Earnings Management versus Capital Structure: What Are the Chances of Companies Occurring Within the Discretionary Limit?

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ABSTRACT

The discussions about companies’ debts have been pertinent to researches for decades, but it is still a puzzle issue. The mainly aspect this issue is how managers chooses funding sources. In this sense, the purpose of this study is analyzing the chances of occurring companies within the discretionary limit in relation to their capital structure. This research was conducts by logistic regressions with a sample of 706 energy sector firms from 37 countries around the world, with financial data from the period 2015 to 2017, making the total of 2,118 observations. So, results shows that profitability, investment opportunities, firm size, low capital structure are variables that affect to the chances of companies occurring within the discretionary limit. These results evidenced that the discretionary limit can be greater than 1% of the return on asset (ROA). Based on this findings we suggest that for some sectors, the discretionary limit may be different from the energy sector. Besides this, it depends by the attention of the regulatory agents of each country, as well as the relevance of the companies sector to the others.

KEYWORDS

Earnings management, capital structure, trade off theory, pecking order theory, energy sector.

1 Introduction

The literature on earnings management comes showing several reasons that influence managers to manipulate financial reporting (Watts, & Zimmerman, 1990, Healy, & Wahlen, 1999). Within these aspects, there is research evidences the role of government participation in corporate control (Jalil, & Rahman, 2010), as well as whether capital structures are able to evidence whether firms tend to manipulate results (Francis, LaFond, Olsson, & Schipper, 2004, Cheng, & Warfield, 2005).

In this sense, the researchers’ concern about studying the capital structure of firms emerged, in order to understand the choice of managers on the concentration of debt and equity to finance a firm. Therefore, some theoretical currents that discuss the capital structure were proposed in the literature (Nassar, 2016; Karacaer, Temiz, & Gulec, 2016).

Although it’s a topic that has been discussed for decades, understanding the choice of managers on the configuration of capital structure of firms is still a puzzle for researchers (Myers 1984; Nassar, 2016; Karacaer et al., 2016; Pontoh, 2017). In this context, Myers (1984) proposed to discuss the theme under two theoretical currents, consecrated in the literature as trade-off and pecking order. Based on the proposal of Myers (1984), several empirical studies were developed around the world, with the purpose of analyzing the capital structure of companies.

However, the development of the energy sector is important for the development of other companies as well as for the countries, and for this reason, they receive a lot of government attention, through state control or even through sector-specific laws.

Therefore, due to this government focus on the energy sector, companies can efficiently manage their assets. In this sense, the capital structure can prove to be determinant for companies to be efficient in relation to the returns of invested capital, as well as, to avoid returns or losses within discretionary limits.

Although, Leuz, Nanda and Wisocky (2003) suggest that the discretionary limit is between 1% of the return on asset (ROA), the authors emphasize that the discretionary limit may differ according to the countries. Given this, the energy sector can cause managers to adopt capital structures in order to avoid being within these limits. And have a discretionary limit differ of other sectors.

Given this discussed relevance of the energy sector, this paper seeks to contribute primarily to the literature on earnings management and capital structure by analyzing the discretionary limits on return on assets (ROA). In addition, working with different countries around the world provides an opportunity to observe the behavior of discretionary managers and compare them.

Even with the relevant considerations of the researchers on the subject, there is still limitations literature on the sample (Nassar, 2016, Pontoh, 2017). Based on this gap, this study purpose of analyzing whether the characteristics of the capital structure of companies in the energy sector can determine the occur companies into discretionary limit. Thus, was suggest the following research question: what are the chances that companies in the energy sector will occur within the discretionary limit in relation to their capital structure?

In order to answer this question, the purpose of this article is to analyze the chances of occurring companies in the energy sector, listed on the stock exchange of 37 countries, within the discretionary limit in relation to their capital structure. Besides this introduction, this article is structured in four other lines. Section 2 discusses the literature review, Section 3 details the research methodology, data and variables, and Section 4 discusses data analysis and results. Finally, Section 5 presents conclusions and limitations.

