

MASTER
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MASTER'S FINAL WORK
DISSERTATION

**HOW POLITICAL UNCERTAINTY ASSOCIATES WITH THE EARNINGS
MANAGEMENT**

GONÇALO CORREIA DINIZ SALDANHA SERRA

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SUPERVISION: PROFESSOR ALCINO TIAGO CRUZ GONALVES

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ABSTRACT

This research intends to examine the relation between Political Uncertainty and Earnings Management. This research explored the context of 15 European Union listed firms, on the period between 2011 and 2018, with a sample of 3.085 firms. The Earnings Management is measured by the discretionary accruals that were estimated by using the Jones model (1991) that was modified by Dechow et al. (1995) and Kothari et al. (2005). The Political Uncertainty has three main measures, the existence of a legislative election in a specific year, the gap between first and second most voted parties of such election and whether or not such election caused a change of the ruling party political wing.

The results display evidence of a connection between a Political Uncertainty environment and the use of Earnings Management practices as firms tend to use more Accruals to tackle these scenarios.

Small and Medium-Sized Enterprises demonstrate a larger usage of the aforementioned practices when in comparison to larger firms.

KEYWORDS: Earnings Management; Political Uncertainty; Earnings Quality; Small and Medium-Sized Enterprises; Accruals

RESUMO

Esta tese tem como propósito explorar a relação entre a Incerteza Política e a Gestão de Resultados. Esta dissertação baseou-se no contexto das empresas cotadas numa contexto de Europa a 15, no período compreendido entre 2011 e 2018, com uma amostra de 3.085 empresas. A Gestão de Resultados é medida através dos *Accruals* discricionários tendo estes sido estimados através do modelo de Jones (1991) que foi, posteriormente, modificado por Dechow et al. (1995) e por Kothari et al. (2005).

A Incerteza Política utiliza três medidas principais sendo estas a existência de eleições num dado ano, a diferença percentual entre o primeiro e segundo partidos mais votados bem como se esta eleição se traduziu numa alteração do espectro político do partido no governo.

Os resultados obtidos evidenciam uma ligação entre um clima de Incerteza Política e o uso de práticas de Gestão de Resultados visto que, tendencialmente, as empresas utilizam mais *Accruals* quando estes cenários se verificam.

As Pequenas e Médias Empresas demonstram uma maior utilização das práticas supramencionadas em comparação com o que se verifica em empresas maiores.

PALAVRAS-CHAVE: Gestão de Resultados; Incerteza Política; Qualidade dos Resultados; Pequenas e Médias Empresas; *Accruals*

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LIST OF ABBREVIATIONS

EM	Earnings Management
EQ	Earning Quality
EU	European Union
PU	Political Uncertainty
SME	Small and Medium-Sized Enterprises
PIGS	Portugal, Ireland, Greece, Spain
EU-15	Europe with 15 countries
NACE	Nomenclature statistique des Activités économiques dans la Communauté Européenne (or Statistical Classification of Economic Activities in the European Community)
BvD	Bureau van Dijk

1. INTRODUCTION

The financial crisis of 2007-2008 internationalized the term PIGS referring to Portugal, Ireland, Greece and Spain as the European countries that were struggling the most with such crisis (Fernandes & Mota, 2011) or the term *Troika*, the name that was attributed to the International Monetary Fund negotiators (Legido-Quigley et. al 2016). This names almost worked as a financial and economic instability barometer which led countries to have to tackle with an unstable political and social environment (Harper, 2014).

There is a relation between political instability and poor macroeconomic performances (Allen, Gu & Kowalewski, 2012; Bussiere, 2010). And a link between the political and economic instability with the utilization of Earnings Management (EM) (Filip & Raffournier, 2014) thus concluding that both Political Uncertainty (PU) and the lack of financial welfare may influence a firm's approach to EM practices.

Healy & Whalen (1999) believe that a firm intends to use EM with the purpose of misleading shareholders and the market in general or either to prevent regulatory intervention. Twenty years after this breakthrough, one may find that this topic is strongly linked to smaller and medium-sized enterprises (SME) as there is a lack of scrutiny when in comparison to larger firms, due to their size. To mention, also, that it is possible to see the display of the scrutiny influence on audited SME as those in this situation tend to use less accruals (Huguet & Gandia, 2014).

Although the scrutiny in SME smaller the accruals usage should not be seen as a phenomenon that only occurs in SME firms as it is transversal to larger firms (Filip & Raffournier, 2014) although such decrease is more associated, as mentioned above, to a crisis environment.

This thesis uses financial and legislative elections data beginning in 2010 and finishing in 2018. Considering the years of 2007 and 2008, as the zenith of the recent financial crisis, is possible to say that the years in analysis display a period of economic recovery and stabilization.

This thesis is based on a sample that comprises 3085 firms from all the EU-15 countries, with those observations corresponding to the period between 2010 and 2018 for both the financial and political aspects of this research.

This work has the intent of understanding the behaviour of the state and privately-owned firms regarding a period of legislative elections and the immediate aftermath environment inherent to this set of scenarios.

There is a lack of studies, European based, that explore the theme of this work. One is going to find numerous papers analysing the relation between PU, even if other measures are computed in order to study this event, and EM. Such papers mostly sample the United States and the vicissitude of their political system. This thesis aims to provide some in-depth analysis of this theme in a European context.

On a more specific notice this thesis studies how the discretionary accruals are associated to three main factors of a legislative election period; the existence, or non-existence, of an election on a given year, the voting margin between the first and second most voted parties and whether or not there was a change in the political spectrum of the winning party. Besides those three main PU measures, two other were created; one that only considers elections where the voting gap was below 5% and the other combines this measure with the one for the change of the political wing.

The discretionary accruals were studied in accordance to the Jones (1991) model that was modified by Dechow et al. (1995) and Kothari et al. (2005).

To sum up the hypothesis in study are:

- The level of EM is positively associated to higher election numbers.
- The level of EM is associated to larger gaps between the most voted party and the second most voted party.
- Countries where the ruling party changes are more likely to have higher EM levels.
- A short gap in the elective results leads to high levels of EM.
- Close call elections combined with a political wing change leads to high EM levels.

This thesis follows, in chapter 2, with the literature review that connected the two major topics of this research. It begins with the concept of EM, which, subsequently has a two-folded discrimination; one for Earnings Quality and another for Real Earnings Management. Afterwards the concept of PU is introduced and explained. Following the sub-chapter for PU, there are some relevant notions and definitions regarding Macroeconomic and Fiscal Policies and also about Small and Medium-Sized Enterprises. Finishing this chapter, the empirical evidence and the explanation of the hypotheses to test are presented.

