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The debt maturity of Portuguese SMEs: the aftermath of the 2008 financial crisis

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Abstract

The purpose of this empirical work is to understand the reasoning behind debt maturity choices from Portuguese SMEs after the 2008 financial crisis and to see if those choices are in accordance with the existing literature. We use a sample of 2,000 Portuguese SMEs for the time period of 2009 to 2011. We find an increasing trend on the average debt maturity during the three years analyzed. Our results are partially consistent with the liquidity theory where intermediate quality firms choose to issue more long term debt while high quality firms tend to issue more short term debt. Smaller firms, those more affected by asymmetric information, tend to use debt of shorter maturities. Furthermore, we find evidence supporting the clientele argument where firms affected by higher tax rates have longer debt maturities. Finally, firms with more growth opportunities are using more short term debt.

1. Introduction

Time has shown the importance of firms choosing the maturities of liabilities in order to avoid problems such as overinvestment, underinvestment, risk-shifting, liquidity and signaling. Recent studies have shown the importance of debt maturity in periods of credit and liquidity shocks like during the 2007-2008 financial crisis, where the debt maturity structure of industrial firms was put to the test and shown to

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have serious impacts on companies (Campello *et al.*, 2010; Almeida *et al.*, 2011; Santos, 2011), or the financial crisis that occurred in emerging markets in the 90´s, which were caused in part by the mismatch of debt and assets maturities (Sachs *et al.*, 1996).

While most studies focus on large publicly traded firms (Barclay and Smith, 1995; Stohs and Mauer, 1996; Custódio *et al.*, 2013), where information is available for the public, our draws attention to small and medium sized enterprises (SMEs) which, because of difficulty in obtaining information, sometimes are left behind in the finance literature, although being SMEs the ones who most contribute to job and business creation in most countries. The back bone of Europe are the small and medium sized enterprises who run 99% of the European economy contributing to two in every three jobs in the private sector and, more surprisingly, nine out of ten SMEs in Europe are micro firms with less than ten employees (European Commission, 2013). According to the "Instituto Nacional de Estatística" (INE, 2010), in 2009 there were 348,552 SMEs in Portugal which represent 99.7% of all non-financial business.

The main objective of this study is to understand if Portuguese SMEs follow the reasoning behind debt maturity theories after the 2008 financial crisis. Theories like the agency costs hypothesis (Jensen and Meckling, 1976), information asymmetry hypothesis (Myers, 1984), signaling and liquidity hypothesis (Flannery, 1986; Diamond, 1991), tax hypothesis (Brick and Ravid, 1985; Lewis, 1990) and match hypothesis (Myers, 1977).

2. Literature review and hypotheses

2.1. Match hypothesis

Morris (1976) and Myers (1977) suggest that firms should match debt and asset maturities, either: (a) to avoid the problem of not having available cash when time comes to pay for liabilities, if debt has shorter maturity than assets; or (b) to avoid the problem of having to pay debt obligations when the firm´s assets are no longer producing cash flows, in the case of debt having longer maturity than assets. Studies like, Scherr and Hulburt (2001), Barclay *et al.* (2003), and González (2012) confirmed this hypothesis.

H1: Firms match the maturity of existing assets with the maturity of their debt.

2.2. Information asymmetry and agency costs hypotheses

The risk-shifting problem, the overinvestment or underinvestment problems discussed by Jensen and Meckling (1976) and Myers (1977) give rise to agency costs. As stated by López-Gracia and Mestre-Barberá (2010), SMEs are a perfect fit to look for agency costs because of less transparency, more leverage, more growth opportunities and less fixed assets than large firms. According to Jensen and Meckling (1976), managers and shareholders are both utility maximizers so managers will sometimes perform in a way to maximize their own wealth, which may not be the most suitable for the shareholders. This problem is not as usual in SMEs like it is in large firms because they normally are family owned where management and ownership is together, manager/owner always acting in a way to maximize the firm's value (Poza *et al.*, 2004). On the other hand, because SMEs are usually highly leveraged, agency costs of debt are common and worth looking at. Myers (1977) argues about the underinvestment problem where there is a conflict of interests between shareholders and creditors induced by risky debt. Using more short-term debt can minimize the firms' agency costs. Empirical research has found mix results. Guedes and Opler (1996) and Ozkan (2000) find consistent results, however, Stohs and Mauer (1996) and Danisevská (2002) find no support for the increase in the short-term debt when growth options are higher.