2 Literature Review

2.1 Trade off theory and pecking order theory

Knowing about choices when it refers to the capital structure of firms, according to Myers (1984) is an issue that we don’t know the answer to. Although it’s a decades-long discussion, since the paper by Myers (1984) the capital structure of firms is considered an enigma for researchers (Myers 1984; Nassar, 2016; Karacaer et al., 2016; Pontoh, 2017). The focus of this question is on the configuration of the capital structure, as it particularly involves the managers’ choices about the financing sources of companies. These sources of corporate financing, according to Nassar (2016) can be internal (equity) or external (debt).
In order to explore this gap on the subject, Myers (1984) investigated two theoretical currents on the capital structure of firms, known as trade-off and pecking order. Thus, the trade-off theory is based on the assumption that companies should seek an optimal capital structure, aiming at maximizing benefits and reducing borrowing costs (Myers, 1984). On the other hand, in pecking order theory according to Myers and Majluf (1984), there is a hierarchy in the choice of firms' financing sources, so the preference is for actions that incur less cost, mainly with the use of internal resources, employing the retained earnings.

While the idea in the trade-off theory according to Nassar (2016) and Uzliawati, Yuliana, Januarsi and Santoso (2018) is the balance between benefits and the cost of debt, on the other hand, in pecking order theory, Nassar (2016) explains that the managers' preference is for the source of internal financing, with the purpose of reducing the costs associated with information asymmetry. Thus, a systematic question is presented in this context, which is associated with the relationship between managers and stakeholders regarding the economic and financial performance of companies.

In addition to these theoretical aspects, there are other discussions on the subject (Nassar, 2016; Karacaer et al., 2016), which in summary is directed at the behavior of managers by decision making on capital structure, so that result should be the maximization of firm value (Karacaer et al., 2016; Uzliawati et al., 2018).

2.2 Earnings Management

The earnings management can be classified as a derivation coming from the accounting choices. Although accounting choices have generally accepted accounting principles (GAAP) as the north, managers can decide which procedures are best suited to their environment (Watts & Zimmerman, 1990, Fields, Lys, & Vincent, 2001). In between existing definitions, Healy and Wahlen (1999) described the earnings management occurs through managers' choices, in order to change the financial report, and then influence contractual relations.

In this sense, the earnings management literature also has an ethical focus (Almahrog, Aribi, & Arun, 2018), because even though earnings management doesn’t necessarily result in infringement of laws (Dechow, & Skinner, 2000), is expected is that opportunistic behavior or moral obligation influence companies to perform ethical activities (Alsaadi, Ebrahim, & Jaafar, 2017).

However, it is widespread among researchers that earnings management is abundant, but the aggravating factor is that reliable measurement not yet comes close to being documented. In this sense, one can question the results of researches that present, for example, that most accruals variations are attributed to discretionary increases, or that manipulations occur routinely and in large quantities, among other cases (Ball, 2013).

Thus, earnings management is a metric that is difficult to measure because the manifestation occurs in different ways, i.e., it can be measured by the smoothing of the reported operating profits, as well as, by the discretion in the reported gains (Leuz et al., 2003). Therefore, it’s noted that the research on earnings management isn’t a new topic, but still raises important questions in the literature on financial accounting. And, several studies address the earnings management through accruals or cash flow (Lisboa, 2017).

2.3. Hypothesis development

2.3.1. Profitability

Profitability is an important factor when it comes to the capital structure of firms. In this sense, Karacaer et al. (2016) propose that more profitable companies tend to concentrate less debt. The option of managers by internal financing, gives asymmetry information with external investors (Karacaer et al., 2016). Although it is not unanimous in previous studies, several investigations find the positive relation between the profitability and the capital structure of firms (Nassar, 2016). This divergence in the findings is justified by the view that investors are not only focused on profits but, for example, on the level of risk (Uzliawati et al., 2018).

$H_1$: The profitability of the firms positively influences the chances of occur companies at the discretionary limit.

2.3.2 Investment Opportunities
Considering the assertion by Uzliawati et al. (2018) that investors don’t have the unique focus on profitability, we added for estimation the investment opportunities. This claim to consider the companies’ market value over total assets was due to the alternative of internal investment source through the issuance of stocks (Karacaer et al., 2016; Nassar, 2016).

**H2:** Investment Opportunities positively influences the chances of occur companies at the discretionary limit.

### 2.3.3 Firm size

Previous studies point to a positive relationship between firm size and capital structure (Karacaer et al., 2016; Pontoh, 2017). According to Karacaer et al. (2016) it is expected that larger firm, has higher debt capacity. Another relevant point for larger companies is the bargaining power over lenders, mainly to issue and lengthen the debt (Pontoh, 2017).

