



## DETERMINANTS OF THE PURCHASE OF SHARES BY GOVERNMENT

**Silvania Neris Nossa**

Mestre em Contabilidade pela FUCEPE  
[silvanianossa@fucepe.br](mailto:silvanianossa@fucepe.br)

**Valcemiro Nossa**

Doutor em Controladoria e Contabilidade pela USP  
[valcemiro@fucepe.br](mailto:valcemiro@fucepe.br)

**Aridelmo J. C. Teixeira**

Doutor em Controladoria e Contabilidade pela USP  
[aridelmo@fucepe.br](mailto:aridelmo@fucepe.br)

Fucepe Fundação Instituto Capixaba de Pesquisa em Contabilidade, Economia e Finanças  
Av. Fernando Ferrari, 1358, Boa Vista, Vitória-ES , CEP: 29.075.505

### ABSTRACT

This study investigates determinants to the presence of government as shareholder in listed companies. I analyze companies listed on stock exchanges in the United States in the period from 2004 to 2014. I also analyze the period surrounding elections, firm profitability, debt and financial health of companies. I use content analysis and to test hypotheses I use logistic regression. The period surround election is differently related with the decision of government between to invest or not as TOP 1 and TOP 5. Both TOP1 and TOP5 the government on average are buying shares from companies with low level of debt, low fscore, and companies with low price to book only in the context TOP 5. The result about profitability and debt are contrary to the expected by some arguments presented in the CPP (EUA, 2017).

**Keywords:** government shareholding; determinants; fundamental analysis; election

**Área Temática:** Mercado Financeiro, de Crédito e de Capitais (MFC).

### 1 INTRODUCTION

In 2008, the Treasury of USA helped companies of different sectors just to implement financial stability programs (EUA, 2017). To help companies, the government of USA use CPP – Capital Purchase Program. The Office of Financial Stability (OFS) was responsible to collect and to publish information about governmental investment. The goal of OFS was bringing financial stability in USA (EUA, 2017). This way the Office of Financial Stability (OFS) provide “Congress and the taxpayers with the latest, most frequent, and most accessible information on how TARP investments are being used” (EUA, 2017).

Literature has recorded that in OECD countries, it was common until the 1990s for governments to control large companies, especially those in sectors considered strategic. But was created mechanisms to constrain the power of government actors in companies, such as: privatization programs, rules on rendering accounts or laws on fiscal responsibility, might have prompted politicians to find other ways to continue using corporate resources for their own benefit. This movement happens in order to reduce the power of government due some evidences recorded bt litertature: Bortolotti & Faccio (2009) and Nossa et al. (2011) found



evidence, respectively for OECD countries, in which governments continue to be the largest shareholder, or have substantial powers through other mechanisms, in the majority of companies after privatization.

Bortolotti & Faccio (2009) studied a sample formed by 98% of the companies privatized before 1997 in OECD countries and found evidence that governments normally transferred the ownership rights without proportionately relinquishing control, maintaining control of 62.4% of the firms, including by retaining golden shares, in OECD countries. "Golden Share" represents a special class of shares created to give special power to those who own this stock. Golden shares may be used in the privatization period to retain certain powers in the hands of the government for example: to change manager, president, and strategies in companies in which the government is a shareholder (Bortolotti & Faccio, 2009). Salm, Candler & Ventriss (2006) concluded that in many countries politicians still use the public apparatus to divert resources from companies for their own benefit, be it political or economic. The privatization process was more complete in some countries such as Australia, Ireland, Mexico, New Zealand, Turkey, UK and USA than in other OECD countries (Bortolotti & Faccio, 2009).

The Capital Purchase Program was used to help firms financial difficulties. Therefore, some factors were established such as: profitability and debt to measure whether company needs or not to be helped by Capital Purchase Program. Using Standard & Poors data base I have registered that the government was investing in companies since 2004. Therefore, this study are investigating empirically about determinants to the government to purchase stock on the market in USA. Therefore, the proposal of research is verify empirically determinants to the government buy stocks.

I analyzed a sample of public companies listed on stock markets in The USA. I used a time series for the period from 2004 to 2014. I built this study based on the observations of Laffont & Tirole (1991), Bortolotti & Faccio (2009), EUA (2017), Piotroski (2005).

The data used in this research was obtained from the Compustat, Standard & Poors (Capital IQ) databases.

