MODERATING EFFECT OF THE CAPITAL STRUCTURE ON THE IDIOSYNCRATIC RISK AND MARKET PERFORMANCE OF LISTED FIRMS*

Samuel Lyncon Leandro de Lima[1]

Tarcísio Pedro da Silva[2]

Manuel José da Rocha Armada[3]

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[1] University of Minho, Portugal, and University of Blumenau, Brazil. E-mail: samuellynconleandro@gmail.com

[2] University of Blumenau, Brazil. E-mail: tarcisio@furb.br

[3] University of Minho, Portugal. E-mail: rarmada@eeg.uminho.pt

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Abstract

The corporate capital structure is one of the pillars that ensure the sustainability of companies. Despite efforts of researchers for explaining the capital structure choice, there are gaps in relation to why managers do not take enough actions for optimal corporate capital structure, and also what limits managers from taking enough actions for the same matter. In order to provide more empirical evidence to explain those issues, we investigated the moderating effects of the corporate capital structure on the relationship between idiosyncratic risk and return. From the Refinitiv Eikon database, we investigated European Union, Latin American, and North American listed companies, from 2002 to 2021. Since we evaluated the moderating effect of the corporate capital structure on the relationship between expected risk and return, our results contributed to explaining the dimension of debt adjustment. In fact, we found positive effects, of the corporate capital structure, on the relationship between idiosyncratic risk and market performance of those companies, as well as other effects of the corporate capital structure on the market performance of listed companies. Thus, our main contribution was to provide (also) empirical support to explain how the capital structure increases the idiosyncratic risk of companies when the manager increases leverage. In addition, we found that the compensation for the added idiosyncratic risk is a task that managers seem to understand, because variations in the capital structure had a positive effect on variations in the market performance of companies.

Keywords: Corporate capital structure. Market performance of listed companies. Idiosyncratic risk. Moderating effects

JEL Classification: G11, G12, G32, D81, C01, C33, C58.
EFMA Classification Code: 140

INTRODUCTION

One of the central themes of investigation in corporate finance is the corporate capital structure, and some of the questions of interest are related with the corporate capital structure choice and leverage actions (DeMarzo & Zhiguo, 2021; DeAngelo, Gonçalves, & Stulz, 2022; Frank & Goyal, 2023). Using an innovative methodology, based upon the idiosyncratic risk literature, we investigated the issues previously mentioned. Reviewing the literature, we also found that more empirical evidence is needed (Frank & Shen, 2019; Sardo et. al, 2022; DeAngelo, 2022; Abdullah et al., 2023; Chu & Kjenstad, 2023; Daskalakis et al., 2023).

The benefits of optimal capital structure are well known in the literature, but the gap between the adjustment and the target, is a persistent issue in capital structure actions (Frank & Goyal, 2023; Newton et al., 2023). In fact, previous studies that investigate the effects of risk, on the corporate capital structure, have focused on sales, financial distress, and bankruptcy risks (Frank & Goyal, 2023; Babenko et al.; 2024). Previous studies did not deal with the effects of risks associated with the idiosyncratic characteristics of companies on the corporate capital structure actions.

Corporate idiosyncratic characteristics allow managers to take actions that managers from other companies cannot imitate, a fact that enables competitive advantage (Brown et al., 2021). The investigation of idiosyncratic risk paved the avenue for factor asset pricing methods. Fama and French (1993) mentioned that it is plausible for leverage to be associated with expected risk and return, but did not find the empirical results they expected.

In fact, leverage was not observed in the three-factor asset pricing model and, even, in subsequent asset pricing factor models (Fama & French, 2018). Evidently, the focus of the investigation was not the corporate capital structure, although Fama and French (1993) really measured leverage in relation to equity over total assets and not in relation to total debt over total assets. In this sense, we investigated the issues of corporate capital structure, through leverage, because since Miller (1991), it has been known that increasing debt expands the list of beneficiaries and, in particular, creditors have preferences.

Although, the literature continues to lack empirical evidence to explain why managers do not take enough actions for optimal corporate capital structure, and also what limits managers from taking enough actions for the same matter (Frank & Goyal, 2023). In this sense, we also investigated the effects of the capital structure on the relationship between corporate risk and return and, evaluating the moderating effect of the corporate capital structure, on the

relationship between expected risk and return, contributing to, empirically, explain the dimension of debt adjustment.

We also intended to explain the size of the adjustment in periods of profitability shocks (Frank & Shen, 2019). In this sense, our research was guided by the following question: what is the effect of the capital structure on the relationship between idiosyncratic risk and market performance?

The main contribution of this article is to document for the first time in the literature that there are empirically important interactions between capital structure and idiosyncratic risk that have not been previously reported. Previous approaches, are qualitatively consistent with the real data in that they predict that leverage ratios increase as firms are squeezed for cash (DeAngelo et al., 2023). Despite that, DeAngelo et al. (2023) found that the main shortcoming of these models is quantitative, as they predict leverage increases that are far smaller than the substantial leverage increases in the real data.

Our results allow us to understand this issue. Firstly, we found that the capital structure chosen by managers increased the market performance of listed firms. That is, managers make decisions to choose a corporate capital structure, that increases the value of the firm. Second, we found out that corporate capital structure positively moderates the idiosyncratic risk of listed firms. It means, if managers increase leverage, they necessarily increase idiosyncratic risk. Third, we found out that managers reward investors for the idiosyncratic risk of listed firms. Therefore, our results allow us to understand that managers only increased leverage if they were certain that they were able to compensate for the increased idiosyncratic risk.

RESEARCH FRAMEWORK

For adjustment issues, debt really matter. In fact, debt has costs associated with financial distress and bankruptcy (Myers & Read Jr., 2022; Frank & Goyal, 2023), related with capital risk (Chew & Stewart, 2022). Frank and Sanati (2021) and, Chu and Kjenstad (2023) pointing out the idea of balancing the capital structure, between costs and benefits, are realistic and argue that idiosyncratic characteristics really matter in leverage actions.

To investigate the questions presented previously, we followed the argument from DeAngelo et al. (2022), that traditional trade-off (static) and pecking-order models are insufficient, as stand-alone theories of capital structure. For that matter, we used the dynamic trade-off theory as a research framework. This is because managers adjust the capital structure

based on balancing the cost and benefits of leverage (DeMarzo & Zhiguo, 2021; DeAngelo, 2022; Frank & Goyal, 2023).

Firstly, we considered that, with the development of capital markets, and higher influence of globalization, investments are fundamental for the survival of companies, and the challenge for managers is to obtain capital (Stulz, 2022). Thereby reducing the cost of capital (Titman, 2017; Dai et al., 2023), in such a context, the legal system and protection mechanisms serve as incentives for investors (Levine et al., 2023), including international investors (Cuervo-Cazurra & Pananond, 2023).

