Political Connections And Government Subventions In Brazil's Public Companies

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Abstract:
This study aimed to investigate the relationship between the receipt of government subsidies by companies listed on B3 and the existence of political connections. The argument of the study is that the granting of government subsidies in Brazil is in accordance with the assumptions of the Theory of Public Choice (TEP), materialized in trade offs known as political connections. The present study sampled 333 companies listed on Brasil, Bolsa, Balcão (B3) in the period 2014 – 2018, which met the parameters of this research. Three regression models were tested: multiple linear regression, regression with robust models and quantile regression. The data were obtained from four different databases: TSE, Explanatory Notes to the DFPs, B3 and Economática®. Result: As a main result, it was found that the establishment of political connections is significant for the higher volume of resources received in the form of government subsidies and for the largest companies. Conclusion: As a consequence, it is concluded that government subsidies in Brazil do not fulfill their purpose and serve to increase the already latent economic and social distortions. The main limitation of this study is the variable used for political connections in the form of campaign financing, given the illegal practice of campaign financing via "slush funds". Considering the study period and the variables adopted, this research demonstrated that, as a public policy, the granting of government subsidies in Brazil does not achieve its objectives in the way that society desires and is duly explained by the TEP, which illustrates the failures of the State (Government) when it decides to carry out interventions.
Keywords: *Government grants. Political connections. Public choice theory.*

I. INTRODUCTION

The functions performed by the State in the economy comprise three fundamental aspects: stabilization, intervention in the market through economic policies; allocation, direction of resources where there is no market interest; and distribution, seeking to reduce inequalities in income distribution (LEAL et al., 2022). The State uses the public budget as a tool to carry out these functions (Hammes et al., 2019). To exercise these roles, the State assumes several responsibilities in different spheres of the public sector, employing instruments such as people, organizations and raw materials, the ramifications of which impact not only the society that uses these services, but the environment susceptible to the beneficial and harmful consequences of their provision.

In this context, companies seek resources from government agencies, known as government grants, to manage their activities. The accounting of these resources follows the guidelines of Technical Pronouncement CPC 07/R1, issued by the Accounting Pronouncements Committee (CPC) in 2010, entitled "Government Subsidies and Assistance." This pronouncement is aligned with International Accounting Standards – IAS 20 (BV2010) and guides the accounting, disclosure of government grants and other forms of government assistance.

CPC 07/R1 (2010) outlines that government subsidies can be obtained mainly through two means: 1) loans with interest rates below market rates; and 2) tax exemption. Additionally, companies can receive grants in the form of non-monetary assets, such as land, for their own use.

The relevance of these two main forms of government subsidies in Brazil is accentuated by the high interest rate in the country (OGUNDAIRO; RODRIGUES, 2016). Access to resources from financial institutions imposes significant costs on companies, given the high Brazilian interest rate (Saito and Procianoy, 2008). In the tax sphere, official data reveal that the tax burden consumes between 31.8% and 33.9% of the Gross Domestic Product (GDP) since 2004, positioning Brazil among the countries with one of the highest tax burdens in the world (STN, 2022 ; RFB, 2021).

Historically, Brazil has faced challenges in public accounts, often involving companies and resulting in scandals publicized by the media. For Matias-Pereira (2008, p. 119), efficient fiscal management is crucial for the proper functioning of the State. This need is accentuated in emerging countries, which include Brazil, where corruption is a widespread institution (Klaesener, Amal and Flaster, 2021).

In the study by Claessens, Feijen and Laeven (2008), it is clear that companies seek government subsidies by establishing political connections. In similar research in Brazil, such as those by Pinheiro, De Luca and Vasconcelos (2016), an association is found between political connections, the size of the company and the receipt of government subsidies.

From the perspective of Public Choice Theory (TEP), which considers the relationship between State and society as exchanges in the "political market," a significant gap emerges in the understanding of the receipt of government subsidies in Brazil in light of the assumptions of TEP and the connections policies. Given this context, the following question emerges: What is the relationship between the receipt of government subsidies by companies listed on B3 and political connections? This article seeks to investigate this relationship, filling a gap identified in previous research that did not explore the relationship between the receipt of government subsidies and explanatory variables.

II.   THEORETICAL REFERENCE

During the 1950s of the 20th century, the *Public Choice Theory,* in Portuguese Public Choice Theory (TEP), gained expression in academia over time, notably when its creator, Professor James M. Buchanan Jr., awarded the Nobel Prize in Economics in 1986, as a result of the seminal work entitled *"The Calculus of consent: logical foundations of constitutional democracy"* (The Calculus of Consensus: The Logical Foundation of Constitutional Democracy), dated 1962.

According to Fabre et al. (2018), TEP explains the particular interest of public managers overriding the interest of society when the subject involves government public policies. For the authors, public managers think and act prioritizing satisfying their own interests (FABRE et al., 2018). Furthermore, Tullock, Brady and Seldon (2002) mention that TEP is a scientific and economic analysis of government behavior; in particular, the behavior of individuals towards government. In a broad approach to TEP, Dias (2010) considers that, notably, the analysis of public choice theory focuses on public finances, commercial policies and regulatory policies.

In this approach, when investigating whether mayors' party ties would interfere with budget manipulation in the public sector, Carlos Filho (2021) concluded that there was no statistically significant difference between political parties in relation to budget annulments.

Camilo, Marcon and Bandeira-de-Mello (2012b) define political connections as a method where companies in need of resources seek to relate to politicians in order to facilitate the achievement of their objectives. This definition appears to be constitutive for the purposes of this study.

According to studies by Dinç (2005), Ang and Ding (2006), Camilo, Marcon and Bandeira-de-Mello (2012a) and Wu, Wu and Rui (2012), there are three ways of establishing political connections between the government and companies, which can be explicit or implicit, and are briefly described in Table 1.

Table 1 - Ways to establish political connections

Forms of political connections		Explicit	Implicit
1	Ownership structure	The government and its organizations are shareholders of the company	Participation in companies via pyramidal structure, that is, the government is a partner in one company and this is the owner/partner of the other
2	Campaign financing	Company donation to political campaigns	Donations from company board members to political campaigns
3	*Board* and advice	Presence in the company of politicians or former politicians or members of political parties	People in the company who are connected, however, do not have party affiliation or a history of connection with the government

Source: Prepared by the author based on Dinç (2005), Ang and Ding (2006), Camilo, Marcon and Bandeira-de-Mello (2012a) and Wu, Wu and Rui (2012).

