Effect of Political Connections on Stock Price Behavior of Brazilian Companies

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ABSTRACT

The article used the event study method to determine the effects of the appointment of board members with political experience on stock prices and on the companies during the 2008 financial crisis. The results show that connections can bring significant abnormal positive returns, although with short-term effects. In this article, the positive effect of appointment proved consistent for one day. Furthermore, during the 2008 crisis, the companies without political connections showed a greater and statistically significant deterioration in returns for the 10-week evaluation period before the event (crisis).
Effect of Political Connections on Stock Price Behavior of Brazilian Companies

1. INTRODUCTION

This article sought to contribute to the literature on political connections in emerging countries, analyzing the effects of these connections using a methodology commonly used in studies of finance, the standard event study. This approach has been used in work on political connections in other countries (Boubakri et al., 2008; Acemoglu, et al., 2010). The connections were assessed by looking at the board members. In addition, the market behavior of the connected companies was analyzed during the most critical semester of the 2008 crisis.

The literature on political connections for the purpose of enhancing company value (Hillman, Zardkoohi and Bierman, 1999) shows that, at first look, this occurs in all countries, though it has positive and consistent results in countries with weak institutions (La Porta et al. 1998). Acemoglu et al. (2010) found evidence that the market reacted favorably to the announcement that Timothy Geithner would become the American Treasury Secretary, an expected result for emerging countries but not for economies such as the American economy.

The studies on political connections are still predominantly done by international researchers in other countries and do not include Brazil (Roberts, 1990; Bertrand et al., 2007; Goldman et al., 2009; Boubakri et al., 2008; Faccio, 2010; Johnson and Mitton, 2003; Leuz and Oberholzer-Gee, 2006; Fan et al., 2007), but Brazil has since become an object of analysis by foreign researchers (Samuels, 2001a, 2001b, 2001c, 2008; Claessens, Feijen and Laeven, 2008; Ramalho, 2007) and by domestic authors (Bandeira-de-Mello and Marcon, 2005; Bandeira-de-Mello, Marcon and Alberton, 2008; Lazzarini, 2011).

For this article, board members were the chosen variable for quantifying connections (Roberts, 1990; Agrawal and Knoeber, 2001; Fisman, 2001; Hillman, 2005; Faccio, 2006; Goldman et al., 2009), mainly looking at the participation of ex-politicians on the board (Hillman, 2005).

Acemoglu et al. (2010) wrote that connected and unconnected companies experience impacts to their value and that this phenomenon has been widely corroborated in the literature on emerging markets, in which effects with great significance are found in the economy due to political connections.

Event study methodology allowed for the analysis of normal and abnormal returns during the announcement of the board member and also for the performance of the market of these companies during the 2008 crisis, as it was expected that the market would, at the time, value connected companies more than those that did not have connections. According to Acemoglu et al. (2010), in times of crisis connections can be even more valuable, no matter the country.

This article is structured such that a review of the literature and development of the hypotheses are presented first. Next, the methodological aspects and results of the work are presented. Finally, there are the conclusion and the suggestions for further research.
2. THEORETICAL BACKGROUND

2.1 Political Connections

The majority of the studies on political strategy highlight that this type of connection is more pronounced in emerging economies, considering how the lack of transparency and institutional weakness would stimulate this practice. Political connections are valuable for companies in countries with weak systems of legal protection and elevated levels of corruption (Goldman et al., 2009). However, Acemoglu et al. (2010) highlight that, even in countries such as the United States, there are various channels of influence where connected companies can have advantages over their unconnected rivals. Not all these channels are prevalent in emerging economies, but at least two examples can be given which can arise in developed economies, mainly in times of crisis. The first is what Acemoglu et al. (2010) call power of access, or rather, decision-makers tend to listen to people they know. Second is the convergence of interests, which he calls cultural capital.

The types of political connections most found in the literature are members of boards of directors (Roberts, 1990; Hillman, 2005; Faccio, 2006; Goldman et al., 2009), ownership structure (Fisman, 2001, Ang and Ding, 2006; Firth et al., 2009; Faccio, 2010), donations to election campaigns (Samuels, 2001a, 2001b, 2001c; Bandeira-de-Mello and Marcon, 2005; Claessens, Feijen and Laeven, 2008), lobbyists (Shaffer, 1995; Hillman and Hitt, 1999; Hillman, Keim and Schuler, 2004) and through executive means (Fan et al., 2007; Faccio, 2006 and 2010; Boubakriet al., 2008).