In addition, with the advent of technological resources for asset valuation (Amini et al., 2021), asset pricing (Elton & Gruber, 2020; Bali, Brown, & Tang, 2023) and changes in the nature of firms, in recent years (Stulz, 2020), investigating the corporate capital structure, in terms of idiosyncratic characteristics is essential (Abdullah et al., 2023). In fact, Daskalakis et al. (2023) documented that the determinants of corporate capital structure do not differ between sectors, but in terms of magnitude. In this sense, idiosyncratic risk really matters, since it can prevent the corporate ability from obtaining or maintaining external debt financing (Chu & Kjenstad, 2023).

The increased corporate risk will provoke reactions from creditors, to establish protection contracts to limit the corporate capital structure actions of managers (Babenko et al., 2024). Also, investors price the idiosyncratic risk (Brockman et al., 2022). With this research, we expected to bring new insights why managers are slow or not to adjust the capital structure of companies. So, our hypothesis is:

H: capital structure positively moderates the relationship between idiosyncratic risk and market performance of listed firms.

METHODOLOGY

The research methodology will be developed into two stages. In the first stage, we estimated the six-factor model of Fama and French (2018), to obtain the idiosyncratic risk, according to equation 1.

$$R_{i,t} - FR_t, = \alpha_i + \beta_1 F_{1i,t} + \beta_2 F_{2i,t} + \beta_3 F_{3i,t} + \beta_4 F_{4i,t} + \beta_5 F_{5i,t} + \beta_6 F_{6i,t} + \varepsilon_{i,t} \quad (1)$$

In equation 1, $R_{i,t}$ is the month t return on asset i. α_i is the intercept for asset i. $\varepsilon_{i,t}$ is the idiosyncratic risk for asset i on month t. FR_t is the one-month Treasury bill rate at the month t. $F_{1i,t}$ is the return on the value-weight portfolio of the main performance indicator of the stocks in excess FR_t. F_2 is the size factor in terms of market value, formed by two portfolios

segregated by the market value median, and measured by difference, each month, between the returns on small and big asset portfolios, ranked by median, according to equation 2.

$$F_2 = \frac{R_{Small_t} - R_{Big_t}}{2} \quad (2)$$

In equation 1, F_3 is the book-to-market factor, measured from both portfolios, small and big, in accordance with F_2, by the difference, each month, between the return of the smallest one-third (portfolio low) and the return on the assets in the top third (portfolio high) ranked by book-to-market. In other words, the difference between the returns on the two high book-to-market portfolios (portfolios small and big) and the returns on the two low book-to-market portfolios (portfolios small and big), according to equation 3.

$$F_3 = \frac{R_{SmallHigh_t} + R_{BigHigh_t}}{2} - \frac{R_{SmallLow_t} + R_{BigLow_t}}{2} \quad (3)$$

In equation 1, F_4 is the profitability factor in terms of operating income over book equity and, measured from both portfolios small and big on F_2, by the difference, each month, between the return of the smallest one-third (portfolio weak) and the return on the assets in the top third (portfolio robust) ranked by profitability. In other words, the difference between the returns on the two robust profitability portfolios (portfolios small and big) and the returns on the two weak profitability portfolios (portfolios small and big), according to equation 4.

$$F_4 = \frac{R_{SmallRobust_t} + R_{BigRobust_t}}{2} - \frac{R_{SmallWeak_t} + R_{BigWeak_t}}{2} \quad (4)$$

F_5 is the investment factor in terms of growth of total assets and, measured from both portfolios small and big on F_2, by the difference, each month, between the return of the smallest one-third (portfolio conservative) and the return on the assets in the top third (portfolio aggressive) ranked by growth of total assets. In other words, the difference between the returns on the two conservative investment portfolios (portfolios small and big) and the returns on the two aggressive investment portfolios (portfolios small and big), according to equation 5.

$$F_5 = \frac{R_{SmallConservative_t} + R_{BigConservative_t}}{2} - \frac{R_{SmallAggressive_t} + R_{BigAggressive_t}}{2} \quad (5)$$

In Equation 1, F_6 is the momentum factor in terms of previous returns, measured from both portfolios small and big on F_2, by the difference, each month, between the return of the smallest one-third (portfolio down) and the return on the assets in the top third (portfolio up) ranked by momentum. In other words, the difference between the returns on the two up momentum portfolios (portfolios small and big) and the returns on the two down momentum portfolios (portfolios small and big), according to equation 6.

$$F_6 = \frac{R_{SmallUp_t} + R_{BigUp_t}}{2} - \frac{R_{SmallDown_t} + R_{BigDown_t}}{2} \quad (6)$$

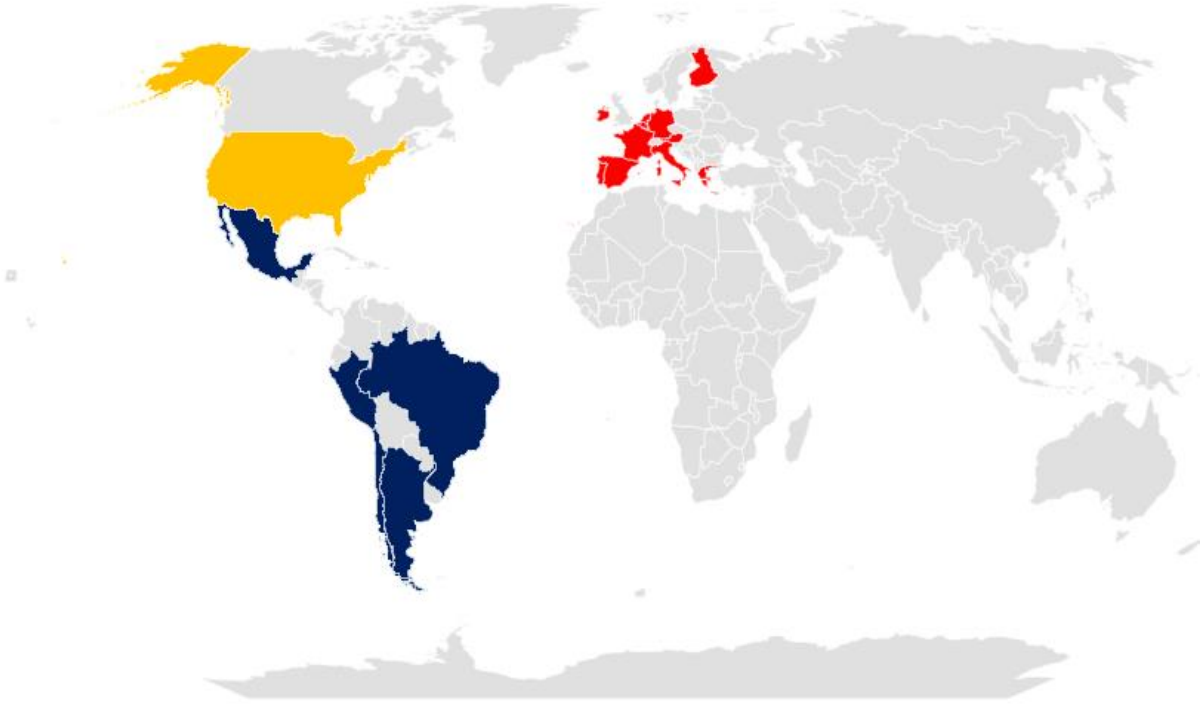
In the second stage, we estimated our proposed model according to equation 7.

