

The Persistence of Corruption: Evidence from the 1992 Presidential Impeachment in Brazil

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Abstract

Corruption imposes substantial economic costs, yet there is little evidence on the success of anti-corruption campaigns. I study the 1992 impeachment of president Collor in Brazil to evaluate its impact on politically connected companies both in the short- and long-term. Using an event study methodology, I establish the short-run effect: family-connected firms on average lose 2 to 9 percentage points of their value on dates when information damaging to the impeached president is released. However, this decline is reversed entirely within one year. I conclude that the impeachment had limited success in reducing corruption in Brazil.

Keywords: Corruption, Brazil, political connections, firm value.

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1 Introduction

Corruption is widely recognized to be detrimental to economic development and growth. Several economic studies have provided evidence of the adverse consequences of corruption (Mauro (1995)). Given the costs of corruption¹, it is essential to assess how effective anti-corruption campaigns are. This paper evaluates the long-term effect of an anti-corruption campaign in Brazil, one of the most corrupt countries in the world².

In 1992, the Brazilian President Fernando Collor de Mello was impeached on accusations of corruption. The impeachment's goal was to purge political institutions of its most corrupt members. Corruption no doubt flourished during Collor's presidency. According to the news press of the time, a bribe to the President's campaign manager (PC Farias) was essential in order to obtain a loan or get a state contract.

The impeachment episode provides an excellent setting to study the gains from political connections. First, the impeachment process was sparked by the President's brother, Pedro Collor de Mello, who accused the president and his campaign manager of corruption, using the Brazilian press to spread his story. The reasons that led to Pedro's accusation at this particular point in time were family matters³ and orthogonal to the performance of any of the publicly traded Brazilian companies. Therefore, the impeachment is likely to be an incident exogenous to the value of political connections. Second, I am able to clearly identify politically connected companies because many of these companies were owned by relatives of the president and others were explicitly named during a parliamentary investigation of Collor's campaign manager.

This paper uses stock market data and firm level accounting data to assess the impact of the presidential impeachment on politically connected firms' performance. The results show that although there was an initial loss in stock market value for the firms directly linked to the president, one year after the impeachment those firms had fully recovered to the average

¹The costs of corruption were measured in papers such as: Bertrand et al (2007), Di Tella and Schar-grodsky (2003), Fisman (2001), Johnson and Mitton (2003), Khwaja and Mian (2005), Olken (2005), Yang (2007).

²Brazil's Corruption Perception Index (Transparency International) was 2.7 out of 10 (where 10 is the least corrupt) and Brazil ranked 37 out of 41 countries in 1996. The World Bank enterprise surveys data (www.enterprisesurveys.org) ranks Brazil as second out of 75 countries in "value of gift expected to secure government contract as percentage of contract value". This provides further evidence on the magnitude of corruption in Brazil.

³Pedro suspected that his wife was having an affair with the president and for that reason decided to take revenge.

stock market value of their industry. Furthermore, companies whose connections were likely to extend beyond the president experience no reduction in market value as a result of the impeachment episode, both in the short and long-term. This evidence suggests that favoring politically connected firms in Brazil persisted after the presidential impeachment.

My analysis begins with an event study of companies' performance during the impeachment. I compare connected and non-connected companies' stock market performance on several days when information related to the probability of Collor being removed from power was released. I compute the average abnormal returns during each of the events for each company and then aggregate them in several portfolios depending on the type of connection. Two distinct measures of political connectedness are defined: firms linked to the president by family or friendship ties ('family-connected' companies) and firms proven to be connected to the president in a parliamentary investigation ('other-connected' companies). I find that family-connected companies have on average daily abnormal returns 2 to 9 percentage points lower on bad event days. The evidence shows that the market in fact perceived the impeachment as affecting the value of those companies.

This interpretation is reinforced by additional evidence: First, I show that the decline in family-connected companies' valuations did not simply reflect that the market recognized they were benefiting from the president's economic policies. Family-connected company valuations fell relative to other firms in the same industries, who should have been affected similarly by Collor's economic policies. Second, I find that the stock prices of competitors of family-connected companies reacted positively to information about the impeachment. This is further evidence that, in the short run, the market identified the impeachment as weakening the value of the political connections of the president's relatives and friends.

However, the other-connected companies, those identified in the parliamentary impeachment report, did not respond to the impeachment in a similar fashion. First, they did not suffer negative abnormal returns during the impeachment. Second, their competitors' stock prices did not react positively to damaging news about the president. Hence, the market did not foresee a decline in the value of these companies' political network. This result suggests that their political network extended beyond Collor. Nevertheless, the stock market value of the other-connected companies is on average lower than the market value of non-connected companies in the same industry throughout the 1990s. This difference in value can be attributed to market liberalization, which might have led to a reduction in

corruption.

Interestingly, in the long-term the stock market valuations of family-connected companies were not damaged by the impeachment. In fact, after a decline in their value during 1992, these companies were able to recover to at least average performance in their industry by mid 1993. Furthermore, stock market performance of other-connected companies was not different before and after the impeachment episode. Accounting data is compatible with these results. I find no significant negative long-term effect of the impeachment on companies' profitability or liquidity. In fact, family-connected firms are more leveraged after the impeachment when compared to non-connected firms.

The overall evidence suggests that, in the long run, both family-connected and other-connected companies were not adversely affected when compared to non-connected firms. These results shed doubt on the effectiveness of Collor's impeachment as a corruption-reducing policy. Therefore, the lack of a long-term effect can be explained by the persistence of corruption. In fact, corruption scandals continue to appear in the Brazilian press. The most recent one led to the resignation of Antonio Palocci, Minister of Finance, in March 2006.

The empirical literature on corruption and the value of political connections remains scant. However, there are four important contributions which this paper builds on. Fisman (2001) measures the value of political connections in Indonesia, using an event study procedure on news about President Suharto's health. Johnson and Mitton (2003) study political connections and capital controls in Malaysia during the Asian crisis. They find that capital controls benefit politically favored firms. Khwaja and Mian (2005) find that state banks favor politically connected firms when granting bank loans using loan-level data. Faccio (2006) analyzes the stock market value of publicly-traded companies that are politically connected in 47 countries. She finds that political connections are present in 35 of those 47 countries and that the corporate value of a company increases if its directors or shareholders take government office. The present paper adds to this literature by studying the long-term consequences of the change in the value of political connections. It is also the first to analyze the effects on competitors of connected firms and the effects of an explicit anti-corruption initiative. I establish that the impeachment had an immediate effect on family-connected firms and their competitors, but no effect in the long run.

This paper exploits the results from the theoretical literature on corruption and rent-

seeking, for instance, Krueger (1974), Shleifer and Vishny (1993, 1994) and Banerjee (1997). This paper adds to the growing literature about the role of institutions in economic outcomes. Moreover, my work provides further evidence that institutions affect economic outcomes, specifically firms' performance. Important contributions to this literature are, for instance, La Porta et al. (1997, 1998) and Djankov et al. (2002). These authors show that institutional differences across countries can explain economic outcomes, such as market entry, prevalence of small investors, and external finance.

In section 2, I present the historical context of the impeachment episode. In section 3, I describe the data. In section 4, I describe my empirical strategy in detail and present the main results using stock market data. In section 5, the evidence from the accounting data is reported and interpreted. Finally, section 6 concludes.

2 Historical Context

Fernando Collor de Mello was elected president of Brazil at the end of 1989. During his campaign he promised to end corruption in Brazil. However, during his presidency there were several corruption scandals involving his Cabinet members. Finally, in late May 1992, these accusations directly targeted the president. Collor de Mello was finally impeached in late September 1992.

The corruption accusations were first directed at PC Farias (Collor de Mello's campaign manager) and several Cabinet members. On March 30th 1992, the president asked for the resignations of all his ministers and assistants. The goal was to purge the government of corruption and improve the president's image. However, corruption allegations against the President's regime continued.

Brazilian newspapers and magazines claimed to have testimonies and other evidence that corroborated the accusations against Farias. However, this news only started affecting Collor directly in May 1992, when Pedro Collor de Mello, the President's brother, began a series of accusations linking the president with Farias' illegal businesses. This information led to a parliamentary investigation that ultimately resulted in Collor's impeachment and resignation in December 1992.

