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Family Matters: Testing the Effect of Political Connections in Italy

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Introduction

The literature has shown that political connections represent valuable resources for companies across the world. In this paper, we ask whether all types of political connections are in fact useful to firms. First of all, though the literature has not focused on this distinction, we suspect there is a difference between direct and indirect connections. In the first case, one of the company's administrators occupies a political position, whereas in the second case at least one administrator is a relative of a politician. Direct connections could be more exposed to public attention and media scrutiny than indirect ones. Also, politicians who are at the same time administrators might be less focused on the company's management, being distracted by their political responsibilities. Thus, direct connections may pose some downsides that indirect ones do not have. Next, we hypothesize that the value of connections depends on whether the politician is a member of the (future) governing coalition or not. The question is whether in a democratic system companies benefit just from being connected to political elites, or, as can be expected, they benefit more (or maybe only) when they are connected to the coalition that presides over government resources.

For this study, we build a new dataset of politically connected public companies in the Italian market. Within the literature on politically connected firms, the Italian case seems to deserve a specific treatment. As emerges from cross-country studies, in fact, the incidence of the phenomenon is unusual for a developed democracy. The period of interest is the so-called Seconda Repubblica (1994-to date), with particular reference to the five elections that have been held during this period, and the five cabinets that were formed after each election. To verify the existence of indirect connections, the last names of all the administrators of publicly traded companies are matched with those of all the politicians who were elected to the national Parliament, or appointed as government ministers. In order to identify actual family relations within the subset of matched cases, we conduct multiple keyword searches on online data sources.

In an attempt to quantify the value of political connections, we use stock prices as a proxy, and we perform an event study with stock returns as a dependent variable. The benefits of connections are either hard to measure, or derive from illegal transactions that take place behind closed doors. However, professional investors are probably aware of what a certain political connection means for the performance of a company, and base their buying decisions on this information. Following standard practice in this field, we compare the stock performance of connected companies to the rest of the market over a specific time interval: the period before and after the politicians to whom they are connected are either elected to Parliament or appointed as government ministers. Abnormal positive returns should indicate that gaining a connection or

maintaining it (in case of a reelection) will benefit the company, and the size of the effect should tell us how valuable the connection is expected to be.

To preview the results, not all types of political connections are associated with positive stock returns. If our argument is correct, it means that only certain connections are in fact valuable to companies. On the whole, the effect of political connections on the company's value falls short of the usual significance thresholds. Though the small size of our sample may explain this finding, we believe that there is a more substantial reason. Once we isolate the companies linked to the coalition that loses the election, in fact, we find that they do not gain from their respective connections. Actually, these companies even show negative stock returns in the days before and after the election. On the other hand, being connected with the (future) governing coalition, whether through a government minister or a member of the coalition that wins the election, has a positive effect on returns. Therefore, it can be concluded that the value of political connections depends on the electoral fortunes of the coalition each company is sided with.

As for the possible difference between direct and indirect connections, only indirect connections are found to have a positive effect on stock returns. Taking stock performance as a proxy for the benefits coming from political connections, we can infer that, by being related with politicians, some administrators guarantee to their companies a profitable relationship with the government. Direct connections, instead, have no effect, or even a negative effect, on stock returns. However, we cannot rule out the possibility that the result is due to the composition of the sample, in which the connections with the governing coalition are underrepresented. Therefore, a more accurate conclusion could be that direct connections prove less effective than the literature has shown, whereas the positive impact of indirect connections is confirmed.

Politically Connected Companies: State of the Art and Open Questions

Journalistic reports and judicial investigations frequently point to personal connections between business and politics. A systematic study of the phenomenon, however, is complicated by the challenge of providing a consistent and practical definition of political connections. Due to data availability limitations, most studies focus on publicly traded firms, which are generally required by law to disclose their accounting data, as well as information on their governing boards.¹ Then, a connection is said to exist when a politician either works for the company, usually as a director, or is a major shareholder, or when a person who previously had a political role enters the firm (among the others, Faccio 2009; Goldman, Rocholl, and So 2008; 2009). Other studies have shown that companies do not need to hire politicians themselves to establish profitable connections. Studying Indonesia under Suharto's regime, Fisman (2001) finds that a number of firms were connected to the leader through his relatives, friends, and political allies, who would then enjoy privileged conditions in conducting their business operations.

A related issue is how exactly political connections may prove useful to companies. In other words, what are the benefits that connected firms enjoy, compared to those that are not related to any politician? Most studies have focused on single countries, rather than attempting a cross-country comparison, to point out the benefits deriving from political connections: in Malaysia, preferential access to credit (Johnson and Mitton 2003); in Italy, higher reliance on demand by the public sector (Cingano and Pinotti 2009); in the United States, an increase in the value of procurement contracts (Goldman, Rocholl, and So 2008); finally, in a sample of 35 countries, higher probability of receiving government aid in case of financial troubles (Faccio,

Masulis, and McConnell 2006). Considering all of these elements, it seems reasonable to suspect that, when a member of its board of directors gets elected to the country's parliament, or is appointed as a government minister, investors will be more willing to buy the stocks of a company, thus making their price increase.

The effect of political connections on stock performance could be summarized as follows. Depending on how they value political connections, investors are likely to factor them into their calculations when making buying decisions. In particular, they should react to certain pieces of news such as electoral results and cabinet announcements (formation of a new cabinet or appointment of new ministers), which determine whether a company gains, loses, or maintains a political connection. Stock prices are supposed to incorporate what investors expect from political connections: an increase should follow what is considered good news for the company, while the stock market should be indifferent (i.e. no increase) toward events that are not expected to yield benefits to the company. The political economy literature has confirmed this mechanism, showing for example that stock prices increase abnormally when company directors enter politics as parliament members, or government ministers (Faccio 2006).

