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Market-based Lobbying: Evidence from Advertising Spending in Italy*

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Abstract

An extensive literature has studied lobbying by special interest groups. We analyze a novel lobbying channel: lobbying businessmen-politicians through business proxies. When a politician controls a business, firms attempting to curry favors shift their spending towards the politician's business. The politician benefits from increased revenues, and the firms hope for favorable regulation in return. We investigate this channel in Italy where government members, including the prime minister, are not required to divest business holdings. We examine the evolution of advertising spending by firms over the period 1994 to 2009, during which Silvio Berlusconi was prime minister on and off three times, while maintaining control of Italy's major private television network, Mediaset. We predict that firms attempting to curry favor with the government shift their advertising budget towards Berlusconi's channels when Berlusconi is in power. Indeed, we document a significant pro-Mediaset bias in the allocation of advertising spending during Berlusconi's political tenure. This pattern is especially pronounced for companies operating in more regulated sectors, as predicted. Using a model of supply and demand in the advertising market, we estimate one billion euros of extra revenue to Berlusconi's group. We also estimate the expected returns in regulation to politically motivated spenders of similar magnitude, stressing the economic importance of this lobbying channel. These findings provide an additional rationale for rules on conflict of interest.

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1 Introduction

Politicians face an inherent tension when setting policy. While they have incentives to represent the interests of their constituents, they also face often conflicting incentives with respect to special interest groups. An extensive literature has studied this *direct lobbying* relationship: firms attempt to curry favor with politicians, via campaign contributions or other means, in exchange for policy favors (Grossman and Helpman, 2001; Ansolabehere et al, 2003; Bertrand et al, 2011; Querubin and Snyder, 2011; Blanes i Vidal et al., 2012).[1]

An additional conflict of interest arises for politicians with business holdings. Politicians in this situation have an interest to distort policy to benefit the firm(s) they have a stake in, and thus reap the private benefits in the form of profits. A significant literature has focused on this *businessman-politician* channel (Fisman, 2001; Cingano and Pinotti, forthcoming).

In this paper, we consider a different channel for the conflict of interest for politicians with business holdings. Specifically, we study whether third parties, typically firms, attempt to curry favor with conflicted politicians by shifting their business towards firms controlled by a politician. The politician benefits financially from the increased business, and the third parties hope for favorable regulation in return. We label this channel, involving lobbying through business proxies and which has not received much attention in the literature, as *indirect lobbying.*

Figure 1 illustrates how this channel differs from the channels identified in the literature. The *direct lobbying* channel, mentioned above, involves firms lobbying politicians directly for regulation. The *businessman-politician* channel applies to the case in which politicians are stake-holders in a firm. These politicians reap the benefits of political decisions though the firm revenue. The *indirect lobbying* channel operates through business proxies. Firms provide favors to politicians indirectly by directing business orders to the firm controlled by the politician. This channel, like the second channel, only applies when rules do not forbid the concentration of political and business interests.

To provide evidence on the business transfers behind this third channel, we consider a particularly egregious case of concentration of business and political interests: the case of Italy since the mid 1990s. In the Spring of 1994, Silvio Berlusconi, previously a successful entrepreneur and owner of Italy's main private television network, was elected prime minister. Unlike the United States, Italy has no rules forbidding the concentration in one person of business interest and prominent political positions, and does not have the tradition of blind trusts for politician*s* with interests in companies. As such, Berlusconi retained control of his business holdings in the media, inducing a conflict of interest with his role as prime minister.

[1] As noted, the medium of exchange here includes, but is more general than, campaign contributions. In Di Tella and Franceschelli (2011), for example, media firms exchange more positive coverage of government scandals for advertising spending by the government.

In this context, the *indirect lobbying* distortions take the form of advertising decisions. The Italian broadcast television is dominated by two groups: the public broadcasting corporation (RAI) and a private network, Mediaset, controlled by Berlusconi. The profitability of the three Mediaset channels, which are free-to-air, depends on advertising revenue. The *indirect lobbying* channel posits that firms attempt to curry favors with the government by shifting some of their advertising from public channels to Berlusconi's channels when Berlusconi is in power.

The setting is ideally suited to identify the channel for three reasons. First, while firm spending is often hard to observe, we have data on advertising spending at the firm-quarter level from Nielsen. Second, over our sample period (1993 to 2009) Berlusconi's coalition is in and out of power three times, providing us with the necessary political variation. Third, the absence of conflict of interest rules makes the setting a textbook example.

While our analysis is focused on Italy, the *indirect lobbying* channel identified here applies broadly, given that politicians have major business holdings in several other countries. In some cases, the business interests are in the media, as in Italy. For example, Thaksin Shinawatra, prime minister of Thailand between 2001 to 2006, owned the country's largest free-to-air television, and Sebastián Piñera, former president of Chile, owned Chile's most influential TV station.[2] In other cases, the holdings are outside the media sector, as in the case of Nitin Gadkari, leader of India's opposition party BJP between 2010 and 2013 and main shareholder of the Purti group, with interests in the energy, sugar, and alcohol sectors, among others.

To illustrate the *indirect lobbying* channel in our context, we sketch a model of 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 his 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.

To test the predictions of the model, we use sector-level and firm-level data by Nielsen on quarterly advertising expenditure by firm and media outlet between 1993 and 2009. We then 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 in 1994, between 2001 and 2006, and from 2008 to the end of our sample. Further, to test the predictions on regulation, we conduct a survey of Italian

[2]Additional examples include Andrej Babis, leader of Czech Republic's second largest party and owner of multiple newspapers and two national TV channels and, in the United States, Michael R. Bloomberg, mayor of New York from 2002 to 2013 and main shareholder of the news conglomerate Bloomberg LP.

economists eliciting measures of regulation by industry, and use the responses to construct a continuous measure of the degree of regulation in a sector.

We first present a time-series analysis, comparing outcomes in the advertising market during periods in which Berlusconi is in power to periods when he is not in power. Consistent with the predictions, advertising spending on Mediaset, relative to the public network, is higher when Berlusconi is in power. The result is clearly visible for both the second and third Berlusconi government (the estimates for the first government are noisier given its short duration). The result is driven by an increase in advertising prices on Mediaset and a corresponding reduction in prices on the public network. Consistent with a relatively inelastic supply of advertising slots, we find no changes in the quantity of advertisements on the two networks.

Building upon this evidence, we conduct a difference-in-difference analysis, comparing more regulated industries to less regulated industries. Consistent with the predictions of the model, we find that regulated sectors, relative to unregulated sectors, spend more on Mediaset, relative to the public network, when Berlusconi is in power. In contrast to the time-series evidence, which was driven by a price response, this shift is mainly driven by a quantity response, with regulated sectors, relative to unregulated sectors, purchasing more slots on Mediaset, relative to the public network, when Berlusconi is in power. This effect is stronger for the peak-hours programming, which is of higher value to the networks.

We then consider several key robustness checks on these results. Our results are robust to the inclusion of both linear and quadratic sector-specific time trends and to the use of a discrete (versus continuous) measure of regulation. The results are also not sensitive to different definitions of the television advertising market nor to the inclusion of advertising in the printed media. A more important role is played by weighting by total advertising spending, since the results are larger for sectors with higher spending on television advertising.

We also test for a dynamic version of the quid-pro-quo. Our baseline analysis is based upon a static comparison of periods in which Berlusconi is in power to periods when he is not in power, assuming that current political state is all that matters. As an alternative, we develop a forward-looking measure of the discounted expected future probability of Berlusconi's presence in government to capture the fact that firms may switch the advertising in advance of an expected defeat (or victory) in an upcoming election. The forward-looking measure leads to similar results, but in a horse-race with the static measure, the contemporaneous measure captures the conflict of interest effect. This is consistent with the view that political exchanges in the context we are studying are inherently short-term.

While these results are based on sector-level expenditures, we replicate the patterns using a detailed firm-level data set of advertising expenditures for 800 top-spending firms. Consistently with the above results, the conflict of interest effects are larger for larger spenders, suggesting that the quid-pro-quo may not be significant enough for firms that spend relatively less. We find instead no systematic evidence of a mediating effect of financial difficulties or of a differential

effect for Italian versus foreign-owned firms. Overall, our findings provide robust evidence of the quid-pro-quo between firms and politicians.

Finally, we exploit a key advantage of our setting. We use the simple economics of TV advertising slots, given a fixed supply of seconds of advertising, to back out the estimated profits accruing to Berlusconi's company due to the quid pro quo. We estimate a profit increase of over 1 billion euros over the nine years of Berlusconi government, accounting for 20 percent of the market capitalization of Mediaset in 1997. In turn, this provides a measure of the expected returns from favorable regulation for the regulated firms of 2 billion euros over nine years. The large magnitudes indicate the first-order role played by the indirect lobbying channel.

Our findings have several policy implications. We provide an additional rationale for rules on conflict of interest like the ones in place in the modern US congress, with a tradition of blind trusts for politicians with interests in companies. The traditional rationale for such separation is to avoid self-serving legislation (the *businessman-politician* channel). We point out that, in addition, the concentration of business and political interests allows for alternative forms of lobbying—through business purchases—which are harder to monitor and regulate.

Our research contributes to the literature on lobbying and special interest politics. This literature, cited above, investigates firm actions, such as campaign contributions and lobbying, designed to influence government policy. We point out that, in addition to this *direct lobbying* channel, lobbying can take the form of business purchases when politician have a business interest. Unlike the case of campaign contribution, business purchases *directly* enrich the politician. Hence, this channel is a strong test for the distortions due to conflict of interest, given that private benefits for the politician are largest. In addition, the supply and demand structure in the advertising market allows for a straightforward estimation of the expected value of the favors curried, which is typically difficult for lobbying studies.

Second, this paper contributes to the literature on the relevance of firms' political connections (Fisman, 2001; Faccio, 2006; Khwaja and Mian, 2005; Knight, 2007; Coulomb and Sangnier, 2012; Luechinger and Moser, 2012). While we label this channel *businessman-politician,* many of these papers do not involve direct ownership of firms by politicians. In several of these papers, the response of stock returns to events is used to estimate the value of a connection. In our case, we use instead price and quantity shifts in a market to back out the value of regulation to the firms.

Finally, our research also relates to the growing body of work on the relation between the mass media and politics[3], including research more specifically focused on interactions between advertising and politics, such as Di Tella and Franceschelli (2011), and other forms of bias in advertising markets, such as Reuter and Zitzewitz (2006). While these studies have typically

[3]These studies include Stromberg (2004), Groseclose and Milyo (2005), George and Waldfogel (2006), DellaVigna and Kaplan (2007), Larcinese et. al. (2007), Chiang and Knight (2011), Gentzkow and Shapiro (2010), Durante and Knight (2012), and Enikolopov, et al. (2011).

examined the impact of the advertising market on media bias, we instead examine how political ownership can distort competition in the advertising market.

The remainder of the paper is as follows. In Section 2 we propose a simple model of the advertising market. In Section 3 we describe the setting and data. In Section 4 we present the evidence and in Section 5 we conclude.

2 Model

A large number (N) of firms each have a continuum of potential advertisements, indexed by a. For each advertisement, the firm must decide whether to air it on the private network, owned by Berlusconi (Mediaset), on the public network (RAI), or to not air it at all. Let n index the two networks and let B denote Berlusconi's network and P denote the public network. 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. Finally, there are two coalitions: a Berlusconi government and a center-left government.

Firm f receives three benefits from advertising. The first is an economic benefit e_n of reaching consumers of network n; this benefit is independent of which government is in power.[4] The second is a political benefit b that regulated firms receive when advertising on Mediaset. This political benefit is positive ($b > 0$) for regulated firms when Berlusconi is in power and is zero otherwise. There is no such benefit from advertising on the public network, and unregulated firms receive no political benefits from placing advertisements on either network. Finally, there is an idiosyncratic benefit ε^a_{fn} from firm f placing advertisement a on network n. This benefit can be interpreted as the quality of the match between the target audience of the advertisement and the audience of the network and is independent across advertisements. Firms receive only an idiosyncratic benefit of ε^a_{f0} from not placing an advertisement. These idiosyncratic benefits are distributed type-I extreme value with precision ρ, leading to a logit structure.

Firms pay a price p_n for airing an advertisement on network n. These prices, as described below, are determined by market conditions.[5] In order to guarantee positive prices in equilibrium, we assume that the economic benefits to advertising are sufficiently large.[6]

Given all of this, the demand for placing an advertisement, expressed in shares of potential advertising slots placed on the two networks (B and P), for regulated (R) and unregulated

[4]Empirically, we take into account the possibility that when Berlusconi is in power the popularity of his TV channels may increase, hence the economic benefit e_B may increase, by controlling for the audience share of Mediaset channels in each quarter.

[5]We assume 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).

[6]In particular, we assume that $e_B > \frac{1}{\rho} \ln\left(\frac{N_B}{N-N_B-N_P}\right)$ and $e_P > \frac{1}{\rho} \ln\left(\frac{N_P}{N-N_B-N_P}\right)$.

(U) firms, is as follows:

$$\begin{aligned} S_{BR} &= \frac{\exp\left[\rho(e_B + b - p_B)\right]}{1 + \exp\left[\rho(e_B + b - p_B)\right] + \exp\left[\rho(e_P - p_P)\right]} \\ S_{PR} &= \frac{\exp\left[\rho(e_P - p_P)\right]}{1 + \exp\left[\rho(e_B + b - p_B)\right] + \exp\left[\rho(e_P - p_P)\right]} \\ S_{BU} &= \frac{\exp\left[\rho(e_B - p_B)\right]}{1 + \exp\left[\rho(e_B - p_B)\right] + \exp\left[\rho(e_P - p_P)\right]} \\ S_{PU} &= \frac{\exp\left[\rho(e_P - p_P)\right]}{1 + \exp\left[\rho(e_B - p_B)\right] + \exp\left[\rho(e_P - p_P)\right]} \end{aligned} \tag{1}$$

In terms of the supply side, we assume a perfectly inelastic supply curve: each network has a fixed number of time slots devoted to advertising, given by N_B for Mediaset and N_P for public, where $N > N_B + N_P$. While our results are robust to an elastic supply curve, this assumption simplifies the analysis, and, as shown below, is consistent with the data given that aggregate quantities are relatively stable over time.

