

The Impact of Financial Risk Disclosures on Corporate Value: Evidence for Portugal

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Abstract: The purpose of this paper is to investigate the impact of financial risk disclosures on corporate value. Based on content analysis of 2021 annual reports of 29 nonfinancial companies listed on Euronext Lisbon, the authors construct a global disclosure index that captures financial risk disclosures, as well as 3 sub-indices to capture credit, liquidity and market risks disclosures. Using multiple linear regression models, the authors investigate the impact of financial risk disclosures on corporate value, as measured by Tobin's Q. The results show that financial risk disclosures are still parsimonious, with corporations disclosing mainly qualitative information. The results also show a negative and statistically significant impact of market risk disclosures on corporate value. When we consider credit risk and liquidity risk disclosures, as well as the global disclosure index, the impact is not statistically significant.

1. INTRODUCTION

Recent events, such as the pandemic crisis, the Russian invasion of Ukraine and the war between Israel and Hamas, have contributed to an increase in the (already high) uncertainty. The volatility in commodity prices, interest rates, exchange rates, experienced in recent years, naturally increase financial risks for companies. Financial risks are associated with the possibility of losses in financial transactions (Bacic et al., 2010), stemming from unfavorable changes in interest and exchange rates, the probability of default or the lack of liquidity, among others. Financial risk disclosures are a way of communicating information about risk exposures that may affect expected results (Beretta & Bozzolan, 2004). The availability of information about the actual level of corporate risk helps reduce information asymmetry and increase investor confidence, which can result in a higher company value (Abdel-Azim & Abdelmoniem, 2015; Dey et al., 2018), also contributing to the efficiency of capital markets (Moumen et al., 2015). In this scenario, the topic of financial risk disclosures in annual reports continues to gain prominence in the field of financial management.

In this study, we aim to provide recent empirical evidence on the compliance with the requirements of International Financial Reporting Standard (IFRS) 7 (International Accounting Standards Board, 2005), as well as to contribute to a better understanding of the relationship between financial risk disclosures and firm value, using a sample of non-financial corporations in Portugal. To the best of our knowledge, the analysis of the impact of financial risk disclosures on corporate value has never been studied in the Portuguese context. There is only one study in Portugal on this topic (Oliveira et al., 2021), but its focus is on the narrative tone, whereas, in the present study, the focus is on the narrative content. Additionally, this study also contributes to the literature by analyzing the impact of the disclosure of each type of financial risk, namely credit risk, liquidity risk, and market risk, on corporate value. Previous empirical studies tend to focus on financial risks aggregately or on only one specific type of financial risk.

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This paper is structured as follows. Section 2 revises the theoretical and empirical literature. Section 3 presents the research design, namely the sample, the variables, and the methodology. Section 4 presents and discusses the results. Finally, section 6 concludes, with the presentation of the main findings and limitations of the study, as well as suggestions for future research.

2. LITERATURE REVIEW

The relationship between financial risk disclosures and corporate value can be explained in the light of two economic theories: the agency theory and the signaling theory (Al-Dubai & Abdelhalim, 2021).

The agency theory, proposed by Jensen and Meckling (1976), suggests that when there is a separation between ownership (shareholders, or "principal") and control (managers, or "agents") of a company, conflicts of interest may arise. Managers may act in their interest to the detriment of shareholders, thereby reducing the company's value. Disclosing financial risks can help mitigate these conflicts by increasing transparency and allowing shareholders to better monitor managers' actions (Pratama et al., 2020). This reduces agency conflicts, which can result in a higher company value (Sheu et al., 2010).

