

# Influence for Sale: Evidence from the Italian Advertising Market\*

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## Abstract

What is the impact of conflict of interest, in the absence of precise rules? We consider the case of Italy, which does not require a prime minister to divest business holdings. Indeed, since 1994, Berlusconi has been three times prime minister while remaining in control of the major private television networks. Firms who want to curry favor may hence shift their advertising from the public channels to the private ones, thus benefiting Berlusconi himself. We find evidence that such shift takes place when Berlusconi is in power, and significantly more so for more companies in more regulated industries. As predicted by the model, the effect induces both a higher price for ads in Berlusconi's network when he is in power, as well as some evidence of a cross-sectional shift in companies spending. These findings highlight the possible distortions associated with conflict of interest in the absence of divestiture rules.

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# 1 Introduction

Politicians face an inherent tension when setting policy. They face incentives to represent the interests of their constituents, but they also often have material interests involving themselves or their families at stake. These two interests frequently diverge, inducing a conflict of interest.

Rules to temper such conflicts of interest are commonplace. In the modern US congress, for example, there are significant restrictions on the ability for members to earn outside income, and there are “revolving door” restrictions on employment in the lobbying industries for a period after leaving Congress. These rules are designed to limit the conflicts and the associated quid-pro-quo between business interests and politicians. In other political settings, however, such restrictions are absent or weaker.

In this paper, we examine the consequences of a particularly egregious case of conflict of interest between business and political incentives: the case of Italy since the mid 1990s. In the Spring of 1994, Silvio Berlusconi, previously a successful entrepreneur and owner of the main private television network in Italy, was elected prime minister. Unlike the US, Italy has no rules forbidding the concentration in one person of business interest and a political position, and does not have the tradition of blind trusts for politician with interests in companies. As such, Berlusconi retained control of his business holdings in the media, inducing a conflict of interest with his prime minister role.

We consider the impact of this conflict of interest on the advertising decisions by firms. Companies who benefit from government regulation have an interest in currying favor with the government. In particular, these companies may purchase advertising in Berlusconi’s companies, in exchange for political favors when Berlusconi is in power. This exchange is likely to be more valuable in sectors which are more heavily subject to regulation.

We develop a simple model of the advertising market to illustrate the economic impact of this exchange in the advertising market. We consider two types of firms, regulated and unregulated, who must decide how to allocate their advertisements between the two networks. In addition to the economic benefits associated with advertising, regulated firms receive a political benefit from advertising on Berlusconi’s network when he is in power. When Berlusconi comes to power, demand for advertising on Berlusconi’s network thus increases. This shift in demand induces an increase in the price of advertising in Berlusconi’s channels and also a change in the composition of advertising spending: regulated companies shift spending towards Berlusconi’s channels, while unregulated firms do otherwise (given the price change). This quid-pro-quo increases the profits of Berlusconi’s companies and lowers the profits of the competing public network. Further, there is a deadweight loss due to distortions in the advertising market, even setting aside the likely inefficiency in the regulation process.

Of course, the presence of distortions due to conflict of interest is not new: it is well known that companies contribute campaign contributions in an attempt to obtain political favors. A

unique feature, however, in the case at hand is that the potential quid-pro-quo, which is legal, *directly* enriches the politician, given that Berlusconi is the primary shareholder of the television network. In the presence of rules on conflict of interest, instead, the monetary contributions by the companies are only allowed to flow to a party in the form of campaign contributions. Direct payments to the politicians are typically illegal. Hence, the Italian setting is a strong test for the presence of distortions due to conflict of interest, given that incentives for the politician are very strong, with (legal) private benefits to the politicians.

To identify empirically such effects, we exploit a difference-in-difference identification strategy. Using firm-level data by Nielsen on quarterly advertising expenditure by firm and media outlet, we compare the advertising spending on the different TV channels when Berlusconi is in power versus when he is not. In this respect, we exploit the repeated switches in political balance: Berlusconi was prime minister during 1994-1995, 2001-2006 and 2008-2011. Further, we use a survey-based measure of regulation by industry to identify the more highly regulated industries, and we compare the behavior of firms in more versus less regulated industries.

Our main results are as follows. First, the share of advertising spending that goes to Berlusconi's media (television and press) is 4 percent higher when Berlusconi is in power. Second, when we distinguish between firms operating in regulated versus unregulated sectors, we find that the relative increase in spending on Berlusconi's media is driven by the former. In particular, firms in regulated sectors have a 5 percentage points lower share of TV ad spending on Berlusconi channels when he is not in power, but they actually spend more than other firms (1 percentage point higher share) when he is in office.

We consider two key robustness dimension to this second result. In addition to the intensive margin—the share spent on Berlusconi's media—, we consider the extensive margin—an indicator for advertising at all on Mediaset— and obtain a similar pattern of results. In addition, we use both a contemporaneous measure of the presence of Berlusconi in government, as well as a forward-looking discounted expected future probability of his presence in government, to reflect the fact that the payoff for an advertising may last for as long as the government is in power. We find that the contemporaneous measure is more predictive of the shifts in transfers, suggesting a more short-term implicit exchange of favors.

In terms of other firm characteristics, we find that firm size -proxied by volume of sales or number of employees- matters: it is relatively larger firms that shift their spending on Mediaset TV channels during the periods in which Berlusconi is in power. On the other hand, the effects seems to be independent of lagged economic performance, financial difficulties and ownership structure.

Our third main result concerns price responses. When analyzing the price per second of TV ads, we find that when Berlusconi in power the price per second on Mediaset increases substantially compared to the other TV networks. Relative to its main competitor, the public network Rai, the Mediaset price per second increases by 15 percent when Berlusconi is prime

minister. This is consistent with the predictions of the model for the case in which the supply of seconds is fairly rigid, and hence the response takes place on the price margin.

Finally, we find some evidence of differential reallocation in the quantity of seconds across channels by regulated and unregulated firms. For “peak seconds”, that is, the more expensive ads aired during prime time, regulated firms shift their ads to Mediaset and away from Rai during the periods of Berlusconi government, relative to unregulated firms that do the opposite.

Our research contributes to the literature on the relevance of firms’ political connections (Fisman 2001; Faccio, 2006; Khwaja and Mian, 2005; Knight, 2007; Cingano e Pinotti, 2013; Coulomb and Sangnier, 2012; Luechinger and Moser, 2012). While in most of these contributions firms’ political connections are identified through campaign contributions or personal relationships (often elicited from news coverage or anecdotal evidence), in the case we examine the connection between the firm and the politician is based on direct ownership. Furthermore, while most of these papers examine the effect of political connections on rather indirect outcomes such as (abnormal) stock returns or access to credit, we estimate the impact of Mediaset’s political connection on actual advertising revenues. Our research also relates to the growing body of work on the relation between mass media and politics (Stromberg 2004; DellaVigna and Kaplan 2007; Enikolopov, et al. 2011, Durante and Knight, 2012). While this literature has largely focused on the impact of media on electoral competition, our study is the first one to examine how political influence can distort competition in the media market.

The remainder of the paper is as follows. In Section 2 we introduce a simple model of the advertising market. In Section 3 we introduce the institutional context and the data. In Section 4 we present the results of the test of whether the pattern of advertising expenditures responds to changes in government. In Section 5 we conclude.

## 2 Model

This section examines the allocation of advertising between two channels, the private one owned by Berlusconi, and a public one. In the model, a large number of firms, each with a continuum of advertisements, indexed by  $a$ , must decide whether to air these ads on Berlusconi’s network or the public network (RAI). Let  $n$  index the two networks and let  $B$  denote Berlusconi’s network and  $P$  denote the public network. Let  $c \in \{B, L\}$  denote which coalition is in the majority, where  $B$  denotes Berlusconi’s party and  $L$  denotes the center-left. Firms, indexed by  $f$ , differ in their degree of regulatory oversight, with  $f = R$  denoting regulated firms and  $f = U$  denoting unregulated firms. Let  $r$  denote the fraction of firms that are regulated.

Firm  $f$  receives two benefits from advertising. There is an economic benefit  $e_n$  of reaching consumers of network  $n$  that is independent of which government is in power. In addition to these economic benefits, regulated firms receive political benefits equal to  $b$  from advertising on Mediaset when Berlusconi is in power (i.e.  $n = c$ ) and receive no political benefits when

the center-left is in power. Unregulated firms receive no political benefits from placing advertisements on Berlusconi's network when he is in power, and neither type of firm receives political benefits from advertising on the public network. Firms pay a price  $q_{nc}$  for airing an advertisement on network  $n$  during periods when  $c$  is in power. This price, as described below, is endogenously determined by market conditions.<sup>1</sup> Finally, there is an idiosyncratic benefit from firm  $f$  placing advertisement  $a$  on network  $n$  when coalition  $c$  is in power. This benefit can be interpreted as the quality of the match between the target audience of the advertisement and the audience of the network. This benefit  $\varepsilon_{fnc}^a$  is assumed to be independent across advertisements, and  $\varepsilon_{fPc}^a - \varepsilon_{fBc}^a$  is assumed to follow the distribution  $G$ . It follows that the net benefits for firm  $f$  from placing advertisement  $a$  on network  $n$  when coalition  $c$  is in power is given by

$$e_n + 1(f = R)1(n = c)b - q_{nc} + \varepsilon_{fnc}^a$$

Given this and assuming an interior solution, the firm-specific demand for advertisements placed on Berlusconi's network is given by the fraction of advertisements for which the benefits of advertising on Mediaset exceed the benefits from advertising on the public network:

$$\begin{aligned} \Pr[e_B + 1(f = R)(c = B)b - q_{Bc} + \varepsilon_{fBc}^a > e_P - q_{Pc} + \varepsilon_{fPc}^a] \\ = G[(e_B - e_P) + 1(f = R)1(c = B)b - \Delta_c] \end{aligned}$$

where  $\Delta_c = q_{Bc} - q_{Pc}$  represents the difference in price between Berlusconi's network and the public network.

In terms of the supply side, we simply assume that each network has a fixed amount of time devoted to advertising, with a share  $\sigma$  of the advertising spots on Mediaset. Note that this is equivalent to assuming a perfectly inelastic supply curve. While our results are robust to an elastic supply curve, this assumption simplifies the analysis, and, as shown below, is consistent with the data in terms of aggregate quantities appearing to be relatively fixed over time.

**Predictions.** We next examine the effects of a change in government, from left to right, on this advertising market. We begin the analysis with the case in which the left is in power, as illustrated in Figure 1a, which focuses on the case in which  $G$  is uniformly distributed and demand is thus linear.

[Insert Figure 1]

When the left is in power, there is no distinction between regulated and unregulated firms, and demand is given by  $G[(e_B - e_P) - \Delta_L]$ . Inverse demand, defined as the difference in the

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<sup>1</sup>This formulation implicitly assumes that prices are the same for all firms (no price discrimination) and that there are no quantity discounts (the price paid per advertisement is independent of the number of advertisements purchased).

marginal willingness to pay to advertise a fraction  $s$  advertisements on Berlusconi's network, is then given then by  $\Delta_L(s) = (e_B - e_P) - G^{-1}(s)$ . In equilibrium, we have that:

$$G[(e_B - e_P) - \Delta_L] = \sigma$$

In this case, the equilibrium price difference has a closed form given by  $\Delta_L = (e_B - e_P) - G^{-1}(\sigma)$ . Thus, the relative prices for Berlusconi's network are increasing in the difference in economic benefits associated with advertising on Berlusconi's network. The price difference also depends upon  $G^{-1}(\sigma)$ , which reflects the relative scarcity of advertisements on Berlusconi's network.<sup>2</sup> Note that this price difference could be positive or negative depending upon the factors described above. Given this price, both types of firms advertise an equal fraction on the two networks, and we have that the equilibrium advertising shares on Mediaset are given by  $s_{RL} = s_{UL} = \sigma$ . In Figure 1a, advertisements to the left of  $\sigma$  are placed on Mediaset, and advertisements to the right of  $\sigma$  are placed on the public network.