In equilibrium, prices equate the demand for advertisements with the supply of advertisements on the two networks:

$$\begin{aligned} N[rS_{BR} + (1-r)S_{BU}] &= N_B \\ N[rS_{PR} + (1-r)S_{PU}] &= N_P \end{aligned} \tag{2}$$

With two equations and two unknown prices, we solve for the equilibrium prices $p_B^*(b)$ and $p_P^*(b)$ as a function of the political benefits to regulated firms (b). When the left is in power, the political benefits b are zero and hence inspection of (1) shows that $S_{BR} = S_{BU}$ and $S_{PR} = S_{PU}$. In this case, the equilibrium condition reduces to:

$$\begin{aligned} N\frac{\exp\left[\rho(e_B - p_B^*(0))\right]}{1 + \exp\left[\rho(e_B - p_B^*(0))\right] + \exp\left[\rho(e_P - p_P^*(0))\right]} &= N_B \\ N\frac{\exp\left[\rho(e_P - p_P^*(0))\right]}{1 + \exp\left[\rho(e_B - p_B^*(0))\right] + \exp\left[\rho(e_P - p_P^*(0))\right]} &= N_P \end{aligned}$$

This leads to the following closed form solutions for equilibrium prices:

$$\begin{aligned} p_B^*(0) &= e_B - \frac{1}{\rho}\ln\left(\frac{N_B}{N - N_B - N_P}\right) \\ p_P^*(0) &= e_P - \frac{1}{\rho}\ln\left(\frac{N_P}{N - N_B - N_P}\right) \end{aligned}$$

Prices on the network are increasing in the economic benefit of advertising on the network (e_B and e_P), are decreasing in the supply of advertisements by the network (N_B and N_P), and are increasing in the overall supply of advertisements (N). Moreover, the equilibrium price difference $\Delta^*(b) = p_B^*(b) - p_P^*(b)$ has a simple closed form solution for $b = 0$:

$$\Delta^*(0) = e_B - e_P - \frac{1}{\rho}\ln\left(N_B/N_P\right).$$

When Berlusconi is in power, we have that $b > 0$. Given that there is now a distinction between regulated and unregulated firms, there is no closed form solution for prices. There are, however, simple comparative statics. In particular, we have:

Proposition 1: *When Berlusconi comes to power, the price on Mediaset increases but by less than the political benefits:* $0 < p_B^*(b) - p_B^*(0) < b$. *There is no change in the price on RAI:* $p_P^*(b) - p_P^*(0) = 0$. *Thus, the price difference also increases but by less than the political benefits:* $0 < \Delta^*(b) - \Delta^*(0) < b$. *Moreover, for small values of* b, *the price increase on Mediaset can be approximated by the product of* b *and* r*:* $p_B^*(b) - p_B^*(0) \approx br$. *Finally, given this, the increase in the price difference can be approximated by the product of* b *and* r*:* $\Delta_B^*(b) - \Delta_B^*(0) \approx br$.

We provide a proof in the Appendix. The intuition for the final result is that, when Berlusconi comes to power, the willingness to pay for an advertisement on Mediaset by regulated firms increases by b. This is only relevant for a fraction r of firms, and thus, for small values of b, the price increases by the product of these two factors, rb.

So far we have considered the shares of potential advertising slots placed on the two networks, S_{nf}, where firms have three options: advertise on Mediaset, advertise on the public channels, or not advertise at all. Since the share of advertisements in the third group is not observable, we derive the implied "two-option" share of advertising on Mediaset, conditional on advertising at all.

Proposition 2: *When Berlusconi comes to power, the share of advertisements on Mediaset, relative to Mediaset and RAI, for regulated, relative to unregulated firms, increases.*

Proof: In terms of notation, we refer to the three-option share as S and the two-option share as s. The two-option Mediaset share for regulated and unregulated firms is given by:

$$\begin{aligned} s_R(\Delta, b) &= \frac{S_{BR}}{S_{BR} + S_{PR}} = \frac{\exp\left[\rho(e_B - e_P + b - \Delta)\right]}{1 + \exp\left[\rho(e_B - e_P + b - \Delta)\right]} \\ s_U(\Delta) &= \frac{S_{BU}}{S_{BU} + S_{PU}} = \frac{\exp\left[\rho(e_B - e_P - \Delta)\right]}{1 + \exp\left[\rho(e_B - e_P - \Delta)\right]}. \end{aligned}$$

When the left is in power, $b = 0$ and $s_R(\Delta, b) = s_U(\Delta)$. Since $s_R(\Delta, b)$ is increasing in b, we have that $s_R(\Delta, b) > s_U(\Delta)$ when $b > 0$.□

Propositions 1 and 2 are illustrated in Figure 2, with the share s of advertisements placed on Mediaset, relative to Mediaset and RAI, on the x axis and the difference in prices Δ between Mediaset and RAI on the y-axis. The inverse demand functions for regulated and unregulated firms are given by $\Delta_U(s)$ and $\Delta_R(s, b)$ and can be interpreted as the difference in willingness to pay for a share s of advertisements on Mediaset for regulated and unregulated firms. These inverse demand curves are downward sloping and have an S-shape given the logit expressions.

When the left is in power, the willingness to pay does not differ between regulated and unregulated firms (i.e. $\Delta_R(s, 0) = \Delta_U(s)$), and the relevant demand curve is the one at the bottom of Figure 2. The equilibrium price difference, $\Delta^*(0)$ in this case, is determined as the net price that equates demand of advertisements on Berlusconi's channel to the supply

side of such ads, $N_B/(N_B + N_P)$. In this case, the equilibrium price difference, as noted above, is $\Delta^*(0) = e_B - e_P - \frac{1}{\rho}\ln(N_B/N_P)$. The share of advertisements placed on Mediaset, relative to Mediaset and RAI, is the same for regulated and unregulated firms: $s_R(\Delta^*(0), 0) = s_U(\Delta^*(0)) = N_B/(N_B + N_P)$.

When the right comes to power, the willingness to pay on Mediaset increases by b for regulated firms, as captured by the higher demand function at the top of Figure 2. The equilibrium is then obtained by considering the average willingness to pay, which is a convex combination with weight r of the shifted demand curve for the regulated firms and of the original demand curve, which still applies to the unregulated firms. We plot this average curve in between the two curves. For small values of b, the price increase is approximately br, that is, $\Delta^*(b) \approx \Delta^*(0) + br$. At this new price, the share of advertisements placed on Mediaset for regulated firms increases from $N_B/(N_B + N_P)$ to $s_R(\Delta^*(b), b))$ and the share of advertisements placed on Mediaset for unregulated firms decreases from $N_B/(N_B + N_P)$ to $s_U(\Delta^*(b))$.

Given that most of our empirical analysis focuses on expenditure shares, defined as expenditures on Mediaset relative to combined expenditures on Mediaset and RAI, we next consider how expenditure shares change when Berlusconi comes to power. We first consider aggregate shifts before turning our focus to differences between regulated and unregulated firms.

Proposition 3: *When Berlusconi comes to power, the aggregate expenditure share on Mediaset, relative to Mediaset and RAI, increases.*

Proof: Since quantities are fixed by assumption and prices increase on Mediaset, relative to RAI (Proposition 1), aggregate expenditures on Mediaset, relative to RAI, increase.□

Proposition 4: *When Berlusconi comes to power, the aggregate expenditure share on Mediaset, relative to Mediaset and RAI, for regulated, relative to unregulated firms, increases.*

The proof is provided in the Appendix. The intuition is that, given the assumptions of the model, expenditure shares are the same for regulated and unregulated firms when the left is in power. When Berlusconi comes to power, expenditure shares increase mechanically for both regulated and unregulated firms due to the increase in price on Mediaset. Due to the behavioral response, however, regulated firms increase their advertising on Mediaset and unregulated firms decrease their advertising on Mediaset. Hence, when Berlusconi comes to power, expenditure shares increase for Mediaset disproportionately for regulated firms.

Extensions. We next consider two extensions of the model, with details of the analysis in an Online Appendix. In the first extension we allow for a political benefit b' for regulated firms from advertising on RAI when the left is in power, previously assumed to be zero. This generalization captures the idea that a left-leaning government may want to reduce the profits of Mediaset. In the online appendix, we extend the four Propositions described above. In terms of Proposition 1, we show that, when the right comes to power, the price on RAI falls but by less than b'. For small values of b', this fall in prices can be approximated by rb'. Given this and the fact that the price on Mediaset rises by rb, the increase in the price difference can

by approximated by $\Delta_B^*(b) - \Delta_B^*(0) \approx (b + b')r$. Propositions 2, 3, and 4 are all strengthened under this extension, given that the relative increase in demand for advertising on Mediaset for regulated firms when the right comes to power is strengthened.

In the second extension we remove the assumption of no benefits to unregulated firms and allow for a political benefit b'' for these firms from advertising on Mediaset when the right is in power. We assume that this benefit is smaller for unregulated firms than for regulated firms: $b'' < b$. In the Online Appendix, we extend the four Propositions described above. In terms of Proposition 1, we show that, when the right comes to power, the price on Mediaset increases but by less than $b + b''$. For small values of b'', this increase in prices can be approximated by $br + b''(1 - r)$. Given this, the increase in the price difference is approximately $br + b''(1 - r)$. Propositions 2 and 4 are weakened given that the distinction between regulated and unregulated firms is now smaller, but still hold so long as $b'' < b$. Proposition 3 is strengthened given the larger price increase on Mediaset when the right comes to power.

3 Data

Political Timeline. Our analysis focuses on the 1993-2009 period, with a timeline in Table 1. In 1993, a series of corruption scandals led to the collapse of the five-party centrist coalition that had dominated Italy's political landscape for over three decades. A technocratic government, led by Carlo Azeglio Ciampi, was instituted and early elections were set for March 1994. Having lost his main political sponsors and fearing the possible success of the left-wing coalition, Silvio Berlusconi, until then a successful entrepreneur and the owner of Italy's largest private media conglomerate, decided to enter the political field. In December 1993 he announced the creation of a new political party, *Forza Italia* ("Forward Italy"). In just three months, Berlusconi's party became Italy's most voted-for party and led the right-wing coalition to gain a solid majority in both branches of parliament. On May 1994, Berlusconi was sworn in as Italy's prime minister.

This first government, however, was short-lived: in January 1995 the *Lega Nord*, *Forza Italia*'s electoral partner, withdrew its support forcing Berlusconi to resign. This paved the way for a new technocratic government led by Lamberto Dini, an independent, which governed Italy until new elections in March 1996. The left-wing coalition won the elections and in April 1996 its leader, Romano Prodi, became prime minister. In October 1998, due to divisions within the ruling coalition, Prodi's government fell; two other left-wing governments followed, until the elections of May 2001, when the right-wing coalition won and Berlusconi returned to power, this time for the entire five-year legislature. The left-wing coalition won the following elections, held in May 2006 and Prodi became prime minister for the second time. The narrow margin of control of the majority in the upper house however caused the fall of Prodi's government in the spring of 2008, triggering new elections that brought back to power the right-wing coalition. Berlusconi's third government, instituted in May 2008, lasted until November 2011, when, due

to concerns about the possible default of Italy's economy and to a series of corruption and sex scandals, it was replaced by a technocratic government led by Mario Monti.

Overall, during the 17-year period of our sample (1993-2009), Berlusconi was in power for 30 out of 68 quarters (i.e. q2-1994 through q4-1994, q2-2001 through q1-2006, q2-2008 through q4-2009, the end of our sample period). Our first measure for "Berlusconi in power" is an indicator variable for the quarters during which Berlusconi was prime minister.

Forward looking measure of Berlusconi in power. In addition, we also calculate a forward-looking measure that accounts for Berlusconi's prospects of being in office in the future. The measure captures the expected discounted probability that Berlusconi will be in power in the future, since advertisers may be more willing to invest in Berlusconi's network if they believe that he is likely to be in office, and this provide favors, in the future.

In the Appendix, we describe how we calculate this discounted probability. In summary, we proceed in four steps. First, we use the vote shares for Berlusconi's party in all elections (national, local and European) held in Italy between 1994 and 2010 to compute a measure of his vote share were a general election to be held in a particular year. 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. 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 $\delta = 0.9$. As Figure 3 shows, this discounted probability measure co-moves with the electoral results, but compared to the simple indicator for Berlusconi in power it displays considerable variation within and outside the periods of his governments.

Advertising Expenditure. Total advertising spending on all media in Italy has grown from 3,712 million euros in 1993 to 7,094 million euros in 2009. Broadcast TV is the largest segment, accounting for roughly 60.5% of advertising expenditure in 1993 as well as in 2009. Since the mid-1980s, the Italian broadcast TV industry has been dominated by two players: RAI, the public service broadcaster, and Mediaset, the commercial television network founded and controlled by Silvio Berlusconi. Both RAI and Mediaset operate three national channels and capture a similar share of total TV audience (39.2% and 38.8% respectively in 2009). However, given the legal limitations on advertising time for public channels, Mediaset captures a larger share of TV advertising spending than RAI (63.7% and 25.5% respectively in 2009). Other competitors include a small national network, La7, which, in 2009 accounted for 3% of the audience and 3% of advertisement revenues, as well as a multitude of minor local channels.[7]

[7] Advertising expenditure varies considerably across sectors with the bulk of spending coming from a handful of industries such as automobiles and telecommunications. In addition to total spending, industries differ substantially with respect to the distribution of advertising budgets across different media, with some spending mainly on TV (i.e. toys, foodstuffs), others on printed press (i.e. apparel, tourism), and others, more recently, on the Internet (i.e. electronics, financial services).

We use two datasets on advertising expenditure, both available from Nielsen. The first dataset, which we use for the bulk of the paper, is at the sector level and includes comprehensive information on quarterly advertising expenditure for twenty-two industrial sectors by medium and outlet for the years between 1993 to 2009.[8] The data set has information on total expenditure[9], average price, and number of seconds purchased.

The second dataset contains firm-level data and is based on disaggregated information on all advertisements run on each Italian media outlet (for both TV and press) from 1993 to 2009. Using this information, we generate advertising spending figures at the quarter-company-outlet level. The firm-level dataset includes information for the universe of firms that ever reported spending on advertising at any time in our sample period (i.e. over 73,000 firms). However, in order to construct a balanced panel, we focus on a group of "top spenders" which includes any company which ever makes the list of top 300 spenders in any year between 1993 and 2010. This sample includes 810 firms, which we follow throughout the period.

Audience. To control for the audience of different TV channels over time, we use data on the relative audience share of Mediaset channels. The source is Auditel, the research company responsible for television audience measurement in Italy.

Firm level characteristics. We match the Nielsen data to three databases of Italian firms: (i) AIDA, which contains the financial statements of about 700,000 Italian firms; (ii) ISIS, which provides similar information on insurance companies (not covered in AIDA); (iii) Bankscope, which provides the information for banks. Across these data sets, the variables are measured at annual frequency, and are taken from balance sheets.