In this paper, we aim to quantify the effect of political connections on stock prices, using the case of Italian public companies. The magnitude of the effect should be substantively interesting in that it can be taken as a proxy for the advantages that connected companies enjoy, relative to their competition. The benefits of political connections are either hard to measure, or derive from illegal transactions that take place behind closed doors. However, professional investors, especially those who are specialized in a certain industry, are probably aware of what the establishment, or the loss, of a political connection means for the future performance of a company. The more the company is going to be advantaged, whether by legal means or not, the higher the price that markets assign to its stocks. If we make the assumption that at least some investors can predict the benefits of being connected to politics, we can use stock performance to estimate how much connections matter for companies in a certain sector of the economy, or in the economy as a whole.²

A number of findings in the literature point to Italy as an interesting case to study. First of all, political connections are quite widespread (Faccio 2006): the percentage of firms connected through major shareholders or top officers is the second highest in her sample (10.3 percent), exceeded only by Russia.³ Though admittedly imprecise, these numbers indicate that the incidence of the phenomenon is unusual for a developed country. Next, the case of Italy points to the relationship between corruption level and political connections. The higher the former, the more widespread the latter are found to be (Faccio 2006). Also, Faccio (2009) finds that the productivity of connected firms decreases with the level of corruption. According to cross-national surveys, Italy qualifies as an extreme case of political corruption among advanced democracies (Golden and Chang 2001). Therefore, the impact of connections on stock prices should be especially visible in the Italian market. As to our knowledge, there is only one published study on the Italian case (Cingano and Pinotti 2009).⁴ Given its peculiar database and research methodology, though, the findings cannot be directly related to the rest of the literature.⁵

The period of interest is the so-called *Seconda Repubblica* (1994 to date), namely the phase of Italian political life that followed the critical events of the early 1990s: the corruption scandals disclosed during the Mani Pulite investigation campaign, the 1993 electoral system reform, and the demise of the major parties of the postwar era. The political landscape of the post-1994 period has been different from the previous phase, as well as relatively stable. A center-right and a center-left coalition have successfully vied for power, generating a bipolar

electoral system for the first time in postwar history. Starting from 1994, the composition of the future governing coalition has been known in advance before the election, so that the coalition winning a majority in Parliament would form a cabinet and run the government until the following election. As a way to illustrate the political and historical context of this research, Table 1 shows the governing coalitions and cabinets of the Seconda Repubblica. (see Appendix).

As shown by Faccio (2006), the number of connections within any single country at a certain moment in time is generally small, which would make it difficult to perform statistical hypothesis testing. Part of our research strategy, then, consists of studying a longer period of time than most cross-country studies, in order to accumulate more data points.⁶ More importantly, we expand our sample by including both direct connections, which are usually considered in the literature, and indirect ones. We define a company as directly connected if at least one of its administrators, sitting on any of its boards, occupies a political position at the national level. Instead, an indirectly connected company is one in which at least one of the administrators is a relative of a politician. As for the latter, the most famous examples are Mondadori and Mediaset, the companies founded by current Prime Minister Silvio Berlusconi and managed by his sons Marina and Piersilvio. Other, less-known cases, occasionally brought to the public's attention by media reports, lead us to believe that indirect connections should be relatively widespread in the Italian stock market.

Following standard practice for this field of research, we use the event study methodology (discussed below) to assess the impact of political connections on stock returns.⁷ In particular, we measure how the value of connected companies changes in response to two types of event: elections and announcements of cabinet formation. As a result of these events, firms may acquire, lose, or simply maintain their connections, depending on whether the politician to whom they are connected is elected (or appointed) for the first time, loses her seat, or is reconfirmed. Two remarks are in order here. Firstly, given the small number of "lost" connections in our sample, the study will focus on connections that are either acquired or maintained. Secondly, at this stage of the research we consider only the five cabinets that were formed after the five elections of this period (Berlusconi I, Prodi I, Berlusconi II, Prodi II, Berlusconi IV). The other five cabinets of the Seconda Repubblica, which were formed after the previous cabinet lost the vote of confidence in Parliament, will be added to the database at a later moment.

In light of the findings in the literature, we expect political connections to be associated with abnormally positive stock returns (Hypothesis 1: "all types of connections matter"). When a politician is either elected to Parliament or appointed to a government position, investors should be willing to pay a higher price for the stocks of the company to which she is connected. Whether the connection is with the politician herself, serving on the board of directors, or one of her relatives, the value of a connected company should increase anomalously with respect to the rest of the market. Investors, in fact, appreciate the importance of political connections, and act accordingly. The positive effect on stock returns, however, should be limited to a very short time window, associated with the reaction to news about electoral results and cabinet appointments. By the end of this period, which similar studies estimate to be around 3-4 trading days, stock prices should incorporate all the expectations about the benefits of political connections, so that no further increase should occur. Lastly, the market may anticipate the event, in which case the positive effect on stock returns should be visible before the event. This concern is especially relevant in the case of cabinet appointments, which are often anticipated by the media well in advance, and can thus predicted with relative certainty.

Next, we test the hypothesis that indirect connections have a different effect than direct ones (Hypothesis 2: “indirect vs. direct connections”). Although the literature has not focused on this distinction, it seems that both types of connections lead to significant increases in stock prices, and positive stock returns (see Table 3 below). However, there are reasons to suspect that there is a difference between the two. First, direct connections could be more exposed to public attention and media scrutiny than indirect ones (Fisman et al. 2006). If the politician herself is on the board of directors, she might be restrained from favoring her company too overtly. Then, politician-administrators might be less focused on the company’s management, being distracted by their political responsibilities. Also, they might not possess the skills and preparation to be good administrators. Instead, an administrator whose brother is a politician, for example, could be a professional manager, less exposed to media scrutiny, who focuses on her job while guaranteeing to the company a privileged relationship with government. All in all, considering what the literature has concluded about the role of political connections, we have mixed expectations on the results of this test.

Finally, political connections with the (future) governing coalition should have a bigger, positive effect on stock performance than connections with the opposition (Hypothesis 3: “connections with the governing coalition really matter”). To be connected with the governing coalition, a company needs to be either connected with a government minister, or with a politician whose coalition has won the election, and run the government afterwards. In essence, the question is whether in a democratic system companies benefit more (or maybe only) when they are connected to the governing coalition, which is supposed to manage government resources. Whether directly or indirectly, being connected to a politician who is not part of the winning coalition, or is not a member of government, could be almost inconsequential. In fact, most of the benefits that connected companies enjoy are likely to be distributed by the governing coalition, whether they be government bailouts (Faccio, Masulis, and McConnell 2006), procurement contracts (Goldman, Rocholl, and So 2008), or low-rate loans from state-owned banks (Sapienza 2004). Unless politicians have some discretion over the distribution of government resources, having them or their relatives on the board might translate into additional prestige for the companies, but no concrete advantage over the competition.⁸