Figure 1b illustrates the case in which Berlusconi comes to power. As shown, willingness to pay among regulated firms, given by  $\Delta_{RB}(s)$ , increases by an amount equal to the political benefit  $b$ . In addition,  $\Delta_B(s)$  is the market willingness to pay, aggregating across both regulated and unregulated firms, when Berlusconi is in power. Note that there is not a closed form solution in this case.

When the right is in power, we have the following equilibrium condition:

$$rG[(e_B - e_P) + b - \Delta_B] + (1 - r)G[(e_B - e_P) - \Delta_B] = \sigma$$

As shown in Figure 1b, the relative price of advertising on Mediaset increases from  $\Delta_L$  to  $\Delta_B$  resulting from the increase in willingness to pay for an advertisement on Mediaset among regulated firms.

Given this higher price, unregulated firms reduce their advertising on Mediaset from  $s_{UL}$  to  $s_{UB}$ . For these unregulated firms, advertisements to the left of  $s_{UB}$  are placed on Mediaset and those to the right are placed on the public network. Regulated firms, by contrast, increase their advertising from  $s_{RL}$  to  $s_{RB}$ . For these regulated firms, advertisements to the left of  $s_{RB}$  are placed on Mediaset and those to the right are placed on the public network.

Given that relative prices increase on Mediaset and that aggregate quantities are fixed in this model, it must therefore be the case that profits on Mediaset rise, relative to the public network, when Berlusconi comes to power.

Note that most of our empirical analysis is based upon expenditure shares, the fraction of firm advertising expenditures on Berlusconi's network, and these shares reflect both prices

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<sup>2</sup>If  $\sigma = 1/2$ , so that each network has an equal number of advertising slots, and  $G$  is symmetric around 0, then  $G^{-1}(\sigma) = 0$ . If  $\sigma < 1/2$ , then  $G^{-1}(\sigma) < 0$ , and relative prices increase due to the relative scarcity of slots on Berlusconi's network.

and quantities. Since prices increase on Berlusconi's network, relative to the public network, when the right is in power, and, given the assumption of fixed supply, it must be Mediaset expenditure shares increase on average across firms when Berlusconi comes into power. This yields our first prediction:

*Prediction 1: Mediaset expenditure shares increase when Berlusconi comes into power.*

Our analysis also yields predictions with respect to the difference between regulated and unregulated firms. Given that the former increase their quantity of advertising on Mediaset, and the latter decrease their quantity of advertising on Mediaset, it must be that revenues shares increase disproportionately for regulated firms when Berlusconi comes to power.

*Prediction 2: Mediaset revenue shares increase for regulated firms, relative to unregulated firms, when Berlusconi comes into power.*

For part of our empirical analysis, we can also decompose revenue into prices and quantities (seconds of advertising), and thus we have two additional predictions related to prices versus quantities:

*Prediction 3: Mediaset prices, relative to prices on the public network, increase when Berlusconi comes into power.*

*Prediction 4: Mediaset advertising shares, in terms of seconds, increase for regulated firms, relative to unregulated firms, when Berlusconi comes into power.*

**Normative Analysis.** We also use the model to highlight the inefficiencies associated with this political distortion in the advertising market. As shown in Figure 1b, there is a deadweight loss associated with unregulated firms shifting a subset of their advertisements to the public network from Mediaset when Berlusconi comes to power. This deadweight loss is denoted by  $dwl_U$  in Figure 1b. For economic reasons, these advertisements are better matched to Mediaset, perhaps due to a good match between the product and the target audience, but instead are aired on the public network.

Likewise, there is a deadweight loss associated with regulated firms shifting a subset of their advertisements from the public network to Mediaset when Berlusconi comes to power. This deadweight loss is denoted by  $dwl_R$  in Figure 1b. For economic reasons, these advertisements are better matched to the public network, perhaps due to a good match between the product and the target audience, but instead are aired on Berlusconi's network.

As shown, the size of any deadweight loss associated with this political distortion depend upon the response of prices ( $\Delta_B - \Delta_L$ ) as well as the response of quantities ( $s_{RB} - s_{RL}$  and  $s_{UL} - s_{UB}$ ), and these differences represent the focus of our empirical analysis.

In order to understand the forces underlying these deadweight losses, we refer readers to Appendix Figure 1-5. In particular, Appendix Figure 1 demonstrates consumer surplus, defined as the difference in willingness to pay by advertisers and equilibrium prices, for both regulated and unregulated firms when the Left is in power. Given that demand is always expressed for Mediaset relative to the public network, consumer surplus for advertisements on the public

network is given by the area under the equilibrium price difference and the willingness to pay for an advertisement on Mediaset. Appendix Figure 2 represents consumer surplus for unregulated firms when the Berlusconi is in power. Appendix Figure 3 represents consumer surplus for regulated firms when the Berlusconi is in power. As shown, willingness to pay here does not include  $b$  and consumer surplus due to purely economic factors is negative for some of the advertisements placed upon Mediaset. Since transfers are not typically included in welfare calculations, the non-inclusion of  $b$  is consistent with interpreting this political benefit as a transfer from taxpayers to these regulated firms. Appendix Figures 4 and 5 represent the change in producer surplus on Mediaset, relative to RAI, when the government shifts from the left to Berlusconi. As shown, producer surplus increases on Berlusconi's network, relative to the public network. Finally, to compute the deadweight loss for unregulated firms, the areas in Appendix Figures 1, 2, and 4 are summed, and to compute the deadweight loss for regulated firms, the areas in Appendix Figures 1, 3, and 5 are summed.

### 3 Data

#### 3.1 Political variables

**Political Timeline.** Table 1 summarizes the political timeline during the years 1993-2010.

[Insert Table 1]

From June 1992 to the elections of April 1994, a broad coalition of parties is at the government in Italy, with two prime ministers, first Giuliano Amato (1992-93) and then Carlo Azeglio Ciampi (1993-94). At this time, Berlusconi is a successful entrepreneur and owner of the private television, and not involved in politics.

In January of 1994, Silvio Berlusconi makes a surprise announcement that he is entering the political field. To do so, he founds a new party, Forza Italia. Just a few month after entering the political field, in the Spring of 1994 Berlusconi is the clear winner of the first elections under a majority system, and the first Berlusconi government is inaugurated in May 1994. The ruling coalition, however, soon proves unstable as the Northern Leagues pulls its support in January 1995. Hence, in January 1995 the Berlusconi government is replaced by a coalition government led by Lamberto Dini, an independent. This government lasts until the Spring of 1996, when the elections are won by the Center-Left coalition led by Romano Prodi.

The first Prodi government is inaugurated in May 1996 and lasts until October 1998. In October 1998, division inside the Center-Left coalition lead to changes in the prime minister, first Massimo D'Alema (1998-2000) and then Giuliano Amato (2000-01).

In the spring of 2001 general elections are held and won by the Center-right coalition led by Berlusconi. Hence, the second Berlusconi government starts in May 2001, lasting for the



full duration of the legislature, until the spring of 2006.

The Center-Left coalition wins the next election, albeit by a very tight margin, and the second Prodi government is inaugurated in May 2006. The very close margins of control in one of the houses lead to the downfall of the government in 2008, leading to early elections in the Spring of 2008.

Berlusconi is the winner at the polls and the third Berlusconi Government starts in May 2008. This government falls in November 2011, in part due to concerns about the possibility of default in the Italian economy, and a string of scandals. The next prime minister, albeit outside our data, is Mario Monti.

Hence, the Italian government in the years 1993-2010 provides for frequent changes in the ruling party, leading to three periods of Berlusconi governments (May 1994 to January 1995, June 2001 to May 2006, and May 2008 to November 2011) interspersed by governments by the center-left coalition, or broad coalitions of parties.

Our first measure of interest, “Berlusconi in power” is a simple dummy taking value one during the quarters in which Berlusconi is in office during our sample period, i.e. q2-1994 to q4-1994, q2-2001 to q1-2006, and q2-2008 to q4-2010 (which is the end of our sample period).

**Forward looking measure of Berlusconi in power.** In addition to the dummy for actual presence of Berlusconi as prime minister, we also calculated a forward-looking measure that accounts for whether or not he is currently in office as well as his prospects of being in office in the future. The idea is that, conditional on whether or not Berlusconi is in office today, advertisers may be more willing to invest in his network if they believe that he is likely to be in office in the future.

Let  $c_t \in \{B, L\}$  denote which coalition is in the majority at time  $t$ , where  $B$  denotes Berlusconi’s party and  $L$  denotes the center-left. The discounted per-period probability of Berlusconi being in office is thus given by:

$$E(c_t) = \frac{\sum_{\tau=1}^T \delta^{t+\tau-1} \Pr(c_{t+\tau} = B)}{\sum_{\tau=1}^T \delta^{t+\tau-1}}$$

where  $\delta$  is the discount factor and  $T$  is the number of years considered for the forward-looking measure.

In the Appendix, we describe how we calculate this discounted probability. To summarize, this calculation proceeds in four steps. First, we calculate vote shares for Berlusconi’s party on an annual basis in all elections (national, local and European) held in Italy between 1993 and 2001. Second, we convert these vote shares into probabilities of winning, conditional on an election being held, using a mapping inferred from two sets of prediction market prices, one of which can be interpreted as expected vote shares and one of which can be interpreted as the probability of winning. Third, using the electoral calendar and the empirical probability of an unscheduled election being held, we calculate the probability of an election being held in

each year. Finally, we set  $T = 5$ , which is the length of the electoral calendar, and set  $\delta = 0.9$ . Figure 2 shows the evolution of this discounted probability measure over our sample period.

[Insert Figure 2]

### 3.2 Firm-level variables

**Advertising Expenditure.** The main data set used in this paper consists of detailed spot-level advertising data in the Italian market from Nielsen. The data set reports each advertisement run in the Italian media (both television and press) over the period from 1993 on.<sup>3</sup> The information for each ad includes the name of the company paying for the advertisement, the industrial sector to which the ad belongs, the name of the media outlet, the date and time of the ad, the cost of the ad and (in the case of TV ads) the duration. We aggregate this data set to the level of the quarter-company-media and use as main variable of interest the amount spent.

While we have information for the universe of firms that ever report spending on advertising in our sample period (over 73,000 firms), for the bulk of our analysis we choose to focus on a group of “top spenders”. These are relatively large firms (in terms of ad spending) for which it is more likely that the benefits from political connections may materialize. Nevertheless, in Table 4 we show that our results are qualitatively similar in the full sample of firms.

The sample of top spenders is constructed as follows. In each year between 1993 and 2010 we rank firms by the amount they spent on advertising that year, and we take the top 300 spenders. Naturally, this set changes over time. If a firm appears among the top 300 in any year between 1993 and 2010, then we include this firm in our sample for the entire period 1993-2010. That is, we use a panel of firms chosen with the sole criterion that they make it into the top 300 spenders in at least one year between 1993 and 2010. The total number of firms satisfying this criterion is 807.

**Firm level characteristics.** In order to understand the role played by firm level characteristics such as size, profits and ownership, we matched the Nielsen data with three different databases available for Italian firms. The first is the dataset AIDA, which contains the financial statements of about 700,000 Italian firms. From this dataset we constructed the following variables: sales, net profits, number of employees, and nationality of the main owners. Banks and insurance companies are not covered in AIDA but in other databases. For insurance companies, we relied on the database ISIS and extracted an analogous set of variables to those described above. For banks, we extracted the same information from the database Bankscope. All these variables are available at annual frequency, as they are taken from balance sheets. When we include them in our regressions, we use one-year lags, in order to avoid capturing the direct effect of advertising spending on, say, sales or profits.

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<sup>3</sup>Data for 1990 to 1992 is available, but coverage is incomplete.