As proxies for firm size, we use the log of sales and the log of the number of employees. As proxies for (negative) economic performance, we use: (i) an indicator for negative profits in a given year; (ii) an indicator for whether the firm experienced a decrease in the value of sales compared to the previous year; and (iii) an indicator for "financial distress", defined as financial leverage in excess of 10.[10] To classify the nationality of the main owners, we employe two different definitions of owner: (i) owning more than 25.1% of total equity; (ii) owning the largest share. We classify the ownership as Italian using information in the above databases as well as from company websites and other internet sources.

Regulation Measures. A key prediction of the model is that the quid-pro-quo between the firms and Mediaset should be concentrated among the firms in sectors with higher scope for regulatory favors. To test this prediction, we searched for industry-level measures of exposure to regulation. However, the few available measures do not fit our setting because they do not correspond to the Nielsen industry classification, they do not capture adequately the scope for

[8] Data for 1990 to 1992 is available, but coverage is incomplete.

[9] The data refer to advertising expenditure net of any discount applied by media companies on the official price, as estimated by Nielsen.

[10] We construct financial leverage as one plus the debt/equity ratio.

regulatory favors, and are not necessarily applicable to the Italian context.[11]

To get around such difficulties, we designed ourselves a survey to measure the sector-level scope for regulatory favors in the Italian context. Specifically, in January 2012 we emailed a 2-question survey to 26 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 22 industrial sectors as defined by Nielsen, including the names of three major companies per sector to provide examples. The respondents 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 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 the 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 respectable 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.[12] We average across the 10 respondents the industry rating, and use both the continuous measure for regulation, as well as an indicator variables for industries scoring above the median.

Table 2 lists the 22 industries with their scores, as well as the median split. The ranking lines up with common notions of regulation: high on the list are telecommunications, pharmaceutical, media, and the financial sector. It may appear surprising that the automobile industry is relatively high on the list too. However, in Italy automobile bailouts for FIAT, consisting of incentives for purchases of new cars, have been very substantial. Low on the list instead are industries such as housing, alcohol, food, leisure, apparel, and personal items.[13]

Summary Statistics. In Appendix Table 1 we present summary statistics for some key variables for the sector sample (Panel A) and for the firm sample (Panel B). The summary

[11]The OECD, for example, calculates a number of regulatory indices, such as for the energy, transport and communication sectors (ETCR), for the professional services and retail distribution sectors, and the economy-wide indicators of product market regulation (PMR). Unfortunately, these indices are not suitable for our analysis for two reasons. First, each index focuses on a small number of sectors and compares regulatory conditions across countries; we instead need cross-sector comparability within Italy. (The only sector we can match to the Nielsen industries is telecommunications.) Second, the OECD indices mostly focus on state control of businesses, barriers to entry, obstacles to trade, and price controls. But the notion of "regulatory favors" is broader and includes ad hoc temporary provisions such as scrapping subsidies, direct purchases by government of goods and services, etc.

[12]This correlation excludes three respondents who assigned score 10 to all industries. These three respondents are included in the calculation of the indices. Excluding them does not alter the ranking of industries.

[13]When using the regulation measures in the firm-level analysis, a firm may operate in multiple sector*s*. If that is the case, we compute the weighted average of the regulation score for the different sectors of operation, weighted by the share of advertising by that company which went into that sector in that quarter.

statistics are weighted by total advertising spending in that quarter-year, for consistency with the main Tables. As Panel A shows, all sectors have some spending in a quarter on Berlusconi's TV so we focus on the intensive, as opposed to extensive, margin. Panel B for the top spender firms shows that there is an extensive margin of advertising, in that 11.7 percent of all firm-quarter observations have no advertising at all on Berlusconi's TV. We examine this margin in Table 7, but mostly focus on the share of advertising on Berlusconi's TV, in the next rows.

4 Estimates

We test the predictions of the model outlined in Section 2, starting with the time-series prediction that the quarters in which Berlusconi is in government should be associated with higher advertising revenue in the media he owns (Proposition 3). Next, we consider the differential prediction for the regulated sectors: the effect of a Berlusconi government on advertising revenue should be larger for more regulated firms (Proposition 4). Then, we breakdown the revenue into quantity (number of seconds) and prices to test Propositions 1 and 2.

Time-Series Spending. We provide graphical evidence on the time-series patterns in Figure 4a. We plot the share of advertising on Berlusconi's television, relative to the total amount placed on Berlusconi's televisions and the public television.[14] The share of spending hovers around 60 percent in the period 1994 to 2000, only to increase sizably to 66 percent in 2001 and drift up to 69 percent by 2005, the years of the second Berlusconi government. The share decreases to 66 percent between 2006 and 2008, to reach a peak of 70 percent during the third Berlusconi government. Thus, while there is no visible impact during the first Berlusconi government, likely because it was so short (3 quarters), the two largest increases in the series correspond with the second and third Berlusconi government. If we include also spending on the press, the patterns are quite similar, with a large ramp-up during the second Berlusconi government and again during the third Berlusconi government (Appendix Figure 1).

The figures are suggestive of a sizeable effect, but they do not control for the audience share: it is possible that the shifts in advertising shares correspond to changes in the relative attractiveness of advertising. In Table 3 we estimate the model

$$s_{iqt} = \alpha_i + \beta d_{Bqt} + \Gamma X_{qt} + \delta_q + \varepsilon_{iqt}, \tag{3}$$

where s_{iqt} is the share of advertising spending of sector i in quarter q of year t in Berlusconi's media over the total spending in the relevant media. In Columns 1-3 we focus on Television, while in Columns 4-6 we expand the analysis to include the print media. The key parameter, β, captures the average difference in advertising share when Berlusconi is in power ($d_B = 1$). In all specifications we control for sector fixed effects α_i, calendar quarter fixed effects δ_q, and the

[14] The series is de-seasonalized and weighted by total spending on television advertising.

Mediaset audience X_{qt}. In addition, in Columns 2-3 and 5-6 we also control for sector-specific linear trends.[15] The observations are weighted by the total spending in that sector on TV (Columns 1-3) and all media (Columns 5-6) and the standard errors are clustered at the sector level, allowing for arbitrary correlation within a sector.

The results indicate a clear impact of the Berlusconi governments on advertising revenue for Mediaset. After controlling for linear time trends (column 2), the share of Television advertising expenditure captured by Mediaset increases by 1.5 percentage points (a 2.3 percent increase) when Berlusconi is in power, compared to when he is not. These results hold after controlling for the audience measure which, as expected, is strongly correlated with the share of TV ads. When we consider separately the three Berlusconi governments (Column 3), consistent with the graphical evidence, we find statistical evidence of an effect for both the second and third government, but not the first. In Columns 4-6 we show that the results are similar for the combined advertising on the television and printed press. Hence, both the graphical evidence and the time-series regressions support Proposition 3.

Spending by Regulation. These results suggest a quid-pro-quo benefiting Berlusconi's media holdings when he is in power. We now test the prediction (Proposition 4) that the effect should be larger for high-regulation sectors. An advantage of this second prediction is that is robust to any time series shift since it is identified by differential shifts across sectors.

In Figure 4b we split the plot of advertising shares by the median industry level of regulation (corresponding to the split in Table 2). Firms in high-regulation industries experience upward shifts in advertising shares during all three Berlusconi governments, compared to firms in low-regulation industries. In Table 4, we estimate the diff–in-diff specification

$$s_{iqt} = \alpha_i + \beta d_{Bqt} + \delta r_{it} + \zeta d_{Bqt} * r_{it} + \Gamma X_{qt} + \delta_q + \varepsilon_{iqt}. \tag{4}$$

The focus is on coefficient ζ on the interaction between the indicator for Berlusconi in power (d_B) and the regulation variable (r_{it}). The clustering and weighting is as in Table 3. The estimates first control for audience, sector and calendar quarter fixed effects (Column 1) and then in addition for 68 quarter-year fixed effects (Column 2). In this latter specification, the Berlusconi indicator and the audience share are absorbed by the full time controls. Further, we add sector-specific linear time trends (Column 3). Throughout these specifications, the effect of Berlusconi coming to power is larger for sectors with larger regulations scores, a result that is significant even in the most stringent specification. We obtain similar results using an above-median indicator for regulation instead of the continuous measure (Column 4). The results hold when including also spending on the press (Columns 5-8).

Sector-Specific Estimates. In Table 4 we categorize firms into levels of regulation using the survey measure. We now present disaggregate results by sector so as to both provide evi-

[15] In this time series specification, the results are the same if we include linear time trends that are not sector-specific.

dence on which sectors are driving the results, and to allow potentially for different groupings. We run a specification as in (4), but instead of using the regulation measure r, we use a full set of fixed effects for all the sectors. The specification includes sector fixed effects, calendar quarter fixed effects, and sector-specific time trends, as in Column (2) of Table 3. In Figure 5, we plot the estimated coefficients, with the sectors ranked by the survey measure. The figure shows a clear monotonic pattern: the effect is larger for sectors rated as more regulated. While no sector alone is driving the results, the biggest change in advertising when Berlusconi comes to power is for the telecommunication and finance and insurance industries. For telecommunications, the importance of regulated licences is obvious, but regulation is also critical for the finance industry, especially as legislation created highly-regulated private pension plans.

Figure 5 also allows for a different test of Proposition 4, based on a count of the number of sectors which experience an increase (as opposed to a decrease) in spending with Berlusconi in power. Of the industries which we code as regulated (Table 2), 11 out of 11 experience increases in spending. Among the remaining industries, instead, we observe 6 increases out of 10, a much more muted pattern.[16]

Quantity vs price effects. In Table 5 we decompose the main results along two dimensions. First, we consider the impact on both price and quantity (i.e., seconds) of advertising to test Propositions 1 and 2. Second, we consider a further cut of the results which we do not model formally: peak and off-peak advertising. As well-known, advertising in peak hours has a higher price since the audience is higher.

Panel A displays the time-series results with the full set of controls. Considering first the benchmark result on expenditure shares (reproduced in Column 1), the increase in expenditure when Berlusconi is in power is present both for peak hours (Column 2) and for off-peak hours (Column 3), though it is larger during peak hours. Turning to quantities, Columns 4-6 show that there is no shift in the share of seconds of advertising when Berlusconi comes to power, whether one considers the peak or off-peak hours. This result is consistent with a fixed supply of the number of seconds, as assumed in the model. This pattern is also visible in Figure 6b which shows that the number of seconds of advertising (in thousands) in both the private and public network is flat over time.

There is instead a sizeable effect on prices. When Berlusconi comes to power, prices on Berlusconi's televisions increases (Column 7) while the price on the public network decreases, though the latter result is not statistically significant (Column 8).[17] The same result is visible in Figure 6a. These results, thus, are consistent with Proposition 1. In the final three columns we consider this price result separately for peak and off-peak hours using as a summary measure

[16] Our predictions imply that the *relative* increase in the Mediaset advertising share is larger for regulated firms. Im Appendix Figure 2 we plot the corresponding figure including also press advertising.

[17] In levels, the average price per second is higher on RAI than on Mediaset due to the binding ceiling on the number of seconds in public channels.

the difference in prices per second on Mediaset versus the price on RAI. The prices increase for both peak hours and off-peak hours (Columns 10 and 11).

In Panel B we decompose these effects by the sector-level regulation. Interestingly, the diff-in-diff results on expenditure shares are largely driven by shifts in peak hours (Column 2): the results for off-peak hours are smaller and not statistically significant (Column 3). We then test Proposition 2 that the shift to Berlusconi's televisions for regulated sectors should take place along the seconds margins. We find some support for this prediction. In the aggregate, we find qualitative evidence of such shift in seconds towards the more regulated sectors (Column 4 of Table 5 and Appendix Figure 3), but the shift is not statistically significant. The shift is however significant when considering just peak hours (Column 5). Interestingly, the peak seconds are much more expensive and hence are responsible for a large share of the profits.

Finally, turning to prices, we find that, when Berlusconi is in power, the price of advertising increases more for more regulated companies (Column 7 of Table 5 and Appendix Figure 4). At first, this result may appear puzzling since the price reported by Nielsen refers to an average price, and is unlikely to include firm-specific discounts. The patterns on seconds, however, suggests an explanation. Similar to the observed shift of seconds for regulated firms towards peak hours (Column 5), there is likely a further shift *within* peak hours (and within off peak hours) towards more valuable programming times. Such a shift would show as an increase in average prices, since the prices do not control for the exact time of the advertising.[18]

In sum, the time series patterns for price and quantities are largely as predicted by the model. In the cross-section, we observe evidence of reallocation of seconds as predicted, significantly so for peak-hours. Furthermore, there is evidence of a further shift of regulated industries towards pricier advertisements, leading to higher average prices for these firms.

Implications. As noted in the model, the price on Mediaset, relative to the price on RAI, should rise by approximately the product of the political benefits (b) and the faction of regulated firms (r) when Berlusconi comes to power. Using the actual price changes and an estimate of r, we can thus infer a value for the political benefits of the quid-pro-quo, b. As noted in the rightmost column of Table 6, the price of an advertisement on Mediaset, relative to RAI, rises by 15 euros per second. Further, we estimate r as the fraction of advertisements placed by regulated firms when the Left is in power: $\hat{r} = 0.3663$. Thus, the estimated political benefit associated with a second of advertising on Mediaset is 44 Euros per second (Row 3 of Table 6). Given that the average price of an advertisement is 182 Euros per second, we infer that over 22 percent of expenditures by regulated firms on Mediaset when Berlusconi is in power reflects perceived political benefits. With 5.2 million seconds of advertisements on Mediaset annually by regulated firms, the estimated political benefits equal 231 million Euros annually, and 2.1 billion Euros over the roughly nine years that Berlusconi has been in office over the past two decades (Row 4). This is heavily concentrated in five industries, automobiles,

[18] We do not observe more disaggregate prices to directly test this hypothesis.

retail, pharmaceuticals, media/publishing, and telecommunications.[19]

To the best of our knowledge, these estimates of the value of the quid-pro-quo are unique in the literature and are enabled by the simple supply-demand structure of the industry under the assumption that the price of advertisements is determined by market-clearing. In contrast, the literature on campaign contributions typically has a hard time pinning down a value of the benefits to the firms contributing. The large magnitudes implied in the above calculations stress the potential for large policy distortions.

We also calculate the implications for the profits of Mediaset and RAI. Given the fixed supply of seconds, the change in revenues is proportional to the change in prices. Averaging across the years in our data, 13.7 million seconds of advertisements were aired on Mediaset and 3.6 million seconds were aired on RAI (Row 6 of Table 6). Given the estimated impact on prices (Row 1), we compute that annual revenues on Mediaset increased by 123 million Euros and annual revenues on RAI fell by 22 million Euros due to the conflict of interest. Over nine years with Berlusconi in office, the cumulative increase of revenues for Mediaset due to the indirect lobbying channel is 1.1 billion Euros, and the decline of revenues for RAI is 194 million Euros. If we assume a profit margin of 20 percent, this translates into a profit increase of 25 percent on Mediaset and a profit decline of 9 percent on RAI. An alternative benchmark is with respect to the market capitalization of Mediaset (5.3 billion euros in 1997), implying that the (undiscounted) indirect lobbying profits are 21% of the value of Mediaset.