The makeup of the boards of directors is related to size of the board (Linch, Nettner and Yang, 2007) and the types of members (Adams, Hermalin and Weisbach, 2009). With regard to size, this refers to the number of members. They can be large or small. With regard to type, this refers to the origin of the members, whether they came from inside or outside the organization, their gender and age, and the type of representation. The characteristics are related to the education and professional experience of the members, their independence in working on the board, ownership or not of shares and other variables which can influence the performance of the functions of the member, such as experience in public office (Agrawal and Knoeber, 2001; Helland and Sykuta, 2003; Hillman, 2005; Goldman, Rocholl and So, 2009).

These connections can come from donations to election campaigns by the company, political members on the board and government participation as a shareholder in the company. And what was shown in the articles is that the connection allows the company to receive benefits which tend to be reflected in the stock price behavior of the donating companies.

The research on connections which used the event study method (Mackinlay, 1997) for an election period (Faccio, 2006; Jayachandran, 2006; Knight, 2007; Claessens et al., 2008; Ferguson and Voth, 2008) or time of crisis (Johnson and Mitton, 2003) as the event sought to investigate the soundness of connected companies or even gain information on the health of an influential politician in the country (Fisman, 2001; Faccio and Parsley, 2009).

The political experience of the member can give special treatment to banks, assist in opening new markets or, in other words, give various benefits which are reflected in the performance of the company (Agrawal and Knoeber, 2001; Goldman et al., 2009; Leuz and Oberholzer-Gee, 2006).
The political experience of board members tends to increase the price of the stock (Hillman, 2005, Fisman, 2001, Roberts, 1990; Goldman et al., 2009). Considering the above, the first hypothesis was stipulated and was tested in this study, and is thus:

H1: Companies which have a board member with political experience have an abnormal positive return in the days after the announcement of an ex-politician on the board.

According to Acemoglu et al. (2010), in times of crisis connections can be even more valuable, no matter the country. According to Goldman et al. (2009), political connections are valuable to companies in countries with weak systems of legal protection and elevated levels of corruption. Acemoglu et al. (2010) stated that it appears highly probably that Wall Street had an idea of the magnitude of the problems during the 2008 crisis and of the power of the government to protect certain companies or to let them suffer the due consequences. In this sense, it is understood that political connections can affect decisions taken by companies with such ties and that the market also takes into account these connections. Acemoglu also stated that the financial crisis in September 2008 was in fact what generated the questions for the development of his study. The most interesting fact in this context is that Acemoglu et al. (2010) explained that the most plausible hypothesis is that the Timothy Geithner's connections are closely tied to the intensity with which the companies were affected. As such, the second hypothesis of this study was stipulated:

H2: In times of financial crisis, the shares of politically connected companies have returns distinct from the rest.

3. METHODOLOGICAL ASPECTS

As mentioned above, this article investigates the effect on the market of the appointment of politically connected members to the boards of directors of Brazilian companies. To do this, an event study was done on the date of the election of the board member, as well as an investigation into the fluctuations of the companies in periods of market volatility.

3.1 Test 1 – Event Study

For the first test, publicly-traded Brazilian companies, which had on their board an ex-politician or connected member from 1999 to 2011, were selected. This article used only publicly-traded companies listed on the BM&FBOVESPA for the reliability and availability of the data. To test the effect on prices, this article only considered the first time for which an ex-politician was elected to the board of a given organization. With regard to the analysis period, this was determined by examining the fluctuation of market prices before and after the appointment of a politically connected member.

It was decided to check returns through daily data on stock prices, understanding that it was the most appropriate period for investigating the short-term effects on trading prices. The period selected went from ten days prior to ten days after the appointment, with an event window of one day. The database used for the study consisted of a year-to-year investigation of the board members and their respective resumes. Although having found several
appointments of different members, this article is based on the idea that the value perceived by the market is realized only for the first election of each one of the connected members.

As political connections between company and board member can be categorized by municipal, state or federal experience, they can also be categorized by the three branches of government, or rather, legislative, executive and judiciary. To determine the presence of political connections in companies, the resumes were examined of the board members of companies on the BM&FBOVESPA between 1999 and 2011, nearly 400 organizations. The resume of each board member was analyzed for political positions such as those described above. The process was repeated for each year and for each listed company. In total, this survey estimates that it has covered a sample of approximately 25 thousand resumes from these companies for the given period.

Of the chosen sample, the first test required analysis of companies listed between 1999 and 2011 with liquidity for the ten days before and after the election of the board member. With these criteria, of 148 companies found with politically connected members, a total of 103 met the liquidity requirements around the date of the event. Among these were companies with large representation in the Bovespa Index, such as Gerdau, Petrobrás and Vale do Rio Doce, together representing more than 30% of the principal stock index of Brazil.

