THE IMPACT OF CORRUPTION ON CORPORATE DEBT[1]

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Abstract

Understanding the Trade Off, Pecking Order and Agency theories is essential to realize that there is still a puzzle to be solved: they fail to settle the determinants that companies should choose in the capital structure analysis. The main objective of this research is to analyze the impacts of choosing new factors and/or determinants of companies´ capital structure. The logical intuition is based on the relationship and interaction of classic variables, widely used in the financial and accounting areas, relying on the skills of the CEO, as well as on the use of restricted factors, such as corruption, immigration and refugees. Using econometric procedures such as cross section, panel data and moderation of instrumental variables, this research includes the 1.675 US companies in the sample, extracted directly from the Wharton Research Data Service database, for the period from 2010 to 2019. This research offers an unprecedented insight into the identification, interaction and discussion of new factors in the choice of the capital structure determinants, as these elements may add value to the companies' debt policy, although they have never been fully used. In general, the results of this study provide empirical evidence that the level of corruption in an economy has a direct and positive effect, assuming the following conclusions: (i) corruption is significant in environments with a higher concentration of refugees, which brings a direct and positive relationship with the level of indebtedness of organizations located in the states that absorb this workforce; (ii) with regard to the groups of refugees, companies joining the program for receiving refugees in the states, through state governments, have the following opportunities: the ability to obtain credit, more easily from financial institutions by reducing interest rates, that is, generating the impact directly on the capital structure and, naturally, becoming more competitive in relation to their competitors. Some sectors, such as energy, telecommunications and retail - are finding ways to integrate refugees into their workforce or to directly support refugee-owned businesses, so that they can participate in opportunities with easier credit and also in creating new

business with public bodies. Consequently, the creation of new business with public bodies, over the years, influences the practice of corrupt acts or illegal benefits between both parties.

Keywords: CEO. Corruption. Capital Structure. Immigration. Refugees.
JEL Classification: M12, D73, G3, K37, K38.

1. INTRODUCTION

1.1 Theme Presentation and Research Problem

The study of temporal studies and empirical, tried to identify the factors that influenced the choice of the main determinants of the capital structure (Bradley et al., 1984, Myers 1984, Titman Wessels 1988, Harris Raviv 1991). Rajan; Zingales, 1995; Fan et al., 2012; Graham et al., 2015). In line with previous speakers, Frank and Goyal (2008) discusses the need for a theory of capital structure that will explain why companies may have levels of indebtedness for long periods of time, and the factors and / or determinants associated.

In general, although it is one of the six main sources of information on corporate finance, the choice of capital structure indicators tends to have various corporate finance errors which concludes that the results are quite inconclusive (Na; Li, Yu, 2016; Bradley, Jarrell, Kim, 1984, Schmid, 2013, Denis, McKeon, 2012, Hovakimian, 2006, Strebulaev, 2007).

Hangings magazine (2018), in the last five years (2012-2016), has seen an increased number of studies in more than 300 articles, each with its own set of key determinants. In this context, the main classic determinants, compiled by the literature, are: firm size, growth opportunity, profitability, volatility, tangibility, company age, dividends, liquidity and investments (Titan, Wessels, 1988; Frank, Goyal, 2009). The performance indicators in a database, that is, in a selection of results or company data, including the variable variables: profitability, tangibility, volatility, growth and size of the organization. al., 2014).

One of the alternatives to advance the investigation of possible and / or new explanations, can be found in other fields of discussion, such as the behavior of managers. beliefs, preferences and even behavioral biases in the decision-making process all of which may not be standardized and thus allow for various behaviors, which in turn translate into varied decisions. In this context, managers' behavior and abilities may offer new clarifications, in establishing observable varibales, to a better understand the essential factors in choosing the determinants of the capital structure. For example, the skills of high-level managers - CEOs - are a factor that needs further observation in debt policy research, as there are strong indications of this effect on the influence of financial decisions (Matemilola et al., 2018).

The effect of the CEO's abilities can influence the level of indebtedness of a company, as observed by Jiraporn et al. (2012) and Li et al. (2017). Considering the existence of new management challenges (CEOs) and market, particularizing the geographic specificities in which companies are established, and the fact that constant and significant changes give rise the market environment and technological regime of extreme competition; therefore, it becomes necessary to demand a choice of new "market" variables that can help elucidate the challenge of choosing new determinants in capital structure.

Apart from these explicit variables, additional variables can also help explain and understand the determinants of the capital structure, some themes of global and innovative impact. Determinants that had not been mentioned in corporate finance topics were after being transformed into variables, were characterized by region and / or (Smith, 2016), immigration (James et al., 2017) and refugees (Gerick et al., 2018). Corruption is directly related to the level of indebtedness, as it suggests that firms, engaging in corrupt practices, have a comparative advantage in obtaining access to debt and, in particular, to long-term debt (Smith, 2016). However, this debt financing

advantage disappears when the relationship is discontinued, due to the discovery by the market or the supervisory bodies.

For legal immigration, the policies developed to date seem to center around the impact of immigration on finance, generally highlighting the absorption of this labor force by firms (Gerick et., 2018). Immigrants are generally recognized for their greater entrepreneurial orientation, as they often have linguistic, intercultural, and foreign skills, and in particular, pre-existing links with global networks (Cerdin et al., 2014), thus being able to develop and operate companies that become exporters in their host countries (Saxenian, 2002). This line of reasoning implies that the financial performance of organizations that have immigrants offers more profitable returns than companies of non-immigrants (Gerick et., 2018).

With respect to refugees and corporate indebtedness, two premises are addressed: the research, carried out by Alloush et al. (2017) gathered data to investigate how the economies of refugee communities interact with the economies of the host country and also the local economic impacts of alternative mechanisms for providing food aid by businesses. The data shows that companies do not have the capacity to grow, either because of the difficulty of credit and the need for investment, or because they are related to a community that does not have income, and that refugees are provisionally supported by local governments and the United Nations (UN).

The second premise argues that refugee's lack of experience prevents them from being competitive and complementary with other job seekers, according to Granovetter (1983) research. As established by the author, the contracting companies, which mostly have low value-added production profiles, receive this low-skilled labor because of their need for subsidies obtained from the government. Even so, these benefits are insufficient for their economic growth, having to use, whenever possible, sources of external financing to support investments (Granovetter, 1983).