Data Description and Coding

Data on Administrators

Data on the composition of the corporate boards was taken from an online source, the CONSOB website, and a printed publication, *Calepino dell’Azionista*. The Commissione Nazionale per le Società e la Borsa (CONSOB) is the Italian government authority that oversees the securities market, and collects the information on board members that publicly traded companies are required to disclose. The other source used to build the dataset, *Calepino dell’Azionista*, is an annual publication edited by Mediobanca, Italy’s leading investment bank.⁹ The dataset includes the complete names, split into first and last names, of the 10,802 administrators of the companies that were listed on the Italian Stock Exchange between 1994 and 2010.¹⁰ The observations are distributed over about 330 companies, but the exact number remains to be established. Ideally, one should consider such events as acquisitions and mergers, as well as occasional changes in the

company's name. However, the number of actual political connections turns out to be so small that it is not necessary to cover such aspects in a systematic way.¹¹

Since this research is focused on a single country, it seemed reasonable to cover all the boards for which information was available, so as to detect political connections wherever they exist. Most Italian companies adopt the same system of corporate governance (“modello tradizionale”), in which a board of statutory auditors, Collegio sindacale, is appointed by the shareholders' assembly to supplement the Consiglio di amministrazione, roughly equivalent to a board of directors in the US (Melis 2004; Gandini, Astori and Cassano 2009). The companies that follow the “dualistic” model of governance, instead, endow a Consiglio di sorveglianza with both supervisory and managerial powers, while administrative duties are assigned to another body, named Consiglio di gestione. Finally, in the companies that adopt the “monistic” system, the board of directors (Consiglio di amministrazione) manages the company as within the traditional model, but also appoints some of its own members to a board of auditors that is called Comitato per il controllo sulla gestione. All of the boards mentioned above are included in the database for this study.

Data on Politicians

For the most part, the dataset for this research is based on Luca Verzichelli's archive on the Italian political elite. For all members of Camera in the period of interest he collected a wealth of information, ranging from education to previous political career, which made it easier to verify the potential connections with company administrators. Also a number of separate, less detailed datasets on government ministers and members of Senato were obtained from the same source. Then, Marco Bazzanella kindly agreed to share the dataset of politicians he prepared, together with Alfredo Chiappinelli and Fabrizio Giardina (Bazzanella 2005; Chiappinelli 2005).¹²

The politicians' database includes 2970 observations, uniquely identified by a combination of first and last name. As such, the dataset covers all the politicians who served at the national level between 1994 and 2010, either as parliament members in one branch of the legislature (Camera or Senato), or as government ministers. The amount of information provided for each individual in the dataset varies according to the source. For some parliament members the party and coalition are specified, as well as their electoral district, their previous occupation, and their education, whereas ministers are classified just as members of a specific cabinet, or substitutes. Most of the time, though, combining information from different source is sufficient to sketch the political career of each individual, especially of those who are going to be relevant for the analysis.

Stock Market Data

Most of the stock market data was downloaded from Bloomberg, which appeared to have the broadest coverage of the Italian stock market for the period of interest. The series that were not available on Bloomberg were obtained from Datastream. Each of the connected company is associated with a single time series, i.e. the daily closing prices of its azioni ordinarie or common stocks. Identifying the correct series for each company proved problematic at times, if the company had changed name, had merged with, or had been acquired by another one at some

point. Such cases were dealt with either reading the documentation attached to the data series in Bloomberg and Datastream, or consulting the company's website to track its recent history. Finally, the FTSE Italia MIB Storico and the 10-year Italian Treasury Bond (BTP) were chosen as market index and risk-free investment respectively, being the only time series that go back as far as 1994.

Especially when dealing with older series, the quality of the stock price data has been a serious issue. Smaller companies, or companies that were listed only for a short period, are more likely not to be represented in the databases, which instead work relatively well for bigger companies. As recognized in the finance literature, this situation creates a selection bias, in that only the cases that already share some relevant characteristics are included in the sample. In some cases, we solved the problem by choosing the database that provided the most continuous daily series. The high incidence of missing observations in the series downloaded from Datastream is, in fact, another reason why Bloomberg was chosen as the preferred source. Other series had sparse daily observations in the very time windows on which the analysis was going to focus, so that it would become impossible to detect the effect of the event with some degree of reliability. As a consequence, those series had to be dropped out of the sample.

Coding Political Connections

A company is classified as politically connected if either one of the following conditions is met: 1) at least one of its administrators, sitting on any of its boards, occupied a political position at the national level at the same moment (direct connection); 2) at least one of its administrators was a relative of a politician who was in office at the same time (indirect connection). A few clarifications are in order. First, given how the dataset is built, a political position can be either parliament member or government minister. Second, for practical purposes "at the same time" means that the company administrator appears in the records in the same year as the election. When the administrators' dataset has multiple observations per year, the one that is closer in time to the event is chosen. Thus, for example, if data on board composition was recorded both in June and December 1994, and the April 1994 election is the event of interest, we use the June observations to do the coding. Still, we cannot exclude the possibility that a person was appointed to the board between the event of interest and the moment in which the observation was taken, which would invalidate our coding.¹³

As a way to identify family relations, practical considerations suggested matching politicians and company administrators on the basis of last name, and then verifying the connections on external sources.¹⁴ Thus, each administrator was matched with all the politicians who shared her last name. Given our focus on elections and post-election cabinet formation, we dropped all the politicians who were not in office before the election, and were not elected/appointed afterwards. For the same reason, the administrators who were not sitting in any board during election years were dropped as well. If a person with the same last name as a parliament member, for instance, joined the board of directors of a company after the politician was elected, or left her position before the following election, we did not need to check whether there was a family relation between the two, and just dropped the case.

In order to identify actual family relations within the subset of matched cases, we conducted multiple keyword searches on online data sources.¹⁵ For the 1990s we relied on the online archive of *Il Sole 24 Ore*, Italy's leading financial newspaper, whereas Factiva and Lexis-

Nexis Academic were more suited to cover the Italian press in the 2000s.¹⁶ For each of the matched cases, we would read the articles obtained from the search, looking for evidence of the relation between the politician and the administrator. Checking direct connections turned out to be easier, as they usually emerge from the biographical profiles that are posted on corporate and government websites. Once an actual connection was identified, the same research tools were used to check whether the politician was running as a candidate in the election. In the case of lifetime Senators, or parliament members who did not run for reelection, in fact, the stocks of the connected companies should not be affected by election results. In the former case the seat is not effectively contested, while in the latter investors already know that the connection with the incumbent will be lost. Such observations were coded as “non-events” in the dataset.