On chapter 3, the data source for both the financial inputs and the political evidence is presented. Chapter 4 relates to chapter 3 as it explains the process made in order to transform the available inputs in the final database as well as the model to be applied.

In chapter 5 the main results are shown, whether there is, or not, EM practices during a PU environment, and the discussion of such results. It also displays some additional analysis on the topic of the thesis, specifically the EM behaviour in case of existence.

Finishing this thesis there is the 6th chapter which provides the conclusions, discusses the limitations and also suggests paths for future research.

2. LITERATURE REVIEW

In EU-15 every four or five years, depending on the legislative organization of a specific country, there are elections to choose the composition of the parliament which may create an uncertainty environment.

This sort of uncertainty environment may allow the management to manipulate the financial reports with the purpose of misleading all parts, allowing to gather potentially better results thus creating a better financial welfare for the firm (Godfrey et al., 2003; Healy & Wahlen, 1999). Healy & Whalen (1999. P. 16) further state that “the findings indicate that earnings management occurs for a variety of reasons, including to influence the stock market perceptions, to increase management’s compensation, to reduce the likelihood of violating lending agreements, and to avoid regulatory intervention”.

There are multiple paths in which adverse political environments affect a firm’s performance. If a political party/wing is not an obvious winner, then the ideological shock

may work as risk manager therefore allowing for a more cautious, yet positive, outcome leading firms that have different ideologies in their board of directors to perform better (Kim, 2012).

Corroborating the principle of real earnings management and enforcing the effect of political affiliation, Ding (2013) also shows that there is a positive effect of political affiliation on the firms' performance complementing the work done by Kim (2012).

Both this connections between the political ideologies and a firm's performance shown by Kim (2012) and Ding (2013) may be complemented with the fiscal approach taken by the right-wing or the left-wing. The first one relies on spending cuts while the other raises taxes although both these approaches have the intent of lowering the deficit (Tavares, 2004).

Tavares (2004) allows the present thesis to generalize a stricter fiscal policy regarding the parties composing the left-wing, in the countries in study, and a lighter tax charge for the parties posing on the right-wing. Given the accrual-based model, taxation is a material aspect in this thesis.

2.1. Earnings Management

EM may be defined has a decision-making process between different accounting standards with the intend of reaching a specific goal (Davidson et al., 1987). Such goal is qualified by Schipper (1989) as a personal motivation, a performance reward for instance, and broadens it to investing and financing decisions.

McNichols (2000) seems to disagree with Schipper (1989) as the author considers the markets to be efficient and, therefore, the management incentives to be less important than the capital market incentives.

There are two major paths for the results manipulation: through accruals, which may be used with the intent of either rising or diminishing the reported income (Bergstresser, 2006) or through real activities manipulation (Roychowdhury, 2006).

The accruals manipulation is performed in accordance to accounting choices thus not affecting the firm's cash flows. The real activities manipulation is related to operational decisions and has a direct impact in the firm's cash flows and which, in some cases, may

also affect the accruals.” Much of the current research on earnings management focuses on detecting abnormal accruals.” (Roychowdhury, 2006. p. 2).

Roychowdhury (2006) managed also to conclude, through the use of numerous Real Earnings Management measures, on the intent of obtaining a specific reporting criterion with the purpose of smoothing the book’s annual losses.

Managers tend to prioritize real earnings management instead of the accrual-based earnings management by considering that the first may be seen as a strategic decision and, therefore, harder to prove, even if such path may lead to financially relevant costs for the firm (Cohen & Zarowin, 2008).

The accrual-based practice also grants importance to the Earnings Quality concept as it can be seen has a twofold concept that uses the results persistence and the accruals as its components (Dechow, 2010).

The aforementioned concepts are measured in two distinct ways, one based on the market and another based on accounting. The accounting-based method comes as more relevant to understand the current research as it considers the accruals quality, its predictability, persistence and smoothness. These indicators are measured with the use of cash, accruals and earnings (Francis, 2003).

2.2 Political Uncertainty

Pastor & Veronesi (2012) define Political Uncertainty as the uncertainty inherent to the future actions of the government sustained by the belief that companies delay their investments within an elective period. This delay may generate skepticism regarding policy changes (Jens, 2017). “We interpret policy changes broadly as government’s actions that change the economic environment” (Pastor & Veronesi, 2012. p. 1).

The existence of this environment, or PU, creates an investment contraction that influences the market by making it act thus diminishing its quality (Bird, 2017) which leads to an increase in volatility affecting a firm’s performance (Jens, 2016).

The uncertainty of an elective period impacts the private sector and, consequently, a firm’s performance and its management as there may be a change in the ruling party and, therefore, in the policies applied (Julio & Yook, 2012).

Bernanke (1983) in his investment model, provides an understanding of the conclusions made by Jens (2017) by showing that the ability to change the state policy, which either directly or indirectly can affect a project's payoff, leads to a more cautious approach by the firms.

Complementing Bernanke (1983), the elective years affect the market and the share price as there tends to be less information hence creating white noise that can be harder to anticipate (Durnev, 2010).

2.3 Macroeconomic and Fiscal Policies

Mankin (2009) introduces the aspect of the short-term and long-term effect of the macroeconomic policies which is complemented by Blanchard (2010) by enlightening such policies as being a set of economic measures with the intent of positively affecting the economy and its growth.

Pantzalis (2000) states that one may expect positive pricing shifts on the aftermath of a political uncertainty environment created by an elective period. The winning party's policy implementation is related to the environment mentioned above. Such statement assigns importance to both the concepts of macroeconomic policy and fiscal policy qualifying them as crucial given that they provide a relevant base for the accrual-based concept of EM.

Hibbs (1977) suggests that international comparisons between left-wing and right-wing leads one to acknowledge that the left spectrum adopts a more socialist ideology by accepting higher inflation rates but trading these rates with lower unemployment rates and a broader budget policy whereas the right wing has lower inflation rates, which can provide an association to a more liberal ideology and a lighter fiscal policy although it reflects itself on higher unemployment rates.

A lighter taxation may be seen as an expansionist measure (Alesina, 2010) which may be reflect itself on the EM analysis when a country as a political wing change.

For the purpose of this thesis, one may define fiscal policy as a set of public measures, reacting to economic fluctuations, with the purpose of mitigating income fluctuations (Fatas, 2003).

2.4 Small and Medium-Sized Enterprises

This thesis explores the existence of EM on small and medium sized enterprises (SME) given so that concept is going to be explained below.

