The Political Economy of Mass Media

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1.0 Introduction

In the last decade, a sizable number of economists have begun to study the behavior and political effects of mass media. In this survey, we propose a way to organize this body of research, we attempt to summarize the key insights that have been learned so far, and we suggest potentially important open questions.

We structure the discussion in sections covering background, transparency, capture, informative coverage, and ideological bias. Section 2.0 begins with an overview of how economics and other disciplines approach this field and defines the scope of this survey. Section 3.0, discusses the benefits and costs of transparency in politics: Under which situations do voters benefit from receiving more information?

Section 4.0 addresses under which conditions the government will prevent the media from performing its information-provision task. Media capture is a present or latent risk in most developing and many developed countries. We present a theory of endogenous capture and survey the growing empirical literature on the extent and determinants of capture. As demonstrated herein, different sources of evidence provide support for the idea that ownership plurality is the most effective defense against capture.

Section 5.0 discusses a crucial theme in media studies – namely, how informative media coverage affects political accountability and government policy. A model of policy choice with endogenous media coverage supplies an array of testable implications, used to organize the existing empirical

work. The key questions are: What drives media coverage of politics? How does this coverage influence government policy, the actions and selection of politicians, and the information levels and voting behavior of the public?

Section 6.0 discusses ideological bias and its effects on elections. We discuss the theories that have been proposed to explain the existence of this bias. We survey methodologies to measure the ideological bias of individual media outlets and we discuss the existing evidence on the origin of bias and its effect on elections. Section 7.0 draws conclusions and suggests possible research questions.

The focus of this chapter is on work in political economy on the link between the media industry and political outcomes.[1] This is only part of the research on this topic. Since the 1930s, scholars of politics and media studies have analyzed the relationship between media and politics with a variety of methodologies. Because it would be impossible to do justice to their contributions here, we refer readers to surveys by Dearing and Rogers (1996) and Scheufele (1999). However, we often refer to literature outside political economy, whenever it is useful for understanding the work under discussion. The next section offers a brief introduction to the history of this field and attempts to identify the key features of the recent work by economists surveyed herein.

2.0 Background

To put recent work by economists into perspective, a short background on media research in other fields may be helpful. Modern empirical research on mass-media effects began in the 1930s, partly motivated by Hitler's and Mussolini's seemingly effective use of media in their propaganda and the simultaneous rapid increase in radio use. However, the first large-scale studies found that the mass media of radio and print had relatively minor direct effects on how people voted (Lazarsfeld, Berelson, and Gaudet 1944). Media seemed to mainly strengthen voters' predispositions because of pervasive selection and filtering. Similarly, experimental studies showed that propaganda movies failed spectacularly in indoctrinating their viewers (Howland, Lumsdaine, and Sheffield 1949).

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[1] Our focus on the political economy of the media omits an important body of research in industrial organization and public economics that deals with the media industry, mostly without any direct reference to the political system (e.g., Anderson and Coate 2005). This literature is influential in shaping competition policy for the media industry (Seabright and Von Hagen 2007).

In response to these minimal-effects findings, researchers developed new theories of media influence that do not rely on people receiving information that conflicts with their prior beliefs. *Agenda-setting theory* refers to the idea that media coverage of an issue makes people believe that this issue is important (McCombs and Shaw 1972). *Priming* is the idea that people evaluate politicians based on the issues covered in the media (Iyengar and Kinder 1987). Both are memory-based models that assume that people form attitudes based on the considerations that are most accessible and that media coverage improves accessibility. The models are summarized in the famous comment by Cohen (1963) that whereas the media cannot tell the public what to think, it can have a great impact on what the public thinks about. *Framing theory* instead is based on the assumption that how an issue is characterized in news reports can influence how it is understood by audiences. For example, citizens' opinions about a Ku Klux Klan rally may depend on whether it is framed as a free-speech issue or a public-safety issue. Empirically, most studies focus on media effects on audiences and voters by either using survey data or performing laboratory experiments.

This is a truly interdisciplinary field, and political economy has benefited enormously from the knowledge acquired in other disciplines. However, at the risk of overgeneralizing, the political-economy contributions tend to be characterized by a number of elements. First, in contrast to most previous work, economic models of media influence tend to focus on the informational role of mass media, on the premise that information makes a difference to how people vote and that mass media provides the bulk of information that people use in elections. A second and related innovation is the focus on economic outcomes. As in most political economy, the final objective of interest is not the behavior of the political system but rather its outcome in terms of variables (e.g., public-goods provision) that directly enter the citizens' preferences. Third, economists emphasize the use of formal game theory for modeling interactions within the media industry and between the media and other agents. We observe, for instance, the subtle interaction among media outlets that compete for audience by presenting information in a biased way, which is discussed in Section 5.0. The use of formal game-theoretical modeling has led to an array of testable implications regarding complex strategic phenomena.

Fourth, on the empirical side, there is strong emphasis on identifying causal media effects using observational data. Often, the effects of rapid changes in media exposure due to the entry of a new mass media or media channel have been used. Finally, our empirical work has a strong

international nature. The data come from a large array of countries, at various stages of development and with different political and media systems.

3.0 Transparency

To set the stage, we first ask whether having more information is beneficial to voters. This is done in a simple and general-agency framework. These theoretical insights are useful for interpreting the freedom-of-information laws that we observe in well-functioning democracies, as well as for understanding the possible impact of information from media on voters.

What types of information are beneficial to the functioning of a democracy? Naturally, some types are intrinsically bad, such as personal details of regular citizens or intelligence that could jeopardize national interests. Although defining the scope of privacy protection and national security can be difficult in practice, there is general agreement that these exceptions should not prevent the media from reporting freely on government activity, except in special circumstances. Potentially more important is the possibility that more information about government activities may actually create perverse incentives for politicians that, in the end, will hurt the voters.[2]

We begin with a benchmark result. Under complete contracting, Holmström (1979) showed that in any moral-hazard problem, the principal is never hurt by observing additional signals about the output of the agent. The economic intuition behind this result is strong. Because the principal can design the contract she offers to the agent, any additional information will be useful in reducing the rent that the agent derives from the presence of asymmetric information.

The simple intuition from moral hazard can be used to rationalize the principle of open government. This is a legal presumption that anything the government does should be open to the scrutiny of citizens and the media. Open-government provisions first appeared in Sweden in the eighteenth century; since then, many countries have enshrined the principle of open government in a specific piece of legislation, such as the U.S. Freedom of Information Act of 1966. Every document should be accessible to the public unless it falls under the remit of a small set of well-defined exemptions, such as personal privacy and national security. To understand which other exceptions we may want to add, it is useful to move away from a simple moral-hazard setup.

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[2] For a survey of the economic literature on transparency, see Prat (2006).

Instead, in a world without complete contracts, there are important sources of dynamic inefficiency. Maskin and Tirole (2004) offered a comprehensive analysis of this potential problem in politics. They asked whether certain governmental tasks should be assigned to an elected (i.e., a politician) or an unelected (i.e., a judge) official. In this two-period model, the key difference between the two cases is that voters can kick out a politician at the end of the first period, whereas they commit to keeping the judge for two periods. The advantage of the first solution is that voters can screen and discipline politicians. The drawback is that elected officials have an incentive to "pander" to the electorate by choosing policies that are in accordance with the voters' prior information but disregarding additional information that the politician may have. Pandering obviously hurts voters.

Is the risk of pandering greater if voters are more informed? Prat (2005) introduced a distinction between information on consequences and information on actions. Knowing more about the consequences of the policy choices made by politicians always benefits voters because it allows them to screen and discipline officials on the basis of signals that directly relate to ex-post utility. The problem begins when voters observe the actions chosen by their elected officials. The officials then have a strong incentive to disregard private signals that they may have received and act according to how an able agent is expected to behave a priori. This is an extremely negative outcome for voters, in terms of both discipline (i.e., the current office holder makes a poor decision) and selection (i.e., because all politicians behave in the same way, no ex-post screening is possible).

The voters would be better off if information about the government's actions were secret; at least, actions should not be revealed before the consequences of those actions are observed. The risk of pandering is greater when consequences are observed only much later in time. This potential problem is recognized by most freedom-of-information rules. Frankel (2001) reported that all 30-plus countries that have adopted an open-government code allow for some form of short-term secrecy while the decision process is still ongoing. For instance, Sweden, the country with the oldest freedom-of-information act, does not recognize the right of citizens to obtain information about a public decision until that decision has been implemented. Similarly, it may be desirable to keep some degree of secrecy about the advice that is provided to the government on policy matters. If an advisor has career concerns, his or her candor is enhanced if the details of the recommendation are kept secret until a policy decision actually is implemented.

In a world where politicians are charged with a variety of tasks that compete for their attention, information also may create perverse incentives. The tasks on which voters are informed (e.g., by the media) are not necessarily the most important. Thus, electing politicians based on information from the media would risk diverting attention from the most socially valuable allocation of time and resources. This is the familiar multitasking problem analyzed in Holmstrom and Milgrom (1991). It was applied to political-agency problems by Gersbach and Liessem (2001).

It is important that if information is concealed for any of the agency reasons discussed previously, it should be for only a relatively short period, sufficient for the dynamic incentives to be softened. In the medium and long terms, all information should be made public.

The general message from theory is that more information is good for voters except in particular cases. Empirically, this is consistent with existing freedom-of-information laws, which contain strong general open-government provisions and well-specified exceptions.

As demonstrated in this survey, this prediction also is consistent with most of the evidence available. Among the existing political-economy empirical analyses of the effect of media information, we identify a number that show significant and positive effects on policy variables, with only a few well-specified exceptions – mainly related to the multitasking issue. We review this evidence in the following sections and provide a summary of this issue in the conclusion.

4.0 Captured Media Environments

If the media is meant to discipline politicians, we would expect politicians to view this as a threat. If they can, they will find ways to silence their critics and foster positive coverage. We first present a simple model that yields conditions under which capture is more likely to happen and that describes the effects of capture on political outcomes. Then, we survey a number of empirical papers that attempt to identify capture in a variety of settings.

4.1 Endogenizing Media Capture

Following Besley and Prat (2006), we consider a two-period, retrospective voting model. In the first period, an incumbent is in power. Her type is g or b with $\Pr(g) = \gamma$. In this minimalistic model, the incumbent takes no action. The outcome for voters is determined by the incumbent's type: 0 if she is b and 1 if she is g. The voters, however, cannot directly observe their

payoff, perhaps because it is a long-term project the quality of which will be felt only in the distant future. The voters rely on the media industry to learn the outcome.

There are n active media outlets. If the incumbent is g, the media observes no information. If she is b, they may receive a verifiable signal to this effect. More specifically, with probability $q \in (0, 1)$, they all receive hard information that the incumbent is bad (e.g., evidence that the project is not going well).

A number of implicit assumptions have been made. First, news cannot be fabricated; only material backed by hard evidence can be printed. Although it is interesting to study the role of "cheap talk" in news provision (see Section 6.0), most of the key points about media capture can be made in a model, such as the present one, that avoids the technical difficulties of signaling games. Second, hard information can be only bad. Positive news always is printed because the incumbent will never have an interest in suppressing it. Third, all media outlets have the same information. If outlets received heterogeneous information, increasing the number of outlets would be a good thing per se. Instead, our stark, egalitarian assumption will isolate the role of media pluralism as a defense against capture.

What are the goals of the media industry? An outlet can make money in two ways: audience-related revenues and bribes from politicians. There is an amount a of news-related commercial revenues (i.e., increase in sales and subscriptions for newspapers; increase in advertising and cable fees for television stations) that are sensitive to the quality of information. It is divided (we assume equally) among the m outlets that provide interesting news – namely, evidence that the politician is bad. The amount a also can be interpreted as an intrinsic motivation for outlet owners: They get direct utility from "scoops."

The second source of payoff for a media outlet is the incumbent politician. She can make each outlet i a non-negative monetary offer of t_i. If the outlet accepts the offers, it commits to suppress the negative signal (we assume that the politician knows about the existence of such a signal when she makes the offer).[3]

The bribing process has transaction costs. A transfer of t_i costs t_i to the incumbent but yields t_i/τ to the outlet, where $\tau \in (0, \infty)$. The transaction-cost parameter τ represents the inability of the incumbent to use direct instruments to reward compliant outlets. Starting from one extreme, in

[3] For concreteness, we assume that offers are private: Offer t_i is observed only by outlet i. The results go through if the offer vector is public.

certain countries the government is able to threaten journalists with prose-cution or extrajudicial killings. In that case, t_i corresponds to a transfer that is valuable for the outlet (i.e., freedom, life) but costless to the incumbent. If a media outlet is state-owned or the incumbent is a media tycoon, the transaction cost also is low. The transfer may be literal: cash, for example, given from the incumbent to media outlets, as in the Peruvian case analyzed by McMillan and Zoido (2004), which we discuss herein. The instruments to influence the incumbent also may be more subtle, such as regulation that directly or indirectly favors the owner of the media company. The govern-ment also can pressure the media by offering preferential news access to friendly outlets. In general, we expect τ to depend on the form of media ownership. We discuss this topic at length when we report the cross-country evidence.

At the end of the first period, after negotiation with the incumbent, the media outlets make their reports available to voters. Information is a common good. If at least one outlet reports hard information, all voters will concentrate their attention on that outlet and they will become informed. At the beginning of the second period, a challenger appears. His quality is ex-ante the same as the incumbent: He is a type g with probability γ.

The only goal of the incumbent is to be reelected. She gets $r - \sum_{i=1}^{n} t_i$ if she serves a second term and $- \sum_{i=1}^{n} t_i$ if she does not.

Voters vote for either the incumbent or the challenger. As is customary, we focus the attention on equilibria in undominated pure strategies. Although only verifiable information can be reported, beliefs do have a role. When the media reports no signal, this can be because the incumbent is g or because she bribed the media.

