit and the trade deficit are more arcane variables, whose influence on presidential approval is far from clear. It is likely that citizens understand much less the significance of those variables, perhaps because of the lack of direct effects on their personal lives, perhaps because the effects are not immediate and can therefore be heavily discounted. On this account, if one looks at the American National Election Studies 1992-2004, unemployment came in second as the "most important problem facing the nation" (crime being first). Nearly 10% of respondents mentioned it. By comparison, less than 0.5% of respondents mentioned inflation, and even counting generously, only about 1.5% of respondents mentioned trade-related issues (trade deficit by itself was mentioned by only 0.33% of respondents, while more respondents mentioned "outsourcing" or "international competitiveness", which might be treated more appropriately as employment-related issues).[27]

As stated in the introduction, a salient characteristic of our methodological approach is that newspaper articles are coded through an automatic keyword search, instead of a human-based content analysis. One clear advantage of this procedure is that, by definition, it is not intensive in the usage of (costly) human capital. Its low cost (in terms of time and financial resources being spent) implies that it can be used to gather data on a large number of news outlets for a long time span. The only restriction is represented by what is available in existing digital archives. More importantly, an automatic search is easily replicable, because it is based on a known set of words and/or sentences that are used as classifiers. Consistently with the agenda-setting hypothesis, articles are only classified according to the topic covered, without attempting to code whether their tone is positive or negative. This is of course a limitation of our approach, in that we are

[26]During the 1996-2005 period, the highest inflation rate was about 4.7% (September 2005). In the 1988-2005 period, the peak of around 6.3% was reached in October 1990.

[27]Unluckily, it is not possible to separate the government deficit from other mentions about government spending being too high.

not able to detect the framing of issues through an intentional or unintentional choice of words. Even using human-based content analysis, coding for tone is difficult, especially when dealing with such a nuanced object as a newspaper article: inter-coder reliability typically falls far short of acceptable standards. A solution could be for the analyst to provide very detailed instructions, but then the instructions themselves are likely to drive results. It is in turn reasonable to argue that coding for the tone using an automated procedure is also likely to be quite difficult. To devise an automated procedure of this kind would however be an important challenge for future research, since the replicability of machine-based content analysis constitutes an extremely valuable (if not essential) feature for the scientific study of mass media.

Another limitation of the approach followed here is that we simply counted the number of articles featuring the chosen keywords, i.e. we gave them equal weights, irrespective of their location on the newspaper and their length. On this account, one could for example refine the search algorithm to code the page number and newspaper section on which each piece appears. In particular, one might attribute a higher weight to front page stories, or separately consider them in the analysis.[28] Instead, retrieving the length of articles is definitely more computer-time consuming to implement. This is the case, because for *each* article featuring the chosen keywords it would be necessary to separately code its length.[29]

Still, our approach to the study of mass media is very flexible and easily replicable. This allows to readily extend the dataset and type of analysis in several directions. First, 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. In addition, historical electronic archives like ProQuest can be used to gather long time series on the coverage of economic issues by a handful of newspapers. Second, any (heated) discussion on the extent of "mass media bias" in the U.S. should be definitely put into a comparative perspective.[30] Since 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 datasets parallel to the one analyzed here. The purpose of this 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 figure.

[28] In fact, in the previous chapter I separately consider issue coverage on the front page and on internal pages of the New York Times. This was feasible, because data from the Policy Agendas Project (which is based on human content analysis) already features this distinction.

[29] When searching for articles appearing on page n, one would simply need to specify an additional keyword that picks up the position on the archive's database where the article page is explicitly coded. On the other hand, for a given keyword based search, all articles featuring these keywords must be sequentially coded according to their length.

[30] 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.

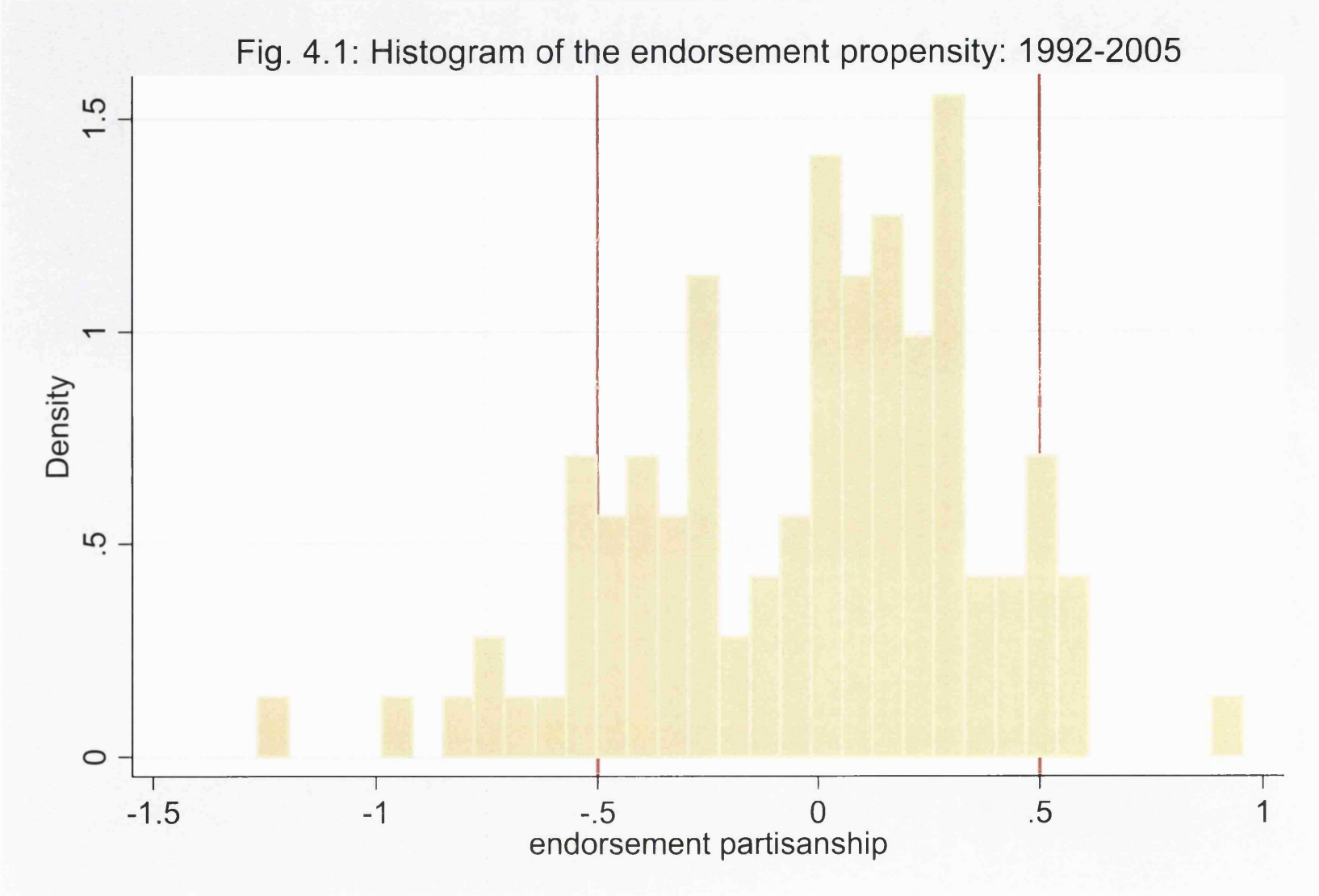


Fig. 4.1: Histogram of the endorsement propensity: 1992-2005
Density
0
.5
1
1.5
-1.5
-1
-.5
0
.5
1
endorsement partisanship