As proxies for the size of the firm, we will use the log of sales and the log of the number of employees. As proxies for (negative) economic performance, we will use three variables: (i) a dummy equal to one if the firm had negative profits in a given year; (ii) a dummy equal to one if the firm experienced a decrease in the value of sales compared to the previous year; and (iii) a dummy equal to one if the firm is in “financial distress”, defined as values of financial leverage in excess of 10.<sup>4</sup>

Finally, to classify the nationality of the main owners we employ three different definitions. The first (*ITA1*) is the nationality of the ultimate owner, i.e. owning more than 25.1% of total equity. The second (*ITA2*), is the nationality of the owner(s) holding a total share of 50.1% of equity. The third (*ITA3*), is the nationality of the owner with the largest share. For the purpose of defining Italian ownership, the information contained in the above three databases is complemented with information from company websites and other internet sources.

**Survey of Dependency on the Government.** Next, in order to exploit the firm-level variation in the advertising data, we document the measure of dependency of Italian industry on the government using a survey of Italian economists. We decided to survey economists about their perceptions because we could find no systematic measure of regulation by sector, and in particular none which would apply directly to the sectors as defined in the Nielsen data. Hence, in January 2012 we sent via email a simple 2-question survey to 26 prominent Italian economists. The first question asked “*How much, in your opinion, can firms in the following sectors benefit, individually or collectively, from government policies (for example public expenditure, regulations, or subsidies) in Italy?*” The survey listed the 23 industrial sectors as defined by Nielsen, including the names of three major companies per sector to provide examples. The respondents then rated each sector on a scale from 1 to 10, with 1 indicating ‘*not at all*’ and 10 indicating ‘*very much*’. A second question (not required) asked briefly for qualitative feedback on what determined their answer. The survey made no reference to this project, and as of the time of the survey, none of the authors had posted our project on the website, nor presented it. Hence, it is reasonable to assume that the respondents were blind to the purpose of the survey.

We received 10 responses, for a response rate of 38 percent, which is quite high for an online survey. The correlation across respondents in the rating of each industry is high, with the correlation coefficient between the responses of any two reviewers varying between .31 and .83.<sup>5</sup> We then average across the 10 respondents the average rating for each industry, and use both the continuous score measure for regulation (*Score*), as well as an indicator variables for industries scoring above the median.

[Insert Table 2]

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<sup>4</sup>We construct financial leverage as one plus the debt/equity ratio.

<sup>5</sup>This correlation excludes three survey respondents who assigned score 10 for all industries. Excluding these respondents does not alter the ranking of industries.

Table 2 lists all the 23 industries with their scores, as well as the split between above and below median. The ranking of the industries lines up with what are expected to be regulated industries: high on the list of dependency are the telecommunications industry (which depends on the government for licences) and the pharmaceutical industry, as well as the media and financial sector industry. Also, the automobile industry is relatively high. While this may appear at first surprising, automobile bailouts, consisting of incentives for purchases of new cars, have been very substantial. On the opposing list of industries with low dependency on the government are industries such as housing, alcohol, food, leisure, apparel, and personal items.

To attribute a regulation score to a firm we proceed as follows. If a firm operates in just one sector for the whole period, we attribute to that firm the (time invariant) score of that sector. If a firm operates in multiple sectors, say  $k = 1, \dots, K$ , then for each period we compute the share of advertising spending in that sector over total ad spending by the company,  $w$ , and we use it as a weight to compute an average regulation score  $r_{it}$  for the company in that period:

$$r_{it} = \sum_k w_{ikt} * Score_k \quad (1)$$

**Audience.** We complement this primary data set with a data set of audience rates, to control for possible changes in audience of different TV channels over time which affect advertising prices. The source of the data is Auditel which assembles panels of monthly audience for the major TV channels.

**Summary Statistics.** In Table 3 we present summary statistics for some of the key variables in the data. Panel A refers to the sample of top-800 firms that we will use in most of our analysis, while Panel B includes the universe of firms. In panel A, on the extensive margin we note that 76 percent of the firm/quarter observations exhibit positive spending on Berlusconi’s media (television and press), and the share is actually lower for more regulated compared to less regulated firms (.71 versus .80). When we consider the intensive margin, the share of total advertising spent on Berlusconi’s media is on average .35, again with a 13 percentage points difference in favor of unregulated firms. If we focus on TV ads, the share spent on Mediaset as a fraction of total TV spending is quite high at .63, as compared with .27 for the public channels. Interestingly, here the difference between firms in regulated and unregulated sectors is much smaller: .61 versus .65 for Mediaset, and .28 versus .26 for Rai. The empirical analysis which we undertake in the next section tests whether these shares vary systematically during periods when Berlusconi is in power.

[Insert Table 3]

## 4 Estimates

In this empirical section, we test the main predictions of the model in Section 2. First, we test whether the quarters in which Berlusconi is in government are associated with higher advertising revenue in the Berlusconi-owned media due to higher prices and possibly to higher quantities of advertising (Prediction 1). Next, we consider the differential predictions based on the level of regulatory importance in the industry and check whether the effect of a Berlusconi government is larger for more regulated firms (Prediction 2). Finally, we focus on TV advertising and consider the breakdown into quantity (number of seconds) and prices to test predictions 3 and 4.

In Table 4 we estimate the model

$$s_{iqt} = \alpha_i + \beta d_{Bqt} + \Gamma X_{qt} + \delta_q + \varepsilon_{iqt}, \quad (2)$$

where  $s_{iqt}$  is the share of advertising spending of firm  $i$  in quarter  $q$  of year  $t$  in Berlusconi's media over the total spending in the relevant media; in Columns 1-2 we focus just on the television media, while in Columns 3-4 we expand the analysis also to the print media. The share of advertising  $s_{iqt}$  is set to missing if the company did not spend any advertising money in quarter  $t$  in that type of media outlet.<sup>6</sup> The share of advertising is regressed on firm and calendar quarter fixed effects, plus an indicator variable for whether Berlusconi is in power ( $d_B$ ). Among the control variables  $X_{qt}$  we include the Audience in the Mediaset channels to control for the time-varying attractiveness of advertising in these channels. We also control for linear time trends (columns 1 and 3) or for sector-specific linear trends (columns 2 and 4). The standard errors are clustered at the level of the sector, allowing for any correlation within a sector, as well for companies over time (within a sector).<sup>7</sup>

[Insert Table 4]

Panel A presents the results on the benchmark sample, which selects in each year the largest 300 firms, and keeps them in the sample in all years. This constant sample includes over 800 firms, although not all firms advertise in each period. Columns 1 and 2 in Panel A of Table 4 indicate a small and not statistically significant positive correlation between the presence of Berlusconi in the government and the share of advertising spending on his televisions. Among the control variables, the audience measure is strongly positively correlated with the share of ads. In Columns 3 and 4 we examine the impact on television and printed press, and here

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<sup>6</sup>So the first two columns only use observations (firm/quarter-year) in which a positive amount is spent on TV advertising, while columns 3 and 4 use observations for which there is positive ad spending in any outlet.

<sup>7</sup>For companies that operate in more than one sector, we cluster the standard errors based on the sector in which they spend the most in advertising. If this "main" sector changes over time for a given company, for the purpose of clustering we rely on a time invariant definition of sector which is the one in which it spends the most for most periods.

we do find a statistically significant correlation between the presence of Berlusconi in power and the share of advertising that goes to his media. The size of the effect is .013, that is, the share of advertising is 1.3 percentage points higher, (a 4 percent effect), in periods of conflict of interest.

In Panel B we replicate the results using the much larger sample of all companies in the advertising data. We obtain qualitatively similar results.

In Table 5 we estimate the differential impact for more and less regulated sectors, testing Prediction 2 of our model. In Panel A we focus on the intensive margin and estimate the model

$$s_{iqt} = \alpha_i + \beta d_{Bqt} + \delta r_{it} + \zeta d_{Bqt} * r_{it} + \Gamma X_{qt} + \delta_q + \varepsilon_{iqt}. \quad (3)$$

In this specification we regress the share of advertising going to Berlusconi’s media on an indicator for Berlusconi in power ( $d_B$ ), a variable indicating the level of regulation ( $r_{it}$ ), and an interaction of the two variables. It is the coefficient on this interaction,  $\zeta$ , which represents the test of the second prediction of the model. We use two specifications for the regulation variable  $r_{it}$ , a continuous variable indicating the average score in the survey on regulation and an indicator variable indicating a value above the median.<sup>8</sup> Table 2 reports the data for both variables. In Panel B we turn to the extensive margin and estimate a similar regression as (3), except that the dependent variable is an indicator variable equal to one if firm  $i$  in quarter  $q$  of year  $t$  spends a positive amount on Berlusconi’s media, and zero otherwise.<sup>9</sup> As before, the standard errors are clustered at the sector level.

[Insert Table 5]

The first three columns of Panel A in Table 5 present strong evidence that the share of spending on Berlusconi’s televisions increases significantly more when Berlusconi goes in power for the more regulated industries relative to less regulated ones. This result is robust to the inclusion of sector-specific linear trends (column 2) as well as quarter-year dummies (column 3). When we consider the impact on the share of advertising spending on all media (Columns 4-6), the results are qualitatively similar, but not statistically significant after adding sector-specific linear time trends or quarter-year fixed effects.

In terms of the choice of whether or not to advertise at all on Berlusconi’s media, Panel B of Table 5 shows that firms in regulated sectors increase the likelihood of advertising on his media during the periods in which he controls the government, relative to firms in unregulated sectors. The magnitude of the effect ranges from 1.4 to 3 percentage points for television (a 3

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<sup>8</sup>Note that the variable  $r_i$  is indexed with time because firms who operate in more than one sector may shift their relative presence in the various sectors over time, which would alter their "weighted" regulation score, as computed in expression (1).

<sup>9</sup>In this specification, periods in which the firm does not spend at all in advertising enter the regression, with the dependent variable taking value zero.

to 6 percent effect), and from 1 to 5 percentage points for TV and press (a 1.5 to 6.5 percent effect). Importantly, these effects remain significant regardless of the way in which we control for time trends.

Figures 3a and 3b present a graphical representation of the results, displaying a time series of the shares spent in advertising on Berlusconi’s TVs (panel A) or media (panel B) as a function of the different time periods. Each figure plots two series, for firms in more and less regulated sectors, respectively. In terms of TV spending, Figure 3a shows a particularly large increase in the spending for regulated sectors during the second, and longest, of the Berlusconi governments. While these sectors start off spending a lower share than the less regulated ones on Mediaset (as evidenced in the summary statistics in Table 3), they catch up exactly at the beginning of Berlusconi’s second government, i.e. during the second half of 2001.

Figure 3b gives a different but consistent picture, where the overall declining trend in the share spent on TV and press by less regulated firms is not matched by a similarly declining trend for regulated firms. The printed press, in particular, has experienced sharp decreases in advertising revenues over this period, decreases from which Berlusconi-owned Mondadori has been relatively less affected.

[Insert Table 6]

In Table 6 we explore the robustness of our results to two alternative ways of measuring our variables of interest, i.e., the probability of Berlusconi being in power and the level of regulation of a sector. Panel A of Table 6 estimates the same intensive margin regressions as Table 5a, but using the forward looking probability measure described in section 3.1. Results are virtually unchanged when adding a common linear trend (columns 1 and 4), while we lose statistical significance in the other specifications. The fact that the simple dummy for Berlusconi in government has better explanatory power is consistent with a relatively myopic behavior of advertisers, and possibly with some uncertainty in the ability to establish a long-term contract of future favors in exchange for current advertising.

In Panel B of Table 6, we use a dichotomous measure of regulation in place of the continuous regulation score. This dummy, which we denote with “High regulation”, takes value one for sectors above the median level of regulation (i.e., those listed on the leftmost part of Table 2) and zero for the remaining ones. As shown in Panel B, the results are qualitatively unaffected compared to Table 5a. In terms of magnitudes, the estimates in column 1 suggest that firms in high regulation sectors have a 5 percentage points lower share of TV ad spending on Berlusconi channels during the periods when he is not in power, but they actually spend more than the others (1 percentage point higher share, statistically significant) once he is in office.