**H3:** Firm size positively influences the chances of occur companies at the discretionary limit.

### 2.3.4 Capital structure

The capital structure is a relevant point in the quality of financial reporting (Givoly, Hayn, & Katz, 2010), however, as the theories suggest; trade off and pecking order, there isn’t consensus on the capital structure (Myers 1984, Nassar, 2016, Pontoh, 2017). Thus, avoiding small losses by modifying the firm's capital structure may be opportunistic behavior to avoid contractual breaches. This comportment can occurs because the capital structure represents litigation risks and probably reflects the quality of financial reporting (Givoly et al., 2010). In this sense, the managers with high capital structure have incentives to earnings results (Cheng, & Warfield, 2005). Thus, the hypothesis proposes that the reverse is also true, that is, low capital structure reduces the chances of manager earnings results.

**H4:** The low capital structure negatively influences the chances of occur companies at the discretionary limit.

### 2.3.5 Revenue

The earnings management can also occur through revenue recognition, managers can use revenues strategically to improve operational performance and this can occur because the managers want to achieve or even exceed targets (Noh, Moon, & Parte, 2017). And as an aggravating factor, some sectors may be more likely to earnings results than others (Rasmussen, 2012).

**H5:** Revenue positively influences the chances of companies occurring at the discretionary limit.

### 2.3.6 Liabilities

Debt ratio is an important source of financing for companies according to Nassar (2016) because there are several options for taking external resources. This policy can minimize the costs associated with information asymmetry (Nasser, 2016). In addition, the debit is an evidence issue in the middle of researchers about the capital structure of firms since the accounting equation proposed by Luca Pacioli (Pontoh, 2017).

**H6:** Debt ratio positively influences the chances of companies occurring at the discretionary limit.

### 3 Research Methodology

#### 3.1 Sample

The sample of this study is composed of 706 energy sector firms from 37 countries around the world, with financial data from the period 2015 to 2017, making the total of 2,118 observations.

**Table 1.** Countries and business in sample

<table>
<thead>
<tr>
<th>Countries</th>
<th>Business</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States of America</td>
<td>228</td>
<td>684</td>
</tr>
<tr>
<td>Canada</td>
<td>209</td>
<td>627</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>61</td>
<td>183</td>
</tr>
<tr>
<td>Russia</td>
<td>40</td>
<td>120</td>
</tr>
<tr>
<td>Norway</td>
<td>30</td>
<td>90</td>
</tr>
<tr>
<td>Germany</td>
<td>18</td>
<td>54</td>
</tr>
<tr>
<td>France</td>
<td>14</td>
<td>42</td>
</tr>
<tr>
<td>Poland</td>
<td>13</td>
<td>39</td>
</tr>
<tr>
<td>Sweden</td>
<td>9</td>
<td>27</td>
</tr>
<tr>
<td>Brazil and Italy</td>
<td>8</td>
<td>48</td>
</tr>
<tr>
<td>Ukraine</td>
<td>6</td>
<td>18</td>
</tr>
<tr>
<td>Bosnia and Herzegovina and Ireland</td>
<td>5</td>
<td>30</td>
</tr>
<tr>
<td>Belgium, Bulgaria, Chile, Greece and Spain</td>
<td>4</td>
<td>60</td>
</tr>
<tr>
<td>Argentina, Colombia, Hungary and Serbia</td>
<td>3</td>
<td>36</td>
</tr>
<tr>
<td>Austria, Croatia, Cyprus, Denmark, Portugal and Montenegro</td>
<td>2</td>
<td>36</td>
</tr>
</tbody>
</table>
Financial data was collected from the Thompson Reuters database. After data collection, companies listed on stock exchanges outside the country of origin and missing observations were excluded from the sample. The choice by the energy sector is because of the amount of 2.5 trillion US dollars of revenues obtained in the year 2017 by the sample companies. In addition, because it is the sector with the largest number of companies available in the classification of the database.

3.2 Variable definitions

As a dependent variable we use the earnings management (presented by EM4) and measure it with dummy (coding with 1 and 0). That is, if the company obtained return on assets between ±1%, managers probably tend to manage the results (Leuz et al., 2003). However, the discretionary limit may be different from 1% according to the country.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Statements</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discretionary Limit</td>
<td>Dummy = 1 when Roa ± 1% else 0</td>
<td>Leuz et al. (2003)</td>
</tr>
<tr>
<td>Discretionary Limit</td>
<td>Dummy = 1 when Roa ± 3% else 0</td>
<td>Leuz et al. (2003)</td>
</tr>
<tr>
<td>Discretionary Limit</td>
<td>Dummy = 1 when Roa ± 5% else 0</td>
<td>Leuz et al. (2003)</td>
</tr>
<tr>
<td>Profitability</td>
<td>Net income after taxes / Total Assets</td>
<td></td>
</tr>
<tr>
<td>Investment Opportunity</td>
<td>Market value / Total Assets</td>
<td></td>
</tr>
<tr>
<td>Firm Size</td>
<td>Log(Total Assets)</td>
<td></td>
</tr>
<tr>
<td>Low capital structure</td>
<td>Dummy = when Total Equity / Total Liabilities &lt; 10% else = 0</td>
<td>Francis et al. (2004), and Cheng, &amp; Warfield</td>
</tr>
</tbody>
</table>

Table 2. Variables statements

Source: Authors (2018).