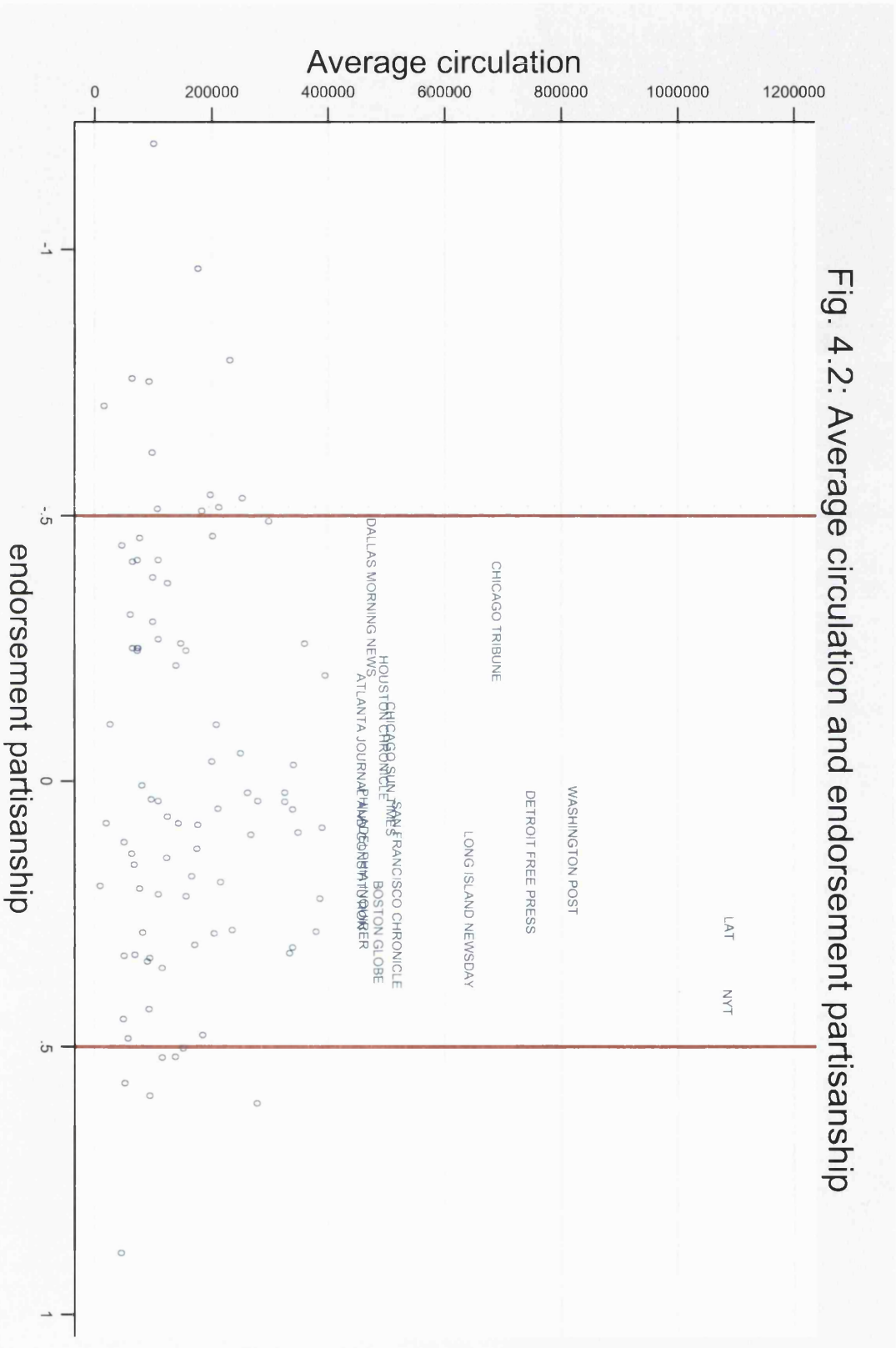
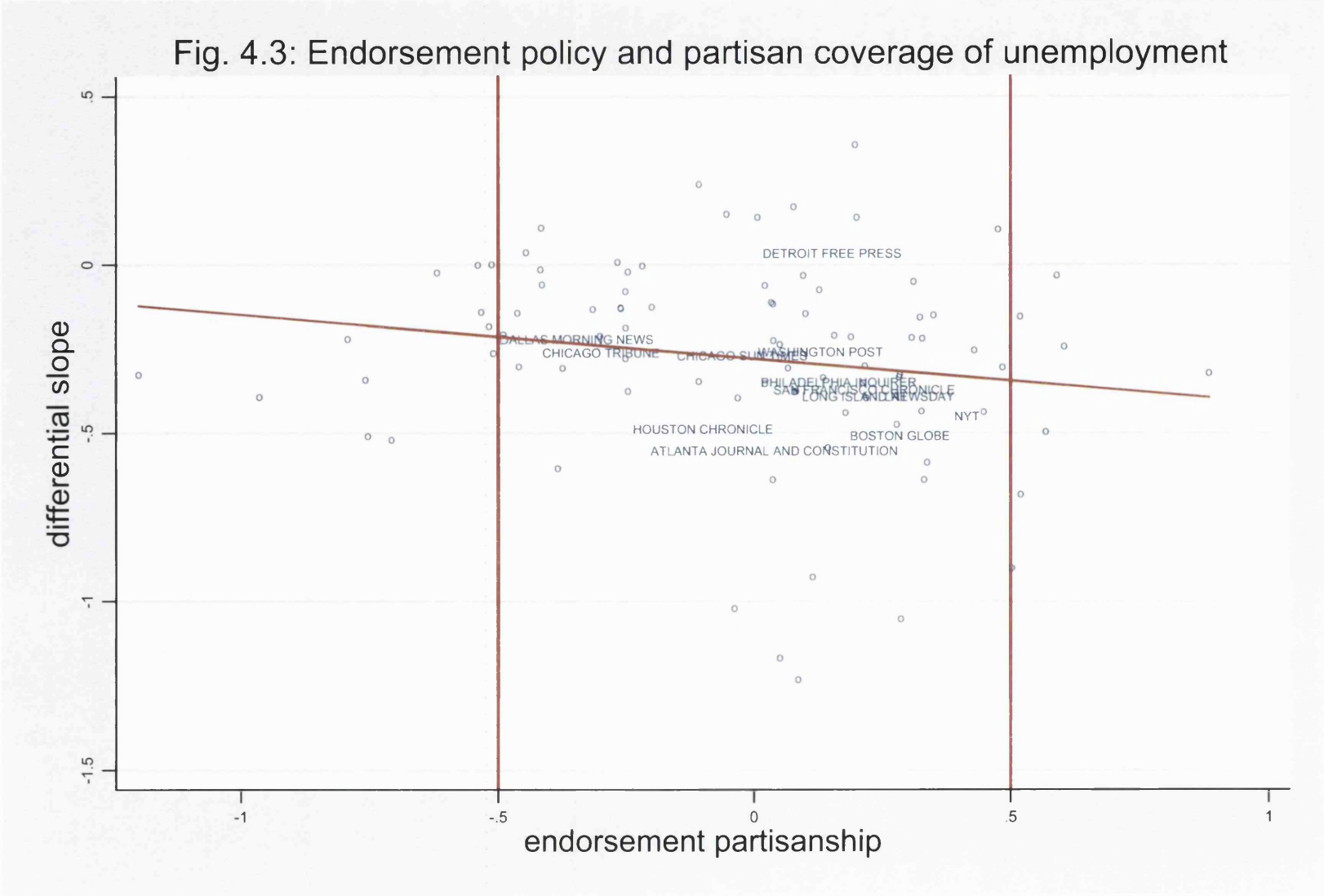