Looking at the arguments and questions presented, it was considered opportune to explore the interaction of the set of variables, which were never used simultaneously, as an attempt to bring light and more comprehensive answers about the capital structure of the companies, since the presented theories are insufficient (Na, Li, Yu, 2016). Thus, the question that guided the realization of this research was the following: **How can the new determinants help explain the Capital Structure of companies?** Therefore, the general objective of this research is to analyze the impacts that stem from the choice of new factors and / or determinants of the Capital Structure of companies. In view of this context, the hypothesis of research **H1**: the classical variables, in general, have a positive relation with the capital structure; **H2:** CEO variables positively impact corporate borrowing; **H3:** Corruption has a positive relationship with indebtedness policy; and **H4:** Immigration and refugees have a negative and positive relationship with the capital structure of companies, respectively.

1.2 Motivation e Contributions

It is worth mentioning that so far there are no specific studies on the theme that addresses a significant set of variables, and that we propose ourselves to resort to for explaining the new choices of determinants of Capital Structure. We grasped this argument through the reading of the main international journals (high impact factor) and conferences in the area of finance while undergoing the literature review. Therefore, we will add to this research new variables that may have a better explanatory power in the choice of the determinants of capital structure.

A second argument unveils the existence of several theories and schools of thought on the subject of capital structure and which were primarily developed in the last 60 years. The point is that, until the present time, all these theories are inconclusive (gap) with respect to the choice of

the most appropriate determinants for analysing the Organisations' debt policy. Therefore, we intend to seek new answers that challenge the advancement and evolution of already consolidated theories.

As for the third motivational argument, it defends that companies in corrupt areas have less money and unveil more indebtedness than companies in areas less corrupt ones, as claims Smith (2016). In other words, it seems that corruption is considered part of the engine that operates in the market, which affects the corporate policies of cash and debt. Apergis & Apergis (2017) go beyond such notion whilst disclosing that the more a company can pay for corruption, the greater amounts it will pay, transforming this relationship in a vicious cycle. In this way, companies wishing to maximise their value should establish a ceiling limit for corruption, because they could use the financial policies to shrink the value of their debts if they could pay a smaller amount of money for acts of corruption.

The fourth motivational argument makes reference to two of the biggest humanitarian crises of the century: immigration and refugees (UN, 2017). With respect to immigration, a reduction in the effect of the legal immigrant visas in the USA provides a reduction in innovation, productivity, revenues and profits at the company level (Ghosh, Mayda, & Ortega, 2014). In other words, the lack of immigrants produces a significant reduction in size and productivity in companies that depend on skillful/qualified foreign workers. Finally, there is the argument that refugee populations have increased considerably in recent years and find solutions to their successful integration under the employee-employer concept, became an urgent and challenging task and for companies (Gericke et al., 2018). The internal challenge of companies goes beyond the need determine how to absorb this labour. Indeed, companies have to devise how the capital

structure should be prepared to face the new investments and produce the desired profit thus maximizing the shareholder wealth.

These arguments, either about immigrants and about refugees, unveil the governments' concern to have, inter alia, economic and social infrastructure to host and integrate them. It is a fact that the difference of the level of intellectual capital companies embody in absorbing this labour cannot be denied (immigrants x refugees), nevertheless, in most cases, they need to resort to indebtedness to support this absorption and invest in technological capital to expand their companies. With regard to the contributions of this research, we consider this study contributes to the level of academic and practical approach.

From the academic point of view, this research outshines in the sense it is a novelty with respect to identification, relationship and interaction of new capital structure determinants as these elements can influence the capital structure of companies in different settings (countries) and considering the behaviour of managers in the decision-making process. In addition, this research contributes to the enrichment of literature on capital structure because it resorts to the utilization of three still unused variables at the level of companies, directly, which are corruption, immigration and refugees.

2. FRAMEWORK

2.1 Trade Off, Pecking Order and Agency Theories

Among the existing theories, the Trade Off, Pecking Order and Agency theories deserve special mention. Each one offered a new perspective on the interpretation of the capital structure policies adopted by companies. The trade-off theory suggests that firms aim for an optimal level of capital-debt mix that maximizes the difference between the benefits and costs of debt issuance.

The benefit of debt is the fiscal advantage of paying interest to debt holders (Modigliani and Miller, 1963, Miller, 1977). As interest is deductible, companies have incentives to use more debt, in addition to the fact that debt costs are generally described as financial costs in financial distress.

These costs include bankruptcy costs (Krausand and Litzenberger, 1973) and costs of financial agency (Jensen and Meckling, 1976). Bankruptcy costs include direct costs (for example, legal and administrative expenses) and the overhead costs of bankruptcy. These indirect costs are characterized by a reduction in the value of the company's assets during the bankruptcy process (for example, loss of business with customers, which require guarantees of business continuity from its suppliers).

For example: if there are two cash flows A and B in the company, and one of them is a capital flow (shares) and one is a debt flow (bonds), the mathematical equation is applied by adding the present value of the cash flows A + B, and must be equal to the present value of the cash flow of equity A (shares issued), plus the present value of the cash flow of debt B (bonds issued). Thus, Modigliani and Miller (1958) also expressed this fact mathematically, using equation 1:

$$V_J = (S_j + D_j) = X / pk \quad \text{or} \quad X / (S_j + D_j) = X / V_j\, pk \qquad (1)$$

Where:

for each company *j* in *k* class where:

V_j a company's market value (market value of all shares);

S_j market value of equity (issued shares);

D_j market value of debt (securities issued);

X_j expected gains from assets (expected gains before interest);

pk market achievement rate of expected gains made by the company in its class.

Based on these arguments, Modigliani and Miller (1958) reached the economic conclusion that the average cost of capital of any company is independent of the capital structure (i.e., the

combination of securities issued). In addition to these bankruptcy costs, the costs arising from conflicts of interest between shareholders and debt holders should also be taken into account in Trade-Off theory. As Jensen and Meckling (1976) show, managers can change the risk of their investments after debt issuance. Motivated by the fact that equity can be seen as an option, in which its value increases as the risk of the underlying asset increases (Merton, 1973), managers acting on shareholder interest may be tempted to change the risk of their operations. This behavior, in general, is often labeled as the problem of asset substitution.