Robustness Checks. Returning to the main specifications on advertising shares, we examine the robustness in Table 7. Column 1 reproduces our benchmark estimates. Starting from the time series analysis (Panel A), the results are unaffected by either the addition of quadratic, as opposed to linear, time trends (Column 2), or by clustering the standard errors by year, which allows for cross-industry correlation (Column 3). The results are also very similar if we include spending in the other (smaller) private network, La7 (Column 4). The estimates are somewhat smaller when the regression is unweighted, implying that the quid-pro-quo is larger in the high-spending sectors (Columns 5 and 6). We return to this pattern in Table 9.

Columns 7 and 8 presents a more substantive variation. While all the specifications so far have considered the impact of the contemporaneous presence of Berlusconi in power, the expected duration in power in the near future could be important too. Consider for example that in 2005 Berlusconi, while in power, was quite unpopular. In anticipation of him likely losing the 2006 election, firms may have engaged less in a quid-pro-quo given the reduced expected future returns to spending. We thus re-estimate the results with the forward-looking measure of the expected discounted probability that Berlusconi is in power, plotted in Figure 3 and described in Section 3. The results in column 7 are similar to our benchmark estimates. When using both the contemporaneous and the forward-looking measure together (Column

[19]The sector-level computation is based on variation in the annual number of seconds of advertisements, assuming a constant per-second value of the benefits b.

8), however, the results load on the contemporaneous one. This result is consistent with a relatively myopic behavior of advertisers, and with uncertainty in the ability to establish medium-term returns of future favors in exchange for current advertising.

In Panel B we consider the robustness checks for the regulation diff-in-diff specification. The benchmark results are essentially unaffected by the sector-specific quadratic control for trends (Column 2), the clustering of standard errors by year (Column 3), and the inclusion of La7 in the denominator of spending (Column 4). The results are smaller and not significant when using the unweighted specification (Column 5), though they hold in an unweighted specification when excluding the bottom 20 percent spenders (Column 6). Finally, we find an effect of the forward-looking measure (Column 7) when considered alone, but it is the contemporaneous measure which loads positively when both are included (Column 8).

Firm-level analysis. While the analysis so far used the sector-level data, in Tables 8 and 9 we employ the firm-level advertising data. This data allows us to test for a possible interpretation of the results. The results could be due to a compositional shift within a sector to firms which advertise more on Mediaset, as opposed to a shift occurring *within* a firm. (Our interpretation would still account for this shift) In Columns 1 and 2 of Table 8 we replicate the baseline time-series and diff-in-diff regressions in a weighted OLS regression, with the addition of firm fixed effects.[20] The results are nearly identical to the ones in the benchmark specifications, indicating that the results are not due to a compositional shift.

We then decompose the effect into the part which is due to entry into (or complete exit from) Berlusconi's channels in Columns 3-6. This extensive margin decision—whether to advertise into Berlusconi's network—is a component of the variation in the share of advertising.[21]. There is only suggestive evidence that the share of firms advertising on Berlusconi's channels varies with Berlusconi being in power (Column 3), with no difference in this pattern by regulation (Columns 5 and 6). Overall, it appears that the observed shifts in revenue are for firms that are already advertising on both networks, and are shifting the share.

Firm-level characteristics. We now analyze whether the shift in advertising revenue depends on variables other than regulation. We consider four firm characteristics: spending on advertising, size, profitability, and ownership structure. While our simple model does not yield predictions on the role of these variables, it is conceivable that the returns to the quid-pro-quo

[20]The weights are given by the advertising expenditure for that firm in that quarter. The firm-level panel, unlike the sector-level results, does not include all firms, just the 810 largest firms (see the Data section). The dependent variable is set to missing if the firm did not spend any advertising money in a given quarter-year in that type of media outlet. Out of 42,120 firm-quarter-year observations, we have 19,065 missing values for "Share of spending on Berlusconi TV over Berlusconi + Public TV" and 764 missing values for "Share of spending on Berlusconi TV and Press over total ad spending." Some of these missing values reflect firms that did not exist during some years of our sample.

[21]We did not consider the extensive margin at the sector level because within a sector-quarter there is always at least a firm advertising in Berlusconi's Television, so there is no sector-level extensive margin.

would be larger for larger spenders, larger firms, firms in financial trouble, and Italian firms.

We interact the Berlusconi indicator (d_B) with firm characteristic Z_i and estimate

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

We use one-year lags of Z_i because the contemporaneous value could be endogenous.[22] We include sector-specific linear trends and cluster the standard errors by sector.

In Panel A of Table 9 we consider the effect of advertising spending and firm size. The quid-pro-quo effect is larger for firms with higher spending (Columns 1 and 2), as foreshadowed by the results in Table 7. An interpretation is that firms with limited advertising spending are unlikely to be able to trade favors given the small amount spent, and thus do not respond. We also consider the effect of firm size, proxied by the value of sales or by the number of employees (Columns 3 and 4). We find directional, but not significant, evidence that larger firms shift their spending towards Mediaset TV channels more when Berlusconi is in power.

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, and we find no significant evidence. We also test for the role of the nationality of the main owner(s) of the firm. We find that the main results are not driven by firms whose owners are Italian: conditional on operating in Italy, foreign-owned firms display a similar quid-pro-quo effect.

5 Conclusion

A vast literature has investigated the lobbying process by third parties, and especially firms. A separate literature has emphasized the distortions associated with the confluence of business interests and political powers, as in the case of businessmen-politicians.

This paper documents an important link between the two literatures. In the presence of businessmen-politicians, the lobbying process can take an indirect route: Firms hoping for regulatory favors may lobby the politician through business purchases towards the firm controlled by the politician, who benefits from the additional revenue. We provide evidence consistent with this channel in Italy, where we exploit the detailed advertising data, the frequent switches in power, and variation in propensity for regulation. We show that the magnitudes of this effect are very sizeable, in the order of billions of euros. Our results suggest a further rationale for rules dictating a separation between business and political interests.

While the paper has focused on a specific setting—advertising markets in Italy—, we stress that the channel at hand applies to all cases in which there is a confluence between business

[22] 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.

and political decision-making. In the classical Suharto paper (Fisman 2001), for example, the returns to firms close to the dictator surely reflect the traditional favoritism channel, but likely also capture the indirect lobbying channel highlighted in this paper. To start with, our findings are likely to be relevant in other advertising markets in countries where media outlets are owned by powerful families which, as Djankov et. al. (2003) document, is a common situation. We hope that future research will investigate more such settings.

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Appendix 1: Proof of Propositions 1 and 4

Proof of Proposition 1. Taking the derivatives of the equilibrium conditions in equation (2), we have:

$$\begin{aligned} r\frac{\partial S_{BR}}{\partial b} &= (r-1)\frac{\partial S_{BU}}{\partial b} \\ r\frac{\partial S_{PR}}{\partial b} &= (r-1)\frac{\partial S_{PU}}{\partial b} \end{aligned}$$

Using equation (1), when b increases from zero, shares change according to:

$$\begin{aligned} \frac{\partial S_{BR}}{\partial b} &= S_{BR}(1-S_{BR})\left[1-\frac{\partial p_B(b)}{\partial b}\right]+S_{BR}S_{PR}\frac{\partial p_P(b)}{\partial b} \\ \frac{\partial S_{BU}}{\partial b} &= S_{BU}(1-S_{BU})\left[-\frac{\partial p_B(b)}{\partial b}\right]+S_{BU}S_{PU}\frac{\partial p_P(b)}{\partial b} \\ \frac{\partial S_{PR}}{\partial b} &= S_{PR}(1-S_{PR})\left[-\frac{\partial p_p(b)}{\partial b}\right]-S_{BR}S_{PR}\left[1-\frac{\partial p_B(b)}{\partial b}\right] \\ \frac{\partial S_{PU}}{\partial b} &= S_{PU}(1-S_{PU})[-\frac{\partial p_P(b)}{\partial b}]+S_{BU}S_{PU}\frac{\partial p_B(b)}{\partial b} \end{aligned}$$

Plugging these into the derivatives of the equilibrium conditions, we then have that:

$$\begin{aligned} & rS_{BR}(1-S_{BR})\left[1-\frac{\partial p_B^*(b)}{\partial b}\right]+rS_{BR}S_{PR}\frac{\partial p_P^*(b)}{\partial b} \\ = \;& (1-r)S_{BU}(1-S_{BU})\left[\frac{\partial p_B^*(b)}{\partial b}\right]+(r-1)S_{BU}S_{PU}\frac{\partial p_P^*(b)}{\partial b} \\ & rS_{PR}(1-S_{PR})\left[-\frac{\partial p_P^*(b)}{\partial b}\right]-rS_{BR}S_{PR}\left[1-\frac{\partial p_B^*(b)}{\partial b}\right] \\ = \;& (1-r)S_{PU}(1-S_{PU})[\frac{\partial p_P^*(b)}{\partial b}]+(r-1)S_{BU}S_{PU}\frac{\partial p_B^*(b)}{\partial b} \end{aligned}$$

Solving the first equation for $\partial p_B^*(b)/\partial b$ and the second for $\partial p_P^*(b)/\partial b$, we have that:

$$\begin{aligned} \frac{\partial p_B^*(b)}{\partial b} &= \frac{rS_{BR}(1-S_{BR})+\frac{\partial p_P^*(b)}{\partial b}\left[rS_{BR}S_{PR}+(1-r)S_{BU}S_{PU}\right]}{\left[rS_{BR}(1-S_{BR})+(1-r)S_{BU}(1-S_{BU})\right]} \\ \frac{\partial p_P^*(b)}{\partial b} &= \frac{-rS_{BR}S_{PR}+\frac{\partial p_B^*(b)}{\partial b}\left[rS_{BR}S_{PR}+(1-r)S_{BU}S_{PU}\right]}{\left[rS_{PR}(1-S_{PR})+(1-r)S_{PU}(1-S_{PU})\right]} \end{aligned}$$

Substituting the first equation into the second, we have that:

$$\frac{\partial p_P^*(b)}{\partial b}=\frac{num}{den}$$

where the numerator is given by

$$\begin{aligned} num &= -rS_{BR}S_{PR}\left[rS_{BR}(1-S_{BR})+(1-r)S_{BU}(1-S_{BU})\right] \\ &\quad +[rS_{BR}S_{PR}+(1-r)S_{BU}S_{PU}]rS_{BR}(1-S_{BR}) \end{aligned}$$

and the denominator is given by

$$\begin{aligned} den &= [rS_{PR}(1-S_{PR})+(1-r)S_{PU}(1-S_{PU})]\,[rS_{BR}(1-S_{BR})+(1-r)S_{BU}(1-S_{BU})] \\ &\quad -[rS_{BR}S_{PR}+(1-r)S_{BU}S_{PU}]\,[rS_{BR}S_{PR}+(1-r)S_{BU}S_{PU}] \end{aligned}$$

Cancelling terms in the numerator, we have that:

$$\begin{aligned} num &= -r(1-r)S_{BR}S_{PR}S_{BU}(1-S_{BU}) \\ &\quad +r(1-r)S_{BU}S_{PU}S_{BR}(1-S_{BR}) \end{aligned}$$

To show that the numerator equals zero, we need that:

$$S_{PR}(1-S_{BU}) = S_{PU}(1-S_{BR})$$

Substituting the expressions from the main text, the condition is satisfied. Thus, we have that $\partial p_P^*(b)/\partial b = 0$. Plugging back into the expression for $\partial p_B^*/\partial b$ above, we have that:

$$\frac{\partial p_B^*(b)}{\partial b} = \frac{rS_{BR}(1-S_{BR})}{[rS_{BR}(1-S_{BR})+(1-r)S_{BU}(1-S_{BU})]}$$

Thus, we have that $0 < \partial p_B^*/\partial b < 1$ and hence $0 < p_B^*(b) - p_B^*(0) < b$. To prove the last part of the proposition, notice that when $b = 0$, $S_{BR} = S_{BU}$ and thus, $\partial p_B^*/\partial b = r$.

Proof of Proposition 4. Expenditures shares on Mediaset, relative to Mediaset and RAI, for regulated and unregulated firms, are given by:

$$\begin{aligned} \sigma_{BR} &= \frac{p_B S_{BR}}{p_B S_{BR} + p_P S_{PR}} = \frac{p_B \exp\left[\rho(e_B + b - p_B)\right]}{p_B \exp\left[\rho(e_B + b - p_B)\right] + p_P \exp\left[\rho(e_P - p_P)\right]} \\ \sigma_{BU} &= \frac{p_B S_{BU}}{p_B S_{BU} + p_P S_{PU}} = \frac{p_B \exp\left[\rho(e_B - p_B)\right]}{p_B \exp\left[\rho(e_B - p_B)\right] + p_P \exp\left[\rho(e_P - p_P)\right]} \end{aligned}$$

When the left is in power, $b = 0$ and thus $\sigma_{BR} = \sigma_{BU}$. When the right is in power, we need to show that $\sigma_{BR} > \sigma_{BU}$. Using the expressions above, cross multiplying, and cancelling terms, we require that:

$$\exp\left[\rho(e_B + b - p_B^*(b))\right] > \exp\left[\rho(e_B - p_B^*(b))\right],$$

which is satisfied when Berlusconi is in power ($b > 0$).

6 Appendix 2: Calculation of Forward Looking Measure

We compute the expected discounted probability that Berlusconi is in power. Let $c_t \in \{B, L\}$ denote the coalition 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

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

where δ is the discount factor and T is the number of years considered for this measure. We calculate the forward-looking probability measure in four steps.

Step 1: Ideally, we would have a continuous poll-based measure of the support for Berlusconi's coalition over time. Since there is no such comprehensive series for Italy going back to 1994, we instead use the realized vote share for Berlusconi's coalition over the years. The complication is that different types of elections take place in different years, so we control for that. More precisely, for all elections (national, local, or European) held between 1994 and 2010 we collect the number of eligible voters and the vote share of the center-right coalition (i.e., Berlusconi's coalition). Using this data, we then regress the vote share of Berlusconi's coalition on year fixed effects (omitting the year 1994) and a set of election/location fixed effects (e.g. municipal elections in Rome, or regional elections in Tuscany). The latter controls capture the average political leaning of a given area in a given type of election. We weight each of observation by the share of the national electorate eligible to vote in that election. The estimated year fixed effects represent the relative electoral advantage of Berlusconi's coalition in each given year, which is the measure we use. Since the estimated year fixed effects are with respect to the baseline year (1994), we add to the estimated fixed effects the baseline center-right vote share in the 1994 national elections.