In Brazil, the use of political connections in research has been gaining prominence. Macedo, Silva and Machado (2015) verified whether analysts would be inclined to maintain, in their investment portfolio, companies with explicit political connections and observed a predominant apolitical public and that political connections are not perceived by images of interactions between politicians and businesspeople , but by media information in general. Kuronuma, Okimura and Sales (2018) investigated whether there was evidence to indicate whether political connections are decisive in defining the beneficiaries of financing from the National Bank for Economic and Social Development (BNDES). It was found that there is evidence that politically connected firms, evidenced through donations to electoral campaigns, tend to have preferential access to BNDES credit.

With regard to government subsidies, there is an economic logic that supports public policies for companies to receive them. Governments offer subsidies to companies, according to Girma et al. (2008), with the ultimate objective, at least in countriesdeveloped, to increase productivity on the part of companies. It can be seen that this logic has a target, attracting companies to work in partnership with the State in their activities priorities. Therefore, it can be concluded that government subsidies symbolize one of the ways that the State has to fulfill its obligations indirectly.

The State grants benefits to companies (or people) who, in turn, are responsible for fulfilling certain duties. This reasoning is corroborated by Formigoni (2008) when arguing that government subsidies require a counterpart from the taxpayerbenefited and aims to generate future results.

In the national literature, several studies on government subsidies can be found, precisely from 2011, the period in which CPC 07/R1 (2010) came into effect, with the current regulations being applied in accounting and disclosing the receipt of government subsidies. in explanatory notes to the financial statements. Corroborating, Santos et al. (2022) report that in Brazil only from 2014 did the topic begin to stand out.

In relation to verifying whether companies that received government subsidies were in accordance with the aforementioned pronouncement, the works of Rodrigues, Silva and Faustino (2011), Chagas, Araújo and Damascena (2012), Benetti et al. (2014), Souza et al. (2018), Colares, Camargos and Leite (2019) and Santos Neto et al. (2023) who demonstrated, in general terms, that a significant number of companies do not comply with the device in its entirety. However, Santos, Dani and Klann (2014) concluded that there was an evolution of the*disclosure* information about government subsidies and that this denotes a tendency to comply with the provisions of the pronouncement. In already consolidated markets, the topic of government subsidies is not being investigated recently. Guthmann (1951) states that, in the USA, tax exemption is a factor that generates competitive advantage over competitors who do not receive the exemption. In terms of growth, government subsidies were studied in Brazil. Highlighting the studies by Loureiro, Gallon and De Luca (2011), Julião et al. (2013), Parente et al. (2014) and Zittei et al. (2016).

Generation and distribution of wealth is an example of how government subsidies are studied nationally after companies receive subsidies. Evidence in the work of Formigoni et al. (2015) pointed out a positive correlation between tax incentives and wealth created in companies, and Gonçalves, Nascimento and Wilbert (2016) indicated that companies that received government subsidies generated greater total added value, presenting a greater relative distribution of wealth to pay taxes and personnel.

Still on the same focus, Rezende, Dalmácio and Rathke (2018) found evidence of the influence of tax incentives on added value, operational cash flow, investment cash flow and shareholder remuneration. Supporting these findings, Carlos Filho and Wilkboldt (2019) concluded that government grants are contributing to the creation of shareholder value through the creation of free cash flow.

International studies were also found in which government subsidies were the object of study. Highlighting the studies carried out in the following countries: Ireland (GIRMA; GÖRG; STROBL, 2006), Spain (SORRIBAS-NAVARRO, 2011), Italy (BERNINI; PELLEGRINI, 2011), Portugal (PEREIRA; SILVA; SANTOS, 2015), China (HONG et al., 2015; HONG et al., 2016; WU, 2017; LIU; LI; LI, 2016), United States of America (USA) (LU, 2018), France (MARINO et al., 2016) and Indonesia (ASSAGAF; YUSOFF; HASSAN, 2017).

III. OPERATIONAL DEVELOPMENT OF HYPOTHESIS ANALYSIS

Initially, it is worth observing the institutional environment in which Brazil finds itself. According to Goldman, Rocholl and So (2009), political connections are valuable for companies in countries with a weak legal protection system and a high level of corruption. Supporting this position, Chen et al. (2011) state that political connections are favorable in countries with a less developed economy or in governments with discretion in the allocation of resources. Brazil, the focus of this research, has the following characteristics: weak legal protection system (FACCIO, 2006), corruption (SILVA, 2016) and discretion in the allocation of resources (SCHAPIRO, 2017). Furthermore, worsening this environment found in Brazil, political connections materialize in the TEC. Santiago, Borges and Borges (2014) state that in the case of political decisions, they are based on non-technical criteria, seeking, in this way, electoral "gains".

It is worth noting that no studies were identified in Brazil to understand the reasons that lead companies to receive government subsidies. Political connections can play a relevant role for organizations, as they consist of asource of financing capable of making up for declines in revenue generation (FISMAN, 2001), so that companies establish political connections with politicians and/or political parties to have access to financing (CLAESSENS; FEIJEN; LAEVEN, 2008).

Faccio (2006) compared the effects between companies that established political connections and companies that did not. The author identified marked differences in the performance of companies with political connections. In countries with a high degree of corruption, the benefits for companies with political connections were accentuated.

According to Brey, Marcon and Bandeira-de-Mello (2012), the government's participation in the ownership structure demonstrates its interest in influencing and participating in the decision-making power of companies. Studies in several countries carried out by Thomsen and Pedersen (2000) and Wu (2011) indicate that the presence of the government as a shareholder positively alters company performance. According to Samuels (2001), when investments are made in the company/government relationship, companies have the expectation of achieving appropriate results, whether represented by the return of favors, provision of services, contracts, information and other advantages.

Corroborating this statement, Camilo, Marcon and Bandeira-de-Mello (2012.ª) assert that, when creating political connections through campaign donations, the company spends resources in the expectation of obtaining a good return, as if it were making an investment. According to Bazuchi et al. (2013), campaign financing is classified as a company strategy, which establishes ties with current rulers, likely future rulers and political parties.

Based on the literature recommendations outlined, the general hypothesis (**H₁**) of this researchconsiders a positive relationship between political connections and the receipt of government subsidies. Consequently,considering the ways of establishing political connections between the government and companies presented in the studies by Dinç (2005), Ang and Ding (2006), Camilo, Marcon and Bandeira-de-Mello (2012.ª) the following operational hypothesis is presented :

H₁ₐ: Political connections, explicit in terms of ownership structure orto financing campaign by companies listed on B3, positively influence the receipt of government subsidies.