$$MP_{i,t} = \beta_0 + \beta_1 IR_{i,t} + \beta_2 CS_{i,t} + \beta_3 MOD\,[IR_{i,t} \cdot CS_{i,t}] + \beta_3 ROA_{i,t} + \beta_4 GRO_{i,t} + \varepsilon_{i,t} \quad (7)$$

In equation 7, $MP_{i,t}$ is the market performance (dependent variable), measured by market-to-book value (Fama & French, 2018). $IR_{i,t}$ is the idiosyncratic risk (independent variable), measured from residual of equation 1 (Fama & French, 2018). $CS_{i,t}$ is the corporate capital structure (moderating variable), measured by total debt (an also, in addition, by indebtedness) over to total assets (Frank & Goyal, 2023). $ROA_{i,t}$ is the return on assets (control variable), measured by operating income over to total assets. $GRO_{i,t}$ is the growth (control variable), measured by current total revenue over to previous total revenue. β_0 is the intercept. $\varepsilon_{i,t}$ is the residual. i is the subscript for firm. t is the subscript for time.

SAMPLE

The research sample consists of firms listed on the stock exchanges of Latin America, North America, and the European Union.



Legend: • Latin America, • North America, and • European Union

Figure 1: Sample

The European Union stock exchanges were: i) Frankfurt Stock Exchange – DAX (Germany); ii) Vienna Stock Exchange – WB (Austria); iii) Brussels Stock Exchange – BSE (Belgium); iv) Madrid Stock Exchange – BME (Spain); v) Helsinki Stock Exchange – HSE (Finland); vi) Paris Stock Exchange – PAR (France); vii) Athens Stock Exchange – ASE (Greece); viii) Euronext Dublin – ISEQ (Ireland); ix) Italian Stock Exchange – BIT (Italy); x) Luxembourg Stock Exchange – LUXSE (Luxembourg); xi) Euronext Amsterdam – AEX (Netherlands); and xii) Lisbon Stock Exchange (Portugal).

The selection of firms, listed in the European Union, was made by identifying the main economic group in Europe (Moradi & Paulet, 2019). Even with strong economic relationships, European Union countries are different, according to idiosyncratic characteristics (Vega-Gutierrez, et al. 2021), a fact which might have implications to the corporate capital structure choice (Campbell & Rogers, 2018; Vega-Gutierrez & Rodriguez-Sanz, 2022).

The selected Latin American stock exchanges were: i) Brazil "Bolsa Balcão" – B3; ii) Buenos Aires Commerce Exchange – BCBA; iii) Santiago Stock Exchange – BS; iv) Mexican Stock Exchange - BMV; and v) Lima Stock Exchange – BVL. Latin American companies were also chosen taking into consideration the economic characteristics of these countries, observed in recent years, by observing significant economic reforms and pro-market policies (Cuervo-Cazurra, et al., 2019) and, finally, due to the availability of information; other Latin American stock exchanges have a small number of listed companies.

The North American stock exchanges were: i) New York Stock Exchange – NYSE; and ii) National Association of Securities Dealers Automated Quotations – NASDAQ. The companies listed on those stock exchanges were chosen because previous investigations on the topic are concentrated in the North American capital market (Moradi & Paulet, 2019).

As far as the data are concerned, we used the Refinitiv Eikon database, from 2002 to 2021, as an unbalanced panel sample, as well as the Stata 18 software.

Appendix 1,

(Insert Table 1 here)

presents characteristics of the sample of importance to our research. The exclusion of negative total equity observations was done because this variable was used to measure profitability and, also because negative total equity is not a choice, but a business survival problem. Finally, regarding the total debt and the leverage of companies, we excluded observations greater than 1. This is also a business survival problem and, specifically, most of these companies are in a process of judicial recovery.

DATA DESCRIPTION

Appendix 2,

(Insert Table 2 here)

presents descriptive statistics data. Aggregating by continent, on average, North American, European Union, and Latin American companies presented market performance of approximately, 3.77, 2.54, and 1.67 of market-to-book, and 4.90, 3.70, and 2.77 of Tobin's Q, respectively. Also, the capital markets of developed countries showed greater standard deviations in the market performance of companies, compared to the capital markets of emerging countries.

Corporate indebtedness, on average, is approximately 55%, and, on average, North American, European Union, and Latin American companies have approximately, 49%, 57%, and 52% of indebtedness, respectively. Indebtedness for North American companies are similar to data from Frank & Goyal (2023). Thus, we found that the financial market really matters for debt indebtedness, since developed countries have a diversified financial sector, and this allows for better contractual conditions for managers to increase corporate indebtedness.

In addition, corporate debt, on average, is approximately 25%, and, on average, North American, European Union, and Latin American companies have approximately, 20%, 26%, and 23% of debt, respectively. That result reinforces the relevance of a diversified financial market, since European Union companies are more leveraged than Latin American Companies. Debt for North American companies is similar to data from (Frank & Goyal, 2023).

Finally, the standard deviations of corporate idiosyncratic risk highlight the differences between companies, in terms of risk. As far as the average idiosyncratic risk is close to zero in the CAPM, this hides the relevance of the volatility of this risk. But, based on standard deviations, we found considerable variation across countries, according to Brockman et al. (2022). That is, on average, North American companies (1.0) have twice the idiosyncratic volatility compared to Latin American companies (0.5).

The data were winsorized at the 1% level in each tail (Frank & Shen, 2019; Brockman et al., 2022; Frank & Goyal, 2023), to mitigate the effect of atypical values, caused by anomalies in the capital market, and because some data is produced by market expectations (market value) against historical accounting data (balance sheet). In addition, we used market performance measured by Tobin's Q and capital structure measured by indebtedness into the alternative models to provide additional results.

EMPIRICAL RESULTS

Table 3, below, presents the results of the model coefficients (see equation 7), without considering moderation effects.