#### **Firm level characteristics**

We now turn to analyzing whether the effects we find are driven by certain types of firms, and we look at characteristics such as firm size, profitability and ownership structure. While

our simple model does not yield predictions on the role of these variables, it is interesting to see if specific patterns emerge in the data. For this purpose, we estimate a model where the dummy for Berlusconi in power ( $d_B$ ) is interacted with firm characteristic  $Z_i$ :

$$s_{igt} = \alpha_i + \beta d_{Bqt} + \delta Z_{i,t-1} + \zeta d_{Bqt} * Z_{i,t-1} + \Gamma X_{qt} + \delta_q + \varepsilon_{igt}. \quad (4)$$

We use lagged values of the characteristic  $Z_i$  because the contemporaneous value would be endogenous (e.g., current levels of sales are affected by the allocation of advertising spending across outlets).<sup>10</sup> To be conservative, we include sector specific linear trends in all regressions and cluster the standard errors by sector.

[Insert Table 7]

In Panel A of Table 7 we consider the effect of firm size, as proxied by the value of sales or by the number of employees. The estimated coefficients on the interaction between Berlusconi in power and Size in the first two columns of Panel A suggest that it is relatively larger firms that shift their spending on Mediaset TV channels during the periods in which Berlusconi is in power. This effect seems to be specific to TV spending as opposed to general advertising spending (last two columns of Table 7a).

In Panel B we examine whether the incentives to capture Berlusconi's favor are stronger for firms that have experienced low economic performance or financial difficulties. As a proxy for dismal economic performance we use a dummy equal to one if the firm had negative profits in the previous year (columns 1 and 4), or a dummy equal to one if company sales have decreased compared to the year before (columns 2 and 5). As a proxy for financial distress we use a dummy equal to one if the financial leverage of the firm exceeds the value of 10 (columns 3 and 6). All three variables are lagged one year. No significant relationship between these indicators and firms choices in terms of spending allocation during and off the periods of Berlusconi governments.

In Panel C we test whether the nationality of the main owner(s) of the firm has predictive power regarding allocation choices during and outside periods of Berlusconi government. As discussed in section 3.2, we employ three different measures of ownership: the variable ITA1 (columns 1 and 4) is a dummy equal to one if the individual or company who owns more than 25.1% of total equity is Italian. The variable ITA2 (columns 2 and 5) is constructed in a similar way, but using a threshold of 50.1%. The variable ITA3 (columns 3 and 6) uses the nationality of the owner with the largest share. The results are very similar regardless of the definition used: the coefficient on the interaction between Berlusconi in power and Italian ownership is

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<sup>10</sup>We also tested whether the effect we found for firms in highly regulated sectors is more prominent within certain types of firms (e.g., larger ones, or firms in financial distress, etc.), by estimating a model with triple interactions between the Berlusconi dummy, regulation and firm characteristics. The triple interaction terms were largely insignificant. Results available upon request.



positive, but statistically insignificant. Therefore, our main results do not appear to be driven by firms whose owners are Italian: conditional on operating in Italy, all firms seem to react to the incentives provided by the media tycoon when he is in power.

### **Quantity vs price effects**

Table 8 decomposes the main effects into the impacts on quantity and on price. The unit of observation in this table is sector-quarter because we only have information on quantity (number of seconds) at the aggregate sector level.

[Insert Table 8]

Panel A replicates specification (2), but as a dependent variable features either quantities or prices. In particular, in columns 1 to 3 the dependent variables are the quantity of advertising in seconds in each of the three major TV networks (Mediaset, the public channel RAI, and the smaller private channel La 7). In column 4 the dependent variable is the difference in price per second between ads placed on Mediaset channels and on RAI channels, and in columns 5 to 7 we employ the price per second in each of the three main networks. In this specification we detect no systematic effect of the presence of Berlusconi in power on the quantity of seconds (Columns 1 to 3), but a strong effect on prices (Columns 4-7). Namely, with Berlusconi in power the prices per second in the other media (RAI and La 7) decrease substantially and the price differential between Mediaset and its main competitor, RAI, increases substantially. The magnitude of the effect implied by the estimate in column 4 is a 15 percent effect.<sup>11</sup>

The results in columns 4 to 7 confirm Prediction 3 of our model and are consistent with a setting in which the supply of seconds is fairly rigid, and hence the response takes place on the price margin. Indeed, Figures 4a and 4b show that the total number of seconds of advertising hardly varies over the years, while the price swings more substantially.

[Insert Figures 4a and 4b]

In Panel B of Table 8 we attempt to examine whether there is a significant effect of redistribution of the seconds of ads from the Mediaset channels to the other channels for regulated firms, as predicted by result 4 of our model. We do not find strong evidence in this regard, though the estimated effects are in line with the predictions of the model when we focus on “Peak seconds”, that is, the more expensive ads aired during prime time. For this category, when Berlusconi is in power regulated firms shift their ads to Mediaset channels (column 2) and away from Rai (column 5), relative to unregulated firms that reduce peak seconds on Mediaset and increase them on Rai.

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<sup>11</sup>In levels, the average price per second is actually higher on RAI than on Mediaset, due to the binding ceiling on the number of seconds in public channels. The mean of the dependent variable for column 4, expressed in '00 euros per 1,000 seconds, is  $-1.58$ .

## 5 Conclusion

This paper has shown that firms shift their advertising towards Berlusconi-owned media outlets during periods when Berlusconi is in power. Moreover, this pattern is particularly pronounced for firms in regulated sectors, defined as those in which firm profits are particularly sensitive to government policy, when compared to less regulated sectors. These findings provide additional evidence on the role of politically connected firms, media outlets in this instance, in the economy. The findings also highlight potential problems associated with concentrated media ownership, particularly when there is a crossover between the media and political sectors of the economy. Providing evidence on this issue, Djankov et. al. (2003) document that many media outlets are owned by powerful families across different countries. Thus, while our results are specific to Italy, the findings may have much broader implications.

## Appendix

As noted in the text, we calculate the forward-looking probability measure in four steps, which are detailed below.

**Step 1:** we first collect data on vote shares for Berlusconi’s party as a proxy for his support in the electorate. In particular, for each election we collected information on the year of the election, the place where the election was hold (municipality, province, or region for local elections), the number of eligible voters, and the respective vote share of the center-right and center-left coalitions . We then pool data from different elections together and estimate an OLS regression of the vote share of Berlusconi’s coalition on year fixed effects and a set of type of election/location fixed effects (e.g. municipal elections in Rome, or regional elections in Tuscany); the latter capture the average political leaning of a given area in a given type of election. Finally to account for the fact that elections involving a larger electorate are likely to be a better indicator of a coalition’s electoral prospects at the national level, we weight each of observation by the share of the national electorate that is eligible to vote in that election. The year fixed effects estimated in this way represent the relative electoral (dis)advantage of Berlusconi’s coalition in each given year. Finally, as the initial value of the center-right coalition’s relative electoral strength, we take its vote share in the 1994 national elections, the first in which Berlusconi ran for office.

**Step 2:** To translate these vote shares into probabilities of winning, first let votes in favor of Berlusconi’s party be given by  $v_t = \mu_t - \sigma\varepsilon_t$ , where  $\mu_t$  is the expected vote share,  $\varepsilon_t$  is the unexpected vote share against his party, and  $\sigma$  is the standard deviation of the unexpected vote share. Were an election to be held at time  $t$ , we then have that the likelihood of Berlusconi winning is given by:

$$\Pr(v_t > 0.5) = \Pr(\mu_t - \sigma\varepsilon_t > 0.5)$$

Under the assumption that  $\varepsilon_t$  is logistic, this can be written as:

$$\ln \left[ \frac{\Pr(v_t > 0.5)}{1 - \Pr(v_t > 0.5)} \right] = \frac{(\mu - 0.5)}{\sigma}$$

To estimate  $\sigma$  we use prices on two separate markets run by the Iowa Electronic Market for the Presidential election years 2000, 2004, and 2008. In the winner-take all market, the price of a contract paying \$1 in the event that a candidate wins can be interpreted as the probability that the candidates wins the election (i.e.,  $\Pr(v_t > 0.5)$ ). In the vote-share market, by contrast, the price of a contract paying \$ $v$ , where  $v$  is the candidate vote share, can be interpreted as the expected vote share ( $\mu$ ).

Thus, we estimate  $\sigma$  using daily data on prices in these two markets using the regression specified above. The resulting estimate of  $\sigma$  is 0.053. With this estimate in hand, we can then compute the probability that Berlusconi wins as a function of his expected vote share, which

we estimate using data on support for Berlusconi's party in a variety of elections in Italy in a given year.

**Step 3:** As noted above, the measure also accounts for the electoral calendar. In particular, let  $\Pr(\text{election}_t)$  denote the probability that an election is held at time  $t$ . If an election is not scheduled, we use the empirical frequency of  $1/7$ . If an election is scheduled, we use probability one less the probabilities that any unscheduled elections have re-set the electoral calendar in the intervening years. For example, from the perspective of 2001, the next scheduled election is 2006. Again, from the perspective of 2001, there is thus a probability  $1/7$  of an election in each of 2002, 2003, 2004, and 2005, and the probability of an election in 2006 equals  $1 - 4(1/7) = 3/7$ .

Then, we have that the probability that Berlusconi is in office at time  $t$  is equal to:

$$\Pr(c_t = B) = \Pr(\text{election}_t) \Pr(v_t > 0.5) + [1 - \Pr(\text{election}_t)] \Pr(c_{t-1} = B)$$

In words, the probability that Berlusconi is in office in time period  $t$  equals the probability that an election occurs in time  $t$  times the probability that he wins such an election plus the probability that an election does not occur times the probability that he was in office in time period  $t - 1$ . Finally, computing  $\Pr(c_t = B)$  for each period, using a discount factor of 0.9, and then plugging into the expression for  $E(c)$  yields the desired result.

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Table 1: Sequence of Italian General Elections and Governments (1993-2009)

Election Month/Year	Winning Coalition	Prime Minister	Beginning Date	End Date
April 1992	DC, PSI, PSDI, PLI*	Giuliano Amato (Socialist Party)	06/28/1992	04/27/1993
		Carlo Azeglio Ciampi (Independent)	04/28/1993	05/09/1994
March 1994	Center-Right	Silvio Berlusconi (Center-Right)	05/10/1994	01/16/1995
		Lamberto Dini (Independent)	01/17/1995	05/16/1996
April 1996	Center-Left	Romano Prodi (Center-Left)	05/17/1996	10/20/1998
		Massimo D'Alema (Center-Left)	10/21/1998	04/24/2000
		Giuliano Amato (Center-Left)	04/25/2000	06/10/2001
May 2001	Center-Right	Silvio Berlusconi (Center-Right)	06/11/2001	05/16/2006
April 2006	Center-Left	Romano Prodi (Center-Left)	05/17/2006	05/07/2008
April 2008	Center-Right	Silvio Berlusconi (Center-Right)	05/08/2008	11/16/2011

In the months following the 1992 general elections, the four-party parliamentary majority - composed by Christian Democrats (DC), Socialist Party (PSI), Democratic Socialist Party (PSDI) and Liberal Party (PLI) - was shaken by a series of corruption scandals. This situation led, in 1993, to the resignation of the government presided by Antonio Amato, member of the Socialist Party, and the designation of a "technical" government presided by Carlo Azeglio Ciampi, and independent figure. In 1994, the parliament was finally dissolved and new elections were held.

**Table 2: List of Nielsen's Sectors with Survey-based Regulation Score (0-10)**

Most Regulated		Least Regulated	
<u>Industry</u>	<u>Score</u>	<u>Sector</u>	<u>Score</u>
Telecommunications	7.56 (2.07)	Professional services	4.67 (3.28)
Pharmaceutical/Health	7.33 (2.35)	Housing	4.60 (3.92)
Manufacturing/Constructions	7.00 (3.61)	Drinks/Alcohol	4.11 (3.82)
Media/Publishing	6.78 (2.86)	Foodstuffs	4.00 (3.61)
Finance/Insurance	6.56 (3.09)	Leisure	4.00 (3.64)
Automobiles	6.00 (3.50)	Personal care	3.67 (3.67)
Tourism/Travel	5.89 (3.79)	Home management	3.56 (3.75)
Retail	5.56 (3.68)	Toys/School Articles	3.56 (3.75)
Electronics/Photography	5.22 (3.27)	Apparel	3.44 (3.78)
Motorcycles/Vehicles	5.22 (3.31)	Personal items	3.44 (3.78)
Home appliances	4.89 (3.55)	Toiletries	3.44 (3.78)

The regulation score is the average score assigned to each sector by survey respondents in response to the question: "On a scale from 1 to 10, how much do you think that firms in the following sectors can benefit, individually or collectively, from government policies (e.g. direct purchases, regulations, tax subsidies) in Italy?". Overall, 10 respondents answered the survey. The standard deviation is reported in parentheses.