I test the hypothesis in two contexts: 1) TOP 5; and 2) TOP 1. When the government is the biggest shareholder, then this firm is included in the TOP 1, and TOP 5 subsamples.

When I analyze these two different contexts, I expect differences due different level of risk of investment. The biggest investor get on average more investment than TOP 5.

I use logistic regression to test hypothesis in which the presence of government was the explanatory variable. Electoral season is represented by a dummy that takes on the value of one in presidential election years and zero otherwise. Shi and Svensson (2006, Brender and Drazen, 2005), and Vergne (2009) have registered that, before elections expense increase and revenue decrease. This way the financial availability of government may be reduced. Therefore, the period surrounding elections is included in the model as explanatory variable. The variable size, debt, price to book, period surrounding election, and fscore was included in an analysis following EUA (2017), Piotroski (2000), Laffont & Tirole (1991), Fama & French (1996), and D`Mello & Shroff (2000).

The logistic regression bring information about the characteristic of firms related to the probability of government to invest in that company. The period surround election is differently related with the decision of government between to invest or not as TOP 1 and TOP 5. In Both cases: the presence of government between Top 5 and Top 1 is negatively related to the both fscore and debt. The government are not investing as proposed in CPP (EUA, 2017). These results are more consistent with the Laffont & Tirole (1991) and Salm et al. (2006): the government are investing in companies due political proposal.



## **2 PRIOR LITERATURE - GOVERNMENT SHAREHOLDING AND DETERMINANTS TO BUY ONE STOCK**

### **2.1 GOVERNMENT SHAREHOLDING**

In OECD countries, it was common until the 1990s for governments to control large companies, especially those in sectors considered strategic. The movement to create mechanisms to constrain the power of government actors in companies, such as: privatization programs, rules on rendering accounts or laws on fiscal responsibility, might have prompted politicians to find other ways to continue using corporate resources for their own benefit. Bortolotti & Faccio (2009) and Nossa et al. (2011) found evidence, respectively for OECD countries, in which governments continue to be the largest shareholder, or have substantial powers through other mechanisms, in the majority of companies after privatization.

Bortolotti & Faccio (2009) studied a sample formed by 98% of the companies privatized before 1997 in OECD countries and found evidence that governments normally transferred the ownership rights without proportionately relinquishing control, maintaining control of 62.4% of the firms, including by retaining golden shares, in OECD countries. "Golden Share" represents a special class of shares created to give special power to those who own this stock. Golden shares may be used in the privatization period to retain certain powers in the hands of the government for example: to change manager, president, and strategies in companies in which the government is a shareholder (Bortolotti & Faccio, 2009). Salm, Candler & Ventriss (2006) concluded that in many countries politicians still use the public apparatus to divert resources from companies for their own benefit, be it political or economic. The privatization process was more complete in some countries such as Australia, Ireland, Mexico, New Zealand, Turkey, UK and USA than in other OECD countries (Bortolotti & Faccio, 2009).

According to Miller (1991) and Myers (2001), many errors were committed in conducting reforms and resolving management problems of state-controlled companies. After the great wave of privatization, a new scenario for study emerged, because these types of management problems can exist both in newly privatized firms in which the government retained an interest and in firms in which the government later acquired shares in the open market.

### **2.2 CPP – CAPITAL PURCHASE PROGRAM (EUA, 2017)**

The Treasury of USA in 2008 using CPP – Capital Purchase Program helped companies of different sectors just to implement financial stability programs (EUA, 2017). The Office of Financial Stability (OFS) was responsible to collect and to publish information about governmental investment in companies to bring financial stability programs (EUA, 2017). This way the Office of Financial Stability (OFS) provide “Congress and the taxpayers with the latest, most frequent, and most accessible information on how TARP investments are being used” (EUA, 2017).

On the hand, the Capital Purchase Program was used to help companies financial difficulties. Therefore, some parameters like profitability and debt was established to measure whether company needs or not to be helped by CPP. On the other hand, we have registered that the government was investing in companies since 2004. Therefore, this study are investigating about determinants to the government to purchase stock on the market in USA.

In this context, I present my hypotheses of research:

H0: There are no determinants to the government invest in companies in USA.



### 3. RESEARCH DESIGN

I analyzed a sample of public companies listed on stock markets in The USA (NYSE, AMEX, NASDAQ). I used a time series for the period from 2004 to 2014.