IV. METHODOLOGY

The study population brings together the 426 publicly traded companies in Brazil listed on B3 in June 2019. From this population, we excluded93 companies in which it was not possible to collect all variables for the five years of research analysis (2014–2018). Therefore, the final sample consists of333 companies.

The analysis period follows the model proposed by Camilo, Marcon and Bandeira-de-Mello (2012.ª), which consists of carrying out the analysis for periods of mandate. In his research, he analyzed political connections (campaign financing) in 1998 and business performance between 1999 and 2002. Or, political connections (campaign financing) in 2002 and business performance between 2003 and 2006.

Table 1- Distribution of the study sample

RESEARCH COMPANY GROUPS	Sim	NO	TOTAL
Companies that received government subsidies from 2014 to 2018	126	207	333
Companies that established political connections between 2014 and 2018	120	213	333

Source: Survey data.

Thus, regarding the sample universe, considering the period of analysis, the basis for this research is: 126 companies that received government subsidies (in at least one year of the studied period) and120 companies with political connections established in the same period. Table 2 displays the form (or type) of political connections established by the companies in the sample during the period of analysis.

Table 2- Forms of political connections

TYPE OF POLITICAL CONNECTIONS	AMOUNT	REPRESENTATIVENESS (%)
Campaign financing	63	52,5
Ownership structure	57	47,5
Total	**120**	**100**

Source: Survey data.

There are five variables in this research, namely: government subsidies, political connections, profitability, revenue growth and company size. The dependent variable in this research is the amount of government subsidies and the independent variable is political connections. The metric for government subsidies is the amount received by the companies in the sample as government subsidies during the period analyzed (2015 to 2018) and extracted from the Explanatory Notes to the Standardized Financial Statements (DFPs) available on the B3 website.

Regarding political connections, their identification took place through three distinct approaches. The first of these occurred when companies made donations to political parties, with such information obtained from the Superior Electoral Court (TSE) website. In the second approach, the presence of the government as a shareholder in the companies was determined by consulting the B3 website, specifically in the Reference Form, item 15. The third approach consisted of verifying the donations made by the companies to the political parties that won in the elections 2014, this information being collected on the TSE website.

Regarding the measurement of business performance, the variables selected were: profitability (ROA - Return on Assets) and revenue growth. The control variables selected were those established in the literature, namely: size, economic sector and debt. All these performance and control variables were extracted from the Economática® database, with the exception of the sector, extracted from the *site* yes B3.

V.   STATISTICAL MODELS AND RESEARCH HYPOTHESES

The research hypothesis (H_1) tested through the relationship between the receipt of government subsidies by the sample companies and the establishment of political connections (ownership structure/campaign financing), according to Equation 1.

$$SUB_i, t = a + b_1 CP_i, t + \beta_2 Tam_i, t + \beta_3 End_i, t, t + \sum \beta_n Set + E_{it} \quad \textbf{(Equation 1)}$$

Where SUB_i, t are the subsidies received from company i in year t; α is the intercept of the line; β are the angular coefficients; CP_i,t; Tam_i,t (size); $\sum Set$ (Representative vector of economic sectors); E_i, t (debt), and $\mathcal{E}$ is the error term.

VI.   RESULTS

GOVERNMENT SUBSVENTIONS

Of the 333 companies in the research sample, 126 (37.8%) received some type of government subsidy in the period from 2015 to 2018. According to Table 3, the frequency with which government subsidies were received by companies is observed.

Table 3- Companies that received government subsidies

SUBSVENTIONS	FREQUENCY (%)	CUMULATIVE FREQUENCY (%)
Received in 1 year	3 (2)	3 (2)
Received in 2 years	19 (15)	22 (17)
Received in 3 years	17 (14)	39 (31)
Received in 4 years	87 (69)	126 (100)
Total	**126 (100)**	

Source: Survey data.

Of the 126 companies that received government subsidies, three companies received them in just one year. An interesting finding is that the highest frequency observed is in companies that received it during the entire period analyzed in this research (2015 to 2018), with a total of 87 companies. This allows us to infer that, generally, when the company starts using this type of resource, it does not stop doing so in subsequent years.

The studies by Parente et al. corroborate this result. (2014) and Carlos Filho and Wilkboldt (2019). In the first study, which analyzed the period from 2008 to 2012, in companies that received government subsidies through the public company Financiadora de Estudos e Projetos (FINEP), it was evident that the companies that submit projects and win the subsidy are often the same. In the second study, which analyzed the period between 2012 and 2016, this same similarity was found, that is, when companies start receiving government subsidies, they continue to receive them in subsequent years.

Table 4 presents the amounts received by companies through government subsidies during the period under analysis.

Table 4 - Amounts received in the form of government subsidies

Grant Again	2015	2016	2017	2018
Number of companies	102	108	114	116
Value of grants*	20.226.207	23.694.430	11.810.020	22.951.708

Note: *Values in thousands of Reais (R$).
Source: Survey data.

With the exception of 2017, which fell by 55% compared to 2016, the amounts received as government subsidies by companies belonging to the sample remained stable. However, despite the drop mentioned in 2017, in 2018 the values returned to their initial level. In 2018, there was an increase of just over 10% compared to 2015.

POLITICAL CONNECTIONS

Of the sample of 333 companies, 120 (36%) established some type of political connections (Ownership structure and/or campaign financing), as shown in Table 2. In turn, of these 120 companies, 57 (47.5%) political connections were established by the government through an ownership structure (through shareholding) and in the other 63 (52.5%) companies political connections were established through campaign financing or donations. Regarding political connections established by the government through Ownership Structure, Table 5 shows the number of companies in the sample with political connections in 2014, by public entity.

Table 5 - Government shareholding in sample companies, by public entity

PUBLIC ENTITY	NUMBER OF COMPANIES	% OF COMPANIES
Federal government	37	65
State governments	19	33
Municipal government	1	2
Total	**57**	**100**

Source: Survey data.

The federal government holds a stake in 37 companies. This participation can be direct or indirect. Table 6 shows how the federal government has political connections with the companies in the sample in 2014.