H2: Firms with higher information asymmetries use more short-term debt.
H3: Firms with more growth opportunities will have more short-term debt.
H4: Firms more affected by agency costs of debt will have more short-term debt.

2.3. Signaling and liquidity risk hypotheses

According to Flannery (1986), firms are able to reveal if they are high- or low-quality firms by choosing a certain type of debt maturity (short- or long-term). Firms with favorable private information signal their projects' quality by issuing short-term debt. On the other hand, low-quality firms will want to delay their assessment by financial institutions in order to try to improve their true state in that time. Diamond (1991) argues about the interaction between signaling and liquidity risk caused by short-term debt, which while reducing borrowing costs also increases the risk of the company lacking liquidity to meet its short term obligations. That interaction will lead high- and low-quality firms to issue short-term debt, while medium-quality firms will prefer to issue long-term debt. Barclay and Smith (1995) and Wittenberg-Moerman (2007) find little evidence for the signaling hypotheses.

H5: Very high and low quality firms issue more short-term debt.

2.4. Tax hypothesis

Kane *et al.* (1985) predicts a negative relation between debt maturity and the tax advantage from debt, and a positive relation with flotation costs. Brick and Ravid (1985) argue that when the yield curve has a positive slope, then the interest of issuing long term debt will be higher than those of short term debt but only in early years, while lower in later years, which will lead to savings in the expected tax liabilities on the long run. Thus, firms should borrow with longer maturities when the slope of the yield curve is positive and borrow short term when the slope is negative in order to increase the firm´s market value. Lewis (1990) concludes that if the level of debt and debt maturity are chosen at the same time, then debt maturity structure would not matter. Scholes and Wolfson (1992) use the tax clientele argument to explain a positive relation between the firm´s marginal tax rates and their debt maturities. Antoniou *et al.* (2006) found evidence of the clientele argument. Barclay and Smith (1995) did not find any evidence of taxes affecting the debt maturity choice while Stohs and Mauer (1996) found mixed support.

H6: Firms with higher tax rates will have more long-term debt.

3. Methodology

3.1. Sample and variables

The sample used consists of 1,998 Portuguese SMEs obtained from "Informa D&B" database. The 1,998 SMEs consist in 1,920 micro sized, 64 small sized and 14 medium sized companies, based on the definition of SMEs from the European Commission relatively to the number of employees in each firm. The period ranges from 2009 to 2011. Due to the available data in the balance sheet, the proxy used for debt maturity is the proportion of debt maturing in more than one year. We use as determinants of the debt maturity choice: leverage (LEV), free cash flow (FCF), firm size, tangibility (TAN), R&D (RD), CAPEX (CAPX), financial flexibility (FF), asset maturity term (AMT), ROE (ROE), liquidity (LIQ), tax rate (TAX), cash (CAX) and Altman's Z-score (Z). Variables definitions are presented in the appendix.

3.2. Descriptive statistics and econometric analysis

We start by analyzing the descriptive statistics on debt maturity to understand its trend in the sample period. We will split the sample into different subgroups, and comparing the average debt maturity in each group will help us to understand if there are unusual behaviors from firms with respect to the use of distinct debt maturities. The criteria used to subdivide firms into specific categories will be the median of each variable, except in the case of Z score where specific values will be used. In order to check the significance of differences in average debt maturities between each subgroup we will run two sample mean comparison t-tests in the case of comparing two averages and the Anova simple factor test when there are three or more different averages.

The econometric analysis will use panel data methodology in order to study the determinants of debt maturity of SMEs. We run the Breusch and Pagan test to choose between pooled effects or random effects model. The pooled regression hypothesis is rejected [χ^2 (1) = 2563.08; p < 0.0000]. We then run the Hausman test in order to understand which method, random or fixed effects model, best suits our model. The random effects model is rejected [χ^2 (11) = 38.51; p < 0.0001]. Using the fixed effects model, we run the regression with all explanatory variables for the sample period. Again, we divide the full sample into distinct subgroups, using the same criteria as stated above, in order to see if the debt maturity behaves differently for each subgroup. All tests and analysis are made using the statistical software Stata 12.0.