The European Commission (2005) considers as small and medium-size enterprises the firms that either have a number of workers below 250 people, or a turnover equal or smaller than €50m or a balance sheet total smaller than €43m. This last aspect was the one considered in this work.

Taylor & Taylor (2014) believe that SME tend to perform worst if the managerial decision is to follow the same practices as large firms and that different sizes require different strategies.

The idea of testing the EM for the SME follows the footsteps let by Taylor & Taylor (2014) as, given the input of “different sizes require different strategies”, it is required to understand whether SME and large firms have different approaches to EM.

2.5 Earnings Management and Political Uncertainty

Bittlingmayer (1998) has a theory on investment that states that investing during a period of PU leads to an output decrease and an increase in volatility, given that it increases the firms cost of capital (Pastor, 2013) and reduces both, in quantity and quality, the available information that the market participants have (Baloria, 2014).

Bird (2017) and Jens (2017) believe that this volatility increase and its effect on the market may lead a firm to underperform, and such underperformance, on the long term, may lead to the lack of financial welfare which has the effect of leading firms to rely more on the use of accruals (Linck et al. 2013).

Roychowdhury (2010) found that firms that are politically connected have more discretionary accruals has a protection for a possible loss of the party to which they are affiliated.

Kelly, Pastor and Veronesi (2016) found that the market suffers due to a weaker economy because of the policy changes which are more likely to occur in elective periods.

Filip & Raffournier (2014) found that, during the 2007-2008 financial and political crisis, EM practices had a significant decrease. The way European countries responded to the financial crisis and how they were damaged in this period was significantly different. South European countries and Ireland, the countries composing the PIGS acronym, were severely affected by the crisis (Fernandes & Mota, 2011) and that led to a highly unstable political environment given that macroeconomic policies affect the private sector performance and its growth (Basu & Stiglitz, 2016) while also affecting the labor market thus leading to a macroeconomic underperformance (Rose, 1991).

Studies performed by Allen, Gu & Kowalewski (2012) and Bussiere (2000) concluded that there is a relation between a PU environment and economic vulnerability which relates to the findings of Basu & Stiglitz (2016).

If firms are in need of tackling low demand periods, in which they are unsure of their source and how much it will last, they tend to delay investments with the purpose of understanding such condition. This variation in demand may be turned into a more enduring downward fluctuation affecting the economy (Bernanke, 1983) and enhancing the belief of the disturbance associated with PU.

2.6 Hypotheses

All of the following hypothesis are being studied for two different scenarios; one that only considers SME and other that considers both SME and large firms.

H1: The level of EM is positively associated to higher election numbers.

Julio & Yook (2012) state that an elective period impacts the private sector, the firms' performance and its management due to the uncertainty of a possible change in the ruling party and, therefore, a change in the policies to be applied.

This assumption is based on the premise that a higher number of elections suggests a higher level of political instability, given that the social and political environment do not provide a solid base for the elected party to live through the mandate, and, therefore it also suggests that the PU is more significant in these countries. Focusing on the countries with more than 3 legislative elections in the period between 2010 and 2018 the modified

Jones Model (Jones, 1991), modified by Dechow et al. (1995) and Kothari et al. (2005) is going to be applied in order to test this assumption.

H2: The level of EM is associated to larger gaps between the most voted party and the second most voted party.

The gap between first and second most voted parties can be seen as an important aspect of the considerations made by Julio and Yook (2012). This hypothesis tests if broader gaps elections between the two most voted parties are necessarily tested to understand how PU affects those countries listed companied EM.

Kelly, Pastor and Veronesi (2016) state the policy changes which are more likely to occur in elective periods affect the markets, thus affecting the listed companies. It is intended to understand whether or not a more certain elective environment leads to more EM practices given that it is unlikely that such certainty entails policy changes, and firms are used to the approach taken by such government.

H3: Countries where the ruling party changes are more likely to have higher EM levels.

Policy changes which are likely to occur in elective periods affect the markets, which, consequently affects the listed companies (Kelly, Pastor and Veronesi, 2016).

This hypothesis has the goal of understanding if the unknown regarding an eventual fiscal and economic policy change leads firms to protect themselves through accruals.

H4: A short gap in the elective results leads to high levels of EM.

Under hypothesis 4, it is intended to overcome a hypothetical mismatch between the EM practices and larger voting gaps. Given so, this hypothesis tests if a more uncertain election leads to the use of accruals as a form of protection.

H5: Close call elections combined with a political wing change leads to high EM levels.

By combining both the third and fourth hypothesis, this hypothesis intends to understand the firms' behaviour on a highly uncertain elective environment.

3. DATA SOURCE

The data used in this dissertation had two main sources. The financial inputs were obtained through the *Amadeus* database while the political evidence came from the EU website, Parties and Elections.

3.1 Financial Inputs

The *Amadeus* database provides financial information about public and private European firms, taking advantage of this database financial data for 4378 firms was gathered.

Such financial data belongs to the countries that compose the “Europe of the 15” (EU-15), a concept that dates back to the period between 1995 and 2004 where the European Union was composed by 15 countries; Austria, Belgium, Denmark, Finland, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Sweden and United Kingdom (Alvarez- Plata, 2003).

The information collected from the aforementioned database comprehends the period between 2010 and 2019 and has, as financial data, the values, in thousands, for Intangible Assets, Current Assets, Debtors, Cash & Cash Equivalents, Total Assets, Fixed Assets, Owner's Equity, Long Term Debt, Current Liabilities, Loans, Creditors, Operating Revenue, Net Income and Depreciations & Amortizations.

Furthermore, as general information, it was obtained the company name, its country and city, the NACE code Rev.2 main section, the BvD Independence Indicator and the firm's auditor company.

3.2 Political Evidence

Using the Parties and Elections website, the data for all the legislative elections in the EU-15 in the period between 2010 and 2019 was secured.

This information was then bundled into a database which considered the following inputs:

- Election year: a binary input that takes the value 1 if that year had elections in that specific country and 0 otherwise.
- Voting Margin %: the percentage value of the gap between the first and second most voted parties.
- Political Wing Change: a binary input that assumes the value of 1 if there is a change of the ruling party to a different political spectrum and 0 otherwise.
- Margin < 5: 5% was defined has the highest value of the “close call” range. It is also a binary input that assumes 1 if the gap between first and second most voted parties is below 5% and 0 otherwise.
- Margin & Change: a binary input that combines the “Political Wing Change” and the “Margin < 5” therefore assuming 1 if the both conditions are verified and 0 if not.