The search for political connections over the 1994-2008 period produced the following results. To begin with, 207 separate connections have been found, meaning 207 verified connections between a politician and a company administrator, both of whom were in charge at some point in 1994, 1996, 2001, 2006, or 2008. Cases of multiple connections are common among family firms such as Merloni Elettrodomestici or Benetton Group, which are controlled for the most part by the company’s founder and/or his descendants. Such cases were collapsed into one, based on the argument that having yet another family member in the board has probably little practical significance.¹⁷ For the reasons mentioned above, 43 so-called “non-events” were not considered relevant for the analysis, and were therefore dropped. We did the same for the few cases of connection “lost” present in the database (i.e. the incumbent runs for office but is not reelected), as they could not be used for hypothesis testing. Finally, after dropping the companies whose stock data series were unavailable or discontinuous, we were left with a sample of 88 cases.¹⁸

Within this sample, we found 35 cases of direct connections (i.e. company administrators who are at the same time politicians) and 53 cases of indirect connections (i.e. administrators who are related to politicians). Cases are evenly distributed across years, ranging from 14 to 18, with the exception of 2008 (25 cases). In part, this finding is due to the fact that in recent years the Internet has developed so much, that the rate of success in detecting connections is now much higher than in the past. As for the specific event outcome, we found 41 “gained connections” (i.e. the connected politician is elected/appointed for the first time to that position), and 47 “kept connections” (i.e. the politician is re-elected/appointed to a previously occupied position). Not surprisingly, there is a clear disproportion in the type of political position involved: most companies are connected to parliament members (71), a few to government ministers (17). Also the phenomenon seems to involve almost exclusively the boards of directors (Consiglio di Amministrazione), as there are only 3 connected auditors (i.e. members of Collegio Sindacale).¹⁹ Finally, based on the description of the electoral coalitions in Section 3, we coded each company as connected to the governing coalition (57 cases) or not (31), depending on whether the politician was elected to Parliament with the coalition that won the election. Also ministers were coded as members of the governing coalition.

Testing the Effect of Political Connections: Empirical Strategy

The event study methodology has been devised by scholars in economics and finance to isolate and measure the effect of specific events on economic time series (MacKinlay 1997; Shubasrinivasan and Hanssens 2009). Essentially, the logic behind the event study is to compare

the actual performance of a security over a certain time frame with its expected performance, which is derived through a linear model from its performance in the previous period. The former time interval is called event window, where one expects to see the effects of the event, while the latter is the estimation window. Since daily stock returns constitute the dependent variable of interest, the question is whether in the period under study there are abnormal returns, i.e. returns that cannot be explained by the model. Such abnormal performance could be observed on a daily basis, but it is common to aggregate the daily values registered over the event window, so as to obtain the cumulative abnormal return (CAR). Also, in order to control for contingent factors and security-specific characteristics, it is well advised to aggregate the CARs through time and across securities.

As for the model used to predict stock returns, we find it reasonable to start with a basic specification, called the market model. In the market model, the return of any given security is related to the return of the market portfolio, i.e. the exchange market on which the security is listed. Usually, proxies for the market portfolio are given by such indexes as the S&P 500 for the United States, the FTSE 100 for the United Kingdom, or the FTSE MIB in the case of Italy. Therefore the analysis is based on the following specification:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it}$$

$$E(\varepsilon_{it}) = 0$$

$$\text{var}(\varepsilon_{it}) = \sigma_{\varepsilon_i}^2$$

Where R_{it} and R_{mt} are the returns at the t -moment on the security i and the market portfolio m , respectively, whereas ε is the zero-mean error term. The unexplained residual ε represents, in fact, what we previously called abnormal return.

In addition to the market model, we also test the hypotheses with the CAPM, i.e. the Capital Asset Pricing Model (Sharpe 1964). Compared to the market model, the CAPM uses excess returns instead of raw returns, where the excess return is given by the difference between the raw return and the risk-free interest rate. The risk-free interest rate is the theoretical rate of return of an investment with zero risk, including default risk, and represents the interest that an investor would expect from a (virtually) risk-free investment. According to the CAPM, the raw return is given by two components, i.e. the risk free rate and the excess return. As the risk free rate is a constant and does not depend on a given security, using excess returns allows us to isolate the random component of the stock return, and consequently to reduce sample selection biases and optimize test statistics, as widely shown by existing empirical evidence. In the CAPM, the return of any given security is related to the return of the market portfolio according to the following specification:

$$R_{it} - R_{ft} = \alpha_i + \beta_i (R_{mt} - R_{ft}) + \varepsilon_{it}$$

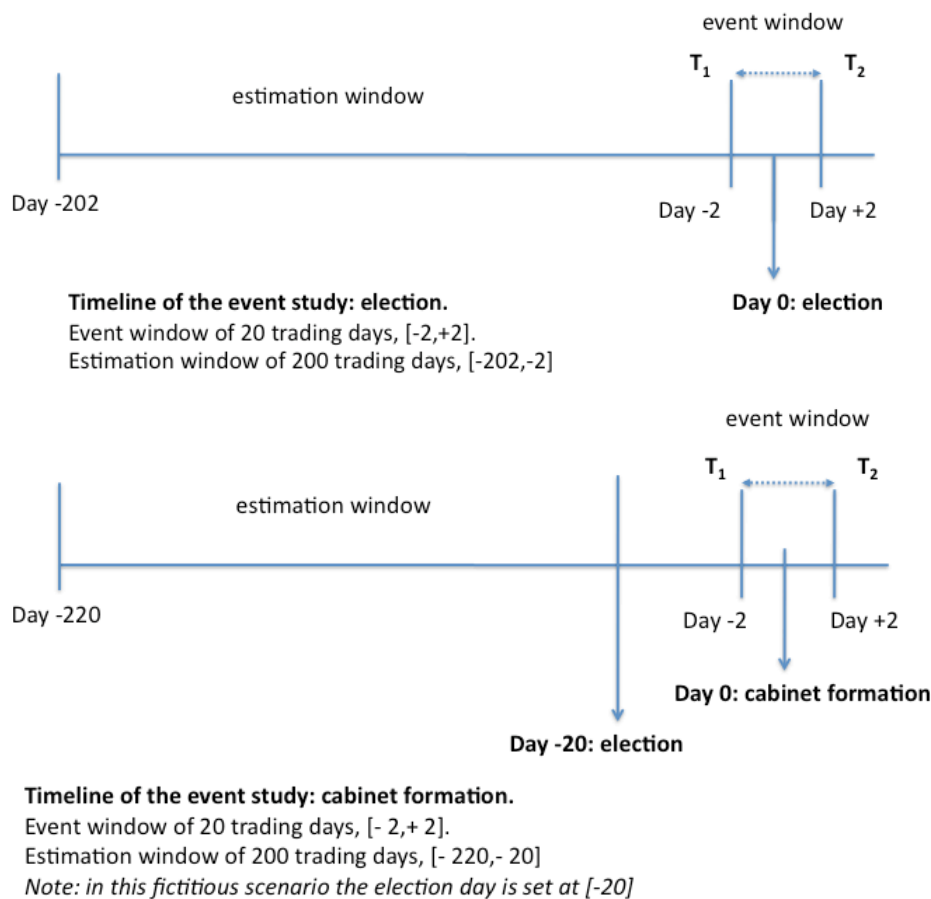
Where R_{it} and R_{mt} are the returns at the t -moment on the security i and the market portfolio m , respectively, whereas ε is the zero-mean error term, i.e. the abnormal return. In this study, we use Italy's benchmark 10-year bond as a proxy for the risk-free rate.