To complete this study, multiple sources of secondary data were used from Economática® and information was also used from the Relatório de Informações Anuais (IAN) [Report of Annual Information], available from the Comissão de Valores Mobiliários (CVM) [Securities and Exchange Commission] and from the BM&FBOVESPA. The daily and weekly price data of the companies and of the indexes of the local market were collected in the Economática®.

The methodology used for the event study was described by Marcon (2001a), in which the equations and data processing were discussed for the analysis of return, risk, and price of shares in the domestic market of companies which used ADRs. This methodology follows a sequence: (a) nominal returns, (b) abnormal returns and (c) CARs.

a) Nominal returns

To calculate the daily nominal returns, the following formula was used for each of the sample's companies:

\[ R_t = \ln \left( \frac{P_t}{P_{t-1}} \right) \]

Where:
- \( R_t \) is the nominal return of stock \( i \) in period \( t \);
- \( P_t \) is the closing price of stock \( i \) in period \( t \), adjusted for earnings during the period;
- \( P_{t-1} \) is the closing price of stock \( i \) in period \( t-1 \), adjusted for earnings during the period.

The returns were calculated for twenty-two days of analysis, eleven days before the event window (for calculating the returns of the tenth day), one day for the event, and the other ten days for the post-event period.

b) Abnormal returns adjusted for the market
The return adjusted for the market for each share \( i \) was obtained by the difference given by the following formula:

\[
RA_{it} = R_{it} - R_{mt}
\]

Where:
- \( RA_{it} \) is the abnormal return of stock \( i \) in period \( t \);  
- \( R_{it} \) is the nominal return of stock \( i \) in period \( t \);  
- \( R_{mt} \) is the observed return of the market portfolio (IBOVESPA) in the same period.

The abnormal returns were calculated for 22 days, as was done for the normal returns.

For each period analyzed around the election date, an average was done for different stocks and then accumulated, resulting in the CARs (Cumulative Abnormal Returns).

c) Cumulative Abnormal Returns (CARs)

The CARs, according to the formula below, serve to show the change of a stock around an event, without knowing exactly the ideal period for analysis. As such, they act as a tool which helps show the abnormal returns around the stipulated event window.

The cumulative abnormal return is given by:

\[
CAR_{t} = CAR_{t-1} + AR_{t}
\]

Where:
- \( CAR_{t-1} \) is the cumulative abnormal return in period \( t-1 \);  
- \( AR_{t} \) is the abnormal return in period \( t \).

As the chosen period for testing the influence of board member appointments was 10 days after the event window, the CARs can help choose the timeline which shows the most suitable standard for comparison.

3.2 Test 2 – Variance Tests

Another test which was done was that proposed by Acemoglu et al. (2010) to confirm the fluctuation of the prices of the connected companies in times of large market volatility. In this sense, the effect of the American crisis on Brazilian companies during the second semester of 2008 was used. Weekly stock quotes were used. For the analysis of weekly data, the only companies considered were those which had weekly prices available for at least 22 weeks of the 28 analyzed, which was found in approximately 80% of the cases. The test consisted of comparing the connected companies with the rest during the study period, using statistical techniques such as the t-test for a minimum confidence level of 95%.

A base total of 201 cases was found (whether or not with common or preferred stock). Of these, 108 had some type of connection for the surveyed year. The same methodology used for Test 1 was used for the calculations, using nominal returns, abnormal returns and CARs for the weekly period.
4. ANALYSIS AND DISCUSSION OF THE RESULTS

After doing the calculations and running the statistical tests, the data showed some relevant evidence. Of the investigated companies, politically connected board members were found in 148. As the board of directors of a company is composed of various people and each member has an elected term of approximately two years, each company could have more than one connected member. Of the resumes reviewed (approximately 25 thousand), 1,258 elected members were found to have at least one political connection. Chart 1 shows the development of these appointments over the years.

![Chart 1: Appointments of politically connected members from 1999 to 2001](image)

Chart 1 shows an evenly distributed number of appointments through the years, in spite of a downward trend in cases after 2003. The vertical lines represent the years of presidential and state elections in Brazil (2002, 2006 and 2010). It is worth noting that in 2002 and 2010 the country had a change of president. After these periods, the number of new political board members grew on the order of 56% and 82%, which make up the two largest increases observed in the period between two years, whether relative or absolute (59 and 28 cases respectively).

Many appointments occurred between 1999 and 2001, a period in which the trade volume and liquidity of the BM&FBOVESPA was relatively reduced. Moreover, many of these appointments were announced at general meetings of the companies and, not rarely, more than one connected member was announced on the same day. Taking into account these factors and ensuring that there was sufficient liquidity to analyze the share prices, the total number of 1,258 appointments of politically connected members allowed for the analysis of 475 valid cases (in companies that had elected more than one member on the same day, the election was considered a single case).