4. Results

4.1. Descriptive statistics

Looking to the yearly variation on the average debt maturity for the 1,998 sampled firms during the three years analyzed (please see Table 1 bellow), we found evidence of:

- An increase from 26.5% in 2009 to 31.9% in 2011, meaning that firms used on average 5.4% more long term debt in their businesses. This was a surprising finding, considering the contraction of the Portuguese economy and at a time where credit supply is said to be scarce, mainly to SMEs;
- The median debt maturity, although following the same trend as the average, is significantly lower than the latter every year, indicating the presence of some upward extreme values;
- Comparing the variation of debt maturity between SMEs and non-financial firms of the PSI20[a] we find, as expected, that large firms have higher debt maturities (with a decreasing trend) while average debt maturity of SMEs have a positive slope with both groups converging to close values in 2011.

Table 1 – Descriptive statistics for the dependent variable debt maturity (DMT) for each year for the full sample and for the non-financial firms of the PSI20.

Years	Full Sample Mean	Full Sample Median	PSI20 Mean
2009	0.265	0.043	0.357
2010	0.283	0.103	0.351
2011	0.319	0.180	0.341

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[a] PSI20 is a benchmark stock market index of companies that trade on NYSE Euronext Lisbon.

In Table 2 we analyze average and median debt maturity for the several firm´s sizes (micro, small and medium) and we show evidence of an increasing trend, either in average or in median debt maturities for the sample period. Focusing now on the average, micro firms have higher average debt maturity each year, although showing the lowest increasing trend, with an increase of approximately 20% from 2009 to 2011 compared with an approximately 40% increase for small sized firms and a 30% increase for medium sized ones. Table 2 also shows that micro sized firms are the ones with higher average debt maturity (29.2%) while small and medium sized firms have almost the same average debt maturity (22% and 21.7% respectively). We run the Anova single factor test comparing the three averages and find a statistically significant difference below the 1% significance level. Because of this unexpected result (micro firms having longer debt maturities than small and medium sized enterprises), we divided the sample in half, one half below the median for SIZ and the other half above that same median. There are statistically significant difference between the two means, being the average debt maturity for larger firms (30.13%) higher than the average debt maturity for smaller firms (27.69%) which is the result we expected for the relation between size and debt maturity.

Table 2 - Reports median and average debt maturities for micro, small and medium sized firms

	2009			2010			2011			2009-2011	
	Median	Mean	N	Median	Mean	N	Median	Mean	N	Mean	N
Micro	0.039	0.268	1920	0.091	0.285	1910	0.180	0.322	1915	0.292	5745
Small	0.142	0.182	64	0.161	0.226	74	0.178	0.256	72	0.220	210
Medium	0.053	0.181	14	0.120	0.227	14	0.210	0.236	11	0.217	39

In order to find if there were any significant differences in the average debt maturity in firms with different characteristics, we separate highly leveraged firms from low leveraged firms, firms with positive net income from firms with negative Net Income, and firms with high asset maturity from firms with low asset maturity (see Table 3).

Table 3 - Average debt maturity according to leverage, Net Income and asset maturity

	2009		2010		2011	
Leverage (High / Low)	0.305	0.225	0.323	0.243	0.360	0.279
Net Income (Positive / Negative)	0.256	0.285	0.273	0.305	0.299	0.353
Asset Maturity (High / Low)	0.308	0.250	0.333	0.247	0.285	0.285

Firms that have less proportion of debt in their balance sheets use shorter debt maturities than those who are more leveraged. The results show that highly leveraged firms have approximately 8 pp higher average debt maturities than those with lower leverage every year. One reason for this could be that a company with higher financial autonomy has the ability to renegotiate debt contracts with better credit conditions taking advantage of roll over strategies thus having more short term debt. The average debt maturity is higher for firms with negative Net Income. As expected, firms with higher asset maturity present higher debt maturities. Running the t-test we find the differences for leverage and assets maturity to be statistically significant at the 1% level, while for the Net Income it is at the 5% level.

The results in Table 4 are in accordance with Diamond´s (1991) theory, i.e., the tradeoff between signaling and liquidity risk led both low and high quality firms to have more short term debt while intermediate quality firms have more long term debt. We run the Anova test for a single factor and

confirm a statistically significant difference below the 1% significance level (p-value<0.001) between the means of the three groups. The results are consistent with those found by Scherr and Hulburt (2001) and González (2012).