4. METHODOLOGY

In order to be able to perform the tests and subsequent analyses, the database extracted from *Amadeus* was cleaned in order to only consider the companies with all of the data for years in study. This task allowed for the computation of the measures shown below for EM according to the Jones model (Jones, 1991), modified by Dechow et al. (1995) and Kothari et al. (2005) with those measures being the variation for:

- Current Assets
- Liabilities
- Cash & Cash equivalents
- Short-term debt
- Depreciations and amortizations

Using the following formula, the value for Total Accruals was calculated:

Equation 1:

$$Total\ Accruals = \frac{(\Delta CA - \Delta CL - \Delta Cash + \Delta SD - \Delta Dep)}{Total\ Assets}$$

Where:

ΔCA = The variation of the Current Assets for the year n;

ΔCL = The variation of the Current Liabilities for the year n;

ΔCash = The variation of the Cash & Cash Equivalents for the year n;

ΔSD = The variation of the Short-Term Debt for the year n;

$\Delta \text{Dep.}$ = The variation of depreciations and amortizations for the year n.

Afterwards, the values for Total Assets and Tangible Assets and the variation of sales were included in the file with the purpose of allowing for the computation of other variables, so that it was possible to calculate the Modified Jones Model (Jones, 1991), modified by Dechow et al. (1995) and Kothari et al. (2005) that is displayed below. This formula allows to measure the abnormal accruals to the model's residue:

Equation 2:

$$\frac{\text{Total Accruals}_{ij}}{\text{Total Assets}_{ij}} = \beta_1 \frac{1}{\text{Total Assets}_{ij-1}} + \beta_2 \frac{\Delta \text{Rev}_{ij}}{\text{Total Assets}_{ij-1}} + \beta_3 \frac{\text{Tangible Assets}_{ij}}{\text{Total Assets}_{ij-1}} + \beta_4 \text{ROA}_{ij} + \varepsilon_{ij}$$

Where:

$\text{Total Accruals}_{ij}$ = Total accruals of the year j, for firm i.

Total Assets_{ij} = Total Assets of the year j, for firm i.

$\text{Total Assets}_{ij-1}$ = Total Assets of the year j-1, for firm i.

ΔRev_{ij} = Variation of sales of the year j, for firm i.

$\text{Tangible Assets}_{ij}$ = Tangible Assets for the year j, for firm i.

ε_{ij} = The residue of the model for the year j, for firm i.

Thus, this linear regression model allowed to calculate:

- $1/\text{Total Assets}$
- $\Delta\text{Rev}_{ij}/\text{Total Assets}$
- $\text{Tangible Assets}/\text{Total Assets}$

These computations allowed for a preliminary database “clean-up”, where the contra nature values were removed (e.g. negative values on Sales) and also the outliers (e.g. debt values higher than 100%).

After the clean-up, the database had 3762 firms which still had all years, sectors and countries available from the initial sample.¹

Some control variables were also added:

- Loss: a binary variable where 1 stands for a negative Net Income and 0 a positive one.
- Big4: a binary variable where 1 stands for the firm being audited by a Big 4 and 0 otherwise.
- Gsales: the percentage value of sales growth.
- End: the percentage value of indebtedness measured by Total Debt/Total Equity.
- Size: the logarithm of the Total Assets in order to perceive the firms dimension.
- ROA: the return on assets.

Afterwards the Amadeus database and the PU database were joined so that the analyses could be performed using a comprehensive database.

Subsequently to running the model on *Stata* a final clean-up of the database was made, with the purpose of deleting the outliers present in the residues of the model, leaving this database with data from all years and sectors and a final number of 3.085 firms.

¹ (See tables 13,14 and 15 in the Appendix A)

4.1 Analysis

In order to proceed to the statistical analysis of the available data in the final database, the *Stata* software was used to develop the basic analyses such as the descriptive statistics which is shown below.

The same software was then used to create 3 sets of dummy variables related to the Year (dYear), Sector (dSector), and the Country (dCountry).

The Modified Jones Model (Jones, 1991), modified by Dechow et al. (1995) and Kothari et al. (2005), mentioned above, and shown below was the next step taking in the form of a linear regression. The regression, shown below, was controlled by sector and year.

Equation 3:

$$\frac{Total\ Accruals_{ij}}{Total\ Assets_{ij}} = \beta_1 \frac{1}{Total\ Assets_{ij-1}} + \beta_2 \frac{\Delta Rev_{ij}}{Total\ Assets_{ij-1}} + \beta_3 \frac{Tangible\ Assets_{ij}}{Total\ Assets_{ij-1}} + \beta_4 ROA_{ij} + \varepsilon_{ij}$$

After the regression mentioned above, *Stata* was used to predict the residuals of this model, creating the variable EM Signal, and then the absolute value of the residuals, through the use of the *Stata* command that allows to do so, led to the creation of the variable EQ (Earnings Management).

Finishing the clean-up of the database the outliers present in the variable Gsales and EQ were deleted in order to reduce the white noise. The firms that had a value of total assets that was considered to low, below EUR 1,8 million, were also erased from the database.

Thus, the empirical approach followed the model below:

Equation 4:

$$EQ = PUv + Loss + Big4 + End + Gsales + Size$$

Where:

EQ = Earnings Quality.

PUv = Variable of PU.

Loss = Whether or not the firm had a negative net income, a binary variable assuming 1 if it occurs 0 otherwise.

Big4 = Whether or not the firm is audited by a Big 4 company, a binary variable assuming 1 if it occurs 0 otherwise.

End = The value for the financial leverage of the firm measured by Total Debt/Total Equity.

Gsales = The percentage for the sales variation for the firm.

Size = Logarithm of the Total Assets to represent a firm's size.

5. RESULTS AND DISCUSSION

5.1 Descriptive Statistics

On average the number of election years in the period between 2011 and 2018 is, roughly a quarter of the sample (25,3%) as it can be seen on Table 4 on appendix B.

Focusing on the voting margin the Table provides an average of 11%, stating that, usually, the elections were not close call. This input also has, as its minimum value 1% and as maximum value of 32%. These values were computed only considering the years where an election occurred so that there is no white noise from the 0 of the non-election years.

The sample also comprises, on average, 7,5% of elections where there was a change of the ruling party and that change came with a different political spectrum.

As PU variables there is also, on average, 9,8% of election years that had a voting margin smaller than 5% and 4,1% where that smaller gap also brought a different political wing to the government.

One may see the sample description by country, year and sector in tables 1, 2 and 3, respectively, in appendix A.

The countries contributing the most to the sample are the United Kingdom, France and Germany.

Considering the sectors, the ones most represented are sector **M**: Professional, scientific and technical activities, **C**: Manufacturing and **J**: Information and communication.