Table 3: Results from equation 7, **without moderation effects**

Model per Country	CON	Variable				OBS	Prob. F
		IR	CS	ROA	GRO		
ARG	1.688580 (0.000)***	0.460541 (0.000)***	2.595988 (0.000)***	-0.029567 (0.240)	-0.000221 (0.005)***	11,524	(0.000)***
AUS	1.909384 (0.000)***	0.326200 (0.001)***	0.367742 (0.005)***	-0.014768 0.874	0.002399 (0.000)***	6,873	(0.000)***
BEL	1.927619 (0.000)***	0.248021 (0.098)*	0.476923 (0.005)***	1.030583 (0.000)***	0.030141 (0.371)	4,602	(0.000)***
BRA	3.562673 (0.000)***	0.185654 (0.000)***	9.443126 (0.000)***	0.160460 (0.000)***	-0.000337 (0.064)*	40,784	(0.000)***
CHI	0.899892 (0.000)***	0.154407 (0.000)***	0.178186 (0.001)***	-0.044710 (0.000)***	-0.000004 (0.000)***	17,724	(0.000)***
FIN	2.313689 (0.000)***	0.779722 (0.000)***	0.710107 (0.000)***	-0.024160 (0.000)***	0.002550 (0.004)**	18,315	(0.000)***
FRA	2.818846 (0.000)***	0.402408 (0.000)***	1.565422 (0.000)***	-0.026996 (0.000)***	-0.000030 (0.349)	45,752	(0.000)***
GER	2.404450 (0.000)***	1.189162 (0.000)***	1.272362 (0.000)***	-0.000029 (0.000)***	0.000029 0.769	47,170	(0.000)***
GRE	1.055531 (0.000)***	0.001716 (0.778)	0.355861 (0.000)***	-0.011977 (0.000)***	-0.00002 (0.862)	27,795	(0.000)***
IRE	3.476944 (0.000)***	0.330956 (0.395)	5.788763 (0.000)***	-0.211878 (0.007)***	-0.000009 (0.999)	4,968	(0.000)***
ITA	2.222354 (0.000)***	0.416718 (0.000)***	1.424955 (0.000)***	0.053832 (0.000)***	-0.000008 (0.919)	25,355	(0.000)***
LUX	1.862439 (0.000)***	0.574673 (0.000)***	7.086859 (0.000)***	0.130717 (0.000)***	-0.067042 (0.000)***	4,392	(0.000)***
MEX	1.577146 (0.000)***	0.478824 (0.000)***	2.618589 (0.000)***	0.133015 (0.144)	0.000002 (0.101)	15,750	(0.000)***
NET	2.362720 (0.000)***	0.246830 (0.122)	4.015193 (0.000)***	-0.047117 (0.000)***	-0.004065 (0.017)**	8,814	(0.000)***
PER	0.922384 (0.000)***	0.021867 (0.000)***	0.426026 (0.074)*	0.009092 (0.001)***	0.000317 (0.328)	18,126	(0.000)***
POR	1.581509 (0.000)***	0.250270 (0.011)**	0.442099 (0.002)***	0.073120 (0.000)***	0.018918 (0.118)	6,360	(0.000)***
SPA	2.921059 (0.006)***	0.447506 (0.738)	0.259204 (0.000)***	0.026909 (0.000)***	0.000025 (0.741)	11,436	(0.000)***
USA	2.93889 (0.000)***	0.188841 (0.000)***	3.447943 (0.000)***	-0.001133 (0.056)*	-0.000005 (0.723)	427,807	(0.000)***

Legend: ARG, AUS, BEL, BRA, CHI, FIN, FRA, GER, GRE, IRE, ITA, LUX, MEX, NET, POR, PER, SPA, and USA are the countries (respectively: Argentina, Austria, Belgium, Brazil, Chile, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Mexico, Netherlands, Peru, Portugal, Spain, United States). CON is the constant, IR is the idiosyncratic risk, CS is the debt, ROA is the return on the asset, GRO is the growth e OBS is the total of observations.

Table 3, above, presents the (different) results on market performance from the effects of idiosyncratic risk. In Latin American and North American listed companies, we found positive effects from idiosyncratic risk on market performance. This is relevant, as it confirms, empirically, the expectations about risk and return (Brockman et al., 2022). In relation to Latin American companies, we observed that managers really need to compensate investors for the increased risk, in our view, due to factors coming from the legal system and protection mechanisms (Levine et al., 2023; Cuervo-Cazurra & Pananond, 2023).

However, in Spanish, Greek, Dutch and Irish companies, we did not find statistically significant results. The results found, in these countries, highlight the relevance of macroeconomic aspects (Pindado et al. 2020; Vega-Gutierrez, & Rodríguez-Sanz 2022). This is because European Union companies are part of an economic bloc, subject to the economic policies of the European Central Bank.

The results from Table 3, above, also show the (relevant) contribution to the Debt Theory, since we found in all the countries positive effects of the capital structure on market performance. Our findings, apart from corroborating previous studies on capital structure adjustment (Sardo et. al, 2022; Daskalakis et al., 2023; Frank & Goyal, 2023; Newton et al., 2023), also indicate that manager´s actions had a positive effect in the market performance of companies. These results are in accordance with Chu and Kjenstad (2023), showing that the idiosyncratic risk increases debt maturity.

In addition, we estimated the equation 7, with the variable of capital structure measured by indebtedness instead the debt. Our results also demonstrated the relevance of the corporate capital structure, measured by debt, in comparison with indebtedness, as we presented, below, in Table 4.

Table 4:

Results from equation 7, with alternative measure of capital structure, **without moderation effects**

Model per Country	CON	Variable				OBS	Prob. F
		IR	CS	ROA	GRO		
ARG	-1.156942 (0.216)	0.390155 (0.002)***	9.456003 (0.000)***	-0.078503 (0.016)**	-0.000198 (0.226)	11,524	(0.000)***
AUS	-1.211166 (0.000)***	0.340997 (0.004)***	7.505109 (0.000)***	-0.080376 (0.518)	0.002664 (0.000)***	6,873	(0.000)***
BEL	2.941454 (0.000)***	0.319418 (0.145)	1.556010 (0.000)***	2.343234 (0.000)***	0.013634 (0.782)	4,602	(0.000)***
BRA	-12.94942 (0.000)***	0.088464 (0.161)	40.17969 (0.000)***	0.054004 (0.059)*	-0.000469 (0.159)	40,784	(0.000)***
CHI	-0.066231 (0.399)	0.147130 (0.000)***	4.613912 (0.000)***	0.007541 (0.646)	-0.000012 (0.000)***	17,724	(0.000)***
FIN	1.046678 (0.036)***	0.850031 (0.004)***	4.982226 (0.000)***	-0.008891 (0.004)***	0.005514 (0.012)**	18,315	(0.000)***
FRA	-2.112805 (0.000)***	0.379640 (0.000)***	11.446070 (0.000)***	-0.027914 (0.000)***	-0.000016 (0.569)	45,752	(0.000)***
GER	-0.059010 (0.000)***	6.846471 (0.000)***	1.325094 (0.000)***	-0.000009 (0.002)***	-0.000060 (0.642)	47,170	(0.000)***
GRE	-1.551950 (0.000)***	0.004535 (0.430)	7.517402 (0.000)***	-0.003699 (0.099)*	-0.000405 (0.000)***	27,795	(0.000)***
IRE	-2.914982 (0.000)***	0.596323 (0.243)	19.13482 (0.000)***	-0.237585 (0.000)***	-0.002951 (0.116)	4,968	(0.000)***
ITA	-2.221477 (0.000)***	0.403675 (0.000)***	11.118720 (0.000)***	0.104060 (0.000)***	-0.000007 (0.464)	25,355	(0.000)***
LUX	-4.526498 (0.000)***	0.594691 (0.000)***	19.48679 (0.000)***	0.507154 (0.000)***	-0.068489 (0.004)***	4,392	(0.000)***
MEX	-2.289518 (0.000)***	0.637006 (0.000)***	12.06746 (0.000)***	0.070677 (0.007)***	0.00002 (0.239)	15,750	(0.000)***
NET	-3.445232 (0.000)***	0.296672 (0.108)	15.49965 (0.000)***	-0.057833 (0.000)***	-0.001273 (0.015)**	8,814	(0.000)***
PER	-0.106927 (0.309)	0.020968 (0.005)***	4.665803 (0.000)***	0.004193 (0.009)***	-0.000487 (0.459)	18,126	(0.000)***
POR	-6.644707 (0.000)***	0.447227 (0.000)***	17.30323 (0.000)***	-0.015535 (0.026)**	0.008943 (0.293)	6,360	(0.000)***
SPA	6.952240 (0.000)***	0.466092 (0.000)***	-1.966895 (0.000)***	0.049056 (0.000)***	0.000135 (0.289)	11,436	(0.000)***
USA	-0.839226 (0.000)***	0.253379 (0.000)***	11.94624 (0.000)***	-0.000726 (0.038)**	-0.000034 (0.086)*	427,807	(0.000)***