Proposition 1: *When the number of independent outlets is low ($n < \frac{r}{\tau a}$), the media industry is fully captured and signals are always suppressed. When there is instead sufficient pluralism ($n > \frac{r}{\tau a}$), the media industry is independent and signals are always reported.*

To understand the result, we note that the incumbent will never want to suppress the signals of certain outlets but not those of others. If the signal is negative, what is the cost for the incumbent of silencing the media? We assume that all other outlets have accepted the incumbent's offer; if outlet i accepts, it receives t_i/τ; if it rejects, it receives the entire audience-related revenue: a. The minimum transfer that the incumbent must offer is $t_i = \tau a$. Hence, the minimum total cost of information-suppression is $n\tau a$.

The expression $n\tau a$ represents the strength of protection against capture and offers three lessons. First, *pluralism makes capture harder*. The incumbent must pay each outlet as if it were a monopolist with revenue a. Although this result is particularly stark in our setting, a more general version will hold whenever (1) reporting news is more profitable when fewer outlets are doing it; and (2) news is to some extent a public good.

Second, *an arm's-length relationship between government and media makes capture harder*. Any institutional or cultural arrangement that makes it unacceptable for the incumbent to reward or punish the media – directly or indirectly – increases her cost of silencing the media.

Third, *the presence of a news-related profit motive makes capture harder*. Outlets are reluctant to pass on a scoop in the presence of a strong commercial demand for information. In addition to socioeconomic factors, news-related revenues are affected by technology, especially when it comes to television (i.e., pay-per-view and premium channels) and new media.

Capture is only an intermediate phenomenon – and one that may be difficult to measure directly. We are most interested in the effect of capture on key outcomes of the political process.

Proposition 2: *The turnover of politicians and voter welfare is nondecreasing in the quality of information q, the number of outlets n, the audience-related news revenues a, and the transaction cost τ.*

Political outcomes depend on the information of the electorate. If voters learn more about the incumbent's true type, they are more likely to replace bad types with challengers. This increases turnover as well as welfare because it improves the average quality of government. In turn, voters' information is determined through two channels. The quality-of-information parameter q directly affects voters' knowledge. Instead, the three other parameters have an indirect effect: They determine media capture through Proposition 1, which then determines voter information.

The basic model can be extended in many directions. Moral hazard as well as adverse selection can be added. The incumbent can appropriate public resources. The probability that the media receives evidence of malfeasance depends on the size of the graft. The probability that a scandal breaks out is an inverse-U–shaped function of the media-monitoring ability. Scandals are rare because either the monitoring ability is so low that politicians never get caught or the monitoring ability is so high that they refrain from graft because they know they will be caught.

In the baseline model, agents have a common interest and capture can come from only one side: the government. Corneo (2006) considered a model with a heterogeneous electorate in which the media can collude with various interest groups. A monopolist media outlet (secretly) chooses a voter and makes an agreement with him. This model highlights the role of ownership concentration. Media capture is more likely when there are a few large shareholders than when ownership is diffuse.

Petrova (2008) explored the link between economic inequality and media capture. The starting point is a canonical model of taxation and public-good investment with rich and poor agents. There is uncertainty about the usefulness of the public good, and the media can provide voters with information. However, the rich may offer bribes to the media to understate the value of the public project. Although voters are rational, media capture may arise in equilibrium. The extent of capture is increasing in the degree of inequality.

Gelhbach and Sonin (2009) discussed the interaction between media control and "mobilization." Governments – especially autocratic ones – often need to mobilize their citizens for a collective goal. In their model, citizens make individual investment decisions based on the information they have. By manipulating news provision, the government can affect aggregate-investment levels. The authors showed that the existence of a mobilization motive increases media bias in equilibrium. The presence of a large private advertising market reduces bias but may induce the government to nationalize the media altogether.

This simple model and its extensions provide an array of testable implications. In the remainder of this section, we compare these predictions with the available evidence of media capture. Empirical work in this area can be divided into three strands, which we discuss in the next three subsections: direct evidence, cross-country indirect evidence, and within-country indirect evidence.

4.2 Direct Evidence of Capture

The most convincing evidence of the existence of media capture is provided by McMillan and Zoido (2004), who used an extraordinary dataset to reconstruct the complex system of bribes created during Alberto Fujimori's presidency of Peru from 1990 to 2000. Fujimori's security chief, Vladimiro Montesinos, kept a detailed record – both on paper and on video – of payments made to various agents. These records later came to light and were used in the trial against Montesinos.

To keep democratic forces at bay, Montesinos needed to buy acquiescence from three classes of actors: legislators, judges, and media companies. The paper by McMillan and Zoido (2004) thus offered a unique perspective of the process of subverting democracy. In particular, it asked which of these three classes of actors opposed the strongest resistance to Montesinos.

The first finding was that bribing the media is much more expensive. Through a detailed analysis of payments, McMillan and Zoido (2004) concluded that Montesinos paid less than US$300,000 per month to politicians to secure a majority in congress. The cost of guaranteeing a friendly judiciary was estimated at US$250,000 per month. The total cost of bribing the television channels was more than US$3 million per month. (The following table details the payments made by Montesinos to media outlets.) Therefore, the price paid to the media is of an order of magnitude greater than the price paid to both judges and politicians.

Media outlets	Bribe estimates
TV channels	
America Television (Channel 4)	At least US$9,619,000
Frequencia Latina (Channel 2)	US$6,073,407
Panamericana Television (Channel 5)	At least US$9,350,000
Cable Canal De Noticias (CCN)	US$2,000,000
Andina de Television (ATV)	US$50,000 to fire two journalists
Red Global (Channel 13)	Business help and judicial favors
Print media	
Expreso (mainstream newspaper)	US$3,500,000
El Tio (Chicha/popular press)	US$500–US$5,000 per story/headline
La Chuchi (Chicha/popular press)	US$8,000 weekly
El Chato	US$1,000 each issue

Source: McMillan and Zoido (2004).

Furthermore, Montesinos did not actually succeed in silencing the media. A cable outlet called *Channel N* consistently refused bribes and continued to criticize Fujimori's government. It was *Channel N* that in the end brought down the regime by broadcasting a video in which Montesinos was caught offering a bribe to a politician. There also is evidence that a newspaper owned by the same company, *El Comercio*, refused Montesinos's overtures.

As pointed out by McMillan and Zoido, these patterns are consistent with those of Besley and Prat (2006):

Given that the supply of corruptible politicians and judges exceeded Montesinos's limited demand, then, the politicians and judges had little bargaining power, so their price, as the data show, was relatively low. With television, by contrast, Montesinos had to bribe all of the widely watched channels. If he had succeeded in bribing all bar one, that renegade channel, by broadcasting unfavorable stories, could harm him unilaterally. . . . Each television channel had holdup power, regardless of how many of them he had bought already.

4.3 Cross-Country Evidence

Brunetti and Weder (2003) found evidence of a significant correlation between press freedom indices and corruption indices. The correlation is robust to the choice of measure for both variables and it continues to hold, albeit less strongly, if we use panel data. Although these findings are consistent with Proposition 2, they still do not identify the channel that links press freedom and corruption.

Djankov et al. (2003) documented media-ownership patterns across the world and investigated how ownership correlates with policy outcomes. They first created an important dataset on media ownership in 97 countries. Namely, for each country, they identified the ultimate owners of the five largest television stations, the five largest newspapers, and the five largest radio stations.

The data paint a picture of an industry with staggering public involvement: 29 percent of the press and 60 percent of television are state-owned. Whereas public ownership has a smaller role in the Americas, it is dominant in Africa (i.e., 61 percent of the press and 84 percent of television) and in the Middle East (50 percent, 94 percent). The number of countries where the state controls 75 percent or more of the audience is 21 for the press and 43 for television. In contrast, the "modern" mode of capitalistic ownership – a widely held public company – is rare: only 4 percent of the press and 5 percent of television. Private media is typically in the hands of powerful local families.

The authors contrasted a Pigouvian view of the media, whereby public ownership helps solve a public-good problem (i.e., increases q in our model), and a public-choice perspective, according to which whomever is in power will use the media to his or her advantage (i.e., because of a low transaction cost τ in our model). To compare the two hypotheses, the authors first regressed media ownership on a number of country characteristics.

The role of the state is greater in countries that are poorer and have greater overall state ownership in the economy, lower levels of school enrollments, and more autocratic regimes. The effect of the last variable is telling: If the Pigouvian view were correct, it would mean that autocrats are particularly good at providing citizens with abundant and unbiased information.

Second, the authors examined the link between media-ownership patterns and a number of public outcomes. Countries with greater state ownership of the media have less free press, fewer political rights for citizens, inferior governance, less developed capital markets, and inferior health outcomes. These findings were stronger for the press than for television, which may be due to an intrinsic advantage of print as a news medium or to the fact that there is less variation in television-ownership patterns.

In additional work based on these data, Besley and Prat (2006) found a significant link between state ownership and political longevity, as well as corruption. This effect is strong: For example, in countries where the state controls at least 30 percent of the press, the political leader remains in power for an additional 7.21 years. A similar set of findings holds for ownership concentration; the binary concentration index takes the value of 1 when 75 percent of the newspaper readership can be ascribed to one owner.

4.4 Within-Country Evidence of Capture

Di Tella and Franceschelli (2009) analyzed a form of monetary transfer between politicians and the media: advertising revenues. For each of the four major newspapers in Argentina in the period 1998–2007, they constructed an index of how much first-page coverage was devoted to corruption scandals, and they measured how much money each newspaper received from government-related advertising. They found a negative correlation between these two measures. A one-standard-deviation increase in government advertising was associated with a reduction in corruption coverage by almost half of a front page per month, or 37 percent of a standard deviation.

There also are useful lessons to be learned by using historical data to chart the long-term evolution of media independence. Hamilton (2004) studied the development of the U.S. press between 1870 – a time when only 13 percent of the dailies even claimed to be "independent" – to 1900, when the ratio had increased to 47 percent. This dramatic increase in newspaper independence can be related to the emergence of the daily as a viable commercial product, especially because of market growth. Gentzkow, Glaeser, and Goldin (2006) showed evidence that this shift was due to technological

changes in production that increased the optimal scale of newspapers. The market became more competitive and – as predicted by the previous model – newspapers focused on realizing their readership-related revenue potential rather than indulging their political patrons. As a result, successful newspapers began to develop a reputation for independent information provision.

Petrova (2009) studied the effect of growth in the printed advertising market in the United States in the period 1880–1885. In cities with higher advertising revenues, newspapers were more likely to be independent from political parties. This result continues to hold when instrumental variables, such as regulation on outdoor advertising, are used. The entry of new outlets also was more likely in advertising-rich markets.

Besley and Prat's (2006) capture model also applied when the agent who engages in capture is not the government – a corporation being the leading example. In a cross-country analysis of the determinants of the private benefits of corporate control, Dyck and Zingales (2004) found that a high level of diffusion of the press is one of two factors (the other being tax compliance) that provide discipline to controlling shareholders. This may be seen as a corporate counterpart to McMillan and Zoido's (2004) finding that the media offer the strongest form of protection against political abuse.

Dyck, Volchkova, and Zingales (2008) studied the corporate governance role of the media in Russia in the period 1999–2002. In a setting in which legal recourse against corporate abuse often is difficult, the authors examined the effect of an investment fund (i.e., the Hermitage) that pursues a policy of "shaming" perpetrators on the international press. The Hermitage's lobbying appears to increase the coverage of corporate governance violations in the Anglo-American press which, in turn, increases the probability that a corporate governance violation is reversed.

Gambaro and Puglisi (2009) showed evidence of corporate capture through advertising. They collected data on advertising spending in the Italian press. Controlling for fixed effects, the newspaper coverage of a given company was positively correlated with the amount of advertising purchased in that newspaper by that company.

In summary, there is strong evidence that media capture exists; in particular, the direct evidence in McMillan and Zoido (2004) was convincing. Regarding the determinants and effects of media capture, evidence is consistent with predictions that the risk of media capture is falling in the number of media outlets, the size of the advertising market, and state ownership, and that media capture will be associated with bad policy outcomes. However, the nature of the evidence does not allow for strong conclusions regarding

causal effects. A correlation between, for example, press freedom and corruption could arise for many reasons (e.g., a reverse-causality story in which more scope for corruption induces politicians to silence the press). Furthermore, countries that do one thing right tend to do many things right. Consequently, there are many factors correlated with press freedom, low government ownership of media, and low corruption, and it is difficult to argue convincingly that all of these factors are controlled for.

5.0 Coverage and Policy Effects

We now investigate how informative media affects political accountability and policy. This section focuses on effects through the amount of political news that the media carry because this drives the information that voters use to monitor politicians. The amount of coverage may differ across political issues, making certain groups better able to hold politicians accountable on certain issues. The informativeness of news coverage, of course, may be affected by capture and ideological bias. We abstract from that issue for now and return to it in subsequent sections.

5.1 Theory

We first develop a model in which media effects are driven by the total amount of coverage devoted to politics and the distribution of this coverage across issues.[4] There are three classes of actors: voters, politicians, and the media. Voters try to elect politicians who will give them the most utility, politicians try to get reelected and enjoy political rents, and the mass media selects political coverage to maximize profits.

Thus, the model combines two classical building blocks: (1) a voting model to determine how voters and candidates behave given the media coverage, and (2) a horizontal-competition model to determine how the media covers issues of interest to different groups.

5.1.1 Information and Voting

We begin by introducing the first building block: the role of information in politics. In Section 4.0, voters were modeled as a unitary block. Because the conflict between groups of voters is a key concern, the model now must

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[4] The model summarizes elements of Strömberg (1999; 2001, sect. 5; 2004a) and Prat and Strömberg (2005).

incorporate multiple groups of voters. This is a relatively standard voting model, in which better-informed groups receive better policy outcomes.[5] We then model the mass media as information providers, endogenizing the share of informed voters.

We suppose that there are n groups of size n_i: $i = 1, \ldots n$, and total population size is 1. A group may be defined based on ethnicity, geographic location, or interest. Key to this is that politicians can target spending to the group members. Voters' payoffs are additive over two periods and there is no discounting. In Period 1, voter j in group i receives utility:

$$g_i + \beta_j + \eta$$

where g_i is the level of public-good provision targeted to group i (to be discussed herein); β_j is an idiosyncratic preference shock about the incumbent that affects the utility derived by voter j from the incumbent. It is independent across voters (and across voter groups) and uniformly distributed on $\left[-\frac{1}{2}B, \frac{1}{2}B\right]$, where $B > 2$; η is a systematic preference shock about the incumbent that affects all voters in the same way. It is uniformly distributed on $\left[-\frac{1}{2}, \frac{1}{2}\right]$.