The investigation began May 27th 1992 and lasted until mid-August of the same year. It consisted of gathering evidence and interviewing witnesses. Most witnesses were individuals

allegedly involved in the corruption scheme. The stock market reacted to the information disclosed in these interviews. In general the reaction was negative.

The information contained in physical proofs was disclosed gradually. These consisted mainly of checks written out to Farias' consulting company. This consulting company operated as a front for the corruption scheme. It provided services such as easier access to credit from state banks and access to state contracts. It was possible to identify which companies were directly involved in the corruption activities from the checks.

Most companies directly involved in corruption activities were already known to be connected to the president and his government. The Brazilian press is filled with colorful anecdotes about favoritism by the government towards certain companies⁴. As a result of the impeachment, PC Farias was incarcerated and Collor de Mello was barred from public office for almost 10 years. Collor de Mello was replaced by his vice-president Itamar Franco, who had different political support and background. In 1994, Fernando Henrique Cardoso was elected President. He was a member of a different political party (PSDB) than the impeached president. Collor de Mello returned to political office in 2006 as senator for his home state Alagoas.

3 Data

I use three sets of data to analyze the impeachment episode: company financial data (stock market, balance sheet, industry data), news and events about the Brazilian president, and connection data (names of companies and business groups which are connected to the president).

- **Company financial data**

I analyze only public companies⁵, even though some of the connected companies are not public and ideally I would want to have access to their balance sheets. However, information about non-public companies is not easily available.

⁴For instance, when VASP (São Paulo airline company) was privatized, Wagner Canhedo (the buyer) had inside information about VASP's fuel supply contracts, unknown to the other contestants. PC Farias was able to force the manager of Petrobras (state-owned oil company) to supply fuel at favorable terms to VASP. This supply was also conditional on Wagner Canhedo buying VASP. The information about this deal was leaked by the CEO of Petrobras who opposed the transaction.

⁵In my data public companies include all the companies traded in the stock market and firms that have open balance sheets due to their ownership structure.

All the companies in my data were operating in 2000. There were no bankruptcies among the companies in this sample. In other words, the firms in the earlier years in the sample do not disappear in later years.

Among public companies there are two sets: traded and non-traded ones. For the traded companies the data set I use daily stock market prices as well as quarterly accounting information taken primarily from balance sheets. The stock market information comes from Economática and Datastream. The source of the accounting data is Economática and Bloomberg.

- **Events related to President Collor**

I collected news/events data using the Lexis Nexis database and Brazilian newspapers and magazines (Folha de São Paulo, Jornal do Brazil, Veja, Isto É). I searched on Lexis Nexis for “Collor” and “corruption” in the year 1992, obtaining 806 hits. I chose the events that were mentioned in more than one source, and mentioned by Brazilian researchers in my visit to Brazil. In particular, I paid more attention to news published in the Brazilian press. The Brazilian press was also the source of event duration.

- **Political connections**

I assembled connection data using several books and news articles about the impeachment episode, including the Parliamentary Commission (CPI) report about Collor’s campaign manager prepared by the Brazilian parliament prior to the Presidential impeachment⁶. The set of connected companies includes all the companies proven to be connected to the president’s campaign manager by the CPI report as well as companies owned by relatives and friends of the president. This set also includes the firms owned by the connected companies⁷. The ownership data is from the Emerging Markets database and Economática.

From this data I constructed five mutually exclusive sets of firms. First is the set of connected companies (‘other-connected’ companies) identified in the CPI report that are not owned by relatives or friends of Collor’s and are not state-owned⁸. This set of companies also includes the firms owned by the connected firms identified in the CPI report. Second

⁶CPI stands for Comissão Parlamentar de Inquérito, which translates to parliamentary committee of investigation.

⁷Those where the connected company is at least the third major stockholder.

⁸State owned companies are defined as those where the Brazilian states or federation are one of the two major shareholders.

is the set of firms owned by relatives or friends of Collor's and therefore not state-owned ('family-connected' companies). The companies in this set were not necessarily mentioned in the CPI report. Third is the set of connected companies that are state-owned. Fourth is the set of state-owned companies that, to the best of my knowledge, are not connected to the President. Finally the last set is that of the non-state-owned non-connected companies.

I separate the state-owned connected companies from the rest of the connected firms, because there are several reasons why they would behave differently. Those companies were used as providers of benefits to the connected companies. For instance, anecdotal evidence suggests that a way of benefiting connected companies was through state-owned banks that provided preferential terms in loans to those companies. So even though these firms were connected to the president, it is not clear that they benefited from his stay in power. In general, the effect on state-owned companies of a change in power is not obvious. The managers change when a new president takes charge. In a broad sense state-owned companies are always connected to whoever is in power.

3.1 Descriptive statistics

My data includes 241 stocks from 189 firms. Table 1 panel A.1 presents the descriptive statistics for the companies used in the stock market analysis. The sample includes 5 family-connected companies. These firms are not significantly different from non-state-owned non-connected firms, in terms of size, leverage, market beta, or price to book value. The other-connected firms are a larger set of 12 companies, but still not significantly different from non-state-owned non-connected firms.

Table 1 panel A.2 presents the summary statistics for the accounting data used in the long-term analysis. Table 1 panel B shows the firms' characteristics pre-impeachment. Both family-connected and other-connected firms have similar leverage and returns on assets as non-state-owned non-connected companies.

4 Evidence from the Stock Market

The impeachment episode provides an excellent natural experiment for assessing the impact of an anti-corruption drive on firms' stock prices. The impeachment was triggered by accusations made by the President's brother as a result of a family fight. Thus, it can be reasonably viewed as an exogenous event and not caused by changes in company perfor-

mance. I can therefore use events surrounding the impeachment to plausibly identify the causal effect of changes in political connectedness on the value of connected companies in the short and in the long run. Consequently, I can infer the effectiveness of the impeachment as an anti-corruption campaign by looking at firms' stock market performance both in the short and long run.

A second interesting feature of this episode is that it provides a good control group. I assume that if there was no corruption, connected companies' returns would evolve in a similar fashion to the non-connected ones after the impeachment. By controlling for firm characteristics, I remove the possibility that differences in stock returns would be driven by systematic differences in those characteristics for connected and non-connected firms.

4.1 Immediate Effect on Connected Companies' Returns

In this section I look at the immediate effect of the impeachment on connected and non-connected companies. I take an event study approach. I identify several events over the period 1989-1992 which changed the president's probability of getting to power or staying in power. Therefore, these events could plausibly be expected to change the gains from being politically connected to the president. I then estimate the effect of these events on the stock market value of connected and non-connected companies. In other words, I compare the evolution of stock prices for companies associated with the President compared to the rest of the market. I separate the non-state-owned connected companies into two groups: family-connected firms and other-connected firms.

I expect connected companies' stock market value to decrease when damaging news about the president is released. Likewise, when good information about Collor is made public connected companies should react positively. The intensity of this reaction should depend on how unique these connections are. In other words, it is plausible to expect different effects on family-connected and other-connected companies.

For this analysis to be valid, the stock market must somehow know which companies are connected to the President. Several of the corruption scandals involving connected firms were reported in the news before the impeachment episode. Also, the family-connected companies were easily identified by investors because there was enough information about who were the president's family members and friends and which firms they owned. The assumption that investors had access to this information seems therefore reasonable. I also

assume that all investors have information on past performance of stocks.

I study the impact of news about the president on connected companies. I expand upon his work by examining the impact of the same set of news on the competitors of connected companies in the next subsection. Therefore, I can get a more detailed picture of the impeachment's impact on the stock market and how important political connections are for firms and their competitors.