In this sense, the value of 1%, 3% and 5% of return on assets (ROA) stipulated as a discretionary limit. For this, 3 logistic regressions were calculated. Thus, companies with a result within discretionary limit obtained weight 1 and 0 otherwise.

3.3 Regression models

Was estimated a in this paper a logistic regression model with panel data. The choice to estimate this model is because of the opportunity to combine cross-section data with temporal series data, a gap pointed out in previous studies (Nassar, 2016; Pontoh, 2017).

The regression models analyzed in this study is as follows:

\[
\log \left( \frac{1}{1 - EM4_{it}} \right) = -\delta + \varphi_1 \text{Profitability}_{it} + \varphi_2 \text{Investment}_{it} + \varphi_3 \text{Size}_{it} + \varphi_4 \text{Low capital structure}_{it} + \varphi_5 \text{Revenue}_{it} + \varphi_6 \text{Liabilities}_{it} + \epsilon_{it}
\]  

\( Em4_{it} = e^{\varphi_1 \text{Profitability}_{it} + \varphi_2 \text{Investment}_{it} + \varphi_3 \text{Size}_{it} + \varphi_4 \text{Low capital structure}_{it} + \varphi_5 \text{Revenue}_{it} + \varphi_6 \text{Liabilities}_{it} + \epsilon_{it} } \)  

The likelihood test of rho was performed to select the population average or random-effects model (Twisk, 2013). The fixed-effect model wasn’t used because many companies don’t present variations in the dependent variable and this implies an additional difficulty measure the fixed effects models in logistic regression.

4 Results and Discussion

4.1 Descriptive statistics

Table 3 presents the descriptive statistics for independent variables defined as profitability,
investment, opportunities, firm size, revenue, and debt ratio.

Table 2. Descriptive statistics

<table>
<thead>
<tr>
<th>Variables</th>
<th>Men</th>
<th>Std. Dev.</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profitability</td>
<td>-0.39584</td>
<td>13.15468</td>
<td>-510.3716</td>
<td>226.3104</td>
</tr>
<tr>
<td>Investment Opportunities</td>
<td>3.17116</td>
<td>37.2203</td>
<td>0.0001109</td>
<td>1444.611</td>
</tr>
<tr>
<td>Firm Size</td>
<td>8.49778</td>
<td>1.31180</td>
<td>3.219921</td>
<td>11.54344</td>
</tr>
<tr>
<td>Revenue</td>
<td>4.34e+09</td>
<td>2.04e+10</td>
<td>-1.51e08</td>
<td>3.94e+11</td>
</tr>
<tr>
<td>Total Liabilities</td>
<td>4.04e+09</td>
<td>1.59e+10</td>
<td>-8.37e+07</td>
<td>1.82e+11</td>
</tr>
</tbody>
</table>


Table 3 shows the mean value of profitability for firms is negative (US -0.39), which indicates these firms of energy sector had by mean negative performance. Moreover, when compared the capital structure mean (internal and external resources), results indicate these firms had mean total liabilities higher than investments opportunities. These findings show the managers' preference for external resources, because they work with a high debt.