Table 4 – Shows average debt maturity for each Z-score group and for each year from 2009 to 2011

	Z<1.23	**1.23<=Z<=2.9**	**Z>2.9**
Average DMT	0.3248	0.341	0.189
Number of observations	2214	1974	1806

4.2. Correlation analysis

In unreported results we perform the Pearson correlation coefficients for all the firm specific variables for the whole sample. We notice a very high and significant correlation coefficient between TAN and CAPX (0.9814) which indicates some multicollinearity in the model. To overcome that we eliminate the TAN variable. Besides that, correlations between variables are low being the highest ones between Z score and LIQ (0.3482) and CAX and TAN (0.3017), while the lowest are between ROE and AMT, FCF and ROE and FCF and TAX all with a p-value < 0.001. Furthermore, we find some interesting and significant results like the positive, although small (0.0383), correlation between LEV and DMT at the 1% significance level consistent with the findings of several empirical work like, Leland and Toft (1996), Scherr and Hulburt (2001), and Custódio *et al.* (2013). SIZ is also positively correlated to the dependent variable as predicted. CAPX has a positive and high (0.190) correlation with debt maturity at the 1% significance level, as a proxy for growth options we were expecting to find this result as firms who invest more in their physical assets, usually use them as collateral to obtain better credit conditions thus being able to borrow long term. CAX is negatively correlated (0.1436) with DMT at the 1% significance level which is in accordance with Custódio *et al.* (2013) where the authors found out that firms with more cash holdings usually used more short term debt. Finally, Z score is found to be negatively correlated with the dependent variable also at the 1% significance level, although with a small coefficient (0.0357) this relation is in accordance with Diamond´s (1991) theory where firms with lower risk of insolvency (high Z score) issue debt of shorter maturity in order to signal high quality to the market.

4.3. Regression analysis

We run a fixed effects regression model with our panel data. The results are reported in Table 5. Altman´s Z score (1968) measures firm´s default risk which in our regression is statistically significant with a p-value below the 1% significance level (<0.001) and with a small negative coefficient, meaning that it is negatively related to debt maturity. The interpretation of Z score is as follows: a company is safe or with very low default risk if Z is higher than 2.9; if its values are between 1.23 and 2.9, there is a cause for concern and caution before investing in that firm is recommended; if the value is below 1.23, there is a high probability of default and the company is heading to bankruptcy. If Z score is higher for firms with lower default probability, then the negative relation found with debt maturity means that firms with lower default probability tend to use shorter debt maturity, which is consistent with Diamond´s (1991) tradeoff theory. In addition to that, we run the regression (unreported) for each subgroup (low, medium and high quality firms), and for medium quality firms the signal of the coefficient changed from negative to positive while still significant. This means that for firms with medium default risk, there is a positive

relation with debt maturity. Consistent with Diamond´s (1991) theory where intermediate quality firms chose to issue more long term debt while low and high quality firms tend to issue more short term debt.

Table 5 - Fixed effects regression for the full sample.

Variables	Expected Sign	Coefficient	Robust Std. Error	t-value	p-value
Constant		-0.3093525	.2666	-1.16	0.246
LEV	+	0.021386	.0165425	1.29	0.196
RD	-	0.278584	.2403221	1.13	0.258
SIZ	+	0.0434735	.0218985	1.99	0.047
CAPX	+	0.2281854	.0612432	3.73	0.000
AMT	+	-2.14E-09	5.03e-10	-4.26	0.000
CAX	-	0.0059354	.0476154	0.12	0.901
ROE	-	0.0004677	.0004839	0.97	0.334
TAX	±	0.0000115	4.40e-06	2.62	0.009
FF	+	-6.95E-09	4.01e-08	-0.17	0.862
Z	±	-9.72E-06	2.72e-06	-3.58	0.000
FCF	+	0.0000937	.0001649	0.57	0.570
LIQ	-	1.74E-06	9.30e-07	1.87	0.061
N = 5994		Adjusted R^2 = 0.6793		$F(12, 1997)$ = 6.21	

Size is statistically significant below the 5% significance level and positively correlated with debt maturity. As an inverse proxy of information asymmetry (smaller firms are usually the ones who are more affected by asymmetric information) the results obtained are consistent with those found by López-Gracia *et al.* (2010) for Spanish SMEs. Their findings showed that smaller firms used debt of shorter maturities than larger firms do. The same happens for Portuguese SMEs. Barclay and Smith (1995) also found a positive relation between size and debt maturity for firms with less than $1 billion of market value.