Following the event study literature, I construct the abnormal returns for each event by company. The abnormal returns are defined as the estimated residual from regressing a company's returns on the market index. Hence, abnormal returns are the variation in returns that the market was not able to explain and therefore might be attributed to other factors such as political connections. The model is as follows (Campbell, Lo, Mackinlay (1997)):

$$R_{se} = \frac{P_{se} - P_{se-1}}{P_{se-1}} \quad (1)$$

$$R_{se} = \alpha + \sum_k \beta_{se+k} M_{e+k} + \varepsilon_{se} \quad (2)$$

$$E[\varepsilon_{se}] = 0 \quad Var[\varepsilon_{se}] = \sigma_s^2$$

$$AR_{se} = R_{se} - \widehat{R}_{se}, \quad (3)$$

here P_{se} is the stock market price in day e for company s , R is daily returns, M is the São Paulo stock exchange index (BOVESPA), and AR stands for daily abnormal returns. I use five lags and five leads of the market index in the market model equation, in order to minimize the infrequency of trade problem⁹. Equation (2) is estimated using the stock market returns from the last four months of 1991. I chose this period of time, because there was no major change in the stock market related to changes in political power. Hence, the market betas I estimate are not affected by political instability.

I then compute the average cumulative abnormal returns ($ACAR$) by event, and test if the securities of connected companies have different abnormal returns when compared to the securities of non-connected ones. Connected firms should react distinctively when news about the president is released. Being connected can be interpreted as an extra factor in explaining stock market returns. However, for that interpretation to be valid other variables

⁹The frequency of trade in the São Paulo stock exchange was low for several stocks in the early 1990s. Therefore, the correlation between infrequently traded stocks and the contemporaneous market index, does not reflect the true market beta. I include five lags and leads of the stock market index, in order to better estimate beta.

should be accounted for, because there are several risk factors that may affect connected and non-connected firms' returns differently. Fama and French (1992) analyze several factors to explain stock market returns. Their factors include size, leverage, book-to-market equity and market beta. Therefore, in my analysis I include these factors as well as industry controls. The purpose is to control for the factors that can have a differential impact on the abnormal returns of connected and non-connected firms.

$$ACAR_{se} = \gamma + \sum_j \beta_j C_{js} + \sum_k \delta_k X_{sek} + \mu_{se} , \quad (4)$$

C_{js} is a dummy variable equal to one if the political connections of company s are of type C_j . C_1 is the set of connected companies that are not state owned and not owned by friends or relatives of the President, C_2 is the set of connected companies owned by family and friends of the President, C_3 includes the state owned companies that were proven to be connected to the president, and C_4 is the set of state companies not known to be politically connected, s indexes stock and e indexes time (trading days). X is a set of factors that includes 30 industry dummies, size (measured by the log of total assets in early 1989), debt (measured by the ratio of current liabilities¹⁰ to total assets in early 1989), book to market value (in early 1989), and monthly beta¹¹ (to control for stock volatility).

I study five events. The first event is the election in November 1989, which led to Collor de Mello's victory. This is good news for the connected companies and they should react positively. All the other events I consider are bad news. They take place during 1992 and refer to news released before and during the impeachment episode. The March 30th event concerns a political episode where Collor asked for the resignation of all his Cabinet and it happened before the impeachment process started. In May 18th Collor's brother accused him of corruption. In May 27th the parliamentary investigation that led to the impeachment began. Finally in June 29th evidence linking the illegal activities of PC Farias (Collor de Mello's campaign manager) directly with the president was released.

¹⁰Ideally I would use total liabilities. However, using total liabilities would imply losing too many observations. Brazilian companies do not report the item total liabilities. I have to compute it as the difference between "liabilities and equity" and "stockholders' equity". Given the lack of observations in these two items, the variable total liabilities has a significant number of missing values. Current liabilities are a good proxy for total liabilities since they account for 70% of total liabilities. Since Brazil experienced hyperinflation in this period, it is reasonable to assume that most liabilities were of short duration (less than one year).

¹¹I include the market beta even though I analyze abnormal returns, because this way I allow for beta to change over time.

To capture the information available in non-event days, I use a different specification that includes all the stock market returns from 1989 to 1992. I join all the events in one unique regression, interacting each of the connection variables with the event variables.

$$ACAR_{se} = \gamma + \sum_j \beta_j C_{js} + \sum_z \rho_z E_{ze} + \sum_j \sum_z \psi_{zj} C_{js} * E_{ze} + \sum_k \delta_k X_{sek} + \sum_k \sum_z \varphi_{kz} X_{sek} * E_{ze} + \mu_{se}, \quad (5)$$

where E_z is a dummy variable equal to 1 when event number z occurs.

Finally, I aggregate the events by type in order to summarize the immediate effect of the impeachment of firms' stock market returns. In this case, I use a difference in differences procedure to compare connected and non-connected companies on event and non-event days. I assume that connected and non-connected companies react similarly in non-event days after controlling for the factors mentioned above. I separate events into good and bad ones, to capture the different signs.

$$ACAR_{se} = \gamma + \sum_j \beta_j C_{js} + \gamma_1 G_e + \gamma_2 B_e + \sum_j \theta_j C_{js} * G_e + \sum_j \omega_j C_{js} * B_e + \sum_k \delta_k X_{sek} + \sum_k \phi_k X_{sek} * G_e + \sum_k \chi_k X_{sek} * B_e + \mu_{se}, \quad (6)$$

where G is a dummy variable equal to 1 if a good event occurred and zero otherwise, and B is a dummy variable equal to 1 if a bad event occurred and zero otherwise. Since on average 36% of the stocks on a given day are not traded, I repeat this analysis using only stocks that were traded during the event period.

The results are presented in table 2. Columns (1) and (2) report the results for equation (4) by event. (The only difference is that the estimates in column (1) exclude the set of control variables X .) Both types of non-state-owned connected companies have on average higher abnormal daily returns during the election episode. In particular, the family-connected companies' abnormal returns are 3.8 percentage points higher than non-connected companies per day. This estimate is significant at the 1% level. The average daily market return is less than 2% during the election event. Therefore, family-connected firms are performing much better than the market. Since the election event takes four days, these companies experienced an increase in their total abnormal returns of over 15 percentage points, while the market return was just 7%. The other-connected companies also have significantly higher abnormal returns during the election event, although the difference is

much smaller. The total effect for the four days for these firms is less than 6 percentage points.

The family-connected companies have lower daily abnormal returns during bad events than non-state-owned non-connected companies. This difference ranges from 2 to 9 percentage points, except for the last event. For the other-connected companies this difference is around 0 to 2 percentage points and never statistically significant. The impact is larger for family-connected firms. In particular on May 27th, family-connected have a drop of 9 percentage points (significant at the 5% level) and other-connected companies experience no significant change in their abnormal returns. During this event the market return is positive and above 7%.

The estimates for equation (5) are presented in column (3) of table 2. These results are in line with the previous findings. The following two columns report the estimates for equation (6). Family-connected companies do significantly better in good event days and significantly worse in bad event days. If we consider only firms that were actually traded during the events, the family-connected firms have lower daily abnormal returns by around 3 percentage points in bad event days. The same set of firms has an increase of 3 to 4 percentage points in good event days. The results for other-connected companies are smaller and less significant. In particular, there seems to be no significant decline in abnormal returns on bad event days for this set of firms.

In all the results presented above, the standard errors are corrected for correlation between securities of the same firm using clustered standard errors. Additionally, I allow for observations to be correlated along the time dimension. In other words, I correct for first-order serially-correlation residuals in (5) and (6). The results do not change significantly with this last correction.

The evidence is indicative of a significant impact of the impeachment on family-connected companies. These firms experience a significant decline in their returns when compared to non-state-owned non-connected firms. However, the other-connected firms did not suffer a loss in returns during the impeachment episode. This indicates that the market perceived the impeachment as an anti-corruption campaign that would decrease the favors granted to family-connected firms, but would not be able to destroy the political network of the other-connected companies.

Furthermore, evidence provided by other CPIs supports this interpretation. The Brazil-

ian parliament created other committees (CPIs) to investigate several corruption allegations unrelated to the presidential impeachment. The reports that came out of these investigations prove that a few of the other-connected companies were connected to other politicians during and after Collor's administration.

The evidence is consistent with the idea that family-connected firms were favored by the president for non-financial reasons, while the other-connected firms paid directly for the benefits that they received. The stock market value of family-connected companies decreases due to the impeachment for two reasons. First, they lost their political connections. Second, in order to get the same political favors they would have to pay more than before because the new government is no longer altruistic towards these family-connected companies. In contrast, the other-connected companies were not affected by the impeachment because they are connected to other politicians that provide the same favors at the 'market price' as the impeached president did before.