Fig. 4.2: Average circulation and endorsement partisanship

Fig. 4.3: Endorsement policy and partisan coverage of unemployment



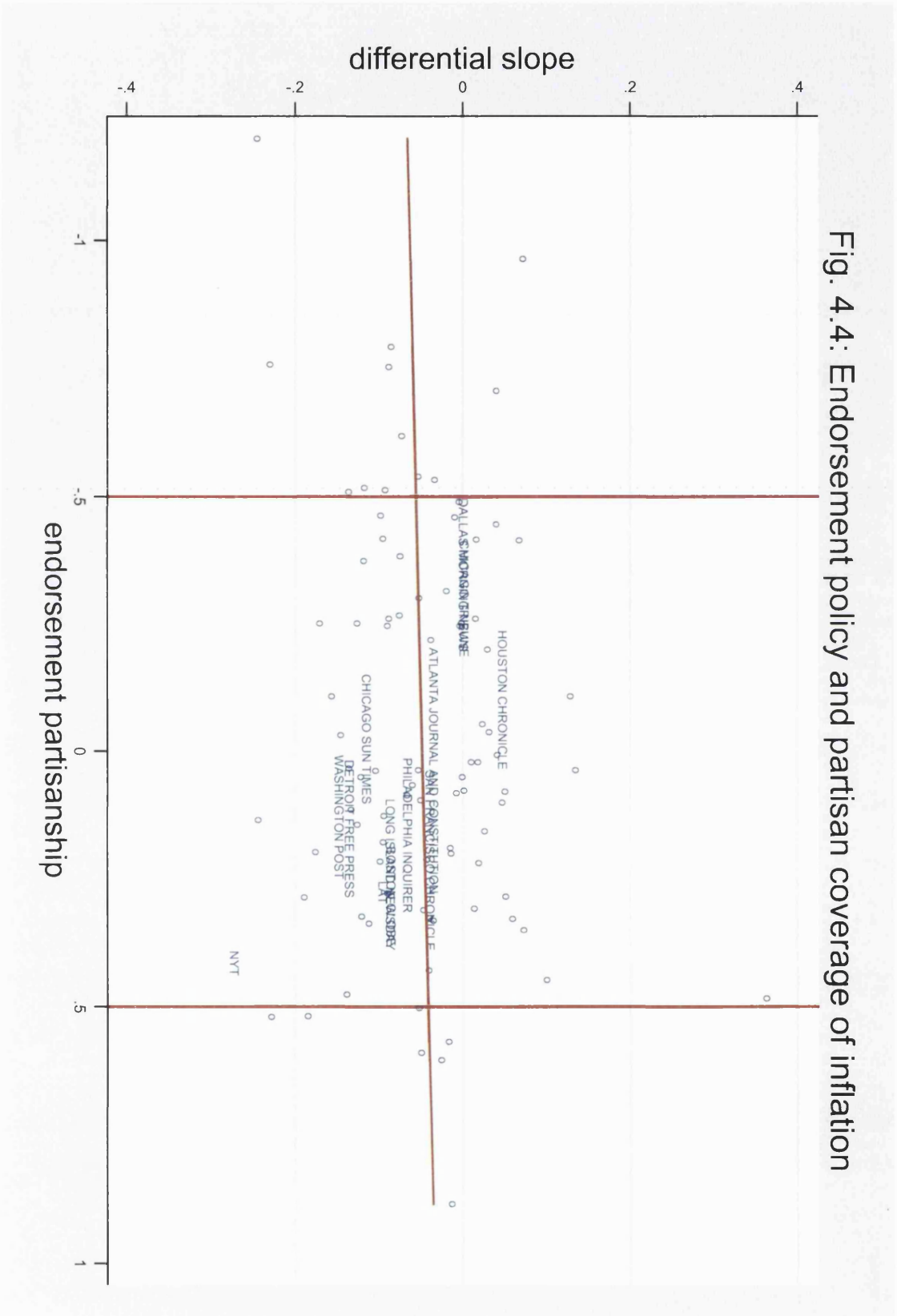


Fig. 4.4: Endorsement policy and partisan coverage of inflation

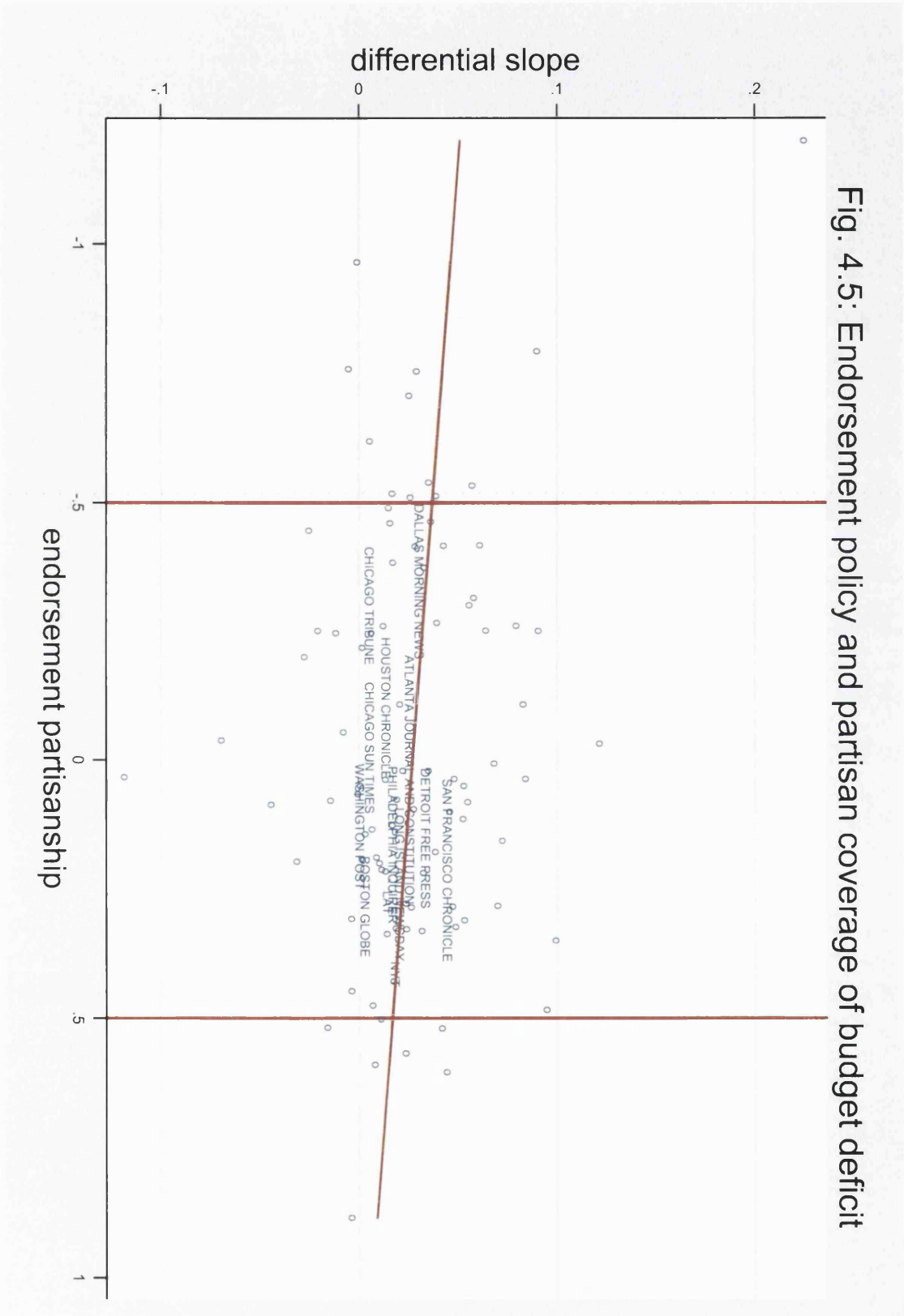


Fig. 4.5: Endorsement policy and partisan coverage of budget deficit

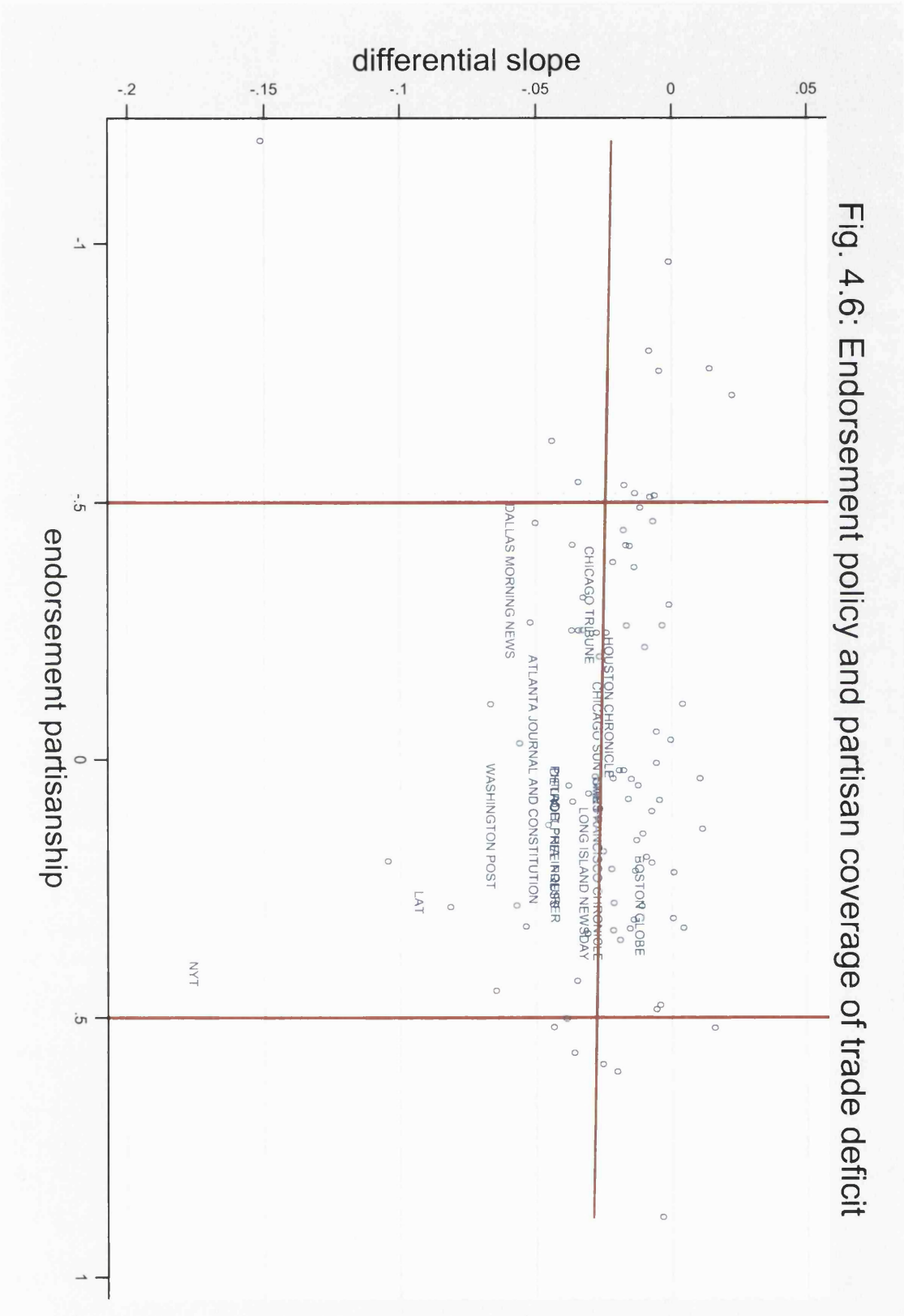


Fig. 4.6: Endorsement policy and partisan coverage of trade deficit

Figure 4.7: Dynamics of Democratic vote in California and LA Times endorsements

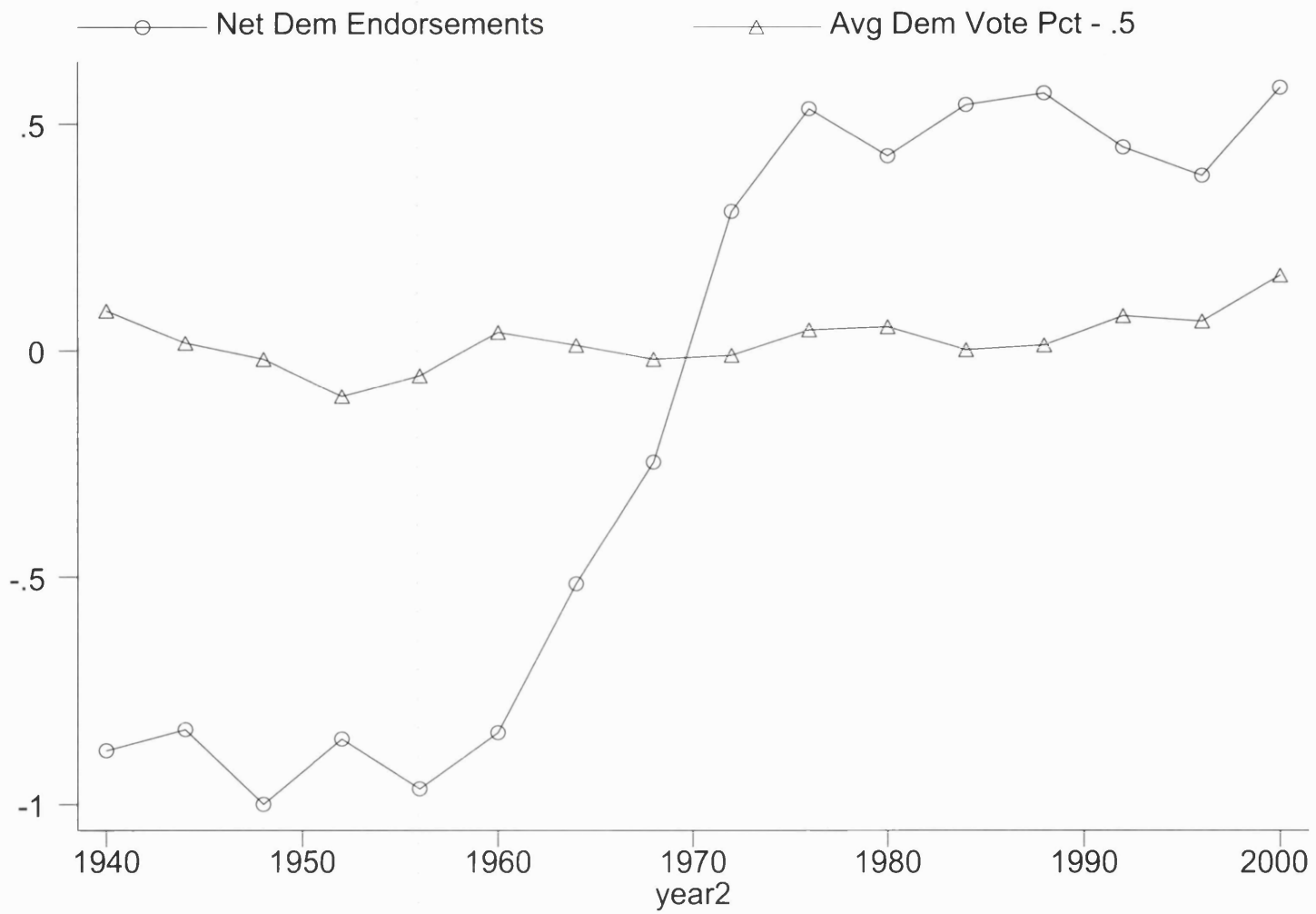


Figure 4.8: Coverage of unemployment and inflation on the LA Times.

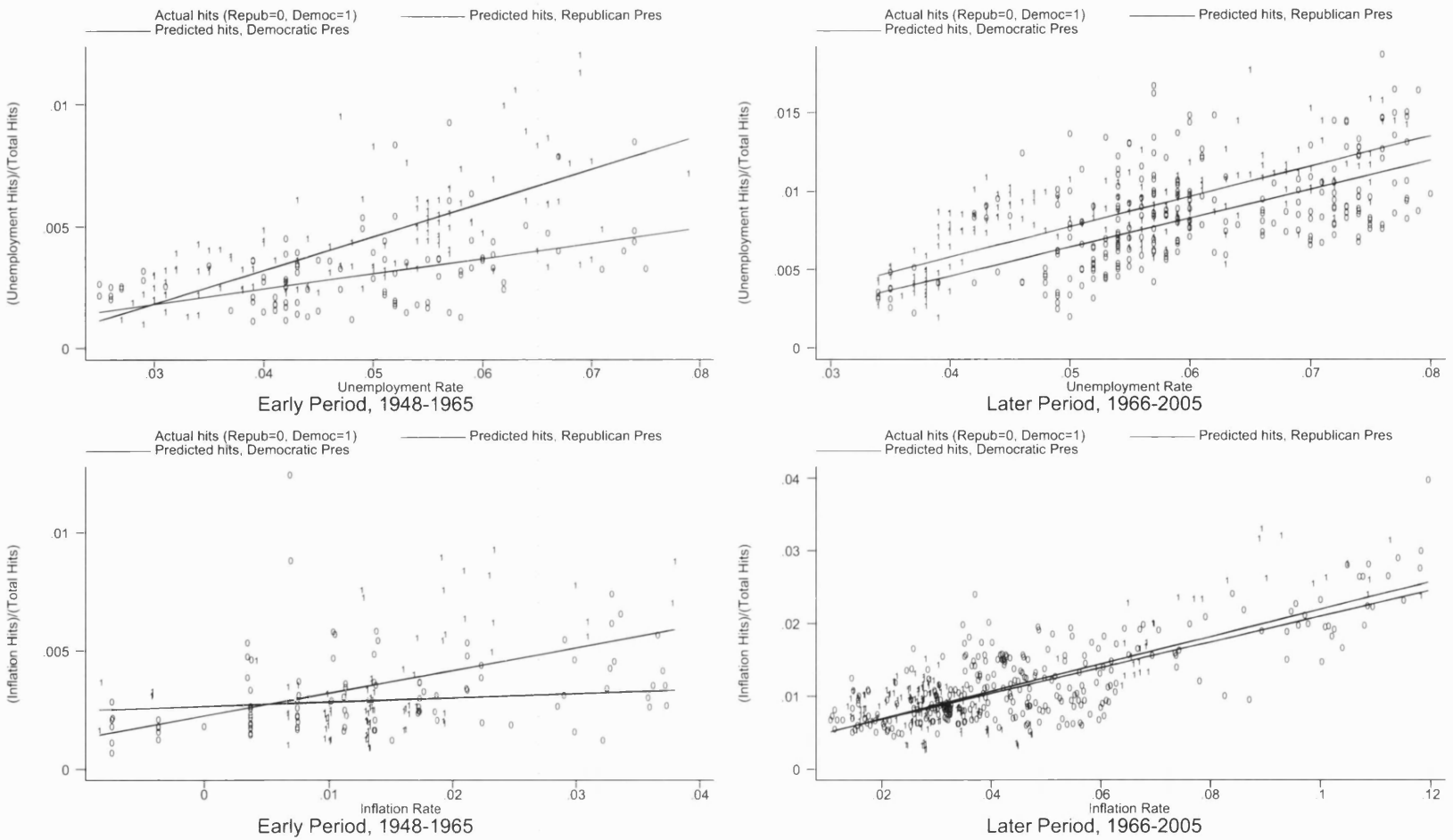


Table 4.1: variable definitions

symbol	variable	definition	source
EV_{Ut}	Unemployment	U.S. monthly unemployment rate	BLS, LNS 14000000
EV_{It}	Inflation	Monthly inflation rate, on annual basis	BLS, CPI data, CUUR0000SA0
EV_{Bt}	Budget deficit	Quarterly federal deficit, as percentage of GDP	BEA: NIPA Tables 3.2 and 1.1.5
EV_{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 4.2: summary statistics, 1996-2005

symbol	variable	Obs.	Mean	Median	Std. Dev.	Min	Max
EV_{Ut}	Monthly unemployment rate	120	5,013	5,100	0,672	3,800	6,300
EV_{It}	Monthly inflation rate	120	2,514	2,579	0,759	1,067	4,687
EV_{Bt}	Quarterly budget deficit	40	1,047	1,229	1,936	-2,209	4,114
EV_{Tt}	Quarterly trade deficit	40	3,432	3,604	1,579	1,070	6,166
n_{jt}^{U}	Relative frequency of unemployment stories	12124	0,697	0,638	0,381	0	3,138
n_{jt}^{I}	Relative frequency of inflation stories	12124	0,572	0,478	0,402	0	3,824
n_{jt}^{B}	Relative frequency of budget deficit stories	4049	0,127	0,102	0,106	0	1,887
n_{jt}^{T}	Relative frequency of trade deficit stories	4049	0,058	0,040	0,063	0	0,539