Following the presentation of the Trade Off Theory, the next theory with a significant prominence in the capital structure is the Pecking Order or hierarchy of choices. The Pecking Order Theory by Myers and Majluf (1984) and Myers (1984) argue that, because of the costs of adverse selection, firms have a preference order in the use of their sources of financing. The theory is based on problems of asymmetric information between managers and external investors. Because managers know more about the company's outlook than about outside investors, when they face new investment opportunities, managers can pass them on if external funding is needed.

A fundamental difference between the Pecking Order theory and the Trade-Off theory is that, in the most radical interpretation of Pecking Order theory, managers do not have a well-defined leverage relationship as is in the case of Trade Off theory, it is anticipated that the administration will emit debt or capital for a target leverage (Myers, 1984). One flaw often pointed out in Pecking Order is that, in its most extreme interpretation, companies should never issue shares, provided they could always issue debt for financing. However, proponents of Pecking Order argue that because firms have some capacity for indebtedness, debt capacity serves to limit the amount of debt within the hierarchy and, in fact, allow the use of equity (Lemmon and Zender, 2010).

Although neither the Trade Off theory nor the Pecking Order theory can explain all the determinants found in business reality (Frank, Goyal, 2009), the empirical literature has often documented that managers behave as the Pecking Order theory predicts, even if in mind there is some kind of target leverage relationship with some flexibility. With respect to Agency Theory, ownership and control separation in a professionally managed enterprise - a source of agency conflict - can result in managers indulging in privileges by choosing inputs or outputs that suit their own preferences or by not maximizing the value of the company, this will of the shareholders. In effect, outsourced agency costs equate to the lost value of professional managers, maximizing their own utility, rather than the company's value. The theory suggests that choosing the capital structure can help mitigate these agency costs.

Under the hypothesis of agency costs, high leverage or low equity / asset ratio reduce agency costs from external equity and increase the value of the firm, restricting or encouraging managers to act more in the interests of shareholders. From the seminal article by Jensen and Meckling (1976), a vast literature has been developed on such theoretical explanations of capital structure (Harris; Raviv, 1991; Myers, 2001). Greater financial leverage can affect managers and reduce agency costs through threat of liquidation, which causes personal losses to managers of salaries, reputation, privileges, etc. (Grossman, Hart, 1982). Still on greater leverage, it is argued that it can mitigate conflicts between shareholders and managers in relation to the choice of investment (Myers, 1977), the amount of risk to be assumed (Jensen and Meckling, 1976), the conditions under (Harris, Raviv, 1990) and also in the dividend policy (Stulz, 1990).

3. METHODS AND DATA

3.1 Typology and Sample

The general objective of the present research is to analyze the impacts of the choice of new factors and / or determinants of the Capital Structure of the companies. In order to do so it was necessary to access the information of the database of companies published in Wharton Research Data Services (WRDS). This database is justifiably contains all the necessary information for the composition of the correlated variables in the econometric model.

Regarding the collection and extraction of data from primary and secondary sources, the research was conducted using the following methodological procedures: (i) the data collection of 1.675 US companies was extracted directly from the Wharton Research Data Services database (WRDS); the collection of the sub-sample of the research was by counting and separating each of the states, composed of 52 states, according to the official website of the Government of the United States of America, through: https://state.gov;

(ii) consult the Capital IQ / Compustat database for extracting the variables and / or classic determinants, namely: Size of the company, Growth, Profitability, Tangibility, Dividends, Liquidity and Investments. This query and extraction of data were obtained, for each of the variables by means of a filter. By using the company name this ordering was extracted with the company sequence and type of variable;

(iii) consult the BoardEx database and ExecuComp specifically for the extraction of the behavioral variable of the research - CEOs (Age, gender, board participation, company founder, internal promotion, remuneration - salary and bonus, tenure, power, specialist in finance). BoardEx and ExeComp provide network data for CEOs, senior executives and directors of global public and private companies. In turn, the data from BoardEx and ExeComp are connected with Thomson Reuters data, the latter being used to obtain the corresponding financial and accounting variables. Thus, industry segment data, as well as the ratio of CEOs, are from the Thomson Reuters segment

data archive;(iii) research with the Institute for Corruption Studies and Center for Public Integrity's for use with corruption data for each of the American states; (iv) research with the IPMUS Immigrations and Refugee Processing Center for the use of annual data, for each American state, with the immigration and refugee variables, respectively.

The period of analysis of the sample involved the dates from January 1, 2010 to December 31, 2019, and the limitation of the data until December 31, 2019 is justified by the maximum period available by the companies concerning: accounting data, CEO data, corruption data, among others, at the time of the research development.

3.2 Strategic Implementation and Research Design

In order to correlate indebtedness with the other independent variables, a specific approach - OLS regressions, Data in Panel, to test the market indebtedness model (dependent variable), in relation to the classic and innovative variables. To do so, the strategy implementation will take place as follows: in the first stage, we will produce the exclusive regression estimates for the classical variables, as well as the proper application of the econometric tests and then, in the second part, regressions interacting between the classic variables and innovative variables. As is known before, the variables: size of the company, growth, profitability, volatility, tangibility, company age, dividends, liquidity and investments; will be used in this first stage of the regression models. Starting from this assumption of variables, it follows a summary of the quantitative procedures that will be estimated: Equation 1: regression in OLS; Equation 2: regression with panel data with fixed effects; Equation 3: regression with panel data with random effects.

In addition, a critical problem in financial research, specifically with the use of accounting and financial data, refers to endogeneity. Inbreeding is more typically described in the context of ordinary least squares regression (OLS). Equation 1 represents a basic equation of OLS regression:

$$y_i = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_N X_N \varepsilon_i \quad (1)$$

It should be emphasized that a set of tests that aims to identify possible structural problems will also be made as a way to better understand the behavior of the elements constituted in the database. The main problems, which will be duly explained in the following sections, and the respective tests, are: (i) Heteroskedasticity problems. Test: Robust and Breusch Pagan Test; (ii) Multicollinearity problems. Test: Variance Inflation Factor; (iii) Specification Problems. Test: Linktest; (iv) Functional problems. Test: Test F; (vi) Correlation of data. Test: Author correlation; (vii) Data distribution: Test: Shapiro Wilk Normality test; (viii) No influence of observations: Test: Cook's test. As is well known in the capital structure literature, right-side variables are most likely endogenous rather than exogenous, and a firm's financing decisions are inherently dynamic. Thus, not all the explanatory variables in the model may not be correlated with the error term. Therefore, it follows Equation 2, referring to the OLS regression:

$$TOTALDEBT = \beta 1\ (tam) + \beta 2\ (cresc) + \beta 3\ (rent) + \beta 4\ (tang) + \beta 5\ (divid) + \beta 6\ (liquid) + \beta 7\ (invet) + \varepsilon P \quad (2)$$

Where the dependent variable is enditotalmer = Total market indebtedness; being the control variables: β1 (tam) = company size; β2 (growth) = growth opportunity; β3 (rent) = profitability; β4 (tang) = tangibility; β5 (divid) = dividends; β6 (liquid) = liquidity; β7 (invest) = investments; and εPt = regression error term.