Analyses were done on the prices of shares with and without voting rights (respectively, common and preferred). As is common in Brazil, the same company can issue shares for both types of stock. Therefore, this analysis took into account common and preferred stock, according to their availability and liquidity during the evaluated period. Thus,
the 475 valid appointments allowed for the analysis of a total of 725 cases, 346 with common stock and 379 with preferred stock.

The calculations for Nominal Returns (NR), Abnormal Returns (AR) and Cumulative Abnormal Returns (CARs) were applied to the 725 cases to test for the effects on the share price with regard to the appointment of connected members. It is estimated that the election of connected members increases the benefits of organizations and consequently their share prices (Acemoglu et al., 2010). Table 1 contains the values of NR, AR and CARs for the day of the event (D) as well as the 10 previous and 10 following days for all of the stock, as well as for common and preferred stock separately.

Table 1 – Calculations of Normal, Abnormal, and Accumulated Returns

<table>
<thead>
<tr>
<th>Dias (D)</th>
<th>Retornos Nominais (RN)</th>
<th>Retornos Anomais (RA)</th>
<th>Retornos Anorm. Acumulados (CARs)</th>
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<tbody>
<tr>
<td></td>
<td>ON</td>
<td>PN</td>
<td>Geral</td>
</tr>
<tr>
<td>D-10</td>
<td>-0.00174</td>
<td>0.000487</td>
<td>-0.00058</td>
</tr>
<tr>
<td>D-9</td>
<td>0.002061</td>
<td>-0.00216</td>
<td>-0.00015</td>
</tr>
<tr>
<td>D-8</td>
<td>0.002285</td>
<td>0.001957</td>
<td>0.002114</td>
</tr>
<tr>
<td>D-7</td>
<td>0.00108</td>
<td>0.001719</td>
<td>0.001441</td>
</tr>
<tr>
<td>D-6</td>
<td>0.0017</td>
<td>-0.000248</td>
<td>-0.00048</td>
</tr>
<tr>
<td>D-5</td>
<td>-0.00099</td>
<td>-0.00048</td>
<td>-0.00073</td>
</tr>
<tr>
<td>D-4</td>
<td>0.003291</td>
<td>0.003016</td>
<td>0.003113</td>
</tr>
<tr>
<td>D-3</td>
<td>0.00121</td>
<td>0.001057</td>
<td>0.001113</td>
</tr>
<tr>
<td>D-2</td>
<td>-0.00229</td>
<td>0.003249</td>
<td>0.000607</td>
</tr>
<tr>
<td>D-1</td>
<td>0.000383</td>
<td>-0.000362</td>
<td>-0.00171</td>
</tr>
</tbody>
</table>

As the relevant data are more focused on the effect of connections and not of the market, the coefficients that are initially interesting are in the Abnormal Returns column. To that effect, the effect of the market average on the price fluctuations and the results are shown above in logarithmic scale. To clarify what was found in the analyses of the event, Chart 2 shows the final part of the calculations, represented by the Cumulative Abnormal Returns (CARs) of the entire base, and also separated out for the common and preferred stock cases. For the purpose of showing the events and the pre- and post-election periods, the reference day for the window of time was considered zero (represented by the vertical line through the center of Chart 2).
Chart 2 – Cumulated Abnormal Returns (CARs)

Chart 2 shows the fluctuations of the cumulative abnormal returns of the researched companies while taking into account the effects of the Bovespa Index. The larger variation can be seen near the day of the event (D) when the returns leave the negative and go into the positive. Although in a small scale (values of "Ln" less than 0.01), the event appears to show a difference in direction of the prices and a greater variation spread than that observed in other periods. Thus, in accordance with the studied theory, the appointment of connected members generates a positive variation in share price, although this effect appears not to last throughout the 10 days.

In an event study, the vertical line is expected to offer an explanation for why the stock fluctuates differently than it was doing previously. This would support the idea that the event influenced the market. Nevertheless, there does not appear to be statistical support for this claim in this article, since the differences between daily averages and CARs before and after the event are not significant. The exception occurs in just a single day. This means that the price fluctuations one day before and after are statistically different, for a confidence interval of 95% (p-value of 0.012). Chart 3 shows the average differences one day after (Car1-A) and before (Car1-B) the appointment of a connected politician in the Brazilian organizations studied. These results appear to be contrary to those suggested by other studies which focused their research on economic-financial aspects (Roberts, 1990; Hillman, 2005; Faccio, 2006; Goldman et al., 2009). With this, it can be said that the market tends to react neither positively nor negatively to announcements of appointed politicians. This fact helps to only partially confirm H1, since the significant results were only for the day after the event.