I built this study based on the observations of Laffont & Tirole (1991), Bortolotti & Faccio (2009), EUA (2017), Piotroski (2005).

The data used in this research was obtained from the Compustat, and Standard & Poors (Capital IQ) databases. The database used in this research includes institutional investor and financial annual information from December of each year.

The proxy for government shareholding used in this research is a dummy variable, with value of one when the government is a shareholder and zero otherwise. The dummy represents the group of companies before and after the government acquired the shares of the companies. The group of companies in which the government is not shareholder is called NOGOV firms. (Wooldridge, 2013).

I test the hypothesis in two contexts: 1) TOP 5; and 2) TOP 1. When the government is the biggest shareholder, then this firm is included in the TOP 1, and TOP 5 subsamples.

When I analyze these two different contexts, I expect differences due different level of risk of investment. The biggest investor get on average more investment than TOP 5.

I analyzed the name of each institutional investor available on Standard & Poor's Capital IQ database. I analyzed data from 2004 to 2014. I used content analysis in Standard & Poor's Capital IQ data to define whether government is a shareholder and the level of government ownership in each company. I analyzed 1,231.303 names of owners in USA. Using information about institutional investors from Bloomberg (2015), from site of companies and from site of owners I found five names of institutional investors that represent the government in USA in the period of 2004 to 2014.

One the hand, the electoral season is represented by a dummy that takes on the value of one in presidential election years and zero otherwise. The intuition being that in an election year if the government has large participation, they can use their influence to expropriate company resources for their own benefit or in favor of political groups. One the other hand (Shi and Svensson, 2006, Brender and Drazen, 2005, and Vergne, 2009) have registered that, before elections expense increase and revenue decrease. This way the financial availability of government may be reduced. Therefore, the period surrounding elections is included in the model as explanatory variable.

The variable size was included in this analysis following EUA (2017), once that how bigger are companies, more workers are expected to be there. This way I expected that size may be a good determinant to the governmental investment to rescue companies and avoid to increase the level of Bankruptcy risk and avoid to increase the level of unemployment EUA (2017).

The variable debt was included in this regression once that company with more debt could represent company with more risk of bankruptcy (Piotroski, 2000). By helping companies with more debt, it could reduce the number of companies in risk of bankruptcy and financial distress. The presence of government as shareholder could interpreted by financial market as guarantee of payment (Laffont & Tirole, 1991).

The probability of firms “provide information about the firm's ability to generate funds internally” (Piotroski, 2000, p. 7). Therefore, I expect that indicator of profitability could bring us information about the ability of firms to generate funds. This way I expect the profitability could be a determinant to the government to purchase shares.



Price to book and fscore was included in this regression to investigate the level of quality of investment made by government in USA. The analyzed period has companies in the context of financial distress and candidate to receive investment made by government (EUA, 2017). This way both price to book and fscore are studied here to bring information about the quality of investment (Piotroski, 2000; Fama & French, 1996; D`Mello & Shroff, 2000).

The fscore was proposed by Piotroski (2000) to measure quality of investment, in high and low scores (Table 1).

**Table 1: Indicators to build the F\_Score**

Profitability	ROA	$NP_{it} / TA_{it-1}$	$\uparrow ROA_{it} > 0$ (1) $\downarrow ROA_{it} < 0$ (0)
	CF	$OCF_{it} / TA_{it-1}$	$\uparrow CF_{it} > 0$ (1) $\downarrow CF_{it} < 0$ (0)
	$\Delta ROA$	$ROA_{it} - ROA_{it-1}$	$\uparrow \Delta ROA_{it} > 0$ (1) $\downarrow \Delta ROA_{it} < 0$ (0)
	ACCRUAL	$(NP_{it} - OCF_{it}) / TA_{it-1}$	$\uparrow CF_{it} > ROA_{it}$ (1) $\downarrow CF_{it} < ROA_{it}$ (0)
capital structure	$\Delta Liquidity$	$(CA_{it} / CL_{it}) - (CA_{it-1} / CL_{it-1})$	$\uparrow \Delta Liquidity_{it} > 0$ (1) $\downarrow \Delta Liquidity_{it} < 0$ (0)
	$\Delta Debt$	$(TL_{it} / TA_{it}) - (TL_{it-1} / TA_{it-1})$	$\downarrow \Delta Debt_{it} < 0$ (1) $\uparrow \Delta Debt_{it} > 0$ (0)
	Offer Stocks	If the company issued shares in the last year before construction of the portfolio, then it receives zero, or one if no shares were issued	$\downarrow Offer_{it} = 0$ (1) $\uparrow Offer_{it} > 0$ (0)
operational efficiency	$\Delta Profit\ margin$	$(GP_{it} / Rev_{it}) - (GP_{it-1} / Rev_{it-1})$	$\uparrow \Delta PPM_{it} > 0$ (1) $\downarrow \Delta PPM_{it} < 0$ (0)
	$\Delta Turnover$	$(Rev_{it} / TA_{it}) - (Rev_{it-1} / TA_{it-1})$	$\uparrow \Delta Turnover_{it} > 0$ (1) $\downarrow \Delta Turnover_{it} < 0$ (0)