In addition, the regression estimates in panel data are applied for fixed effects and random effects, aiming to include the variables from the characteristics of the CEOs, as well as the innovative variables: corruption, immigration and refugees. For the validation of the most appropriate model, between fixed effects and random effects, the following tests are applied: Hausman, Breuch Pagan and Chow.

4. RESULTS

This chapter aims to analyze the impacts of choosing new factors in the choice of the determinants of the Capital Structure of Companies, through the descriptive analysis of each of the variables, as well as the respective econometric modeling.

4.1 Descriptive analysis of the study variables and regression models

As an initial procedure, the observations of the multimarket funds, referring to the period from 2010 to 2019, were transferred to the software STATA in which they began to receive the quantitative treatment. Therefore, descriptive statistics were organized for the research-dependent variable: market indebtedness. A total of 13.400 annual observations were used for 1.675 American companies, presenting the average results of each of the variables (segmented by classic, CEO characteristics and innovators), standard deviation and minimum and maximum observations, as highlighted in Table 1:

Table 1: Described statistics of econometric model variables

Variables	N. Observ.	Average	Standard Deviation	Minimum	Maximum
Clássics					
end. market	13.400	0.244686	0.35254	0	0.509.04
tangibility	13.400	0.14196	1.1088	1.39965	2.33856
liquidity	9.247	2.355468	0.02048162	0	3.70427

investments	13.400	278.4731	13.04534	1.70752	540.050
profitability	13.206	0.0647692	0.1197551	0.0143879	1.24678
dividends	13.400	245.6778	1494.066	55.458	85419
size	13.400	6829.771	18595.03	1579	245075
growth	13.206	1.039105	1.311686	0	20.0927
Característics CEO					
ceointern	13.400	0.9518657	0.214058	0	1
ceopower	13.400	0.0459701	0.2094282	0	1
ceofounder	13.400	0.0712687	0.2572827	0	1
ceoage	13.400	54.71478	7.369624	0	92
ceooverconfidence	13.400	0.243209	0.4290362	0	1
ceocompensation	13.400	5455.161	7376.049	0	377996.5
ceoboard	13.400	0.8500746	0.3570116	0	1
ceogender	13.400	0.0489552	0.2157825	0	1
ceospecialistfin	13.400	1.042015	0.2010023	0	1
ceotenure	13.400	12.99813	9.216071	0	66
Innovative					
corruption	13.400	123.8063	61.93673	1	262
immigration	13.400	16305.77	13631.26	65	51.749
refugee	13.400	3291.252	2600.848	0	11.278

Source: Prepared by the author. **Note:** "end. Market "= market indebtedness, by means of total debts on total market assets; "Tangibility" = tangibility of assets, ie, balance of assets immobilized with inventories by total assets; "Liquidity" = ratio between current assets and current liabilities; "Investments" = statement of cash flow over total assets; "Profitability" = constructed by profit before interest and taxes; "Dividends" = dividends paid for net income; "Size" = logarithm of net revenue; "Oport. growth "= opportunity for growth, composed of the value and market of the shareholders' equity; "Ceointern" = if the CEO was internally promoted (dummy); "Ceopower" = if the CEO has influence through the proxies of CEO variables (dummy); "Ceofounder" = if the CEO was the founder of the company (dummy); "Ceoage" = how many years the CEO has during the period of analysis (dummy); "Ceooverconfidence" = measurement of CEO overconfidence in management (dummy); "Ceocompensation" = is the value of the CEO's total compensation (salary and bonus paid); "Ceoboard" = If the CEO is on the Board of the institution (dummy); "Ceogender" = if the CEO is male or female (dummy); "Ceospecialistfin" = if the CEO has any specialization in finance (dummy); "Ceotenure" = amount of years that the CEO is in this position; "Corruption" = probabilistic percentage of corruption occurring in the United States; "Immigration" = number of immigrants in the United States; "Refugees" = number of registered cases of refugees in the United States.

The result of Table 1 shows the differences and composition for each of the variables, highlighting the accounting variables, CEO characteristics (which are mostly dummy variables), the probabilistic level of the corruption variable, from 1 to 262, in thousands, the number of immigrants and refugees. A second reading of Table shows that the heterogeneity of the accounting data, especially the level of market indebtedness of the companies is a minimum of 0 of indebtedness, to the maximum value of 0.509.

By means of the Shapiro-Wilk test, it was analyzed whether the observations of the multimarket funds had distribution of returns close to the normal distribution. The Shapiro-Wilk test allowed to calculate if said sample has or not normal distribution. The result of the normality test showed that the distribution of the returns was different from the normal distribution, that is, without the winsorize procedure, the results evidenced a non-normal distribution of the observations. After these procedures, the first OLS regression was estimated with the classic variables and characteristics of the CEO, assumed to be the dependent variable for market indebtedness. This information is described in Table 2:

Table 2: OLS regression with the classic variables and CEO characteristics

Dependent variable:	**Market indebtedness**			
Variables	**Coef.**	**Standard Error**	**t**	**P>t**
Classics				
tangibility	-.0000796	0.0000331	-2.40	**0.016**
dividends	-.000079	0.000061	-1.30	0.195
liquidity	-.1565696	0.0497397	-3.15	**0.002**
investments	-.000079	0.0000415	-1.90	**0.057**
profitability	-6.596.153	2.386.152	-2.76	**0.006**
growth	-0.3183735	0.092809	-3.43	**0.001**
size	4.290006	3.002006	1.42	0.155
Característics CEO				
ceointern	-0.1149013	0.2791578	-0.41	0.681
ceopower	0.1814573	0.3687361	0.49	0.623
ceofounder	-0.0551891	0.2182639	-0.25	0.800
ceoage	-0.0322896	0.0128882	-2.51	**0.012**
ceooverconfidence	0.3441802	0.3316234	1.04	0.299
ceocompensation	-0.0000188	9.0700006	-2.07	**0.039**
ceoboard	-0.248838	0.4027475	-0.62	0.537
ceogender	-0.5693509	0.1979829	-2.88	**0.004**
ceospecialistfin	-0.6107907	0.3805881	-1.60	0.109
ceotenure	-0.0002067	0.0002354	-0.88	0.380
constant	5.3110588	1.3625180	3.90	**0.000**

Source: Prepared by the author

Based on Table 2, the classic variables that showed significant nominal level were: tangibility, liquidity, investments, profitability and growth opportunity. In addition, it is argued that all of these variables that presented significance, presented the negative coefficient, that is, they are inversely proportional to the increase of the companies' indebtedness.

On the other hand, the CEO variables that presented statistical significance were: CEO age, CEO salary and bonuses, and CEO gender. In these cases, as in the classical variables, the coefficient signals were also negative, which leads to the understanding that these variables influence inversely proportional, the level of market indebtedness of these companies. fter the result of this OLS regression, it was opportune to advance in the study of the new variables that may offer new explanations for the choice of determinants of the capital structure.

In this sense, Table 3 was constructed, selecting in the previous econometric model only the variables with significance, adding the innovative variables: corruption, immigration and refugees. It is also considered that Table 3 presented the comparison of the OLS models, fixed effects and random effects, as well as the expected signal in line with the theory.

Table 3: OLS, RE and FE regression with the variables

Dependent variable:		**Market indebtedness**		
Variables	**Expected**	**(1)**	**(2)**	**(3)**
Models	**Sign**	**OLS**	**RE**	**FE**
Classics				
tangibility	+	-0.0000795***	-0.000798***	-0.0000875***
		(0.0000334)	(0.0000205)	(0.0000239)
dividends	n.a	-0.0000794	-0.0000799	0.0000115
		(0.0000583)	(0.0002338)	(0.0002826)
liquidity	-	-0.1598253***	-0.1598672***	-0.1005936
		(0.0511249)	(0.0658401)	(0.0824708)
investments	+	-0.0000734**	-0.0000734	-0.0000612
		(0.0000399)	(0.0000756)	(0.000085)
profitability	-	-6.606095***	-6.605852***	-8.207225***
		-2393501	(1.058193)	(1.338412)
growth	-	-0.3130847***	-0.3131001***	-0.2377343**
		(0.0924389)	(0.1015715)	(0.1184797)

size	+	5.3000006*	5.310006	0.0000219
		-(3.030006)	(0.0000102)	(0.0000317)
Característics CEO				
ceointern	+	-0.0449917	-0.0449082	0.0202537
		(0.2971274)	(0.6142581)	(0.6962093)
ceopower	+	0.1614992	0.1694859	0.5008128
		(0.3731039)	(1.054867)	(1.223096)
ceofounder	+	-0.0792222	-0.083364	-0.5121614
		(0.2228543)	(0.8606304)	(0.9608149
ceoage	+	-0.0313978***	-0.0313765**	-0.0253025
		(0.0123681)	(0.0175084)	(0.0197346)
ceooverconfidence	+	0.3283791	0.3282808	0.5269672
		(0.3326683)	(0.3118852)	(0.3517216)
ceocompensation	+	-0.0000191**	-0.0000191	-0.0000151
		-95000006	(0.0000171)	(0.0000195)
ceoboard	+	-0.253415	-0.2491664	-0.0781883
		(0.4002926)	(0.4319757)	(0.4822268)
ceogender	+	-0.5010314***	-0.5039277	-0.5540724
		(0.1756168)	(0.6004151)	(0.6722181)
ceospecialistfin	+	-0.5851072	-0.5851628	-0.4132267
		(0.3783951)	(0.742475)	(0.8291856)
ceotenure	+	-0.0000485	-0.000988	0.0076742
		(0.0002667)	(0.0147079)	(0.0165024)
Innovative				
immigration	-	-5490007	-5.430007	6.4400070
		(0.000003)	(0.0000128)	(0.0000144)
refugee	+	0.001337	0.0001338**	0.0000968
		(0.0001626)	(0.0000678)	(0.0000761)
corruption	+	0.038306**	0.0038329*	0.0025099
		(0.0022576)	(0.0021292)	(0.0024017)
constant		42750346***	4.282218***	3.426356**
		(1.182129)	(1.580787)	(1.786890)

Source: Prepared by the author. Note: Standard errors are in parentheses. *** p <0.01; ** p <0.05 and * p <0.10.

In relation to the classical variables the first consideration made, in Table 3, is the statistical significance concerning only the variables: tangibility, liquidity (for this particular case, it was not significant nominal level for fixed effects), profitability and growth opportunity. For the characteristic variables of the CEOs, the significant nominal level behavior persisted for the

variables CEO age, remuneration and gender (all, with inversely proportional influence - negative coefficients).

In addition to this, one of the novelties of the present research, the corruption variable showed statistical significance, that is, corruption is directly proportional with the indebtedness. In other words, the higher the level of corruption, the higher the level of indebtedness. If corporations can buy favors from corrupt politicians, it is natural for them to increase their debt to take advantage of random bribe opportunities. These results are consistent with Smith's (2016) evidence. It is worth mentioning that this variable, as well as the variable refugees, are analyzed in the context of the American states, that is, the level of concentration and influence that they potentially represent in the indebtedness of the besieged companies in each of these regions.

Other evidence worth mentioning is the significant result of the refugee variable. The consistency of this evidence suggests that in environments with higher concentration of refugees also have increased the levels of indebtedness. As refugee assistance organizations in the United States are not necessarily focused on building a long-term fixation process, companies end up hiring refugees for temporary work or even without formal labor ties. This type of hiring, in addition to the industrial sector they work with (low value added), can cause greater indebtedness of companies.

Finally, the immigrant variable did not provide any nominal level of significance, and can not, in this specific case, make any inference regarding the market indebtedness of American companies. Based on the assumption and relation of these two variables, a new regression was established, extracting only the variable immigration, that is, only the possible relation of corruption and refugees. The results, as shown in Table 4, were consistent and in line with the previous results.