4.2 Immediate Effect on Competitors' Returns

If political connections are an important factor in doing business in Brazil, the competitors of connected firms should also be affected by news about the president. The competitors who are not connected to the president, are affected by the performance of other companies in their markets. When the performance of those other firms depends on political connections, competitors are indirectly affected by political events. Therefore, the competitors' reaction to news about the president provides further information about the impeachment's impact on the business norm in Brazil.

In this section, I investigate how competitors react to news about the president. In particular, I test whether changes in the stock price of competitors are correlated with the initial market share of connected companies in each industry. My hypothesis is that on bad event days the stock price of competitors increases and this change is proportional to the market share of connected companies. In industries where connected companies are predominant, non-connected companies should react more to events involving the president than in industries where connected firms are inexistent.

On good event days the share price of competitors can react positively or negatively because there are two opposing effects. The only good event I am considering is the election event. This event led to a change in economic policies as well as a change in the individuals

in government. Therefore, if the competitors of connected companies are favored by the change in economic policies proposed by Collor, their stock price should increase. However, if being connected to the president has value beyond the economic policies he promotes, then the share price of competitors should decrease during the election event. How the stock price of competitors reacts is ambiguous and depends on which effect dominates. On bad event days the policy effect is marginal because Itamar Franco (who replaced Collor) promoted the same type of economic policies.

I define competitors as non-connected and non-state-owned companies. All the regressions are now restricted to this sample. In my analysis I control for industry, size, debt, book to market value and market beta as before. I separate the connected companies into two mutually exclusive sets: other-connected and family-connected. I compute their market share as the ratio of their stock market value to the total stock market value for their industries. I then evaluate the effect of the impeachment on competitors using a procedure similar to the event study. I evaluate the abnormal returns defined in the previous section and calculate their daily averages per event. Finally, I estimate the following specification.

$$CCAR_{se} = \gamma + \beta_1 MSC_s + \beta_2 MSF_s + \gamma_1 G_e + \gamma_2 G_e * MSC_s + \gamma_3 G_e * MSF_s + \gamma_4 B_e + \gamma_5 B_e * MSC_s + \gamma_6 B_e * MSF_s + \sum_k \delta_k X_{sek} + \mu_{se}, \quad (7)$$

where $CCAR$ is the average cumulative abnormal returns for competitors, the market share for other-connected companies is defined as $MSC_s = \frac{\sum_{s \in I} marketvalue|connect=1}{\sum_{s \in I} marketvalue}$ where company s is in market I , and similarly the market share for family-connected companies is defined as $MSF_s = \frac{\sum_{s \in I} marketvalue|family=1}{\sum_{s \in I} marketvalue}$. Here I use two definitions of market: first the market is limited to an industry, second the market is confined to a particular region¹² and industry.

If political connections are an important factor for the stock market performance of competitors of family-connected companies, γ_6 is expected to be positive. The sign of γ_3 is a priori ambiguous. Given that there is evidence that the other-connected companies were not affected by the impeachment, the political events during that episode are not expected to be a relevant issue for the competitors of those firms.

Column (1) of table 3 presents the results for the competitors analysis where market is defined by industry. The estimates indicate that the competitors of family-connected

¹²A region is defined by telephone area codes.

companies experienced an increase in their share price returns when damaging news about Collor de Mello were made public. Competitors of family-connected companies seemed to be favored by the impeachment, although this estimate is not statistically significant.

The estimates using the second definition of market are presented in column (2) of table 3. Including regional controls in defining market leads to smaller effects on daily returns. Competitors of family-connected firms are better off during the impeachment. In a market where the share of family-connected companies is 50%, competitors' returns increase 0.4 percentage points every day that harmful news about the president is made public. The estimate for γ_6 is significant at the 10% level.

The other-connected firms' coefficients have the opposite sign. In markets where connected companies are more prevalent, their competitors tend to react in the same direction. These results reinforce my earlier interpretation that these companies remain connected all the time, independently of who is in power. Hence, their competitors do not react to the impeachment in a positive way. Therefore, these results are not surprising. The competitors of other-connected companies experience a rise in their abnormal returns during the election event. If in fact the elections' result conveys information about future policies, this finding suggests that the other-connected companies as well as their competitors benefited from Collor's economic policies defined in his platform.

The competitors analysis provides evidence that the immediate impact of the impeachment was not negligible. In fact, family-connected firms and their competitors' stock market returns were affected, suggesting that investors incorporate political connections and corruption in their valuation of companies. The impeachment was effective in decreasing the value of connections in the short-term for the family-connected companies, but not for the other-connected firms.

4.3 Long Run Effects

Finally, I look at stock market data to evaluate firms' performance beyond the immediate-term. I investigate how the stock market reacted in the years following the impeachment. In a first inspection of the data I compare averages of log of stock market¹³ value for three sets of companies: family-connected, other-connected, and non-state-owned non-connected.

¹³The log of stock market value is normalized by its value on Dec 1st 1989 (before Collor administration began). Therefore the variable I examine is the growth rate of stock market value starting from Dec 1st 1989.

Graph 1 presents evidence that family-connected firms have lower normalized stock market value during most of 1992, which is consistent with the event study analysis. However, by mid 1993 these firms start recovering and by the end of 1993 there is no clear difference between family-connected and non-connected companies. The data suggests that there was a short run effect but no long-term effect. In the same graph is visible that the other-connected companies have lower normalized stock market value than the non-connected companies throughout the 1990s. The average of other-connected companies' normalized stock market value is below the non-connected companies average value before and after the impeachment.

In order to obtain a more accurate estimate of the difference in the normalized stock market value between non-connected and family-connected firms, I construct a portfolio of non-connected firms that matches the family-connected companies' portfolio by industry¹⁴.

Graph 2 reports the normalized stock market value for family-connected and non-state-owned non-connected companies matched by industry. It shows clear evidence of recovery by family-connected companies, after a year and a half of troubled times. First, family-connected firms have slightly lower normalized stock market value before Collor takes power. Second, during the Collor presidency before the impeachment episode, family-connected and non-state-owned non-connected companies behave quite similarly. Third, the family-connected firms experience a significant decrease in their normalized stock market values when compared to non-connected firms during the impeachment episode and the following months. Fourth, however, these companies recover quite fast and even perform better than non-connected companies.

This graph suggests that being connected was good for these companies even though the politician they were connected to was barred from public office. By 1994, family-connected companies were better off than in 1989, before Collor was elected. This evidence is consistent with the fact that family-connected companies might have been able to build new connections or that the favors these companies enjoyed might have long lasting effects. The impact of the impeachment as anti-corruption campaign in the long-term is questionable.

To further inspect these results, I analyze the buy and hold abnormal returns (BHAR)

¹⁴First, I compute the average growth rate for non-connected firms by industry. Then I build a portfolio of industry averages such that it has the same industry composition as the set of family-connected companies. In this manner, I obtain a portfolio of non-connected companies that is comparable with the portfolio family-connected firms.

and the average cumulative abnormal returns (ACAR) over the long-term. BHAR measures the extra return an investor obtains by acquiring a security or portfolio at time a and selling it at time e .

$$BHAR_{se} = \prod_{t \in (a,e)} (1 + R_{st}) - \prod_{t \in (a,e)} (1 + E[R_{st}]) , \quad (8)$$

where $E[R_{st}]$ is the expected return of security s , which can be measured by the market index return, or the average return for the companies operating in the same industry as security s . While ACAR measures the average daily abnormal return from a to e . These two measures are correlated, but answer two different questions. The long-term event study literature (Lyon, Barber, Tsai (1999)) prefers BHAR over ACAR because BHAR mimic the investor's experience better. I present both measures because the biases they face tend to have opposite signs. Therefore, most likely the true effect is in between the two measures. I estimate the following equations, which are quite similar to the ones presented before in the short-term event study. However, here the abnormal returns are averaged over a longer period of time.

$$BHAR_{se} = \gamma + \sum_j \beta_j C_{js} + \sum_k \delta_k X_{sek} + \mu_{se} \quad (9)$$

$$ACAR_{se} = \gamma + \sum_j \beta_j C_{js} + \sum_k \delta_k X_{sek} + \mu_{se} \quad (10)$$

The results are presented in tables 4a (for equation 9) and 4b (for equation 10). The estimates presented in columns 1 to 3 of table 4a support the previous conclusions from Graph 2. Family-connected firms experience significantly lower returns from early 1992 to the end of 1993. However, these firms do not have significantly different returns from early 1992 to late 1994. Therefore by the end of 1994, all the loss in returns due to the impeachment was recovered. Columns 1 to 3 of table 4b provide similar evidence. The impeachment had a negative effect on family-connected companies' returns in 1992, but no effect in the long-term. The fact that both measures (BHAR and ACAR) indicate the same conclusion decreases the concerns one might have about the biases associated with these measures in the long-term.