On the other hand, the signaling theory is related to the information asymmetry between managers, who hold privileged information about the company, and stakeholders, who could make better decisions if that information was available (Connelly et al., 2011; Pratama et al., 2020). According to Connelly et al. (2011), the essence of signaling theory is that the signaler (i.e., managers) holds information that the receiver (i.e., stakeholders) considers useful for the decision-making process. The signaler decides whether to communicate this information by providing positive or negative signals to reduce information asymmetry between the parties. According to Bravo (2017), disclosing information about risks provides a positive signal to the capital market, leading stakeholders to conclude that managers are concerned about risk management. Furthermore, companies that disclose information about risks reduce information asymmetry between management and stakeholders (Fasihi & Hosseini, 2020), decrease uncertainty regarding the company, and establish greater commitment to stakeholders. Consequently, the reputation and value of the company increase (Abdullah, 2019; Sulistyaningsih & Gunawan, 2016). Given these arguments, it is expected that financial risk disclosures promote an increase in corporate value (Bravo, 2017).

Empirical studies have already been conducted to investigate if financial risk disclosures effectively have a positive impact on firm value. Nevertheless, the results are not consensual. Some studies indicate that risk disclosures contribute to increasing firm value (Abdullah, 2019; Bravo, 2017; Fasihi & Hosseini, 2020), while others find the opposite result, i.e. financial risk disclosures negatively impact financial performance (Makhlouf et al., 2020; Suttipun & Nicholson, 2020). Some studies find that the disclosure of financial risks does not have a significant effect on the firm value (Al-Dubai & Abdelhalim, 2021; Hasibuan, 2020).

In Portugal, to the best of our knowledge, there is only one study on this topic. Oliveira et al. (2021) studied the impact of risk reporting tone (activity, optimism, certainty, realism, and communalism) on firm market value. The results revealed a significant negative relationship between the activity tone and firm market value: the more managers use a linguistic style that obscures bad news and emphasizes good news, the lower the market value of the firm. The authors suggest that this linguistic style is perceived by investors as a manipulation strategy, affecting the credibility of the report, which contributes to reducing the firm's market value. The results also showed that

the tone of optimism, certainty, realism, and communalism does not have a statistically significant relationship with firm value.

Table 1 provides a summary of the reviewed empirical studies on the impact of financial risk disclosures on firm value and the main results.

Table 1. Previous empirical studies

Study	Sample	Methodology	Corporate	Risk	Control	Result
Study	_	Methodology	Value	KISK	variables	Kesuit
Bravo	95 corporations	Content analysis	Tobin's Q	Number of	Growth	
(2017)	listed on the S&P	Disclosure index	Market-to-	sentences related	Liquidity	+
	500	OLS regressions	book value	to risk in annual	CAPEX	
	2009		ratio	reports	Governance	
Abdullah	73 non-financial	Content analysis	Tobin's Q	Number of		
(2019)	corporations listed	Path analysis and		sentences related		+
	on ISSI	multiple group		to risk in annual		
	2015-2017	analysis		reports		
Hasibuan	33 transport	Content analysis	Tobin's Q	Financial and		
(2020)	corporations listed	Disclosure index		operational risk		0
	in IDX 2013-2015	OLS regressions		index		
Suttipun and	160 corporations	Content analysis	ROA	Number of words	Size	
Nicholson	listed on SET	Panel data		related to risk	Age	
(2020)	2017-2019	regressions			Auditor (Big 4	
					and committee)	-
					Leverage	
					Liquidity	
					Activity Sector	
Makhlouf et	13 banks listed in	Content analysis	Tobin's Q	Number of	Size	
al. (2020)	ASE	OLS regressions		sentences related	Leverage	
	2014-2018			to risk in annual		_
				reports		
Fasihi and	59 corporations	Content analysis	Tobin's Q	Number of words	Size	
Hosseini	listed in TSE	Disclosure index		related to risk	Growth	
(2020)	2010-2016	OLS regressions			Leverage	+
					CAPEX	
					ROA	
Al-Dubai and	72 non-financial	Content analysis	EPS	Dichotomous	Size	
Abdelhalim	corporations listed	Disclosure index		scoring scheme	Age	
(2021)	in Tadawul	OLS regressions		for disclosure of 8	Size of BoD	0
	2018			types of risks.	Auditor (Big 4)	
				Score ranges from	Activity sector	
				0 to 8		
Oliveira et al.	34 non-financial	Content analysis	Tobin's Q	Number of words	Size	
(2021)	corporations listed	Disclosure index		related to risk	Size of BoD	
	in Euronext Lisbon	OLS regressions			Number of	
	2018				non-executive	-/0
					directors	-/0
					ROA	
					Leverage	
					Activity sector	