Table 4: OLS, RE and FE regression with the variables corruption and refugees

Dependent variable:		**Market indebtedness**		
Variables	**Expected**	**(1)**	**(2)**	**(3)**
Models	**Sign**	**OLS**	**RE**	**FE**
Classics				
tangibility	+	-0.0000802**	-0.000002***	-0.0000871***
		(0.0000332)	(0.0000203)	(0.0000235)
liquidity	-	-0.1450093***	-0.1450093**	-0.0894734
		(0.0477969)	(0.0658396)	(0.0823927)
investments	+	-0.0000696*	-0.0000696	-0.0000652
		(0.0000417)	(0.0000717)	(0.00008)
profitability	-	-6.736101***	-6.736101***	-8.184862***
		(2.383360)	(1.0564220)	(1.334031)
growth	-	-.2669351***	-0.2669351***	-0.200952*
		(0.0849979)	(0.1017497)	(0.1183889)
size	+	4.300006	4.3000006	0.0000269
		(3.000006)	(9.330006)	(0.0000313)
Característics CEO				
ceoage	+	-0.0278902**	-0.0278902*	-0.0209876
		(0.0119282)	(0.0173545)	(0.0195761)
ceocompensation	+	-0.0000147**	-0.0000147	-8.050006
		(7.3100006)	(0.0000167)	(0.0000191)
ceogender	+	-0.5774591***	-0.5774591	-0.6709725
		(0.2034668)	(0.5969916)	(0.6687628)
Innovative				
corruption	+	0.0039112*	0.0039112**	0.0024942
		(0.0021648)	(0.0021232)	(0.0023958)
refugee	+	0.0001315*	0.0001315***	0.0001017*
		(0.0000773)	(0.0000512)	(0.0000578)
state	+	0.0291689***	0.0291689***	0.0294389***
		(0.0098074)	(0.0080739)	(0.0091936)
constant		2.42749***	2.4274900**	2.027583*
		(0.6003747)	(1.0065495)	(1.216565)

Source: Prepared by the author. Note: Standard errors are in parentheses. *** p <0.01; ** p <0.05 and * p <0.10.

Finally, as a form of comparability of the level of corruption in relation to the group of immigrants, Table 5 was constituted, considering the OLS models, fixed and random effects for each of the variables.

Table 5: OLS, RE and FE regression with the variables corruption and immigrants

Dependent variable:	**Market indebtedness**

Variables Models	Expected Sign	(1) OLS	(2) RE	(3) FE
Classics				
tangibility	+	-0.0000803**	-0.0000803***	-0.0000866***
		(0.0000333)	(0.0000203)	(0.0000235)
liquidity	-	-0.143713***	-0.143713**	-0.0884968
		(0.0475424)	(0.0658548)	(0.0824203)
investments	+	-0.0000714*	-0.0000714	-0.0000658
		(0.0000407)	(0.0000718)	(0.00008)
profitability	-	-6.724595***	-6.724595***	-8.175886***
		(2.381334)	(1.056665)	(1.334181)
growth	-	-0.269944***	-0.269944***	-0.2037024*
		(0.0849292)	(0.101764)	(0.1183887)
size	+	3.9700006	3.970006	0.0000263
		(3.2000006)	(9.330006)	(0.0000313)
Característics CEO				
ceoage	+	-0.0286078**	-0.0286078*	-0.0215445
		(0.0123266)	(0.0173552)	(0.0195758)
ceocompensation	+	-0.0000145**	-0.0000145	-7.990006
		(6.940006)	(0.0000167)	(0.0000191)
ceogender	+	-0.6157746***	-0.6157746	-0.692982
		(0.224255)	(0.596818)	(0.6686403)
Innovative				
corruption	+	0.0034093*	0.0034093*	0.0021219
		(0.0018709)	(0.0021094)	(0.0023806)
immigration	-	0.0000157	0.0000157*	.0000128
		(0.000014)	(9.670006)	(0.0000109)
state	+	0.0292671***	0.0292671***	0.0295088***
		(0.0099199)	(0.0080757)	(0.0091946)
constant		2.700319***	2.700319***	2.229936*
		(0.7888623)	(1.058069)	(1.207913)

Source: Prepared by the author. Note: Standard errors are in parentheses. *** p <0.01; ** p <0.05 and * p <0.10.

Table 6: Continuity of Regression 5, for each of the US states

Variável dependente:	**Endividamento de Mercado**		
Estado Americano	**(1) OLS**	**Estado Americano**	**(1) OLS**
Alabama	0.4696521*	Carolina do Norte	0.0796468
	(0.2705019)		(0.2159951)
Arkansas	-0.6182802**	Dakota do Norte	-0.2783489
	(0.2863613)		(0.2161139)

Arizona	-0.3645451**	Nebraska	0.7707339**
	(0.1962722)		(0.3512389)
Califórnia	-0.2376749	New Hampshire	-0.9049521***
	(0.2247653)		(0.3295082)
Colorado	-0.1514825	New Jersey	0.049635
	(0.2180348)		(0.2187849)
Connecticut	0.0144082	New Mexico	-0.0708547
	(0.2457113)		(0.3589777)
Dis. Columbia	-0.9495206***	Nevada	1.706891***
	(0.3499313)		(0.4442828)
Delaware	0.3611901	New York	-0.0722324
	(0.4646008)		(0.2024435)
Florida	-0.1727813	Ohio	-0.2187318
	(0.1798286)		(0.1533476)
Georgia	-0.1846199	Oklahoma	-0.2882718
	(0.1492461)		(0.2459147)
Havai	-0.4991963	Oregon	-0.2770498
	(0.3417591)		(0.1755057)
Iowa	0.9974274	Pensilvânia	-0.2808481**
	(0.6736009)		(0.1548717)
Idaho	-0.547577**	Rhode Island	-1.245979**
	(0.2964613)		(0.5204953)
Illinois	-0.1551436	Carolina do Sul	-0.4227342*
	(0.1672458)		(0.2589988)
Indiana	0.1398279	Dakota do Sul	-0.2666662
	(0.2331789)		(0.2243721)
Kansas	-0.7431603**	Tennessee	0.3536162
	(0.3795387)		(0.2772343)
Kentucky	0.0130124	Texas	1.680691**
	(0.2311787)		(0.7974669)
Louisiana	-0.3429396	Utah	0.0565362
	(0.307104)		(0.2254532)
Massachusetts	-0.3862998**	Virginia	3.383856
	(0.1916581)		(3.378397)
Maryland	-0.2865933**	Vermont	-0.4989502**
	(0.1502367)		(0.2371263)
Maine	0.6941052**	Washington	-0.1613733
	(0.3319003)		(0.1833514)
Michigan	0.4987063**	Wisconsin	1.327867
	(0.2052484)		(1.592805)
Minnesota	-0.208928	Virgina Ocidental	0.1904047
	(0.1603368)		(0.3979207)
Missouri	1.535526	Wyoming	-0.4360314
	(1.375754)		(0.7645052)
Mississippi	1.391129**		
	(0.5575804)		

