Media Coverage and Political Accountability: Theory and Evidence

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Abstract

This paper investigates how informative media affect political account-
ability and policy. I first present a baseline model of how informative
media affects political accountability. The model is used to discuss the
welfare consequences of private provision of news. It shows how media
regulation and public broadcasting may correct market failures, notably,
the under-provision of news. The model also supplies an array of testable
implications, used to organize the existing empirical work. The key em-
pirical questions are: what drives media coverage of politics; how does
this coverage influence the information levels and voting behavior of the
public; the the actions and selection of politicians; and government policy?

1 Introduction

This paper investigates how informative media affect political accountability and
policy. The chapter focuses on political accountability effects of informative
news media. Although the informativeness may be affected by capture and
ideological bias, we abstract from that issue for now and return to it in the
other sections.

I first present a baseline model of how informative media affects political
accountability. The model is used to discuss the welfare consequences of private
provision of news. and how media regulation and public broadcasting may
correct market failures, notably, the under-provision of news. The model also
supplies an array of testable implications, used to organize the existing empirical
work. The key empirical questions are: what drives media coverage of politics;
how does this coverage influence the information levels and voting behavior of
the public; the the actions and selection of politicians; and government policy?

2   Theory

In the standard model of how informative media affects political accountability and policy, there are three classes of actors: voters, politicians and the media. Voters try to elect politicians who will give them most utility, politicians try to get re-elected and perhaps enjoy political rents, and the mass media select political coverage to maximize profits. The models contains two building blocks, the first analyzes the role of information in politics and the second analyzes the how media's news selection affects information levels. This set-up has been used in a number of papers (e.g. Besley and Burgess, 2001, 2002, Besley and Prat. 2006, Prat and Strömberg, 2013, Strömberg, 1999, 2001, 2004).

2.1   The role of information in politics

The first building block describes how information from media influences policy. The key role of media is to provide information that helps voters elect the politician who will give them most utility. This increases the responsiveness of votes to the quality and effort of politicians, which improves political selection and incentives, and eventually policy and welfare.

In these models, the specific type of information provided by media varies. To cast the right vote, citizens need to know who proposes, or is responsible for, what policies, and to what effect. Media matters because it transmits information to voters about any of these facts. In Strömberg (1999), this is information about who proposes what policy or information about who is responsible for a policy. In other models, this is instead information about the incumbent's type with respect to e.g. altruism (Besley and Burgess, 2002), quality – good or bad (Besley and Prat, 2006), or competence (Prat and Strömberg, 2013).

I will use a slightly modified version of the model in Prat and Strömberg (2013) as a basis for the discussion. Rather than restating the full model with these marginal changes, I will here only describe these changes and explain how they modify the results.

The timing of the model is the following. In the first period, nature selects the incumbent politician's type (competence), which remains unknown. The incumbent selects effort, which together with the incumbent's type affects the quality of government policy. Media cover the policy outcome. Voters use information from the media to guide a private action and their voting decision. In the second period the elected political candidate selects effort and second period policy is determined.

I make three modifications to the model of Prat and Strömberg (2013). First I now assume that there is a continuum of voters of size n that all belong to one group. The model of Prat and Strömberg (2013) allows for many groups. The present model is thus a special case of their model. This is because I first want to focus on the total amount of political news coverage rather than the distribution across groups.

Second, I add a parameter a that affects the demand for public spending. The voters' utility from policy derives from their public goods consumption, is

then given by

$$g = a\left(\theta + e\right) \tag{1}$$

where θ is the innate ability (type) of the incumbent. The variable e is the amount of government resources spent per capita on the public good by the incumbent. The added parameter a measures the need for spending. This parameter is included in e.g. Strömberg (1999, 2004a,b) and Besley and Burgess (2002). It is needed to show how government responsiveness is affected by media coverage.

Third, I let the utility from the private action be realized before the election, rather than after as in Prat and Strömberg (2013). The media informs voters of the level of public goods provision, g. This information has a private value to voters because they select a private action, whose optimal value depends on government policy. If voters set their private action α equal to the actual level of the public good g, then they realize the value T. Otherwise they receive no utility from the action. If this is realized after the election, then media coverage creates an incumbency advantage. I do not want to focus on this here, and assume that T is realized before the election.

In this model, the political effects are driven by the share s of voters who are informed by the media about the policy outcome g. The following three equations (corresponding to equations 2-4 in Prat and Strömberg, 2013) describe the equilibrium. The vote share of the incumbent is

$$v^I = \frac{1}{2} + s\left(g - ae^*\right) = \frac{1}{2} + sa\left(\theta + e - e^*\right). \tag{2}$$

The baseline probability of being re-elected is one half. However, politicians who are more competent than average ($\theta > 0$), or who exert more effort than expected ($e > e^*$), have a higher chance of being re-elected. The voting choices of better-informed voters react more to differences in effort, e, and competence, θ, of politicians. In consequence, the electoral outcome becomes more responsive to these differences the larger is the share informed voters, s.

This increased responsiveness improves political incentives and selection. It can be proven that, in a pure-strategy sincere equilibrium, the incumbent selects effort

$$e^* = Bsa. \tag{3}$$

where B is the marginal voter density. The expected competence of re-elected politicians is

$$E\left[\theta \mid s\right] = sa\frac{\overline{\theta}^2}{12}. \tag{4}$$

Both politician effort and competence is increasing in the share informed voters, s.

Voters receive utility from the private action. They also receive utility from public goods consumption in periods one and period two. Public goods consumption depends on effort and competence by equation 2. However, the expected utility from period one public good consumption is simply e^*, because

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the expected competence in period one is zero. The expected utility from period two public good consumption is $E[\theta \mid s]$, because effort in period two is zero. Only the share s informed voters realize the value from the private action. Consequently, welfare is

$$ns(W+T) = ns\theta, \tag{5}$$

where $\theta = T + W$. Here T is the private value of political news, through guiding the private action and

$$W = a^2 \left(1 + \frac{\overline{\theta}^2}{12}\right)$$

is the social value of political news from improved selection and effort of politicians, described in equations (3) and (4). Social welfare is hence increasing in the share s voters informed by mass media.

I finally specify how the share informed voters s is affected by media consumption and coverage. Let x be the share media consumers. The probability ρ that a consumer finds the information about g is assumed to be increasing in the amount of media coverage devoted to politics, q. Hence the share informed voters is the share x that consumes the media, multiplied by the share $\rho(q)$ that find the news, conditional on consuming,

$$s = x\rho(q). \tag{6}$$

The following proposition summarizes the effect of informative media on politics.

Proposition 1 *An increase in*
    (a) the share of media consumers, x, or
    (b) the media coverage of politics, q,
causes an increase in
    (i) the shared of informed voters, s,
    (ii) the responsiveness of votes to perceived competence,
    (iii) the effort (spending) and expected competence of politicians,
    (iv) the responsiveness of government effort to need, a,
    (v) and a fall in political rents.