AMT is significant and negatively related to debt maturity. This study shows evidence that firms do not match their debt and asset maturities: in fact, our data reveals that firms choose shorter debt maturities when they have longer asset maturities. This finding is not very surprising giving the fact that most of the companies in our dataset are micro sized firms who are forced by financial institutions to borrow in the short term because of their size, lack of transparency and default probability. So, even if those firms wanted to match their debt and asset maturities, it is hard when their loans have such small maturities.

TAX is statistically significant in the 1% significance level and establishes a very small but positive relation with DMT. When we run the regression (unreported) for only those firms with low liquidity, we find a significant and negative relation between TAX and DMT. We find similarities with the results obtained by Antoniou *et al.* (2006) evidencing the clientele argument proposed by Scholes and Wolfson (1992): on their study, German companies showed a positive and significant relation between the effective tax rate and debt maturity, while French and UK firms showed insignificant results. They attributed the findings to a "relatively higher rate of tax in Germany" (Antoniou *et al.*, 2006:187). But there is an exception for this theory in our dataset, when we run the regression for only those firms with low liquidity, we find a significant and negative relation between TAX and DMT which contradicts the clientele argument. Comparing the corporate tax rates of Germany and Portugal we see some similarities with tax rates around 29% and 25% for Germany and Portugal respectively.

Our result for LIQ is statistically significant below the 10% significance level and positively correlated with debt maturity. We can say that our results are partially in accordance with Diamond´s (1991) theory

in the sense that the positive relation found with debt maturity means that low liquid firms tend to use more short term debt. We subdivided firms into high and low liquid relatively to the median liquidity and run the regression for each subgroup founding an interesting result. It appears to be the case that for low liquid firms, TAX continues to be significant below the 10% significance level but the signal of the coefficient changed from positive to negative meaning that low liquid firms tend to issue more short term debt when their tax expense is higher.

We find CAPX to be statistically significant at the 1% significance level and positively correlated with debt maturity with the strongest coefficient of our significant variables. In average a 1 pp increase of CAPX leads to an increase of 0.23 pp in DMT. This evidence indicates that firms with more physical assets to use as collateral when discussing credit conditions are getting longer debt maturities. Because CAPX is working as an inverse proxy for growth options, meaning that those firms with more physical assets usually have less growth opportunities, we can affirm that the positive relation found with debt maturity is in accordance to Myers (1977) where the author defended the idea that firms with more growth opportunities should use more short term debt.

5. Discussion and Conclusions

Strong evidence was found that partially confirms Diamond´s (1991) theory, Portuguese SMEs with lower default probability issue more short term debt while those with medium default probability tend to issue debt with longer maturities which is partially consistent with our third hypothesis. This behavior is due to the interaction between signaling and liquidity risk caused by short term debt, which while reducing borrowing costs also increases the risk of the company lacking liquidity to meet its short term obligations. Furthermore, when analyzing the liquidity of Portuguese SMEs we discovered that low liquid firms tend to use more short term debt also partially in accordance with Diamond´s (1991) theory. Low quality firms, which have poor liquidity, are imposed by financial institutions to borrow short term in order to allow for often monitoring and thus, decreasing the risk for those financial institutions.

The size of each enterprise is relevant when talking about information asymmetries as smaller firms reveal less information about themselves, they have usually more information asymmetry and issue more short term debt as a consequence because financial institutions are reluctant to concede longer debt maturities when information about the company is lacking. Our results show that smaller firms (those more affected by information asymmetries) use debt of shorter maturities consistent to the second hypothesis and confirming the findings of Stohs and Mauer (1996) and López-Gracia *et al.* (2010).

Contrary to the match hypothesis, this study did not find evidence of firms matching their debt and asset maturities, rejecting our first hypothesis: in fact, our data reveals that firms have shorter debt maturities when they have longer asset maturities. This finding is expected giving the fact that most of the companies in our dataset are micro sized firms which are forced to borrow in the short term because of their size, lack of transparency and default probability. Thus, even if those firms wanted to match their debt and asset maturities, it would be hard when their loans have such small maturities.