The average of the discretionary accruals observed in the sample has a positive sign (0,559), which means that, on average, the firms comprising the sample intend to use EM practices with the purpose of increasing the reported results.

Table 4 also displays that approximately 30% (29,9%) of the firms in the sample have reported a negative net income, although, on average, the value for the financial leverage of the firms is 0,123, which is low considering the high value of losses in the sample.

Complementing the conclusion regarding the net income loss, one may also observe that the Return on Assets has a negative average (-0,007).

5.2 Correlations

Focusing on the control variables (see table 16 in appendix C), one may see that the correlation between the variables Big4 and EQ is negative. This can be supported by the idea that the Big 4 companies practice more scrutiny to the firms that they audit leaving them to have less freedom to practice EM.

To complete this idea, the correlation between Size and EQ presents a negative value showing that larger firms are less likely to recur to the use of EM.

There is a positive correlation between Loss and the EQ thus displaying that when firms have a worst financial welfare they tend to rely on EM practices. The correlation between the financial leverage variable (End) and the EQ has a negative sign which shows that a great level of debt by itself does not lead a firm to use EM.

The PU variables are weakly correlated to the EQ. The variable of the ElectionYear has a negative sign showing that there is a weak correlation between it and the usage of EM although saying that, due to its sign, these practices tend to be more recurrent in such scenario, the variable of the VotingMargin behaves in same manner as the one for the ElectionYear as does the variable for PoliticalWingChange. Margin5 and MarginChange provided a negative sign although, as aforementioned, they are weakly correlated.

It is also important to mention that the correlations between the variable Big4 and all of the variables related to PU are negative hence saying that the Big 4 audited companies tend to gain with this uncertainty environment.

An aspect shown in this correlation matrix that qualifies itself as interesting to this research is the correlation between MarginChange and the End variables, given that it has a positive sign which tells that, a change on the political spectrum of the ruling party on a close call election, firms tend to be more leveraged.

5.3 Linear Regression Analysis

The following tables present the results for the different hypothesis.

All the tests computed below were controlled for the year fixed effects and sector fixed effects.

All tables are divided in three separate columns, one for the general model, one for the SME and the other for the large firms.

Table 1 : The existence of elections influences the practice of EM

Variables	EQ		
	All	SME	Large Firms
Election Year	0,0038 (0,016)	0,1046* (1.94)	-0,0028 (-0.35)
Gsales	0,2268 (1,58)	-0,1343*** (-5.61)	0,0452*** (6.73)
End	-0,5762 (10,61)	-0,5016*** (-4.36)	0,0663*** (3.35)
Loss	0,1852*** (8,64)	-0,123*** (-2.79)	0,0388*** (4.83)
Big4	0,036* (1,82)	0,0875* (1.84)	0,0013 (0.19)
Size	-0,288*** (-66,72)	-1,414*** (-59.35)	-0,0336*** (-19.13)
obs	16.109	5.176	10.933
R-squared	0,2797	0,4213	0,0485
Adj R-squared	0,2791	0,4199	0,0473

Dependent Variable: EQ For the description of the control variables see Table 4 Appendix B
 ***p<0,01; **p<0,05; *p<0,1

Table 1 presents the results for the first hypothesis. Considering the model for the set of all firms, the election year does not have a generalized effect on the firms' use of EM practices.

In this scenario it is important to mention that the firm's size and the negative net income variables proved themselves as highly significant (p -value $< 0,01$). This says that firms recur to EM if they suffer from these three conditions. A firm being audited by a Big 4 company also reveals to be significant in this hypothesis.

Focusing only on SME, one can see that the entire model is statistically significant displaying the effect that a legislative period has on smaller firms.

For larger firms, the election year dummy variable is not statistically significant, as verified on the general model, allowing to conclude that the use of EM, in this scenario, is a trend of smaller firms.

The control variables are in line with the previous literature.

Table 2 : Larger gaps lead to the usage of EM

Variables	EQ		
	All	SME	Large Firms
VotingMargin	0,4079** (2.02)	1,2968** (2.57)	0,0011 (0.02)
Gsales	0,0224 (1.56)	-0,1345*** (-5.62)	0,0452*** (6.73)
End	-0,5744*** (-10.58)	-0,4937*** (-4.29)	0,0663*** (3.35)
Loss	0,1857*** (8.67)	-0,1205*** (-2.73)	0,0387*** (4.82)
Big4	0,0385* (1.94)	0,0888* (1.87)	0,0013 (0.20)
Size	-0,2879*** (-66.78)	-1,4132*** (-59.36)	-0,0336*** (-19.13)
obs	16.109	5.176	10.933
R-squared	0,2799	0,4216	0,0485
Adj R-squared	0,2793	0,4202	0,0473

Dependent Variable: EQ For the description of the control variables see Table 4 Appendix B

*** $p < 0,01$; ** $p < 0,05$; * $p < 0,1$

Table 2 presents the results for the hypothesis that tests whether or not firms tend to use more EM if the result for the election is more certain.

This regression displays evidence (**p-value<0,05**) of a relation between the gap of the first and second most voted parties and the practices of EM, for the general model.

The coefficient states that the more certain the election the more use of EM. This may be due to the knowledge that firms have related to the scrutiny that have with the maintenance of the ruling party or the certainty regarding the policies that are going to be implemented. Given the less scrutiny that SME have and the significance (**p-value<0,05**) that this model has when only testing for this kind of firms one is able to sustain the previous justification.

All the control variables with the exception of the sales growth also prove to be significant in this model.

Table 3 : Political Change causes EM practices

EQ			
Variables	All	SME	Large Firms
PoliticalWingChange	0,0693* (1.84)	0,3724*** (4.25)	0,0082 (0.64)
Gsales	0,0231* (1.61)	-0,1312*** (-5.48)	0,0452*** (6.73)
End	-0,5831*** (-10.72)	-0,5354*** (-4.65)	0,0654*** (3.30)
Loss	0,1845*** (8.61)	-0,1307*** (-2.96)	0,0387*** (4.82)
Big4	0,0423** (2.10)	0,1004** (2.11)	0,0022 (0.32)
Size	-0,2881*** (-66.70)	-1,4185*** (-59.55)	-0,0337*** (-19.15)
obs	16.109	5.176	10.933
R-squared	0,2799	0,4229	0,0485
Adj R-squared	0,2793	0,4215	0,0474

Dependent Variable: EQ For the description of the control variables see Table 4 Appendix B

***p<0,01; **p<0,05; *p<0,1

The results for Table 3 do show a statistically significant (**p-value<0,1**) connection between the use of EM practices and a change on the ruling party that comes with a different political spectrum.