The letters a-b distinguish the type of media variation, consumption and coverage that cause the media effects. The numbers i-v describe the affected outcomes. Part i follows directly from equation (6), (ii) follows from equation (2), (ii) and (iv) follow from equations (3) and (4), part (v) follows from part (iii) since rents are decreasing in effort.

The proposition explains how the media improve political accountability. The letters a-b distinguish the type of media variation and the numbers i-iv the affected outcomes. The proposition states that (a) who gets the news and (b) what issues are covered matters for voter information. Informed voters are more responsive to competence differences across politicians. This improves political incentives and selection, and eventually, the quality of policy.

2.2 Market provision of news

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 the 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 it helps to make the right vote choice. The private action motive is probably most commonly used (e.g. Anderson and McLaren, 2010, Strömberg 1999, 2004a), followed by the voting motive (e.g. Chan and Suen, 2008, Larcinese, 2007).

Our model contains both a private and a social value of information. More exact news about future policies makes it more probable that the reader will take the right private and electoral action. The social value of one voter becoming informed is θ. However, the voter only internalizes the private value T. Since there is a continuum of voters, the social value W, is not internalized at all.

The expected probability of finding the news, $\rho(q)$, is a function of coverage, q. Coverage can be increased at a cost. To save on notation, we will analyze the problem directly in terms of ρ, and its associated cost, rather than in terms of q. The expected private value of ρ is $T\rho$ while the expected social value is $\theta\rho$.

A reader's valuation of a newspaper also depends on other pieces of news, and some characteristics that the newspapers cannot change by assumption. Other news is omitted from the analysis.[1] 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

$$T\rho + \gamma_j \geq p, \tag{7}$$

γ_j captures individual j's valuation of the exogenous aspects of the newspaper and p is the newspaper price. We assume that $-\gamma_j$ is distributed with cumulative distribution function $G()$. The share who buys the newspaper is then $G(T\rho - p) = x$. Let the inverse demand curve be $p(\rho, x) = T\rho - G^{-1}(x)$.

2.2.1 Total coverage of politics

Having specified the demand for newspapers, we now turn to their costs. News production is an increasing returns to scale industry. Once the fixed "first-copy" cost of gathering the news, writing and editing of the news stories has been borne, the variable cost of producing an additional copy is just the cost of reproducing and distributing the newspaper (Reddaway, 1963, and Rosse, 1970). We will write the cost function as additively separable in the first copy cost of news coverage, ρ, and a per copy distribution and delivery cost, d. We will assume that it becomes increasingly costly to inform a larger and larger

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

share of the voters, so that the cost is quadratic in ρ. The distribution cost is assumed linear in the number of copies sold, nx. Costs are

$$c(\rho, x) = \frac{1}{2}\rho^2 + dnx.$$

Monopoly media   A monopoly newspaper chooses news coverage and output (price) so as to maximize expected profits,

$$\max_{x,\rho} \quad p(\rho, x)\, nx - c(\rho, x).$$

Assuming concavity, its maximum is characterized by the first order conditions,

$$p = d + xg^{-1}(x), \tag{8}$$

$$\rho = nxT. \tag{9}$$

The first equation is the classical Lerner formula. The monopoly price is above marginal cost and more so the less elastic is demand (the smaller is $g(x)$). The second equation says that news coverage is increasing in audience size and in the private value of news.

To get a closed form solution, suppose that G is a uniform distribution on $[-\frac{1}{2}, \frac{1}{2}]$. Then

$$x^m = \left(\frac{1}{2} - d\right)\frac{1}{2 - nT^2}, \tag{10}$$

$$\rho^m = \left(\frac{1}{2} - d\right)\frac{nT}{2 - nT^2}. \tag{11}$$

The second order conditions imply $1 > \frac{n}{2}T^2$. The share informed voters is $x^m\rho^m$.

This simple model makes clear a couple of simple but important points. First provision of political news is increasing in market size, n. This is because news production is an increasing returns to scale industry in the sense that there the first copy cost is fixed. This is a general point related to quality choice with quality-dependent fixed costs (Shaked and Sutton, 1987). The political implications are that large countries, and large political jurisdictions within countries, will have higher-quality political reporting, leading to better informed voters and better political selection and incentives.

Second, news provision is increasing in the private value of news, T. Strömberg (2004a) endogenizes the private value of news and finds that it is higher for policy issues where the variance in need is larger. The model of Strömberg (2004a) also predicts that politicians will distort policy to manage publicity. They will focus increases in spending on a few projects that attract the attention of the media, and finance this by making many small cutbacks, each of which is not newsworthy.

Strömberg (2004a) also includes informative advertising and pricing in two-sided markets. Voters can buy an advertised good. Advertising informs consumers of the value of the good to them and consumers who are made aware that

their valuation is high will purchase the good. This has the effect of lowering the monopoly media's subscription price to attract consumers. Importantly, advertising revenues improves political accountability by increasing news coverage and newspaper sales.

To see this in our simplified model, suppose that the media is a price taker in the advertising market, and advertising prices are p_a per media subscriber. This has the same effect as reducing the cost of delivering the newspaper from d to $d - p_a$. The above above equations 10 and 11 hold replacing d by $d - p_a$. Hence advertising revenues increase political coverage and media consumption. If advertising is a nuisance (rather than providing useful information), then this can instead be modeled as part of the price consumers pay, so that $p = p_s + p_a$, where p_s is the subscription price. In this case, equations 10 and 11 still describe the equilibrium.

Competition   The effect of media competition on voter information is theoretically unclear. Competition may increase the share informed voters, by reducing subscription prices and hence increasing the consumption of news. On the other hand, competition may reduce political news coverage because of the increasing-returns caused by the fixed first-copy cost.

To see this, consider the duopoly case where media, A and B, compete. Suppose that there is no multi-homing: consumers subscribe to at most one of the two media. The problem of selecting quality and price in a duopoly setting with quality-dependent fixed cost has been studied by e.g. Anderson, de Palma and Thisse (1992). In general, there exist both symmetric and asymmetric equilibria. Here, we just want to highlight a few features and for this reason focus on the pure-strategy, symmetric equilibria, and suppose that consumers first decide whether to buy a newspaper (based on their expectation of media prices and coverage) and then which newspaper to buy.