Table 6 - Union shareholding in the sample companies

Nº	COMPANY	PUBLIC ENTITY	% ORDINARY ACTIONS
1	Bco Amazonia	Federal Union	51,00
2	Bank of Brazil		50,72
3	Nord Brasil		55,45
4	Eletrobrás		70,80
5	Petrobras		71,25
6	Telebras		89,45
7	Biomm	BNDES Participações	12,22
8	BRQ		22,85
9	Embraer		5,3
10	Igua S.A.		10,50
11	JBS		21,32
12	Klabin		2,83
13	Linx		5,82
14	Marfrig		33,74
15	Nortcquimica		20,00
16	Ouro Fino S.A.		12,26
17	Quality Soft		25,99
18	Suzano Hold		10,03
19	Triumph Part		5,09
20	Tupy		28,19
21	OK		6,12
22	Cesp	Eletrobrás	0,03
23	Contaminated		33,5
24	Ceee-D		99,2
25	Ceee-Gt		99,2
26	Trans Paulist		9,70
27	Electrify		83,70
28	Bic Monarq	Banco do Brasil pension plan	8,73
29	BRF S.A.		22,00
30	Coelba		1,70
31	Cosern		1,40
32	NeoEnergia	Banco do Brasil Investments	9,34
33	Kleper Weber	Caixa Econômica Pension	17,34
34	Braskem	Petrobras	47,03
35	Bread Bank	Savings Bank	39,87
36	BB Security	Bank of Brazil	66,25
37	AES Tiete	BNDES	14,30

Source: Survey data.

As shown in Table 6, the federal government directly (explicitly) establishes political connections via shareholding in only six companies, with another 31 companies the federal government indirectly (implicitly) establishes political connections. In other words, through companies that the federal government controls, it participates in the capital of the companies in the sample. Highlight is the company BNDES Participações, which holds a shareholding in 15 other companies from different sectors. This is different from what happens with Eletrobrás, which holds a stake in six other companies, however, all in the electricity sector. All other holdings are held by banks or bank provident funds.

The participation of state and municipal governments is shown in Table 7. Unlike what happens with the federal government, the shareholdings held by state and municipal entities identified in 2014 are all direct.

Table 7 - Shareholding of States and Municipalities in the companies in the sample

Nº	COMPANY	PUBLIC ENTITY	% ORDINARY ACTIONS

1	Cemig		100,00
2	Cemig Dist		62,00
3	Copasa	Minas Gerais state	50,03
4	Light S.A.		50,00
5	Renew		45,80
6	Taesa		36,96
7	Sabesp	State of São Paulo	50,20
8	Enamel		97,60
9	Celesc	Santa Catarina state	50,20
10	Legs		77,30
11	home	State of Sergipe	93,33
12	Banestes		93,64
13	Copel	State of Parana	85,00
14	Sanepar		60,10
15	BRB Banco	Federal District	75,44
16	Ceb		93,20
17	Banpara	State of Parana	99,97
18	Banrisul	State of Rio Grande do Sul	98,13
19	Single pair	Goias state	99,70
20	You are going to die	São Paulo City Hall	97,69

Source: Survey data

Unlike what happens with the participation of the Federal Union, the participation of state and municipal governments is accentuated and always explicit. With regard to political connections arising on the initiative of companies, political connections being characterized when companies provide financing or donations to political campaigns, Table 8 illustrates the 70 companies with campaign financing or donations in 2014.

Table 8 - *Ranking* of companies that donated to political campaigns in 2014

POSITION	COMPANY	VALUE (R$)	PROPORTION (%)
1	JBS	74.788.491,50	53,07
2	BTGP Bank	12.250.275,00	8,69
3	Bradesco LSG	8.440.000,00	5,99
4	Braskem	8.440.000,00	5,99
5	Hyper	6.200.000,00	4,40
6	Embraer	2.890.000,00	2,05
7	Saint Martin	2.672.400,00	1,90
8	MRV	2.341.000,00	1,66
9	M.DiasBranco	2.005.000,00	1,42
10	Iguatemi	1.950.000,00	1,38
11	BRF S.A.	1.500.000,00	1,06
12	Minerva	1.391.888,19	0,99
13	Multiplan	1.255.000,00	0,89
14	Usiminas	1.103.986,00	0,78
15	Marfrig	1.080.000,00	0,77
16	Othon Hotels	1.000.000,00	0,71
17	Klabin S.A.	850.000,00	0,60
18	Ross Resid	744.429,00	0,53
19	Duratex	720.000,00	0,51
20	Marcopolo	598.000,00	0,42
21	Taurus	595.000,00	0,42
22	Even	483.500,00	0,34
23	P. Sugar-CBD	430.000,00	0,31
24	Fer Heringer	350.000,00	0,25
25	Nadir Figuei	307.000,00	0,22
26	Randon Part	306.000,00	0,22
27	Merc Finan	305.000,00	0,22
28	SLC Agricola	300.000,00	0,21
29	Glass	280.000,00	0,20
30	Cia Hering	270.000,00	0,19
31	Merc Invest	260.000,00	0,18
32	Guararapes	225.000,00	0,16
33	Seg Al Bahia	200.000,00	0,14
34	Engie Brasil	200.000,00	0,14
35	J. Macedo	200.000,00	0,14
36 a 70*	Other companies	1.999.327,12	1,42
	Total	**138.931.296,81**	**100**

Note: * Thirty-five companies (Cedro, Elekeiroz, Paraná, Dimed, Paranapanema, Celulose Irani, Dohler, PDG Realt, Arezzo Co, Saraiva Livr, ABC Brasil, RNI, Magazine Luiza, CSU Cardsyst, Sansuy, Bombril, Porto Seguro, Pettenati, Locamerica, Positivo Tec, RaiaDrogasil, Alfa Finan, Grazziotin, Baumer, Cyrela Realt, Riosulense, Cambuci, Camil, Gafisa, Alpargatas, Localiza, Dibens LSG, Bradesco, Brasil and Cielo).
Source: Survey data

As shown in Table 8, JBS is the company that made the most donations to political campaigns in the 2014 elections. With the amount of R$74 million, it is more than 50% of all donations made by the companies in the sample and is 6 times higher than the figures for second place in the *ranking*, BTGP Banco.

Corroborating these findings, Bazuchi et al. (2013) point out that JBS was the company that made donations in the 2006 and 2010 elections. It should be noted that despite the large and disproportionate sums, compared to donations from other companies, research by Pinheiro, De Luca and Vasconcelos (2016) clarifies that JBS at no time failed to comply with the legislation in force at election times.

There were cases of companies that, despite having made donations to political campaigns in the 2014 elections, were not accountable to the electoral court.
In Table 9, you can see which companies were.

Table 9- Companies that did not report to the TSE on political donations in 2014

Position	Company	Value (R$)
1	Azevedo	
2	Santander Br	
3	Eucatex	
4	The hamlets	
5	Helbor	
6	Inds Romi	They did not submit accounts to the Electoral Court
7	JLS	
8	Magnetisa S.A.	
9	I'm Antonio	
10	Probe technique	
11	Suzano Papel	
12	Tecnisa	

Source: Survey data.

