


IMPACT OF EXECUTIVE REMUNERATION AND FIRM LEVERAGE ON FIRM STABILITY: LESSONS FROM EUROPEAN FIRMS



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ABSTRACT

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The aim of this study is to examine the impact of executive remuneration and firms' leverage on firms' stability as measured by winsorized Zscore (wZscore). The wZscore measure corresponds to the Altman Zscore, which increases as default risk decreases. To test the study's hypotheses, a linear regression model is applied to a 6-year panel dataset of 180 listed firms categorized in 10 economic sectors operating in 22 countries from the years 2013 to 2018. The results show that executive remuneration has a significant negative impact on firm stability as measured by wZscore. Additionally, firm leverage has a significant positive impact on firm stability. Beyond the theoretical implications, the findings of this study have some practical implications that are particularly relevant to boards of directors, shareholders, managers, and policymakers. The findings suggest that executives should be offered a proper remuneration package to maintain their firms' stability along with the capacity of firms' equity and assets to cope up with unprecedented circumstances and the firms' long-term debts. Finally, this study offers specific recommendations for how firms can balance their pay and performance in terms of executive remuneration and ensure better leverage to optimize their own and society's sustainable development.

Contribution/ Originality: This paper's primary contribution is to deepen the understanding of the impact of executive remuneration and firm leverage on firm stability. The findings suggest that a proper remuneration policy, board independence and maintaining a strong leverage over firms' equity and assets will contribute to firms' sustainable stability.

1. INTRODUCTION

Ensuring their stability is a major concern for all firms (De Jong, Zacharias, & Nijssen, 2021). The stability of a firm depends on a number of issues, such as its financial strength, assets, equity, etc., as demonstrated by a number of previous studies (Bei & Wijewardana, 2012; Keenan & Aggestam, 2001). The stability of a firm refers to its ability to maintain a stable condition under any circumstances, without requiring adjustments to the firm's equity and resource capacity. Recently, the interest in understanding firms' stability by using Zscores has increased (Ali & Azmi, 2016; Bai & Elyasiani, 2013; Dwumfour, 2017; Emongor, Musau, & Mwasiagi, 2020). In this study, the winsorized Zscore, which refers to how the measure of a firm's default risk corresponds to the Altman Zscore, is used as a measure of firms' stability (Agarwal & Taffler, 2008; Altman, Iwanicz-Drozdowska, Laitinen, & Suvas, 2017). Stakeholders need a measure of a firm's stability to be able to understand its impact on executive remuneration and the firm's leverage.

The board of directors is responsible for ensuring a firm's stability, though it is challenging to manage unprecedented risks while maximizing the firm's strengths. Besides, employees' benefits, work responsibility and performance also contribute to the stability of a firm. Executive remuneration has a major impact on wZscore as a measure of stability because having a proper remuneration package including salary, bonuses, and performance appraisals motivates employees to work for the company's betterment (Nurun & Dip, 2017; Thang & Quang, 2005).

A firm's financial stability also depends on the firm's leverage, meaning the strength of equity to ensure better returns on assets. With increased leverage, a firm can manage its long-term debt with minimal liability (Valencia, 2014).

Based on the above considerations, this study aims to identify the impact of executive remuneration and firms' leverage on the stability of firms. This study employs a 6-year panel dataset from the years 2013 to 2018 of 180 listed firms across 10 economic sectors operating in 22 European countries. To get a proxy of firms' stability, wZscore is used to investigate the influence of executive remuneration and firms' leverage on stability. To identify the relationship, regression models are constructed based on a sample of European firms.

The empirical results demonstrate that executive remuneration has a significant negative effect on firms' stability as measured by wZscore, whereas firms' leverage has a significant positive impact on firms' stability. The remainder of this paper is organized as follows: section 2 provides the theoretical framework and literature review, section 3 describes the research methodology, section 4 describes the findings and analysis, and section 5 describes the conclusions and implications.

2. LITERATURE REVIEW

2.1. Firm Stability and Executive Remuneration

Executive remuneration refers to compensation of the board members for the performance of their duties in terms of salary or fees. The previous literature suggests that the relationship between a firm's stability and its executive remuneration remains inclusive because of the application of different empirical methods and theories (Aslam, Haron, & Tahir, 2019; Rasoava, 2019). Elsayed and Elbardan (2018) found evidence of a strong influence of executive remuneration on firms' stability using the tournament theory of compensation; however, the study of Aslam et al. (2019) found only weak evidence for this link. Nonetheless, there is evidence of a significant association between executive compensation and firms' stability (Raithatha & Komera, 2016) and a simultaneous relationship has been shown to exist between the two (Buachoom, 2017).