Suppose that consumers first chose whether to consume a media product based on expected quality and price. As in the monopoly case, this is decided by equation (7). A share x of consumers are in the market for media. A consumer who has decided to buy a newspaper, chooses newspaper A if

$$T(\rho^A - \rho^B) - \left(p^A - p^B\right) \geq \varepsilon,$$

where the parameter ε describes consumer preferences for exogenous and fixed media features, and where ε has cumulative distribution function $H(\varepsilon)$. Inverse demand of firm A is then

$$p^A = T(\rho^A - \rho^B) + p^B - H^{-1}\left[\frac{x^A}{x}\right].$$

Both duopoly firms simultaneously choose news coverage and output (price) so as to maximize expected profits. Firm $A's$ problem is to maximize

$$\max_{x,\rho} \quad np^A x^A - C(\rho^A, x^A).$$

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Given our functional form assumptions, the first order conditions evaluated at the symmetric equilibrium are

$$p = d + \frac{x}{2}h^{-1}\left(\frac{1}{2}\right),\tag{12}$$

and

$$n\frac{x}{2}T = \rho.\tag{13}$$

Total demand is determined by

$$G\left(T\rho - p\right) = x.$$

Equation 12 is the Lerner formula, where the markup over marginal cost depends on the demand elasticity. Because they are close substitutes, it is likely that the demand elasticity between media A and media B is higher than that between the monopoly media and the outside good. In this case, the duopoly price will be lower than the monopoly price. However, because of the increasing returns to scale caused by the fixed cost of increasing coverage, political coverage may be higher or lower. Comparing equations (9) and (13), it is clear that for political coverage to increase total demand must double.

The positive welfare effect through accountability depends the share that both consume media and are exposed to news, ρx, so lower political coverage by the duopoly media can be compensated by larger total sales resulting from lower prices. With our parametric assumptions, the share informed voters is higher under duopoly than monopoly if

$$\frac{x^d}{x^m} > \sqrt{2}.$$

Under both monopoly and duopoly, media coverage and media consumption are increasing in n and T, and falling in d. The proposition below summarizes the results.

Proposition 2 *Political coverage and the share media consumers and, consequently, political effort and competence, is greater if: (a) the electorate is larger; (b) the advertising market is larger; or (c) the private value of news is high, and (d) it is inexpensive to distribute news. Political coverage and media consumption may increase or decrease with competition, depending on whether demand elasticity or scale effects dominate.*

The above proposition discusses determinants of total political coverage. The political implications are that large countries, and large political jurisdictions within countries, will have higher-quality political reporting, leading to better informed voters and better political selection and incentives. Similarly, a growing advertising market is likely to increase the amount of political coverage and media consumption, and create similar positive effects on political accountability. I will discuss the empirical evidence on competition in the empirical section.

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2.2.2   Coverage across issues and multitasking

In a world where politicians are charged with a variety of tasks that compete for their attention, information may also create perverse incentives. The tasks about which voters are informed (e.g. by the media) are not necessarily the most important. Because of the externality in news consumption, political information will be a by-product of demand for entertainment or information used to guide private actions. Thus, electing politicians based on information from the media would risk diverting the attention from the most socially valuable allocation of time and resources. This is the familiar multitasking problem analyzed in Holmstrom and Milgrom (1991). The link to media is explored by Strömberg (2004a).

To discuss this we temporarily expand the model to deal with multiple groups. Suppose that there are two groups, with population shares. n_i, $i \in \{1, 2\}$. Their utility from the public good is

$$g_i = a_i (\theta_i + e_i). \tag{14}$$

The media informs a share s_i of voters of the level of public goods provision, g_i. Their private value is T_i. The expected probability of the incumbent winning is then

$$\frac{1}{2} + \sum_{i=1}^{2} s_i n_i a_i (\theta_i + e_i - e_i^*). \tag{15}$$

Suppose that the cost of exerting effort for the incumbent is $\frac{1}{2}(n_1 e_1 + n_2 e_2)^2$. It can be proven that, in a pure-strategy sincere equilibrium, the incumbent selects effort

$$e_i^* = \begin{cases} s_i a_i & \text{if } s_i a_i > s_j a_j \\ 0 & \text{otherwise.} \end{cases} \tag{16}$$

and the expected competence of re-elected politicians is

$$E[\theta_i \mid s_i] = \begin{cases} s_i a_i \frac{\overline{\theta}^2}{12} & \text{if } s_i a_i > s_j a_j \\ 0 & \text{otherwise.} \end{cases} = . \tag{17}$$

In this model, it is socially efficient for the incumbent to always work on the issue with the highest need (a_i). However, the politician instead works on the issue with the highest news-exposed need $(s_i a_i)$. This is the multitasking problem.

We now analyze what issues the media will cover. Suppose that a monopoly media are covering the two issues. This media selects price and political coverage of the two political jurisdictions to maximize its expected profits

$$\max_{p, \rho} \sum_{i=1}^{2} n_i (p - d_i) x_i - \frac{1}{2} (\rho_1 + \rho_2)^2,$$

and demand for newspapers is again determined by equation (7) for each separate group.

Assuming concavity, its maximum is characterized by the first order conditions,

$$p = d + xg^{-1}(x),\qquad(18)$$

$$\rho_i = \begin{cases} n(p - d_i)T_i & \text{if } n_i(p - d_i)T_i \geq n_j(p - d_j)T_j \\ 0 & \text{otherwise.} \end{cases}\qquad(19)$$

The media only covers one issue. Media coverage of an issue is increasing in n_i, d_i and T_i. As discussed, if the monopoly media is a price taker in the advertising market, then $p - d_i$ is replaced by $p_s + p_a - d_i$, where p_s is the subscription price and p_a is the advertising price per media user. We have

Proposition 3 *The 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.*

Because the media will only inform voters about one issue, the politician will work exclusively on this. The above proposition characterizes the multi-tasking problem: what issues will receive too much attention and resources, relative to the welfare maximizing benchmark. Strömberg (1999, 2004a) discusses in more detail the welfare losses induced by this type of bias.

2.3 Optimal regulation and public provision of news

We now go back to the case with only one group. A social planner maximizes,

$$n \int_0^x p(\rho, z)\, dz - c(\rho, x) + nx\rho W,$$

where the first two terms describe the consumer utility and the producer cost, and the last term is the value of the externality $\theta - T = W$. The first order conditions are

$$p = d - \rho W,\qquad(20)$$

$$\rho = nx\theta.\qquad(21)$$

Assuming again that G is a uniform distribution on $[-\frac{1}{2}, \frac{1}{2}]$

$$x^{sp} = \left(\frac{1}{2} - d\right)\frac{1}{1 - n\theta^2},\qquad(22)$$

$$\rho^{sp} = \left(\frac{1}{2} - d\right)\frac{n\theta}{1 - n\theta^2}.\qquad(23)$$

The above can be compared with the market solution; see equations 12-11.

The social planner sets a price that is below marginal cost. This Pigouvian subsidy compensates for the positive externality of an informed citizenry. Absent the subsidy, consumers have too low valuation of news and news consumption will be too low. The social planner also supplies more political coverage

than the market solution. This is because of the social planner internalizes the positive externality of news on political accountability, and because the higher consumption level increases the marginal social benefit of coverage.