Source: Nossa, Teixeira & Lopes (2010, p. 8), adapted by Piotroski (2000)

Where:

- CF = cash flow of firm i in year t;
- TA = total assets of firm i in year t;
- OCF=operational cash flow of firm i in year t
- NP = net profit of firm i in year t;
- CA = current assets of firm i in year t;
- TL=total liabilities of firm i in year t;
- CL = current liabilities of firm i in year t;
- GP = gross profit of firm i in year t;
- Rev = revenue of firm i in year t;

I used logistic regression to answer the question, why is the government investing on the stock markets. I used logistic regression where the dependent variable is represented by the dummy one in the context in which the government are shareholder and zero otherwise. Following the recommendation from Wooldridge (2013) I used logistic regression to study the statistic relation that there is or there is no relation between a dependent and independent variables.

In this analysis, I observed separately when the government is among TOP 5 and TOP 1 investor. I used independent variables such as size, debt, price to book, fscore, and the period surround election. These variables was recommended by (Bortolotti & Faccio, 2009; Piotroski, 2000; Fama & French, 1996; D`Mello & Shroff, 2000; Gupta, Ham & Svejnar, 2005; and EUA, 2017). The period surround election was separated in period before election (one year before election), period after election (one year after election) and the election year.



$$Dgov_i = \beta_0 + \beta_1 \text{election year} + \beta_2 \text{Before E. year} + \beta_3 \text{After E. year} + \beta_4 \text{FScore}_i + \beta_5 \text{Profitability}_i + \beta_6 \text{Debt}_i + \varepsilon_i \quad (2)$$

Where:

Dgov: represents the presence of government as shareholder as TOP 1 (Dgov1 and Dgov5 as TOP 5, one when the government was shareholder and zero otherwise)

Fscore: represents the financial health of companies (Table 2)

Before election year: represents one year before electoral year in The USA

After election year: represents one year after electoral year in The USA

Election year: represents the electoral year in The USA

Profitability: represents the profitability of company, using revenue divided by assets (Table 1)

Debt: represents the level of debt of each company, using total liabilities divided by equity (Table 1)

Price to book: represents the price of stock in relation to the equity of each company (Table 1)

**Table 2: Sample information and variable measurement - analysis of relation between abnormal return and the presence of government as shareholder**

Variable	Description	Unit of measure	Source
TOP 5	Government shareholder among the 5 largest shareholders	Dummy and percentage	(Laffont & Tirole, 1991; Salm, Candler & Ventriss, 2006). Bortolotti and Faccio, (2009)
TOP 1	Government shareholder as largest shareholder	Dummy and percentage	
Electoral Year	Dummy 1 on electoral Year and zero otherwise	Dummy 0 or 1	Zimmerman, (1978); Remmer, (1993); Shi and Svensson, 2006; Brender and Drazen (2005); and Vergne (2009). Watts & Ramanna & Roychowdhury, 2009).
FScoreit	Score on interval between 0 to 9 to each firm	Natural number between 0 and 9	Piotroski (2000)
Size <sub>it</sub>	Revenue of firm I, in year t, divided by assets from firm I on prior year	Percentage	D'Mello & Shroff, 2000; Piotroski, 2000; Ho, Liu & Ramanan, 1997; Bortolotti & Faccio, 2009; Ramanna & Roychowdhury, 2009).
Price-to-bookit	Price of stock divided by equity by stock	Percentage	Fama & French (1996) and Bortolotti & Faccio (2009)
Debt <sub>it</sub>	Debt of firm i in year t divided by equity of firm I, on prior year	Percentage	Piotroski (2000)
Profitability <sub>it</sub>	Net income of firm i in year t divided by equity of firm I, on prior year	Percentage	Piotroski (2000)

In Table 2, I present all variables used in this research, unit of measurement and source. I study all firms with available data in the Compustat annual industrial, the and Standard & Poor's data base.