Public consumption for voters in group i is given by:

$$g_i = \theta_i + e_i \qquad (1)$$

where θ_i is the innate ability (type) of the incumbent to provide worthy public goods for group i. The θ_i's are mutually independent and drawn from a uniform distribution on $\left[-\frac{1}{2}\overline{\theta}, \frac{1}{2}\overline{\theta}\right]$, where $\overline{\theta} \leq \frac{1}{2}$. The variable e_i is the amount of government resources spent per capita in group i by the incumbent.[6]

In Period 2, voters' payoffs depend on whether they have chosen the incumbent or the challenger. Under the incumbent, the payoff of voter j in group i is:

$$g_{i2} + \beta_j + \eta + T_i I \left(a_j = g_{i2}\right)$$

The last term captures the value of news for the incumbent's policies. For now, information is given exogenously; this term has a role in the next section.

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[5] Baron (1994) is a starting point for this modeling framework.

[6] The assumption that θ_i is distributed independently is not necessary. The present analysis could be redone assuming that θ_i is correlated. Indeed, a previous version of the model assumed that θ_i was the same across all groups.

The incumbent has a fixed budget B in each period. This can be spent on the public goods to increase e_i at the cost $\frac{1}{2}n_i e_i^2$. The incumbent keeps the residual funds, $r = B - \frac{1}{2}\sum n_i e_i^2$.

It is a dominant strategy for the incumbent to keep all resources in the second period. In every equilibrium, $e_2 = 0$ and $g_{i2} = \theta_i$. The challenger receives the payoff $B - \frac{1}{2}\sum n_i \left(e_{i2}^c\right)^2$ if he is elected and zero otherwise. Like the incumbent, the challenger always exerts minimal effort and $g_2^c = \theta_i^c$.

The timing is as follows. In the first period, Nature selects $\{\theta_i\}_{i=1,\ldots,n}$, which remains unknown. The incumbent politician selects effort-vector e and g is realized. A share $1 - s_i$ of voters in group i is uninformed and observes only $\beta_j + \eta$; a share s_i of voters is informed and observes g_i and $\beta_j + \eta$. Voters select the action a.

In the second period, voters vote for the incumbent or the challenger. If the incumbent wins, g_{i2} is realized. If the challenger wins, g_{i2}^c is realized.

Because there is a continuum of voters, this electoral game has multiple equilibria. To simplify the analysis, we focus on sincere equilibria, in which each voter chooses the candidate who provides the higher expected utility.

It can be proved that in a pure-strategy sincere equilibrium, the incumbent selects effort:

$$e_i^* = B s_i \tag{2}$$

An informed voter j has the belief $\hat{\theta}_i = g_i - e_i^*$ and she votes for the incumbent if and only if (iff) $\hat{\theta}_i + \beta_j + \eta \geq -T_i$. An uninformed voter j reelects the incumbent iff $\beta_j + \eta \geq 0$. Thus, the vote share of the incumbent, conditional on $(\hat{\theta}_1, \hat{\theta}_2, \ldots, \hat{\theta}_n)$, is:

$$\frac{1}{2} + \sum_i n_i s_i \left(g_i - e_i^* + T_i\right) \tag{3}$$

In equilibrium, before observing $(\hat{\theta}_1, \hat{\theta}_2, \ldots, \hat{\theta}_n)$, the expected competence of reelected politicians on issue i is:

$$E\left[\theta_i \mid s_i\right] = s_i n_i \frac{\overline{\theta}^2}{12} \tag{4}$$

Uninformed voters only vote on the basis of their prior view ($\beta_j + \eta \geq 0$). Informed voters instead use the policy outcome on their issue (g_i) to infer the incumbent's innate ability to cater to them. This is why the incumbent wants to channel resources to groups that contain more informed voters. As in Holmstrom (1999), voters are not fooled on the equilibrium path.

5.1.2 Endogenous Coverage

The second building block of the model opens up the "black box" of information demand and supply. A first question to be answered is why voters demand news about politics. Some political news may be read for entertainment, such as scandals and personal details. Other news may be of interest because it influences individuals' private actions and welfare – for example, the building of a new road, the placement of a new military installation, or the introduction of a school voucher system. Finally, voters may require the information because they use it when voting. However, the probability that any voter is pivotal in the election is disappearingly small, and becoming a more informed voter yields a negligible payoff in the form of improved electoral outcomes. The private-action motive probably is used most commonly (Strömberg 1999, 2004a; Gentzkow and Shapiro 2006; Anderson and McLaren 2010), followed by the voting motive (Larcinese 2007; Chan and Suen 2008).

Here, we assume that readers receive entertainment value from the news and also use it to decide on a private action. More exact news about future policies makes it more probable that the readers will take the correct private action. We assume that the probability, $\rho(q_i)$, that a reader in i will find the news entertaining and will find the relevant information is increasing linearly in the amount of coverage, q_i, devoted to the issue.[7] The value of coverage q_i of the information specific to group i is $w_i(q_i) = \widetilde{T_i}\rho(q_i)$, where $\widetilde{T_i}$ equals the entertainment value plus the value of taking the correct private action, which we label T_i.

A reader's valuation of a newspaper also depends on other pieces of news and characteristics that newspapers cannot change by assumption. Other news is omitted from the analysis.[8] The fixed characteristics include, for example, the paper's editorial stance and the name and logotype of the newspaper. Voter j buys the newspaper if:

$$w(q_i) + \gamma_j \geq p$$

where γ_j captures individual j's valuation of the exogenous aspects of the newspaper and p is the newspaper price. We assume that γ_j is uniformly

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[7] To guarantee that these can be interpreted as probabilities, we assume that $\rho(q_i) = \max(0, \min(q_i, 1))$.

[8] If voters' utility from other news were additively separable from news on election platforms, then the following equations still would characterize news coverage of the subset of news on election platforms.

distributed on $[0, 1]$. The share that buys the newspaper is then $r_i(q_i, p) = \max(0, w(q_i) - p)$.

Having specified the demand for newspapers, we now turn to their costs. News production is an increasing-returns-to-scale industry, in the sense that once the fixed cost of gathering the news and writing and editing the news stories has been borne, the variable cost of producing an additional copy is only the cost of reproducing and distributing the newspaper. We write the newspaper's cost function as:

$$C(q) = c\frac{1}{2}\underbrace{\sum_{i=1}^{n} q_i^2}_{\text{first-copy costs}} + \underbrace{\sum_{i=1}^{n} n_i r_i(q_i, p) d_i}_{\text{reproduction and distribution costs}}$$

The newspapers also receive revenue from advertisements, and these revenues may differ across groups. We let p_{ai} be the average increase in advertisement revenue per additional reader in group i. The newspaper maximizes the expected profits: The first-order conditions for an interior solution are:

$$q_i = \frac{1}{c} n_i \widetilde{T}_i (p - d_i + p_{ai}), \qquad i = 1, 2, \ldots, n, \qquad (5)$$

$$p = \frac{1}{2} \left(\widetilde{T} q + d - p_a \right)$$

where $\widetilde{T} q$, d, and p_a are the population averages of $\widetilde{T}_i q_i$, d_i, and p_{ai}, respectively.

The newspaper covers more issues that concern large groups (n_i) because newspapers are an increasing-returns-to-scale industry with large first-copy costs. The newspaper also covers more issues that are entertaining and where information is of high private value ($\widetilde{T}_i$). Finally the newspapers cover more issues that concern people who are valuable to advertisers (p_a) and groups to which it is inexpensive to deliver news, d.

5.1.3 Predictions

The voting model predicts how voters and candidates behave given media coverage. The industrial-organization model predicts coverage. By bringing the two sets of results together, we have an array of predictions that we can organize as follows.

The entire political equilibrium depends on how informed different social groups are. We recall that the share of informed agents in group i is the

product of the share of media users in that group, r_i, and the amount of media coverage devoted to issues of interest to that group, q_i.

Proposition 3: *An increase in*

(a) *the share of media users, r_i, or*
(b) *the amount of media coverage of that issue, q_i,*

causes an increase in:

(i) *the share of informed voters in group i*
(ii) *the responsiveness of voters to perceived competence differences on issue i*
(iii) *the effort (spending) and expected competence of politicians toward voters in group i*
(iv) *the incumbent's vote share on average*

and more so if his or her competence on issue i is higher than for an average politician.

The proposition states that (a) who gets the news, and (b) what issues are covered matter for policy. Voters with media access are better able to hold their political representatives accountable and receive better policies. People also are better able to hold their representatives accountable on issues that are covered in the media and receive better policies there.

Part (i) is immediate. Part (ii) reflects the fact that votes are an increasing function in $s_i \left(g_i - e_i^* + T_i \right)$ from Equation (3) and that perceived competence is $\hat{\theta}_i = g_i - e_i^*$. Part (iii) follows because an increase in s_i increases the out-of-equilibrium response of votes to policy g_i, which increases effort; see Equation (2). In equilibrium, this expression becomes $s_i \left(\theta_i + T_i \right)$. An increase in s_i increases the vote responsiveness to competence on issue i, which improves the selection of elected politicians; see Equation (4). In a voting model, better-informed groups are more responsive to policy, which corresponds to Part (ii) and, hence, they receive preferential treatment in equilibrium and select better politicians, corresponding to Part (iii).

The electoral effects of coverage are described in Part (iv). Because votes are increasing in $s_i \left(\theta_i + T_i \right)$, an exogenous increase in s_i increases the incumbent's vote share iff $\theta_i + T_i > 0$. More information increases the electoral advantage of an average $(\theta_i = 0)$ incumbent. The more informed voters are about the incumbent, the more they have tailored their private actions to her characteristics and, hence, the more reluctant they are to choose the challenger. Because T_i is positive, more coverage always increases

the vote share of the incumbent if his competence on issue i is larger than average (θ_i, > 0). Parts (ii) and (iv) are closely related: the former describes what happens to votes when competence changes, holding coverage constant: the latter describes what happens to votes when coverage changes, holding competence constant. The electoral effects of media coverage in our model are unintentional by-products of profit maximization. We return to these in the section on ideological bias and electoral effects.

The model also identifies which particular issues will benefit from media coverage.

Proposition 4: *Media coverage of issues that concern group i and, consequently, political effort and competence is greater if (a) group i is larger; (b) it has a larger advertising potential; or (c) the issue is more journalistically newsworthy; and (d) it is inexpensive to distribute news to that group.*

The proposition follows as newspapers cover more issues that concern large groups, n_i; readers for whom advertisers pay more, p_{ai}; groups for whom news is entertaining or valuable, $\widetilde{T}_i$; and groups with low distribution costs, d_i. It corresponds to Corollary 3 of Strömberg (1999, chap. 1).

There is little reason to believe that profit-maximizing mass media will cover issues in a way that maximizes social welfare, given a fixed amount of total government resources. Proposition 4 characterizes which issues will receive too much attention and resources, relative to this benchmark. For example, media coverage may induce too much political action on journalistically newsworthy issues ($\widetilde{T}_i$) (e.g., volcanic eruptions at the expense of drought relief) in the sense that the same resources could have produced higher welfare if spent differently. Strömberg (1999, 2004a) discussed in more detail the welfare losses induced by this type of bias, as well as the results in Proposition 3.

5.2 Empirics

We now discuss evidence on these predictions. We start by investigating effects on spending from media access in Section 5.2.1 and media coverage in Section 5.2.2. Section 5.2.3 discusses the political effects of insufficient media coverage and the mechanisms of media influence. We also discuss evidence for the biases described in Proposition 4.

5.2.1 Who Gets the News: Policy Effects

Are voters with media access better able to hold their representatives accountable, and do they consequently receive better policy outcomes?

We now investigate the hypothesis in Proposition 3(a)(iii) that public expenditures are increasing in the share of media users in a group.

Effects from media access are probably most easily measured when new media are introduced. Mass media are not neutral devices, uniformly distributing information to everyone. Rather, each of the large mass media creates its specific distribution of informed and uninformed citizens, partly because of specific costs and revenue structure. As a result, in the wake of mass-media technology changes, there are dramatic changes in who has access to political information. Strömberg (1999, 2004b) measured the effects of the introduction of radio on government policy and voter turnout. Radio was introduced in the United States in the early 1920s and expanded rapidly to reach a household penetration of about 80 percent by 1940. It is interesting that this also was an era of rapid changes in economic policy making. In the middle of the expansion period of radio, the New Deal was launched.

Strömberg found that access to radio increased federal spending in the New Deal programs. The effects are important economically. The estimates of this study imply that a one-standard-deviation increase in the share of households with radios in a certain county would lead the governor to increase per-capita relief spending by 9 percent. The spread of radio particularly improved the situation of rural voters, accounting for as much as 20 percent more in social-assistance funds to a rural county than an identical urban county. Radio also increased voter turnout, particularly in rural areas. The results are robust to instrumenting radio ownership with exogenous factors that affect the quality of reception: ground conductivity and the share of woodland.

Strömberg's paper also showed significantly a new powerful way of identifying media impacts through regional variation in who receives the news. This was applied to a new expanding media, and the variation in media exposure was instrumented by quality of reception.[9] This research design has become one of the signifying traits of economists' research on media effects and subsequently has been applied to a large range of media and outcomes. The first of these was a study by Besley and Burgess (2002).

In Besley and Burgess (2002), the focus was more on the conflict between politicians and voters. They studied public food distribution and calamity relief in a panel of Indian states (1958–1992). Their main finding was that the interaction term between newspaper circulation and measures

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[9] Olken (2009) importantly extends this methodology to instrument the quality of reception from broadcast media transmitted through the air.

of need for relief is positive. This means that spending correlates more with the need in states where many have access to newspapers; in other words, spending is more responsive to need in states with a high newspaper circulation. The results are driven by the circulation of newspapers in local languages (other than Hindi and English). Again, a concern is that states with high circulation are different. People there may have a higher interest in politics and be more politically active in general. Consequently, the authors instrumented newspaper circulation with the share of newspapers that is owned by political parties, societies, and individuals. After instrumentation, the key results remained or became stronger.