One question is how the social planner solution could be implemented. Disregarding the market power effect, a subsidy to the media firm equaling $nx\rho W$ would correct the market failure. This subsidy is proportional to size of the audience of the informative content, nx. This will induce the media firm to lower its price to attract audience. This could be achieved by explicitly lowering the subscription or pay-per-view price, or by reducing advertising (lowering the consumers' nuisance cost). The subsidy is also increasing in the informativeness of the content, ρ. This will induce the media firm to increase its political coverage. To reach the social optimum, an additional output subsidy to correct for the market power effect, of size $xg^{-1}(x)$, is needed.

Note that we achieve two goals by a subsidy of size $nx\rho W$. This subsidy increases both the media consumption and political coverage, because the subsidy is increasing in both these targets. Just regulating a fixed low price will increase the suboptimally low consumption, but lower political coverage (quality) even further. This is because the lower price reduces incentives to invest in quality (Spence, 1975, Sheshinski, 1976). Similarly, setting a fixed quality standard, $\rho = \rho^{sp}$, would lead the monopolist to over-price, making media consumption too low.

An alternative solution is public service media. A first question is whether voters would like to implement the social planner solution.

People internalize the social value of media coverage as voters, although they don't as consumers. To see this, suppose that public media provision and financing are voted upon in a separate election. Suppose that the public media is financed by a license fee, which is a lump sum tax on all voters, and a subscription price as before.[2] Let L be the license fee, set so that this fee and the subscription revenue covers the cost of running the public service media,

$$nL + npx = C(\rho, x).$$

If there is no heterogeneity among voters at the time of the election over public service media, then voter utility would be perfectly aligned with social welfare. This follows since voter utility from government policies and media is

$$E\left[g_1 + g_2 + u_{pb} - L \mid p, \rho\right]$$

where u_{pb} is the utility from watching public media, which is

$$TI\left(a_j = g_1\right) + \gamma_j - p$$

if the voter watches and zero otherwise. Since the license fee is $L = \frac{1}{n}C(\rho, x) - px$, and since the ex ante probability of watching public media is x, this simplifies to the social planner's problem.

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[2]The license fee is modeled on the BBC's annual television license fee, which is charged to all British households, companies and organizations using any type of equipment to receive live television broadcasts.

The next proposition describes the optimal media policy and how market provision and public media provision relates to it.

Proposition 4 *(a) Because of a positive externality from news consumption, the market solution produces less than optimal levels of news consumption and political coverage.*

(b) Optimal media policy can be achieved by public service media or by regulation. Optimal media regulation involves a Pigouvian subsidy equal in size to the positive externality from news consumption, combined with a subsidy to counter mark-up due to market power. The size of the Pigouvian subsidy is increasing in the amount of political coverage and in the audience of this coverage.

(c) As voters, people internalize the consumption externality. Under a veil of ignorance, they prefer the socially optimal media policies. These policies are hence not paternalistic.

Below, we will present mounting empirical evidence that the media play a key role in enhancing political accountability. Because one voter's consumption of news affects the quality of political selection and incentives, which benefits all voters, this creates an externality to news consumption. Given this, the market under provision of news follows from standard economic theory. This has been argued at least since Downs (1957) model of rational ignorance. The explicit modeling of this externality helps us describe the nature of the problem and the optimal regulation to solve it.

The optimal media policies can be achieved by public service media or a subsidy to private media firms. The subsidy pays for audience exposure to political news. Similar to advertising, the subsidy payment would be e.g. increasing in the audience rating of a news show, and also increasing in the amount of political coverage in the news show. This similarity is important because advertising has historically subsidized news content. The recent fall in advertising revenues of the traditional media has hence increased the need for media policies to support political coverage.

Should this be implemented by regulated private firms or by public service media? The generic arguments from Hart, Shleifer and Vishny (1997) apply. An argument in favor of public service media is that the amount and informativeness of political coverage is hard to observe, and hence in some dimensions non-contractible. Private providers are likely to save costs by reducing quality in these dimensions. There are two main arguments against public service media. One is that these may not be independent of the politicians they are supposed to monitor and hence will not be able to fulfill their role in enhancing political accountability. The public service implementation thus requires strong de facto independence. The second argument is that the media sector is rapidly evolving and that quality innovation is important. Private providers are likely to have stronger economic incentives to innovate.

3 Evidence

I now discuss empirical evidence related to the positive implications of the above theory. Before going into the substantive results, I briefly discuss different strategies used to identify effects of media consumption and coverage.

I start with effects from media consumption. Strömberg (1999, 2004b) measures the effects of the introduction of radio across US counties 1920-1940, instrumented by factors affecting the quality of reception (ground conductivity and share woodland). This use of regional and temporal variation in who gets the news, instrumented by quality of reception has become one of the signifying traits of economists' research on media effects. It has subsequently been applied to a large range of media and outcomes. For example, Gentzkow (2006) studies the introduction of television, instrumented by distance to a TV antenna. Olken (2009) improves this instrumentation by taking into account the topography between the antenna and the receiver. Falck, Gold and Heblich (2014) study the introduction of broadband internet in Germany, instrumented using technical thresholds in the distance to a main distribution frame. The introduction of individual media has also been used. For example, Della Vigna and Kaplan (2007) study the entry of Fox News in cable markets, and Gentzkow, Shapiro and Sinkinson (2011) and Cage (2014) study the entry and exit of individual newspapers in markets in the US and France, respectively.

Other strategies have been used to identify effects from media coverage. Media coverage is endogenous to most outcomes of interest. Media tend to cover issues and politicians that are more important, and to cover politics more in areas where consumers are more interested in politics. To identify the effects of news stories, Eisensee and Strömberg (2007) use the crowding out of news stories by other news. To identify the effects of the total coverage of politics in an area, Snyder and Strömberg (2010) use exogenous variation the match between media markets and political jurisdictions, discussed below. Other studies use randomized controlled trials. Banerjee et al. (2011) random sample of slums in a large Indian city received newspapers containing report cards with information on the performance of the incumbent legislator and the qualifications of the incumbent and two main challengers. This randomization affects both media consumption and content.

3.1 Volume of coverage

I will first discuss how coverage of politics is affected by two factors: audience size and competition. The above theory predicts that political news coverage will also be increasing in the size of the advertising market, in issue newsworthiness, and in falling delivery costs (Propositions 2 and 3). These other determinants will be discussed in section 3.5 on multi-tasking.