This information "Failed to provide accountability to the electoral court" is the message on the TSE website (2019). Although the court recognizes that these companies made political donations in 2014, it does not provide any information regarding these donations.

HYPOTHESIS TESTING
Initially, the multiple linear regression technique was used to test the hypothesis presented in this study. Even though we found consistency and a reasonable explanation for the models, the assumptions were not properly met. Due to this, robust linear regression models and quantile regression models were applied.

According to Cunha, Machado and Figueiro Filho (2002), the use of robust regressions is justified because it is considered a technique not only with respect to *outliers*, but in relation to extreme points, which are points in the matrix model with excessive influence on the result, and because the greater the number of variables in a model, the difficult it becomes to identify *outliers* using classical regression techniques.

In relation to the quantile regression model, taking into account some drawbacks pointed out in the use of classical linear regression models, among them the assumption of homoscedasticity, sensitivity to *outliers* and possible failures when the response variable is asymmetric. In order to minimize these inconveniences and achieve robust results, we suggest the regression model known as quantile regression introduced by Koenker and Bassett (1978), which allows distinguishing differences in importance and relationship between variables on the median and on the high and low quantiles of the dependent variable.

Multiple Linear Regression Model
Analyzing the *p-value* and the confidence interval obtained for each variable, it can be seen that only the variables 'size' and 'debts', between the years 2015 and 2017, explain the receipt of sgovernment grants. According to Table 10, the "Public Utility" sector appears as an explanatory factor for the receipt of sgovernment subsidies, being significant in the four years of analysis.

Table 10- Linear model estimators

Parameters	2015	2016	2017	2018
	Estimates (p-values)	Estimates (p-values)	Estimates (p-values)	Estimates (p-values)

Intercept	-3244 (0.9608)	-8447 (0.9193)	4838 (0.8351)	-8334 (0.928)
CP	56739 (0.3082)	75585 (0.2821)	9419 (0.6304)	72817 (0.3487)
Size	**0.005066 (0.008848)***	**0.007362 (0.002607)***	**0.001402 (0.02714)***	0.003212 (0.1605)
DIV	**-0.005417 (0.01172)***	**-0.007868 (0.00373)***	**-0.001524 (0.03173)****	-0.003452 (0.1769)
SetorCC	-9326 (0.9118)	-9860 (0.9261)	1294 (0.9651)	-7430 (0.9496)
SetorCNC	55884 (0.6487)	17317 (0.9109)	62429 (0.1484)	26426 (0.8774)
SetorFIN	-10148 (0.9041)	-19539 (0.8541)	634.7 (0.9829)	-8394 (0.9431)
SetorMB	17897 (0.8701)	21199 (0.878)	**64917 (0.09263)*****	26698 (0.8616)
SetorPGB	-102671 (0.5297)	-98820 (0.6321)	1634 (0.9773)	25693 (0.9101)
SetorS	-11266 (0.9357)	-20677 (0.9066)	10261 (0.8345)	-11244 (0.954)
SetorTI	-26809 (0.8926)	-31778 (0.8991)	-9748 (0.8889)	-28938 (0.9169)
SetorTL	-85219 (0.7236)	-139650 (0.6463)	-3463 (0.9672)	-79718 (0.813)
SetorUP	**223355 (0.01873)****	**266832 (0.02607)****	**88116 (0.008454)***	**279723 (0.03492)****

Assumption analyzes

R^2	0,066	0,072	0,070	0,040
Goldfeld-Quandt - GQ, p-valor	0.074 (3.18×10^{-47})	0.069 (3.86×10^{-49})	0.743 (0.066)	0.021 (9.29×10^{-49})
Anderson-Darling - A, p-value	74.01 (3.8×10^{-24})	76.698 (3.7×10^{-24})	64.456 (3.7×10^{-24})	85.389 (3.7×10^{-24})

Notes: Estimated coefficients and p-value (in parentheses) referring to the estimation of the equation model.
*, ** and *** denote the statistical significance of the coefficients at 1%, 5% and 10%, respectively.
Source: Survey data.

Regarding the analysis of model assumptions, the Goldfeld-Quandt test was performed to verify the homoscedasticity of errors and the Anderson-Darling test to analyze the normality behavior of errors.

Therefore, these assumptions of the multiple linear regression model were not fully met, which weakens the results obtained and makes consistent inferences about the hypotheses unfeasible. To alleviate this weakness, we resorted to robust modeling of MM-estimators, with results shown below.

Robust model MM-estimators

In MM-estimator modeling, robust to *outliers*, it was found that the debt variable and seven sectors were significant in at least 1 year of the analyzed period, in addition, the intercept of the equation was significant in 3 years of the analysis.

Table 11 - Robust model estimators MM-estimators

Parameters	2015 Estimates (p-values)	2016 Estimates (p-values)	2017 Estimates (p-values)	2018 Estimates (p-values)
Intercept	2879 (0.2385)	**10983 (0.0688)*****	**5552 (0.0394)***	**3127 (0.0224)***
CP	-1864 (0.3998)	-248.2 (0.9582)	835.6 (0.5875)	32.4 (0.9714)
Size	-6.578×10^{-5} (0.1133)	-5.682×10^{-5} (0.6808)	4.921×10^{-6} (0.8978)	-8.35×10^{-5} (0.2751)
DIV	**0.0002 (0.0007)***	6.133×10^{-5} (0.6751)	-2.02×10^{-5} (0.9616)	0.0001 (0.2862)
SetorCC	**6644 (0.0805)*****	8144 (0.2681)	3120 (0.3246)	4188 (0.5020)
SetorCNC	-1681 (0.3047)	**1157904 $(< 1 \times 10^{-16})$***	2651 (0.8525)	-2158 (0.1479)
SetorFIN	2868 (0.5189)	-3326 (0.6605)	-3549 (0.1429)	-1436 (0.3020)
SetorMB	-2503 (0.1035)	5568 (0.5413)	**-4362 (0.0549)**	831 (0.8484)

SetorPGB	**16001** **(0.0196)**	-6883 (0.3059)	-4469 (0.1001)	**103955** **(< 1x10⁻¹⁶)**
SetorS	1857 (0.3245)	-7170 (0.4052)	-2571 (0.3409)	-2359 (0.1148)
SetorTI	-	-7302 (0.2208)	-3285 (0.2246)	**-3136** **(0.0418)****
SetorTL	-1746 (0.4922)	**10482** **(0.0673)****	**83353** **(< 1x10⁻¹⁶)***	-958.9 (0.5747)
SetorUP	7218 (0.1295)	-2322 (0.7224)	**-3921** **(0.0569)****	**-2510** **(0.0649)*****