The strong effects of media creating accountability are encouraging. The converse is that voters without access to media risk are being neglected by politicians, thereby reducing social welfare. This may be of particular concern to poor rural voters in developing countries, whose lack of access to the media could hinder their access to public services (Keefer and Khemani 2005). Delivery costs also drive this type of policy bias (see Proposition 4[d]). The most direct evidence of this is perhaps Reinekka and Svensson (2005), who found that schools to which it was less expensive to deliver newspapers – because they were closer to a newspaper outlet – received more government funds. Newspaper provision of news in this way may produce a political bias that disfavors remote and rural areas. As discussed previously, radio and television may reduce this pro-urban bias because they reach rural areas at a lower cost.

5.2.2 Which Issues Are Covered: Policy Effects

Can news make policy? In other words, can news editors, by publishing a news story, influence government policy? We now investigate the hypothesis in Proposition 3(b)(iii) that public expenditures are increasing in issue coverage, q.

This is the main hypothesis investigated in the agenda-setting research on policy effects. This research typically performs case studies or studies the co-movement over time in coverage of an issue in the media, the importance the public attaches to the issue, and a policy outcome (Dearing and Rogers 1996). However, convincing evidence of media effects is difficult to establish from these types of correlations. More severe issues are likely to be in the news and to receive policy attention, and it is difficult to control convincingly for severity. In addition, political agendas might drive both media coverage and policy, thereby creating a reverse-causality problem.

In an attempt to address this problem, Eisensee and Strömberg (2007) analyzed the effect of issues being covered because not much other news was

available. They studied natural disasters. The idea is that some marginally newsworthy disasters will not be covered in the news because they occur when many competing news stories are available (i.e., the Olympic Games). Other disasters are covered because they occur when few alternative stories are available. However, disasters striking during the Olympics will be similar in all other respects to disasters striking at the same time of the year in non-Olympic years.

Eisensee and Strömberg (2007) found that the Olympic Games crowd out news coverage of natural disasters and that this decreases the probability of U.S. government relief. They found similar effects using a more general measure of the amount of other available news (i.e., the time spent on the top three news stories). The conclusion was that news coverage has a causal effect on relief. Specifically, they studied relief from the U.S. Agency for International Development (USAID) Office of Foreign Disaster Assistance to 5,212 natural disasters taking place worldwide in the period 1968–2002. This was combined with data on whether the disaster was covered by the U.S. television network news. They used the Vanderbilt Television News Archives, which has compiled data on the content of the evening-news broadcasts of the major U.S. television networks (i.e., ABC, CBS, and NBC) since 1968 and CNN since the 1990s.

The effect of news biases relief in favor of certain disaster types and regions. By studying which disasters are covered in the news, Eisensee and Strömberg (2007) predicted the probability that a disaster with certain characteristics would be covered. For example, they estimated that 50 times as many people must be killed in a disaster in Africa to have the same probability of being covered by the television network news as an otherwise similar disaster in Eastern Europe. Similarly, a drought must have more than two thousand times as many casualties as a volcano to have the same estimated probability of coverage. Because news coverage triggers relief, this biases U.S. relief against drought and African disaster victims.

This is an example of the media creating a policy bias favoring issues that are newsworthy in a journalistic sense, as hypothesized in Proposition 4(c). Relatedly, Dreze and Sen (1989) argued that democracies with a free press (e.g., India) deal more effectively with famines than with endemic hunger because the former are more newsworthy. Similar arguments could be made that the media causes excessive government action on, for example, reducing airplane rather than automobile crashes.

We now also discuss the evidence that advertising biases policy that favors groups valuable to advertisers, as in Proposition 4(b). Here, there is

less supporting evidence. The literature still is struggling to uncover the first stage of this effect: that media coverage is shaped to target the interest of this group. For example, Hamilton (2004) correlated the number of news stories on 20 issues on each of the networks with the share of different demographic groups that consider that the issue should be the president's top priority. He found that the news selection correlates most with the interests of young viewers. He noted that this might be because advertisers target marginal consumers – for example, the young who have a less stable purchasing behavior. Although plausible, there is little convincing evidence that groups that are valuable to advertisers benefit politically from media coverage.

5.2.3 Effects of Muted Media Coverage

How would political outcomes differ if there were no media coverage? The effects of silenced media were one of the key empirical questions that we struggled with in Section 4.0. The evidence presented there was mainly of a cross-country nature and did not allow for strong conclusions regarding causal effects. To study this issue, we ideally would like to shut down all media coverage of politics in a number of randomly selected political jurisdictions and keep others as the control. Then, we could compare the outcomes among jurisdictions with or without media regarding the effects we care about: voter information, voting, and the effort and selection of politicians and policy.

Snyder and Strömberg (2010) attempted to answer this question by instead using a naturally occurring variation in media coverage that they argued to be as good as random with regard to these outcome variables. They analyzed the effects of media coverage on U.S. congressional politics. They noted that the match or congruence between media markets and political districts drives the media coverage of congressional politics. They measured this match using the average share of newspapers' readerships that live in a given district. In Figure 1(a), the left-hand image shows a perfect match between media markets and congressional districts. Every individual in both districts buys newspapers that sell only in this district. The situation on the right-hand side depicts a worse match, in which each person reads a newspaper that has only half of the sales in his or her district. Intuitively, the newspaper coverage of a congressman should be increasing in this readership share. Because more than one newspaper is sold in each district, they defined *congruence* as the circulation-weighted average of readership for all newspapers sold in a district.

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(a) Congruence

High   Low

Congressional district lines
Newspaper A
Newspaper B

(b) Newspaper Coverage

Articles about congressman

Reader share (living in district)

(c) News Exposure

Share who read about incumbent

2. Congruence
(Circulation-weighted average reader share)

3. Newspapers

(h) Federal Spending per Capita

Log(per capita spending)

Congruence*100 (Additional articles)

6. Policy

4. Voters

(d) Information

Name recall (share correct)

Congruence*100 (Additional articles)

5. Politicians

(g) Party Loyalty

Pct. votes with party leaders

Congruence*100 (Additional articles)

(f) Witness Appearances

Appearances per congress

Congruence*100 (Additional articles)

(e) Turnout

House −Presidential turnout

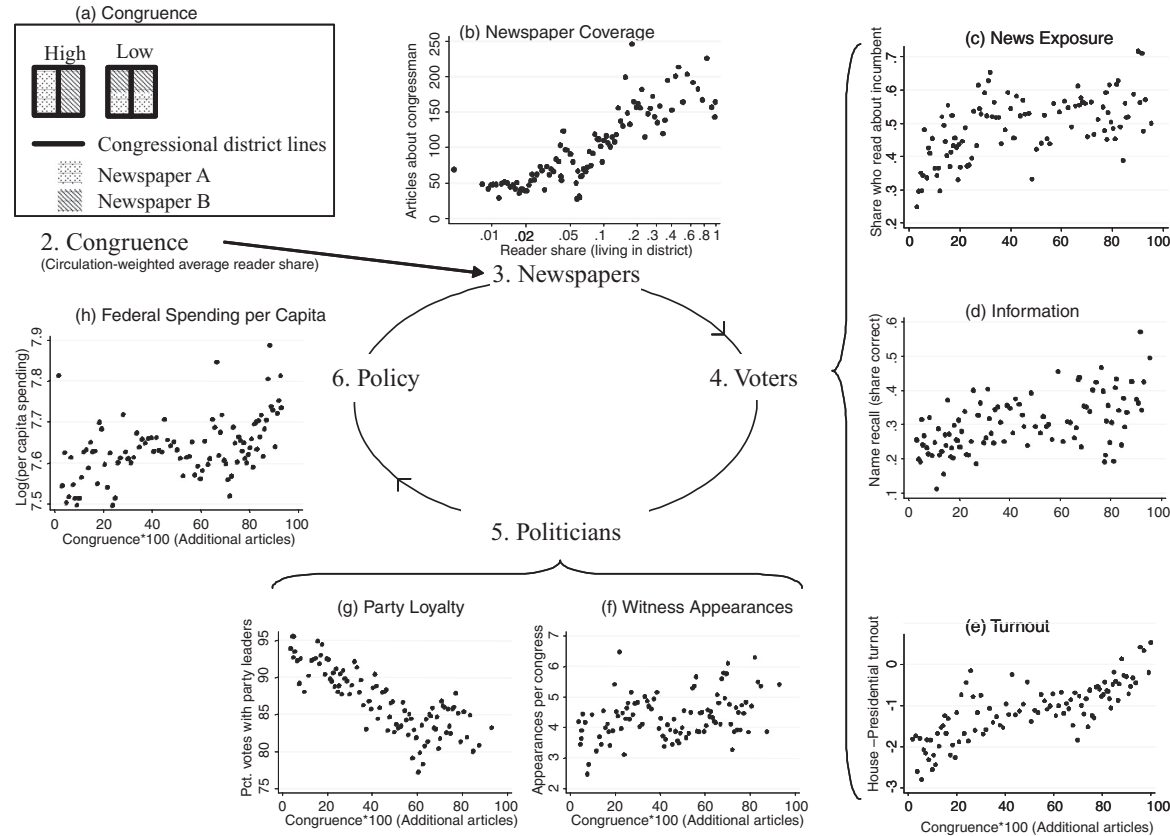Congruence*100 (Additional articles)

Figure 1. Structure of empirical investigation.

Snyder and Strömberg (2010) argued that some variation in this congruence is exogenous and used this to identify media effects. One specification investigates the consequences of the changing congruence between media markets and congressional district due to redrawing of district lines. For example, the media coverage of a congressman may fall because another part of the newspaper's readership was moved to a different congressional district. Another specification compares differences across counties in the same congressional district and year to identify effects.

Figure 1 shows bivariate relationships of the links investigated by Snyder and Strömberg (2010). We discuss their evidence and that of others regarding newspaper behavior, voters, politicians, and policy in those subgraphs of Figure 1.

First, they documented the relationship between congruence and coverage. They studied coverage of the U.S. House of Representatives in 161 newspapers encompassing 385 districts in each congress in the period 1991–2002. Their measure of the amount of coverage, q_i, of the Representative from district i is the number of articles mentioning the Representative's name. This was found by searching online editions of the newspapers. On average, the newspapers wrote 101 articles about each Representative in each two-year congressional period. Snyder and Strömberg (2010) found that congruence strongly drives the coverage of congressmen. Figure 1b plots the number of articles against the share of the newspaper's readership that lives in this district. In terms of magnitude, they estimated that an increase in congruence from zero to one is associated with 170 more articles written about the Representative.

Information. Snyder and Strömberg (2010) fonnd that local newspapers are key providers of political information, consistent with Proposition 3(i). This was found after analyzing survey responses from the American National Election Studies from 1984 to 2004. They found that voters in areas where the newspapers, for exogenous reasons, cover House Representatives more are considerably better informed about their Representatives. More precisely, they are better able to correctly name at least one candidate in a House election. Figure 1(d) plots the bivariate version of this relationship. They also are more willing to place their Representative ideologically, to rate their feelings toward the Representative, and to mention what they like or dislike about their Representative. The share that can correctly name the House Representative increases by 1 percent for every four exogenous additional newspaper articles about the Representative. These estimates suggest that

the share that can name its Representative would drop from 31 to 15 percent without newspaper coverage.

Other evidence on the mass media's influence on voter information is surprisingly scarce. There is survey evidence that self-reported exposure to news in newspapers and radio is positively correlated with political knowledge (Delli Carpini and Keeter 1989). One issue is that people who are interested in politics consume more political news, causing political knowledge and news exposure to be positively correlated. These selection issues are avoided in laboratory studies (Neuman, Just, and Crigler 1992; Norris and Sanders 2003), which find that people learn from watching news in a laboratory. However, it is difficult to generalize these results to the effects of years of daily media exposure on voters' knowledge or choices on Election Day.

Snyder and Strömberg (2010) found that people do not learn significantly about their House Representative from radio or television. This may be because local television stations do not cover congressmen to any considerable extent (Hess 1991; Vinson 2003). In a setting in which the media extensively covers politics, Prat and Strömberg (2005) studied the effects of the entry of commercial television in Sweden. They found that people who start watching commercial Television increase their level of political knowledge and political participation more than others.

Political Participation. Snyder and Strömberg (2010) also found that increased media coverage makes people more politically active: It increases voter turnout. The effects are small, perhaps because when people vote for congress, they typically also vote for more important offices such as president, which drives people to the polls.

A number of other recent papers found larger effects of media access (r in the model) on voter turnout. Strömberg (2004b) found that the introduction of the radio in the 1920s and the following rapid increase in the share of households with radios led to more people voting in gubernatorial races. Quantitatively, an increase in the share of households with radios from zero to one is estimated to have increased the turnout by 7 percentage points in the period 1920–1940. In contrast, Gentzkow (2006) found that the introduction of television in the 1940s and 1950s reduced the turnout in congressional races by 2 percent,[10] and he hypothesized the crowding out of newspapers and radio as a possible mechanism. Oberholzer-Gee and Waldfogel (2009) found that the introduction of Spanish-language local

[10] This is for years with no simultaneous presidential election.

television increased the turnout among Hispanics in a metro area by 5 to 10 percentage points.

A paper that finds smaller effects is Gentzkow, Shapiro, and Sinkinson (forthcoming). In a massive-data collection effort, this paper constructs a panel of all English-language U.S. newspapers that existed from 1869 to 2004, identifying all newspaper entries and exits. They find that one additional newspaper is associated with an increase in voter turnout of 0.3 percent.