In Graph 3, I present the normalized stock market value for the other-connected companies and non-connected companies matched by industry. The other-connected firms

have lower normalized market value throughout the 1990s. The difference between other-connected and non-connected companies' market value is not larger in the years right after the impeachment. In fact, the estimates presented in columns 1 to 3 of tables 4a and b show that the impeachment did not have a negative impact on the other-connected companies. The other-connected companies seem to be the worst ones in their sectors before and after the impeachment. The increase in the difference between other-connected and non-connected companies' market value can plausibly be attributed to market liberalization and macroeconomic shock, such as inflation stabilization and exchange rate overvaluation . The other-connected companies were probably adversely affected by this economic policy for two reasons. First, these companies operate in industries affected by market liberalization, such as Banks, Petro Chemical and Steel Plant. Second, these companies are connected because they probably need political connections to operate as well as the rest of the market.

To test if market liberalization can explain the performance of other-connected companies, I analyze the effects that trade liberalization policies had on the stock market returns of other-connected companies. At the end of June 1990, both the Brazilian government and the US government announced a set of measures that would dramatically affect international trade rules. The Brazilian government made known at that time a program of trade liberalization that was implemented in the following years. In order to analyze the effect of these policies on connected companies, I reestimate equations (9) and (10) using a different starting point (July 2nd 1990).

The results from columns 4 and 5 of table 4a suggest that trade liberalization had a negative impact on other-connected companies, both in 1990 and 1991. The fact that trade liberalization had a differential impact on the other-connected companies suggests that liberalization policies can lead to reduction in corruption.

5 Evidence from Accounting Data

Accounting data can provide further information about firms' performance in the long run. In this section, I assess if evidence using data on firm profitability and liquidity is compatible with the stock market findings from the previous section. Accounting data can give insights about the mechanisms behind the stock market evolution and how different levels of political connections lead to distinctive stock market valuations.

I check what happened to those companies with strong political connections after the impeachment episode. I look at long-term measures of performance, based on financial statement data to see whether these companies jumped to a lower trend or recovered. In particular, I test whether family-connected companies recovered as suggested by the stock market evidence. I also check whether other-connected companies' performance is affected by the impeachment or if their performance is constant throughout the 1990s as the stock market results indicate.

5.1 Long-term performance measures

My empirical strategy for the financial statement data analysis is to use a difference in difference estimation procedure to assess the long lasting effects of the impeachment. In particular, I compare connected and non-connected companies before and after impeachment and during Collor administration. I use the following specification.

$$LTP_{te} = \gamma + \sum_j \beta_j C_{js} + \psi_0 post_t + \sum_j \psi_j C_{js} * post_t + \lambda_0 Collor_t + \sum_j \lambda_j C_{js} * Collor_t + \sum_g \tau_g * W_g + \mu_{se} , \quad (11)$$

where *post* is a dummy variable equal to 1 after 1992, *Collor* is a dummy variable equal to 1 in 1990 to 1992, and *LTP* is a long-term performance measure computed using quarterly balance sheet data. *W* is a set of control variables that includes industry and year dummies, as well as interactions between these two variables.

I analyze two ratios¹⁵: profit margin and current ratio. Profit margin is defined as the ratio of net income to net sales. This accounting ratio is a measure of profitability. Current ratio is defined as current assets divided by current liabilities. The current ratio is a measure of liquidity, i.e., it assesses whether a firm has enough current assets to cover its liabilities with up to one year maturity. The inverse of current ratio measures leverage in the short-term. In Brazil current liabilities are a large proportion of total liabilities. Thus, the current ratio is informative about how leveraged a firm is. There is anecdotal evidence that connected companies had easier access to credit and therefore were more leveraged.

¹⁵The choice of long term performance measures is constrained by the quality of data. During the early 1990s, Brazil had a hyperinflation leading to large measurement error in accounting data. This error still persists even though all the data is in US dollars. To minimize the error, I use accounting ratios as performance measures. These ratios should be less affected by inflation, since both the denominator and the numerator are measured in the same year currency.

I start by estimating equation (11) using data from 1986 to 1994. The stock market evidence suggested that family-connected companies recovered by the end of 1993. If there was any effect of the impeachment episode it should appear in the years right after the impeachment. However, given that the political favors obtained during Collor administration can have long lasting effects, family-connected companies might not have lower profitability and leverage right after the impeachment.

In order to infer what was in fact the long term effect, I examine what happened to connected companies two years after the impeachment. The results are presented in columns (3) and (4) of table 5. Family-connected companies were more profitable in the two years after the impeachment. This result appears to contradict the findings from the stock market analysis. During 1992 and most of 1993, the market predicted that these companies would be less profitable in the future. However, the accounting data does not indicate a worsening in performance in the long term. Being connected once can have long lasting effect and therefore family-connected firms' profitability did not go down.

I reestimate equation (11) using all the data available (from 1986 to 2000), with the purpose of analyzing the long-term effect. One can observe from inspecting table 5 columns (1) and (2) that there is no clear evidence that family-connected firms behave differently when compared to other firms after the impeachment. Although, their current ratio is lower after the impeachment. This table provides evidence that family-connected firms were better off during Collor presidency. They experienced a significantly higher profit margin and lower current ratio. Lower liquidity is usually a bad sign for firms. However, in the present case the lower current ratio can be explained by easier access to credit. This finding is consistent with family-connected firms obtaining more credit due to political connections and not due to performance.

The gains in profitability that these firms obtained while Collor was in office disappeared after the impeachment. Therefore, the family-connected companies experience similar levels of profitability before Collor administration and after the impeachment. However, these firms are able to maintain a higher leverage after the impeachment. Overall the performance of family-connected companies, if anything, is better after 1990 than it was before. This finding is present in accounting data as well as stock market data.

On the whole my findings are consistent with the previous evidence from the stock market. Family-connected companies recovered rapidly after the impeachment episode and no

long-term consequences remained. I conjecture that these companies built new connections and that connections can have a long-term effect even after they cease to exist. The other-connected companies were not affected by the impeachment. Their lower performance is caused by factors prior to the impeachment, such as market liberalization. Again this result appears both in accounting and in stock market data. Overall, there is no clear indication that the impeachment led to a significant reduction in corruption.

6 Conclusion

I conclude from the stock market and accounting data that there was no significant reduction in corruption after the Collor administration. The key pieces of evidence are the following: First, the other-connected companies were never significantly affected by the impeachment. Even though these companies were proven to have bribed Collor's campaign manager, their stock market values did not significantly decrease due to the impeachment episode. Furthermore, although these companies experienced positive abnormal returns during the election event, their competitors' stock returns also increased during the election event, suggesting that the policy change was favorable to both connected and non-connected companies. In other words, the stock market reacted to the policy change as opposed to the connection change. I see this evidence as suggesting that corruption did not go down due to the impeachment. The only companies that were affected were the ones in the unique position of having family connections to the president. The remaining companies could always switch the allegiance to whom was in power since the favors they got did not depend on family ties.

Second, the family-connected firms recovered from the impeachment episode. Their stock market value increased at least to their industry average stock market valuation. Their profit margin was not significantly different after the impeachment than before Collor administration. These companies were more profitable and were able to borrow more during Collor administration when compared to the late 1980s. This advantage in leverage did not disappear after the impeachment. One plausible explanation for these findings is that family-connected companies were able to rebuilt their political connections. Another alternative explanation is that a short-term access to preferential treatment can have long lasting effects, even if corruption decreases in the long-term. The evidence about the

other-connected companies suggests that corruption persisted.