Step 2: To translate these vote shares into probabilities of winning, let votes in favor of Berlusconi's party be given by $v_t = \mu_t - \sigma\varepsilon_t$, where μ_t is the expected vote share, ε_t is the unexpected vote share against his party, and σ is the standard deviation of the unexpected vote share. Were an election held at time t, 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 ε_t is logistic, this can be written as:

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

To estimate σ 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 candidate wins the election (i.e., $\Pr(v_t > 0.5)$). In the vote-share market, the price of a contract paying $\$v$, where v is the vote share, can be interpreted as the expected vote share (μ). Thus, we estimate σ using daily data on prices in these two markets using the regression specified above, yeilding an estimated $\hat{\sigma}$ of 0.053. Using $\hat{\sigma}$, we compute the probability that Berlusconi wins as a function of his expected vote share μ (computed in Step 1).

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 unscheduled elections in this period, 1/7. If

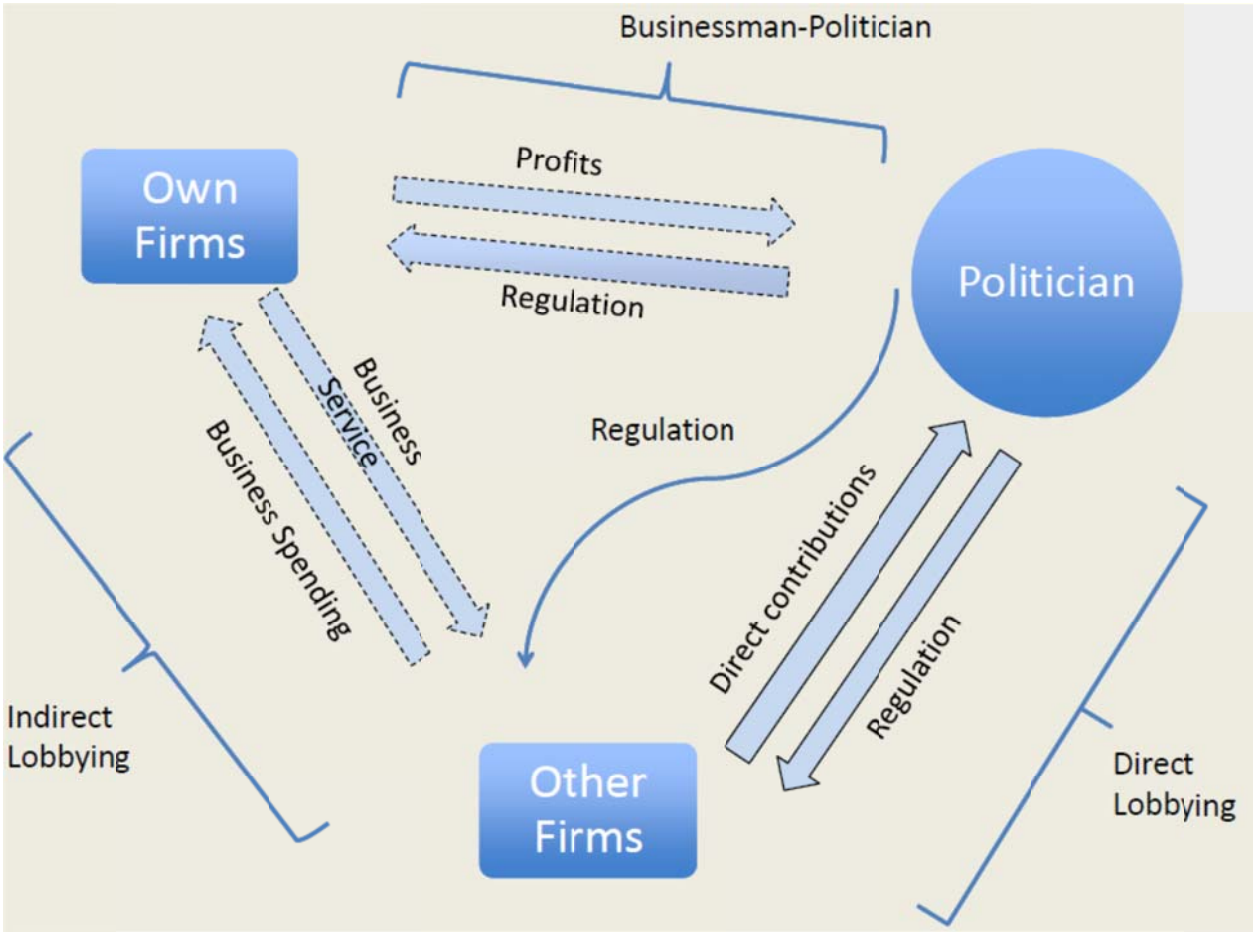
an election is scheduled, we use probability one less the probabilities that any unscheduled elections have re-set the electoral calendar in the intervening years. For example, from the perspective of 2001, the next scheduled election is 2006 and there is a probability 1/7 of an election in each of 2002, 2003, 2004, and 2005. Thus, the probability of an election in 2006 equals $1 - 4(1/7) = 3/7$.

Step 4. Then, the probability that Berlusconi is in office at time t is equal to:

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

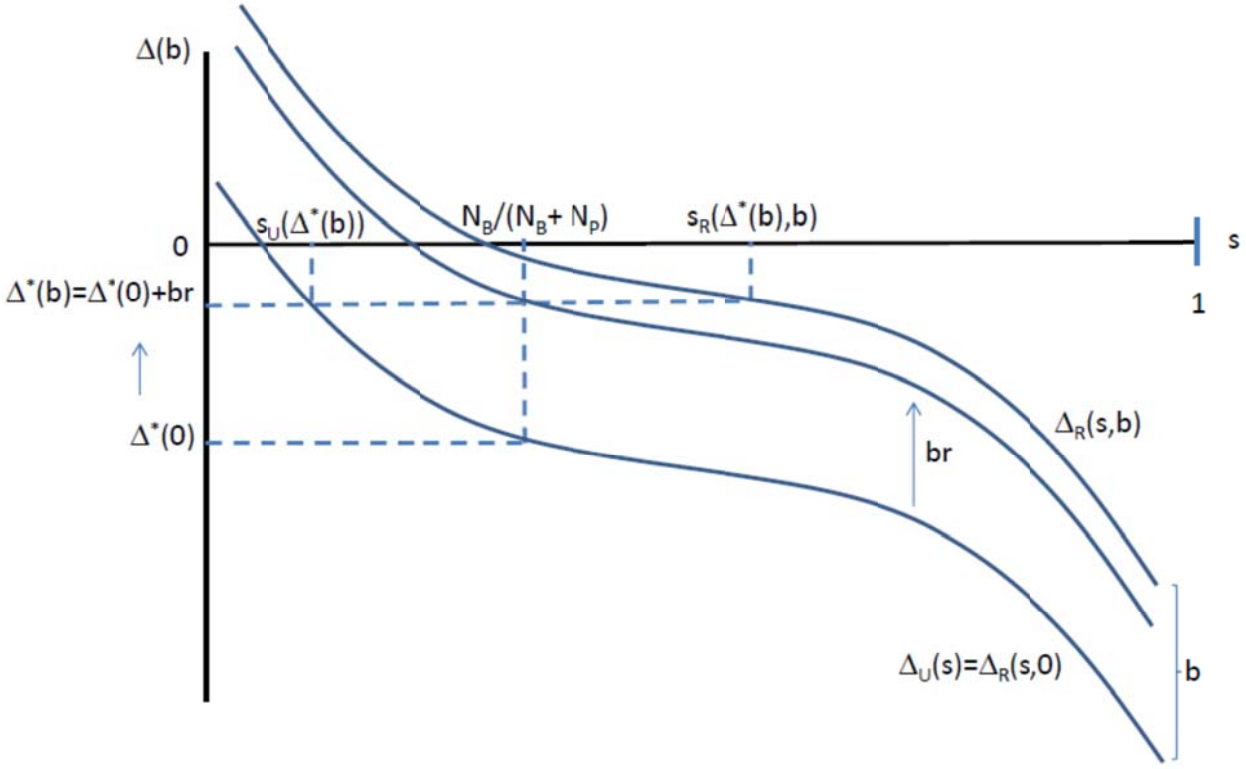
In words, the probability that Berlusconi is in office in time period t equals the probability that an election occurs in time t times the probability that he wins such an election plus the probability that an election does not occur times the probability that he was in office in time period $t - 1$. 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.

Figure 1. Conflict of Interest Channels



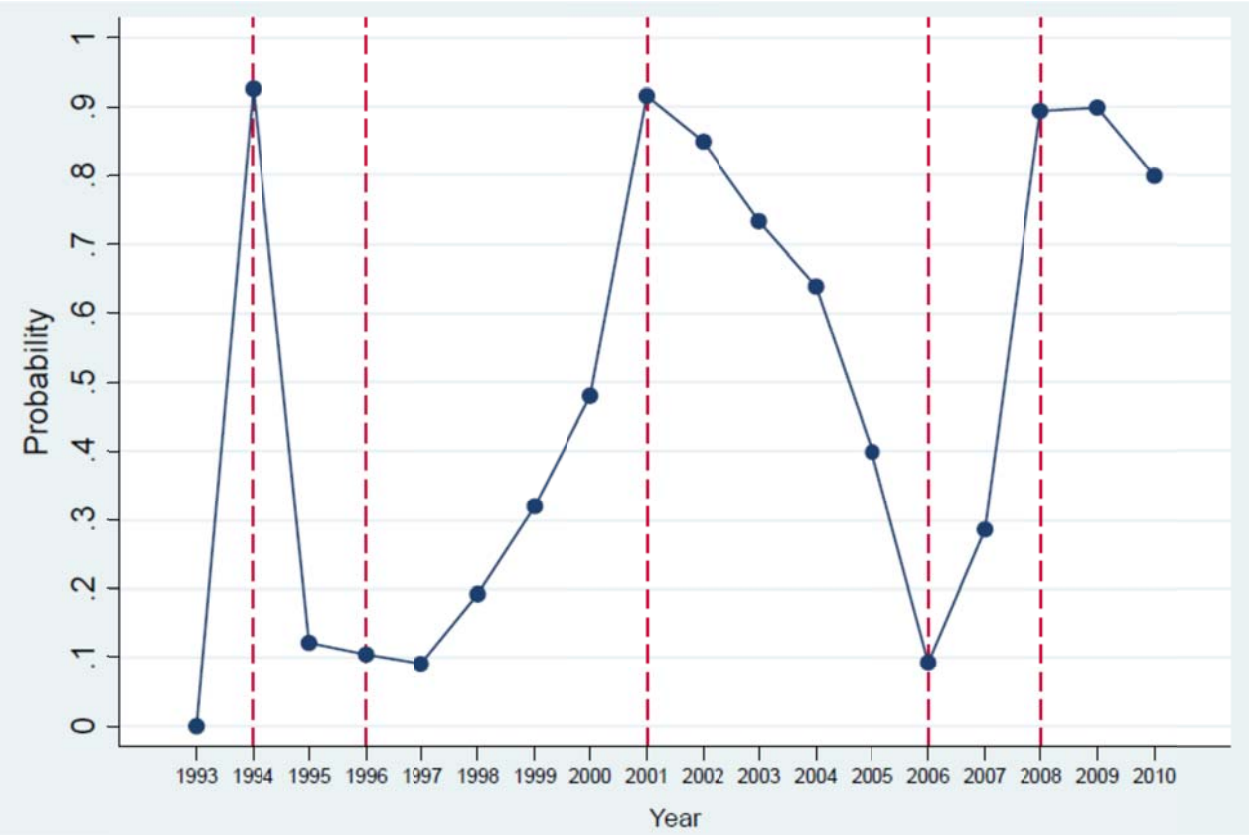
Note: This figure illustrates three channels for ties between special interests and politicians. The standard lobbying relationship, which we label *direct lobbying*,involves trasnfers from firms to politicians, for example in the form of campagin contributions, in the hope of more favorable regulation in return. The other two channels are dotted because they apply only in presense of businessmen-politicians. The *Businessman-Politician* channel denotes the fact that politician with business interests are tempted to issue favorable regulation towards their own companies so as to reap higher business earnings. The *Indirect Lobbying* channel, the one studied in this paper, consists in the purchase of business service by firms from the business connected to the politician. The politician earns extra business profits, and the firms hope for regulatory favors in return.

Figure 2. Advertising Shares and Price Differences for Regulated and Unregulated Firms



Note: The share of advertisements placed on Mediaset, relative to Mediaset and RAI, is given by s. $\Delta(b)$ denotes the price difference on Mediaset relative to RAI and $\Delta^*(b)$ denotes the equilibrium value. $\Delta_R(s,b)$ and $\Delta_U(s)$ denote the inverse demand curves for regulated and unregulated firms, respectively. N_B and N_P denotes the fixed supply of advertisements on Mediaset and RAI, respectively. The political benefits for regulated firms from advertising on Mediaset are given by b, and the fraction of regulated firms is given by r.

Figure 3. Discounted probability measure of Berlusconi in power



Note: The measure in Figure 3 repreents the expected discounted probability that Berlusconi will be in power over the next five years, with annual discount factor of .9. The measure for quarter j in year t uses the election outcomes in year t typically in the Spring) to create a measure of the probability for Berlusconi of winning an eleciton, were the election to be held in year t. The probability is then projected into the future, assuming an exogenous probability that early election could be held each year.