In Both analysis was made separately in the context in which the government as shareholder between the TOP 1, and TOP 5.



#### 4.1. DESCRIPTIVE STATISTICS

##### 4.1.1 DESCRIPTIVE STATISTICS - THE USA

In the USA, there are no government-controlled companies listed on stock markets, but the federal government and state governments at times have traded stocks on exchanges.

A government entity (federal or state) was a TOP 1 shareholder in 85 companies in the US market in 2004. In 2008, the government sharply reduced its participation to only one company, and in 2014, the government was a TOP 1 shareholder in three companies (Figure 1). On average, the government was owner of 4.95% of the capital of these firms in 2004, 3.88% in 2005, 10.61% in 2006, 5.91% in 2007, 10.54% in 2008, 6.90% in 2009, 7.56% in 2010, 19.61% in 2011, 32.26% in 2012, 40.61% in 2013, and 32.8% in 2014.



**Figure 1: Government as TOP 1 shareholder in USA**

The presence of government among TOP 5 shareholders was found in 414 companies in 2004 and had declined to 22 firms in 2008, the same number as in 2014 (Figure 2). The average government percentage participation in the stock market as whole was 1.52% in 2004, 1.25% in 2005, 3.69% in 2006, 4.05% in 2007, 7.49% in 2008, 1.94% in 2009, 2.91% in 2010, 3.81% in 2011, 3.41 in 2012, 3.66% in 2013, and 7.46% in 2014.



**Figure 2: Government among the TOP 5 shareholders in USA.**

The presence of government among the TOP 25 shareholders was found in 1,496 companies in 2004, a number that increased to 1,595 companies in 2005 and declined to 475 in 2014 (Figure 3). The average of percentage of participation of government among the TOP 25 was 0.71% in 2004, 0.58% in 2005, 0.79% in 2006, 0.82% in 2007, 0.34% in 2008, 0.56% in 2009, 0.72% in 2010, 0.73% in 2011, 0.60% in 2012, 0.61% in 2013, and 0.91% in 2014.

In 2004, the government invested in more companies, but the number of companies in which the government invested was reduced briskly after the financial crisis (2008) until 2014. This context was repeated, independently if the government was a TOP 1 or TOP 5 shareholder. (Figure 1, and 2). I cannot comment on the nature of government investment before 2004, due to unavailability of data on Standard & Poor's (Capital IQ).

The government of the USA greatly reduced the number of companies in which it was investing as a shareholder in 2008. This probably happened due the financial crisis. This context was repeated, independently for the TOP 1 and TOP 5 subgroups. This context could be a signal of one characteristic of government of USA that could be different of other countries: the government of USA, as a TOP 1 or TOP 5 shareholder does not invest in the stock market during periods of increased risk (Figure 1 and 2).

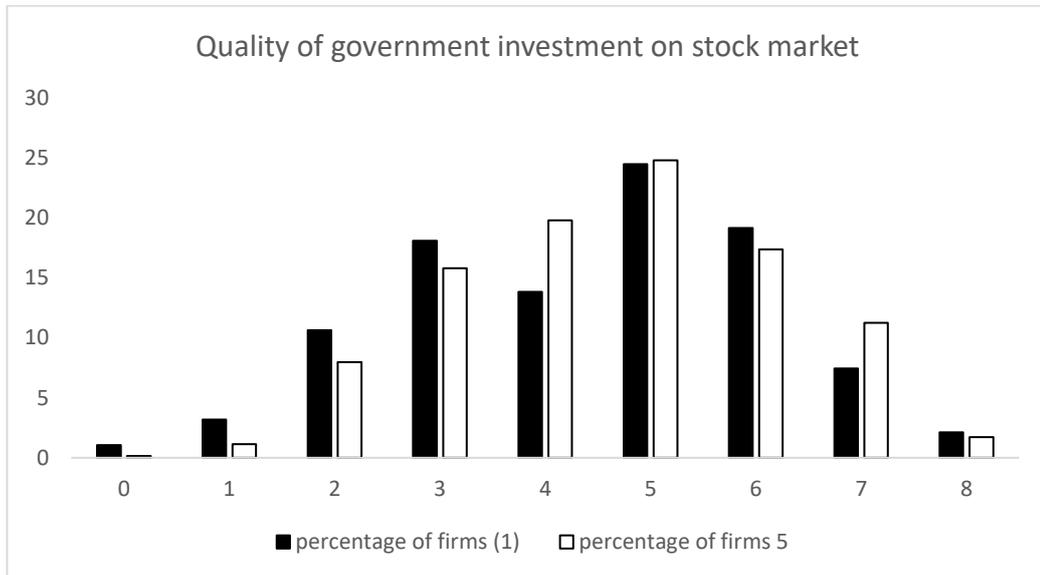
## 4.2. ANALYSIS OF RESULTS - THE QUALITY OF GOVERNMENT PORTFOLIO