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

Table 4.3: Partisan Bias in the Coverage of Economic Issues

	unemployment			inflation			budget deficit			trade deficit		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Specification	A	B	C	A	B	C	A	B	C	A	B	C
DP x EV x NE	-0.149**	-0.150**	-0.150**	0.022	0.024	0.022	-0.016	-0.014	-0.013	0.003	0.003	0.004
	[2.38]	[2.38]	[2.35]	[0.82]	[0.87]	[0.81]	[0.89]	[0.76]	[0.73]	[0.29]	[0.29]	[0.30]
EV	0.165***	-	-	0.084***	-	-	-0.012***	-	-	0.001	-	-
	[11.14]			[11.04]			[6.19]			[0.20]		
Change in EV	0.094***	-	-	-0.020***	-	-	-0.002	-	-	-0.005*	-	-
	[6.11]			[5.30]			[1.07]			[1.87]		
DP	1.090***	-	-	0.353***	-	-	0.080***	-	-	0.141***	-	-
	[9.33]			[9.99]			[10.55]			[12.08]		
DP x EV	-0.248***	-	-	-0.073***	-	-	0.029***	-	-	-0.027***	-	-
	[8.92]			[7.72]			[7.46]			[10.43]		
DP x NE	0.570**	0.575**	-	-0.130	-0.134	-	-0.030	-0.027	-	-0.027	-0.027	-
	[2.15]	[2.15]		[1.55]	[1.60]		[0.91]	[0.80]		[0.48]	[0.48]	
NE x EV	0.071**	0.072**	-	-0.009	-0.010	-	0.005	0.005	-	0.002	0.002	-
	[1.99]	[2.02]		[0.50]	[0.55]		[1.04]	[0.89]		[0.32]	[0.35]	
ln(total number of articles)	0.037*	0.028	0.027	0.011	0.011	0.022	-0.020	-0.020	-0.019	0.004**	0.004**	0.003
	[1.88]	[1.40]	[1.38]	[0.79]	[0.68]	[1.30]	[1.11]	[1.11]	[0.90]	[2.05]	[2.00]	[1.64]
Newspaper fixed effects	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Date dummies	no	yes	yes	no	yes	yes	no	yes	yes	no	yes	yes
Newspaper-specific time trend	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Newspaper-specific slope w.r.t. EV	no	no	yes	no	no	yes	no	no	yes	no	no	yes
Newspaper-specific slope w.r.t. DP	no	no	yes	no	no	yes	no	no	yes	no	no	yes
Observations	12124	12124	12124	12124	12124	12124	4017	4017	4017	4021	4021	4021
R-squared	0.56	0.63	0.67	0.66	0.72	0.75	0.39	0.61	0.66	0.66	0.70	0.74

DP is a dummy equal to 1 when the president is a Democrat, EV stands for "Economic Variable", NE is the newspaper endorsement variable. Robust t statistics in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%

Table 4.4: Unemployment News, Robustness Checks

	lagged values of the unemployment rate			controlling for state-level unemployment			excluding editorials		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Specification	A	B	C	A	B	C	A	B	C
DP x EV x NE (lagged)	-0.160**	-0.164**	-0.142**	-	-	-	-	-	-
	[2.53]	[2.56]	[2.35]						
DP x EV x NE	-	-	-	-0.149**	-0.150**	-0.150**	-0.137**	-0.139**	-0.138**
				[2.31]	[2.30]	[2.28]	[2.30]	[2.30]	[2.26]
unemployment rate (lagged)	0.152***	-	-	-	-	-	-	-	-
	[10.80]								
unemployment rate	-	-	-	0.111***	-	-	0.081***	-	-
				[6.08]			[4.90]		
change in unemp. rate (lagged)	0.090***	-	-	-	-	-	-	-	-
	[5.80]								
change in unemp. Rate	-	-	-	0.092***	-	-	0.088***	-	-
				[5.21]			[5.23]		
DP	1.090***	-	-	1.081***	-	-	0.904***	-	-
	[9.28]			[9.36]			[8.92]		
DP x unemployment (lagged)	-0.258***	-	-	-	-	-	-	-	-
	[9.14]								
DP x unemployment	-	-	-	-0.239***	-	-	-0.204***	-	-
				[8.73]			[8.36]		
NE x unemployment (lagged)	0.072**	0.074**	-	-	-	-	-	-	-
	[2.14]	[2.19]							
NE x unemployment	-	-	-	0.070*	0.071*	-	0.053*	0.054*	-
				[1.95]	[1.97]		[1.88]	[1.90]	
DP x NE	0.610**	0.623**	-	0.585**	0.588**	-	0.523**	0.529**	-
	[2.30]	[2.34]		[2.15]	[2.14]		[2.16]	[2.16]	
ln(total number of articles)	0.037*	0.027	0.027	0.041**	0.032*	0.030	0.038**	0.032*	0.030*
	[1.85]	[1.36]	[1.35]	[2.20]	[1.73]	[1.58]	[2.37]	[1.95]	[1.72]
state unemployment rate	-	-	-	0.061***	0.065***	0.061***	0.047***	0.051***	0.047**
				[3.37]	[3.39]	[2.85]	[3.05]	[3.17]	[2.59]
change in state unemp. rate	-	-	-	0.054***	0.053***	0.054***	0.052***	0.050***	0.049***
				[3.24]	[3.27]	[3.58]	[3.34]	[3.21]	[3.24]
Newspaper fixed effects	yes	yes	yes	yes	yes	yes	yes	yes	yes
Date dummies	no	yes	yes	no	yes	yes	no	yes	yes
Newspaper-specific time trend	yes	yes	yes	yes	yes	yes	yes	yes	yes
Newspaper-specific slope w.r.t. EV	no	no	yes	no	no	yes	no	no	yes
Newspaper-specific slope w.r.t. DP	no	no	yes	no	no	yes	no	no	yes
Editorials included	yes	yes	yes	yes	yes	yes	no	no	no
Observations	12116	12116	12116	12124	12124	12124	12106	12106	12106
R-squared	0.56	0.63	0.67	0.56	0.64	0.67	0.58	0.64	0.67

DP is a dummy equal to 1 when the president is a Democrat, EV stands for "Economic Variable", NE is the newspaper endorsement variable. Robust t statistics in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%

Table 4.5: Unemployment News, different time windows, all available newspapers

	1988-2005			1992-2005			1992-2005, excluding WT and UL			1996-2005		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Specification	A	B	C	A	B	C	A	B	C	A	B	C
DP x EV x NE	-0.095*	-0.100*	-0.101**	-0.034	-0.034	-0.036	-0.069**	-0.069**	-0.070**	-0.149**	-0.150**	-0.150**
	[1.93]	[1.98]	[2.03]	[1.14]	[1.13]	[1.17]	[2.64]	[2.59]	[2.55]	[2.31]	[2.30]	[2.28]
EV	0.192***	-	-	0.123***	-	-	0.120***	-	-	0.111***	-	-
	[7.83]			[6.17]			[7.82]			[6.08]		
Change in EV	0.090***	-	-	0.067***	-	-	0.064***	-	-	0.092***	-	-
	[4.21]			[3.34]			[3.32]			[5.21]		
DP	1.052***	-	-	0.660***	-	-	0.641***	-	-	1.081***	-	-
	[11.45]			[12.64]			[12.66]			[9.36]		
DP x EV	-0.177***	-	-	-0.133***	-	-	-0.129***	-	-	-0.239***	-	-
	[12.55]			[14.72]			[15.32]			[8.73]		
DP x NE	0.489	0.513	-	0.203	0.2	-	0.342**	0.337**	-	0.070*	0.071*	-
	[1.57]	[1.61]		[1.35]	[1.32]		[2.27]	[2.21]		[1.95]	[1.97]	
NE x EV	0.101	0.104	-	0.048	0.048	-	0.078***	0.078***	-	0.585**	0.588**	-
	[1.59]	[1.58]		[1.37]	[1.36]		[3.07]	[3.03]		[2.15]	[2.14]	
ln(total number of articles)	-0.153**	-0.189***	-0.135***	0.009	-0.005	0.021	0.013	0	0.022	0.041**	0.032*	0.030
	[2.57]	[3.12]	[2.71]	[0.21]	[0.13]	[0.61]	[0.34]	[0.00]	[0.65]	[2.20]	[1.73]	[1.58]
state unemployment	0.093***	0.090***	0.084***	0.048***	0.052***	0.054***	0.047***	0.052***	0.049**	0.061***	0.065***	0.061***
	[5.40]	[5.68]	[4.46]	[2.70]	[3.00]	[2.82]	[3.28]	[3.65]	[2.53]	[3.37]	[3.39]	[2.85]
change in state unemployment	0.047**	-0.003	-0.011	0.072***	0.049***	0.031*	0.071***	0.049***	0.038**	0.054***	0.053***	0.054***
	[2.08]	[0.13]	[0.49]	[4.48]	[2.89]	[1.79]	[4.47]	[2.97]	[2.27]	[3.24]	[3.27]	[3.58]
Newspaper fixed effects	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Date dummies	no	yes	yes	no	yes	yes	no	yes	yes	no	yes	yes
Newspaper-specific time trend	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Newspaper-specific slope w.r.t. EV	no	no	yes	no	no	yes	no	no	yes	no	no	yes
Newspaper-specific slope w.r.t. DP	no	no	yes	no	no	yes	no	no	yes	no	no	yes
Editorials included	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Observations	8374	8374	8374	13501	13501	13501	13165	13165	13165	12124	12124	12124
R-squared	0.60	0.72	0.77	0.62	0.70	0.74	0.62	0.70	0.74	0.56	0.64	0.67