The linearity of both the market model and the CAPM is based on the assumption that asset returns are jointly normally distributed, as well as independently and identically distributed through time. While this assumption is strong, it has been demonstrated as empirically reasonable (MacKinlay 1997: 17). Also, inferences based on normal return models tend to be robust to deviations from the assumption. For most purposes, a test statistic is computed and compared to its assumed distribution under the null hypothesis that the mean abnormal

performance equals zero. In other words, the null hypothesis is that the event of interest has no effect on the stock performance, so that the returns observed in the event window could not be statistically distinguished from the returns predicted from the estimation window.

Briefly, the analysis will proceed as follows. First, it is necessary to exactly establish when the events of interest (either the election or the formation of a new cabinet), occurred. As for the former, we choose the day of the election, or the trading day immediately following it. In the latter case, we take the day when the new cabinet was sworn in. Then, using FTSE Italia MIB Storico as a market index, we calculate the cumulative abnormal returns (CARs) on each security, by aggregating the daily values registered over the event window.²⁰ In each replication of the analysis, a different combination of parameters for the two timeframes is used (see Figure 1 below). As a robustness check, the estimation window is set to 150 and 200 trading days. Importantly, the estimation window for the event “cabinet formation” is the same used for the event “election.” Otherwise, the returns observed after the election might have biased the calculation of the expected performance. The event window length is set at different values, with T1 and T2 indicating the first and last day included in the event window respectively. Starting from the day of event (i.e. T1 = day 0) one can measure the immediate or short-term effect (day 0 to day +2; day 0 to day +5). Including the period before the event, one can see whether the event was anticipated, and started to affect stock prices in advance (day -2 to day +2; day -1 to day +1).

Figure 1: Timeline of the event study



The core of the analysis consists of aggregating the CARs through time and across securities in order to test the three hypotheses discussed at the end of Section 2. First, we consider the full sample of political connections, and analyze their average CAR (Hypothesis 1). Next, to test the impact of direct (indirect) connections, we aggregate the CARs of the cases involving a direct (indirect) connection, and then we take the mean (Hypothesis 2). Companies that had both direct and indirect connections at the same time, such as Merloni Elettrodomestici, are dropped, as they would confound the analysis. Similarly, to measure the effect of being connected to the governing (opposition) coalition, we aggregate and average the CARs of the cases that involve exclusively one type of connection (Hypothesis 3). The case of Alitalia in 2001, which is the only company that was connected to both coalitions at the same time, is therefore dropped. Also, for each event study cases have to be aggregated by company. Companies that had multiple direct/indirect connections at the same moment, or had more than one connection to the same coalition, are collapsed into a single case.

Finally, since we are testing whether the event had any effect on the stock returns, we need to make sure that the average CAR is statistically different from zero. In other words, we need to reject the null hypothesis that the event had no effect on the stock performance, in which case the returns observed in the event window would not be statistically distinguishable from the predicted returns. Relying on the distributional assumptions discussed before, and using the sample variance to estimate the population variance, the statistical check is executed as follows:

$$\text{test} = \frac{\sum_{i=1}^N (CAR_i)}{N} \bigg/ \frac{sd(CAR)}{\sqrt{N}}$$

Therefore, at least as a first approximation, the null hypothesis is rejected at the .05 (.10) level of confidence if the absolute value of the test is greater than 1.96 (1.64).²¹ As for statistical significance, it should be mentioned that in this particular application clustering might be an issue (MacKinlay 1997: 27). Usually, event studies focus on events that affect one stock at a time, or a few stocks, so that the effect should get “diluted” in the market index. Here, instead, since a large number of stocks are supposedly affected by the same event (elections), one could imagine that the market index used to estimate the effect is in turn incorporating the effect itself, as it is calculated out of those very stocks.

Testing the Effect of Political Connections: Results

Hypothesis 1 (“all types of connections matter”)

According to the findings in the literature, as well as our expectations, gaining or maintaining a political connection should lead to abnormally positive returns, regardless of the type of connection. At a first look, however, such expectations are not confirmed by the data (see Table 2 below). The analysis was replicated setting the length of the estimation window alternatively to 150 or 200 trading days. As expected, changing this parameter did not influence the results noticeably. Also, both the market model and the CAPM model were used. Across all replications, the results fall short of the usual significance thresholds. Interestingly enough, the average CAR is always positive when the event window covers the period after the event (e.g. day 0 to day +2). The CAR has a negative sign, instead, when the event window includes the

period before the event (e.g. day -2 to day +2). However, in most cases both the CAR and the test values are so small that these results cannot be considered either substantively or statistically significant.

Table 2: Hypothesis 1 (“all types of connections matter”).

Hypothesis 1 (“all types of connections matter”)						
average CAR	test	T₁	T₂	est. window length	N	
1.00%	1.54	0	5	150	88	
1.30%	1.60	0	5	150	71	
0.50%	1.15	0	2	150	88	
0.60%	0.99	0	2	150	71	
0.10%	0.14	-2	2	150	88	
0.00%	0.02	-2	2	150	71	
-0.37%	-0.64	-1	1	150	88	
-0.38%	-0.54	-1	1	150	71	

† indicates statistical significance at the 10% level

* indicates statistical significance at the 5% level

** indicates statistical significance at the 1% level

Note: only results from the CAPM model are shown. Results from the market model are identical to the third decimal point.