Assumption analyzes

R^2	0.826	0.983	0.694	0.872
Goldfeld-Quandt - GQ, p-valor	0.156 (1.76×10^{-10})	0.081 (8.09×10^{-16})	0.843 (0.499)	0.016 (6.56×10^{-41})
Anderson-Darling - A, p-value	38.15 (3.7×10^{-24})	31.166 (3.7×10^{-24})	35.357 (3.7×10^{-24})	48.388 (3.7×10^{-24})

Notes: Estimated coefficients and p-value (in parentheses) referring to the estimation of the equation model.
*, ** and *** denote the statistical significance of the coefficients at 1%, 5% and 10%, respectively.
Source: Survey data.

Still according to Table 11, it was found that even though the modeling was robust to*outliers,* the variables did not behave as expected. Example is the "Public Utility" sector, which was significant in the 4 years of analysis in the linear regression and in the robust model it was significant in only 2 years of the analysis.

Moderating effect of the robust MM-estimators model
When analyzing the moderating effect of size in the model that aims to explain the receipt of government subsidies through political connections CP1 (political connections – ownership structure or campaign financing), a significant interaction between size and CP1 was identified. in all years, however, the model's independent variable, CP1, was not significant in any year analyzed. Given this result, size had a positive coefficient in all models, significant in 2016 and 2017, which is why we can infer that the greater the company's gross equity (Total Assets), the greater the value of government subsidies. .

Table 12 - Moderator model estimators

Parameters	2015 Estimates (p-values)	2016 Estimates (p-values)	2017 Estimates (p-values)	2018 Estimates (p-values)
Intercept	**15825** **(0.0369)**	2326 (0.0729)	**12155** **(0.0369)**	**16532** **(0.0243)**
CP	-7570 (0.1973)	-1856 (0.0946)	-1921 (0.6161)	1775 (0.8059)
Size	0.0001308 (0.4358)	**0.0002674** **(2.023×10^{-7})**	**0.000275** **(0.0302)**	0.0003788 (0.0755)
CP1:Size	**0.0003899** **(0.0305)**	**-0.0002643** **(3.22×10^{-7})**	**-0.0002789** **(0.0310)**	**-0.00038** **(0.0887)**

Assumption analyzes

R^2	0.231	0.031	0.064	0.030
Goldfeld-Quandt - GQ, p-valor	0.058 (1.01×10^{-27})	0.053 (1.11×10^{-19})	0.861 (0.587)	0.023 (2.44×10^{-30})
Anderson-Darling - A, p-value	46.017 (3.7×10^{-24})	35.521 (3.7×10^{-24})	23.785 (3.7×10^{-24})	34.349 (3.7×10^{-24})

Notes: Estimated coefficients and p-value (in parentheses) referring to the estimation of the equation model.
*, ** and *** denote the statistical significance of the coefficients at 1%, 5% and 10%, respectively.
Source: Survey data

In Table 12, the analysis of assumptions for verifying the homoscedasticity of errors and the normal behavior of errors is presented. all models except model 3 and rejects the normality hypothesis for all.

Quantile linear model
According to Table 13, in the four years analyzed, all variables were significant in the last quantile (0.8). Regarding the intermediate quantile (0.6), around 50% of the variables were significant in all the years analyzed. Finally, in the lowest quantile (0.4), there were few significant variables. Therefore, it makes sense to deduce that, in the model of this work, the greater the subsidies received by companies, the greater the probability   of   significance   of   the   variables.