Source: Own processing

3. RESEARCH DESIGN

3.1. Sample

For data availability reasons, this study considers only publicly traded corporations. As of December 31st, 2021, there were 55 corporations listed in Euronext Lisbon. As in Oliveira et al. (2021)

and Silva et al. (2015), we excluded financial services companies, sports public limited companies and real estate investment companies. We also excluded corporations for which 2021 and/or 2022 reports and annual accounts (necessary for analyzing financial risk disclosures and collecting financial information) were not available. Considering these criteria the sample has 29 corporations. Of these, 23 companies (79%) engage in export and/or import activities, exposing them to higher financial risks. Companies in the sample belong to the following sectors: Industry (8), Basic Materials (5), Telecommunications (5), Cyclical Consumer Goods (3), Public services (3), Technology (3), Non-Cyclical Consumer Goods (1) and Energy (1).

3.2. Variables

3.2.1. Dependent Variable

The dependent variable is corporate value. As Fasihi and Hosseini (2020), Hasibuan (2020), Makhlouf et al. (2020), and Oliveira et al. (2021), among others, corporate value is assessed by the simplified version of Tobin's Q for the year 2022. Tobin's Q, developed by Tobin (1969), captures the market value of a company relative to the replacement value of its assets. According to Lindenberg and Ross (1981), Tobin's Q offers several advantages over other measures usually used to assess corporate value and performance (such as return on assets or return of equity) since it reflects market expectations rather than historical accounting performance and is difficult to be manipulated by management. Nevertheless, Tobin's Q has some limitations, notably the complexity in measuring the market value of debt and the replacement value of assets. To overcome these limitations, Chung and Pruitt (1994) proposed a simplified version of Tobin's Q in which the market value of debt is proxied by its book value and the replacement value of assets is assessed by the book value of the total assets of the firm.

We calculate the simplified version of Tobin's Q for the year 2022 as follows: market value of equity (proxied by market capitalization, i.e., the product of a firm's share price and the number of shares outstanding) plus the book value of debt divided by the book value of the total assets of the firm. To calculate market capitalization, we multiplied the last available closing price on the Euronext website for the year 2022 by the number of shares outstanding reported in financial statements as of December 31, 2022. The book value of debt and assets is also from financial statements as of December 31, 2022. So, the higher the value of Tobin's Q, the better is the market value of the company (Florio & Leoni, 2017).

3.2.2. Independent Variables

The independent variable is the disclosure of financial risks. As Hasibuan (2020), Al-Dubai and Abdelhalim (2021), and El-Haddad (2021), among others, we use an index to capture the disclosure of financial risks. In this study, a comprehensive disclosure index was constructed based on a list of qualitative and quantitative information required by IFRS 7 for financial risk disclosure. The Global Disclosure Index (GDI) considers 36 information items (18 qualitative and 18 quantitative). For each type of financial risk, namely credit risk, liquidity risk, and market risk, we constructed sub-indices. The Credit Risk Disclosure Index (CRDI) includes 19 items (8 qualitative and 11 quantitative); the Liquidity Risk Disclosure Index (LRDI) includes 7 items (5 qualitative and 2 quantitative); and the Market Risk Disclosure Index (MRDI) includes 10 items (5 qualitative and 5 quantitative).