The test seems to indicate that political connections do not affect stock performance, but there are at least two reasons to reconsider this conclusion. Firstly, a problem with our analysis is the size of the sample (N= 88). Similar studies generally rely on bigger samples, and the finance literature recognizes the sample size as key to obtain reliable results from event studies. Given that stock data is extremely noisy, it would be hard to detect any signal with a sample of this size. Secondly, the tests of the next two hypotheses demonstrate that political connections do matter for stock performance, but their effect depends on a number of factors. Some connections will turn out to have no impact on stock returns, some others even a negative impact. As the complete sample includes all of these different cases, this part of the analysis reveals that not all political connections are associated with positive returns.

Hypothesis 2 (“indirect vs. direct connections”)

We find evidence that indirect connections lead to abnormally positive returns (see Table 3 below). Again, the test is performed with both the market model and the CAPM, using two different estimation windows (150 and 200 trading days). In addition, we replicate the analysis dropping all the companies that were indirectly connected to Prime Minister Silvio Berlusconi, and then the companies indirectly connected to government ministers in general. In the first case, one could expect Berlusconi’s appointment to be anticipated by investors since the very day his coalition won the election in 1994, 2001, and 2008. As for the second case, cabinet appointments are often anticipated by the media, and can thus predicted with relative certainty. Despite the smaller size of the sample, the effect of indirect connections proves substantively and statistically significant. There seems to be a positive short-term reaction to the event, which is visible in the

event window [0,+2]. More importantly, in the five trading days following the event, the average CAR is 1.5% (significant at the .10 level of confidence), whereas the companies that were not connected to Prime Minister Berlusconi outperformed the market by 2% (significant at the .05 level of confidence).

Table 3: Hypothesis 2 (“indirect vs. direct connections”).

Hypothesis 2 (“indirect vs. direct connections”)						
<u>Direct connections</u>						
average CAR	test	T₁	T₂	est. window length	N	
0.20%	0.23	0	5	150	30	
0.50%	0.44	0	5	150	29	
-0.10%	-0.21	0	2	150	30	
-0.10%	-0.18	0	2	150	29	
-0.60%	-0.75	-2	2	150	30	
-0.60%	-0.69	-2	2	150	29	
-1.32% **	-2.66	-1	1	150	30	
-1.30% **	-2.55	-1	1	150	29	
0.50%	0.32	0	10	150	30	
0.70%	0.41	0	10	150	29	
<u>Indirect connections</u>						
average CAR	test	T₁	T₂	est. window length	N	
1.50% †	1.74	0	5	150	53	
2.00% *	1.98	0	5	150	45	
2.30% †	1.87	0	5	150	37	
1.00%	1.43	0	2	150	53	
1.20%	1.55	0	2	150	45	
1.20%	1.25	0	2	150	37	
0.60%	0.57	-2	2	150	53	
0.60%	0.53	-2	2	150	45	
0.60%	0.41	-2	2	150	37	
0.19%	0.21	-1	1	150	53	
0.23%	0.21	-1	1	150	45	
0.38%	0.30	-1	1	150	37	
0.20%	0.18	0	10	150	53	
1.30%	1.31	0	10	150	45	
1.70%	1.47	0	10	150	37	

† indicates statistical significance at the 10% level

* indicates statistical significance at the 5% level

** indicates statistical significance at the 1% level

Note: only results from the CAPM model are shown. Results from the market model are identical to the third decimal point.

As for direct connections, the findings are more difficult to interpret. First thing to notice, statistical significance is extremely low, and the estimated effect is virtually non-existent in most versions of the test. Once again, the sample size is partly responsible for the null findings. With only 30 cases, these conclusions cannot but be tentative. However, an interesting set of findings emerges from the analysis of the event window $[-1,+1]$, which includes the trading day before the event, the day of the event, and the day after. Over this short interval, directly connected companies exhibit a negative CAR of considerable size (-1.3%), which is also estimated with high statistical precision (.005 level of confidence). In other words, a portfolio including only directly connected companies would lose 1.3% of its value over the period that goes from the day before the election, or the cabinet appointment, to the day after such an event.²² Even with the caveats suggested by the small sample size, this finding seems to contradict the widely accepted conclusion that direct connections do have a positive effect on stock performance. However, the results of the test of the third hypothesis point to a different interpretation, which can be more easily compared to the literature.

Hypothesis 3 (“connections with the governing coalition really matter”)

As expected, the connections to the winning coalition, i.e. the future governing coalition, lead to abnormally positive stock returns (see Table 4 below). Once again, both the market model and the CAPM yield virtually equivalent results. Using a longer estimation window impacts the statistical significance, but we are confident that a bigger sample will produce more reliable estimates. Interestingly, the effect is stronger and more precisely estimated once we exclude the companies connected to Prime Minister Silvio Berlusconi: over the event window $[0,+5]$, the connected companies in this sample have an average CAR of 1.2% (test value = 1.46), which then increases to 1.6% (test value = 1.67) after those cases are dropped. We interpret this result as confirming our expectation that Berlusconi’s appointment was anticipated by investors, hence this piece of information was already reflected into stock prices. The average CAR increases even further (1.8%) after we drop all the connections with government ministers. However, due to the small sample size (N=40), the estimates fall short of the conventional significance thresholds. Again, this finding is probably due to the fact that markets already had information on the composition of the future cabinet, whereas they could not predict whether a certain politician would be elected to Parliament or not, and which coalition would win.

On the other hand, acquiring or maintaining a connection with the coalition that loses the election does not increase the company’s value. Confirming our expectations, the CARs in this subsample are both negligible and statistically insignificant. Also, despite the small sample size (N=31), one can observe a negative CAR that is both substantively and statistically significant (-1.4%, at the 0.005 level of confidence), over the event window $[-1,+1]$. Anticipating the victory of the opposite coalition, investors were already discounting the value of the companies connected to the losing coalition, so that an anomalous price decrease would ensue. Importantly, these results help explain why direct connections were found to yield no, or even negative, effect on stock returns. Within the sample of direct connections, in fact, both the connections with the winning and losing coalition are equally represented (15 cases each), so that the positive effect of the former is canceled out by the latter. The sample of indirect connections, instead, contains a disproportionate number of “winning” connections (39 cases against 14), which are the only ones that positively affect the CARs.

Table 4: Hypothesis 3 (“connections with the governing coalition really matter”).