DP is a dummy equal to 1 when the president is a Democrat, EV stands for "Economic Variable", NE is the newspaper endorsement variable. In columns (7)-(9) the Washington Times and the Manchester Union Leader are excluded as potential outliers. Robust t statistics in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 4.6: Unemployment News, different time windows, newspapers belonging to a chain or with large circulation

	1988-2005			1992-2005			1996-2005		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Specification	A	B	C	A	B	C	A	B	C
DP x EV x NE	-0.100**	-0.105**	-0.106**	-0.061**	-0.061**	-0.061**	-0.209***	-0.208***	-0.208***
	[2.01]	[2.06]	[2.13]	[2.08]	[2.06]	[2.01]	[2.93]	[2.88]	[2.86]
EV	0.194***	-	-	0.115***	-	-	0.098***	-	-
	[7.82]			[7.17]			[4.70]		
Change in EV	0.086***	-	-	0.057***	-	-	0.091***	-	-
	[4.00]			[2.79]			[5.04]		
DP	1.039***	-	-	0.624***	-	-	1.012***	-	-
	[11.11]			[11.50]			[8.11]		
DP x EV	-0.176***	-	-	-0.126***	-	-	-0.224***	-	-
	[12.16]			[14.03]			[7.58]		
DP x NE	0.526	0.548*	-	0.278*	0.279	-	0.790**	0.787**	-
	[1.68]	[1.71]		[1.67]	[1.65]		[2.60]	[2.56]	
NE x EV	0.107	0.109	-	0.071**	0.072**	-	0.078**	0.079**	-
	[1.67]	[1.63]		[2.55]	[2.52]		[2.47]	[2.48]	
ln(total number of articles)	-0.154**	-0.194***	-0.139***	-0.006	-0.017	0.008	0.035	0.026	0.030
	[2.56]	[3.17]	[2.77]	[0.11]	[0.29]	[0.16]	[1.13]	[0.84]	[0.93]
state unemployment	0.090***	0.088***	0.082***	0.053***	0.055***	0.050**	0.063***	0.067***	0.061**
	[5.10]	[5.37]	[4.30]	[3.52]	[3.60]	[2.42]	[3.05]	[3.11]	[2.46]
change in state unemployment	0.049**	-0.001	-0.012	0.074***	0.052***	0.039**	0.061***	0.058***	0.059***
	[2.12]	[0.05]	[0.51]	[4.31]	[2.99]	[2.20]	[3.52]	[3.45]	[3.61]
Newspaper fixed effects	yes	yes	yes	yes	yes	yes	yes	yes	yes
Date dummies	no	yes	yes	no	yes	yes	no	yes	yes
Newspaper-specific time trend	yes	yes	yes	yes	yes	yes	yes	yes	yes
Newspaper-specific slope w.r.t. EV	no	no	yes	no	no	yes	no	no	yes
Newspaper-specific slope w.r.t. DP	no	no	yes	no	no	yes	no	no	yes
Editorials included	yes	yes	yes	yes	yes	yes	yes	yes	yes
Observations	8167	8167	8167	11856	11856	11856	10129	10129	10129
R-squared	0.60	0.72	0.77	0.63	0.71	0.75	0.55	0.63	0.66

DP is a dummy equal to 1 when the president is a Democrat, EV stands for "Economic Variable", NE is the newspaper endorsement variable. Robust t statistics in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 4.7: Unemployment News: Demand-driven coverage?

	reader partisanship			reader and endorsement partisanship		
	(1)	(2)	(3)	(4)	(5)	(6)
Specification	A	B	C	A	B	C
DP x EV x NR	-0.648*	-0.663*	-0.644*	-0,511	-0,526	-0,508
	[1.78]	[1.82]	[1.73]	[1.36]	[1.40]	[1.32]
DP x EV x NE	-	-	-	-0.128*	-0.129*	-0.129*
				[1.98]	[1.96]	[1.96]
unemployment rate	-0,02	-	-	0,018	-	-
	[0.17]			[0.14]		
change in unemp. rate	0.096***	-	-	0.094***	-	-
	[5.40]			[5.31]		
DP	-0,036	-	-	0,258	-	-
	[0.05]			[0.32]		
DP x unemployment	0,098	-	-	0,026	-	-
	[0.53]			[0.13]		
NR x unemployment	0,242	0,243	-	0,176	0,176	-
	[1.06]	[1.06]		[0.75]	[0.75]	
DP x NR	2,141	2,193	-	1,586	1,638	-
	[1.43]	[1.46]		[1.01]	[1.04]	
NE x unemployment	-	-	-	0.063*	0.064*	-
				[1.81]	[1.83]	
DP x NE	-	-	-	0.521*	0.523*	-
				[1.88]	[1.87]	
state unemployment rate	0.066***	0.070***	0.065***	0.064***	0.067***	0.064***
	[3.54]	[3.56]	[2.97]	[3.49]	[3.51]	[2.94]
change in state unemp. rate	0.048***	0.046***	0.049***	0.051***	0.050***	0.051***
	[2.78]	[2.69]	[3.10]	[3.00]	[2.96]	[3.28]
Newspaper fixed effects	yes	yes	yes	yes	yes	yes
Date dummies	no	yes	yes	no	yes	yes
Newspaper-specific time trend	yes	yes	yes	yes	yes	yes
Newspaper-specific slope w.r.t. EV	no	no	yes	no	no	yes
Newspaper-specific slope w.r.t. DP	no	no	yes	no	no	yes
slope w.r.t. log of size	yes	yes	yes	yes	yes	yes
Editorials included	yes	yes	yes	yes	yes	yes
Observations	12124	12124	12124	12124	12124	12124
R-squared	0.56	0.64	0.67	0.56	0.64	0.67

DP is a dummy equal to 1 when the president is Democratic, EV stands for "Economic Variable", NR is the newspaper readership variable, while NE is the newspaper endorsement one. Robust t statistics in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 4.8: list of sampled newspapers with endorsement data