Evidence suggests that media competition reduces the volume of political coverage. The most convincing evidence is perhaps that provided by Cage (2014). She studies a county-level panel data-set of local newspapers in France, from 1945 to 2012. She finds that newspaper competition is associated with

fewer journalists and news articles in counties with homogeneous populations, with little impact on counties with heterogeneous populations. In a cross sectional study of coverage of U.S. congressmen, Arnold (2004) finds that newspapers with at least one competing daily paper published fewer articles about its local representative than did a monopoly newspaper, controlling for newspaper circulation and the number of representatives in a newspaper's core circulation area.

As discussed above, standard economic theory does not have a clear prediction on this issue. The lower political coverage under competition could arise because the greater scale economies for monopolies are more important than the higher demand elasticity under competition. Competition may also affect the amount of political news for other reasons. Cage (2014) argues that competing newspapers may differentiate in quality to avoid price competition. Zaller (1999) argues that it is good for the individual careers of journalists to cover politics; this can help them win awards and recognition among colleagues. Competition forces journalists to focus on audience demands instead.

We next turn to the effect of audience size on political coverage. As discussed in Chapter [Waldfogel??], the audience shares of ethnic groups have been related to media coverage and entry (Siegelman and Waldfogel, 2001; George and Waldfogel, 2003; Oberholzer-Gee and Waldfogel, 2009).

Audience effects are also central in the strategy used by Snyder and Strömberg (2010) to identify media effects. They analyze the effects of media coverage on U.S. congressional politics. They note that the match or congruence between media markets and political districts drives the media coverage of congressional politics. Congruence is based on the share of a newspaper m's readership that lives in a certain congressional district d, called the $ReaderShare_{md}$. Newspaper coverage of a congressman should be increasing in this readership share. Since more than one newspaper sells in each district, they define congruence as the market-share weighted average $ReaderShare_{md}$ for all newspapers sold in a district.

To illustrate the concept, suppose that there are two media, A and B. Media A's market covers district 1 and media B's market covers district 2; see the left image in Figure 1(a). In this case, $ReaderShare_{md}$ is one for both papers, and congruence is high (one). Suppose instead that the two monopoly newspapers, A and B, are located in two cities on the border between the political districts. Each media has half of its audience in each political district; see the right image in Figure 1(a). In this case, $ReaderShare_{md}$ is one half for both papers and congruence is low (one half).

Snyder and Strömberg (2010) argue that some variation in this congruence is exogenous and use this to identify media effects. One specification investigates the consequences of the changing congruence between media markets and congressional district due to redrawing of the district lines. For example, media coverage of a congressman may fall because another part 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.

They first document the relationship between congruence and coverage. They study coverage of U.S. House representatives in 161 newspapers covering 385 districts in each congress from 1991-2002. Their measure of the amount of coverage of the representative from district i is the number of articles mentioning the representative's name. This was found searching online editions of the newspapers. On average, the newspapers write 101 articles about each congressman in each two-year congressional period. They estimate that an increase in congruence from zero to one is associated with 170 more articles written about the congressman.

3.2 Voters

Information In the model above, media matters because it provides voters with information. I now discuss evidence on this. That the media provide voters with information needed to hold politicians accountable seems a priori likely. Knowing who is responsible for what policy to what effect is quite remote from the experience of most people. Hence, citizens in large societies are dependent on others for most of their political information, such as political campaigns and the mass media. Of these possible sources, survey respondents regularly cite mass media as their main source of political information.

Evidence on learning from news media (Proposition 1i) consistently finds significant effects. In their classic study, Berelson, Lazarsfeld and McPhee (1954) found that voters with high media exposure learned more during the electoral campaigns of 1940 and 1948 than other voters. Of course, it could be that voters who used media more were more interested in politics and learned more directly from the campaign and from personal interactions. Therefore, the effect from newspapers may be hard to identify. These selection issues are avoided in laboratory studies (e.g., Neuman, Just, and Crigler, 1992, and Norris and Sanders 2003) that find that people learn from watching news in a laboratory. However, it is hard to generalize these results to the effects of years of daily media exposure on voters' knowledge or choices on Election Day.

Snyder and Strömberg find that local newspapers are key providers of political information. This is found after analyzing survey responses from the American National Election Studies 1984 to 2004. They find that voters in areas where the newspapers, for the exogenous reasons explained above, cover the House representatives more are considerably better informed about their representatives. More precisely, they are better able to correctly name at least one of the candidates in the House election. Figure 1d plots the bivariate version of this relationship. They are also more willing to place their representative ideologically, to rate their feelings toward the representative, and mention things that they like or dislike about their representative. The share who can correctly name the House representative increases by one percent for every four exogenous additional newspaper articles about the representative. These estimates suggest that the share who can name their representative would drop from 31 to 15 percent, without newspaper coverage.

Snyder and Strömberg find that people do not learn significantly about their

House Representative from radio or TV. This could be because local television stations do not cover congressmen much.. Prat and Strömberg (2005) study the effects of the entry of commercial TV in Sweden. They find that people who start watching commercial TV increase their level of political knowledge and political participation more than others.

Responsiveness The key role of political information in the above model is to increase voter responsiveness (Proposition 1ii): information enables voters to identify and punish politicians that are bad for them, and reward good politicians and policies. This creates good incentives and selection.

Media effects on voter responsiveness have been studied in a couple of papers. Ferraz and Finan (2008) find that radio increased voter responsiveness to information about corruption among Brazilian mayors. Voters in places with a local radio station punished more mayors who were more corrupt than average and rewarded more mayors who were less corrupt than average.

Larreguy, Marshall and Snyder (2014) study the effect of media on Mexican voters' responsiveness to municipal audit reports. Similar to Ferraz and Finan, they compare mayors who engage in malfeasant behavior that is revealed in audit reports published in the year before an election to similar mayors whose audit reports are not published until after the election. They use within-municipality variation in the electoral precincts that are covered by radio and television stations located within the municipality, and that consequently cover more the relevant audit reports. They find that voters punish the party of malfeasant mayors, but only in electoral precincts covered by local media stations.

Banerjee et al. (2011) find similar results in India. In the run-up to elections, residents in a random sample of slums in a large Indian city received newspapers containing report cards with information on the performance of the incumbent legislator and the qualifications of the incumbent and two main challengers. Relative to the control slums, treatment slums saw higher turnout, reduced vote buying, and higher vote share for better performing incumbents and relatively more qualified incumbents.

The media coverage of a particular issue can also increase the voter responsiveness on that issue. This is a prediction of the model above (Prop. 1bii) and also a key prediction of the agenda setting and priming theories of media influence. A very extensive literature tests the agenda setting and priming hypotheses.

Political participation Although not part of our theoretical framework, I now discuss evidence of media effects on voter turnout. For most people, voting is the main form of political participation. High voter turnout may be desirable for a number of reasons. Voting is an effective means of holding elected officials accountable for their decisions and behavior in office. High turnout in fair elections gives legitimacy to public officials and their decisions, while abstention may erode citizens' satisfaction and confidence. It is a priori plausible that media influence voter turnout, because they provide information and may increase the

strength of political preferences and interest in politics.