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Table 1 Descriptive Statistics

	Family Connected	Other Connect	State Connected	State Non- Connected	Non-Connected	
Panel A Descriptive Statistics- Averages and Standard Deviations						
A.1 Stock Market						
Size	12.684 (0.735)	13.795 (1.358)	16.660 (1.882)	15.263 (1.372)	12.853 (1.351)	
Leverage	0.214 (0.184)	0.281 (0.293)	0.317 (0.271)	0.311 (0.191)	0.236 (0.180)	
Price to Book Value	1.113 (0.562)	0.856 (0.728)	0.825 (1.000)	0.397 (0.519)	0.890 (1.010)	
Beta	0.564 (0.416)	0.557 (0.507)	0.794 (0.332)	0.872 (0.706)	0.635 (0.391)	
N stocks	5	15	11	33	177	
N companies	5	12	8	13	151	
A.2 Accounting Data						
Net Income	3245 (26883)	-1114 (37578)	108943 (265546)	46699 (264289)	6080 (37678)	
Total Assets	288731 (189435)	561385 (642600)	6761188 (12000000)	4730639 (11200000)	445642 (1232830)	
Returns on Assets	0.012 (0.081)	-0.014 (0.140)	0.016 (0.052)	-0.004 (0.065)	0.002 (0.115)	
Profit Margin	0.238 (0.852)	-0.139 (0.776)	0.062 (0.223)	0.008 (0.406)	0.021 (0.560)	
Current Ratio	0.798 (0.575)	1.054 (0.844)	1.181 (0.629)	0.891 (0.663)	1.457 (0.872)	
Asset Turnover	0.384 (0.388)	0.366 (0.395)	0.461 (0.826)	0.231 (0.211)	0.520 (0.479)	
Current Liabilities/ Total Assets	0.265 (0.194)	0.264 (0.206)	0.213 (0.125)	0.216 (0.171)	0.319 (0.339)	
N Firms	4	14	15	41	175	
N Obs	111	469	495	1212	6250	
Panel B Firms Characteristics and Correlations Pre-Impeachment (1990, 1991)						
Dependent Variable	Return on Assets			Leverage		
Family Connected	-0.039 (0.035)	-0.040 (0.036)	-0.044 (0.042)	0.068 (0.048)	0.055 (0.041)	0.048 (0.041)
Other Connected	-0.024 (0.026)	-0.024 (0.027)	-0.040 (0.033)	0.041 (0.040)	0.032 (0.038)	0.032 (0.040)
Firm Size		0.007 (0.005)	0.008 (0.006)		-0.012 (0.012)	-0.010 (0.012)
Return on Assets					-0.363** (0.113)	-0.375** (0.130)
Firm Growth			0.002 (0.013)			-0.070** (0.016)
N Obs	1223	1223	912	1223	1223	912
R-squared	0.14	0.14	0.16	0.45	0.48	0.49

Notes: Panel A reports averages and standard deviations in parentheses. Panel B presents OLS estimations for firm correlations before the impeachment. In these regressions, Industry dummies are included. Standard errors are clustered by company. Return on assets is profits divided by total assets. Leverage is defined as the ratio of current liabilities to total assets. Firm Size is the log of total assets and firm growth is the growth rate of total assets. Profit margin is defined as the ratio of net income to net sales. Current ratio is defined as current assets divided by current liabilities. Asset Turnover is defined as net sales divided by total assets. *** means significant at 1% level, ** at 5% level, and * at 10% level

Table 2 Market Model

Dependent Variable =					
Abnormal Returns	(1)	(2)	(3)	(4)	(5)
family connected*event good				0.0399***	0.0292***
				(0.0090)	(0.0089)
family connected*event bad				-0.0191***	-0.0299***
				(0.0057)	(0.0077)
other connect*event good				0.0131*	0.0142**
				(0.0068)	(0.0071)
other connect*event bad				0.0004	0.0027
				(0.0042)	(0.0046)
	Nov 16 1989	0.0212***	0.0382***	0.0399***	
		(0.0067)	(0.0099)	(0.0090)	
	Mar 30 1992	-0.0432***	-0.0396	-0.0379*	
		(0.0129)	(0.0247)	(0.0219)	
family connected	May 18 1992	-0.0066	-0.0166	-0.0149	
*event		(0.0100)	(0.0145)	(0.0123)	
	May 27 1992	-0.0480**	-0.0918**	-0.0901***	
		(0.0203)	(0.0368)	(0.0332)	
	Jun 29 1992	-0.0043	-0.0013	0.0004	
		(0.0035)	(0.0055)	(0.0053)	
	Nov 16 1989	0.0118	0.0140*	0.0131*	
		(0.0084)	(0.0078)	(0.0068)	
	Mar 30 1992	-0.0061	0.0004	-0.0004	
		(0.0090)	(0.0107)	(0.0099)	
other connected	May 18 1992	0.0028	0.0136	0.0128	
*event		(0.0105)	(0.0118)	(0.0104)	
	May 27 1992	-0.0111	-0.0179	-0.0187	
		(0.0205)	(0.0266)	(0.0241)	
	Jun 29 1992	-0.0047	-0.0020	-0.0029	
		(0.0046)	(0.0052)	(0.0045)	
family connected				-0.0017*	0.0088***
				(0.0009)	(0.0033)
other connect				0.0009	-0.0003
				(0.0006)	(0.0014)
Controls Included	No	Yes	Yes	Yes	Yes
Restricted to Traded	No	No	No	No	Yes
Event Dummies & Interactions	No	No	Yes	Yes	Yes
Observations	218 to 229	165 to 190	146291	146291	93057
R-squared	0.01 to 0.03	0.20 to 0.27	0.0018	0.0013	0.0033
Clusters	184 to 192	141 to 163	165	165	165

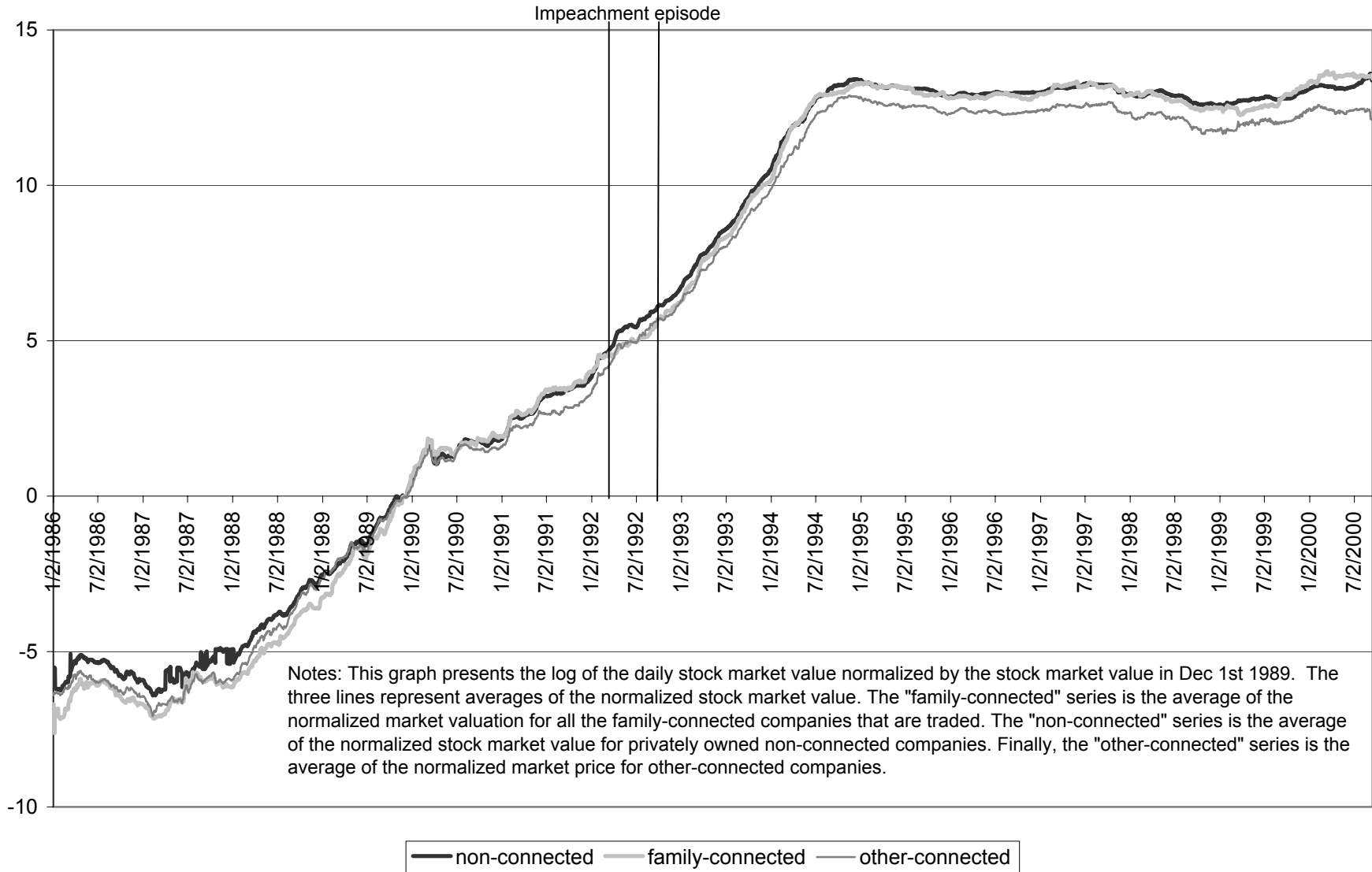
Notes: Column (1) and (2) include 5 regressions each: one per each event. All regressions include state connected and nonconnected dummies. The control variables are: 30 industry dummies, log of total assets, leverage, price to book value, and beta. Event good is a dummy variable equal to 1 if good news about the president was released. Event bad is a dummy variable equal to 1 if damaging news about the president was released. The regression in column (3) includes 5 event dummies and interactions between those dummies and the control variables. The regressions in columns (4) and (5) include event good and event bad dummies as well as the interactions between those and the control variables. The standard errors in parentheses are corrected by clustering the observations by company.*** means significant at 1% level, ** at 5% level, and * at 10% level.