To construct these indices, we use content analysis of 2021 annual reports, assigning a score of 1 (or 0) to each item included in the index if the firm discloses the item (or not). Given that some

entities are not clear about the reasons associated with the non-disclosure of a certain item, a score of 0 is assigned in two situations: i) the entity does not disclose because, despite complying with IFRS 7 requirements, a particular item is not applicable in the context of its activities, and ii) the entity does not disclose because it does not comply with IFRS 7 requirements. After attributing a score to all items, the index value is calculated by dividing the sum of the total items disclosed by the firm by the sum of the total items composing the index or sub-indices (36 in GDI, 19 in CRDI, 7 in LRDI, and 10 in MRDI). Thus, the index value for each entity ranges from 0 (indicating no disclosure) to 1 (complete disclosure of the considered items).

3.2.3. Control Variables

We use five control variables, three related to the characteristics of the firm – size, growth and debt – and two related to corporate governance – the quality of external audit and the size of the Board of Directors (BoD). Corporate size, growth and debt was captured, respectively, by the natural logarithm of total assets, the growth rate of revenues and the ratio of debt to assets. Data is from SABI database. The quality of external audit was proxied by a dummy variable that takes the value 1 when the auditing firm belongs to the Big 4 (Deloitte, Ernst & Young, KPMG, and PricewaterhouseCoopers), and 0 otherwise. Finally, board size was assessed by the number of members in the BoD. This information is from annual reports.

Table 2 presents the variables used in this study, the respective calculation method, and the data source, as well as the indication of previous studies that use the same measure.

Table 2. Variables

Variable	Calculation	Data	Studies that use the same measure
Corporate Value	Tobin Q = (market value of equity + book value of debt)/book value of assets in 2022	Euronext 2022 annual reports	Bravo (2017), Abdullah (2019), Fasihi and Hosseini (2020), Hasibuan (2020), Makhlouf et al. (2020), Oliveira et al. (2021
Financial risk disclosure index - GDI - CRDI - LRDI - MRDI	Index = sum of the total items disclosed by that firm/sum of the total items composing the index or subindices (36 in GDI, 19 in CRDI, 7 in LRDI, and 10 in MRDI).	2021 annual reports	Lombardi et al. (2016), Bravo (2017), Dey et al. (2018), Hasibuan (2020), Al-Dubai and Abdelhalim (2021), El-Haddad (2021), Meilani and Wiyadi (2017)
Size	Natural logarithm of Assets	SABI	Al-Dubai and Abdelhalim (2021), Fasihi and Hosseini (2020), Makhlouf et al. (2020), Oliveira et al. (2021), Suttipun and Nicholson (2020)
Growth	Growth rate of revenues	SABI	Bravo (2017), Fasihi and Hosseini (2020)
Debt	Debt / Assets	SABI	Fasihi and Hosseini (2020), Makhlouf et al. (2020), Oliveira et al. (2021)
Quality of external audit	Dummy, that takes the value 1 if the company is audited by a big 4; 0 otherwise	2021 annual reports	Al-Dubai and Abdelhalim (2021), Suttipun and Nicholson (2020)
Board Size	Number of members in the BoD	2021 annual reports	Al-Dubai and Abdelhalim (2021), Oliveira et al. (2021)

Source: Own processing

3.3. Methodology

To analyse the impact of financial risk disclosures on firm value, we use multiple linear regression models. We run four multiple linear regression models in the software Statistical Package for Social Sciences (SPSS):

Value =
$$\alpha + \beta 1$$
 GDI + $\beta 2$ Size + $\beta 3$ Growth + $\beta 4$ Debt + $\beta 5$ Audit + $\beta 6$ Board + ϵ (1)

Value =
$$\alpha + \beta 1$$
 CRDI + $\beta 2$ Size + $\beta 3$ Growth + $\beta 4$ Debt + $\beta 5$ Audit + $\beta 6$ Board + ϵ (2)

Value =
$$\alpha + \beta 1 LRDI + \beta 2 Size + \beta 3 Growth + \beta 4 Debt + \beta 5 Audit + \beta 6 Board + \epsilon$$
 (3)

Value =
$$\alpha + \beta 1$$
 MRDI + $\beta 2$ Size + $\beta 3$ Growth + $\beta 4$ Debt + $\beta 5$ Audit + $\beta 6$ Board + ϵ (4)

where: Value is corporate value in 2022 as measured by Tobin's Q simplified measure; GDI is the global disclosure index; CRDI is the Credit Risk Disclosure Index; LRDI is the Liquidity Risk Disclosure Index; MRDI is the Market Risk Disclosure Index; Size is the natural logarithm of total assets; Growth is the growth rate of revenues in 2021; debt is the debt to assets ratio in 2021; Audit is a dummy variable that takes the value 1 if annual accounts are audited by a Big 4 (0 otherwise); Board is the number of members in the BoD.