ID	Newspaper	State	Chain	Endorsement score	1988?	1992?
AK	Akron Beacon Journal	OH	Knight Ridder	-0,2596636	1	1
AJ	Albuquerque Journal	NM		-0,2178417	0	0
AS	Anchorage Daily News	AK	Mcclatchy Company	0,4845000	1	1
AT	Atlanta Journal And Constitution	GA	Cox Newspapers	0,0399212	1	1
AGCB	Augusta Chronicle	GA	Morris Communications	-0,4167508	0	0
AASB	Austin American Statesman	TX	Cox Newspapers	0,0833165	0	1
BS	Baltimore Sun	MD	Tribune Co	0,0977140	0	1
BD	Bangor Daily News	ME		0,1580255	0	1
BE	Bergen County Record	NJ	North Jersey	0,2171908	1	1
BI	Birmingham News	AL	Advance Publications	-0,4621221	0	0
BK	Bismark Tribune	ND	Lee Enterprises	-0,1061684	0	0
BL	Bloomington Pantagraph	IL	Lee Enterprises	-0,4447406	0	1
BG	Boston Globe	MA	New York Times	0,2857174	1	1
BNHB	Boston Herald	MA		-0,4891594	0	1
BN	Buffalo News	NY		0,1022806	0	1
CR	Cedar Rapids-Iowa City Gazette	IA		-0,2503612	0	1
CDMB	Charleston Daily Mail	WV	Media News Group	-0,7527525	0	0
CIZB	Charleston Gazette	WV		0,4303231	0	0
CO	Charlotte Observer	NC	Knight Ridder	0,2801360	1	1
CSTB	Chicago Sun Times	IL	Sun Times Media Group	-0,0227328	1	1
CHTB	Chicago Tribune	IL	Tribune Co	-0,2989278	1	1
CK	Cincinnati Post	OH	E.W. Scripps	-0,4586532	0	1
CPDB	Cleveland Plain Dealer	OH	Advance Publications	-0,1980308	0	1
CS	Columbia State	SC	Knight Ridder	0,0679328	1	1
CLDB	Columbus Dispatch	OH		-0,5325082	0	1
CL	Columbus Ledger-Enquirer	GA	Knight Ridder	0,4488196	0	0
OK	Daily Oklahoman	OK		-0,5158233	1	1
DM	Dallas Morning News	TX	Belo Corp	-0,3449326	1	1
DDNB	Dayton Daily News	OH	Cox Newspapers	-0,2455849	0	1
NJ	Daytona Beach News-Journal	FL		0,5911839	0	0
DP	Denver Post	CO	Media News Group	-0,0303445	0	1
RM	Denver Rocky Mountain News	CO	E.W. Scripps	-0,2593203	0	1
FP	Detroit Free Press	MI	Knight Ridder	0,1534508	1	1
NT	Duluth News-Tribune	MN	Knight Ridder	0,3287242	0	0
ET	Erie Times-News	PA		-0,4136883	0	0
EC	Evansville Courier And Press	IN		0,2850918	0	1
JG	Fort Wayne Journal Gazette	IN		0,2143500	0	1
FW	Fort Wayne News-Sentinel	IN	Knight Ridder	-0,4156261	0	1
ST	Fort Worth Star-Telegram	TX	Knight Ridder	0,0393013	0	1
FB	Fresno Bee	CA	Mcclatchy Company	0,5033402	1	1
GPTB	Gary Post-Tribune	IN	Sun Times Media Group	0,1367000	1	1
GB	Greensboro News And Record	NC		0,3326626	0	1
HRNB	Harrisburg Patriot-News	PA	Advance Publications	-0,2998959	1	1
HC	Hartford Courant	CT	Tribune Co	0,1904112	0	1
HDNB	Hays Daily News	KS		0,1985943	0	0
HCBF	Houston Chronicle	TX	Hearst Corp	-0,0987374	1	1
FTUB	Jacksonville Florida Times-Union	FL	Morris Communications	-0,9632423	0	0
KC	Kansas City Star	MO	Knight Ridder	0,0383939	0	1
KYPB	Kentucky Post	KY	E.W. Scripps	0,2022318	0	1
KX	Knoxville News-Sentinel	TN	E.W. Scripps	-0,3734314	0	1
LVRB	Las Vegas Review-Journal	NV	Stephens Media Group	-0,5088014	0	0
JW	Lawrence Journal-World	KS		-0,7068577	0	1
LH	Lexington Herald Leader	KY	Knight Ridder	0,5206918	1	1
LJSB	Lincoln Journal Star	NE	Lee Enterprises	-0,2499532	0	0

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

Table 4.8 (cont.): list of sampled newspapers with endorsement data

ID	Newspaper	State	Chain	Endorsement score	1988?	1992?
LB	Long Beach Press-Telegram	CA	Media News Group	-0,2664053	0	1
NWDB	Long Island Newsday	NY	Tribune Co	0,2436154	1	1
LA	Los Angeles Daily News	CA	Media News Group	-0,5388390	1	1
LAT	Los Angeles Times	CA	Tribune Co	0,2779051	1	1
MT	Macon Telegraph	GA	Knight Ridder	0,3271415	0	0
UL	Manchester Union Leader	NH		-0,7585641	0	1
CA	Memphis Commercial Appeal	TN	E.W. Scripps	0,1279533	0	1
MH	Miami Herald	FL	Knight Ridder	0,2209475	1	1
MWSB	Milwaukee Journal Sentinel	WI		0,0230852	0	1
MN	Minneapolis Star Tribune	MN		0,2833712	1	1
MBRB	Mobile Register	AL	Advance Publications	-0,6182148	0	1
MS	Modesto Bee	CA	Mcclatchy Company	0,0079176	0	1
NHRB	New Haven Register	CT	Journal Register Co	0,0342288	1	1
TP	New Orleans Times-Picayune	LA	Advance Publications	0,0230046	0	1
NYT	New York Times	NY	New York Times	0,4166383	1	1
PBPB	Palm Beach Post	FL	Cox Newspapers	0,3089388	0	1
JS	Peoria Journal Star	IL	Copley Press	-0,2456197	0	1
DN	Philadelphia Daily News	PA	Knight Ridder	0,4773682	1	1
PI	Philadelphia Inquirer	PA	Knight Ridder	0,1659037	1	1
PG	Pittsburgh Post Gazette	PA	Block Family	0,0521412	0	1
OR	Portland Oregonian	OR	Advance Publications	0,0527399	1	1
AC	Press Of Atlantic City	NJ		-0,2503979	1	1
RTDB	Richmond Times-Dispatch	VA	Media General	-0,7922730	1	1
RO	Roanoke Times	VA	Landmark Communications	0,3516304	0	1
SB	Sacramento Bee	CA	Mcclatchy Company	0,6049401	1	1
SAEC	San Antonio Express News	TX	Hearst Corp	-0,1073770	0	1
SFCB	San Francisco Chronicle	CA		0,2157588	1	1
SF	Santa Fe New Mexican	NM		0,0804830	0	0
SA	Santa Rosa Press Democrat	CA	New York Times	0,3393954	0	0
HT	Sarasota Herald-Tribune	FL	New York Times	0,0381942	0	0
IG	Seattle Post-Intelligencer	WA	Hearst Corp	0,2872044	1	1
SE	Seattle Times	WA		0,0878302	1	1
JR	Springfield State Journal-Register	IL	Copley Press	-0,3135503	1	1
SL	St. Louis Post Dispatch	MO	Pulitzer Inc	0,3241484	1	1
SP	St. Paul Pioneer Press	MN	Knight Ridder	-0,0365371	1	1
SPTB	St. Petersburg Times	FL		0,3125581	1	1
TNTB	Tacoma News Tribune	WA	Mcclatchy Company	0,1453550	0	1
TD	Tallahassee Democrat	FL	Knight Ridder	0,5688767	0	0
TT	Tampa Tribune	FL	Media General	-0,0522953	0	1
TB	Toledo Blade	OH	Block Family	0,0791259	0	0
ADSB	Tucson Arizona Daily Star	AZ	Pulitzer Inc	0,5186767	0	1
TLWB	Tulsa World	OK		0,1801442	0	1
VC	Vancouver Columbian	WA		0,1153056	0	0
WP	Washington Post	DC		0,1321356	1	1
WT	Washington Times	DC		-1,1966380	0	1
WE	Wichita Eagle	KS	Knight Ridder	-0,3828387	1	1
WB	Wilkes-Barre Times Leader	PA	Knight Ridder	0,8862112	0	1
WO	Worcester Telegram And Gazette	MA	New York Times	-0,5122839	0	1

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

Chapter 5

Conclusions

This dissertation has revolved around the broad theme of how mass media outlets might act politically through their agenda-setting power. According to the theory of issue ownership, the choice itself of the topic being covered can produce persuasion effects, to the extent that citizens are convinced that a given party or candidate is better at handling problems related to that issue. In the case of performance issues (i.e. those lacking a broad consensus among the public on the comparative ability of parties and candidates), one could argue that the favorability of increased media coverage towards the incumbent government depends on whether the current situation being reported is relatively good or bad.

From a theoretical perspective, in chapter 2 I have built a simple political economy model of electoral competition which shows how -within a simple set up with one media outlet and two different issues owned by two different parties- the agenda-setting behaviour of the newspaper can affect the voting decision of Bayesian rational voters. Moreover, the model shows how the actual story being published interacts with the editorial policy of the newspaper in affecting voting behaviour. In particular, if the editorial policy amounts to give priority to the problem owned by the incumbent government, the publication of the story about the problem owned by the challenger's party would trigger a larger vote increase for that party, than what would happen under an editorial policy that is less favourable to the incumbent. The model is also suitable to analyse the welfare costs of a given editorial policy, which arise when the problem owned by a party is more serious than the one that is given priority by the editorial policy itself. Finally, the model depicts how ex ante incentives regarding the editorial policy might conflict with ex post ones, which are relevant in case both problems have occurred and the editor must come up with an excluding choice regarding the story to be published. If there is aggregate uncertainty and the distribution of the ex ante bias of rational voters is polarised, the incumbent government would ex ante prefer a watchdog editorial policy (i.e. one that gives priority to the story owned by the challenger), but ex post it would always find it optimal to spin the news about the owned problem, and have it published for sure.

Chapter 2 thus provides some theoretical underpinnings for the empirical analyses featured in chapters 3 and 4. To the extent that the choices of topics covered by media

outlets might affect public opinion and voting behaviour, one can derive some inference about the political position of those outlets, by studying their editorial choices.