Table 13- Estimators of the quantile model

Parameters	2015 Estimates (p-value)			2016 Estimates (p-value)			2017 Estimates (p-value)			2018 Estimates (p-value)		
	0.4	0.6	0.8	0.4	0.6	0.8	0.4	0.6	0.8	0.4	0.6	0.8
Intercept	-0.3331 (0.4423)	29.27 (0.3773)	**415.9 (1.1x10^{-9})**	-0.5515 (0.7725)	242.6 (0.0959)	**3957 (< 1x10^{-16})**	0.07484 (0.6097)	157.4 (0.1066)	**5737 (< 1x10^{-16})**	0.182 (0.5243)	**68.57 (0.0178)**	**6275 (< 1x10^{-16})**
CP	0.6069 (0.0969)	**211.8 (3.3x10^{-13})**	**1991 (< 1x10^{-16})**	1.357 (0.3981)	126.1 (0.3034)	**9629 (< 1x10^{-16})**	0.2049 (0.0975)	**355 (1.9x10^{-5})**	**1914 (< 1x10^{-16})**	0.1141 (0.6352)	**198.3 (6.4x10^{-15})**	**1488 (< 1x10^{-16})**
Size*	**1.8x10^{-6} (< 1x10^{-16})**	**0.0003 (< 1x10^{-16})**	**0.0012 (< 1x10^{-16})**	**1.0x10^{-5} (< 1x10^{-16})**	**0.0026 (< 1x10^{-16})**	**0.0025 (< 1x10^{-16})**	**7.7x10^{-7} (< 1x10^{-16})**	**0.0010 (< 1x10^{-16})**	**0.0011 (< 1x10^{-16})**	**2.4x10^{-6} (< 1x10^{-16})**	**0.0003 (< 1x10^{-16})**	**0.0037 (< 1x10^{-16})**
DIV*	**-1.9x10^{-06} (< 1x10^{-16})**	**0.0003 (< 1x10^{-16})**	**0.0012 (< 1x10^{-16})**	**-1.1x10^{-5} (< 1x10^{-16})**	**-0.0028 (< 1x10^{-16})**	**0.0027 (< 1x10^{-16})**	**-8.5x10^{-7} (< 1x10^{-16})**	**-0.0011 (< 1x10^{-16})**	**-0.0012 (< 1x10^{-16})**	**-2.7x10^{-6} (< 1x10^{-16})**	**-0.0004 (< 1x10^{-16})**	**-0.0041 (< 1x10^{-16})**
Setor CC	-0.7327 (0.1850)	**-73.54 (0.0821)**	**1017 (< 1x10^{-16})**	-3.592 (0.1401)	**-363.7 (0.0502)**	**-2650 (< 1x10^{-16})**	**-0.3589 (0.0552)**	-202.1 (0.1041)	**-3518 (< 1x10^{-16})**	-0.6608 (0.0702)	**-78.15 (0.0338)**	**-1168 (8.1x10^{-11})**
Setor CNC	0.3163 (0.6942)	86.59 (0.1599)	**37143 (< 1x10^{-16})**	-0.7422 (0.8339)	**529.4 (0.0505)**	**33841 (< 1x10^{-16})**	-0.1059 (0.6972)	200.2 (0.2684)	**94454 (< 1x10^{-16})**	**3.6211 (4.1x10^{-11})**	**11187 (< 1x10^{-16})**	**33592 (< 1x10^{-16})**
Setor FIN	-0.3452 (0.5320)	-30.77 (0.4663)	**-416 (1.3x10^{-6})**	-3.4521 (0.1561)	**-345.2 (0.0631)**	**-3957 (< 1x10^{-16})**	-0.1992 (0.2864)	-170.1 (0.1711)	**-5737 (< 1x10^{-16})**	-0.4051 (0.2664)	**-69.48 (0.05914)**	**-6275 (< 1x10^{-16})**
Setor MB	-0.1422 (0.8430)	-29.8 (0.5873)	158.6 (0.1494)	0.7429 (0.8141)	**662.5 (0.0062)**	**2172 (3.6x10^{-14})**	-0.0413 (0.8649)	**443 (0.0063)**	**30214 (< 1x10^{-16})**	-0.0529 (0.9111)	**193.6 (6.3x10^{-5})**	**28925 (< 1x10^{-16})**
Setor PGB	2.028 (0.0591)	**1098 (< 1x10^{-16})**	**6223 (< 1x10^{-16})**	**12.8 (0.0069)**	**7486 (< 1x10^{-16})**	**25263 (< 1x10^{-16})**	**2.029 (4.4x10^{-8})**	**4131 (< 1x10^{-16})**	**33858 (< 1x10^{-16})**	**7.1371 (< 1x10^{-16})**	**1708 (< 1x10^{-16})**	**47891 (< 1x10^{-16})**
Setor S	-0.464 (0.6124)	-17.38 (0.8040)	**1385 (< 1x10^{-16})**	-1.731 (0.6676)	**-516.9 (0.0932)**	**-3945 (< 1x10^{-16})**	-0.3114 (0.3151)	284.1 (0.1681)	**-4126 (< 1x10^{-16})**	-0.5181 (0.3913)	48.88 (0.4222)	**-5162 (< 1x10^{-16})**
Setor TI	-0.4024 (0.7572)	**-243.8 (0.0147)**	**-517.8 (0.0096)**	-1.044 (0.8554)	-417.4 (0.3396)	**-4088 (4.6x10^{-15})**	-0.3027 (0.4918)	-230 (0.4321)	**-5772 (< 1x10^{-16})**	-0.3775 (0.6601)	-99.41 (0.2512)	**-6573 (< 1x10^{-16})**
Setor TL	0.5445 (0.7304)	**5453 (< 1x10^{-16})**	**123266 (< 1x10^{-16})**	7.532 (0.2794)	**1595 (0.0028)**	**72607 (< 1x10^{-16})**	-0.5358 (0.3127)	**36669 (< 1x10^{-16})**	**64008 (< 1x10^{-16})**	-0.5249 (0.6151)	**-302.9 (0.0041)**	**-8215 (< 1x10^{-16})**
Setor UP	**162.4 (< 1x10^{-16})**	**22596 (< 1x10^{-16})**	**169479 (< 1x10^{-16})**	**1077 (< 1x10^{-16})**	**13006 (< 1x10^{-16})**	**246703 (< 1x10^{-16})**	**723.9 (< 1x10^{-16})**	**7184 (< 1x10^{-16})**	**65175 (< 1x10^{-16})**	**695 (< 1x10^{-16})**	**6609 (< 1x10^{-16})**	**81492 (< 1x10^{-16})**

Notes: Estimated coefficients and p-value (in parentheses) referring to the estimation of the equation model.
Bold denote the statistical significance of the coefficients at 1%, 5% or 10%.
Source: Survey data.

VII. RESULTS

According to the argumentative evidence that the establishment of political connections makes it easier for companies to obtain government subsidies (DITZ; RANGANATHAN, 1998; DIXON; WHITTAKER, 1999; VASCONCELOS; PIMENTEL, 2018), companies listed on B3 presented results similar to those of other studies, however, with a certain fragility, justifying the hypothesis that it could not have been accepted.

Regarding this fragility, it is worth noting that three different techniques were exposed for the hypothesis, the linear regression model, the robust regression model and the quantile regression model. Furthermore, the moderator technique was also used for the models.

The first two models, linear regression and robust regression, estimate the mean of the response variable conditional on the variation in the vector of independent variables. The only difference is that in robust regression the effects of *outliers*, both in the response variable and in the values of the independent variables.

In testing the operational hypothesis guiding this study, different results were found in the linear regression tests and robust regression. This shows that the result is conditional on the technique. If we use a certain technique, the relationship appears; otherwise, no. What can be said is that the relationships found in the results (even when significant) by these two techniques are fragile.

Regarding quantile regression modeling, it is worth noting that the interest is in studying the behavior of individuals in different quantiles, that is, quantile regression does not estimate the average return but rather a certain quantile. This way, it is possible to evaluate the performance of the regression in certain different behaviors of the data. This type of model is considered robust to *outliers*. In the model used in this work, the quantiles estimated based on the size of the subsidy received were 0.4, 0.6 and 0.8.

The results this time appear significant in the operational hypothesis, in the four years analyzed with the variable 'Political Connections' for the highest level of receipt of 'government subsidies'.

Given the results, it is clear that, on average, political connections do not alter the receipt of government subsidies, however, the presence of political connections significantly influences the higher levels of receipt of government subsidies by companies. These findings revisit a strong indication, already established in the literature, that the size of the company is directly related to the receipt and volume of government subsidies received.

Bonomo, Brito and Martins (2015), when analyzing the expansion of credit by the government between 2004 and 2012, concluded that loans with interest rates lower than those practiced in the market (government subsidies) tend to be granted for the largest companies, the oldest and those with the least restrictions. Corroborating, Lazzarini et al. (2015) and Frischtak and Mourão (2017) state that borrowers of loans subsidized by BNDES are large and profitable companies and that they would have access to other sources of financing. Furthermore, companies reduced their financial expenses and the government subsidies received had no effect on their investments. The authors suggest that, if investments did not increase, it is possible that government subsidies were used to replace more expensive private loans with higher interest rates (LAZZARINI et al., 2015). Medeiros et al. (2022) when analyzing companies under government regulation, they found that Earnings management strategies can be adopted by these companies with different motivations.