Legend: ARG, AUS, BEL, BRA, CHI, FIN, FRA, GER, GRE, IRE, ITA, LUX, MEX, NET, POR, PER, SPA, and USA are the countries (respectively: Argentina, Austria, Belgium, Brazil, Chile, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Mexico, Netherlands, Peru, Portugal, Spain, United States). CON is the constant, IR is the idiosyncratic risk, CS is the indebtedness, ROA is the return on the asset, GRO is the growth e OBS is the total of observations.

Contrary to the results found in Table 3, the results in Table 4, did not show us, in all countries, positive effects of the corporate capital structure on the market performance of listed companies. This result suggests that a reflection, among researchers, on the measurement of

debt, should be made, in the literature of capital structure, since indebtedness is given by obligations that have no financial charges on the company.

Table 5 presents the results from equation 7 **with moderation**.

Table 5: Results from equation 7, with **moderation effects**

Model per Country	Variable						OBS	Prob. F
	CON	IR	CS	MOD	ROA	GRO		
ARG	1.08206 (0.000)***	0.444870 (0.000)***	5.608437 (0.000)***	0.351338 (0.037)**	-0.013328 (0.006)***	-0.000017 (0.876)	11,524	(0.000)***
AUS	1.652842 (0.000)***	0.337226 (0.000)***	0.415005 (0.000)***	0.567160 (0.002)***	-0.116679 (0.000)***	0.000564 (0.073)**	6,873	(0.000)***
BEL	1.926167 (0.000)***	-0.106132 0.658	0.482011 (0.005)***	1.584989 (0.058)*	1.031547 (0.000)***	0.030406 (0.366)	4,602	(0.000)***
BRA	3.557274 (0.000)***	-0.212102 (0.003)***	9.495429 (0.000)***	2.422702 (0.000)***	0.160511 (0.000)***	-0.000335 (0.066)*	40,784	(0.000)***
CHI	0.900046 (0.000)***	0.044501 (0.216)	0.178218 (0.001)***	0.438780 (0.010)**	-0.045435 (0.000)***	-0.000004 (0.000)***	17,724	(0.000)***
FIN	2.314115 (0.000)***	0.892609 (0.000)***	0.709786 (0.000)***	0.570467 (0.005)***	-0.024110 (0.000)***	0.002535 (0.003)***	18,315	(0.000)***
FRA	2.650433 (0.000)***	0.377758 (0.000)***	1.382520 (0.000)***	0.370104 (0.000)***	-0.040288 (0.000)***	-0.000019 (0.045)**	45,752	(0.000)***
GER	2.403610 (0.000)***	1.151701 (0.000)***	1.271386 (0.000)***	0.089976 (0.001)***	-0.000029 (0.000)***	0.000013 (0.765)	47,170	(0.000)***
GRE	0.898696 (0.000)***	0.001912 (0.123)	0.893246 (0.000)***	0.923777 (0.000)***	-0.013203 (0.000)***	-0.000033 (0.167)	27,795	(0.000)***
IRE	4.058481 (0.000)***	0.696685 (0.000)***	4.624725 (0.000)***	3.225111 (0.000)***	-0.249169 (0.000)***	-0.001444 (0.355)	4,968	(0.000)***
ITA	2.202263 (0.000)***	0.575710 (0.000)***	1.022594 (0.000)***	0.413760 (0.000)***	0.036079 (0.000)***	-0.000069 (0.000)***	25,355	(0.000)***
LUX	1.860261 (0.000)***	0.353393 (0.001)***	7.105283 (0.000)***	1.680665 (0.009)***	0.129295 (0.000)***	-0.067073 (0.000)***	4,392	(0.000)***
MEX	1.933298 (0.000)***	0.288212 (0.000)***	1.445485 (0.000)***	1.600963 (0.000)***	0.011390 (0.017)**	0.000000 (0.915)	15,750	(0.000)***
NET	2.248494 (0.000)***	0.474513 (0.000)***	4.104129 (0.000)***	0.500262 (0.008)***	-0.028234 (0.000)***	-0.001390 (0.001)***	8,814	(0.000)***
PER	0.923062 (0.000)***	0.019175 (0.000)***	0.440751 (0.000)***	2.122940 (0.000)***	0.009068 (0.001)***	0.000344 (0.319)	18,126	(0.000)***
POR	1.504046 (0.000)***	0.227673 (0.000)***	0.900245 (0.000)***	0.328913 (0.019)**	0.004202 (0.267)	-0.001348 (0.771)	6,360	(0.000)***
SPA	0.000031 (0.000)***	-0.584757 (0.000)***	0.259479 (0.006)***	0.400487 (0.010)**	0.026863 (0.000)***	0.000031 (0.678)	11,436	(0.000)***
USA	2.884238 (0.000)***	-0.000036 (0.060)*	3.438616 (0.000)***	5.870738 (0.000)***	-0.001231 (0.061)*	-0.000004 (0.734)	427,807	(0.000)***

Legend: ARG, AUS, BEL, BRA, CHI, FIN, FRA, GER, GRE, IRE, ITA, LUX, MEX, NET, POR, PER, SPA, and USA are the countries (respectively: Argentina, Austria, Belgium, Brazil, Chile, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Mexico, Netherlands, Peru, Portugal, Spain, United States). CON is the constant, IR is the idiosyncratic risk, CS is the debt, MOD is the moderation, ROA is the return on the asset, GRO is the growth e OBS is the total of observations.