### 4.2.1 ANALYSIS OF RESULTS - THE QUALITY OF GOVERNMENT PORTFOLIO

I used the score from Piotroski (2000) to classify the quality of investments from the TOP 1, and TOP 5.

Following Piotroski (2000), I used financial indicators of: profitability, operational efficiency and capital structure to classify companies on score (0 to 9). Firms with better financial indicators are closer to 9 (winners) and firms with worst financial health are closer to zero (losers).

About the quality of portfolio of investment made by government in the period of 2004-2014 I present on Figure 1 the classification of firms in which the government invested. I present separately the TOP 1, and TOP 5. I present the percentage of capital of the firm held by government (Figure 2).

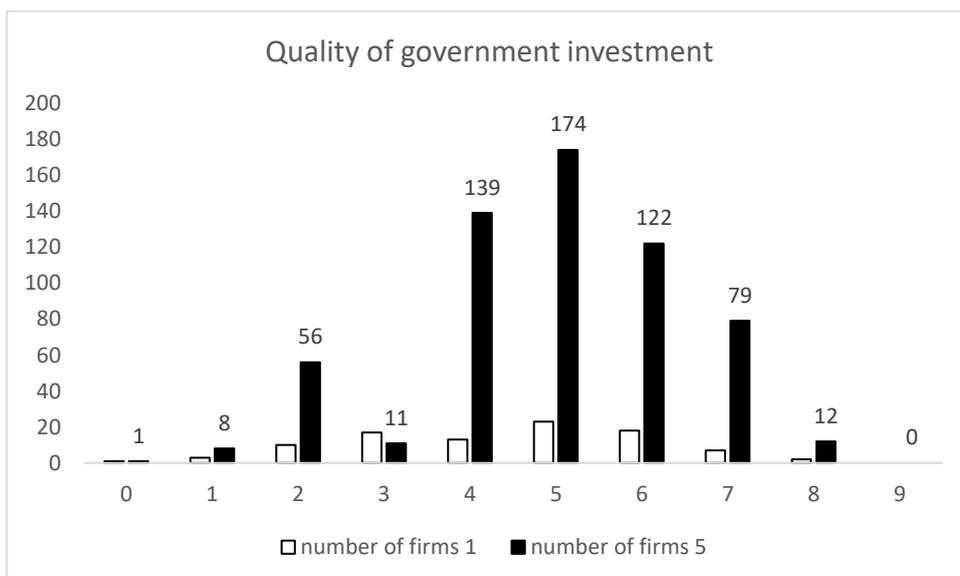


**Figure 1: Percentage of investment made by government (2004-2014)**

On the horizontal axis there are score proposed by Piotroski (zero to eight). In the vertical axis, there is the number of companies owned by the government. (Figure 1).

The percentage of stocks owned by the government in all analyzed contexts was higher (24%) in companies with score five. The government represented by states or federal government invested in 1.71% of capital of firms with higher score (8) and in 0.14% of equity of companies with low score (zero) (Figure 1).

The government had more percentage of capital in companies with score 5. This context repeated independently, whether the government was TOP 1, and TOP 5 (Figure 1).



**Figure 2: Number of firms owned by government (2004-2014)**



On the horizontal axis there are score proposed by Piotroski (zero to nine). In the vertical axis, there is the percentage of stocks owned by the government. (Figure 2).