Why are the effects of television mixed? One explanation is that television carries less political information than the media that it crowds out. Studies finding negative or zero effects of Television focus on the U.S. House of Representatives (Snyder and Strömberg 2010; Gentzkow 2006). Local television stations devote much less news coverage to House Representatives than do local newspapers.[11] A main reason is that the television markets are larger than newspaper markets; consequently, only a small share of a television station's audience is interested in news about any particular congressman. Television stations instead tend to cover state and national politicians such as senators, governors, and the president relatively more. In settings in which TV covers politics, it seems to produce learning and increase voter turnout, as found in Prat and Strömberg (2005). Along similar lines, Norris and Sanders (2003) found that people learn significantly from watching British television news. Another possibility is that television as a mass medium erodes social capital because people spend so much time watching it (Putnam 2000). This is consistent with the findings of Olken (2009) that better television-signal reception in Indonesian villages led to more time watching television and listening to the radio and was associated with less participation in social organizations and lower self-reported trust.

Political Selection and Incentives. We now discuss effects on politicians, hypothesized in Proposition 3(iii). Snyder and Strömberg (2010) found that media coverage improves both the selection and incentives of politicians. U.S. congressmen from districts where media coverage is high, for exogenous reasons, are less ideologically extreme, vote more frequently against party leaders, are more likely to stand witness before congressional hearings, and are perhaps more likely to serve on constituency-oriented committees and less likely to serve on broad policy-oriented committees. This was found after analyzing data on roll-call voting, committee assignments, and

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[11]   Hess (1991); Vinson (2003); see also the discussion in Arnold (2004).

witness appearances for the period 1982–2004. Figures 1(d) and (e) show
the bivariate relationship between congruence and these outcomes.[12]

The effects seem to work through both incentives and selection; that is, by
studying whether the actions of the same politician change over time with
press coverage, the incentive effects can be separately identified. Snyder and
Strömberg (2010) found that selection effects are entirely responsible for
the ideological moderation in roll-call voting, whereas incentive effects are
entirely responsible for the increase in witness appearances. Effects on votes
against party leadership are a combination of the two. These results make
sense because we would expect selection effects for preferences and constant
characteristics (i.e., competence in the model and ideology in this example)
and incentive effects for variables that capture effort (i.e., in the model and
witness appearances in this example). In terms of magnitude, their estimates
implied that an exogenous increase of about 110 newspaper articles about a
House Representative is associated with one additional witness appearance.
There is one additional vote against the party leadership per every four
exogenous additional newspaper articles about a House Representative.

As far as we know, there are no systematic studies of the possible negative
selection effects of mass media – for example, produced by focusing on
appearance rather than policy outcomes – or in fact any other studies of
media effects on selection.

Policy. The final question is whether the additional effort and better selec-
tion of politicians are noticeable in public spending, as hypothesized in
Proposition 3(iii). Snyder and Strömberg (2010) found that more fed-
eral funds per capita were allocated to areas where the media covered
their Representative more. The estimated effects are substantial. A one-
standard-deviation increase in congruence (which is associated with about
50 additional articles per congress) increases per-capita federal spending by
3 percent.

Who gains and who loses from reader shares driving media coverage?
Proposition 4(a) states that groups that are large in the media market
will benefit politically. This clearly is supported by empirical evidence. A
group of voters in our model, for example, could be defined by ethnicity,
policy interest, or geography. The key aspect is that politicians can target
expenditures to it. The most direct evidence is in Snyder and Strömberg
(2010), which showed that groups that are large in the media market receive

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[12] Congressmen may work for their constituency, for example, by considering constituency
(rather than party) interests in voting and by appearing as a witness before congressional
hearings.

more government funds. This follows because congruence is a measure of the average reader share – that is, the average size of the group in the eyes of the media that sells in that market. We note that although two congressional districts have the same population size, they may have a very different size of shares of the audiences of media that sell there.

The audience shares of ethnic groups also have been related to media coverage and participation in politics. Siegelman and Waldfogel (2001) found that black-targeted radio stations are available only in markets with many black citizens. George and Waldfogel (2003) found that blacks are more likely to read newspapers in cities with a larger black share of the population because those newspapers report more frequently about issues of interest to blacks. Similarly, Oberholzer-Gee and Waldfogel (2009) found that Spanish-language local television news entry is more likely in media markets with more Hispanics, and that the introduction of Spanish-language local television increases the turnout among Hispanics in a metropolitan area by 5 to 10 percentage points. Finally, there is some evidence consistent with issue-based group size being of importance for policy. Olper and Swinnen (2009) found that the share of households with access to television is negatively correlated with taxes on agricultural products in poor countries and agricultural subsidies in rich countries.

Vote Responsiveness. Our model rests crucially on the hypothesis that news coverage of an issue increases the vote response to outcomes on that issue, as stated in Proposition 3(ii). The vote-responsiveness question is explored extensively in the priming literature discussed in Section 2.0. Empirically, the priming hypothesis typically is tested by observing whether news coverage of an issue makes voters more responsive to outcomes involving that issue, using explicitly randomized exposure to news in laboratory settings. Numerous studies concluded that media coverage increases vote responsiveness in laboratory settings (Iyengar and Kinder 1987). Although clearly informative, a concern is that people may react differently to manipulated news broadcasts in a laboratory than to real news broadcasts in their home.

Ferraz and Finan (2008) studied this question using actual voting data. In 2003, as part of an anticorruption program, Brazil's federal government began to randomly select and audit municipal governments. The random selection of municipalities was held on a monthly basis and drawn in conjunction with the national lotteries. The findings then were disseminated to media sources. Their paper found that mayors in municipalities with high levels of corruption lost votes if they were audited randomly before

the 2004 election compared to equally corrupt mayors who were audited after the election. These effects were more pronounced in municipalities where local radio was present to deliver the information. The effects are sizable; on average, the audits found 1.5 corruption violations per municipality. Their paper estimated that the audit policy decreased the likelihood of reelection by 16 percentage points among municipalities with a radio station and where the audits reported three corrupt violations. Conversely, the reduction in the likelihood of reelection is only 3.7 percentage points where local radio stations are not available. Thus, radio seems to have a key role in creating voter response to the audit reports. A caveat here is that although the exposure of corruption before the election was random, having a local radio station is not. Therefore, the differential effects of radio are less well identified than the main effect of being exposed as corrupt prior to an election.

We assume that more policy responsiveness to voter demands is good. However, as discussed in Section 3.0, information about actions may create pandering, which is bad. We are not aware of any empirical evidence of increased pandering due to the media. The most closely related study is perhaps Lim et al. (2010), which found that media coverage of elected but not appointed judges makes sentencing correspond more closely to public demands. In the setting of Snyder and Strömberg (2010), more local information also may lead to increased "pork-barrel" spending in the House districts and fewer activities for the general good of the nation.

In summary, there is positive evidence supporting each link in the causal chain of media effects described in our model: Media coverage increases voter information, which increases the responsiveness of votes to policy, which increases the effort and selection of politicians, thereby producing better policies. The empirical evidence that the media helps voters keep politicians accountable is fairly strong. We also identify groups that are likely to benefit politically from media provision of news.

6.0 Ideological Bias and Electoral Effects

One of the most common charges leveled against the media is that it is ideologically biased and that this factor skews electoral competition, ultimately producing negative policy outcomes.

Bias can take a number of forms. A media outlet can be selective in what issues it covers (i.e., *issue bias*), which aspects of the issues it includes or excludes (i.e., *facts bias*), how the facts are presented (i.e., *framing bias*), and how it is commented (i.e., *ideological-stand bias*). Distinguishing among

these different forms of bias is useful because determinants and effects are different.

Bias also can be analyzed in different dimensions. In the previous section, we analyze bias in a group or policy dimension – for example, the media biases policy against minority interests. Here, the analysis focuses specifically on bias in the ideological and electoral dimension. We first summarize the leading models and then review the empirical evidence.

6.1 Theory

We start with facts bias. Given that information is valuable to the audience, why would a profit-maximizing media ever distort its messages to make it less informative? On the theoretical side, economists organize their work on this type of bias into demand- and supply-side explanations. Bias can be explained with a supply-side story, where the bias stems from the preferences of the agents who work for the news organization, or a demand-side story, where the bias occurs in equilibrium because media outlets are maximizing revenues or audience, as described in Section 5.0.

This distinction is essential for the purpose of regulation. In a supply-side story in which owner preferences influence content, changes in media ownership are likely to affect the equilibrium bias. Instead, in a pure-demand story, the origin of bias lies elsewhere.

The simplest supply-side story is that media owners have ideological preferences and are willing to sacrifice profits to advance their ideological goals. This may be due to their intrinsic political views or it may be instrumental to a long-term relationship with political actors. In the latter case, it is a form of media capture that can be understood in the framework presented in Section 4.0. The media owner is sacrificing short-term profit from news to obtain larger profits from other sources.

A more indirect supply-side story is found in Baron (2006), in which journalists may distort information. A newspaper produces a news story – for example, on the risk of eating genetically modified organisms (GMOs). Individuals take actions based on the news – for example, whether to buy GMOs. A journalist investigates the facts and then writes his report. He cares about the content of the story; for example, it may influence his career. A story that GMOs are dangerous may end up on the front page, whereas a story that GMOs are not dangerous may be relegated to the back pages. The journalist also may care directly about the actions taken by consumers. Consumers are Bayesian and they update their beliefs based on the information received.

Newspapers are long-term profit-maximizing firms, that, however, employ potentially biased journalists. A newspaper sets the wage that journalists receive and the degree of journalistic discretion. These two organizational variables are substitutes: a newspaper can compensate its journalists with money or with the ability to influence reporting.

In equilibrium, the presence of a facts bias reduces the usefulness and, hence, the demand for news. Profit-maximizing newspapers tolerate bias only inasmuch as it allows them to pay their journalists less. The model predicts that there should be a negative correlation across newspapers between facts bias and sale price. Baron's model (2006) can be used to understand the effect of competition among newspapers on facts bias. In particular, competition may decrease but also increase the informative content of news stories.[13]

In a demand-side story, media organizations are assumed to be profit-maximizers. Yet, some find it profitable to distort information provision. This effect can result from the cognitive bias of readers or from the presence of "herding" effects.

The cognitive-bias explanation was explored by Mullainathan and Shleifer (2005). Their premise was that we buy news not only because of its information content but also because of the pure consumption benefit it provides. In particular, there is evidence that readers display a confirmation bias: They like to hear stories that are consistent with their prior views of the world. The payoff for readers depends on both the quality of information (i.e., it is costly to "reverse-engineer" the facts bias) and how well the information they receive corresponds to their prior views (i.e., the confirmation-bias factor).

With appropriate assumptions, this setup corresponds to a standard Hotelling model with quadratic transport costs, with well-known properties. The transportation cost is interpreted as the ideological distance between a reader and a newspaper. As is well known, a monopoly will locate at the center of the ideological spectrum, whereas a duopoly will locate at the extreme ends of the distribution. If voter preferences are symmetric around zero, competition in this way may force newspapers to slant their news to avoid price competition.

The main lesson of Mullainathan and Shleifer's (2005) paper is that in a world with confirmation bias, the main driver of bias is the distribution of priors in the population. In the homogeneous-reader case, the distance to

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[13] Another supply-driven theory assumes that media bias is generated by elites (Bennet 1991; Bennet, Lawrence, and Livingston 2006).

the truth increases with the reader's preference for slant. For a homogeneous audience, the monopoly and the duopoly produce the same amount of facts bias. This resonates with the framing idea in the communications literature that newspapers tend to select frames that people like to hear. For example, the U.S. downing of an Iranian passenger plane was due to technical problems, whereas the Soviet downing of a Korean passenger plane was a moral outrage (Entman 1991).

The other key point of Mullainathan and Shleifer (2005) is that the mass media may select extremely biased news to differentiate and avoid price competition. Consequently, competition may increase facts bias and make media less informative.[14]

Gentzkow and Shapiro (2006) showed that a demand-driven facts bias also can arise in a world where all readers are rational. In a career-concern model similar to those analyzed in Section 3.0, newspapers want to build a reputation for being knowledgable, which can lead to incentives to misrepresent the truth. In particular, low-quality newspapers have an incentive to ignore signals that contradict prior common expectations. Although this information is valuable to readers, it also tends to reveal that its sources are of low quality.

In contrast to both Baron (2006) and Mullainathan and Shleifer (2005), an increase in competition among newspapers cannot lead to an increase in bias – and, in reasonable cases, it will reduce it. Intuitively, this is because by comparing multiple reports, readers obtain a more accurate picture of the true state and, as discussed previously, this reduce the incentive for strategic misrepresentation.

What are the political effects of facts bias? Although Baron (2006), Mullainathan and Shleifer (2005), and Gentzkow and Shapiro (2006) clarified the origins of facts bias, their main analysis abstracts from the effect of biased information on the political process.

Bernhardt, Krasa, and Polborn (2008) studied the political effects of demand-driven facts bias. They assumed that left-wing readers obtain more utility when they read positive news about left-wing candidates and negative news about right-wing candidates – and the converse for right-wing voters. Consequently, left-wing media do not publish negative facts about

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[14] The argument does not cover advertisement-financed media. Gabszewicz et al. (2001) analyzed the case of duopoly media that receives revenue from both copy prices and advertisements. They found that a maximal differentiation between the media is obtained when the advertising revenue per reader, p_a, is small and the intensity of readers' political preferences t is high. Conversely, minimal opinion differentiation is expected in the opposite case (i.e., weak political preferences and high unit-advertising receipts).

left-wing politicians. Their readers understand that this coverage is missing and expect the left-wing candidates to be as corrupt as the average politician. Consequently, a left-wing politician who is more corrupt than average may become elected, although he would not have been so under full information. Similarly, a left-wing politician who is less corrupt than the average may not become elected, although he would have been under full information.

This way, information aggregation may fail, leading to the election of inferior candidates. This is more likely to happen when voter ideology is distributed asymmetrically. In this model, a left-wing media does not systematically benefit left-wing politicians. Rather, partisan media distorts electoral choices and polarizes the electorate.

We now turn to issue bias – that is, bias in which topics the media cover and how much. The determinants and effects of demand-driven issue bias are discussed in Section 5.0, and we mention them only briefly here. Essentially, this bias arises because every person has one vote, but different people have different effects on media profits. This creates an issue bias that favors (1) large groups, (2) target audiences of advertisers, (3) newsworthy issues, and (4) audiences with cheap media access, as described in Proposition 4 summarizing the main results of Strömberg (1999, 2004a). The large-group bias also is discussed by George and Waldfogel (2003) and the target-audience bias by Hamilton (2004).