**Table 3. Summary statistics**

**Panel A: Benchmark sample (Constant sample of top-800 firms)**

	Full sample			High regulation			Low regulation		
	No. Of firms = 810			No. Of firms = 471			No. Of firms = 472		
	<i>Obs.</i>	<i>Mean</i>	<i>Std Dev</i>	<i>Obs.</i>	<i>Mean</i>	<i>Std Dev</i>	<i>Obs.</i>	<i>Mean</i>	<i>Std Dev</i>
Any spending on:									
Berlusconi TV & Press	42646	0.759	0.428	20080	0.711	0.453	22566	0.802	0.398
Berlusconi TV	42646	0.500	0.500	20080	0.456	0.498	22566	0.539	0.498
Rai TV	42646	0.350	0.477	20080	0.329	0.470	22566	0.369	0.483
La7 TV	42646	0.216	0.411	20080	0.227	0.419	22566	0.206	0.404
Share spent on:									
Berlusconi TV & Press over Total ad spending	41807	0.351	0.326	20080	0.284	0.308	21727	0.413	0.330
Berlusconi TV over Total TV spending	24456	0.635	0.334	10618	0.610	0.334	13838	0.655	0.333
Rai TV over Total TV spending	24456	0.268	0.298	10618	0.277	0.299	13838	0.261	0.297
La7 TV over Total TV spending	24456	0.045	0.163	10618	0.054	0.177	13838	0.039	0.152
Berlusconi Press over Total ad spending	41807	0.071	0.147	20080	0.059	0.141	21727	0.083	0.152
Audience Mediaset	42646	41.75	2.399	20080	41.82	2.282	22566	41.69	2.498
Regulation score	42646	4.811	1.504	20080	6.110	0.745	22566	3.654	0.969
High regulation	42646	0.471	0.499	20080	1.000	0.000	22566	0.000	0.000
Berlusconi in power	42646	0.492	0.500	20080	0.488	0.500	22566	0.495	0.500

**Panel B. Overall Sample**

	Full sample			High regulation			Low regulation		
	No. Of firms = 73138			No. Of firms = 38338			No. Of firms = 37698		
	<i>Obs.</i>	<i>Mean</i>	<i>Std Dev</i>	<i>Obs.</i>	<i>Mean</i>	<i>Std Dev</i>	<i>Obs.</i>	<i>Mean</i>	<i>Std Dev</i>
Share Berlusconi TV & Press over Total ad spending	602476	0.131	0.281	297024	0.095	0.246	305452	0.167	0.307
Share Berlusconi TV over Total TV spending	56596	0.631	0.399	24580	0.616	0.396	32016	0.644	0.401
Share Rai TV over Total TV spending	56596	0.215	0.326	24580	0.214	0.318	32016	0.217	0.331
Share La7 TV over Total TV spending	56596	0.096	0.269	24580	0.108	0.282	32016	0.086	0.257
Share Berlusconi Press over Total ad spending	602476	0.085	0.226	297024	0.057	0.191	305452	0.113	0.253
Audience Mediaset	643864	41.59	2.431	297024	41.62	2.441	346840	41.56	2.423
Regulation score	643864	4.687	1.849	297024	6.175	0.820	346840	3.413	1.500
High regulation	643864	0.461	0.499	297024	1.000	0.000	346840	0.000	0.000
Berlusconi in power	643864	0.433	0.495	297024	0.426	0.495	346840	0.438	0.496

**Table 4. Ad Spending and Berlusconi Governments: Time-series Evidence****Panel A: Benchmark sample (Constant sample of top-800 firms)**

<i>Dependent variable:</i>	<i>Share spent on Berlusconi TV over Total TV spending</i>		<i>Share spent on Berlusconi TV &amp; Press over Total ad spending</i>	
Berlusconi in power	0.005 (0.007)	0.005 (0.007)	0.013*** (0.004)	0.013*** (0.004)
Audience Mediaset	0.006*** (0.002)	0.006*** (0.002)	0.003** (0.001)	0.003*** (0.001)
Constant	0.478*** (0.128)	0.657*** (0.106)	0.351*** (0.088)	0.579*** (0.076)
Observations	24,431	24,431	41,757	41,757
R-squared	0.354	0.363	0.448	0.457
Number of different firms	774	774	807	807
Common linear trend	X		X	
Sector specific linear trend		X		X

**Panel B: Overall sample**

<i>Dependent variable:</i>	<i>Share spent on Berlusconi TV over Total TV spending</i>		<i>Share spent on Berlusconi TV &amp; Press over Total</i>	
Berlusconi in power	-0.0003 (0.0056)	-0.0005 (0.0056)	0.0033** (0.0015)	0.0032** (0.0015)
Audience Mediaset	0.0065*** (0.0019)	0.0070*** (0.0018)	0.0008* (0.0005)	0.0008 (0.0005)
Constant	0.3930*** (0.0918)	0.3660*** (0.0843)	0.1170*** (0.0205)	0.1170*** (0.0200)
Observations	49,593	49,593	528,207	528,207
R-squared	0.004	0.01	0.001	0.002
Number of different firms	6261	6261	66779	66779
Common linear trend	X		X	
Sector specific linear trend		X		X

**Notes:** Each observation is a firm x quarter-year. An observation is missing if the firm has no ad spending in that quarter-year. All regressions include firm and calendar quarter fixed effects. Standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

**Table 5. Ad Spending and Berlusconi Government: Differential effect by regulation**

**Panel A: Intensive margin: Share Spent on Berlusconi's media**

<i>Dependent variable:</i>	<i>Share spent on Berlusconi TV over Total TV spending</i>			<i>Share spent on Berlusconi TV &amp; Press over Total ad spending</i>		
Berlusconi in power*	0.019***	0.012***	0.011***	0.011***	0.003	0.003
Regulation score	(0.005)	(0.004)	(0.004)	(0.003)	(0.002)	(0.002)
Berlusconi in power	-0.089***	-0.052**		-0.043**	0	
	(0.025)	(0.021)		(0.017)	(0.012)	
Regulation score	-0.018			-0.01		
	(0.013)			(0.007)		
Audience Mediaset	0.006***	0.006***		0.003**	0.003***	
	(0.002)	(0.002)		(0.001)	(0.001)	
Constant	0.558***	0.633***	1.114***	0.395***	0.573***	0.778***
	(0.128)	(0.110)	(0.092)	(0.094)	(0.078)	(0.044)
Observations	24,431	24,431	24,431	41,757	41,757	41,757
R-squared	0.356	0.364	0.368	0.449	0.457	0.458
No. Of different firms	774	774	774	807	807	807
Common linear trend	X			X		
Sector specific linear trend		X	X		X	X
QuarterYear FE			X			X
Calendar Quarter FE	X	X		X	X	

**Panel B: Extensive Margin: Indicator for Spending on Berlusconi's Media**

<i>Dependent variable:</i>	<i>Indicator for any spending on Berlusconi TV</i>			<i>Indicator for any spending on Berlusconi TV &amp; Press</i>		
Berlusconi in power*	0.014**	0.030***	0.028***	0.011*	0.050***	0.045***
Regulation score	(0.006)	(0.005)	(0.005)	(0.005)	(0.006)	(0.007)
Berlusconi in power	-0.065**	-0.146***		-0.062**	-0.255***	
	(0.030)	(0.028)		(0.028)	(0.031)	
Regulation score	0.042***			0.075***		
	(0.008)			(0.006)		
Audience Mediaset	0.005**	0.007***		0.011***	0.014***	
	(0.002)	(0.002)		(0.002)	(0.002)	
Constant	0.204	0.565***	1.268***	-0.165	0.043	1.395***
	(0.170)	(0.144)	(0.076)	(0.129)	(0.144)	(0.070)
Observations	42,587	42,587	42,587	42,587	42,587	42,587
R-squared	0.427	0.433	0.434	0.341	0.337	0.341
No. Of different firms	807	807	807	807	807	807
Common linear trend	X			X		
Sector specific linear trend		X	X		X	X
QuarterYear FE			X			X
Calendar Quarter FE	X	X		X	X	

**Notes:** Each observation is a firm x quarter-year. In Panel A an observation is missing if the firm has no ad spending in that quarter-year. Panel B is instead a balanced panel. All regressions include firm and calendar quarter fixed effects. Standard errors clustered by sector in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

**Table 6. Ad Spending and Berlusconi Government: Alternative Measures**

**Panel A: Forward-Looking Measure of Discounted Probability of Berlusconi Government**

<i>Dependent variable:</i>	<i>Share spent on Berlusconi TV over Total TV spending</i>			<i>Share spent on Berlusconi TV &amp; Press over Total ad spending</i>		
Discounted Berlusconi P.* Regulation score	0.019*** (0.007)	0.006 (0.006)	0.006 (0.006)	0.014** (0.006)	-0.001 (0.003)	-0.001 (0.003)
Discounted expected probability of Berlusconi in power	-0.094** (0.037)	-0.03 (0.032)		-0.056* (0.028)	0.017 (0.017)	
Regulation score	-0.018 (0.013)			-0.01 (0.007)		
Audience Mediaset	0.006*** (0.002)	0.007*** (0.002)		0.003*** (0.001)	0.004*** (0.001)	
Constant	0.533*** (0.136)	0.623*** (0.115)	1.070*** (0.091)	0.368*** (0.099)	0.549*** (0.083)	0.755*** (0.038)
Observations	24,431	24,431	24,431	41,757	41,757	41,757
R-squared	0.355	0.363	0.367	0.448	0.456	0.458
No. Of different firms	774	774	774	807	807	807
Common linear trend	X			X		
Sector specific linear trend		X	X		X	X
QuarterYear FE			X			X
Calendar Quarter FE	X	X		X	X	

**Panel B: Dichotomous measure of regulation**

<i>Dependent variable:</i>	<i>Share spent on Berlusconi TV over Total TV spending</i>			<i>Share spent on Berlusconi TV &amp; Press over Total ad spending</i>		
Berlusconi in power* High regulation	0.058*** (0.013)	0.039*** (0.012)	0.039*** (0.012)	0.028*** (0.008)	0.006 (0.007)	0.006 (0.007)
Berlusconi in power High regulation	-0.020* (0.012)	-0.012 (0.009)		0 (0.008)	0.010* (0.006)	
Audience Mediaset	0.006*** (0.002)	0.006*** (0.002)		0.003** (0.001)	0.003*** (0.001)	
Constant	0.491*** (0.123)	0.628*** (0.112)	1.039*** (0.093)	0.363*** (0.089)	0.574*** (0.078)	0.760*** (0.036)
Observations	24,431	24,431	24,431	41,757	41,757	41,757
R-squared	0.356	0.364	0.368	0.449	0.457	0.458
No. Of different firms	774	774	774	807	807	807
Common linear trend	X			X		
Sector specific linear trend		X	X		X	X
QuarterYear FE			X			X
Calendar Quarter FE	X	X		X	X	

**Notes:** Each observation is a firm x quarter-year. An observation is missing if the firm has no ad spending in that quarter-year. All regressions include firm and calendar quarter fixed effects. Standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