4. RESULTS

Table 3 presents the results of the multiple linear regression models. Descriptive statistics and a correlation matrix are present in an appendix.

(1) **GDI** (2) CRDI (3) LRDI MRDI Variable Coef. t-stat Coef. t-stat Coef. t-stat Coef. t-stat Constant 0,077 | 0,044 0,364 0,205 0,299 0,166 -0,970 -0,577 Index -1,641 -1,446 -0,859 -0,919 -0,467 | -0,545 -2,545 | -2,532** Size 0,009 0,056 0,059 | 0,357 0,015 | 0,089 0,162 | 1,010 Growth -0,406 -0,387 -0,228 -0,208 -0,467 | -0,427 -1,234 | -1,213 1,260 4,130*** 1,363 | 4,940*** Debt 1,287 | 4,331*** 1,210 3,980*** 1,119 2,179** 1,180 2,535** Audit 1,042 1,979* 0,942 | 1,827* -0,024 | -0,332 -0,003 | -0,051 Board -0,027 | -0,379 -0,020 -0,266 29 3,486** 2,954** 4,769** 3,116** \mathbb{R}^2 0,487 0,459 0,446 0,565 Adjusted 0,348 0,312 0,295 0,447 Mean VIF 1,798 1,748 1,942 1,765

Table 3. Results

Source: Own processing

The results of model 1, which considers GDI as an independent variable, suggest that the disclosure of financial risks has no significant impact on corporate value. This result is consistent with Al-Dubai and Abdelhalim (2021) and Hasibuan (2020), as well as Oliveira et al. (2021) when they consider the reporting tone of optimism, certainty, realism, and communalism. As for the control variables, only debt and the quality of external audit show a positive and statistically significant

relationship with the corporate value. The results for debt suggest that the higher the proportions of assets financed by debt, the higher is corporate value, which is in line with the results of Fasihi and Hosseini (2020) and Oliveira et al. (2021). This result can be explained by the leverage effect. The positive relationship between corporate debt and value can be underpinned by signaling theory: higher levels of debt contribute to discipline managers, sending a positive signal to investors, which is reflected in a higher company value.

Table 3 presents the unstandardized coefficients, the t-statistic values and the respective significance level, (*, ** and *** indicates that the coefficient is significant at 10%, 5% and 1%, respectively). The dependent variable is corporate value. The independent variable is the financial risk disclosure index: model 1 considers the global disclosure index (GDI); model 2 the credit risk disclosure index (CRDI), model 3 the liquidity risk disclosure index (LRDI); and model 4 the market risk disclosure index (MRDI). The control variables are corporate size, revenue growth and debt as well as quality of external audit and the size of the Board of Directors. In the last rows, we present the number of observations, the values of the Z statistic, the R-squared and adjusted R-squared, and mean Variance Inflation Factor (VIF).

The results also suggest that the Portuguese capital market positively values companies audited by one of the Big 4. This result seems aligned with agency theory. Indeed, it is expected that companies audited by one of the Big 4 will disclose more credible information, which allows to mitigate agency problems and reduce information asymmetry between managers and stakeholders and, consequently, positively influence firm value. Al-Dubai and Abdelhalim (2021) also found a positive, albeit not significant, relationship between the Big 4 auditing and company performance. On the contrary, Suttipun and Nicholson (2020) found a negative and non-significant relationship between the Big 4 variable and company financial performance.