Duggan and Martinelli (forthcoming) study the determinants and effects of supply-driven issue bias. A media with the motive of supporting one party should cover issues where this party is perceived to be more competent, as in Proposition 3(iv). However, if the decision of which issues to cover is made before the realization of competence, the situation is different. In a model with different amounts of uncertainty on different issues, Duggan and Martinelli (forthcoming) find that pro-incumbent media should cover issues where there is less uncertainty, whereas a media favoring the challenger should cover issues where there is much uncertainty to gamble for resurrection.

We now discuss ideological-stands bias. Chan and Suen (2008) studied the effects of newspapers' ideological stands, such as endorsements and policy recommendations. In their model, profit-maximizing newspapers first selected ideological positions. Then, policy-motivated politicians chose political platforms. Voters decided which newspaper to buy, read editorial recommendations in that paper, and voted. The party that wins the election implements its platform.

Chan and Suen (2008) assumed that readers are rational and read newspapers for an instrumental purpose. However, they also observed that readers

have limited time to become informed. Newspapers must condense a complex space of signals (i.e., a real line) into a binary message. The ideological position of a newspaper then can be interpreted as the cutoff point on the real line that separates the two messages. Readers are aware of the cutoff point.

Chan and Suen's (2008) spatial model yielded a number of robust conclusions. First, it explained a well-known pattern: the fact that readers choose media outlets with a similar ideological position, in a purely rational context. A left-wing reader receives more decision-relevant information from a left-wing–bias newspaper; the opposite is true for a right-wing reader. This effect can lead to polarization of opinion and the emergence of self-serving beliefs (Suen 2004). Second, two independent newspapers will choose the same cutoff point. However, such a point will differ from that chosen by a monopolist, and it may increase voter welfare when the effect of media on policy is weak. Third, commercial media organizations have an incentive to provide diverse views: Two newspapers under joint ownership will position themselves on different extremes of the policy spectrum. Finally, the entry of a new media always makes policy less partisan.

Is the likely ideological bias of the media left or right? Given the supply-side explanations, it depends on the preferences of journalists, which are predominantly to the left (Baron 2006), and owners who are perhaps predominantly to the right. Given the demand-side explanations of Mullainathan and Shleifer (2005) and Gentzkow and Shapiro (2006), it depends on voters' priors. Given the type of demand-side biases summarized in Proposition (4), advertising finance could lead to a leftist or rightist slant depending on whether advertisers pay more for audiences with leftist or rightist views, as argued by Hamilton (2004) and Strömberg (2004a), respectively. Delivery costs could produce a newspaper slant toward the party favored by urban audiences (i.e., the left in the Unites States).

6.2 Empirics

We now focus on the ideological position of the media and electoral effects. We first discuss existing measures of media bias in Section 6.2.1. We then explore whether this bias is driven by owner preferences or audience demand in Section 6.2.2. Finally, Section 6.2.3 investigates the electoral effects of mass media. The last two sections obviously are related: Owners have less incentive to bias coverage if it has no impact on voting.

We do not cover the empirics of facts bias relative to the truth. Despite the large theoretical interest in the determinants of this bias, it has received

little empirical attention. The models relate informativeness to competition, feedback, and price. However, it is difficult to objectively measure the informativeness of political news. The suggestive evidence provided by Gentzkow and Shapiro (2006) is related to outcomes in which it is easy to assess whether the media report is correct, such as weather reports and sports results.

6.2.1 Measuring the Ideological Positions of Media

By media ideology, we mean a label that quickly furnishes a rough guide to the political content that the media is likely to carry. We restrict ideology to a one-dimensional left–right position. A media with a leftist label is more likely to have content with a pro-left electoral impact, to endorse left-wing politicians, to cover issues owned by the left, to include facts positive for left-wing politicians, and to frame issues in a way that benefits left-wing politicians. It also is more likely to use words and phrases that attract left-wing consumers and alienate right-wing consumers.

One component of media ideology that is straightforward to measure is the explicit ideological stands of media outlets – for example, their endorsements of political candidates or political positions in editorials. Erikson (1976) recorded newspaper endorsements and the political positions of their columnists. Ansolabehere et al. (2006) analyzed the political orientation of endorsements by U.S. newspapers in the period 1940–2002. In the 1940s and 1950s, Republican candidates enjoyed a strong advantage in newspaper endorsements. This advantage gradually eroded and, by the 1990s, there was a slight tendency for newspapers to endorse Democrats. Relatedly, Ho and Quinn (2008) collected and classified more than 1,500 editorials adopted by major U.S. newspapers on Supreme Court cases.

Another straightforward measure is the share of news stories covering each candidate in a political race. Voters may prefer politicians whom they know more about and, in this case, informative coverage of a candidate creates an electoral advantage, as in Proposition 3(iv). This is a commonly used measure (D'Alessio and Allen 2000; Durante and Knight 2009).

To measure issue bias, we need to know which issue coverage benefits which party. Proposition 3(iv) suggests that more coverage of issues in which one party is viewed as more competent increases its electoral support. One way to identify these issues is from survey responses. For example, in the United States, people typically state that Republicans are more competent in handling national security and Democrats in handling social-welfare issues. This is called issue *ownership* and was studied by Petrocik (1996) and

Puglisi (2006), among others. Issue bias also may be used to cover issues when outcomes are good, if the incumbent is supported. Larcinese, Puglisi, and Snyder (2007) found that newspapers that typically endorse Democratic politicians systematically give more coverage to high unemployment when the incumbent president is Republican, compared to newspapers with a pro-Republican endorsement pattern. Puglisi and Snyder (2008) found that newspapers that endorse politicians from one party are less likely to write about scandals involving that party.

How much negative news will a newspaper carry about ideologically close politicians? The answer obviously is key to understanding how ideological bias may dampen political accountability. Puglisi and Snyder (2008) found that one-standard-deviation more Democratic-leaning than another would dedicate 26 percent more coverage to Republican than Democratic scandals. In other words, in a scandal involving a Democrat in which the typical paper writes four stories, a clearly Democratic paper (i.e., 85th percent most Democratic) would write three stories and a clearly Republican paper would write five stories. The signal to bias ratio in this case is 4 to 1, which suggests that much information is transmitted even with clearly biased media (in the United States).

Other studies position media ideologically based on how closely their behavior resembles that of actors with known political positions. For example, Groseclose and Milyo (2005) proxied the political positions of U.S. media outlets by the average ideology of the think tanks they quoted. This ideology is identified by the average political position of congressmen who site them favorably. They found that the media is centrist with a mass left of center, relative to congressmen.

The citing of think tanks is a small fraction of all politically relevant media coverage. A more comprehensive proxy for the ideological position of the media was produced by Gentzkow and Shapiro (2010). They studied similarities between language used by media outlets and congressmen. Exploiting the Congressional Record, they identified "partisan" words and phrases – that is, those expressions that show the largest difference in the frequency of use between Democratic and Republican representatives. Then, they measured how frequently those expressions appear in a large sample of newspapers. This method is closely related to work in political science that uses computerized text analysis to estimate ideological positions and to study the coverage of issues, topics, and legislative agendas (Gabel and Huber 2000; Laver, Benoit, and Garry 2003; and Diermeier et al. 2007). The method is attractive because it is a catch-all measure of different types of media influence: issue bias, facts bias, framing bias, and ideological position taking.

6.2.2 What Determines the Ideological Positions of Newspapers?

The main objective of the paper by Gentzkow and Shapiro (2010) was to determine whether ideological bias is driven by audience or owner preferences. They first estimated how the demand for a newspaper depends on the match between the ideology of the newspaper (proxied by its language use) and the people living in a certain ZIP code area (proxied by donations to Republican or Democratic candidates). They found that there is a strong decline in demand in the ideological distance between the newspaper and its audience. This increases the cost and decreases the benefit (because of ideological sorting) of attempting to influence elections.

Gentzkow and Shapiro (2010) concluded that owners exert an insignificant influence over the ideological media bias of U.S. newspapers. Once geographical factors are accounted for, the ideological position of a given newspaper is not significantly correlated with the average ideological position of other newspapers belonging to the same chain. The actual ideological positions of the newspapers are not systematically to the left or right of the profit-maximizing position; instead the bias, mainly depends on the ideological leanings of their audiences.

Naturally, owner influence could be larger in settings in which the owner is the main beneficiary of biased content rather than just one voter among many affected by the general left–right dimension of policy. For example, Gilens and Hertzman (2000) showed that the 1996 Telecommunications Act received more favorable coverage from newspapers whose parent companies stood to gain from the act being passed. Finally, we note that the ideological bias may not be evident at all times. Puglisi (2006) found that during a presidential campaign, *The New York Times* gives more emphasis to issues that are "owned" by the Democratic Party when the incumbent President is a Republican, controlling for presidential and congressional activity across issues. He concluded that the likely reason is that the owners want to influence the election outcome.

6.2.3 Media Effects on Vote Choice

We now study media effects on partisan-vote choice. The discussion focuses on key factors that determine media influence on voting: filtering, ideological sorting, competition, and stable voter preferences. Audiences may filter out biases; they also may select media based on ideology, in which case biasing coverage leads to changes in the audience composition that

dampen effects on voting. Competition makes media-selection issues more prominent.

We first discuss filtering, starting with the effects of newspaper endorsements of political candidates. Erikson (1976) estimated the impact of changes in newspaper endorsements in the period 1960–1964 on vote shifts in the presidential election. Most recently, Chiang and Knight (forthcoming) study whether newspaper endorsements influence voting intentions. Their paper combines data on the endorsements of presidential candidates of a large set of U.S. newspapers with survey responses from the National Annenberg Election Surveys (NAES) of 2000 and 2004. The authors know the exact date of endorsements and relate them to changes in voting intentions among a newspaper's readers. Their main finding is that only unexpected endorsements change voting intentions. These results suggest that voters are sophisticated and do filter out expected ideological biases in endorsements.

Endorsements are a transparent form of political positioning that may be particularly easy to filter out. A paper that studies filtering of a more broadly defined bias is Gerber, Karlan, and Bergan (2009). In a field experiment, they analyzed the effect of randomly receiving an offer for a free subscription to the conservative newspaper, *The Washington Times*; the liberal newspaper, *The Washington Post*; or no newspaper at all. The subscription offers were made prior to the 2005 Virginia gubernatorial election.[15]

Despite apparent differences in the way the newspapers framed their stories, the researchers found the effects to be qualitatively similar for *The Washington Post* and *The Washington Times*. Those who received either newspaper voted more for the Democrats. One explanation is that the period carried news that was challenging for the Republicans. There was a clear difference in the way that the papers framed the news, but both papers covered the issues that were on the political agenda: war casualties and political controversies such as the Plame investigation and the widely criticized Miers Supreme Court nomination. That *The Washington Times* covered those stories is consistent with Puglisi and Snyder's (2008) finding that even clearly biased media covers negative news about their preferred candidates (discussed previously). It seems that the basic information contained in the news was more important than the way it was framed by the papers. A caveat is in place: The sample size in this study is small and, consequently,

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[15] We note that the randomization removes all ideological audience sorting. This study estimates a different parameter than in the Chiang and Knight paper, which estimates the effect of bias on those who bought the newspapers.

the standard errors are large. Only the combined effect of *The Washington Post* subscription compared to no subscription (i.e., informative signal plus left-wing bias) is statistically significant at conventional levels. Therefore, the results and interpretations should not be taken seriously. Still, the result is encouraging for those who care about the media creating political accountability: People exposed to media at either side of the ideological spectrum were more responsive to information than people without media access. They seemed to have filtered out the bias present in the media.

Ideological audience-sorting obviously exists; the question is how restraining are its effects. Durante and Knight (2009) analyzed whether an owner can influence voter exposure to ideological news by changing a media's ideological bias. They studied the impact of broadcast news in Italy, where a television network is owned by Silvio Berlusconi, who was the prime minister at the time of this writing (i.e., August 2010), whereas the other major network is state-owned and mainly under government control. They found that after Berlusconi's center–right coalition came into power in 2001, the news content on state television moved to the right. However, the ideological shift in public-television content was offset by ideological audience-sorting. Right-wing viewers shifted from more conservative channels to watching public television. Left-wing viewers shifted to a more leftist channel. This demonstrates that sorting puts real and substantial constraints on the effectiveness of manipulating the media's ideological bias for electoral motives (in a competitive environment).

We now turn to the electoral effects of media entry. Given that voters filter and sort ideologically and that the media sector is competitive, is there a final effect on votes?

Della Vigna and Kaplan (2007) studied the effects of the expanding Fox News channel. This channel started in 1996 and, by 2000, 20 percent of U.S. cities had access. It was considerably more right-wing than existing channels (Groseclose and Milyo 2005). The U.S. cable-television industry is highly competitive; therefore, sorting effects may be expected to be large. Still, there was little ideological sorting in 2000; roughly the same share of Republicans and Democrats regularly viewed Fox News.[16]

Their paper asked whether the increase in the Republican presidential-vote share of 1996 to 2000 was larger in cities that had Fox News in 2000. Naturally, this may not capture the causal effect. Fox News entered cities that

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[16] Perhaps people were uncertain about the ideological position of the new Fox News channel and, for this reason, were less able to sort and filter. Ten years later, the share of Republicans watching Fox News is almost three times the share of Democrats (The Pew Research Center For The People & The Press, "Ideological News Sources: Who Watches and Why," 2010).

had a higher initial Republican vote share and a higher number of channels and that were larger and more urban. However, including demographic and geographic controls, Fox News entry is not correlated with the Republican vote share in 1996, and the trends in voting in 1992–1996 and 2000–2004 are unrelated to Fox News entry. Della Vigna and Kaplan (2007) concluded that the Fox News entry increased the Republican vote share by about half a percentage point.