**Table 7. Comparative Statics: Firm size, Economic Performance, Nationality of Owner**

**Panel A: Firm Size**

<i>Dependent variable:</i>	<i>Share spent on Berlusconi TV over Total TV spending</i>		<i>Share spent on Berlusconi TV &amp; Press over Total ad spending</i>	
	<i>log(sales)</i>	<i>log(employees)</i>	<i>log(sales)</i>	<i>log(employees)</i>
<i>Proxy for firm size:</i>				
Berlusconi in power *Size in t-1	0.008** (0.003)	0.006* (0.003)	0.002 (0.002)	0.001 (0.002)
Size in t-1	-0.005 (0.006)	-0.003 (0.004)	0.011*** (0.003)	0.005 (0.003)
Berlusconi in power	-0.084** (0.034)	-0.024 (0.019)	-0.007 (0.024)	0.006 (0.013)
Audience Mediaset	0.007*** (0.001)	0.007*** (0.002)	0.005*** (0.002)	0.004*** (0.002)
Constant	0.540*** (0.150)	0.543*** (0.132)	0.537*** (0.117)	0.487*** (0.114)
Observations	13,727	14,677	22,361	24,276
R-squared	0.426	0.416	0.481	0.478

**Panel B: Economic Performance**

<i>Dependent variable:</i>	<i>Share spent on Berlusconi TV over Total TV spending</i>			<i>Share spent on Berlusconi TV &amp; Press over Total ad spending</i>		
	<i>Negative profits</i>	<i>Decrease in sales</i>	<i>Financial distress</i>	<i>Negative profits</i>	<i>Decrease in sales</i>	<i>Financial distress</i>
<i>Proxy for bad performance: dummy for</i>						
Berlusconi in power * Bad Performance in t-1	-0.008 (0.017)	0.009 (0.014)	0.032 (0.033)	-0.006 (0.013)	-0.001 (0.012)	0.013 (0.024)
Bad performance in t-1	0.002 (0.015)	-0.008 (0.019)	-0.023 (0.022)	-0.006 (0.009)	-0.009 (0.012)	-0.004 (0.020)
Berlusconi in power	0.01 (0.008)	0.007 (0.008)	0.008 (0.007)	0.011* (0.006)	0.011* (0.006)	0.011 (0.007)
Audience Mediaset	0.007*** (0.001)	0.007*** (0.002)	0.007*** (0.001)	0.005*** (0.002)	0.006*** (0.002)	0.004** (0.001)
Constant	0.601*** (0.135)	0.872*** (0.127)	0.528*** (0.132)	0.605*** (0.105)	0.594*** (0.124)	0.623*** (0.098)
Observations	13,843	10,928	13,670	22,522	17,800	22,270
R-squared	0.426	0.457	0.429	0.483	0.505	0.485

**Panel C: Nationality of owner**

<i>Dependent variable:</i>	<i>Share spent on Berlusconi TV over Total TV spending</i>			<i>Share spent on Berlusconi TV &amp; Press over Total ad spending</i>		
	<i>&gt; 25% equity (ITA1)</i>	<i>&gt; 50% equity (ITA2)</i>	<i>largest share (ITA3)</i>	<i>&gt; 25% equity (ITA1)</i>	<i>&gt; 50% equity (ITA2)</i>	<i>largest share (ITA3)</i>
<i>Masure of Italian ownership:</i>						
Berlusconi in power * Italian	0.018 (0.011)	0.017 (0.011)	0.017 (0.011)	0.008 (0.010)	0.009 (0.010)	0.009 (0.010)
Berlusconi in power	-0.005 (0.008)	-0.004 (0.008)	-0.004 (0.008)	0.010** (0.004)	0.010** (0.004)	0.010** (0.004)
Audience Mediaset	0.007*** (0.002)	0.007*** (0.002)	0.007*** (0.002)	0.004** (0.001)	0.004** (0.001)	0.004** (0.001)
Constant	0.687*** (0.109)	0.687*** (0.109)	0.687*** (0.109)	0.604*** (0.090)	0.604*** (0.090)	0.604*** (0.090)
Observations	21,063	21,063	21,063	34,657	34,657	34,657
R-squared	0.362	0.362	0.362	0.45	0.45	0.45

Notes: Each observation is a firm x quarter-year. An observation is missing if the firm has no ad spending in that quarter-year. All regressions include firm and calendar quarter fixed effects and a sector-specific linear trend. Standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

**Table 8. Effect on Quantity and Price of Advertising**

**Panel A: Level Effect**

<i>Dependent variable:</i>	<i>Quantity of Seconds</i>			<i>Price per Second</i>			
	<i>Mediaset</i>	<i>Rai</i>	<i>La7</i>	<i>Mediaset- Rai</i>	<i>Mediaset</i>	<i>Rai</i>	<i>La7</i>
Berlusconi in power	-5.571* (3.170)	-0.946 (0.961)	-0.149 (1.576)	0.234*** (0.053)	0.003 (0.015)	-0.230*** (0.052)	-0.041*** (0.005)
Audience Mediaset	0.321 (1.540)	0.32 (0.402)	-0.418 (0.558)	-0.066*** (0.016)	0.047*** (0.013)	0.114*** (0.017)	-0.012*** (0.001)
Constant	112.082 (78.661)	16.892 (21.943)	2.207 (28.766)	2.110** (0.844)	-3.906*** (0.661)	-5.991*** (0.838)	0.673*** (0.071)
Observations	1,564	1,564	1,564	1,399	1,527	1,399	1,440
R-squared	0.912	0.939	0.861	0.55	0.848	0.704	0.545
Mean of Dep. Variables							

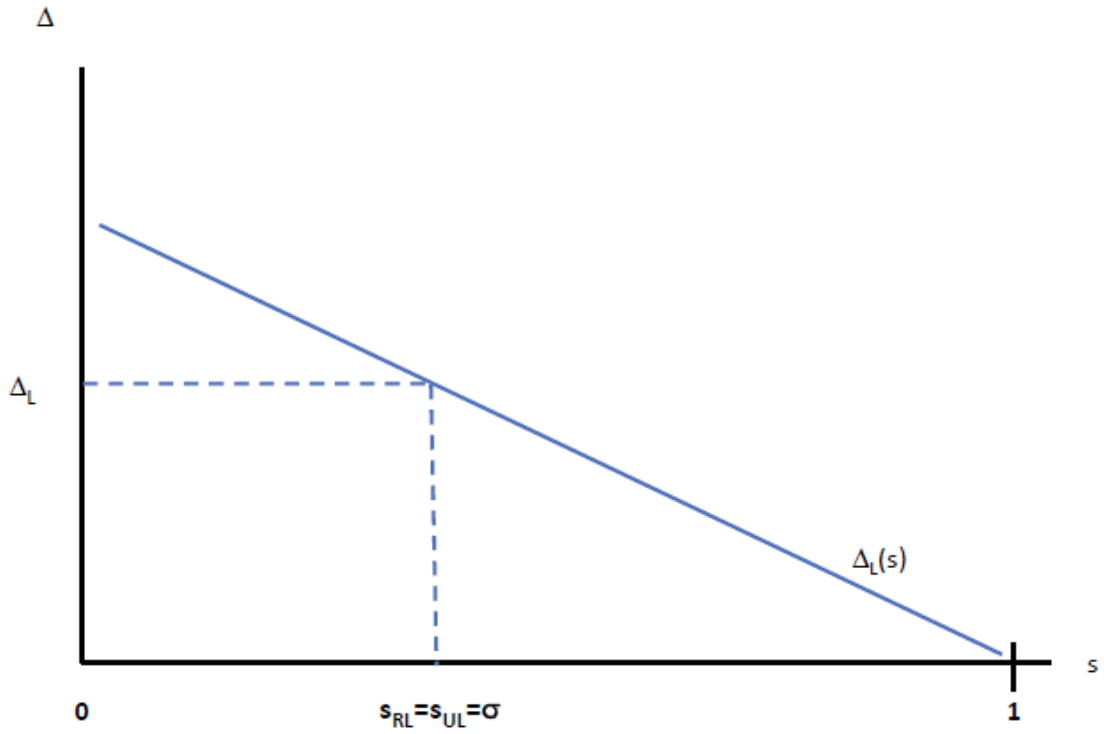
**Notes:** Each observation is a sector x quarter. An observation is missing if the sector has no ad spending in that quarter. All regressions include sector and calendar quarter fixed effects and a sector-specific linear trend. Standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

**Panel B: Interaction with measure of regulation**

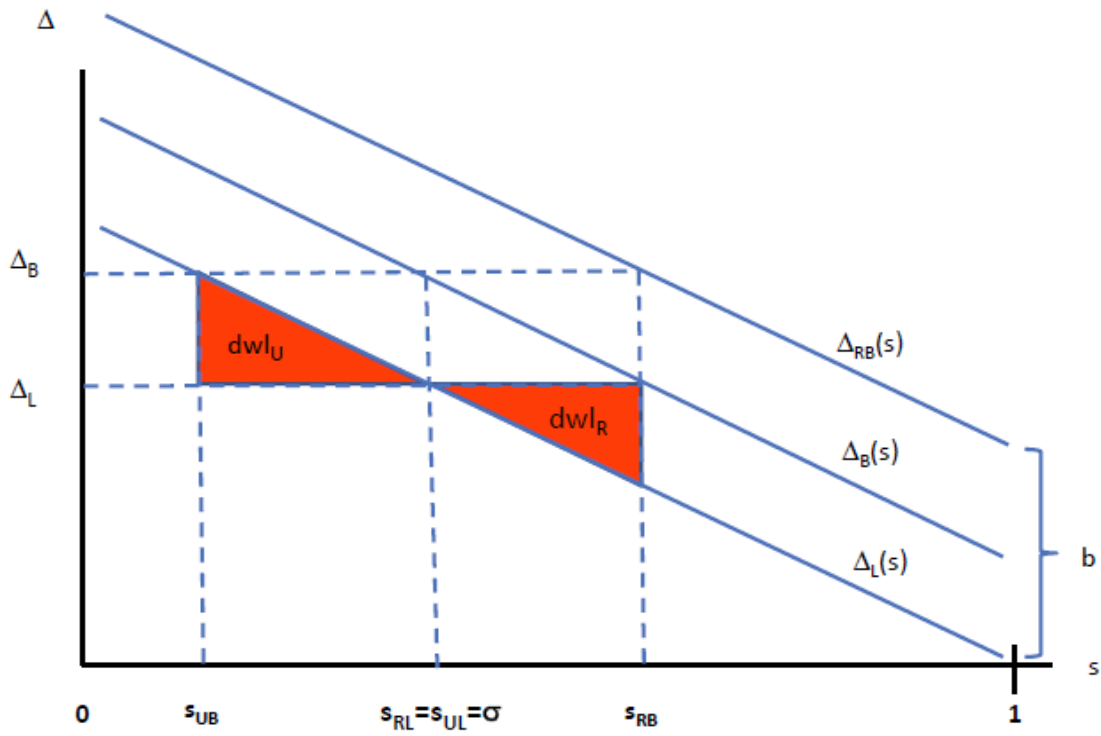
<i>Dependent variable:</i>	<i>Quantity of Seconds in Mediaset</i>			<i>Quantity of Seconds in Rai</i>		
	<i>All</i>	<i>Peak</i>	<i>Offpeak</i>	<i>All</i>	<i>Peak</i>	<i>Offpeak</i>
Berlusconi in power*	-2.121 (2.375)	0.127 (0.731)	-2.249 (1.855)	-1.411* (0.819)	-1.046** (0.484)	-0.365 (0.362)
Regulation score	4.332 (10.996)	-1.567 (3.644)	5.899 (8.350)	6.082 (3.709)	4.649** (2.137)	1.433 (1.732)
Audience Mediaset	0.494 (1.602)	-0.022 (0.462)	0.516 (1.328)	0.33 (0.420)	0.159 (0.226)	0.171 (0.215)
Constant	96.113 (81.691)	56.773** (24.368)	39.34 (67.216)	17.895 (23.033)	7.466 (12.352)	10.428 (11.679)
Observations	1,496	1,496	1,496	1,496	1,496	1,496
R-squared	0.912	0.923	0.9	0.938	0.925	0.94