Effects of media consumption on voter turnout 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 its 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.

The effects crucially depend on changes in total news consumption is affected, as the new media is likely to crowd out consumption of older media. Strömberg (1999, 2004b) measures the effects of the introduction of radio 1920-1940 on voter turnout. He finds that increased radio consumption led to more people voting in gubernatorial races. Quantitatively, an increase in the share of households with radios from 0 to 1 is estimated to have increased the turnout by 7 percentage points in the 1920-1940 period. The effects are particularly pronounced in rural areas where prior newspaper readership was low, due to high newspaper delivery costs. In a study of the effects of the introduction of television in the 1940s and 1950s, Gentzkow (2006) finds that television reduced the turnout in congressional races by two percent.[3] He argues that this was because TV was less informative than the newspaper consumption that it crowded out. Looking at the in introduction of individual news media, Oberholzer-Gee and Waldfogel (2009) find that a Spanish-language local television station increases the turnout among Hispanics in a metro area by 5-10 percentage points. Gentzkow and Shapiro (2010b) study the entry and exit of US newspapers 1869-2004. They find that on extra newspaper is associated with an increase in voter turnout of .3 percent.

A couple of recent papers also study the effects of high-speed internet on voting. Falck, Gold and Heblich (2014) find negative effects of internet broadband access on voter turnout, which they relate to a crowding-out of more informative TV consumption and increased entertainment consumption. In a similar study, Campante, Durante and Sobbrio (2013) find that broadband access initially decreased turnout in parliamentary elections, but then increased it after 2008, when local online protest groups coalesced into a new electoral list. Broadband access was positively associated with other forms of political participation, both online and offline.

These effects depend on whether the new media are more informative than the old that they replace. Snyder and Strömberg (2010) instead look at variation in the amount of informative content. They find that exogenously increased media coverage of politics 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 and this drives people to the polls. See Figure 1(e) for the bivariate relationship between Congruence and turnout.

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

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3.3 Politicians

We now discuss effects on politicians. Our theory suggests that both media consumption and coverage will improve both the political selection and incentives (Proposition 1iii).

Snyder and Strömberg (2010) find that media coverage affects politicians' behavior. US congressmen from districts where media coverage is high, for exogenous reasons, are less ideologically extreme, vote more frequently against the party leaders, are more likely to stand witness before congressional hearings, and they are, perhaps, more likely to serve on constituency-oriented committees and also less likely to serve on broad policy-oriented committees. This was found after analyzing data on roll-call voting, committee assignments and witness appearances for 1982-2004. See Figure 1(f,g) for the bivariate relationship between Congruence and these outcomes.[4]

The effects seem to work through both incentives and selection (by studying whether the actions of the same politician change over time with press coverage, they can separately identify the incentive effects). Snyder and Strömberg find 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 mix of the two. These results make sense, since we would expect selection effects for preferences and constant characteristics (competence in the model and ideology in this example) and incentive effects for variables that capture effort (effort in the model and witness appearances in this example). In terms of magnitudes, their estimates imply that an exogenous increase of about 110 newspaper articles about the House representative is associated with one additional witness appearance, and there is one additional vote against the party leadership per every four exogenous additional newspaper articles about the House representative.

3.4 Policy

We have presented evidence that mass media inform voters, and that this information increases both voter turnout and voter responsiveness. This, in turn, improves political incentives and selection. We now finally present evidence that this affects policies. We look at three types of media variation: variation in the access to media; the volume of political coverage; and in the coverage of particular events.

3.4.1 Who gets the news?

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

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

investigate the hypothesis in Proposition 1aiii, that public expenditures are increasing in the share of media users in a group.

As mentioned, Strömberg (1999, 2004b) measures the effects of the introduction of radio in the US 1920-1940. Interestingly, this was also an era of rapid changes in economic policymaking. In the middle of the expansion period of radio, the New Deal was launched. Strömberg finds that access to radio increased federal spending in the New Deal programs. The effects are economically important. 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. The results are robust to instrumenting radio ownership with exogenous factors that affect the quality of reception: ground conductivity and the share of woodland.

Besley and Burgess (2002), study how the responsiveness of policy to need is affected by media consumption (Proposition 1aiv). They study public food distribution and calamity relief in a panel of Indian states (1958-1992). Their main finding is that the interaction term between newspaper circulation and measures 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 that 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). A potential concern is that states with a high circulation of newspapers are different, for example by having a more politically interested and active population. Consequently, the authors instrument newspaper circulation with the share of newspapers that are owned by political parties, societies and individuals. After instrumentation, the key results remain or become stronger.

3.4.2 Volume and focus of political coverage

Our theory suggests that coverage affects government spending (Proposition 1biii). We first discuss evidence on the effect of total coverage of politics and the effects of what issues are covered.

As mentioned, Snyder and Strömberg (2010) study find that political coverage increases voter information, voter turnout, and the selection and incentives of politicians. The final question is whether the additional effort and better selection of politicians are noticeable in public spending. Snyder and Strömberg find that more federal 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 around 50 additional articles per congress), increases per capita federal spending by 3 percent. See Figure 1(h) for the bivariate relationship between Congruence and this outcome. Similarly, Lim et al. (2013) study the effect of newspaper coverage of U.S. state-trial-court judges, using the congruence between judi-

cial districts and newspaper markets to identify effects. They find that press coverage significantly increases the sentence length.

What issues are covered?   Not only the volume, but also the distribution of coverage may influence policy. This is important to investigate empirically because excessive coverage of certain topics may distract political attention from more socially important tasks.

Can a news editor, by publishing a particular news story influence government policy? 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 some policy outcome; see Dearing and Rogers (1996). However, convincing evidence of media effects is hard to establish from these types of correlations. More severe issues are both likely to be in the news and receive policy attention, and it is very hard to convincingly control for severity. In addition, political agendas might drive both media coverage and policy, thus creating a reverse causality problem.

In an attempt to address this problem, Eisensee and Strömberg (2007) analyze the effect of natural disasters being covered because not much else news is around. 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, for example, from Olympic Games. Others are covered because they occur when few alternative stories are available. However, disasters striking during the Olympics will be similar in all other respects disasters striking at the same time of year in non-Olympic years.

Eisensee and Strömberg find that the Olympic Games crowds out news coverage of natural disasters and that this decreases the probability of U.S. government relief. They find similar effects using a more general measure of the amount of other available news (the time spent on the top three news stories). The conclusion is that news coverage has a causal effect on relief. Specifically, they study relief from the United States Agency for International Development (USAID) Office of Foreign Disaster Assistance (OFDA) to 5,212 natural disasters taking place worldwide between 1968 and 2002. This is 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 (ABC, CBS, NBC) since 1968 and CNN since the 1990s.