Hypothesis 3 (“connections with the governing coalition really matter”)					
<u>Connections with (future) governing coalition</u>					
average CAR	test	T₁	T₂	est. window length	N
1.20%	1.46	0	5	150	57
1.60% †	1.67	0	5	150	49
1.80%	1.55	0	5	150	40
0.90%	1.31	0	2	150	57
1.10%	1.42	0	2	150	49
1.00%	1.14	0	2	150	40
0.70%	0.73	-2	2	150	57
0.70%	0.69	-2	2	150	49
0.80%	0.60	-2	2	150	40
0.17%	0.20	-1	1	150	57
0.19%	0.19	-1	1	150	49
0.38%	0.32	-1	1	150	40
0.90%	1.31	0	2	150	57
1.10%	1.42	0	2	150	49
1.90%	1.53	0	10	150	40
<u>Connections with opposition coalition</u>					
average CAR	test	T₁	T₂	est. window length	N
0.70%	0.60	0	5	150	31
0.00%	-0.05	0	2	150	31
-1.00%	-1.39	-2	2	150	31
-1.36% **	-2.66	-1	1	150	31
-0.10%	-0.04	0	10	150	31

† indicates statistical significance at the 10% level

* indicates statistical significance at the 5% level

** indicates statistical significance at the 1% level

Note: only results from the CAPM model are shown. Results from the market model are identical to the third decimal point.

Conclusion

Based on an original analysis of Italian publicly traded companies, this paper has tested three hypotheses on the effect of political connections on stock performance. Admittedly, the research project is far from complete, and a number of possible improvements should be made. As of today, the main problem is given by the small sample size, which affects our confidence in the results. In future versions of the paper, we plan to expand the sample by adding connections with

government undersecretaries, as well as the ministers who were not appointed immediately after each election. For all its limitations, however, the project represents a systematic exploration of politically connected companies during Italy's Seconda Repubblica. The search for connections could be refined and the sample could be expanded, but the findings already permit to map out the relationships between Italian political and economic elites. Overall, there seems to be sufficient evidence to answer our research questions with some degree of reliability.

To summarize our findings, not all political connections lead to abnormally positive stock returns. Acquiring or maintaining a political connection of any type seems to increase the company's value, but the result falls short of the usual significance thresholds (Hypothesis 1). While the small size of the sample is partly responsible for this finding, we are confident that there is a more substantial reason. The companies that are linked to the coalition that loses the election, in fact, do not gain from their respective connections (Hypothesis 3). Starting before the election, these companies even show a negative CAR that is both substantively and statistically significant. Besides being supported by other studies, the finding is easily interpretable under the assumed causal mechanism. Stock prices should reflect what investors expect from political connections, so there should be no increase in case of events that are not expected to yield benefits. Acquiring or keeping a connection with the coalition that loses the election could plausibly represent this kind of (almost) inconsequential event. On the other hand, being connected with the governing coalition, whether through a government minister or a member of the coalition that wins the election, has a positive effect on stock returns. Therefore, it can be said that the value of political connections depends on the electoral fortunes of the coalition each company is sided with.

As for the other question, i.e. the comparison between direct and indirect connections, we find that only indirect connections have a noticeable, positive effect on stock returns (Hypothesis 2). The companies that have the relative of a politician on the board of directors are found to outperform the market by 1.5% over the five trading days following the election/appointment of the politician. If we take stock performance as a proxy for the benefits coming from political connections, we can infer that, by being related with politicians, some administrators guarantee to their companies a profitable relationship with government. As to the finding that direct connections have no effect, or even a negative effect, on stock returns, it probably depends on the composition of our sample. Since the connections with the governing and opposition coalition are equally represented, the positive effect of the former is canceled out by the latter. While indirect connections may be more valuable to companies than direct ones, we have not found enough evidence to prove it. For the moment being, we conclude that direct connections are less effective than the literature has shown, whereas the positive impact of indirect connections is confirmed.

Appendix Table 1: Governing coalitions and cabinets in Italy, 1994-2011

Legislature	Cabinet	Period	Governing coalition (main parties)
Legislature XII (04/15/1994 – 02/16/1996)	Berlusconi I	05/10/1994 – 01/17/1995	FI - LN - AN - CCD - UDC (center-right)
	Dini	01/17/1995 – 05/17/1996	Independent ("governo tecnico")
Legislature XIII (05/09/1996 – 03/09/2001)	Prodi I	05/17/1996 – 10/21/1998	Ulivo (center-left)
	D'Alema I	10/21/1998 – 12/22/1999	Ulivo - PDCI - UDR (center-left)
	D'Alema II	12/22/1999 – 04/25/2000	Ulivo - PDCI - UDR (center-left)
	Amato II	04/25/2000 – 06/11/2001	Ulivo - PDCI - UDEUR (center-left)
Legislature XIV (05/30/2001 – 04/27/2006)	Berlusconi II	06/11/2001 – 04/23/2005	FI, AN, LN, UDC (center-right)
	Berlusconi III	04/23/2005 – 05/17/2006	FI-AN-DCA/PdL, LN (center-right)
Legislature XV (04/28/2006 – 02/06/2008)	Prodi II	05/17/2006 – 05/06/2008	Ulivo, PRC, RnP, IdV, FdV, UDEUR, PdCI (center-left)
Legislature XVI (04/29/2008 to date)	Berlusconi IV	05/08/2008 to date	PdL, LN, MpA, DC (center-right)

Source: <http://www.governo.it/governo/governi/governi.html> (accessed October 4, 2010)

Note: cabinets in bold are those that were formed after each election. These are the cabinets considered in this study.

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Endnotes

¹ Unfortunately, this method is prone to different kinds of selection bias. First, the subset of publicly traded firms is surely *not* a random sample of the business community in each country. Second, emerging countries do not generally have a well-developed stock market, which makes it difficult to study the phenomenon of connected firms across the world. Third, even in some developed countries – Italy is one such case – the stock market is relatively thin, as even some of the biggest companies are not listed.

² An alternative research strategy could involve, for example, measuring the effect of political connections on accounting ratios, such as market-to-book ratio and return-on-equity, so as to capture the differences between the economic performance of connected and non-connected firms. By looking at the investors' reaction to news regarding political connections, in fact, one could either underestimate or overestimate their ability to predict the impact of those connections. Investors might be convinced, say, that a new government minister will benefit the company she is connected to, whereas in fact she might fail to do so.

³ The percentage she reports for Russia is 12 percent. However, it should be noted that the number is calculated over a sample of 25 companies (compared to 233 in the case of Italy), which makes the finding highly dependent on measurement error. It might well be that Italy and Russia have in fact the same incidence of political connectedness, at least among publicly traded firms.

⁴ Connected companies have been studied by some undergraduate and graduate students at Italian universities, especially at *Università Cattolica del Sacro Cuore*, Milan. Their research, which is available only in Italian and has not been published, tends to use accounting ratios, such as market-to-book ratio and return-on-equity, to assess the impact of political connections.