Thus, the results of this article indicate an immediate market reaction with regard to the nomination even if such effect is not maintained after the second day of the event. As a check, CARs were also run for all the combinations of periods, between 1 and 10 days, for the separate cases of common and preferred stock. No significant difference was found for any period, except for preferred stock one day before and after (p-value of 0.019). Thus, there is evidence that the election of connected members appears to bring financial returns for the stock, although for a short amount of time. Furthermore, statistically, preferred stock responds to the appointments with greater oscillations than common stock.
A final possible analysis within the event study is the accumulated return during the entire period studied. According to the analysis of the data obtained and shown in Chart 4, it can be seen that after the event (the vertical line) the preferred shares change the downward trend and were valued above the common shares. However, such checks did not find statistical support for a confidence interval of 95%.

In Test 2, much like in Acemoglu et al. (2010), evaluations were also done to confirm the influence of connections during the crisis. For the author, in times of crisis, connections can be valuable in any country. One of the ways to investigate this phenomenon are variance tests, which confirm differences between averages. Wanting to work with parametric data, and their robustness, the weekly and accumulated returns were also processed as logarithmic functions with fluctuations adjusted for the effects of the Ibovespa. Chart 5 shows the results of both groups of companies, using the week of the announcement of the fall of Lehman Brothers as the central moment of the crisis (vertical line).
The grouped data graphically show a significant difference between companies with political connections and the rest during the period prior to the week chosen as the event window. In the case of connected Brazilian companies, the average weekly return of the stock (already discounted for the effect of the Ibovespa) was significantly (with a $p$-value $<0.01$) less than companies without connections. In the post-event period, the returns did not show statistically consistent differences, contrary to those found in Acemoglu et al. (2010). Such evidence points to a negative effect of the crisis on companies without political connections, while those with connections more consistently maintained their weekly returns.

The results found for Test 2 allow this paper to partially confirm H2. For the Brazilian companies studied, the abnormal returns were statistically confirmed only for the period prior to the crisis. The later periods did not show statistically consistent differences.

5. FINAL CONSIDERATIONS

The search of companies for ways to differentiate themselves and gain advantages against their market competition is never-ending. One of the ways found is through political connections (Fisman, 2001; Ang & Ding, 2006). Among the forms of connection already discussed by the theory is the influence of politically connected board members (Roberts, 1990; Hillman, 2005; Faccio, 2006; Goldman et al., 2009), although this is not the only form it can take.

The idea that political connections of board members can bring returns to the business, independent of the form that they take (Agrawal and Knoeber, 2000; Hillman, 2005; Goldman, Rocholl and So, 2008), comes from the influence that the board can have over the results and decisions of a company.

Therefore, this article aimed to interact with the theories and studies on political connections with an event study methodology (H1) and with a comparison of the averages during a time of crisis (H2).
For the first hypothesis, the claim that the announcement of a connected board member generates abnormal stock returns was partially confirmed. Although abnormal and significant returns were found (p-value of 0.012) for the period of one day, the rest of the returns (from two to nine days) did not have significant differences before or after the announcement of the connected member.

Since H2 dealt with abnormal returns during periods of crisis, it, too, was also partially confirmed. The Cumulative Abnormal Returns (CARs) of the period prior to the week of the event (crisis) show a fall in returns greater for companies without connections as opposed to those connected companies with less-volatile (though smaller) CARs during this period. The post-crisis results did not have statistically significant differences between the two groups of companies. Such results are in agreement with those advocated by Acemoglu et al. (2010). For that author, in a study done in the USA with companies connected to the American Treasury Secretary, the returns were significantly higher. Differently, though in a complementary manner, with regard to the Brazilian companies studied, the positive effect was felt prior to the crisis period.

Thus, it is believed that this study can encourage new discussion of political connections, principally by finding evidence in Brazil that is different than international studies. On reason may be the reason cited by Goldman et al. (2009) which states that political connections are valuable for companies in countries with a weak system of legal protection and with elevated levels of corruption.

Lastly, it is suggested that new studies attempt to address these aspects using events different than those used here, such as the Brazilian Investment Grade period or during election years. The use of more-recent events is suggested, since one of the limitations encountered was the lack of liquidity of the companies in 1999 and 2000. Furthermore, the use of the CARs calculation, considering the deflation of the Ibovespa, could produce different results than those shown here if the CAPM is used in the study.
REFERENCES