Table 5, above, presented the results, even considering the moderation effect, in all countries, the capital structure had a positive effect on the market performance of listed companies. The same positive effects, in all countries, we found in the moderating variable. Consequently, our results are in accordance with our hypothesis, in the sense that, the capital structure, positively moderates the relationship between idiosyncratic risk and market performance.

Our results are relevant, meaning that, for all companies in our sample, the corporate capital structure increases idiosyncratic risk, and managers need to deal with a sensitive topic. Increasing corporate risk, via the idiosyncratic risk, is a sensitive topic, as investors, due to this effect, demand higher returns (Fama & French, 2018). In this sense, the results (MOD variable) in Table 5, above, explain why managers do not take actions to fully adjust the capital structure of listed companies: MOD has always a positive and significant effect (Frank & Shen, 2019; Chu & Kjenstad, 2023; Frank & Goyal, 2023). In addition, to control mechanisms (Babenko et al., 2024), the total adjustment of the capital structure increases the idiosyncratic risk of companies to a level that the manager is unable to compensate the investor.

Since Modigliani and Miller (1958), we have known that the main determinant of the market value, of listed companies, are the expected cash flows, consequently, investors have expectations for the future of the companies. Furthermore, since Durand (1952) we have known that debt has tax benefits that impact the corporate cost of capital, therefore, corporate cash flows. However, the persistent question, since then, is: why managers do not fully adjust the capital structure to target? (Frank & Shen, 2019, & Frank & Goyal, 2023). Previous discussions have documented difficulties measuring the effects of taxes (Fama & Jensen, 1983; Fama, 2021). From our new approach to this issue, we found that, if managers take actions, to fully adjust the capital structure, in periods of shocks to profitability, they need to be aware of the availability of financial resources in future periods, in the financial market, with the same or better conditions in terms of cost of capital.

Our results, also extend Chu and Kjenstad (2023) and, make it possible to understand that, although idiosyncratic risk did not present a consensus in relation to effects on market performance, moderation does, in all countries.

Table 6, below, presents the results of the alternative model (capital structure measured by indebtedness) **with moderation**.

Table 6:
Results from equation 7, with alternative measure of capital structure, **with moderation effects**

Model per Country	Variable						OBS	Prob. F
	CON	IR	CS	MOD	ROA	GRO		
ARG	-2.917534 (0.000)***	0.538785 (0.000)***	12.93399 (0.000)***	-0.107979 (0.651)	-0.010307 (0.164)	-0.000003 (0.983)	11,524	(0.000)***
AUS	-0.845434 (0.000)***	0.406868 (0.000)***	6.826492 (0.000)***	0.121607 (0.514)	-0.084051 (0.002)***	0.000132 (0.782)	6,873	(0.000)***
BEL	2.941888 (0.000)***	-0.158323 (0.809)	1.555055 (0.000)***	0.862503 (0.440)	2.341478 (0.000)***	0.013757 (0.780)	4,602	(0.000)***
BRA	-12.92835 (0.000)***	1.356962 (0.000)***	40.15072 (0.000)***	-1.547930 (0.000)***	0.053478 (0.062)*	-0.000469 (0.158)	40,784	(0.000)***
CHI	-0.066904 (0.394)	0.228850 (0.025)**	4.615041 (0.000)***	-0.164759 (0.406)	0.007951 (0.628)	-0.000012 (0.000)***	17,724	(0.000)***
FIN	1.046826 (0.000)***	0.894924 (0.000)***	4.981981 (0.000)***	-0.093390 (0.011)**	0.008891 (0.630)	0.005507 (0.012)**	18,315	(0.000)***
FRA	-1.717649 (0.000)***	0.284654 (0.000)***	10.50327 (0.000)***	0.358845 (0.000)***	-0.032056 (0.000)***	-0.000029 (0.011)**	45,752	(0.000)***
GER	-0.059751 (0.000)***	1.904698 (0.000)***	6.847902 (0.000)***	-1.039496 (0.002)***	-0.000009 (0.000)***	-0.000059 (0.648)	47,170	(0.000)***
GRE	-0.929196 (0.000)***	0.030771 (0.003)***	6.541152 (0.000)***	-0.028705 (0.098)*	0.000205 (0.855)	-0.000025 (0.516)	27,795	(0.000)***
IRE	-2.808601 (0.000)***	0.558578 (0.026)**	19.27437 (0.000)***	1.496339 (0.002)***	-0.234918 (0.000)***	-0.002288 (0.264)	4,968	(0.000)***
ITA	-1.526437 (0.000)***	0.37891 (0.000)***	9.774229 (0.000)***	0.221649 (0.072)*	0.066545 (0.000)***	-0.00017 (0.000)***	25,355	(0.000)***
LUX	-4.53722 (0.000)***	0.186544 (0.600)	19.50779 (0.000)***	0.667963 (0.230)	0.506516 (0.000)***	-0.067542 (0.004)***	4,392	(0.000)***
MEX	-1.272865 (0.000)***	0.420813 (0.713)	10.24806 (0.000)***	0.064183 (0.000)***	-0.032127 (0.000)***	-0.000001 (0.849)	15,750	(0.000)***
NET	-2.912920 (0.000)***	0.830787 (0.000)***	14.44574 (0.000)***	-0.394601 (0.113)	-0.022450 (0.000)***	-0.000059 (0.912)	8,814	(0.000)***
PER	-0.106188 (0.314)	0.272078 (0.001)***	4.666524 (0.000)***	-0.316162 (0.001)***	0.004153 (0.010)***	-0.000494 (0.457)	18,126	(0.000)***
POR	-6.646332 (0.000)***	0.592406 (0.018)**	17.30554 (0.000)***	-0.201228 (0.554)	-0.015451 (0.027)**	0.008745 (0.304)	6,360	(0.000)***
SPA	6.951630 (0.000)***	0.376290 (0.011)**	-1.965226 (0.000)***	0.155696 (0.515)	0.049068 (0.000)***	0.000133 (0.297)	11,436	(0.000)***
USA	-0.898868 (0.000)***	0.000101 (0.341)	11.92418 (0.000)***	-0.000284 (0.109)	-0.000791 (0.047)**	-0.000033 (0.094)*	427,807	(0.000)***

Legend: ARG, AUS, BEL, BRA, CHI, FIN, FRA, GER, GRE, IRE, ITA, LUX, MEX, NET, POR, PER, SPA, and USA are the countries (respectively: Argentina, Austria, Belgium, Brazil, Chile, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Mexico, Netherlands, Peru, Portugal, Spain, United States). CON is the constant, IR is the idiosyncratic risk, CS is the indebtedness, MOD is the moderation, ROA is the return on the asset, GRO is the growth e OBS is the total of observations.