Additionally, a positive and significant association between firm stability and executives' remuneration has been demonstrated when the board size is larger (Al Farooque, Buachoom, & Hoang, 2019; Hearn, 2013; Rehman, Ali, Hussain, & Waheed, 2021). According to Elyasiani and Jia (2010), executive compensation is positively related to firm stability and performance through employee benefits. The studies of Sheikh, Shah, and Akbar (2018) and Smirnova and Zavertiaeva (2017) showed that CEO remuneration is positively correlated with firms' accounting performance and vice-versa.

On the one hand, Das and Dey (2016) found no evidence of a direct influence of executive compensation on firm stability, other than temporal issues (DesJardine & Shi, 2021). Also, because compensation policies are based on share price, executive directors' remuneration has no direct relationship with firm performance (Kirsten & Du, 2018). The authors Yamina and Mohamed (2017) revealed that compensation is linked to relatively improved financial performance, while bonus payments are linked to firms' accounting performance.

On the other hand, Bussin and Modau (2015) argued that the relationship between executive remuneration and firms' stability has been declining since the global financial crisis of 2008 due to executives' focus on enhancing their own remuneration. There exists a misaligned relationship between executive compensation benefits and company performance as well as firms' stability (Marimuthu & Kwenda, 2019). However, Merhebi, Pattenden, Swan, and Zhou (2006) noted that the declining relationship between these two has occurred as the focus has moved

away from short-term incentives. Studies have observed a negative impact of executive remuneration structure on firm stability (Chen & Jermias, 2014). Also, the literature shows that executive directors' remuneration adversely affects firm stability when the lower rung of directors receives cash remuneration (Gill, 2014). Based on the outlined evidence from the literature, it can be concluded that executive remuneration has a negative impact on firm stability. Hence, the following hypothesis is proposed.

H1: Executive remuneration has a negative impact on a firm's stability

2.2. Firm Stability and Firm Leverage

Leverage refers the ratio of firms' long-term debt to total assets. More simply it means the use of owners' capital or borrowing funds to increase the returns of assets. The previous literature has shown inconclusive results regarding the relationship between firms' stability and leverage. No significant effect has been found of leverage on firm value regardless of moderating factors like eco-efficiency (Osazuwa & Che-Ahmad, 2016). Jermias (2008) opined that factors like firms' strategic choices and managers' opportunistic behavior moderate the relationship between firm leverage and stability. A relationship between Zscore and firm leverage can be postulated in that increased leverage drives firms to take excessive risk (Bhagat, Bolton, & Lu, 2015). Valencia (2014) found a relationship between banks' leverage and stability, as increased leverage helps to finance loans with limited liability.

In addition, there exists a non-monotonic relationship between leverage and firm stability as measured by cash holding. On the one hand, there is a significant non-linear relationship between these two, as by increasing their leverage, firms can accumulate cash holdings to minimize the risk of bankruptcy and financial distress. On the other hand, factors like ownership concentration, creditors, and shareholders' protection can have different effects on firms' stability (Guney, Ozkan, & Ozkan, 2007). However, other studies have demonstrated a negative relationship between financial stability and leverage. During times of crisis, bank risk negatively impacts on financial stability where there is deposit insurance coverage (Anginer, Demirguc-Kunt, & Zhu, 2014). On the one side, both explicit and implicit leverage are negatively related to firm stability by increasing individual risks and vulnerability to financial shocks. On the other side, reverse leverage is good for the health of individual banks but bad for financial stability (Papanikolaou & Wolff, 2014). During financial crises, leverage has a negative impact on large firms' performance and stability (Vithessonthi & Tongurai, 2015). Finally, Bei and Wijewardana (2012) found a positive relationship between financial leverage and a firm's financial growth though it gives a negative indication of the firm's future growth. There remains a positive moderating effect of capital intensity between leverage and financial distress when measured with the Zscore, as explained by Lee (2011). During financial crises, there is a positive relationship between these factors for small firms (Vithessonthi & Tongurai, 2015). Based on the above literature and arguments, it can be concluded that a firm's leverage has a positive impact on firm stability. Hence, the following hypothesis can be developed.