Source: Prepared by the author. Note: Standard errors are in parentheses. *** p <0.01; ** p <0.05 and * p <0.10.

We highlight the following note: the variable US states presented statistical significance. After a careful analysis of each of the 52 United States States, in the context of corruption and immigrants and corruption and refugees, the 18 states with significant nominal level are highlighted: Alabama, Arkansas, Arizona, Indiana, Kansas, Massachusetts , Maryland, Maine, Michigan, Mississippi, Nebraska, New Hampshire, Pennsylvania, Rhode Island, South Carolina, Texas, Utah and Vermont. In summary, in these states, the incidence of corruption with immigration and corruption with refugees is probabilistically more attenuating and directly and positively influences the indebtedness of American companies.

After a careful analysis of each of the 50 US states, in the context of the relationship of corruption and immigrants and corruption and refugees, we highlight the 18 states that showed a nominally significant level: Alabama, Arkansas, Arizona, Indiana, Kansas, Massachusetts, Maryland, Maine, Michigan, Mississippi, Nebraska, New Hampshire, Pennsylvania, Rhode Island, South Carolina, Texas, Utah, and Vermont. In summary, in these states, the incidence of corruption with immigration and corruption with refugees are, probabilistically, more attenuating and directly and positively influence the indebtedness of American companies.

In addition, in the latter model, the significance of the immigrant group on the indebtedness of firms was verified. In view of this, it can be inferred that the higher the indebtedness of the companies, the lower is the participation of immigrants in these companies, on average.

In addition to the omitted endogeneity variable concern, simultaneity is another endogeneity concern that, if not addressed, could result in misleading results. Simultaneity means the possible reversibility between capital structure and gender diversity. While female directors may influence

the capital structure of MFIs, it is also possible that MFIs choose the board structure with the aim of optimizing the efficiency of the board's advisory and control functions. In this regard, a significant correlation observed between gender diversity and capital structure should not necessarily be interpreted as an effect of female direction on capital structure, but rather as a decision of strategic board structure by the firm. We adopt the instrumental variable approach to address this endogeneity concern. This approach involves a two-step procedure. In the first step, the researcher chooses an instrument that falls outside his model but correlates with the board gender diversity variable. The board gender diversity variable is regressed on this instrument variable along with the control variables in the original model. The predicted values of the board gender diversity variable in the instrument and all the control variables in the regression model are then used to represent the board gender diversity in the second-stage analysis. According to Adams (2016), this technique purges the endogenous variable (fraction of female directors) of its correlation with the error term. Studies such as Levi et al. (2014) and Huang and Kisgen (2013) have adopted this approach to address reverse causality between gender diversity and corporate outcomes. In practice, however, it is difficult to find a good instru- ment (Adams, 2016). In this paper, we use the gross loan portfolio yield-based lending rate (Abdullah & Quayes, 2016) as our instrument

Table 7: OLS, EA and EF regression with the variables corruption, immigration, refugees and introduction of instrumental variables

Dependent variable:	**Debt Market**		
Models	**(1)**	**(2)**	**(3)**
Variables	**OLS**	**EA**	**EF**
Classical Variables			
tangibility	-0.0000663***	-0.0000663***	-0.0000764***
	(0.0000297)	(0.0000204)	(0.0000235)
liquidity	0.5023921**	0.5023921***	0.5600998***
	(0.2617564)	(0.123976)	(0.1455398)

investments	-0.000023	-0.000023	-0.0000288
	(0.0000357)	(0.0000721)	(0.0000802)
profitability	-7.271452***	-7.271452***	-8.341834***
	(2.596944)	(1.154024)	(1.377578)
growth opportunity	-0.1731391**	-0.1731391*	-0.1413061
	(0.0945747)	(0.105241)	(0.1200744)
size	-0.0000101*	-0.0000101	1.120006
	(5.640006)	(0.000011)	(0.0000381)
CEO Feature			
ceoity	-0.0278134**	-0.0278134*	-0.0207342
	(0.0120324)	(0.0173705)	(0.0195838)
ceoremuneration	-0.0000152**	-0.0000152	-9.390006
	(7.750006)	(0.0000167)	(0.0000191)
ceogenero	-0.6090427***	-0.6090427	-0.719122
	(0.1983758)	(0.5969533)	(0.6685769)
Innovators			
corruption1	0.004143**	0.004143**	0.0028754
	(0.0021969)	(0.0021238)	(0.002396)
refugees	0.000129*	0.000129***	0.0000939*
	(0.0000765)	(0.0000513)	(0.0000578)
stateam	0.0278025***	0.0278025***	0.0283455***
	(0.0094998)	(0.0080835)	(0.0091901)
VI6liqui	-2.264562**	-2.264562***	-2.430905***
	(1.089455)	(0.3882138)	(0.4460453)
VI10tam	0.2274862**	0.2274862**	0.3500504
	(0.0985122)	(0.1150241)	(0.3537493)
_cons	0.6799683	0.6799683	-0.4618112
	(0.885476)	(1.374209)	(2.77507)

Source: Prepared by the author. Note: Standard errors are in parentheses. *** p <0.01; ** p <0.05 and * p <0.10.