3.5   Multi-tasking

Proposition 2 above and Strömberg (2004a) identify policy biases generated by the news-making process, related to group size, newsworthiness, advertiser target group, and media access. I now discuss empirical evidence of these.

Audience share bias   This is probably the most well documented type of bias. Media tends to focus coverage on issues that concern a large share of

its audience (which is not perfectly collinear with group size). Politically, this may hurt small groups, such as minorities and special interests, and favor large groups, such as majority ethnic groups and dispersed consumer interests.

A difficulty in empirically identifying the effects of group size is that many factors vary with group size (other than media coverage). An area with many Hispanics is more likely to have a Spanish language local TV-news show. But it is also likely to be different in many other respects, for example, having a strong local Hispanic community and connected organizations.

Is it possible to vary the audience size of a group, while holding the total population of the group fixed? Consider the setting in Snyder and Strömberg (2010). House Districts have approximately the same population, but can differ in size measured by audience size. This is because audience size depends on what papers people buy. Suppose that people in one area of a House district read newspapers that mainly sell outside of their district. Because they are a small share of the audience share of these newspapers, their representative will receive little coverage. We know from Snyder and Strömberg (2010) that people in these types of areas are less well informed, vote less, and receive less public spending. This is direct evidence of an audience size bias in policy.

There is also evidence that where ethnic group are small, there will be less targeted media and minority consumption of media will be low and consequently voter turnout will be low (Siegelman and Waldfogel, 2001, George and Waldfogel, 2003, Oberholzer-Gee and Waldfogel, 2009).

Assuming that there is no pre-existing policy bias, the model of Strömberg (2004a) shows that the audience size effect biases policy against the interest of small groups. However, absent mass media, small special interest groups may have an information advantage against dispersed consumer groups. The audience size effect may counter this disadvantage. Therefore, the expanding use of mass media may have lowered the influence of lobby groups. Dyck, Moss and Zingales (2008) investigate this. They find that the more the McClure magazine (one of the most prominent muckraking magazines of that era) sold in a House Representative's district, the more pro-consumer was the Representative's voting on legislation that was muckraked in the McClure magazine. A potential concern is that the areas where demand for McClure magazine is high are different also in other respects.

Media access bias   There is also relatively strong evidence that people with access to media receive better policies (Strömberg, 1999, 2004, Besley and Burgess, 2002). The other side of the coin is that voters without access to media risk being neglected by politicians. This may be of particular concern to poor voters in developing countries, whose lack of access to media could hinder their access to public services (Keefer and Khemani, 2005). The most direct evidence of this is perhaps Reinekka and Svensson (2005) who find that schools to which it was cheaper to deliver newspapers, because they were closer to a newspaper outlet, received more government funds. In this way, newspaper provision of news may produce a political bias disfavoring remote and rural areas.

Newsworthiness bias   There is some evidence that journalistically newsworthy issues receive disproportionate policy attention. Eisensee and Strömberg (2007) estimate that 46 times as many people must be killed in a disaster in Africa to achieve the same probability of being covered by U.S. television network news as an otherwise similar disaster in Eastern Europe. Because they find that news coverage triggers relief, they conclude that this biases U.S. relief against African disaster victims. Similarly, a drought must have 2,395 times as many casualties as a volcano to have the same estimated probability of coverage, potentially biasing U.S. relief.

Target group bias   It seems likely that advertising biases increase the coverage of interest to groups valuable to advertisers and that, consequently, this biases policy in favor of these groups. However, there is less supporting evidence. The literature is still struggling to uncover the first stage of this effect: that media coverage is shaped to target the interest of this group. For example, Hamilton (2005) correlates 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 finds that the news selection correlates most with the interests of young viewers. He notes that this might be because advertisers target marginal consumers, for example, the young with less stable purchasing behavior. Although plausible, there is little convincing evidence that groups that are valuable to advertisers benefit politically from media provision of news.

4   Conclusion

The existing evidence on media effects surveyed in this paper seems to support the following general statements about the political effects of mass media:

Media scrutiny increases the political accountability, which appears to improve policy. A number of surveyed studies find that an increase in media activity is associated with better policy outcomes, some of which use methods that reasonably convincingly identify causal media effects. There is some evidence that these media effects occur because the media transmits information to voters, which improves both the incentives and the selection of politicians.

A caveat to the positive effects is that the media may sometimes induce politicians to work on wrong issues. Media provision of news systematically benefits groups that are large as audience shares, groups who care about newsworthy issues and groups to whom it is cheap to deliver news. Theory suggests that media also benefits groups who are more valuable to advertisers. However, there is little empirical evidence to this effect.

There are theoretical reasons to believe that the market under-supplies political news. This is because of a positive externality from the consumption of political news on political accountability. Socially optimal news provision can be induced by a subsidy that is increasing in both the informativeness of the

news media and in the size of the audience attending the news. It can also be achieved by public service media.

References

[1] Anderson, Simon P., and John McLaren. 2012. *Media mergers and media bias with rational consumers.* Journal of the European Economic Association 10.4: 831-859.

[2] Arnold, R. Douglas. 2004. *Congress, the Press, and Political Accountability.* Princeton, NJ: Princeton University Press.

[3] Banerjee, A. V., Kumar, S., Pande, R., and Su, F. 2011. *Do Informed Voters Make Better Choices? Experimental Evidence from Urban India.* Unpublished manuscript, Harvard university.

[4] Baron, David. 1994. *Electoral Competition with Informed and Uninformed Voters.* American Political Science Review Vol. 88. 33-47.

[5] Baron, David. 2006. Persistent Media Bias. *Journal of Public Economics* 90: 1–36.

[6] Berelson, B., Lazarsfeld, P., and McPhee, W. N. 1954. *Voting: A study of opinion formation in a presidential campaign.* Chicago University Press.

[7] Besley, Timothy and Robin S. L. Burgess. 2002. The Political Economy of Government Responsiveness: Theory and Evidence from India. *Quarterly Journal of Economics* 117(4): 1415–51.

[8] Besley, Timothy and Andrea Prat. 2006. *Handcuffs for the Grabbing Hand? The Role of the Media in Political Accountability.* American Economic Review, 96(3): 720-736, June 2006.

[9] Brunetti, Aymo and Beatrice Weder. 2003. *A free press is bad news for corruption.* Journal of Public Economics 87(7-8): 1801-1824, August 2003.

[10] Cage, Julia, 2014. *Media Competition , Information Provision and Political Participation.* Unpublished manuscript, Harvard University.

[11] Campante, Filipe R., Ruben Durante, and Francesco Sobbrio. "Politics 2.0: The multifaceted effect of broadband internet on political participation". No. w19029. National Bureau of Economic Research, 2013.