Media effects on voting may be more significant where voters are less stable in their political preferences and where there is less competition. Enikolopov, Petrova, and Zhuravskaya (2009) studied one such setting – namely, the effect of the first private Russian television channel, NTV, on voting in the Russian national election of 1999 for the Duma. In 1996, NTV was given access to a national set of transmitters previously used by an educational channel. By the 1999 election, about two thirds of the Russian population could watch NTV. The owner of NTV supported the opposition whereas the two preexisting government-run channels supported the government. The independence of NTV was short; by the next election in 2003, NTV had been taken over by the state monopoly Gazprom.

We note that this paper analyzed the effects of entry into a market controlled by a biased monopolist. Here, increased competition and the resulting sorting helps to remove the bias. The potential for effects on voting is significant.

The main finding was that areas with NTV reception voted more for the opposition and less for the government. The aggregate analysis used the election results in more than one thousand Russian subregions. In areas with NTV reception, the aggregate share that voted for the government was 8.9 percent lower, and the share that voted for opposition parties was 6.3 percent higher. These effects are of an order of magnitude larger than the estimated effects of Fox News in the United States. These effects could result because the areas with NTV access were different, supporting more liberal parties and fewer communist and nationalist parties even before the entry of NTV. However, the prior differences in vote support disappear once demographic characteristics are controlled for. There also were no differences in 2003, when NTV was under government-aligned ownership.

In summary, there is clear evidence of ideological audience-sorting and some evidence that people filter out ideological biases, at least endorsements. Given this, ideological bias would be expected to have moderate effects in environments with many media outlets of known political positions and strong effects in environments in which a biased monopolist receives competition, for example. This is consistent with the findings of Gerber, Karlan,

and Bergan (2009) and Enikolopov, Petrova, and Zhuravskaya (2009). More surprising is perhaps the significant impact of Fox News found by Della Vigna and Kaplan (2007). People may not have accurately perceived the bias of Fox News, as indicated by the lack of audience-sorting. The Republican vote share also may have increased because voter turnout increased among people who already were supporting the Republican candidate.

The media also may influence political preferences and other political actions. For example, Campante and Hojman (2010) found that radio and television reduced political polarization; Kern and Hainmueller (2009) found that voters in East Germany who could watch West German television became more satisfied with life in East Germany and the communist regime; and Wantchekon and Vermeersch (2009) found that individuals in Benin who are exposed to media became less averse to public goods. Yanagizawa (2010) investigated the effect of radio propaganda messages on the 1994 Rwanda genocide; he found that violence was significantly more severe in villages where radio reception was better.

6.3 Ideological Bias, Accountability, and Competition

So far, we discuss only the empirical impact of ideological bias on voting. We now summarize the wider implications for political accountability. The relationships among ideological bias, competition, and accountability are theoretically unclear and largely unexplored empirically. However, we mention a few points before closing this section, starting with the relationship between ideological bias and accountability.

Are people less able to hold their representative accountable when the media are ideologically biased? This is theoretically unclear. Section 5.0 showed that accountability requires that votes are responsive to policy outcomes and that this responsiveness increases as people make fewer mistakes when voting. The facts bias analyzed by Baron (2006), Mullainathan and Shleifer (2005), Gentzkow and Shapiro (2006), and Bernhardt et al. (2008) is clearly bad for political accountability. In these models, media bias destroys information, thereby increasing the mistakes made by voters. Relatedly, issue bias may be bad if it is created to influence elections, as in Duggan and Martinelli (forthcoming).

Conversely, ideological bias driven by information demand or audience interest may be good. We suppose that there are two types of voters of ideology L and R and two perfectly informed newspapers endorsing politicians. If the two papers have ideology L and R and are being read by people of the same ideology, no voter following the endorsement would ever make a

mistake when voting. If both newspapers were centrist, voters would make mistakes, which reflects the spirit of Chan and Suen (2008).

Similarly, ideological issue bias may enhance accountability because voters receive information on the issues deciding their vote choice. We suppose that right-wing viewers care only about national security and left-wing voters care only about social security. Two newspapers have total coverage of 1 to devote to these issues. The best outcome in this case is extreme ideological issue bias and sorting: One newspaper covers only national security and is read by right-wing voters; the other covers only social security and is read by left-wing voters. This "issue congruence" minimizes the mistakes that voters make and creates good incentives and selection on both issues, following the logic of the model described in Section 5.0.

The effect of competition on accountability is equally unclear. As discussed herein, competition may increase or decrease ideological bias, which may increase or decrease accountability. In addition, competition may influence the total amount of political coverage. There are theoretical arguments (i.e., increasing-returns industry) and empirical evidence (Arnold 2004) that suggest that competition lowers the total amount of political coverage that newspapers carry.

7.0 Conclusions

Although the political economy of mass media is still a young field – most of the work in this area was published after 2000 – a number of interesting results already have emerged. We first try to identify general and robust lessons from the existing body of work. Perhaps more important, we also highlight areas that we believe are particularly promising for future research.

The existing evidence seems to support – with some caveats – four general statements about the political economy of mass media, as follows:

- *Media scrutiny increases political accountability, which appears to improve policy with a caveat about multitasking.* In our survey, we encounter a number of papers in which an increase in media activity is associated with better policy outcomes, some of which use methods that we think convincingly identify causal media effects.[17] There

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[17] Besley and Burgess (2002); Besley and Prat (2006); Brunetti and Weder (2003); Djankov et al. (2003); Eisensee and Strömberg (2007); Ferraz and Finan (2008); Reinikka and Svensson (2005); Snyder and Strömberg (2010); and Strömberg (2004b).

is evidence that these media effects occur because the media transmits information to voters, which improves both the incentives and the selection of politicians. The only negative effect that is identified empirically is indirect: The government may devote less effort to an issue or to a group as a result of other issues receiving more coverage or other groups receiving more information. These types of policy biases disfavor voters without access to the media and voters whose issues are covered less – in particular, minorities, groups that care for journalistically less newsworthy issues, and those to whom it is costly to deliver news. It also is likely that they will disfavor voters who are not valuable to advertisers.

- *Media pluralism and a healthy commercial motive are effective defenses against media capture.* Governments have a strong incentive to control the media industry. There is evidence of capture in a large number of countries, even in high-income nations such as Italy. However, capture is endogenous. Theory predicts that it is more difficult for a government to silence the media industry if it faces a large number of independent owners, if the media ownership is independent of other interests, and if the media companies have a strong commercial motive to establish a reputation for credibility. These predictions are consistent with evidence obtained through a variety of empirical approaches, such as cross-country comparisons, in-depth case studies, within-country evidence, historical series, and corporate-governance data.

- *Voter information and voting outcomes are affected by the media.* We review evidence that the media significantly informs voters, makes votes more responsive to policy outcomes, and increases voter participation in elections. The media also seems to have an impact on aggregate vote shares. In particular, effects have been found for new media and in settings in which political preferences are unstable. There is evidence that voters, to some extent, filter out the political biases of the media. For example, expected media endorsements of political candidates have a limited impact. Moreover, there is clear evidence that voters select media that are ideologically close.

In this chapter, we attempt to identify limits of the existing work and suggest future avenues of research. Six themes appear particularly relevant and promising.

First, historical evidence highlights the role of technology in defining the structure and capability of the media industry and, hence, its role in politics. We review evidence of the effects of the improvements in printing

technology in the second part of the nineteenth century and the development of radio broadcasting and then television in the twentieth century. The media industry is now in the midst of a new technological revolution. Individuals enjoy increasingly direct and inexpensive access to both the consumption and production of news. Although this is a hotly discussed topic, little high-quality empirical work has been done to understand how the new technologies will affect voter information and political outcomes.

Second, this chapter argues that the role of competition in the media industry is different than in other industries. In addition to the classical effects on price, quality, and selection, media pluralism determines the amount and type of political coverage, which affect political accountability. Hence, standard competition policy is insufficient and may even be counterproductive. Economists have begun to push for a general rethink of media regulation: "There is much less agreement about what would constitute a healthy broadcasting sector than there is about other sectors of the economy such as manufacturing industry, financial services or even agriculture" (Seabright and von Hagen 2007, p. 10). As shown in this chapter, it is possible to think about the effect of media ownership and conduit on policy outcomes starting from first principles and to measure empirically such effects. An applicable, microfounded theory of optimal media regulation appears to be a worthy and non-Utopian research goal for economists working in this area.[18]

Third – although this point should be seen as a component of the previous one – what is the role of public-service broadcasting in the current age? As we argue, political information is a public good. Voters who spend resources on obtaining information to keep their government accountable produce a positive externality for their fellow citizens. Citizens therefore may be willing to tax themselves to reduce the cost of collecting political information – for instance, by making news programs freely available without commercial interruptions. To provide this public good, most democratic countries – with the notable exception of the United States – have set up large public-television networks. However, as pointed out by Armstrong (2005), a type of public intervention that was devised for advertising-funded aerial television is unlikely to be appropriate in a completely different technological and economic environment.[19] As expressed by a television executive

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[18] See Polo (2005) for a model on optimal regulation for media pluralism.
[19] Here, we focus on the information-provision component of the debate on the role of public-service broadcasting. See Coase (1950) for seminal work in this area and Hargreaves-Heap (2005) and Armstrong and Weeds (2007) for discussions of public-service broadcasting. See Ofcom (2009) for a comprehensive review of the UK case.

(as quoted in Armstrong 2005): "Free school milk doesn't work when the kids go and buy Coca-Cola because it's available and they prefer it and they can afford it." Instead of giving the bulk of subsidies to one vertically integrated media organization, such as the BBC, we perhaps should consider competitive fund-allocation mechanisms. There is only limited evidence (i.e., Prat and Strömberg 2005) on the differential effects of commercial and public-service broadcasting. Given the importance of the topic and the large public investments involved, it would be useful to have more data collection and disclosure on the part of public-service broadcasters and more analysis on the part of media scholars.

Fourth, is the media slant supply-driven and demand-driven? In Section 6.0, we contrast two models of slant: one in which non-profit-maximizing media organizations attempt to affect voters' information and/or behavior, the other in which media companies tailor their product to satisfy the information on psychological needs of customers. Understanding the origin of slant is potentially important for regulatory reasons. However, at this stage, the evidence is mixed. Gentzkow and Shapiro (2010) found that owner influence is an insignificant determinant of the ideological positions of U.S. newspapers. In contrast, Puglisi (2006) found that *The New York Times* had a systematic issue-selection bias favoring the Democratic candidate during election campaigns but not at other times.

Fifth and relatedly, the effect of ideological positions of the media on information acquisition and accountability is unclear. If the bias arises through disinformation with the motive of influencing the election or an unwillingness to cover bad news about voters' preferred candidates, information acquisition will be reduced. Conversely, if the bias arises because the media covers the issues and facts that its audience cares about and makes recommendations from a similar political position as its audience, then ideological bias may enhance information acquisition.

Sixth and last, but not least, there now exists an empirical toolbox to estimate media effects – through variation in who gets the news, what news is covered, and whether coverage is muted – and to perform a computer-aided content analysis of large text masses. This toolbox can be applied to a number of outcomes outside of politics. A few outcomes already have been explored. As mentioned previously, recent studies show that media may influence fertility and divorce (e.g., La Ferrara et al. 2008; Chong and La Ferrara 2009), as well as market prices (Svensson and Yanagizawa 2008). However, it is clear that many more of these applications are waiting.

References

Anderson, S. P., and S. Coate (2005), "Market Provision of Broadcasting: A Welfare Analysis," *Review of Economic Studies*, 72, 947–72.

Anderson, S. P., and J. McLaren (2010), "Media Bias with Rational Consumers," University of Virginia, mimeo.

Ansolabehere, S. S., R. Lessem, and J. M. Snyder (2006), "The Orientation of Newspaper Endorsements in U.S. Elections, 1940–2002," *Quarterly Journal of Political Science*, 1, 393–404.

Armstrong, M. (2005), "Public Service Broadcasting," *Fiscal Studies* 26(3), 281–99.

Armstrong, M., and H. Weeds (2007), "Public Service Broadcasting in the Digital World," in *The Economic Regulation of Broadcasting Markets: Evolving Technology and Challenges for Policy*, P. Seabright and J. von Hagen (eds.), Cambridge: Cambridge University Press.

Arnold, R. D. (2004), *Congress, the Press, and Political Accountability*, Princeton, NJ: Princeton University Press.

Baron, D. (1994), "Electoral Competition with Informed and Uninformed Voters," *American Political Science Review*, 88, 33–47.

Baron, D. (2006), "Persistent Media Bias," *Journal of Public Economics* 90, 1–36.

Bennett, W. L. (1991), "Toward a Theory of Press–state Relations," *Journal of Communication*, 40(2), 103–25.

Bennett, W. L., R. G. Lawrence, and S. Livingston (2006), "None Dare Call It Torture: Indexing and the Limits of Press Independence in the Abu Ghraib Scandal," *Journal of Communication*, 56, 467–85.

Bernhardt, D. S. Krasa, and M. Polborn (2008), "Political Polarization and the Electoral Effects of Media Bias," *Journal of Public Economics*, 98(5-6), 1092–104, June.

Besley, T. and R. S. L. Burgess (2002), "The Political Economy of Government Responsiveness: Theory and Evidence from India," *Quarterly Journal of Economics* 117(4), 1415–51.

Besley, T., and A. Prat (2006), "Handcuffs for the Grabbing Hand? The Role of the Media in Political Accountability," *American Economic Review*, 96(3), 720–36, June.

Brunetti, A., and B. Weder (2003), "A Free Press Is Bad News for Corruption," *Journal of Public Economics* 87(7–8), 1801–24, August.

Campante, F. R., and D. A. Hojman (2010), *Media and Polarization*, Harvard University: mimeo.

Chan, J., and W. Suen (2008), "A Spatial Theory of News Consumption and Electoral Competition," *Review of Economic Studies*, 75(3), 699–728, July.

Chiang, C.-F., and B. Knight (forthcoming), "Media Bias and Influence: Evidence from Newspaper Endorsements," *Review of Economic Studies*.

Chong, A., and E. La Ferrara (2009), "Television and Divorce: Evidence from Brazilian Novelas," *Journal of the European Economic Association*, 7, 458–68.

Coase, R. H. (1950), *British Broadcasting: A Study in Monopoly*, London: Longmans.