Table 3 Competitors

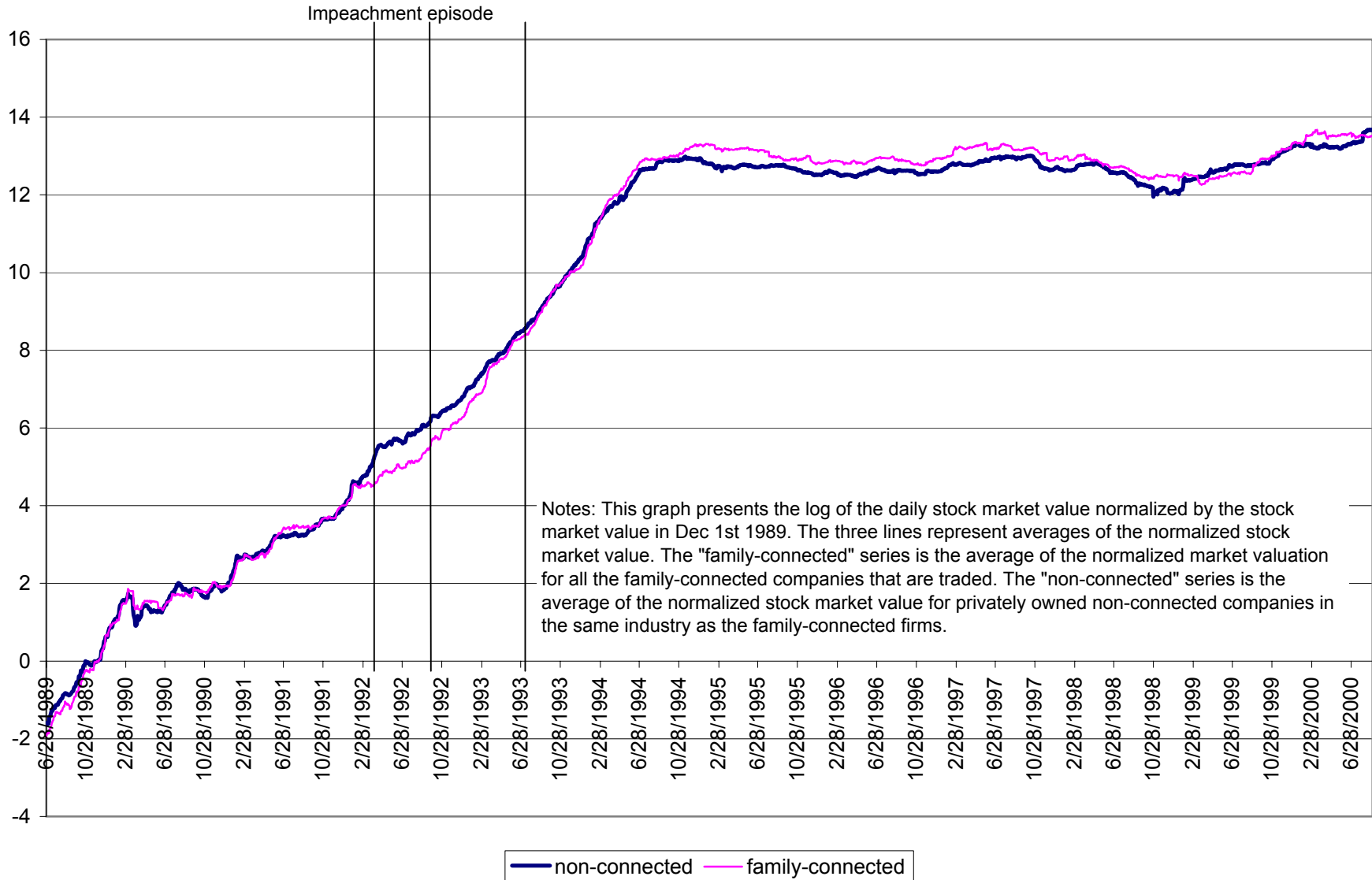
Dependent Variable =	Abnormal Returns	
	(1)	(2)
Share Family Connected*Event Good	0.0055 (0.0133)	-0.0053 (0.0051)
Share Family Connected*Event Bad	0.0150 (0.0142)	0.0081* (0.0051)
Share Family Connected	0.0000 (0.0000)	0.0060*** (0.0009)
Share Other Connected*Event Good	0.0126** (0.0057)	0.0060 (0.0052)
Share Other Connected*Event Bad	-0.0043 (0.0038)	-0.0036 (0.0034)
Share Other Connected	0.0020*** (0.0007)	0.0056** (0.0026)
Event Good	-0.0023 (0.0021)	-0.0006 (0.0022)
Event Bad	0.0062*** (0.0019)	0.0026 (0.0019)
Geographical dummies	No	Yes
Observations	114335	114335
R-squared	0.03	0.03
Clusters	131	131

Notes: All regressions include 30 industry dummies, log of total assets, leverage, price to book value, and beta. The regressions in the first 2 columns also include the Brazilian market index as a control. The standard errors are corrected by clustering the observations by company. Share family connected (other connected) is defined as the market value of family connected (other connected) companies divided by the total market value of the industry. Event good is a dummy variable equal to 1 if good news about the president was released. Event bad is a dummy variable equal to 1 if damaging news about the president was released. *** means significant at 1% level, ** at 5% level, and * at 10% level.