Different from the results in Table 5, we did not find (see in Table 6 above), a consensus on the moderating effects, of the corporate capital structure, on the idiosyncratic risk and market performance of listed companies. These results allowed us to help understand, in addition to common sense explanations, that empirically, the nature of indebtedness is different from debt, in terms of corporate risk.

In summary, in this paper we expand the literature on the topic, by empirically documenting that, in terms of idiosyncratic risk, the corporate capital structure does matter, when measured by debt. In other words, debt is the relevant component of corporate capital structure.

CONCLUSION

We expand the corporate capital structure literature by documenting that it increases idiosyncratic risk, thus limiting the magnitude of actions for adjustment issues. Our findings are relevant, because in addition to common sense explanations, we provide empirical evidence to explain that when the manager increases debt, he needs to compensate the investor by increasing the market performance of their companies, to compensate for the added idiosyncratic risk.

We also found that, the compensation for the added idiosyncratic risk, is a task that managers seem to understand, because any increase in the corporate capital structure had a positive effect on the market performance of companies. In addition, and finally, our findings pave an avenue for future discussions about new factors that might influence idiosyncratic risk, as well as for investigations of corporate capital structure as a moderating factor of other variables which might have an impact on the market performance of listed companies.

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APPENDIX 1

Table 7 – Sample characteristics

Country	Company Population	Financials Companies	Negative Equity	"NULL" Observations	Sample Companies	Sample Observations
Argentina	94	13	12	0	69	11,547
Brazil	484	79	71	29	305	41,324
Chile	193	32	11	16	134	17,724
Mexico	164	29	12	3	120	15,750
Peru	183	66	7	20	90	18,236
United States	9,609	2,491	4	2,556	4,558	427,807
Germany	812	151	36	238	387	47,170
Austria	72	14	3	14	41	6,873
Belgium	212	26	57	97	32	4,602
Spain	287	16	35	150	86	11,436
Finland	186	20	8	59	99	18,315
France	719	57	48	242	372	45,752
Greece	187	17	1	20	149	27,881
Ireland	152	27	1	58	66	8,814
Italy	442	86	16	178	162	25,355
Luxembourg	98	11	1	44	42	4,392
Netherlands	90	26	2	20	42	4,398
Portugal	53	8	0	12	33	6,360
Total	14,037	3,169	325	3,756	6,787	743,746

APPENDIX 2

Table 2 - Descriptive data statistics

Argentina					
Variable	Observations	Average	Standard deviation	Minimum	Maximum
Indebtedness	11,524	0.541913	0.216317	0.002674	0.998025
Debt	11,524	0.193883	0.182743	0.000000	0.895650
Market-to-book	11,524	2.190160	2.424543	0.292271	8.201086
Tobin's Q	11,524	3.963453	4.192924	0.544027	14.04648
Idiosyncratic risk	11,524	0.000114	0.193914	-1.133481	6.592792
Profitability	11,524	0.045592	1.790244	-121.3376	25.59898
Growth	11,524	1.998030	70.95520	-0.999577	4357.977
Austria					
Variable	Observations	Average	Standard deviation	Minimum	Maximum
Indebtedness	6,873	0.586842	0.139790	0.079856	0.991030
Debt	6,873	0.258158	0.158159	0.000000	0.836128
Market-to-book	6,873	1.803005	1.223656	0.539424	4.325303
Tobin's Q	6,873	3.209983	1.728808	1.175170	6.719258
Idiosyncratic risk	6,873	0.000000	0.130407	-0.760574	1.606171
Profitability	6,873	0.038763	0.147401	-9.100836	5.483281
Growth	6,873	0.136029	7.925779	-0.964563	656.1439
Belgium					
Variable	Observations	Average	Standard deviation	Minimum	Maximum
Indebtedness	4,602	0.529154	0.200102	0.005917	0.998214
Debt	4,602	0.262759	0.199577	0.000000	0.946760
Market-to-book	4,602	2.203069	1.810813	0.562606	6.118793
Tobin's Q	4,602	3.842651	2.837156	1.002100	9.810897
Idiosyncratic risk	4,602	-0.000235	0.128466	-0.546337	3.258450
Profitability	4,602	0.046807	0.148094	-1.015856	0.978875
Growth	4,602	0.041384	0.576842	-0.977634	17.79578
Brazil					
Variable	Observations	Average	Standard deviation	Minimum	Maximum
Indebtedness	40,784	0.578263	0.208738	0.002506	0.999612
Debt	40,784	0.272936	0.177416	0.000000	0.866275
Market-to-book	40,784	4.403970	12.60190	0.009984	101.1615
Tobin's Q	40,784	7.757181	19.93496	-0.387374	160.5995
Idiosyncratic risk	40,784	-0.002115	0.606204	-1.340005	107.5412
Profitability	40,784	0.219616	4.610008	-67.98310	122.6392
Growth	40,784	1.127463	132.8748	-0.999674	18.96000
Chile					
Variable	Observations	Average	Standard deviation	Minimum	Maximum
Indebtedness	17,724	0.490977	0.197239	0.000117	0.995286
Debt	17,724	0.238882	0.150801	0.000000	0.788732
Market-to-book	17,724	0.952933	0.699100	0.218916	2.409205
Tobin's Q	17,724	2.202627	1.377524	0.470547	4.770741
Idiosyncratic risk	17,724	-0.000000	0.180397	-1.021778	5.588439
Profitability	17,724	0.030647	0.301577	-21.71569	1.408610
Growth	17,724	40.11267	2566.655	-0.999912	194638.9
Finland					
Variable	Observations	Average	Standard deviation	Minimum	Maximum
Indebtedness	18,315	0.484142	0.211221	0.003385	0.998801
Debt	18,315	0.201882	0.157559	0.000000	0.918416
Market-to-book	18,315	2.491737	2.055470	0.502345	7.030968
Tobin's Q	18,315	3.533321	2.498687	0.798717	8.931655
Idiosyncratic risk	18,315	-0.000257	0.127609	-0.816510	2.543774
Profitability	18,315	0.013794	1.331029	-101.8182	6.653763
Growth	18,315	0.084527	4.070246	-0.996741	385.7226