Cohen, B. C. (1963), *The Press and Foreign Policy*, Princeton, NJ: Princeton University Press.

Corneo, G. (2006), "Media Capture in a Democracy: The Role of Wealth Concentration," *Journal of Public Economics*, 90, 37–58.

D'Alessio, D., and M. Allen (2000), "Media Bias in Presidential Elections: A Meta-Analysis," *Journal of Communication* 50(4), 133–56.

Dearing, J. W., and E. M. Rogers (1996), "Agenda Setting," Thousands Oaks, CA: Sage Publications, Inc.

Della Vigna, S., and E. Kaplan (2007), "The Fox News Effect: Media Bias and Voting," *Quarterly Journal of Economics*, 122, 1187–234.

Delli Carpini, M. X., and S. Keeter (1989), *What Americans Know about Politics and Why It Matters*, New Haven, CT: Yale University Press.

Diermeier, D. A., S. Kaufmann, B. Yu, and J. Godbout (2007), "Language and Ideology in Congress," Paper presented at the Annual Meeting of the Midwest Political Science Association. 65th National Conference of Political Science Association, Chicago, IL, April 2007.

Di Tella, R., and I. Franceschelli (2009), "Government Advertising and Media Coverage of Corruption Scandals," NBER Working Paper No. 15402.

Djankov, S., C. McLiesh, T. Nenova, and A. Shleifer (2003), "Who Owns the Media?" *Journal of Law and Economics*, 46, 341–81, October.

Drèze, J., and A. Sen (1989), *The Political Economy of Hunger, Vol. 1*, Oxford: Clarendon Press.

Duggan, J., and C. Martinelli (forthcoming), "A Spatial Theory of Media Slant and Voter Choice," *Review of Economic Studies*.

Durante, R., and B. Knight (2009), "Partisan Control, Media Bias, and Viewer Responses: Evidence from Berlusconi's Italy," NBER Working Paper No. 14762.

Dyck, A., N. Volchkova, and L. Zingales (2008), "The Corporate Governance Role of the Media: Evidence from Russia," *Journal of Finance*, 63, 1093–135.

Dyck, A., and L. Zingales (2004), "Private Benefits of Control: An International Comparison," *Journal of Finance*, 59(2), 537–600, April.

Eisensee, T., and D. Strömberg (2007), "News Floods, News Droughts, and U.S. Disaster Relief," *Quarterly Journal of Economics*, 122(2), 693–728.

Enikolopov, R., M. Petrova, and E. V. Zhuravskaya (2011), "Media and Political Persuasion: Evidence from Russia," *American Economic Review*, 101(7), 3252–85.

Entman, R. M. (1991), "Framing U.S. Coverage of International News: Contrasts in Narratives of the KAL and Iran Air Incidents," *Journal of Communication*, 41, 6–27.

Erikson, R. S. (1976), "The Influence of Newspaper Endorsements in Presidential Elections: The Case of 1964," *American Journal of Political Science*, 20(2), 207–33.

Ferraz, C., and F. Finan (2008), "Exposing Corrupt Politicians: The Effects of Brazil's Publicly Released Audits on Electoral Outcomes," *Quarterly Journal of Economics*, 123(2), 703–45. May.

Frankel, M. (2001), "Freedom of Information: Some International Characteristics," The Campaign for Freedom of Information: Working Paper.

Gabel, M., and J. Huber (2000), "Putting Parties in Their Place: Inferring Party Left-Right Ideological Positions from Party Manifesto Data,"*American Journal of Political Science*, 44, 94–103.

Gabszewicz, J. J., D. Laussel, and N. Sonnac (2001), "Press Advertising and the Ascent of the Pensée Unique," *European Economic Review*, 45, 641–51.

Gambaro, M., and R. Puglisi (2009), "What Do Ads Buy? Daily Coverage of Listed Companies on the Italian Press," Departmental University of Milan: Department of Economics, Working Papers Nos. 2009–36.

Gehlbach, S., and K. Sonin (2009), "Government Control of the Media," Working Papers WO126, Center for Economic and Financial Research (CEFIR), Mimeo.

Gentzkow, M. (2006), "Television and Voter Turnout," *Quarterly Journal of Economics*, 121(3), 931–72.

Gentzkow, M., E. L. Glaeser, and C. Goldin (2006), "The Rise of the Fourth Estate: How Newspapers Became Informative and Why it Mattered," in *Corruption and Reform: Lessons from America's Economic History*, E. L. Glaeser and C. Goldin (eds.), NBER.

Gentzkow, M., and J. Shapiro (2006), "Media Bias and Reputation," *Journal of Political Economy,* 114, 280–316.

Gentzkow, M., and J. Shapiro (2010), "What Drives Media Slant? Evidence from U.S. Daily Newspapers," *Econometrica*, 78, 35–71.

Gentzkow, M., J. Shapiro, and M. Sinkinson (forthcoming), "The Effect of Newspaper Entry and Exit on Electoral Politics," *American Economic Review*.

George, L., and J. Waldfogel (2003), "Who Affects Whom in Daily Newspaper Markets?," *Journal of Political Economy*, 111(4), 765–84, August.

Gerber, A. S., D. Karlan, and D. Bergan (2009), "Does the Media Matter? A Field Experiment Measuring the Effect of Newspapers on Voting Behavior and Political Opinions," *American Economic Journal: Applied Economics*, (1)2, 35–52.

Gersbach, H., and V. Liessem (2008), "Incentive Contracts and Elections for Politicians with Multi-Task Problems," *Journal of Economic Behavior and Organization*, 68(2), 401–11.

Gilens, M., and C. Hertzman (2000), "Corporate Ownership and News Bias: Newspaper Coverage of the 1996 Telecommunications Act," *Journal of Politics*, 62, 369–86.

Groseclose, T., and J. Milyo (2005), "A Measure of Media Bias," *Quarterly Journal of Economics*, 120(4), 1191–237.

Hamilton, J. (2004), *All the News That's Fit to Sell: How the Market Transforms Information into News*, Princeton, NJ: Princeton University Press.

Hargreaves-Heap, S. P. (2005), "Television in a Digital Age: What Role for Public Service Broadcasting?," *Economic Policy*, 20(41), 112–57.

Hess, S. (1991), *Live From Capitol Hill!*, Washington, DC: Brookings Institution.

Ho, D. E., and K. M. Quinn (2008), "Measuring Explicit Political Positions of Media," *Quarterly Journal of Political Science*, 3, 353–77.

Holmström, B. (1979), "Moral Hazard and Observability," *Bell Journal of Economics*, 10, 74–91, Spring.

Holmström, B. (1999), "Managerial Incentive Problems: A Dynamic Perspective," *Review of Economic Studies*, 66(1), 169–82, January.

Holmström, B., and P. Milgrom (1991), "Multitask Principal–Agent Analyses: Incentive Contracts, Asset Ownership, and Job Design," *Journal of Law, Economics and Organization*, 7, 24–52.

Howland, C. I., A. A. Lumsdaine, and F. D. Sheffield (1949), *Experiments in Mass Communication*, Princeton, NJ: Princeton University Press.

Iyengar, S., and D. R. Kinder (1987), *News that Matters*, London: University of Chicago Press, Ltd.

Keefer, P., and S. Khemani (2005), "Democracy, Public Expenditures and The Poor: Understanding Political Incentives for Providing Public Services," *World Bank Research Observer*, 20(1), 1–27.

Kern, H. L., and J. Hainmueller (2009), "Opium for the Masses: How Foreign Media Can Stabillze Authoritarian Regimes," *Political Analysis*, 17, 377–99.

Kinder, D. R. (2007), "Curmudgeonly Advice," *Journal of Communication*, 57, 155–62.

La Ferrara, E., A. Chong, and S. Duryea (2008), "Soap Operas and Fertility: Evidence from Brazil," CEPR, Discussion Paper No. 6785.

Larcinese, V. (2007), "The Instrumental Voter Goes to the Newsagent," *Journal of Theoretical Politics*, 19, 249–76.

Larcinese, V., R. Puglisi, and J. M. Snyder (2007), "Partisan Bias in Economic News: Evidence on the Agenda-Setting Behavior of U.S. Newspapers," NBER, Working Paper No. W13378.

Laver, M., K. Benoit and J. Garry (2003), "Extracting Policy Positions from Political Texts Using Words as Data," *American Political Science Review*, 97, 311–31.

Lazarsfeld, P. F., B. Berelson, and H. Gaudet (1944), *The People's Choice: How the Voter Makes up His Mind in a Presidential Campaign*, New York: Columbia University Press.

Lim Claire S. H., J. M., Synder, D. Strömberg (2012), "The Judge, the Politician, and the Press", Mimeo, Cornell University.

Maskin, E., and J. Tirole (2004), "The Politician and the Judge: Accountability in Government," *American Economic Review*, 94(4), 1034–54.

McCombs, M. E., and D. L. Shaw (1972), "The Agenda-Setting Function of Mass Media," *Public Opinion Quaterly*, 36(2), 176–87.

McMillan, J., and P. Zoido (2004), "How to Subvert Democracy: Montesinos in Peru," *Journal of Economic Perspectives*, 18(4), 69–92, Fall.

Mullainathan, S., and A. Shleifer (2005), "The Market for News," *American Economic Review*, 95, 1031–53.

Neuman, W. R., M. R. Just, and A. N. Crigler (1992), "Common Knowledge," Chicago: University of Chicago Press.

Norris, P., and D. Sanders (2003), "Message or Medium? Campaign Learning During the 2001 British General Election," *Political Communication*, 20, 233–62.

Oberholzer-Gee, F., and J. Waldfogel (2009), "Media Markets and Localism: Does Local News en Espanol Boost Hispanic Voter Turnout?," *American Economic Review*, American Economic Association, 99(5), 2120–28, December.

Office of Communications London (2009), "Second Public Service Broadcasting Review: Putting Viewers First," January, available at: www.ofcom.org.uk/consult/conobes/psb2-phase2/statement/psb2statement.pdf.

Olken, B. A. (2009), "Do Television and Radio Destroy Social Capital? Evidence from Indonesian Villages," *American Economic Journal: Applied Economics*, 1–33.

Olper, A., and J. F. M. Swinnen (2009), "Mass Media and Public Policy: Global Evidence from Agricultural Policies," Licos Discussion Papers 23209, Licos – Centre for Institution and Economic Performance, K. U. Leuven.

Petrocik, J. R. (1996), "Issue Ownership in Presidential Elections, with a 1980 Case Study," *American Journal of Political Science*, 40, 825–50.

Petrova, M. (2008), "Inequality and Media Capture," *Journal of Public Economics*, 92 (1–2), 183–212, February.

Petrova, M. (2011), "Newspapers and Parties: How Advertising Revenue Created an Independent Press," New Economic School, mimeo. *American Political Science Review*, 105(4), 790–808.

Polo, M. (2005), "Regulation for Pluralism in the Media Markets," in P. Seabright J. von Hagen (eds.), *Regulation of Media Markets*, Cambridge: Cambridge University Press.

Prat, A. (2005), "The Wrong Kind of Transparency," *American Economic Review*, 95(3), 862–77, June.

Prat, A. (2006), "The More Closely We Are Watched, the Better We Behave?," in *Transparency: The Key to Better Governance?*, C. Hood and D. Heald (eds.), Oxford: Oxford University Press.

Prat, A., and D. Strömberg (2005), "Commercial Television and Voter Information," CEPR Discussion Paper No. 4989, April.

Puglisi, R. (2006), "Being the *New York Times*: The Political Behavior of a Newspaper," London School of Economics, Political Economy and Public Policy, Working Paper No. 20.

Puglisi, R., and J. M. Snyder, Jr. (2008), *Media Coverage of Political Scandals*, mimeo. NBER Working Papers 13878.

Putnam, R. D. (2000), "Bowling Alone: The Collapse and Revival of American Community, " New York: Simon & Schuster.

Reinikka, R., and J. Svensson (2005), "Fighting Corruption to Improve Schooling: Evidence from a Newspaper Campaign in Uganda," *Journal of the European Economic Association*, 3, 259–67.

Scheufele, D. A. (1999), "Framing as a Theory of Media Effects," *Journal of Communication*, 49(1), 103–22.

Seabright, P., and J. von Hagen (2007), *The Economic Regulation of Broadcasting Markets: Evolving Technology and Challenges for Policy*, Cambridge: Cambridge University Press.

Siegelman, P., and J. Waldfogel (2001), "Race and Radio: Preference Externalities, Minority Ownership, and the Provision of Programming to Minorities," in *Advances in Applied Microeconomics, Vol. 10: Advertising and Differentiated Products*, M. R. Baye and J. P. Nelson (eds.), Amsterdam: JA1/Elsevier.

Snyder, J. M., and D. Strömberg (2010), "Press Coverage and Political Accountability," *Journal of Political Economy*, 118(2), 355–408.

Strömberg, D. (1999), *The Political Economy of Public Spending.* Ph.D. Dissertation, Princeton University.

Strömberg, D. (2001), "Mass Media and Public Policy," *European Economic Review*, 45, 652–63.

Strömberg, D. (2004a), "Mass Media Competition, Political Competition, and Public Policy," *Review of Economic Studies*, 71(1), 265–84.

Strömberg, D. (2004b), "Radio's Impact on Public Spending," *Quarterly Journal of Economics*, 119(1), 189–221.

Suen, W. (2004), "The Self-Perpetuation of Biased Beliefs," *The Economic Journal*, 114, 377–96.

Svensson, J., and D Yanagizawa (2009), "Getting Prices Right: The Impact of the Market Information Services in Uganda," *Journal of the European Economic Association*, 7(2–3), 435–45.

Vinson, C. D. (2003), *Local Media Coverage of Congress and Its Members: Through Local Eyes*, Cresskill, NJ: Hampton Press.

Wantchekon, L., and C. Vermeersch (2009), *Media Access and Electoral Support for Public Goods Platforms: Experimental Evidence from Benin*, New York University, mimeo.

Yanagizawa, D. (2010), *Propaganda and Conflict: Theory and Evidence from the Rwandan Genocide*, Stockholm University, mimeo.