Table 4 presents the estimated regressions odds ratio results.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Odds Ratio EM4±1%</th>
<th>Odds Ratio EM4±3%</th>
<th>Odds Ratio EM4±5%</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profitability</td>
<td>11.525 *</td>
<td>33.352*</td>
<td>18.754*</td>
<td>1.16</td>
</tr>
<tr>
<td>Investment Opportunities</td>
<td>0.419*</td>
<td>0.435*</td>
<td>0.500*</td>
<td>1.17</td>
</tr>
<tr>
<td>Firm Size</td>
<td>1.030</td>
<td>1.342*</td>
<td>1.461*</td>
<td>1.40</td>
</tr>
<tr>
<td>Low Capital Structure</td>
<td>0.188*</td>
<td>0.353*</td>
<td>0.305*</td>
<td>1.11</td>
</tr>
<tr>
<td>Revenue</td>
<td>1.000**</td>
<td>1.000*</td>
<td>1.000*</td>
<td>3.87</td>
</tr>
<tr>
<td>Total Liabilities</td>
<td>1.000*</td>
<td>1.000*</td>
<td>1.000*</td>
<td>4.17</td>
</tr>
<tr>
<td>Time effect</td>
<td>:</td>
<td>1.104</td>
<td>1.036</td>
<td>1.01</td>
</tr>
<tr>
<td>Constant</td>
<td>0.114**</td>
<td>0.027*</td>
<td>0.035*</td>
<td>:</td>
</tr>
<tr>
<td>Lnsig2u•</td>
<td>-0.923</td>
<td>0.310</td>
<td>-0.355</td>
<td>:</td>
</tr>
<tr>
<td>Sigma_u•</td>
<td>0.630</td>
<td>1.168</td>
<td>0.982</td>
<td>:</td>
</tr>
<tr>
<td>Rho•</td>
<td>0.108</td>
<td>0.293</td>
<td>0.226</td>
<td>:</td>
</tr>
<tr>
<td>Likelihood test of rho•</td>
<td>1.47</td>
<td>46.86*</td>
<td>37.24*</td>
<td>:</td>
</tr>
<tr>
<td>Logistic</td>
<td>Population</td>
<td>Random Effects</td>
<td>Random Effects</td>
<td></td>
</tr>
<tr>
<td>Regression Model</td>
<td>Average</td>
<td>Effects</td>
<td>Effects</td>
<td></td>
</tr>
</tbody>
</table>


Note: * p-value<0.01, **p-value<0.05, • data concerning the random intercept model test

The choice of the regression model effect was performed according to Likelihood test of rho. As there aren't statistical differences significant in the EM4 ± 1% model, was chose to present the coefficients of the model performed with the population average, thus, the time effect isn't taken into account. For the discretionary limits of the metrics EM4 ± 3% and EM4 ± 5%, was necessary present an intercept with random effects, since they presented statistically significant differences. Moreover, even though the time-effects aren't statistically significant in both models the slope is important, as it raises the maximum likelihood compared to models that disregard this. The inflation factor of the variance showed that there isn't multicollinearity the values obtained is between 1 and 10.

4.2 Profitability

Profitability was statistically significant at p value > 1%. For the discretionary limit model equal to 1% of the return on asset (ROA), the odds ratio demonstrates that increase of one unit in profitability increases 11.5 times the chances of companies occurring within that limit. And as evidenced by the odds ratio of models with discretionary limits of 3% and 5%, the odds are moving in the same direction, that is, they increase by 33.3 times and 18.7 times respectively. Based on these results the hypothesis of H₁ for this research is not rejected.

The theoretical implication of this result suggests that the higher the expectation of profitability the more likely the managers to manipulate their financial reports in order to leave the company within the discretionary limit.

These findings about the positive influence of the profitability, are different that verified by Karacaer et al. (2016), and Nasser (2016). Findings particularly about profitability influences’ on leverage it by Karacaer et al. (2016) present negative effect. Negative effect also was verified by Nasser (2016) about profitability influences’ on debit ratio.

4.3 Investment opportunity

The investment opportunities obtained p value > 1% in the three models analyzed. The results show that the greater the investment opportunity, the lower the chances of companies...
falling within the discretionary limits. The odds ratios show that (1-0.42) 58% lower for the limit equal at 1%, (1-0.43) 57% lower for the limit equal at 3% and (1-0.5) 50% lower for the limit equal at 5%. It means that the hypothesis of H2 for this study is not rejected.

These results suggest that firms with good investment opportunities are more likely not to fall within such discretionary limits. However, it is emphasized that they will not necessarily earn profits, as these companies can remain with losses lower than the established lower limit increasing the volatility and risk involved.

Besides that, these evidences about the positive effect on investment opportunities are different that verified by Pontoh (2017). Similar to the one proposed in this inference (focus on internal resources) Pontoh (2017) estimated as a choice for source of funding the influence’ of stock prices on debt ratio, and on firms with lower debt the influence was positive, but on firms with higher debt the influence was negative.

4.4 Firm Size

The size of the company wasn’t determinant the chances of companies occurring within the discretionary limit equal to 1%. However, for the limits of 3% and 5% presented p value less than 1%. The results show that the higher the company's chances of being within the discretionary limit of 3%, chances equal to 1,342 times. And for the discretionary limit of 5% is even greater, of 1461 times.