About the quality of investment, I present the number of companies owned by the government in 2004-2014 period. I present the classification of firms in which the government has invested as TOP 1, and TOP 5. (Figure 2)

Firstly, the number of firms owned by government was larger in firms with score five: 174 companies. Secondly, the government had invested in companies with score four: 139 and thirdly, in companies with score six 122. The government invested in one company on score zero and there is no investment in companies with score nine. (Figure 2)

#### 4.2.2 ANALYSIS OF RESULTS - LOGISTIC REGRESSION ANALYSIS

I used Logistic regression to verify determinants to the government investing on stock market in The USA as TOP 1, and TOP 5. The logistic regression dropped due the reduced number of cases in which the government is largest shareholder in The USA.

**Table 3: Logit - Relation between Government shareholding as TOP 1 (dummy) and fscore, profitability, debt, price to book, and the period surround election**

$Dgov1_i = \beta_0 + \beta_1 \text{election year} + \beta_2 \text{Before E. year} + \beta_3 \text{After E. year} + \beta_4 \text{FScore}_i + \beta_5 \text{Profitability}_i + \beta_6 \text{Debt}_i + \varepsilon_i$				
Iteration 0: log likelihood = -424.84119				
Iteration 1: log likelihood = -408.74994				
Iteration 2: log likelihood = -404.34946				
Iteration 3: log likelihood = -404.28647				
Iteration 4: log likelihood = -404.28627				
Iteration 5: log likelihood = -404.28627				
Logistic regression		Number of obs = 29122		
LR chi2(8) = 41.11		Prob > chi2 = 0.0000		
Log likelihood = -404.28627		Pseudo R2 = 0.0484		
Explanatory variable: dummy government as TOP1				
	Coefficient	Std. Err.	z	P> z
Profitability	-0.2598266	0.1736998	-1.50	0.135
Debt	-0.0137274	0.381829	-0.49	0.622
Price to book	-0.0137274	0.0278084	-0.49	0.622
fscore	-0.3310412	0.0904293	3.66	0.000
After CPP	-0.8465981	0.2806338	-3.02	0.003
Election year	-1.741018	0.5473003	-3.18	0.001
Before election	-0.6091359	0.3627333	-1.68	0.093
After election	-0.1978111	0.3084811	-0.64	0.521
Constant	-3.31574	0.520428	-6.37	0.000
Dgov1: represents the presence of government as shareholder as TOP 1 (one when the government was shareholder and zero otherwise)				
Fscore: represents the financial health of companies (Table 2)				
Before election year: represents one year before electoral year in The USA				
After election year: represents one year after electoral year in The USA				
Election year: represents the electoral year in The USA				
Profitability: represents the profitability of company, using revenue divided by assets (Table 1)				
Debt: represents the level of debt of each company, using total liabilities divided by equity (Table 1)				
Price to book: represents the price of stock in relation to the equity of each company (Table 1)				

The governmental decision about to do investment on stock market is differently influenced by election year. The election year is negatively related to the governmental



investment on stock market as Top 5 and as TOP1. This result could be justified by the use of resources by government to invest in election and reduce the available money to invest in other things like stock markets Laffont & Tirole (1991). The relation among governmental decision about to do investment and the election year is statistically significant at 1%. Nevertheless, one year after election and one year before the election are not related to the government invest on stock market, observing the interval of confidence about 95%. (Table 3 and 4)

The result about the relation among the fscore and the probability of government to be among the TOP 5 and TOP 1 shareholders or not was negative and statistically significant at 1% among the presence of government as TOP 5 and TOP 1. It means that the worse the financial health of the company the greater the likelihood of the government buying shares of that company. By Piotroski (2000) companies with low fscore has less expectancy of high returns. (Table 3 and 4)

**Table 4: Logit - Relation between Government shareholding as TOP 5 (dummy) and fscore, profitability, debt, price to book, and the period surround election**