Consistent with the clientele argument proposed by Scholes and Wolfson (1992), firms affected by higher tax rates tend do use longer debt maturities confirming the fifth hypothesis, except in the case of low liquid firms where the results contradict the clientele argument showing a negative relation with debt maturity. The explanation given by the authors for the clientele argument is that firms with higher marginal tax rates will naturally choose longer debt maturities in order to take advantage of tax shields. When comparing our results to those found by Antoniou *et al.* (2006) we discovered similarities with their findings concerning the relation between debt maturity and tax rates for German companies, also

consistent with the clientele argument. We justify our findings with the same justification presented by Antoniou *et al.* (2006): a relatively higher tax rates both in Portugal and Germany for the time period.

Firms with more physical assets, which can be used as collateral, are getting longer debt maturities. Confirming our fourth hypothesis concerning growth opportunities, this finding goes along with Myers (1977) where the author defended the idea that firms with more growth opportunities should use more short term debt allowing debt renegotiations before growth options are exercised.

Our sixth hypothesis concerning agency costs of debt received mixed support. In the one hand, two of the proxies used were statistically insignificant. Portuguese SMEs do not seem to be using leverage and the free cash flow to avoid the risk shifting or overinvestment problems. On the other hand we found evidence that firms with more growth opportunities use more short term debt. Furthermore, the relation between cash holdings and debt maturity for U.S. industrial firms (Custódio *et al.*, 2013), indicating that firms with more cash were borrowing with shorter maturities, is not consistent with the Portuguese reality of SMEs where no relation between the two variables was found.

This empirical study presents some limitations though, more specifically, the small sample of 1,998 SMEs and a limited time period of three years 2009-2011. Furthermore, some of the proxies used as well as some assumptions made may not be consensual to all authors but that is part of the difficulty of using proxies to explain firm´s behaviors. A recommendation for future research that we would like to make is to compare the findings of this empirical work with others concerning SME´s debt maturity in different countries for the same time period as well as studying debt maturity within SME´s for a greater time period in order to understand if there are significant differences when comparing a time before the 2008 financial crisis and after. Besides the limitations, we believe this empirical study is a contribution to the financial literature providing a better understanding on Portuguese SMEs and the way they make decisions about their debt maturities. We show that Portuguese SMEs follow some of the theories provided by the financial literature like Diamond´s (1991) on signaling and liquidity risk hypothesis, Scholes and Wolfson (1992) on the clientele argument and Myers (1977) on the underinvestment problem and reveal some possible explanations to why they do not follow the remaining theories.

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Appendix

Variables' Definitions

Altman´s Z score (Z): Ratio of current assets minus current debt to total assets multiplied by 0.717 plus the ratio of retained earnings to total assets multiplied by 0.847 plus the ratio of earnings before interests and taxes to total assets multiplied by 3.10 plus the ratio of the book value of equity to total debt multiplied by 0.420 plus the ratio of sales to total assets multiplied by 0.998; **Asset Maturity (AMT)**: Ratio of PPE to the annual depreciation; **Capital Expenditures (CAPX)**: Ratio of capital expenditures to total assets; **Cash (CAX)**: Ratio of cash holdings to total assets; **Debt Maturity (DMT)**: Proportion of debt maturing in more than one year; **Financial Flexibility (FF)**: Proportion of fixed assets in total assets multiplied by the ratio of net fixed assets to the annual depreciation plus the proportion of client accounts in total assets multiplied by the ratio of receivables to sales plus the proportion of stock in total assets multiplied by the ratio of stock to sales plus the proportion of the rest of current assets in total assets; **Free Cash Flow (FCF)**: Ratio of cash flow to total assets multiplied by the ratio of 1 to growth where growth is the ratio of sales in year "t" to sales in year "t-1"; **Leverage (LEV)**: Ratio of total debt to total assets; **Liquidity (LIQ)**: Ratio of current assets to current liabilities; **Research & Development** (RD): Ratio of investment in research and development to total assets; **Return on Equity (ROE)**: Ratio of net income to total equity; **Size (SIZ)**: Natural logarithm of the book value of total assets; **Tangibility (TAN)**: Ratio of PPE to total assets; **Taxes (TAX)**: Ratio of income tax expense to pre-tax income; **Medium-sized firm**: < 250 employees and, a turnover <= 50 million euros or a balance sheet total <= 43 million euros; **Small firm**: < than 50 employees and, a turnover <= 10 million euros or a balance sheet total <= 10 million euros; **Micro-sized firm**: < than 10 employees and, a turnover <= 2 million euros or a balance sheet total <= 2 million euros.