The fear of the unknown and the uncertainty on how the political ideology is going to work, leads the firms to want to protect themselves and, as so, they tend to rely more on EM.

Such occurrence appears to be a small firm trend as it proves to be highly significant on SME, with a (**p-value<0,01**) but fails to grant evidence when regressed only for larger firms.

All the control variables are statistically significant in both the general and the SME model, with special emphasis on the results obtained in the variables for financial leverage and for negative net income as they display that, in this sort of event, a firm in financial distress does rely on EM practices (**p-value<0,01**).

Table 4 : A gap smaller than 5% leads to the use of EM

Variables	EQ		
	All	SME	Large Firms
Margin5	-0,0413 (-1.14)	0,1598* (1.83)	-0,0005 (-0.04)
Gsales	0,0225 (1.57)	-0,1339*** (-5.59)	0,0452*** (6.73)
End	-0,5735*** (-10.55)	-0,5094*** (-4.43)	0,0663*** (3.35)
Loss	0,1858*** (8.67)	-0,1242*** (-2.81)	0,0387*** (4.82)
Big4	0,0351* (1.77)	0,0892* (1.88)	0,0013 (0.19)
Size	-0,2873*** (-66.64)	-1,415*** (-59.33)	-0,0336*** (-19.14)
obs	16.109	5.176	10.933
R-squared	0,2798	0,4213	0,0485
Adj R-squared	0,2792	0,4198	0,0473

Dependent Variable: EQ For the description of the control variables see Table 4 Appendix B
***p<0,01; **p<0,05; *p<0,1

The results of the model showed in Table 4 failed to provide statistical significance for the entire sample.

The variable used to measure PU, in this case the margin being smaller than 5%, proves to be significant (**p-value<0,1**) when testing for SME. Greater levels of uncertainty regarding the elections winner seem to drive this set of firms to use more EM practices.

Large firms are, apparently, immune to the elections results. The non-existence of significance in this model displays that the elective gap being short does not influence the usage of EM by large firms.

All the control variables are statistically significant in the SME model.

Table 5 : Close call and change leads to EM

EQ			
Variables	All	SME	Large Firms
MarginChange	0,0274 (0.56)	0,2514** (2.21)	0,0133 (0.78)
Gsales	0,0228 (1.59)	-0,1328*** (-5.54)	0,0452*** (6.74)
End	-0,5779*** (-10.63)	-0,5202*** (-4.51)	0,0655*** (3.31)
Loss	0,1851*** (8.64)	-0,1268*** (-2.87)	0,0387*** (4.82)
Big4	0,0371* (1.86)	0,0857* (1.81)	0,0021 (0.30)
Size	-0,2876*** (-66.70)	-1,4149*** (-59.37)	-0,0337*** (-19.15)
obs	16.109	5.176	10.933
R-squared	0,2797	0,4214	0,0485
Adj R-squared	0,2791	0,42	0,0474

Dependent Variable: EQ For the description of the control variables see Table 4 Appendix B
***p<0,01; **p<0,05; *p<0,1

Table 5 displays the results for the combination of two highly uncertain election environments, close call elections and a change of the wing of the ruling party.

The overall sample model fails to present statistical significance to the MarginChange variable thus not affecting the EM use.

The model for SME is significant (**p-value<0,05**) which states that this highly unstable elective environment tends to influence SME to be forth when regarding EM use. All the control variables are, again, statistically significant.

For larger firms, the PU variable does not prove to be significant, thus allowing to conclude that the use of EM in this scenario is a “smaller firm” related event possibly because larger firms can tackle this uncertainty with ease.

5.4 Additional Analysis

In order to improve these analyses, the regression above was performed again but with a different dependent variable. This part of the analysis has the purpose of understanding the behaviour of the EM practices. Through it one intends to understand, in case of existence of EM, if the firms practice it to increase or decrease earnings, through the use of accruals, by considering the sign of the coefficient.

The equation of the previous model was changed for the one shown below:

Equation 5:

$$resid = PUv + Loss + Big4 + End + Gsales + Size$$

Where:

resid = residue of the Modified Jones Model linear regression

PUv = Variable of PU

Loss = Whether or not the firm had a negative net income

Big4 = Whether or not the firm is audited by a Big 4 company.

End = The value for the financial leverage of the firm

Gsales = The sales variation in % for the firm

Size = Logarithm of the Total Assets to represent a firm's size

Given that the previous model had, as dependent variable, the absolute value of the residue variable, the control variables of the following regressions will, tend to behave in the same manner, in terms of statistical association.

All the tests computed below were controlled for the year fixed effects and sector fixed effects.

Table 6 : EM signal on election years

Variables	EM signal		
	All	SME	Large Firms
ElectionYear	0,0059 (0,24)	0,1062* (1,92)	-0,0003 (-0,04)
Gsales	-0,0419*** (-2,86)	-0,2027*** (-8,25)	-0,0146** (-2,06)
End	-0,5479*** (-9,9)	-0,5181*** (-4,39)	0,1348*** (6,43)
Loss	0,1049*** (4,8)	-0,1502*** (-3,31)	-0,0855*** (-10,05)
Big4	0,0219 (1,08)	0,0734 (1,51)	-0,0084 (-1,17)
Size	-0,3*** (-68,31)	-1,4065*** (-57,55)	-0,041*** (-22,05)
obs	16.109	5.176	10.933
R-squared	0,2789	0,4056	0,0557
Adj R-squared	0,2783	0,4041	0,0546

Dependent Variable: EQ For the description of the control variables see Table 4 Appendix B
 *** $p < 0,01$; ** $p < 0,05$; * $p < 0,1$

The table above displays that an election does not grant significance, by itself, on the overall sample.

Taking into regard the firms that are considered SME, the *ElectionYear* is statistically significant ($p\text{-value} < 0,1$) and has a positive sign in the coefficient. This result in the coefficient can be interpreted as a stronger use of accruals and, as a consequence, where firms manage to increase the reported earnings.

Given that the test for the large firms, both on the main analysis and in this one, did not provide statistical significance, the results for this test remain similar.