Graph 1 Normalized stock market value



Graph 2 Normalized stock market value matched by industry for family-connected companies



Graph 3 Normalized stock market value matched by industry for other-connected companies

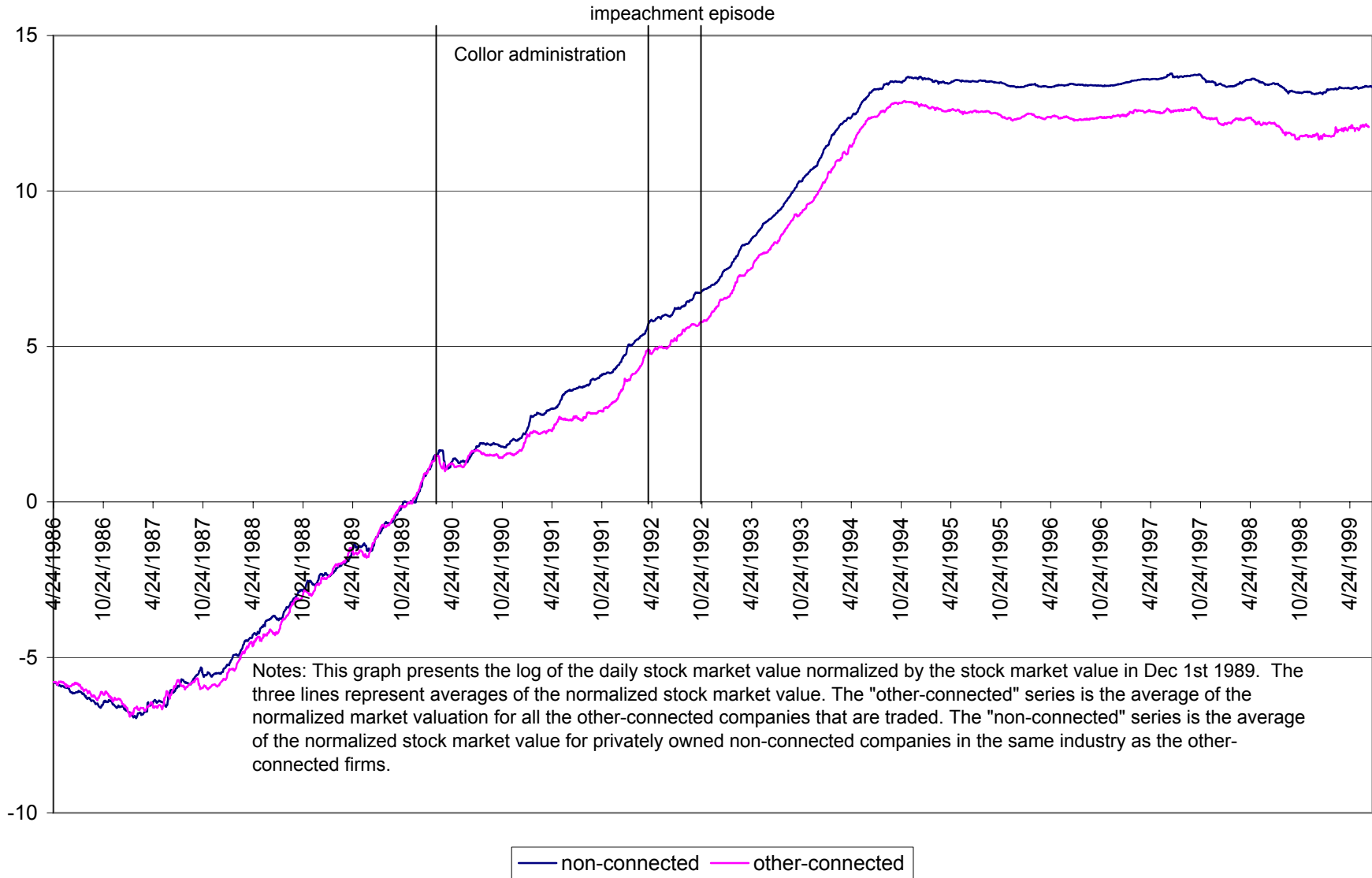


Table 4a Medium and Long Term - Stock Market Data

Dependent Variable =	Buy and Hold Abnormal Returns						
	From	From	From	From	From	From	From
	1/2/1992 to 12/30/1992	1/2/1992 to 12/30/1993	1/2/1992 to 12/30/1994	7/2/1990 to 12/28/1990	7/2/1990 to 12/30/1991	1/2/1992 to 12/30/1992	1/2/1992 to 12/30/1993
(1)	(2)	(3)	(4)	(5)	(6)	(7)	
Family Connected	-14.4709* (8.2599)	-847.6134** (353.4309)	-7,120.4413 (6,032.9691)	-0.5058 (0.7916)	-2.6684 (4.1774)	-13.9220 (8.5455)	-6,800.7103 (5,964.2926)
Other Connected	1.4065 (4.6598)	44.1806 (202.9363)	141.3954 (3,329.3636)	-0.7241*** (0.1620)	-18.6517*** (6.9784)	1.9568 (4.5805)	461.9662 (3,414.2061)
Itamar						7.5413 (6.9505)	4,393.2747 (11,074.7508)
Observations	193	193	193	190	190	193	193
R-squared	0.2169	0.2715	0.2756	0.4716	0.7580	0.2188	0.2760
Clusters	167	167	167	164	164	167	167

Notes: All regressions include 30 industry dummies, log of total assets, leverage, and price to book value. Itamar is a dummy variable equal to 1 if the company is from Minas Gerais (Itamar's home state), zero otherwise. The standard errors are corrected by clustering the observations by company. *** means significant at 1% level, ** at 5% level, and * at 10% level.

Table 4b Medium and Long Term - Stock Market Data

Dependent Variable =	Cumulative Abnormal Returns						
	From	From	From	From	From	From	From
	1/2/1992 to 12/30/1992	1/2/1992 to 12/30/1993	1/2/1992 to 12/30/1994	7/2/1990 to 12/28/1990	7/2/1990 to 12/30/1991	1/2/1992 to 12/30/1992	1/2/1992 to 12/30/1993
(1)	(2)	(3)	(4)	(5)	(6)	(7)	
Family Connected	-1.0990* (0.6599)	-1.2455 (0.9310)	-0.8169 (1.5581)	-0.0930 (0.5517)	-1.1931* (0.6048)	-0.9253 (0.7176)	-0.4109 (1.3985)
Other Connected	0.7905 (0.6152)	1.0932 (1.0797)	2.4210 (1.8761)	-0.2717 (0.2959)	0.5554 (0.6807)	0.9418 (0.6382)	2.7748 (1.9514)
Itamar						2.3378 (2.1384)	5.4653 (5.7817)
Observations	202	202	202	192	202	202	202
R-squared	0.2292	0.2398	0.2359	0.3072	0.2736	0.2384	0.2432
Clusters	171	171	171	166	171	171	171

Notes: All regressions include 30 industry dummies, log of total assets, leverage, and price to book value. Itamar is a dummy variable equal to 1 if the company is from Minas Gerais (Itamar's home state), zero otherwise. The standard errors are corrected by clustering the observations by company. *** means significant at 1% level, ** at 5% level, and * at 10% level.

Table 5 Long & Medium term

Dependent Variable	1986-2000		1986-1994	
	Profit Margin	Current Ratio	Profit Margin	Current Ratio
	(1)	(2)	(3)	(4)
Family Connected	-0.0460 (0.1575)	-0.4389*** (0.1316)	-0.0460 (0.1583)	-0.4389*** (0.1323)
Family Connected*Collor	0.3421* (0.1924)	-0.6736** (0.2715)	0.3421* (0.1935)	-0.6736** (0.2730)
Family Connected* Post	0.0528 (0.1283)	-0.5611* (0.2961)	0.3461** (0.1346)	-0.7599*** (0.2536)
Other Connected	0.0286 (0.0489)	-0.3317 (0.2223)	0.0286 (0.0492)	-0.3317 (0.2235)
Other Connected*Collor	-0.1366 (0.1192)	-0.0239 (0.1521)	-0.1366 (0.1199)	-0.0239 (0.1529)
Other Connected*Post	-0.2419* (0.1419)	-0.1452 (0.2516)	-0.1892* (0.1093)	-0.2966 (0.2798)
Collor	-0.3106 (0.2239)	-0.2320 (0.4037)	-0.3106 (0.2252)	-0.2320 (0.4059)
Post	0.3725 (0.5199)	-0.3578 (0.4075)	-0.0399 (0.0578)	-0.4016 (0.2992)
Observations	8469	8469	4358	4358
R-squared	0.19	0.28	0.19	0.36
Clusters	245	245	202	202

Note: Standard error are clustered at the company level. 30 Industries dummies and year dummies are included, as well as year and industry interactions. Collor is dummy variable equal to 1 in 1990, 1991, and 1992, zero otherwise. Post is a binary variable equal to 1 after 1992, zero otherwise. Leverage is defined as the ratio between current liabilities and total assets. Profit margin is defined as the ratio of net income to net sales. Current ratio is defined as current assets divided by current liabilities. *** means significant at 1% level, ** at 5% level, and * at 10% level.