France					
Variable	Observations	Average	Standard deviation	Minimum	Maximum
Indebtedness	45,752	0.571843	0.203049	0.000076	0.999274
Debt	45,752	0.215919	0.165197	0.000000	0.900879
Market-to-book	45,752	2.634585	2.636852	0.397626	8.753174
Tobin's Q	45,752	3.930445	3.481494	0.498738	11.68520
Idiosyncratic risk	45,752	0.000000	0.208972	-0.984446	21.00108
Profitability	45,752	0.025985	4.666826	-157.0658	166.0000
Growth	45,752	1.631003	211.9973	-0.999955	38394.07
Germany					
Variable	Observations	Average	Standard deviation	Minimum	Maximum
Indebtedness	47,170	0.561844	0.192219	0.005929	1.000000
Debt	47,170	0.210503	0.167118	0.000000	0.873046
Market-to-book	47,170	2.481024	2.186595	0.465533	7.400505
Tobin's Q	47,170	3.755715	2.860549	0.611538	9.816736
Idiosyncratic risk	47,170	0.000600	0.059896	-0.072394	0.076210
Profitability	47,170	-9.952617	1532.042	-235284.4	83.32556
Growth	47,170	0.331498	39.49334	-0.999519	8534.330
Greece					
Variable	Observations	Average	Standard deviation	Minimum	Maximum
Indebtedness	27,795	0.529908	0.205497	0.000007	0.999875
Debt	27,795	0.267882	0.201416	0.000000	0.938534
Market-to-book	27,795	1.150709	1.177567	0.091721	3.772904
Tobin's Q	27,795	2.431162	2.108427	0.171891	6.812422
Idiosyncratic risk	27,795	0.000000	0.904266	-2.802470	96.66267
Profitability	27,795	0.011423	1.974116	-229.7301	32.22024
Growth	27,795	0.934011	63.56054	-0.999953	7209.989
Irlanda					
Variable	Observations	Average	Standard deviation	Minimum	Maximum
Indebtedness	4,968	0.516651	0.211770	0.021650	0.994052
Debt	4,968	0.224735	0.175835	0.000000	0.907737
Market-to-book	4,968	5.206475	5.036697	0.714270	16.49291
Tobin's Q	4,968	7.035435	6.887914	1.130557	23.32303
Idiosyncratic risk	4,968	0.000000	0.152554	-0.710662	2.512763
Profitability	4,968	0.007995	0.767412	-27.12986	3.392593
Growth	4,968	0.356044	8.388273	-0.998241	374.4438
Italy					
Variable	Observations	Average	Standard deviation	Minimum	Maximum
Indebtedness	25,355	0.625235	0.192036	0.000005	0.998492
Debt	25,355	0.276352	0.172826	0.000000	0.984929
Market-to-book	25,355	2.280073	2.201727	0.336723	7.353069
Tobin's Q	25,355	4.331625	3.425914	0.783268	11.86471
Idiosyncratic risk	25,355	0.000080	0.138298	-0.738185	2.782172
Profitability	25,355	0.269640	5.731431	-16.93853	126.3882
Growth	25,355	2.743213	205.8238	-0.999955	20527.32
Luxembourg					
Variable	Observations	Average	Standard deviation	Minimum	Maximum
Indebtedness	4,392	0.575936	0.184269	0.062829	0.989962
Debt	4,392	0.280774	0.187324	0.000000	0.841114
Market-to-book	4,392	3.736223	4.452254	0.275406	14.15010
Tobin's Q	4,392	6.275824	6.315270	1.060551	21.25762
Idiosyncratic risk	4,392	-0.000032	0.153303	-0.886463	1.981704
Profitability	4,392	0.062861	0.394669	-4.887113	12.49891
Growth	4,392	0.048882	0.654138	-0.987601	28.33618
México					
Variable	Observations	Average	Standard deviation	Minimum	Maximum
Indebtedness	15,750	0.529866	0.192341	0.000117	0.999680
Debt	15,750	0.258792	0.166980	-0.000081	0.897085

Market-to-book	15,750	2.512158	2.484673	0.281049	8.173465
Tobin's Q	15,750	4.226431	3.801692	0.762214	13.24484
Idiosyncratic risk	15,750	-0.000022	0.141617	-0.957358	3.564163
Profitability	15,750	0.057907	0.744766	-22.42917	47.92314
Growth	15,750	14.29006	1253.381	-0.999016	111229.3

Netherlands

Variable	Observations	Average	Standard deviation	Minimum	Maximum
Indebtedness	8,814	0.599407	0.200993	0.044698	1.000000
Debt	8,814	0.271225	0.182979	0.000000	0.809145
Market-to-book	8,814	3.202892	3.535205	0.275241	11.57214
Tobin's Q	8,814	5.301275	4.600609	1.046179	15.43551
Idiosyncratic risk	8,814	-0.000000	0.162530	-0.996311	5.13309
Profitability	8,814	-0.053565	2.515763	-65.08999	53.59669
Growth	8,814	0.335820	15.46002	-0.997543	1020.736

Peru

Variable	Observations	Average	Standard deviation	Minimum	Maximum
Indebtedness	18,126	0.432463	0.178689	0.022065	0.997487
Debt	18,126	0.189444	0.162868	0.000000	0.964859
Market-to-book	18,126	0.966546	1.057537	0.063190	3.341748
Tobin's Q	18,126	1.855480	1.684406	0.151630	5.400257
Idiosyncratic risk	18,126	-0.000086	1.255170	-2.449380	162.9495
Profitability	18,126	0.057588	1.382749	-10.31497	106.3333
Growth	18,126	0.270466	6.893399	-0.997868	579.2266

Portugal

Variable	Observations	Average	Standard deviation	Minimum	Maximum
Indebtedness	6,360	0.703620	0.162559	0.055401	0.999080
Debt	6,360	0.357937	0.186067	0.000000	0.818403
Market-to-book	6,360	1.789678	1.602268	0.207133	5.291050
Tobin's Q	6,360	5.490953	3.466299	1.225477	13.01999
Idiosyncratic risk	6,360	0.000189	0.155627	-0.818393	3.150656
Profitability	6,360	0.100634	1.594813	-18.43505	55.02662
Growth	6,360	0.072953	0.922551	-0.993693	27.93740

Spain

Variable	Observations	Average	Standard deviation	Minimum	Maximum
Indebtedness	11,436	0.549514	0.242901	0.006847	0.999859
Debt	11,436	0.291787	0.195078	0.000000	0.828691
Market-to-book	11,436	2.801349	2.585414	0.364062	8.392306
Tobin's Q	11,436	5.322443	4.200377	0.873513	13.92103
Idiosyncratic risk	11,436	0.001282	0.147411	-0.653401	6.259199
Profitability	11,436	0.090688	1.760079	-10.04173	107.2384
Growth	11,436	1.536913	76.11800	-0.999734	5607.862

United States

Variable	Observations	Average	Standard deviation	Minimum	Maximum
Indebtedness	427,807	0.491220	0.230271	0.000015	1.000000
Debt	427,807	0.203634	0.187507	0.000000	0.987726
Market-to-book	427,807	3.588702	3.765256	0.304036	12.29410
Tobin's Q	427,807	4.958434	4.897243	0.298467	16.01600
Idiosyncratic risk	427,807	0.000000	125.1592	-21.14039	49981.38
Profitability	427,807	-0.057018	17.90855	-3838.840	5348.000
Growth	427,807	2.923545	316.8475	-0.999991	102783.3