Table 7 : EM signal for larger gaps

EM signal			
Variables	All	SME	Large Firms
VotingMargin	0,4538** (2,2)	1,4163*** (2,74)	0,0158 (0,22)
Gsales	-0,0422*** (-2,89)	-0,203*** (-8,27)	-0,0147** (-2,06)
End	-0,5458*** (-9,86)	-0,5094*** (-4,32)	0,1348*** (6,44)
Loss	0,1054*** (4,83)	-0,1475*** (-3,26)	-0,0855*** (-10,05)
Big4	0,0246 (1,22)	0,0752 (1,54)	-0,0083 (-1,15)
Size	-0,3004*** (-68,38)	-1,4057*** (-57,56)	-0,0411*** (-22,05)
obs	16.109	5.176	10.933
R-squared	0.2791	0,4060	0,0557
Adj R-squared	0,2785	0,4045	0,0546

Dependent Variable: EQ For the description of the control variables see Table 4 Appendix B

***p<0,01; **p<0,05; *p<0,1

In accordance to what was displayed in the previous analysis for the effect of a more certain elective period, the model displaying the entire sample statistically significant regarding the voting margin.

The coefficient provides a positive sign which confirms that the use of accruals is positively related to a broader margin between the first and second most voted parties thus making firms to use more accruals hence reporting higher earnings in such period.

For the smaller firms the behavior is identical although the coefficient displays a stronger positive sign. This allows to confirm that the use of accruals is more recurrent in this scenario. As mentioned before this can be related to a lighter scrutiny of this sort of firms assuring them that the ruling party is going to maintain the behavior recorded prior to the elections.

Table 8 : Political Change signal to EM

EM signal			
Variables	All	SME	Large Firms
PoliticalWingChange	0,0751* (1,96)	0,3797*** (4,22)	0,011 (0,8)
Gsales	-0,0414*** (-2,83)	-0,1996*** (-8,13)	-0,0146** (-2,05)
End	-0,5553*** (-10,01)	-0,5526*** (-4,68)	0,1336*** (6,37)
Loss	0,1042*** (4,77)	-0,158*** (-3,49)	-0,0855*** (-10,06)
Big4	0,0287 (1,4)	0,0865* (1,77)	-0,0071 (-0,97)
Size	-0,3007*** (-68,3)	-1,4112*** (-57,75)	-0,0411*** (-22,06)
obs	16.109	5.176	10.933
R-squared	0,2791	0,4072	0,0558
Adj R-squared	0,2785	0,4057	0,0546

Dependent Variable: EQ For the description of the control variables see Table 4 Appendix B

***p<0,01; **p<0,05; *p<0,1

The general sample regression keeps the PU variable statistically significant, having a positive coefficient and these results consider that a firm is more likely to increase the earnings to be reported with the purpose of protecting itself for a change in the macroeconomic and fiscal policies that may come with the change of the political spectrum of the ruling party.

Considering only the SME, the model's behavior is identical to the one of the general sample, hence also allowing for the conclusion that firms, in this scenario, are going to increase their earnings.

Table 9 : The EM signal of close call elections

Variables	EM signal		
	All	SME	Large Firms
Margin5	-0,0548 (-1,48)	0,1196 (1,33)	-0,0001 (-0,01)
Gsales	-0,0421*** (-2,88)	-0,2024*** (-8,24)	-0,0146** (-2,06)
End	-0,5443*** (-9,83)	-0,5241*** (-4,44)	0,1348*** (6,43)
Loss	0,1057*** (4,84)	-0,1511*** (-3,33)	-0,0855*** (-10,05)
Big4	0,0207 (1,03)	0,0733 (1,5)	-0,0084 (-1,17)
Size	-0,2997*** (-68,22)	-1,4069*** (-57,5)	-0,041*** (-22,05)
obs	16.109	5.176	10.933
R-squared	0,2790	0,4054	0,0557
Adj R-squared	0,2784	0,4039	0,0546

Dependent Variable: EQ For the description of the control variables see Table 4 Appendix B

***p<0,01; **p<0,05; *p<0,1

The SME presented Margin5 statistical significance in the model tested for EQ although it does not provide significance in this test. This states that, for the firms, there is not a constant behavior if, whether or not, they are going to use accruals to increase or decrease the earnings that are being reported.

Table 10: The EM sign for close call and change elections

Variables	EM signal		
	All	SME	Large Firms
MarginChange	0,0331 (0,66)	0,2516** (2,16)	0,0204 (1,14)
Gsales	-0,0417*** (-2,85)	-0,2013*** (-8,19)	-0,0145** (-2,04)
End	-0,5499*** (-9,92)	-0,5367*** (-4,54)	0,1336*** (6,37)
Loss	0,1047*** (4,8)	-0,154*** (-3,4)	-0,0855*** (-10,06)
Big4	0,0232 (1,14)	0,0715 (1,47)	-0,0072 (-1)
Size	-0,3001*** (-68,3)	-1,4074*** (-57,57)	-0,0411*** (-22,08)
obs	16.109	5.176	10.933
R-squared	0,2789	0,4057	0,0558
Adj R-squared	0,2783	0,4042	0,0547

Dependent Variable: EQ For the description of the control variables see Table 4 Appendix B
 ***p<0,01; **p<0,05; *p<0,1

Such as the analysis immediately above, both the general sample and the large firms do not provide PU variable significance in this test, complementing the idea that smaller margins do not change the approach of the larger firms.

The analysis on SME displays a positive sign which says that firms tend to report higher earnings to protect themselves when in a highly uncertain legislative environment.

6. CONCLUSIONS

The purpose of this thesis sought to grasp the relation between the environment of Political Uncertainty, the practices of Earnings Management and the strength to which it influences such practices.

The existent literature finds that PU does influence the firms' behaviour to different extents. There may exist a firms' contraction in investment, which diminishes the market quality if those firms are affected by unstable political environments or elective periods (Bird, 2017).

Also, during elections periods, the private sector displays increased volatility if compared to non-elective years which states that there is an influence of PU to the firms that need to tackle such election (Jens, 2017).

Corroborating the ideas above and enforcing the political effect, Ding (2013) shows that there is a positive effect of political affiliation on the firms' performance which, in a change scenario, can influence a firm's financial welfare.

The results obtained display similar results to the previous researches that were used as the base for this research.

Considering only the existence of elections, SME tackle this environment by relying more on the use of EM. This study suggests that the management feels the need to tackle a hypothetical economic vulnerability that may arise with the uncertainty climate (Basu & Stiglitz, 2016) thus shielding themselves with EM practices by reporting higher revenues for the year of such election through a stronger *accruals* use.

If one focuses on the voting gap between the first and second most voted parties or in the change of the ruling party wing, it is possible to conclude that the larger the margin the more firms tend to use accruals and EM practices.

Similarly to what happens for an year of elections, if the difference between the two most voted parties is smaller than 5% or, besides that margin there is a wing change, smaller firms favour the usage of the practices in analysis.