Finally, the results suggest that corporate size, growth and the size of the BoD do not significantly affect corporate value. Al-Dubai and Abdelhalim (2021) and Suttipun and Nicholson (2020) also found a non-significant relationship between corporate size and value. Although it is expected that larger companies disclose more risk information (Oliveira et al., 2021), this result does not guarantee that the larger the company, the higher its value. The statistical insignificance of growth is contrary to the results of Fasihi and Hosseini (2020), who found a negative and significant relationship between growth and firm value, and Bravo (2017), who found a positive and significant relationship between growth and firm value.

Finally, Al-Dubai and Abdelhalim (2021) and Oliveira et al. (2021) also found a non-significant relationship between the size of the BoD and firm value. The relationship between the size of the BoD and firm value can be explained from the point of view of agency theory. A larger size of the BoD can result in communication and coordination problems, lack of cohesion, and difficulties in making strategic decisions that can maximize firm value. This can contribute to the existence of information asymmetries and higher agency costs, leading to a lower company value.

Note that model 1 is statistically significant and can explain 34.8% of the variation in firm value. This value is not very high, but it is in line with previous empirical studies. Finally, the mean VIF indicates the absence of multicollinearity.

The results obtained when using the sub-indices related to credit and liquidity risk (model 2 and 3, respectively) are similar to those obtained when using the global index (model 1).

When using the sub-index related to market risk (model 4) the results show that the market risk disclosures negatively and significantly affect corporate value. Thus, the market negatively values the disclosure of market risks. This result may be associated with projections for the evolution of market risk in the year 2022. In a statement released by the Portuguese Securities Market Commission (CMVM) in January 2022, the regulator identified market risk as the most significant financial risk for 2022. It is also worth noting that model 4 has the best adjusted R-squared coefficient (44.70%), among all estimated regressions.

5. FUTURE RESEARCH DIRECTIONS

For future research, we suggest increasing the sample size and including non-listed companies or companies listed on other financial markets. It would also be interesting to analyze and compare financial risk disclosures in individual and consolidated financial statements. Furthermore, we suggest going further and analyze not only financial risk disclosures but also how such risks are managed. Al-Dubai and Abdelhalim (2021) demonstrate a positive and significant relationship between the moderating effect of risk management on the relationship between risk disclosures and firm performance. This result suggests that stakeholders are probably more concerned with how risks are managed.

6. CONCLUSION

The objective of this paper was to investigate the impact of financial risk disclosures on corporate value. The results indicate that financial risk disclosures do not significantly impact corporate value when we consider the Global Disclosure Index, as well as the sub-indices related to credit risk and liquidity risk disclosures. However, when we consider the sub-index related to market risk, the results show a significant negative impact on corporate value. This suggests that the market negatively values the disclosure of market risks. This result may be due to the uncertainty and volatility experienced in 2022. In fact, due to the increased volatility in interest rates, exchange rates, and commodity and raw material prices in 2022, investors may have attributed greater risk to companies that were exposed to market risk, causing a negative reaction in stock prices and consequently in the value of the company. Regarding the control variables, debt ratio and external audit quality showed a positive and significant impact on corporate value, whereas other variables such as corporate size, growth, and the size of BoD did not have a significant impact on corporate value.

We believe this paper offers an important contribution to the literature. To the best of our knowledge, the analysis of the impact of financial risk disclosures on corporate value has never been studied in the Portuguese context, with the notable exception of Oliveira et al. (2021). Nevertheless, they focus on narrative tone, whereas we focus on content. Additionally, this study also contributes to the literature by analyzing the impact of the disclosure of each type of financial risk, namely credit risk, liquidity risk, and market risk, on corporate value. Previous empirical studies tend to focus on financial risks aggregately or on only one specific type of financial risk.

Nevertheless, this study has some limitations, such as the small sample size and the analysis of only one year. There were also limitations related to the content analysis methodology, due to its subjective nature, and the dichotomous scoring used in data collection.

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