Table 8: OLS regression for each U.S. state, using the corruption variable

Variável dependente:	**Endividamento de Mercado**		
Estado Americano	**(1) OLS**	**Estado Americano**	**(1) OLS**
Alabama	0.5328088**	Carolina do Norte	0.0862698
	(0.2748975)		(0.2076169)
Arkansas	-0.4761151***	Dakota do Norte	-0.3544636***
	(0.2087859)		(0.1508807)
Arizona	-0.2268086	Nebraska	0.7579001**
	(0.1608617)		(0.3517566)
Califórnia	-0.1677704	New Hampshire	-0.5250551***
	(0.2247175)		(0.1978758)

Colorado	-0.1410396	New Jersey	0.1443106
	(0.215387)		(0.2104259)
Connecticut	0.0339081	New Mexico	.01051179
	(0.2374452)		(0.1697223)
Dis. Columbia	-0.6965785***	Nevada	1.715788***
	(0.24009)		(0.4410949)
Delaware	0.1897806	New York	-0.0079711
	(0.4522317)		(0.189961)
Florida	-0.0859867	Ohio	-0.1545747
	(0.1598099)		(0.1433251)
Georgia	-0.0445233	Oklahoma	-0.2351156
	(0.1253899)		(0.24837)
Havai	-0.4435902	Oregon	-0.2439524
	(0.3345195)		(0.1867875)
Iowa	1.099831	Pensilvânia	-0.2357432*
	(0.6950685)		(0.1421818)
Idaho	-0.3988522*	Rhode Island	-0.9220012**
	(0.2451762)		(0.4159421)
Illinois	-0.0659616	Carolina do Sul	-0.3312707
	(0.1530898)		(0.2129757)
Indiana	0.2685662	Dakota do Sul	-0.0891595
	(0.2183726)		(0.2002232)
Kansas	-0.7138559**	Tennessee	0.3483447
	(0.3823153)		(0.2765653)
Kentucky	0.1362693	Texas	1.785475***
	(0.2057574)		(0.8089373)
Louisiana	-0.2865245	Utah	0.1489821
	(0.2806267)		(0.2171841)
Massachusetts	-0.3198339*	Virginia	3.412382
	(0.1868873)		(0.3424346)
Maryland	-0.3106154**	Vermont	-0.5670647***
	(0.146924)		(0.1946242)
Maine	0.7890079***	Washington	-0.1062196
	(0.3342224)		(0.1716632)
Michigan	0.5398834***	Wisconsin	1.432407
	(0.198247)		(1.580927)
Minnesota	-0.1344067	Virgina Ocidental	0.7407254**
	(0.1455642)		(0.398578)
Missouri	1.623671	Wyoming	0.2598071
	(1.371378)		(0.5081834)
Mississippi	1.466889***	_cons	3.213296***
	(0.5542669)		(0.886412)

Fonte: Elaborada pelo autor.

In addition, it was verified, in this last model, the significance of the group of immigrants in the indebtedness of the companies. On the face of it, one can infer indications that the greater the indebtedness of the companies, the smaller is the participation of immigrants in said companies, on average. After estimating the two models in panel data, fixed effects and random effects, the Hausman test was applied to analyze the consistency between the two models, that is, the test analyzes whether there is a correlation between the individual errors and the exploratory variables. For all cases, the test signaled the use of random effects in econometric models.

In order to summarize the hypotheses established in the literature review, as well as to ratify the result evidenced in the research, Chart 1 was constructed.

Chart 1: Description and results of the hypotheses studied

Hypothesis	Description	Result
H1	The classical variables, in general, have a positive relationship with debt.	Strongly supported (inverted signal)
H2	CEO variables positively impact debt.	Strongly supported (inverted signal)
H3	Corruption has a positive relationship with debt policy	Strongly supported (same signal)
H4	Immigration and refugees have a negative and positive relationship with debt, respectively.	Partially supported (only for refugees)

Source: Prepared by the author.

5. FINAL REMARKS

In general, the results obtained in this study provide important implications for researchers, managers and policy makers. For researchers, it is expected to consider corruption as an important determinant of the level of corporate indebtedness and therefore, corruption should be included in future studies on liquidity and cash value. For managers, it is important to consider the adverse

effect of political debt corruption (short, medium and long term). Specifically, companies should consider corruption by maintaining a greater concentration of indebtedness.

A higher level of indebtedness produces a corrupt environment with low investor and shareholder protection. In addition, managers of multinational corporations should consider the possible effect of different levels of corruption, as well as their interaction with the immigrant and refugee groups.

The result of this study provides empirical evidence that the level of corruption in an economy has a direct and positive effect, assuming the following findings: (i) corruption is significant in environments with a higher concentration of immigrants; which brings a direct and positive relationship with the level of indebtedness of the organizations located in the states that absorb this workforce; (ii) the results, considering the significant nominal levels, were evidenced in both groups - refugees and immigrants. However, it is noteworthy that they are more persistent in refugee groups.

Therefore, CEOs should take appropriate measures to reduce the level of corruption in the economy, in addition to developing more effective debt policies, considering the presence and incidence of immigration and refugee flows in the respective American states. In addition, they should try to strengthen security laws, corporate governance mechanisms and their implementation to improve the overall protection of the investor in the economy. This will help mitigate various agency issues and make it easier for companies to make financial decisions and get higher ratings.

Specifically, policy makers should evaluate new public policies on the following grounds: (i) the greater influence of refugees provides, on average, a higher level of indebtedness. Based on this assumption, producing public policy actions to provide a greater engagement of this group within society and, especially, the impact they have within the business organizations, will have a direct impact on the companies' debt structure; (ii) immigrants, in turn, still need more studies

regarding their influence on the financial structure of the companies, to a lesser extent highlighted in the results of the research; (iii) areas of greater influence of corruption were confirmed, according to the areas of corruption level, in the "uncommon corruption" segment, offering new discussions and reflections on the expectation of corruption vs. practice; (iv) CEO characteristics influence the choice of capital structure determinants, opening the doors to discussions of their level and quality of influence, for future studies.

In addition, the research will highlight areas (states) for the development of public policies to reduce the impact of corruption where large groups of refugees are present. The findings should also help policymakers assess the importance of fighting corruption and building market monitoring and support to institutions. Evidence in the US should also be useful for other developed markets, impacted by similar institutional problems. Possibly, firms in regulated sectors tend to have higher indebtedness than less regulated firms. The highly regulated environment of the US raises the possibility that the high levels of indebtedness of regulated companies are not only attributable to their business but mainly to the high level of corruption.

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