Figure 4. Share of Advertising on Berlusconi's Televisions, Deseasonalized

Figure 4a. Time Series

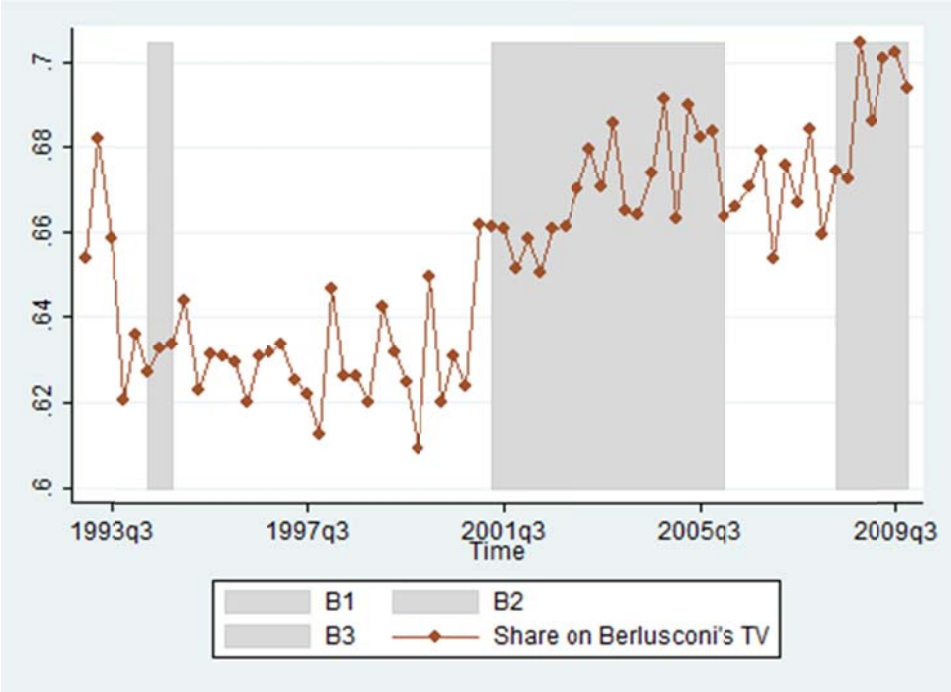
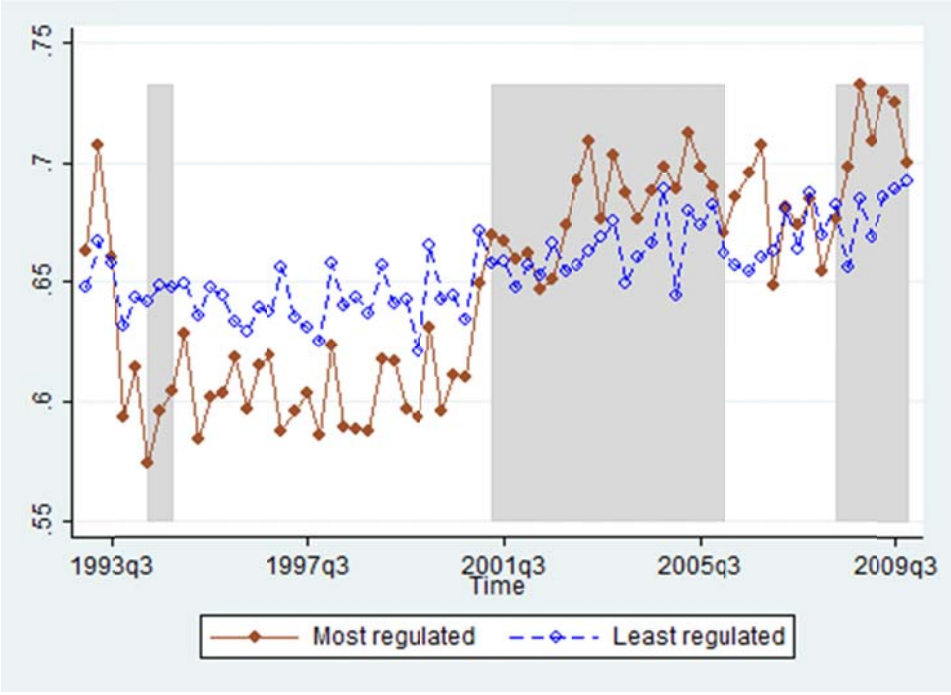
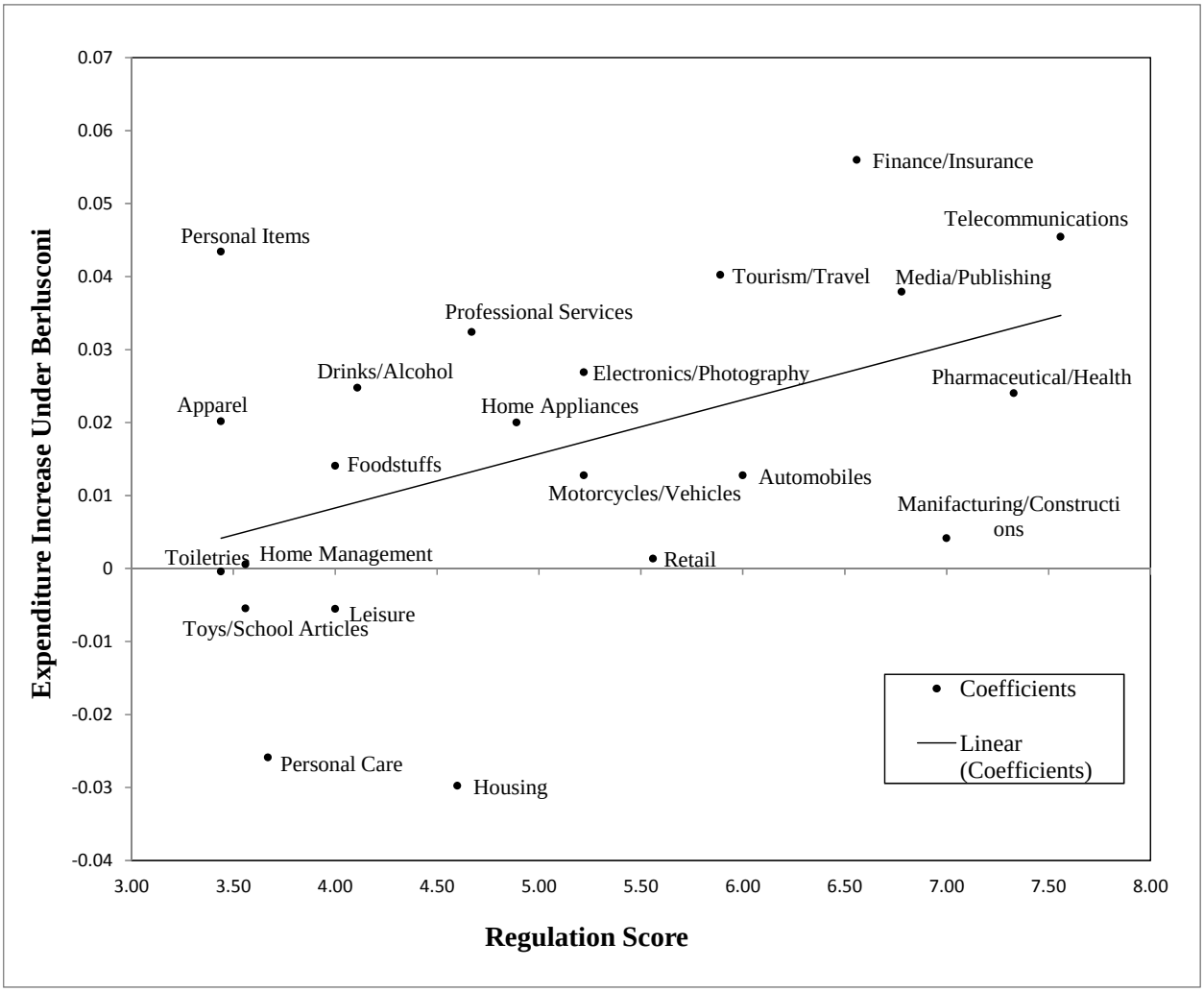


Figure 4b. By Regulation Index in the Industry



Note: Figure 4a plots the residual of the share of advertising on Berlusconi's television after controlling for 4 quarter fixed effects to de-seasonalize the series. Figure 4b plots the same series separately for industries high or low in regulation, using the regulation index in Table 2. The series in both Figures are weighted by the total spending on TV advertising.

Figure 5. Sector-by-Sector Estimates of Change in Share of Television Spending with Berlusconi in Power



Note: Figure 5 plots the coefficients from a regression of the share spending on Berlusconi's Televisions on interactions between each sector indicator and the indicator for Berlusconi in power. The controls are sector fixed effects, calendar quarter fixed effects, and sector-specific time trends, as in Column (2) of Table 3. The point estimates are plotted against the survey-based measure of regualtion. In 11 out of 11 of the above-median-regulation 11 sectors the expenditure share on Mediaset is higher when Berlsuconi is in power. Instead, among the below-median-regulation sectors, this is the case in only 6 out of 11 industries. The figures also shows the best-fitting line.

Figure 6a. Price per second Mediaset/Rai and Audience

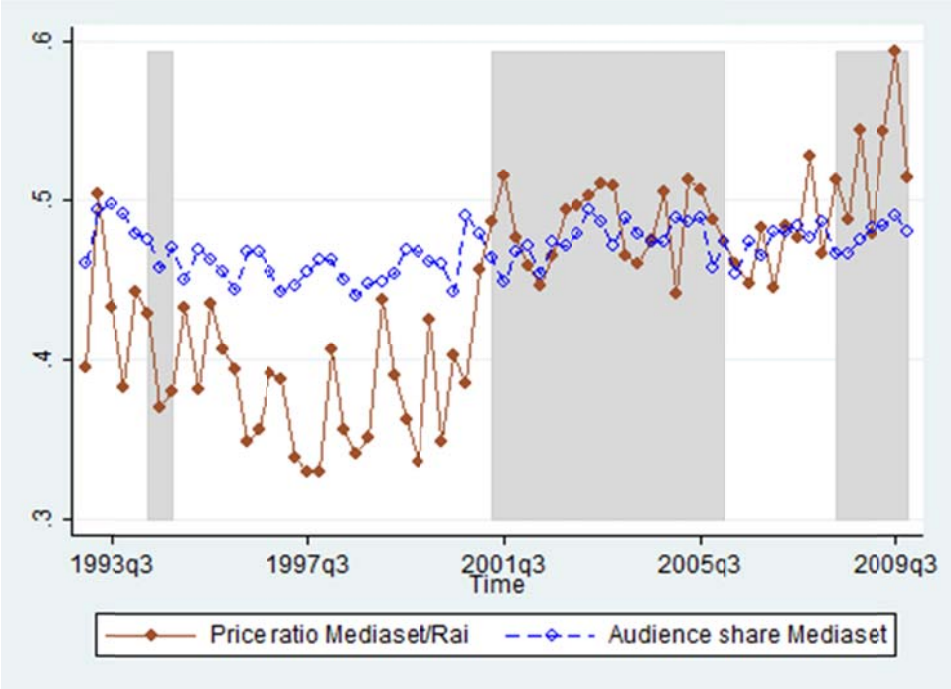
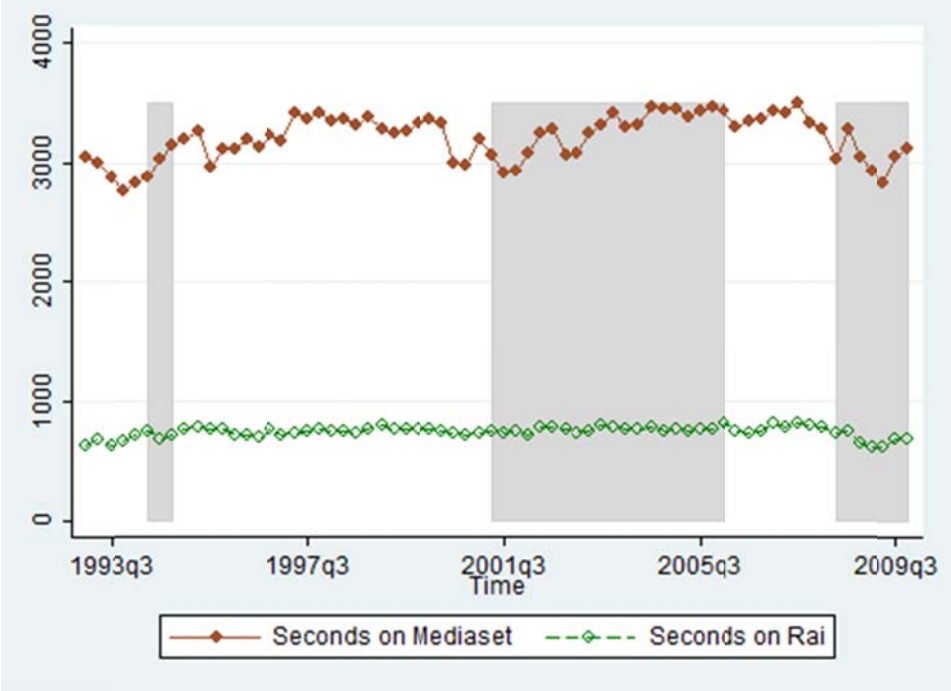


Figure 6b. Number of Seconds of Ads, Mediaset and RAI



Note: Price ratio is the ratio of the average price per second on Mediaset over that on Rai. Audience share is the ratio of Mediaset audience rate over (Mediaset + Rai) audience rate. Note: Seconds expressed in '000s. As in Figure 4, the series are de-seasonalized.

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

Election Month/Year	*Winning Coalition*	*Prime Minister*	*Berlusconi Government*	*Beginning Date*	*End Date*
April 1992	DC, PSI, PSDI, PLI*	Giuliano Amato (Socialist Party)	No	06/28/1992	04/27/1993
		Carlo Azeglio Ciampi (Independent)	No	04/28/1993	05/09/1994
May 1994	Center-Right	Silvio Berlusconi (Center-Right)	Yes	06/28/1994	1/16/1995
		Lamberto Dini (Independent)	No	1/16/1995	05/16/1996
April 1996	Center-Left	Romano Prodi (Center-Left)	No	05/17/1996	10/20/1998
		Massimo D'Alema (Center-Left)	No	10/21/1998	04/24/2000
		Giuliano Amato (Center-Left)	No	04/25/2000	06/10/2001
May 2001	Center-Right	Silvio Berlusconi (Center-Right)	Yes	06/11/2001	05/16/2006
April 2006	Center-Left	Romano Prodi (Center-Left)	No	05/17/2006	05/07/2008
April 2008	Center-Right	Silvio Berlusconi (Center-Right)	Yes	05/08/2008	11/16/2011

Note. Shading denotes governments led by Berlusconi and his coalition. * 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*	
Industry	Average Regulation Score from Survey	Industry	Average Regulation Score from Survey
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)

Note. The regulation score is the average score assigned to each sector by survey respondents (Italian economists) 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?". We average the response of the 10 respondents who answered the survey. The standard deviation is reported in parentheses.