**Notes:** Each observation is a sector x quarter. An observation is missing if the sector has no ad spending in that quarter. All regressions include sector and calendar quarter fixed effects and a sector-specific linear trend. Standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

**Figure 1. Equilibrium outcomes in the advertising market**

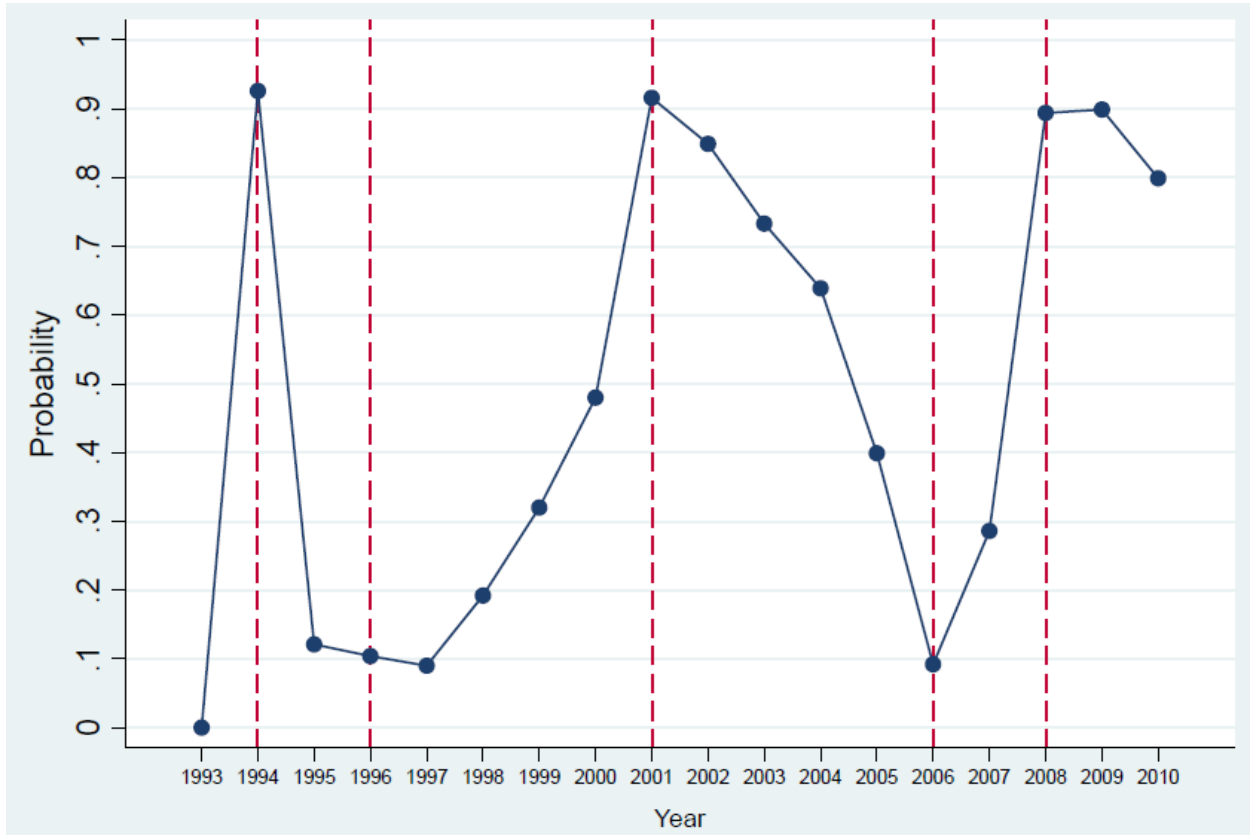


**(a) Left in power**



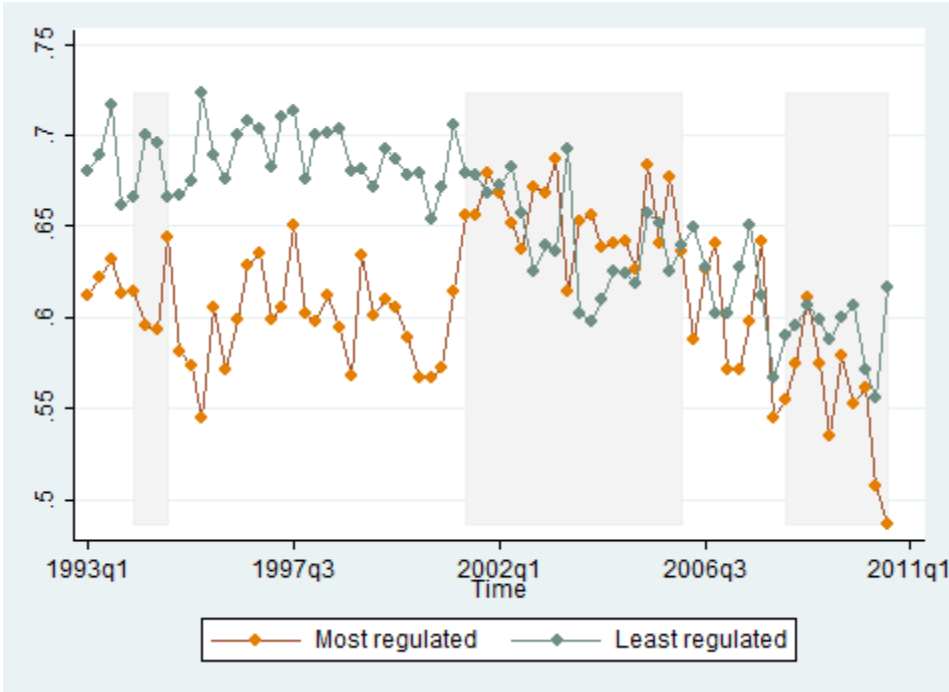
**(b) Berlusconi in power**

**Figure 2. Discounted probability measure of Berlusconi in power**

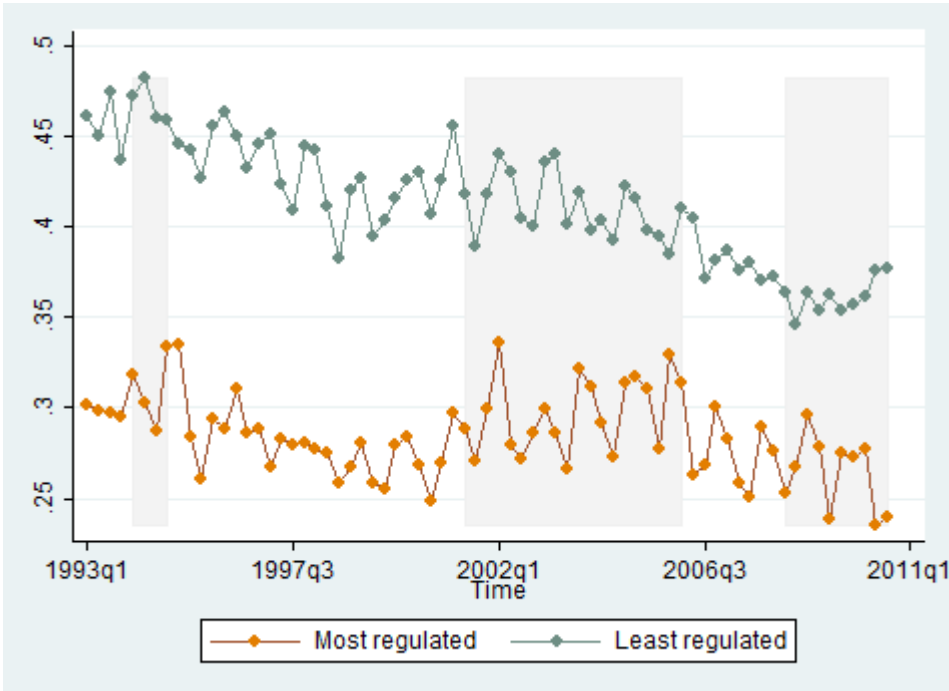




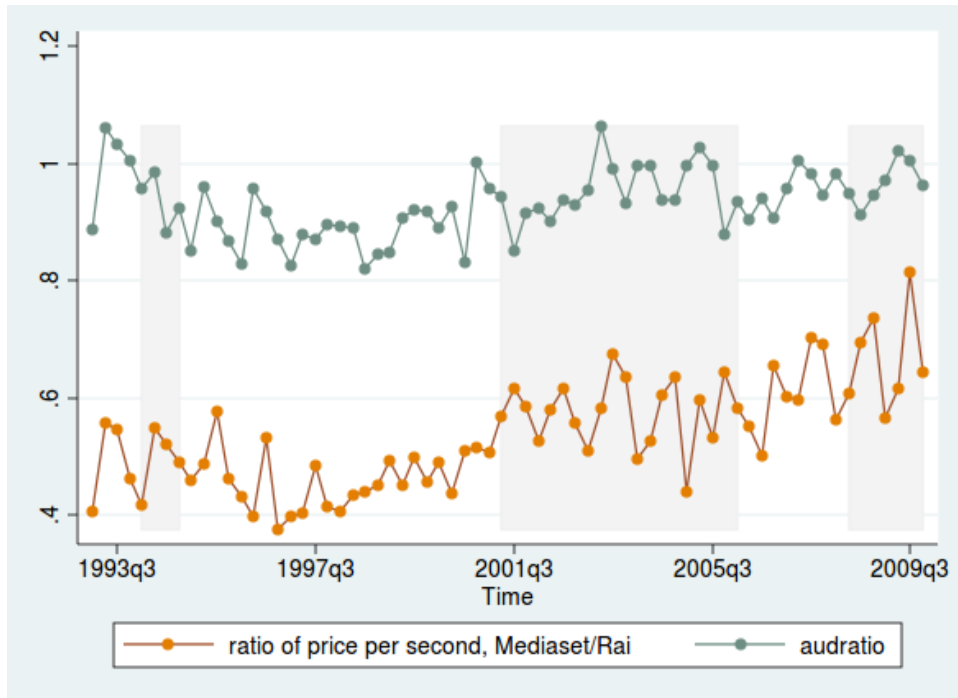
**Figure 3a. Share of Advertising on Berlusconi's TVs By Level of Regulation**



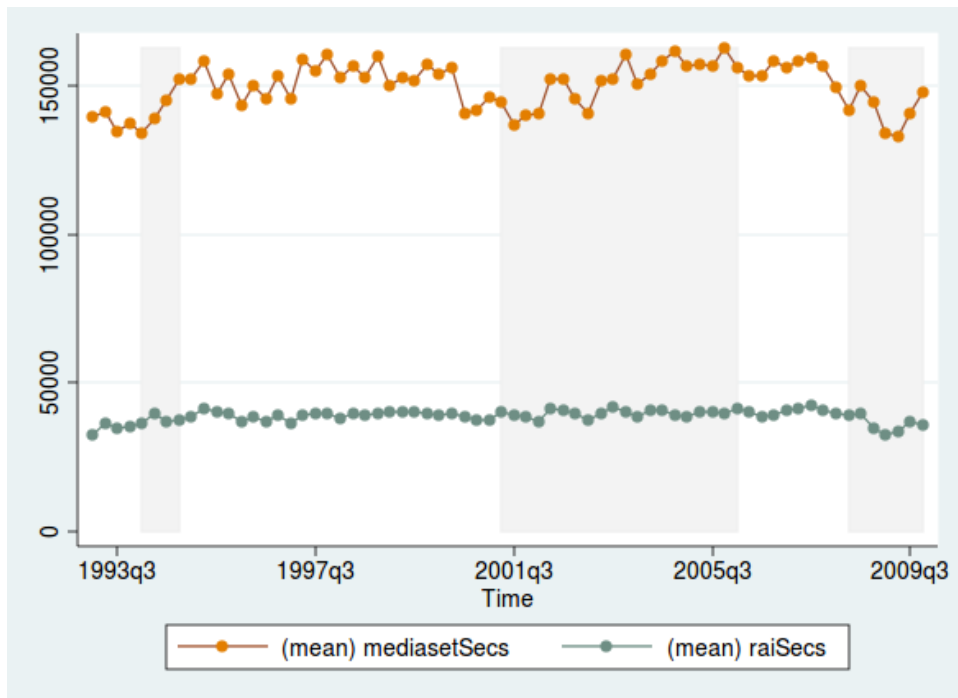
**Figure 3b. Share of Advertising on Berlusconi's TVs and Press By Level of Regulation**