[12] Chan, Jimmy and Wing Suen. 2008. *A Spatial Theory of News Consumption and Electoral Competition.* Review of Economic Studies 75(3): 699-728. July 2008.

[13] Dearing, James W. and Everett M. Rogers. 1996. *Agenda Setting.* SAGE Publication, Inc., Thousands Oaks California.

[14] DellaVigna, Stefano and Ethan Kaplan. 2007. *The Fox News Effect: Media Bias and Voting.* Quarterly Journal of Economics. 122: 1187-1234.

[15] Downs, Anthony. 1957. *An economic theory of democracy.* New York: Harper Collins.

[16] Dyck, A., Moss, D., and Zingales, L. 2008. *Media versus Special Interests.* Unpublished manuscript.

[17] Eisensee, Thomas and David Strömberg. 2007. *News Floods, News Droughts, and U.S. Disaster Relief.* Quarterly Journal of Economics. 122(2).

[18] Enikolopov, Ruben, Maria Petrova and Ekaterina V. Zhuravskaya. 2009. *Media and Political Persuasion: Evidence from Russia,* The American Economic Review 101 (7), 3253-3285.

[19] Falck, O., Gold, R., & Heblich, S. 201). *E-lections: Voting behavior and the internet.* CESIFO WORKING PAPER NO. 3827.

[20] Ferraz, Claudio and Frederico Finan. 2008. *Exposing Corrupt Politicians: The Effects of Brazil's Publicly Released Audits on Electoral Outcomes.* Quarterly Journal of Economics 123(2): 703-745. May 2008.

[21] Gentzkow, Matthew 2006. "Television and Voter Turnout." *Quarterly Journal of Economics* 121(3): 931-972.

[22] Gentzkow, Matthew, Jesse M. Shapiro, and Michael Sinkinson. 2011. *The Effect of Newspaper Entry and Exit on Electoral Politics.* The American Economic Review 101.7: 2980-3018.

[23] George, Lisa and Joel Waldfogel 2003. *Who Affects Whom in Daily Newspaper Markets?* Journal of Political Economy. University of Chicago Press. 111(4): 765-784.

[24] Hamilton, James T. 2005. *The market and the media.* New York: Oxford University Press.

[25] Hart, Austin, and Joel A. Middleton. 2014. *Priming under Fire: Reverse Causality and the Classic Media Priming Hypothesis.* The Journal of Politics 76.02: 581-592.

[26] Hart, O., Shleifer, A., & Vishny, R. W. (1997). The proper scope of government: theory and an application to prisons* o. Quarterly Journal of Economics, (November).

[27] Holmström, Bengt and Paul Milgrom. 1991. *Multitask principal-agent analyses: Incentive contracts, asset ownership, and job design.* Journal of Law, Economics and Organization. 1991(7), 24-52.

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

[29] Larcinese, Valentino. 2007. *The Instrumental Voter Goes to the Newsagent,* Journal of Theoretical Politics 19, 2007, 249-276.

[30] Larcinese, Valentino, Riccardo Puglisi and James M. Snyder. 2007. *Partisan Bias in Economic News: Evidence on the Agenda-Setting Behavior of U.S. Newspapers.* 2007, NBER Working Paper No. W13378.

[31] Larreguy, Horacio A., John Marshall, and James M. Snyder Jr. 2014. *Revealing Malfeasance: How Local Media Facilitates Electoral Sanctioning of Mayors in Mexico.* No. w20697. National Bureau of Economic Research, 2014.

[32] Lazarsfeld, Paul F., Bernard Berelson, and Hazel Gaudet. 1944. *The People's Choice: how the voter makes up his mind in a presidential campaign.* New York: Columbia University Press.

[33] Lim, C., Jr, J. S., & Strömberg, D. 2014. *The Judge, the politician, and the press: Newspaper coverage and criminal sentencing across electoral systems.* Unpublished manuscript, Stockholm university.

[34] Prat, Andrea and David Strömberg 2013. *The Political Economy of Mass Media.* Advances in Economics and Econometrics. Cambridge University Press.

[35] Larcinese, Valentino, Riccardo Puglisi, and James M. Snyder Jr. 2011. *Partisan bias in economic news: Evidence on the agenda-setting behavior of US newspapers.* Journal of Public Economics 95.9: 1178-1189.

[36] Oberholzer-Gee, Felix and Joel Waldfogel. 2009. *Media Markets and Localism: Does Local News en Espanol Boost Hispanic Voter Turnout?* American Economic Review. 99(5): 2120-28.

[37] Olken, Benjamin A., "Do Television and Radio Destroy Social Capital? Evidence from Indonesian Villages", American Economic Journal: Applied Economics 1:4, 2009, 1–33.

[38] Puglisi, Riccardo and James M. Snyder, Jr. 2008. *Media Coverage of Political Scandals,* NBER Working Paper 14598.

[39] Reddaway, W. B., & Journal, T. E. (1963). "The Economics of Newspapers" W. B. Reddaway, 73(290), 201–218.

[40] Reinikka, Ritva, and Jakob Svensson 2005. *Fighting Corruption to Improve Schooling: Evidence from a Newspaper Campaign in Uganda,* Journal of the European Economic Association 3: 259-267.

[41] Rosse, J. (1967). "Daily newspapers, monopolistic competition, and economies of scale". The American Economic Review. Retrieved from http://www.jstor.org/stable/1821652

[42] Shaked, Avner, and John Sutton. "Product differentiation and industrial structure." The Journal of Industrial Economics (1987): 131-146.

[43] Sheshinski, Eytan. "Price, quality and quantity regulation in monopoly situations." Economica (1976): 127-137.

[44] Siegelman, Peter, and Joel Waldfogel. 2001. *Race and radio: Preference externalities, minority ownership, and the provision of programming to minorities.* Advances in Applied Microeconomics 10: 73-107.

[45] Snyder, James M. and David Strömberg. 2010. *Press Coverage and Political Accountability.* Journal of Political Economy. 118(2). 2010.

[46] Strömberg, David. 1999. *The Political Economy of Public Spending.* Ph. D. Dissertation, Princeton University.

[47] Spence, A. Michael. "Monopoly, quality, and regulation." The Bell Journal of Economics (1975): 417-429.

[48] Strömberg, David. 2001. *Mass Media and Public Policy.* European Economic Review. 45: 652-663.

[49] Strömberg, David. 2004b *Radios Impact on Public Spending.* Quarterly Journal of Economics 119(1):189-221.

[50] Strömberg, David. 2004a. *Mass Media Competition, Political Competition, and Public Policy.* Review of Economic Studies 71(1): 265-284.

[51] Zaller, John. 1999. "A theory of media politics." Unpublished manuscript, 1999.