Table 3. Ad Spending and Berlusconi Governments: Time Series

Dependent variable:	*Share spent on Berlusconi TV over spending on Berlusconi + Public TV*			*Share spent on Berlusconi TV & Press over Total ad spending*		
	[1]	[2]	[3]	[4]	[5]	[6]
Berlusconi in power	0.026***	0.015***		0.015**	0.018***	
	(0.007)	(0.004)		(0.006)	(0.004)	
1st Berlusconi government (1994)			-0.003			0.014**
			(0.009)			(0.007)
2nd Berlusconi government (2001-06)			0.019***			0.023***
			(0.005)			(0.005)
3rd Berlusconi government (2008-09)			0.014*			-0.007
			(0.007)			(0.005)
Audience share Mediaset	0.649***	0.236***	0.245***	0.061	0.089	0.055
	(0.207)	(0.079)	(0.077)	(0.196)	(0.090)	(0.088)
No. Obs	1,496	1,496	1,496	1,496	1,496	1,496
R-squared	0.70	0.80	0.80	0.86	0.92	0.93
Mean of Dep. Var.	0.68	0.68	0.68	0.44	0.44	0.44
Effect size (% of mean)	3.8%	2.3%		3.3%	4%	
Sector fixed effects	X	X	X	X	X	X
Calendar quarter f.e.s	X	X	X	X	X	X
Sector-specific linear trend		X	X		X	X

Notes: Each observation is a sector x quarter-year. The sample includes 22 sectors over the years 1993-2009. Weighted least squares estimates, using as weights ad spending on Berlusconi + Public TV for columns 1-3 and total ad spending for columns 4-6. Standard errors clustered by sector in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 4. Ad Spending and Berlusconi Governments: By Regulation Proxy

Dependent variable:	*Share spent on Berlusconi TV over spending on Berlusconi + Public TV*				*Share spent on Berlusconi TV & Press over Total ad spending*			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
Berlusconi in power* Regulation score	0.016***	0.017***	0.008***		0.018***	0.018***	0.007**	
	(0.004)	(0.004)	(0.002)		(0.004)	(0.004)	(0.003)	
Berlusconi in power* High Regulation				0.020**				0.015*
				(0.008)				(0.009)
Berlusconi in power	-0.055***				-0.075***			
	(0.018)				(0.019)			
Audience share Mediaset	0.667***				0.074			
	(0.215)				(0.201)			
Observations	1,496	1,496	1,496	1,496	1,496	1,496	1,496	1,496
R-squared	0.72	0.76	0.82	0.82	0.87	0.88	0.93	0.93
Sector fixed effects	X	X	X	X	X	X	X	X
Calendar quarter f.e.s	X				X			
Quarter-year f.e.s		X	X	X		X	X	X
Sector-specific linear trend			X	X			X	X

Notes: Each observation is a sector x quarter-year. The sample includes 22 sectors over the years 1993-2009. Weighted least squares estimates, using as weights ad spending on Berlusconi + Public TV for cols. 1-4 and total ad spending for cols. 5-8. Notice that in Columns 2-4 and 6-8 the indicator for Berlusconi in power and the audience share controls are absorbed by the quarter-year fixed effects. High Regulation is an indicator variable that takes value one for sectors with regulation score above median and zero otherwise. Standard errors clustered by sector in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 5. Decomposition: Quantity vs. Price and Peak vs. Off-peak Minutes

Panel A: Time Series Specification

	Share Spending on Berlusconi's TV			*Share Seconds on Berlusconi's TV*			*Average Price per Second in Euros*		*Difference in Price per Second (Mediaset - RAI)*		
Dependent variable:	*All Times*	*Peak Hours*	*Off-peak*	*All Times*	*Peak Hours*	*Off-peak*	*Berlusconi's TV*	*Public TV (RAI)*	*All times*	*Peak Hours*	*Off-peak*
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
Berlusconi in power	0.015***	0.016***	0.012**	0.003	0.007	0	8.955***	-6.015	14.973***	13.984***	9.010***
	(0.004)	(0.005)	(0.005)	(0.003)	(0.004)	(0.003)	(2.288)	(3.511)	(3.879)	(4.267)	(2.749)
Observations	1,496	1,495	1,495	1,496	1,495	1,495	1,496	1,490	1,490	1,479	1,480
R-squared	0.80	0.73	0.78	0.84	0.76	0.80	0.88	0.74	0.57	0.52	0.42
Mean of Dep. Var.	0.705	0.674	0.751	0.807	0.717	0.856	182.9	341.9	-159.9	-97.4	-115.5
Full set of controls	X	X	X	X	X	X	X	X	X	X	X

Panel B: Diff-in-diff With Respect to Regulation

	Share Spending on Berlusconi's TV			*Share Seconds on Berlusconi's TV*			*Average Price per Second in Euros*		*Difference in Price per Second (Mediaset - RAI)*		
Dependent variable:	*All Times*	*Peak Hours*	*Off-peak*	*All Times*	*Peak Hours*	*Off-peak*	*Berlusconi's TV*	*Public TV (RAI)*	*All times*	*Peak Hours*	*Off-peak*
Berlusconi in power* Regulation score	0.008***	0.010***	0.004	0.003	0.007***	0.002	3.014**	-4.210*	7.203***	7.454***	2.472
	(0.002)	(0.002)	(0.003)	(0.002)	(0.002)	(0.002)	(1.393)	(2.174)	(2.150)	(2.518)	(1.778)
Observations	1,496	1,495	1,495	1,496	1,495	1,495	1,496	1,490	1,490	1,479	1,480
R-squared	0.82	0.76	0.81	0.85	0.77	0.81	0.92	0.83	0.68	0.64	0.54
Full set of controls	X	X	X	X	X	X	X	X	X	X	X

Notes: Each observation is a sector x quarter-year. The sample includes 22 sectors over the years 1993-2009. Weighted least squares estimates, using as weight ad spending on Berlusconi * Public TV. All regressions include sector and calendar quarter fixed effects, a control for the Mediaset audience share, as well as sector-specific linear trends. The specification in Panel B also includes quarter-year fixed effects (which absorb the indicator for Berlusconi in power and the audience control). Standard errors clustered by sector in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 6. Implied Political Returns and Profits from quid-pro-quo

Panel A. Implied Political Returns from Regulation for Firms		*Berlusconi's TV:*	*Public TV:*	*Difference:*
Row 1	Change in Price in Euros per second when Berlusconi is in power (Table 5, Columns 7-9)	8.955 (2.288)***	-6.015 (3.511)	14.973 (3.879)***
Row 2	Fraction of advertisements placed by regulated firms (r) when Berlusconi is not power			0.336 (.008)
Row 3	Implied political benefit in Euros per second b: Row 1 divided by Row 2			44.562 (13.389)***
Row 4	Implied benefit (b): Row 3 times 5.2m seconds of advertising in a year by regulated industries			Per year: Euros 231m (70m)*** Over 9 yrs: Euros 2.1bn (626m)***
Row 5	Implied annual benefit by industry (b): Row 3 times seconds of advertising in a year for the sector	Telecommunications: 40m Euros Pharmaceutical/Health: 22m Euro Manufacturing/Construction: 3m Euro Media/Publishing: 51m Euro Finance/Insurance: 13m Euro Automobiles: 38m Euro		Tourism/Travel: 6m Euro Retail: 40m Euro Electronics: 3m Euro Motorcycles/Vehicles: 1m Euro Home appliances: 13m Euro

Panel B. Mediaset Profits due to Indirect Lobbying Channel		*Berlusconi's TV:*	*Public TV:*	*Difference:*
Row 6	Total annual number of seconds of advertisements	13.7 million seconds	3.6 million seconds	
Row 7	Implied annual revenue (and profit) change with Berlusconi in power (Row 6 times Row 1)	Euros 123m (31m)***	Euros -22m (13m)	Euros 144m
Row 8	Cumulative revenue (and profit) change from Berlusconi in power over 9 years of Berlusconi governments	Euros 1.1billion (282m)***	Euros -194m (113)	Euros 1.3 billion
Row 9	Implied percent change in profits with Berlusconi in power (assuming 20 percent margin)	+25%	-9%	
Row 10	Implied percent of market capitalization of Mediaset in 1997 (5.3 billion Euros)	21%		

Notes: Table reports implied annual benefit of regulation and revenue shifts due to to the indirect lobbying channel. In parenthes are standard errors for the estimates, obtained using the Delta method where appropriate.

Table 7. Robustness Checks

Robustness Check:	*Benchmark Specification*	*Quadratic sector-specific trend*	*S.e.s Clustered by Year*	*Dep. Var. Includes Spending in La7 TV in Denominator*	*Unweighted Regressions*	*Unweighted Regressions (Excludes Bottom 20% of spending)*	*Forward-looking Measure of Berlusconi in power*	*Both measures of Berlusconi in power*
Dependent variable:	*Share spent on Berlusconi TV over spending on Berlusconi + Public TV*							
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
Panel A: Time Series Specification								
Indicator for Berlusconi in power	0.015***	0.015***	0.015***	0.018***	0.011**	0.010*		0.023**
	(0.004)	(0.004)	(0.004)	(0.004)	(0.005)	(0.005)		(0.009)
Expected probability of Berlusconi in power							0.015***	-0.014
							(0.004)	(0.010)
Observations	1,496	1,496	1,496	1,496	1,496	1,196	1,496	1,496
R-squared	0.80	0.81	0.80	0.79	0.59	0.76	0.80	0.80
Panel B: Diff-in-diff With Respect to Regulation								
Berlusconi in power* Regulation Score	0.008***	0.007***	0.008**	0.008***	0.005	0.008**		0.015***
	(0.002)	(0.002)	(0.003)	(0.002)	(0.004)	(0.003)		(0.004)
Exp. Prob. Berl. In Power* Regulation score							0.006**	-0.013***
							(0.002)	(0.004)
Observations	1,496	1,496	1,496	1,496	1,496	1,196	1,496	1,496
R-squared	0.82	0.83	0.82	0.82	0.61	0.78	0.82	0.82

Notes: Each observation is a sector x quarter-year. The sample includes 22 sectors over the years 1993-2009. Weighted least squares estimates, using as weight ad spending on Berlusconi + Public TV for all specifications except for columns 5 and 6, which are unweighted. All regressions include sector and calendar quarter fixed effects, a control for the Mediaset audience share, as well as sector-specific linear trends. The specifications in Panel B also include quarter-year fixed effects. Standard errors in parentheses clustered by sector except in Column 4. *** p<0.01, ** p<0.05, * p<0.1.

Table 8. Firm-level Analysis

Dependent variable:	*Share spent on Berlusconi TV over Total TV spending*		*Indicator for Any Spending on Berlusconi's TV*			
	[1]	[2]	[3]	[4]	[5]	[6]
Berlusconi in power	0.015***		0.005*	0.007		
	(0.004)		(0.002)	(0.007)		
Berlusconi in power* Regulation score		0.007***			0.002	0.008
		(0.002)			(0.002)	(0.005)
Observations	22,157	22,157	22,157	39,878	22,157	39,878
R-squared	0.60	0.60	0.35	0.43	0.36	0.43
No. Of different firms	756	756	756	792	756	792
Mean of Dep. Var.	0.67	0.67	0.98	0.51	0.98	0.51
Calendar quarter f.e.s	X		X	X		
Quarter-year f.e.s		X			X	X
Full set of controls	X	X	X	X	X	X
Weighted by TV ad spending	Yes	Yes	Yes	No	Yes	No

Notes: Each observation is a firm x quarter-year. The sample includes 756 firms over the years 1993-2009. An observation is missing if the firm has no TV ad spending in that quarter-year. Weighted least squares estimates, using as weights ad spending on Berlusconi + Public TV, except in Columns 4 and 6. All regressions include firm fixed effects, a control for the Mediaset audience share, as well as sector-specific linear trends. In columns 2 and 4 they also include quarter-year fixed effects. Standard errors clustered by sector in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 9. Firm-level Heterogeneity

Panel A. Ad Spending and Firm Size

Dependent variable:	*Share spent on Berlusconi TV over Total TV spending*			
	[1]	[2]	[3]	[4]
Berlusconi in power* Ad Spending Measure	0.002**	0.002**		
	(0.001)	(0.001)		
Berlusconi in power* Firm Size Measure			0.003	0.003
			(0.003)	(0.003)
Proxy for ad spending:	***TV ad spending***	***total ad spending***		
Proxy for firm size:			***log(sales)***	***log(empl.)***
No. of firms	756	756	576	600
Observations	22,157	22,157	12,145	13,227
R-squared	0.43	0.43	0.66	0.66

Panel B. Firm performance and Ownership

Dependent variable:	*Share spent on Berlusconi TV over Total TV spending*				
Berlusconi in power * Bad Performance in t-1	0.004	0.003	-0.013		
	(0.006)	(0.008)	(0.024)		
Berlusconi in power * Italian				0.003	0.003
				(0.009)	(0.009)
Proxy for bad performance:	***Negative profits***	***Decrease in sales***	***Financial distress***		
Measure of Italian ownership:				***> 25% equity***	***largest share***
No. of firms	578	540	579	584	584
Observations	12,236	10,288	12,086	19,168	19,168
R-squared	0.66	0.68	0.66	0.61	0.61

Notes: Each observation is a firm x quarter-year. The sample includes the years 1993-2009, but an observation is missing if the firm has no TV ad spending in that quarter-year. Weighted least squares estimates, using as weight ad spending on Berlusconi + Public TV, except for Columns 1 and 2 in Panel A which are unweighted. All regressions include firm and quarter-year fixed effects, the standalone firm characteristic (size, performance or ownership), as well as sector-specific linear trends. Standard errors clustered by sector in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Appendix Table 1. Summary statistics

Panel A: Sector-level Analysis

	Full sample No. of sectors = 22			High regulation No. of sectors = 11			Low regulation No. of sectors = 11		
	Obs.	*Mean*	*Std Dev*	*Obs.*	*Mean*	*Std Dev*	*Obs.*	*Mean*	*Std Dev*
Any spending on:									
Berlusconi TV & Press	1496	1	0	748	1	0	748	1	0
Berlusconi TV	1496	1	0	748	1	0	748	1	0
Share spent on:									
Berlusconi TV over Berlusconi + Public TV spending	1496	0.676	0.0957	748	0.662	0.1084	748	0.685	0.085
Berlusconi TV & Press over Total ad spending	1496	0.441	0.137	748	0.379	0.1228	748	0.493	0.1262
Berlusconi TV over Total TV spending	1496	0.646	0.0889	748	0.631	0.0982	748	0.657	0.0805
Audience share Mediaset	1496	0.484	0.0145	748	0.484	0.0142	748	0.483	0.0147
Regulation score	1496	5.012	1.3918	748	6.399	0.7869	748	3.872	0.3707
High regulation	1496	0.451	0.4978	748	1	0	748	0	0
Berlusconi in power	1496	0.487	0.5	748	0.5	0.5003	748	0.476	0.4998

Panel B. Firm-level analysis

	Full sample No. of firms = 792			High regulation No. of firms = 467			Low regulation No. of firms = 440		
	Obs.	*Mean*	*Std Dev*	*Obs.*	*Mean*	*Std Dev*	*Obs.*	*Mean*	*Std Dev*
Any spending on:									
Berlusconi TV & Press	39684	0.977	0.150	19278	0.969	0.173	20406	0.983	0.128
Berlusconi TV	39684	0.882	0.323	19278	0.867	0.340	20406	0.894	0.307
Share spent on:									
Berlusconi TV over Berlusconi + Public TV spending	22157	0.669	0.212	9603	0.652	0.218	12554	0.680	0.208
Berlusconi TV & Press over Total ad spending	39684	0.479	0.240	19278	0.405	0.230	20406	0.542	0.230
Berlusconi TV over Total TV spending	22157	0.646	0.209	9603	0.628	0.212	12554	0.657	0.206
Audience share Mediaset	39684	0.484	0.015	19278	0.484	0.014	20406	0.483	0.015
Regulation score	39684	5.006	1.348	19278	6.333	0.781	20406	3.888	0.317
High regulation	39684	0.457	0.498	19278	1	0	20406	0	0
Berlusconi in power	39684	0.484	0.500	19278	0.500	0.500	20406	0.471	0.499

Notes: Results weighted using total ad spending, except for the following variables for which total ad spending on Berlusconi + Public TV is used: "Berlusconi TV over total TV spending, Berlusconi TV over Berlusconi + Public TV spending".