All these results are in line with the findings of this research that the receipt of government subsidies depends on the size of the companies and the government subsidies received.

It is clear that, as a public policy, the granting of government subsidies does not achieve its objectives and is properly explained by the theory of public choice. Pereira (1997) is emphatic in defining that the theory of public choice explains and illustrates the failures of the State (Government) when it decides to carry out interventions.

Government subsidies make sense when there are positive externalities, that is, when, in addition to the company that receives government subsidies, society is impacted (at least part of society). The large amounts of government subsidies go to the coffers of large companies. In short, government subsidies are generally not granted to smaller companies, which have less capital, to the detriment of concessions to large companies that have greater capital. From the above, it can be concluded that the Brazilian government, between 2014 and 2018, practically performed a reverse Robin Hood.

The evidence provided in this study contributes to a deeper understanding of this topic of government subsidies and political connections. Given the results presented regarding the receipt of government grants, in this article, **Hypothesis H cannot be accepted$_1$**, where the Establishing political connections, whether through campaign financing or ownership structure, on average does not change the receipt of government grants. However, it is significant for higher volumes of resources received in the form of government grants and for the largest companies

Regarding the moderating effect, it was found that the size of the company and the volume of resources received in the form of government subsidies were significant in the four years analyzed, with similar results in the two robust models analyzed in this work, MM-Estimators and the quantile regression.

VIII. CONCLUSION

The purpose of this thesis was to verify whether the establishment of political connections in different forms influences the receipt of government subsidies by companies listed on B3. This questioning grew through the relevance of evaluating both the grantor of government subsidies (the government) and the recipients of these government subsidies (the companies).

Data covering a complete electoral period were evaluated, that is, one year prior to the elections (2014) with a subsequent mandate (between 2015 and 2018), a period in which there were, in Brazil, events of deep economic recession, a substantial increase in unemployment and a *impeachment* presidential election that reinforced the idea of a strong fragility in the country's political system.

The theoretical assumption was the idea that the granting of government subsidies in Brazil is in accordance with the assumptions of the theory of public choice, materialized in the *trade off* known as political connections.

All objectives were fully satisfied in this thesis. Given this, the main **result**s of this study are:
☐ In at least one year of the period analyzed, 126 companies (37.8%) received some type of government subsidies;
☐ In the four years of the analyzed period, 87 companies (69%) received some type of government subsidies.

These findings are similar to those of the research by Carlos Filho and Wilkboldt (2019), which allow us to infer that, generally, when companies begin to receive government subsidies, they do not stop doing so in subsequent years. The fact that companies receive government subsidies in consecutive years reinforces the understanding of Buera, Moll and Shin (2013) who define that it is very easy to introduce a protection policy, but difficult to remove it. They conclude by stating that, in the long term, inefficient companies survive only because of the protection (government subsidies) they receive. As a result, countries that use this practice generally experience economic miracles followed by stagnation.

The objective was entirely satisfied in this study. Given this, the main results are:
☐ In at least one year of the period analyzed, 126 companies (37.8%) received some type of government subsidies;
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These findings are similar to those of the research by Carlos Filho and Wilkboldt (2019), which allow us to infer that, generally, when companies begin to receive government subsidies, they do not stop doing so in subsequent years. The fact that companies receive government subsidies in consecutive years reinforces the understanding of Buera, Moll and Shin (2013) who define that it is very easy to introduce a protection policy, but difficult to remove it. They conclude by stating that, in the long term, inefficient companies survive only because of the protection (government subsidies) they receive. As a result, countries that use this practice generally experience economic miracles followed by stagnation.

From the above, the guiding hypothesis of this study was not accepted, the relationship proposed in the hypotheses duly supported by the theoretical framework presented previously does not hold. However, a different result is found in the context described for large companies that received large volumes of government subsidies. In other words, the establishment of political connections is significant for obtaining government subsidies in this context.

These results constitute an important reinforcement for the existing national literature on public choice theory. We highlight that the results of this research show that the State's interest when granting government subsidies is to promote financing for a small group of companies. Corroborating this conclusion, Nascimento, Santo and Lunkes (2010) attest that managers apply public resources with the intention of maximizing their votes and not to promote the well-being of society.

Based on the results of this article and the extensive literature review on the subject, government subsidies in Brazil do not fulfill their initial purpose and allow for an increase in the already latent distortions that exist.

Furthermore, it is cautioned that the present study has limitations that must be considered when reading and interpreting the results obtained. These limitations, once resolved by other researchers, become opportunities for future research on the same topic. Below are some of the main limitations.

Due to the small sample, the modeling used presents results with limitations. It is suggested that future research have larger samples, other variables to explain the receipt of government subsidies and longer periods. In other words, given the volume of companies in Brazil that receive government subsidies, a sample with only publicly traded companies weakens the results. It is suggested that different types of companies be studied to achieve a better understanding of the topic.

It is public that campaign financing is not limited to the figures that companies report to the TSE. In Brazil, campaign 'slush funds' became routine in electoral news. According to Cordeiro and Faria (2017, p.

250), "it was evident in the Lava Jato operation that large companies and/or financial agents donated large amounts to candidates and political parties in order, in return, to receive political favors after the elections". Large companies had separate accounting, formed with resources that would be allocated to donations that would not be accounted for. Also according to the authors, such accounting movement referring to the omission in the declaration of fundraising and/or campaign expenses, in addition to causing "the Electoral Court to make an error, has the obvious purpose of masking the illegal activities carried out during the electoral campaign, including The values that did not migrate to the campaign and that were directly destined to the corruption of candidates and party leaders are taken into account".

Based on the above, it is worth noting that one of the variables in this research was collected from the TSE and coincides with part of the period of the Lava Jato operation, which revealed this criminal scheme used very frequently by companies to finance politicians and/or political parties called 'slush fund' '. This indicates a weakness regarding the relevance of the data collected regarding the variable 'campaign financing'.

Still on the subject of 'slush funds' in campaign financing, it is important to point out that, at the end of 2015, the STF ruled that corporate donations to parties and candidates in electoral campaigns were unconstitutional and that, in the same year, it came into force Law No. 13,165/15, modifying electoral financing and making other changes to the electoral system. Basically, we now have the 'Electoral Fund', popularly known as 'fundão', which for now finances candidacies in place of the old donations. Studying this new variable constitutes an opportunity for future research.

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