If one considers all the PU variables at once, the existence of an election and, once again, the unfamiliarity to the political choices, and scrutiny, that may come with the change of the political spectrum, influence the adoption of EM practices. The legislative period *per se* diminishes the practices countering the change that makes firms increase its usage.

In line to what may be found in the literature this thesis also provides a linkage between PU and EM.

The use of different accounting standards, in this case the use of accruals to either decrease or increase the income that is being reported (Bergstresser, 2006), combined with PU, influences the market as the intent to reach its goal (Davidson et. al., 1987) may

affect the market efficiency (McNichols, 2000). As shown above, the EM practices are recurrent in PU environments, thus the findings of this thesis suggest that PU, in a more direct or indirect way, may reduce the market quality.

Limitations and Future Research Paths

This thesis has some limitations that need to be recognized.

It only studies a period of eight years (2011 to 2018) given that it was only possible to secure data from a ten-year period but 2019 had little to none information and 2010 has been used for computation purposes only.

Another limitation has to do with the number of countries that are being considered. This research focus on the EU-15 instead of the current 28 countries that compose the European Union or all of the European countries.

In line with the aforementioned limitations, it is suggested to increase the number of years, and also the number of countries in study, in order to fully perceive the PU phenomenon and whether or not the influence is transversal to a broader sample.

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APPENDICES

Appendix A: Sample

Table 1 : Sample by Country

Country	Total	%
Austria	150	0,93%
Belgium	223	1,38%
Denmark	191	1,19%
Finland	554	3,44%
France	2986	18,54%
Greece	851	5,28%
Germany	2605	16,17%
Ireland	175	1,09%
Italy	1023	6,35%
Luxembourg	54	0,34%
Netherlands	40	0,25%
Portugal	105	0,65%
Spain	730	4,53%
Sweden	1691	10,50%
United Kingdom	4731	29,37%
Total	16109	100%

Table 2 : Sample by Year

Year	Total	%
2011	1306	8,11%
2012	2074	12,87%
2013	2126	13,20%
2014	2145	13,32%
2015	2187	13,58%
2016	2337	14,51%
2017	2318	14,39%
2018	1616	10,03%
Total	16109	100%

Table 3 : Sample by Sector

Sector	Total	%
A	57	0,35%
B	486	3,02%
C	3807	23,63%
D	226	1,40%
E	148	0,92%
F	629	3,90%
G	1499	9,31%
H	423	2,63%
I	293	1,82%
J	2157	13,39%
L	706	4,38%
M	4512	28,01%
N	732	4,54%
P	24	0,15%
Q	125	0,78%
R	222	1,38%
S	63	0,39%
Total	16109	100%

Where:

Sector	Description
A	Agriculture, forestry and fishing
B	Minining and quarrying
C	Manufacturing
D	Electricity, steam and air conditioning supply
E	Water supply, sewerage, waste management and remediation activities
F	Construction
G	Wholesale and retail trade; repair of motor vehicles and motorcycles
H	Accommodation and food service activities
I	Transportation and storage
J	Information and communication
L	Real estate activities
M	Professional, scientific and technical activities
N	Administrative and support service activities
P	Education
Q	Human health and social work activities
R	Arts, entertainment and recreation
S	Other service activities

Appendix B: Variables

Table 4 : Variables Description

Variable Name	Description	Obs	Mean	Std. Dev.	Min	Max
Gsales	Variation of the sales from n-1 to n	16.109	0,138	0,646	-0,945	9,828
End	Financial Leverage = Total Debt/Total Equity	16.109	0,123	0,171	0,000	0,994
Loss	Assumes the value of 1 if the net income is negative and 0 otherwise	16.109	0,299	0,458	0,000	1,000
Big4	Assumes the value of 1 if the audit company is a big 4 and 0 otherwise	16.109	0,526	0,499	0,000	1,000
Size	Logarithm of the Assets	16.109	11,992	2,423	5,584	19,861
ROA	Return on Assets = Net Income/Total Assets	16.109	-0,007	0,230	-6,697	2,938
ElectionYear	Assumes the value of 1 if that year has elections in a specific country and 0 otherwise	16.109	0,253	0,435	0,000	1,000
VotingMargin	The gap between the first and second most voted parties	16.109	0,110	0,047	0,000	0,320
PoliticalWingChange	Assumes the value of 1 if the wing of the ruling party changes and 0 otherwise	16.109	0,075	0,264	0,000	1,000
Margin5	Assumes the value of 1 if the gap between first and second is below 5% and 0 otherwise	16.109	0,098	0,298	0,000	1,000
MarginChange	Assumes the value of 1 if the gap between first and second is below 5% and the wing of the ruling party changes and 0 otherwise	16.109	0,041	0,198	0,000	1,000
sme	Assumes the value of 1 if the firm's total assets are smaller than €43M and 0 otherwise	16.109	0,321	0,467	0,000	1,000
resid	The residues of the Modified Jones Model giving the EM signal	16.109	0,559	1,399	-6,157	9,944
EQ	The absolute value of the residues of the model	16.109	0,619	1,374	0,000	9,944

Appendix C: Correlation Matrix

Table 5 : Correlation Matrix

	Gsales	End	Loss	Big4	Size	ElectionYear	VotingMargin	PoliticalWin	Margin5	MarginChange	sme	resid	EQ
Gsales	1.0000												
End	-0.0184	1.0000											
Loss	0.0350	0.0950	1.0000										
Big4	-0.0157	-0.1232	-0.1280	1.0000									
Size	-0.1144	-0.0592	-0.3393	0.3515	1.0000								
ElectionYear	0.0075	0.0034	0.0091	-0.0146	0.0104	1.0000							
VotingMargin	0.0023	-0.0041	-0.0122	-0.0454	0.0176	0.7189	1.0000						
PoliticalWin	-0.0193	0.0888	0.0210	-0.1573	0.0043	0.4908	0.4610	1.0000					
Margin5	-0.0028	0.0310	0.0202	-0.0270	0.0155	0.5676	0.0280	0.4261	1.0000				
MarginChange	-0.0150	0.0648	0.0205	-0.1016	-0.0001	0.3550	0.0359	0.7233	0.6255	1.0000			
sme	0.0946	0.0158	0.3097	-0.3182	-0.7392	-0.0090	-0.0129	-0.0029	-0.0168	0.0013	1.0000		
resid	0.0418	-0.0333	0.2027	-0.1705	-0.5226	-0.0047	0.0064	0.0043	-0.0195	-0.0008	0.5150	1.0000	
EQ	0.0714	-0.0375	0.2258	-0.1642	-0.5208	-0.0050	0.0045	0.0020	-0.0176	-0.0024	0.5099	0.9834	1.0000