In chapter 3 I have looked at the coverage of issues owned by the Democratic and the Republican party on the New York Times, during the 1946-1997 period. Since in the U.S. the dates of presidential elections are exogenously fixed by law, I investigate whether the Times systematically publishes more stories about issues owned by one political party during presidential campaigns. I control for the activity of the incumbent president across issues (as proxied by Executive Orders) and his political affiliation, and check whether the variation of covered topics during the campaign depends on that affiliation. The data show that the Times has a Democratic partisanship, with some watchdog aspects, in that during presidential campaigns it systematically publishes more stories about Democratic topics (civil rights, health care, labour and social welfare), but only so when the incumbent president is a Republican, i.e. he is on average perceived as weak on those issues by public opinion. During the post-1960 period, the Times displays a more symmetric type of watchdog behaviour, since during the presidential campaign it also gives more coverage to the Republican issue of Defense when the incumbent president is a Democrat and there is no reversal in the ownership of the issue. One might be concerned here about how the extraordinary relevance of the Vietnam war might explain this result.

In a nutshell, the empirical analysis performed on the New York Times is based on the long-term ownership of policy issues and exploits the "natural experiment" provided by presidential elections. Moreover, the availability of data on a wide time window allows to derive some conclusions on the *absolute* political position of the paper. On the other hand chapter 4, which is based on a joint work with Valentino Larcinese and James Snyder about the coverage of economic news by large sample of U.S. newspapers during the last decade, takes on a rather different identification path. First, it deals with a performance issue like the economy. Second, it covers a much shorter time period, so that only statements about the *relative* political position of media outlets can be legitimately formulated. Finally, a crucial role is played by the political affiliation of the incumbent president, in that the empirical exercise amounts to detecting any differential coverage of the same good or bad economic news as a function of this affiliation. In the presence of a long enough time sample, one could state that a given newspaper has an absolute bias in favour of the Democratic party if e.g. it systematically gives more coverage to high unemployment under George W. Bush than under Bill Clinton, and *vice versa* when the unemployment rate is low. With a short time sample, unobserved time effects might bias the coefficient on the interaction between the unemployment rate and the Democratic president dummy. For example, one could wrongly infer that a given newspaper is Democratic-biased if strongly newsworthy events take place when the unemployment rate is high and the incumbent president is a Democrat, so that all newspapers deflect their attention from unemployment during that period.

The idea explored in the chapter is to check whether the differential coverage of economic news is significantly correlated with some measure of the explicit political

position of these outlets. We thus study whether newspapers with a higher propensity to endorse Democratic candidates systematically give more coverage to bad economic news under Bush than under Clinton, in comparison with Republican-endorsing ones. We find robust evidence that this is the case for the unemployment rate, but not so for inflation, the budget deficit and the trade deficit.

As pointed out in the introductory chapter, demand for confirmatory information and supply of persuasion are likely to be coexisting on the media market: any politically slanted agenda-setting behaviour of a given media outlet could either depends on the preferences of journalists, editors and owners, or on those of consumers, or on both. The model developed in chapter 2 highlights the role of supply, but the empirical analysis is not always capable of disentangling the respective roles played by demand and supply factors. While in the analysis of the agenda-setting behaviour of the New York Times I cannot separately identify those roles, in the study of economic news coverage we check whether agenda bias is driven by the partisanship of readers, as proxied by the average Democratic vote in areas where each newspaper is sold. Newspapers with higher sales in Democratic areas indeed tend to give more coverage to high unemployment under Bush than under Clinton as compared to those sold in Republican areas, but this correlation is no longer significant when controlling for the ideological leaning of endorsements, properly interacted. On the other hand endorsement partisanship still plays a significant role, i.e. Democratic endorsing newspapers *ceteris paribus* give more coverage to high unemployment under Bush than under Clinton as compared to Republican endorsing ones. On this account, agenda bias in economic news seems more linked with the partisan position of editors, i.e. a supply factor, rather than with the one of readers.

In section 4.6 I have underlined how newspaper articles about economic news were coded through an automatic keyword-based search on online archives, instead of a human-based content analysis. From a methodological point of view, an automatic search has a low cost in terms of time and human capital being employed, and at the same time it is easily replicable, as it is based on a known set of words and/or sentences that are used as classifiers. In that section I have already mentioned some of the more immediate improvements and extensions that can be performed through the use of automatic keyword-based searches. For example one could code articles according to the page where they appear, and/or on the basis of their length. One could also explore agenda bias in economic news coverage for different time periods and/or countries.

In this concluding section I would like to highlight some further extensions in the study of the political behaviour of mass media, which are meant to fill the gaps between the methodological approaches taken up in chapters 3 and 4.

First, it would be interesting to study the differential coverage of Democratic and Republican issues during presidential campaigns (as in the analysis of the New York Times) for a large sample of media outlets, focusing on the consistency between this coverage and their explicit political position, as proxied by the endorsement partisanship (similarly to what done with the analysis of economic news).

Second, one could analyse economic news coverage by a set of media outlets *in the*

long run, in order to produce some inference regarding the absolute political position of these outlets. Moreover, in the presence of some exogenous variation in the ownership of media outlets, it would be possible to investigate more rigorously the respective roles played by demand and supply in determining agenda bias. The Los Angeles Times case study presented in section 4.5.5 represents a first tentative step in this direction. Along the same lines, it would be worthwhile to analyse whether agenda bias on economic news takes place on different issues in different time periods, as a function of their overall salience. As argued at the end of chapter 4, one could thus expect to find agenda bias on inflation during the late 70s and early 80s.

Third, there are other policy issues which are characterised -from the issue ownership point of view- by a strong performance component. For example, crime would be a case in point: as shown by the survey evidence from Gallup and the NES, during the post-war period not rarely was the crime issue perceived as owned by the Democratic party instead of the GOP, contrary to the common wisdom and the original classification by Petrocik [1996].[1] A feasible research strategy would consist in studying the coverage of the crime issue at the state or city level, as a function of the political affiliation of the incumbent governor or mayor.

Foreign policy stands as another interesting policy issue where to investigate the political behaviour of media outlets. As discussed in the introductory chapter, it is in principle easier to find reliable measures of performance on the economy rather than on foreign policy, certainly because of the more qualitative nature of the latter. However, some relevant foreign events are to some extent measurable. As pioneered by Herman and Chomsky [1988], one could investigate how media outlets cover human rights violations and political murders happening in foreign countries, as a function of the status of the diplomatic relationship between those and the host country. Herman and Chomsky for example show that the coverage devoted by the U.S. media to the murder of the Polish priest Jerzy Popieluszko was more more than twice the one devoted to the murder of Archbishop Oscar Romero in El Salvador. The automatic keyword-based approach adopted in chapter 4, together with some reliable data on the status of U.S. diplomatic relationships with other countries, could be fruitfully exploited in order to investigate in a systematic fashion the Herman and Chomsky claim, according to which U.S. media outlets extensively cover human rights violations that take place in countries the U.S. administration considers as enemies, and pay comparatively little attention to those happening in allied countries. On this account, one could explore whether the extent of media capture by the government varies across countries, and in particular whether the U.S. media display a disproportionate "lapdog" behaviour on these matters.

In the preceding discussion I have deliberately used the generic term "media outlets", while both the theoretical and the empirical chapters of this dissertation deal with the specific case of newspapers. To the extent that data on other types of media outlets are available in electronic format (e.g. transcripts of TV or radio news broadcasts), all the empirical strategies employed or discussed in the thesis can be applied to them, and

[1] See section 3.3.1.

comparisons made.

Finally, the theoretical chapter has shown how -in the presence of a limited amount of space, time and/or attention- the agenda-setting behaviour of mass media outlets can affect rational readers in their attitudes and political choices. Moreover, the magnitude of these effects of coverage are shown to depend on the interaction with the known editorial policy of the specific media outlet, with a larger effect of stories that go contrary to this editorial policy. While the empirical chapters of the dissertation are focused on media coverage as a dependent variable, a further and natural step would of course consist in matching this data on media coverage with individual data on readers' (or viewers') attitudes and behaviour. As a methodological first best, one could devise a proper experiment in which the coverage of current events by different media outlet is randomly altered for a subset of consumers, and investigate whether the change in attitudes and opinions between the treatment and the control group is in turn a function of the known editorial policies of the different outlets. If ethical and practical considerations make this route unfeasible, the second best would be to find appropriate natural experiments, namely situations in which the extreme newsworthiness of a particular event pertaining to an issue owned by one party or the other might induce all media outlets to cover it, at least in the short run. One could then analyse how changes in the opinions and choices of readers and viewers might be correlated with the editorial stance of the different media outlets. An interesting hypothesis here (which lies outside the proper boundaries of this dissertation) is that issue framing might be an important mechanism through which editors and journalists constrain the amount of opinion change by readers and viewers, in the presence of newsworthy events that are unfavourable to the political side on which producers and/or consumers of news stand.

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