It means that for the limits of 3% and 5% the hypothesis of H3 for this study is not rejected, but in this case for the limit of 1% the hypothesis of H3 is rejected. These results suggest that firm size can only determine an upper limit than that pointed out by Leuz et al. (2003).

The same firm size positive effect was verified by Karacaer et al. (2016), and Pontoh (2017). Karacaer et al. (2016) found positive firm size influence’ on leverageit. Pontoh (2017) also found positive firm size influence’ on debt ratio, but only in firms with higher debt. On firms with lower debt Pontoh (2017) verified that size influence’ on debt ratio was negative.

4.5 Capital structure

The low capital structure showed p value less than 1% in all analyzed models. Moreover, the results show that if companies have a capital structure of less than 10% relative to third-party capital, the chances of being within the discretionary limit of 1% are (1-0,188) 81% lower than companies with more concentrated structures. Likewise for the discretionary limits of 3% and 5%, however, the odds are (1-0.35) 65% and (1-0.31) 69% respectively. Based on these findings the hypothesis of H4 for this study is not rejected.

These results demonstrate that the dispersed capital structure determines that firms are more aggressive about their returns. However, this fact can be good when the company tends to have positive and bad returns when negative as volatility can increase more than 5%.

We results are in harmony with the results of Givoly et al. (2010) because the low capital structure reflects in the quality of the financial report in order to avoid the discretionary limit. And, if the high concentration of capital encourages earnings management, as pointed out by Cheng, and Warfield (2005), on the other hand, our results demonstrate that the low capital structure reduces the chances of managers having incentives to manipulate the financial reports in order to avoid small losses, considering as small the maximum limit of 5% of the return on asset (ROA).

4.6 Revenue

Revenue was also shown to be less than 1% in all three models analyzed. However, the odds ratio showed that the increase in revenue doesn’t alter the chances of companies occurring within discretionary limits. These results point that the hypothesis of H5 for this study is rejected.

Thus, this finding point out those companies in this sector doesn’t use the mechanisms inherent in recognizing revenues to avoid small losses. What makes sense, because in this sector discretion is more limited compared to the other sectors, in this way, the findings of Rasmussen (2012) strengthen these results by highlighting these possible differences.

4.7 Liabilities
It should also be noted that total corporate liabilities, as well as revenues, were below 1%. In the same sense, the variation in liabilities doesn’t increase the chances of companies being at the discretionary limit. Based on these results the hypothesis of \( H_6 \) for this study is rejected.

Thus, total liabilities of companies don’t influence managers’ chances of avoiding small losses; this result suggests that the cost policy, even if associated with information asymmetry, according to Nasser (2016), isn’t relevant for companies in the sector energy remain within the discretionary limits studied.

5 Conclusion

In this study were estimated logistic regressions with sample of 706 energy sector firms from 37 countries around the world, with financial data from the period 2015 to 2017, making the total of 2,118 observations. The objective was analyzing the chances of occurring companies in question within the discretionary limit in relation to their capital structure. The analysis results shows profitability, investment opportunities, firm size, capital structure are variables that affect to the chances of companies occurring within the discretionary limit. On other side, the revenue and liabilities don’t affect the chances.

In this way, the presented variables influenced in different ways the managers' chances of manipulating their financial reports in order to avoid small losses. The company's profitability and firm size have been shown to have increased odds and investment opportunities and low capital structure have lowered the odds. Furthermore, even with a strict level of significance, revenues and responsibilities don’t affect the companies' chances of being within the discretionary limits studied.

In addition, the implication of these findings indicates that capital structure and corporate performance may be affected by earnings management. Thus, the findings corroborate the literature discussed about managers' focus on the economic and financial performance of companies. Although the conclusions of this study are not generalizable, but limited to the sample, we hope it can be the reference for future studies on capital structure and earnings management.

The contribution of this study was to show that the discretionary limit can be greater than 1% of the return on the asset (ROA). With this, we suggest that for some sectors the discretionary limit may be different from the energy sector. Thus, the importance of analyzing the discretionary limit within the energy sector is fulfilled by the attention of the regulatory agents of each country, as well as the relevance of this sector to the others.

The discretionary limits larger than initially established by Leuz et al. (2003) have been shown to be consistent with the capital structure. Given the results, we suggest for future studies to seek evidence in other sectors, as well as if other discretionary limits are plausible to be determined by the capital structure and other characteristics of the companies.

6 References


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