Appendix Figure 1. Share of Advertising on Berlusconi's TV and Press, Deseasonalized

Figure A1.a. Time Series

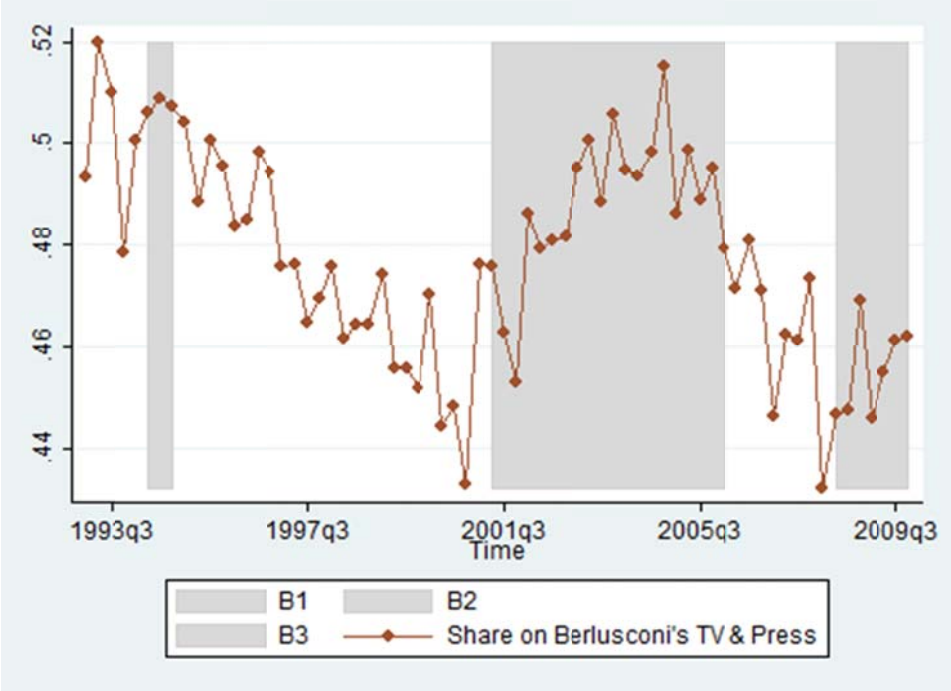
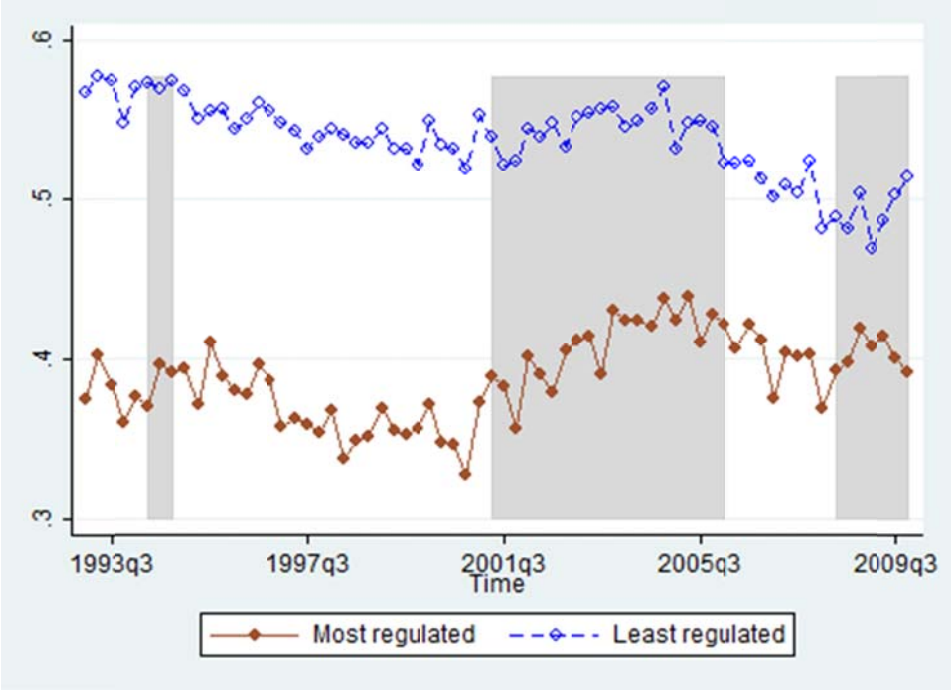
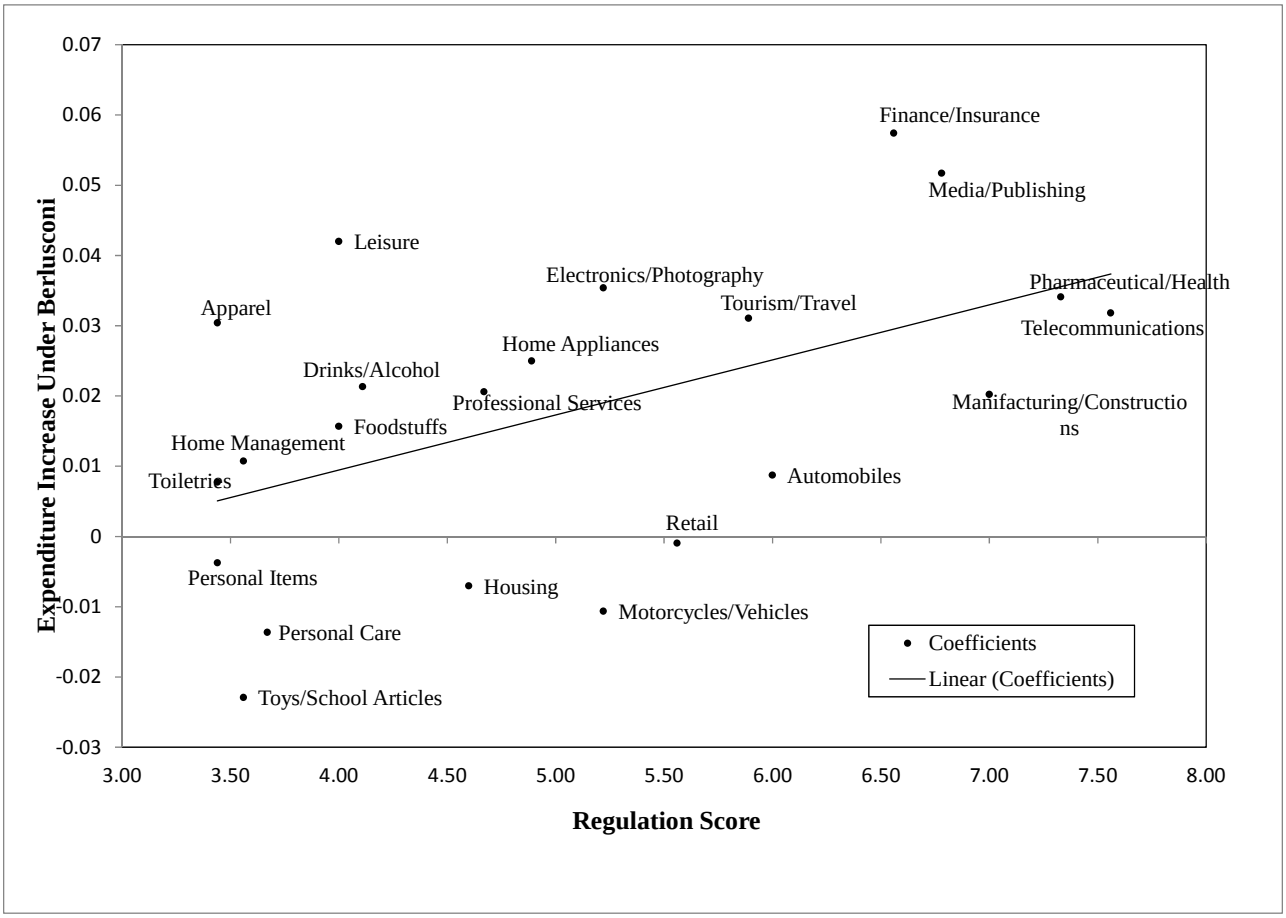


Figure A1.b. By Regulation Index in the Industry



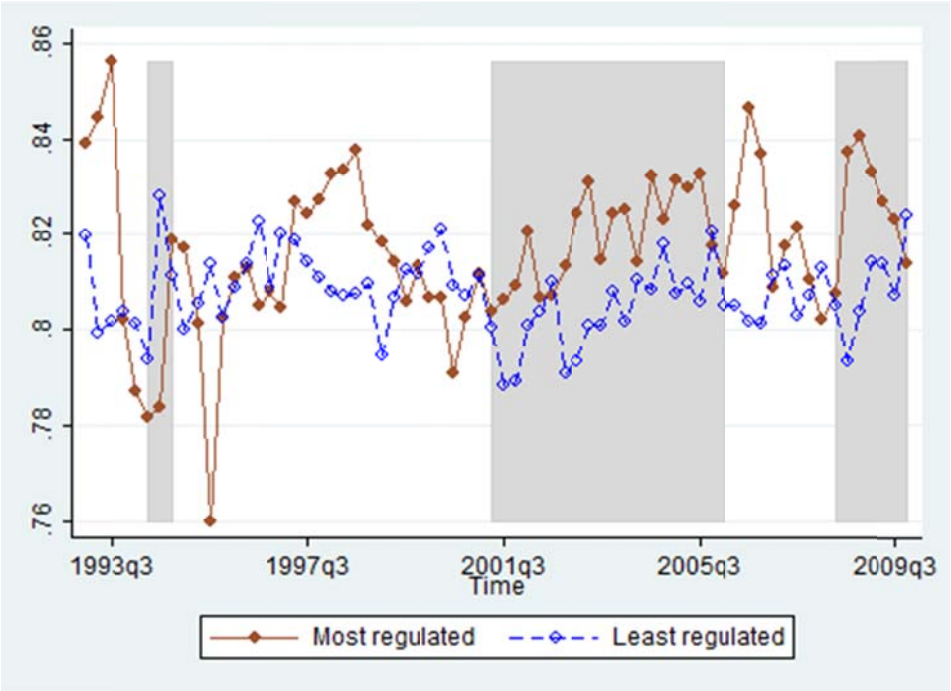
Note: Appendix Figure A1 plots the equivalent of Figure 4 except that the spending variable includes spending on press in addition to ad spending on television.

Appendix Figure 2. Sector-by-Sector Estimates of Change in Share of Television and Press Spending with Berlusconi in Power



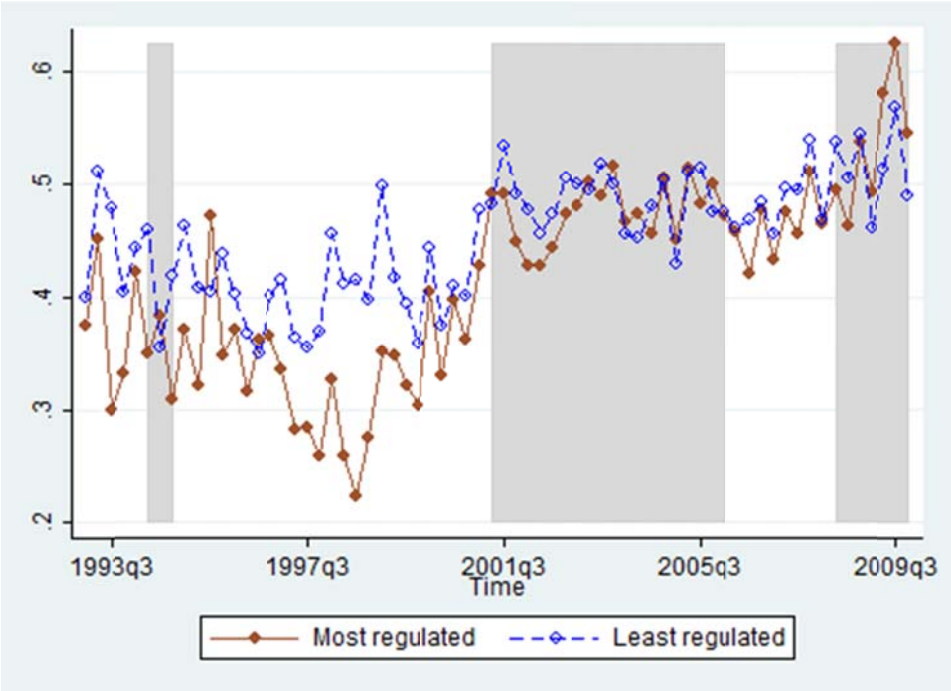
Note: Appendix Figure 2 plots the coefficients from a regression of the share spending on Berlusconi's Televisions and Press on interactions between each sector indicator and the indicator for Berlusconi in power. The controls are sector fixed effects, calendar quarter fixed effects, and sector-specific time trends, as in Column (5) of Table 3. The point estimates are plotted against the survey-based measure of regualtion. In 9 out of 11 of the above-median-regulation 11 sectors the expenditure share on Mediaset is higher when Berlusconi is in power. Instead, among the below-media-regulation sectors, this is the case in only 7 out of 11 industries.

Appendix Figure 3. Share of seconds on Mediaset, Deseasonalized, By Regulation



Note: Appendix Figure 3 plots a complement to Figure 6b in the paper, showing the share of seconds on Mediaset separately by level of regulation of the sectors.

Appendix Figure 4. Price per second Mediaset/Rai, Deseasonalized, by Regulation



Note: Appendix Figure 4 plots the equivalent of Figure 6a, showing the price ratio separately by level of regulation of the sectors.