$Dgov5_i = \beta_0 + \beta_1 \text{election year} + \beta_2 \text{Before E. year} + \beta_3 \text{After E. year} + \beta_4 \text{FScore}_i + \beta_5 \text{Profitability}_i + \beta_6 \text{Debt}_i + \varepsilon_i$				
Iteration 0: log likelihood = -2503.6828				
Iteration 1: log likelihood = -2443.4012				
Iteration 2: log likelihood = -2438.3632				
Iteration 3: log likelihood = -2438.3538				
Iteration 4: log likelihood = -2438.3538				
Logistic regression		Number of obs = 29122		
LR chi2(8) = 130.66		Prob > chi2 = 0.0000		
Log likelihood = -2438.3538		Pseudo R2 = 0.0261		
Explanatory variable: dummy government as TOP5				
	Coefficient	Std. Err.	z	P> z
Profitability	0.1001563	0.0491509	2.04	0.042
Debt	-0.4717113	0.1415239	-3.33	0.001
Price to book	-0.0425191	0.0111533	-3.81	0.000
fscore	-0.2229038	0.0324102	-6.88	0.000
After CPP	-0.1843944	0.0931300	-1.98	0.048
Electoral year	-0.9540288	0.1621914	-5.88	0.000
Before election	-0.1751886	0.1292877	-1.36	0.175
After election	0.0349192	0.1155456	0.30	0.762
Constant	-2.390471	0.2017834	-11.85	0.000
Dgov5: represents the presence of government as shareholder as TOP 5 (one when the government was shareholder and zero otherwise)				
Fscore: represents the financial health of companies (Table 2)				
Before election year: represents one year before electoral year in The USA				
After election year: represents one year after electoral year in The USA				
Election year: represents the electoral year in The USA				
Profitability: represents the profitability of company, using revenue divided by assets (Table 1)				
Debt: represents the level of debt of each company, using total liabilities divided by equity (Table 1)				
Price to book: represents the price of stock in relation to the equity of each company (Table 1)				

The result about profitability and debt are contrary to the expected by some arguments presented in the CPP (EUA, 2017) (Table 4). The government of USA was not investing in not profitable companies. It could be observed in the positive relation between the presence of government as TOP 5 shareholder and the profitability of companies. The negative relation



between TOP 5 and debt means that the government was investing in companies with less debt. Therefore, the results are indicating that on average the government was not investing in companies with low profitability or indebtedness. (Table 4).

In the context in which the government was TOP 1 I found that the government was investing in companies less profitable. In other words, the government was investing as TOP 1 more in line with the proposal of CPP than in the context in which the government was TOP 5 (Table 3 and 4).

On the one hand, the result about the relation between the price to book, and the probability of government to be among the Top 5 shareholders or not was negative and statistically significant at 1% (Table 4). It means there is positive expectation about returns in the future. In other words, on average, the government buys stocks that have already fallen a lot in price in relation to the equity of firm. On the other hand, there is not relation between price to book and the probability of government to invest in companies as TOP 1 investor.

The period after 2008 was negatively related to the probability of government to invest in stock market in USA as TOP 1 and TOP 5 (Table 3 and 4). It could be a reflection of the reduction of availability of resources by government to invest on ordinary stock to invest more in convertible debentures and other kind of investment to help companies.

## 5 CONCLUSION

The logistic regression bring information about the characteristic of firms related to the probability of government to invest in that company such as: fscore, debt, price to book and the period surround election. The period surround election is differently related with the decision of government between to invest or not as TOP 1 and TOP 5. In Both cases: the presence of government among Top 5 and Top 1 is negatively related to the fscore, debt, at 1%. Its means the government on average are buying shares from companies with low level of debt, low fscore, and companies with low price to book only in the context TOP 5. On the one hand, this result means the government in the USA are not investing on stock markets like other competitive investors as registered on the literature. On the other hand, the government as not investing as proposed in CPP (EUA, 2017). These results are more consistent with the Laffont & Tirole (1991) and Salm et al. (2006): the government are investing in companies due political proposal.

Overall, I provided evidence about the government shareholding in public companies and the perception of the market about this context. Additionally, I present empirical evidence about the quality of government investment and some determinants to the government investing on the stock market in The USA. The findings in this paper might be of interest to regulators, investors and academics. After this, research might investigate the effect of government shareholding on the financial health of companies internally and externally.

Considering government shareholding, I recommend future research in several areas relevant and effect of governmental politics to companies and society;

- The risk in public and non- public companies before and after the government becomes a shareholder;
- The profitability of public and non- public companies before and after the government becomes a shareholder;
- The operational efficiency in public and non- public companies before and after the government becomes a shareholder;



- The context of operational efficiency in public and non- public companies before and after the government becomes a shareholder;
- Why governments invest in stock markets?
- The effect of government shareholding on taxable earnings of firms.

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