⁵ On the one hand, their research is highly pertinent and original, in that it is based on a panel of about 1200 Italian manufacturing firms. Using data gathered by the Bank of Italy, they are able to explore the connections between regional and local politicians (another point of interest) and privately held companies, unlike most other scholars in this field. On the other hand, the findings they report – access to political connections increases firm revenues, for example – raise two separate issues. First, one might want to compare the effect of being connected on the same dependent variable used in other studies, i.e. stock price, also in order to test whether investors are aware of those ties. More importantly, Cingano and Pinotti count as connected the firms that employ at least one individual appointed in a local government. While it seems indeed surprising that they still detect significant effects using such a loose definition, their approach conflates all kinds of employees, regardless of the role they occupy within the firm, and all kinds of politicians, whether they sit on a legislative council or an executive cabinet.

⁶ Unfortunately, such a research strategy runs into two different problems, so that the costs of pursuing it further (i.e. going even further back in time) would not probably be offset by the benefits (i.e. accumulating even more data points). First, the Italian stock market has traditionally been thin, compared to most developed countries, and it started to expand significantly only in the early 1990s. With fewer companies represented, then, previous years would not be as useful for this research. Next, while board composition data from 1999 on is available online, data on previous years needs to be hand-collected from printed sources that are hardly available in the United States (see Section 4.1).

⁷ If P_{t-1} and P_t are the closing stock prices for day $t-1$ and t , the stock return for day t (R_t) is calculated as the difference between the two closing prices, over the price of day $t-1$: $R_t = (P_t - P_{t-1}) / P_{t-1}$

⁸ For a similar reason, we expect the impact of connections to be greater if the company is related to a government minister rather than a member of parliament, as the former has more discretion over the allocation of government resources. However, given the small number of government ministers in our sample, it is not possible to formally test this hypothesis.

⁹ CONSOB publishes this information its website, which covers all publicly traded companies in the period 1998-2010 (http://www.consob.it/main/emittenti/societa_quote/scarica.html, accessed from April to June, 2010). Also, for most years the website provides two full reports, the first one updated to June 30 and the second one to December 31 of the same year. The remaining part of the dataset (1994-1997) was drawn from *Calepino dell'Azionista*.

¹⁰ We used Stata to split the complete names of the administrators into first and last names. A significant part of this operation, however, had to be done manually, as no standardized criterion to separate first from last names could be found. Also, a number of ambiguous cases had to be checked online, mostly recurring to the webpages of the respective companies. We are aware of a number of problems, such as spelling mistakes and differences in formatting, that

may impede the matching process. An attempt was made to address those issues, but the quality of the dataset could be further improved.

¹¹ When needed, we used the dataset assembled by Bazzanella, Chiappinelli and Giardina (2005), or information found on the Internet (companies' webpages, or Bloomberg database) to clarify those cases.

¹² Furthermore, their dataset includes government undersecretaries, who could represent a possible topic for future research. While they are politically-appointed officials in the same way as ministers are, undersecretaries are likely to receive less public exposure, while still retaining a certain degree of executive discretion. These characteristics should make them especially attractive for business firms seeking political connections.

¹³ One of the steps to be taken to avoid such "false positives" is to check the composition of the board at the previous observation point. If the same person is recorded as occupying a certain position, say, both in June 2001 and December 2000, he or she was surely in charge at the time of the election (May 2001).

¹⁴ This choice surely excludes from the sample the connections that are based on affinity, rather than consanguinity, such as the one between the former Camera President Pierferdinando Casini and his father-in-law, the entrepreneur Francesco Gaetano Caltagirone. However, unless there was a dataset of politicians' and administrators' spouses, a systematic Internet search would be extremely cumbersome.

¹⁵ The following queries were applied: "first name of administrator" AND "last name of administrator/politician" AND "first name of politician" AND "name of the company" AND ("*deputato*" [i.e. member of *Camera*] OR "*senatore*" [member of *Senato*] OR "*ministro*" [government minister] OR "*camera*" [lower house of Parliament] OR "*senato*" [upper house] OR "*parlamento*" [Parliament] OR "*governo*" [government] OR "*partito*" [party] OR "leader"). When the database retrieved too many articles, we added keywords indicating family relations: "figlio" [son] OR "figlia" [daughter] OR "padre" [father] OR "madre" [mother] OR "sorella" [sister] OR "fratello" [brother] OR "cugino" [male cousin] OR "cugina" [female cousin] OR "nipote" [niece/nephew, or granddaughter/grandson] OR "nonno" [grandfather] OR "nonna" [grandmother] OR "zio" [uncle] OR "zia" [aunt] OR "cognato" [brother-in-law] OR "cognata" [sister-in-law].

¹⁶ It should be remarked that, regardless how accurately it is executed, this research methodology is susceptible to selection bias. Connections that receive more attention in the press, both for general reasons (bigger firms, or more important politicians) and contingent motives (scandals, judicial investigations etc.), are likely to be over-represented in the sample. Also, given how the coverage of both Factiva and Datastream changes over time, and how much the Internet has developed in recent years, we probably failed to detect some cases from 1994, 1996, and 2001. The closer to the present time, the easier it is to retrieve online information on political connections.

¹⁷ For instance, this is how we interpreted the cases of Marina and Piersilvio Berlusconi, both Silvio Berlusconi's sons, and both sitting on the board of directors of Arnoldo Mondadori Editore in 1994. The two separate cases were collapsed and coded as one single case of a company connected through two administrators.

¹⁸ As mentioned before, lack of reliable data, if not lack of data altogether, may have different reasons. Smaller companies, companies that were listed only for a short period, or companies that operated only in the 1990s are most likely not to be represented in the sample.

¹⁹ Again, this finding is likely to depend on the research methodology, which is biased towards detecting politically connected directors rather than auditors. The latter in fact are much less covered by the financial press. However, one could counter-argue that, given their limited role within the company, the fact that they are connected should not yield relevant benefits.

²⁰ The FTSE Italia MIB Storico was chosen as a market index because, unlike other indicators more commonly used, it is calculated out of all the traded securities, and, even more important, has been recorded without interruption since 1975.

²¹ Needless to say, these values are derived from the standard normal distribution with a mean of 0 and a standard deviation of 1, with 95% of the distribution lying between ± 1.96 , and 90% lying between ± 1.64 .

²² As before, we drop the companies connected to government ministers, and replicate the test. The sample of direct connections, however, has only one such case.