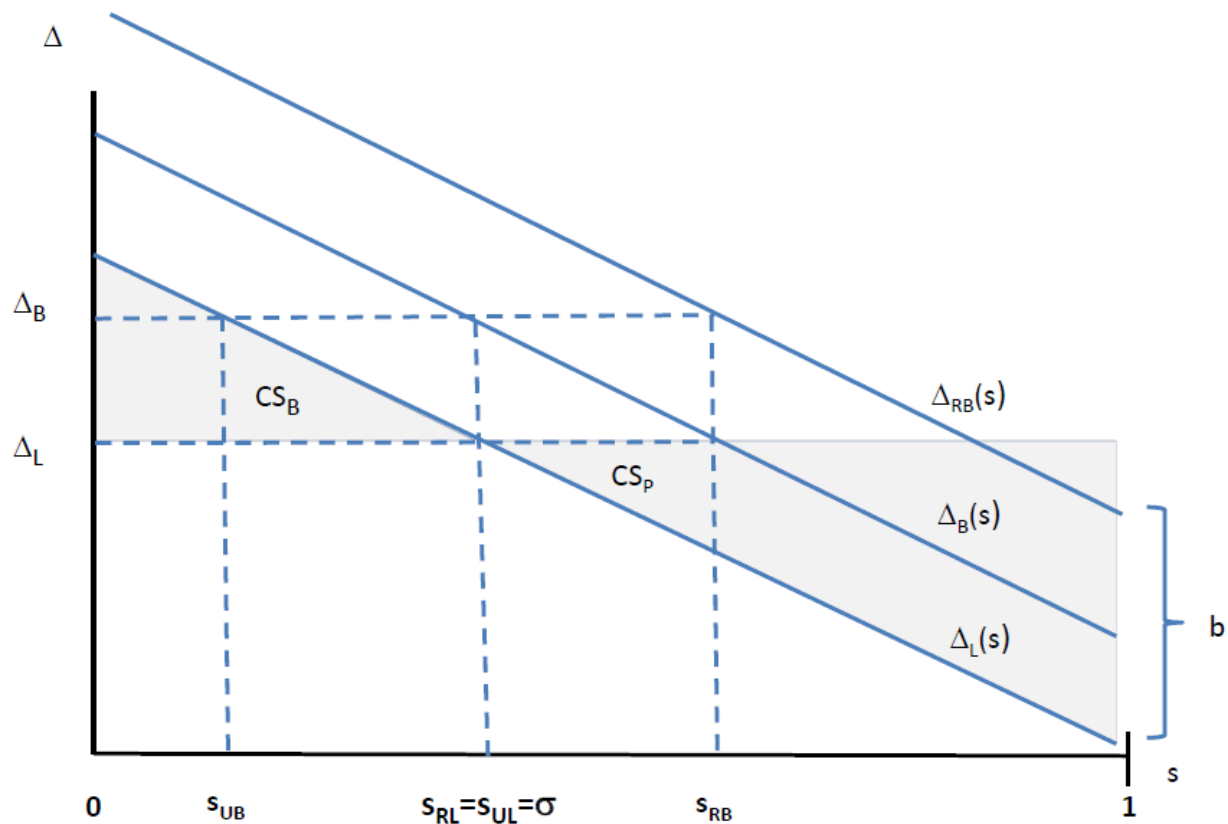
**Figure 4a. Price per second Mediaset/Rai and Audience**



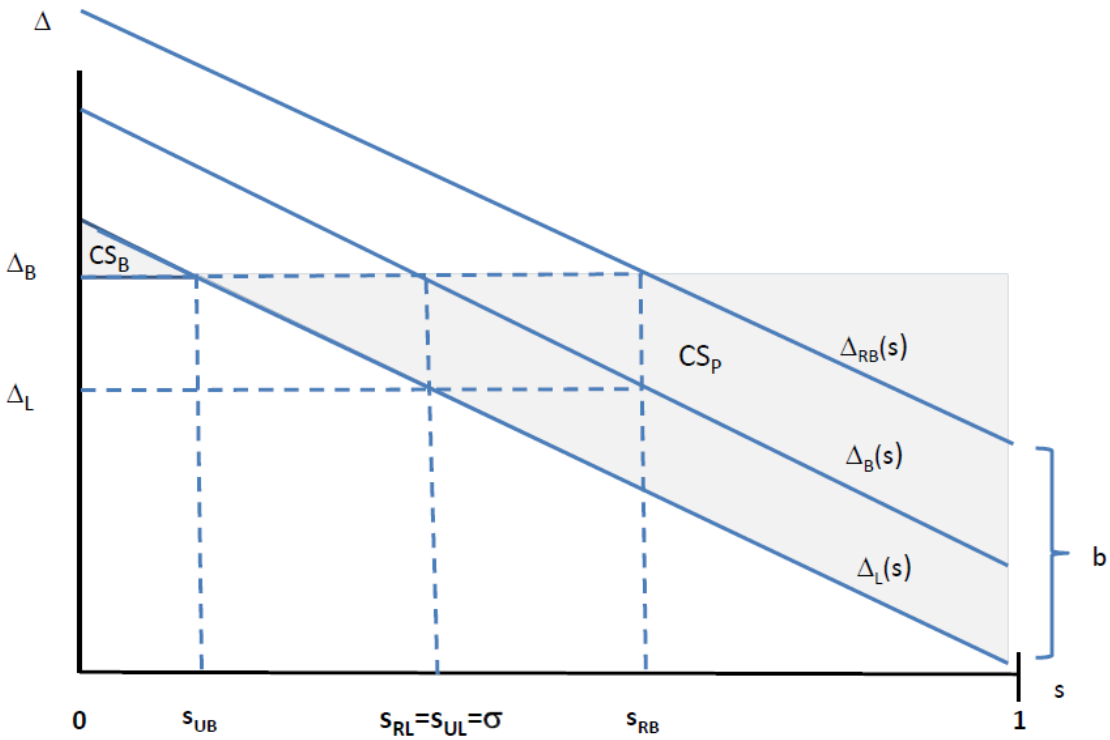
**Figure 4b. Number of Seconds of Ads, Mediaset and RAI**



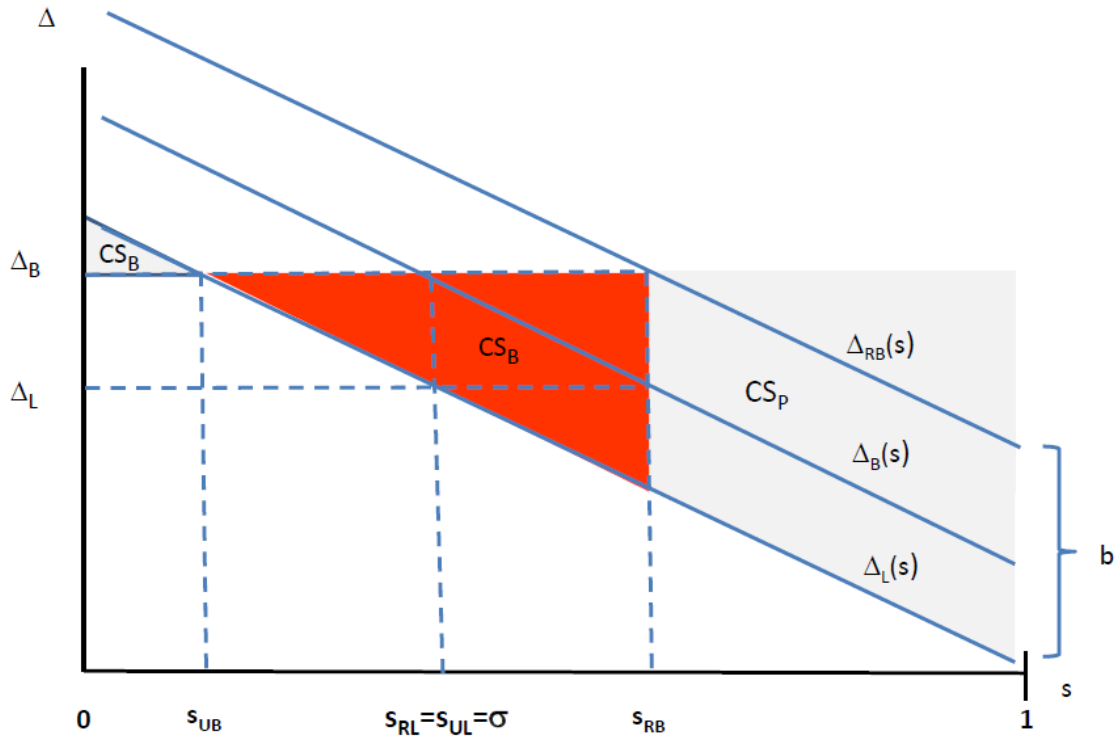
**Appendix Figure 1:**  
**Consumer surplus for regulated and unregulated firms when the Left is in power**



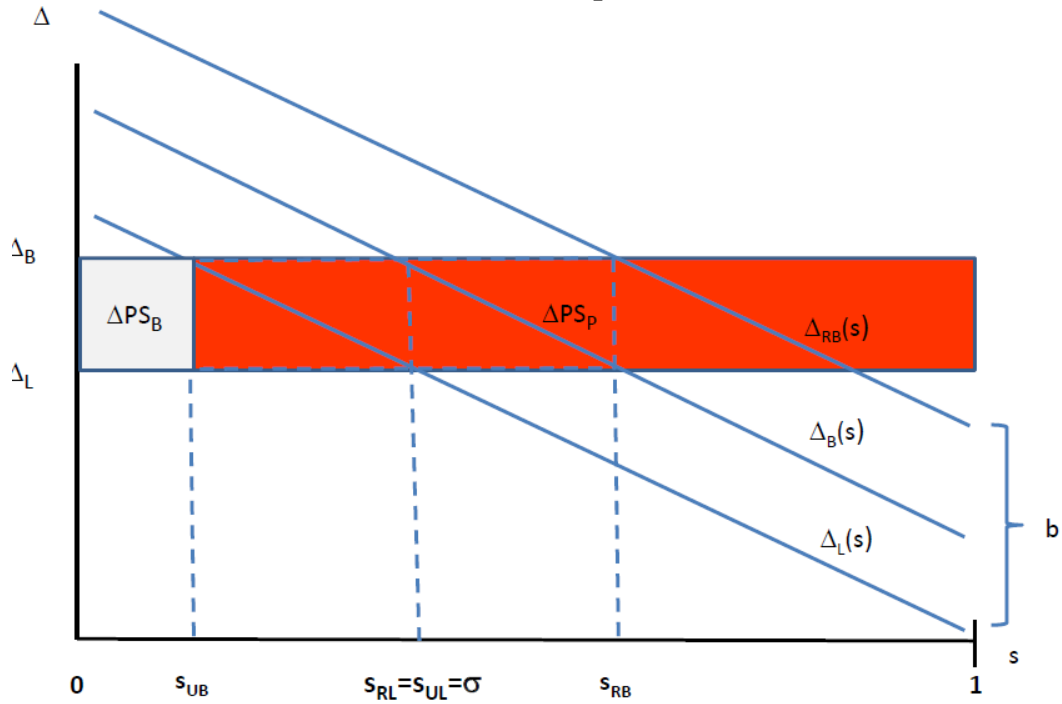
**Appendix Figure 2:**  
**Consumer surplus for unregulated firms when Berlusconi is in power**



**Appendix Figure 3:**  
**Consumer surplus for regulated firms when Berlusconi is in power**



**Appendix Figure 4:**  
**Change in media profits associated with unregulated firms when Berlusconi comes into power**



**Appendix Figure 5:**  
**Change in media profits associated with regulated firms when Berlusconi comes into power**