H2: There is a positive relationship between a firm's stability and its leverage

3. RESEARCH METHODOLOGY

3.1. Sample Selection and Data Sources

The purpose of this study is to analyze the impact of executive remuneration and firm leverage on wZscore as a measure of firm stability. This study comprises a 6-year panel dataset from the years 2013 to 2018 of 180 listed firms categorized in 10 economic sectors operating in 22 countries.

The Thomson Reuters database has been used as the primary source of data. Other sources of information include the Global Gender Gap Index and World Governance Indicator from the World Economic Forum and World Bank respectively. The Global Gender Gap Index, introduced by the World Economic Forum, is a framework for capturing the magnitude of gender-based disparities and tracking their progress over time. The Worldwide Governance Indicators (WGI) report aggregate and individual governance indicators for over 200

countries and territories over the period 1996–2021, for six dimensions of governance including voice and accountability, political stability, and governance effectiveness. In our empirical analysis, to minimize any potential bias in the results, some irrelevant information is removed, such as observations of non-European countries if the firm's headquarters are in Bermuda, Mexico, Singapore, the United States, Russia, the Faroe Islands or if the GICS Sector Code is 40.

3.2. Variables Measurement

In this study, we have used winsorized Zscore (wZscore) as the dependent variable to measure firm stability. Firm stability refers to the company's ability to cope with unprecedented circumstances with no significant changes to the company's assets. Here, wZscore is used as a proxy measure of firms' stability, meaning that firms' default risk corresponds to the Altman Zscore. A 6-year panel dataset has been used to test the hypotheses against the regression model. To identify whether executive remuneration and firm leverage can influence a firm's wZscore, several independent variables have been used in this study including, crucially, executive remuneration and firm leverage. Executive remuneration, an important independent variable in this study, refers to the compensation benefits of the executives of a firm in terms of salary, bonuses, shares, stocks and other financial compensation (Iqbal, Guohao, & Akhtar, 2017). Firm leverage refers to a firm's capacity to maintain its long-term liabilities against its assets and equity (Eriotis, Vasiliou, & Ventoura-Neokosmidi, 2007). In this empirical study, several control variables have been used in the regression model to minimize model misinterpretation, including gender diversity (participation of men and women on the board), board independence (independent board members), ownership (shareholders' ownership of firm), size of the firm (total assets), board size (total number of directors on board), board executive (number of executive members in board), and ROA (return on assets). Random effect and fixed effect regression models are constructed in this study, which use these control variables to better understand their influence on wZscore as a measure of firm stability.

3.3. Methodology

This study is based on panel data estimation using a fixed effect regression model. In our econometric model, there are several limitations caused by the unobserved heterogeneity problem (Gormley & Matsa, 2014), which measures the time-invariant variables of each firm. Also, an endogeneity problem arises because of the causality relationship between certain independent variables (Roberts & Whited, 2013; Wintoki, Linck, & Netter, 2012). The measure of wZscore corresponds to the Altman Zscore, which increases as default risk decreases. Consequently, to gain a better understanding of the relationships among the dependent and independent variables in this model through multivariate analysis, wZscore has been multiplied by negative 1 (denoted as negwZscore). After checking all the variables to normalize their distribution, a regression model is run to understand the influence of these variables on firm stability. In this study, we have used a fixed effect model and a random effect model. Also, we have rejected the absence of firm-specific impact as a preliminary estimate, suggesting that ordinary least squared (OLS) calculations are inconsistent, and FE and RE estimations are more appropriate. The STATA command xtreg is suitable for panel-data linear models.

Model:

$$Y_{itc} = \beta_0 + \beta_1 \text{Executive Remuneration}_{itc} + \beta_2 \text{Firms' Leverage}_{itc} + \sum_{j=1}^j \gamma_j \text{FLV}_{itc} + \epsilon_{it}$$

Here, Y represents our alternative measure of negwZscore as the dependent variable which measures firm stability. Executive remuneration and firms' leverage are the two independent variables. FLV refers to the firm

level control variables $J = 7$, corresponding to gender diversity, firm size, board size, board independence, board executive, shareholders' ownership and return on assets. And ϵ_{it} is the stochastic error term.

4. RESULT AND ANALYSIS

4.1. Multivariate Analysis

Table 1 shows the empirical findings that are used to test the hypotheses about the impact of executive remuneration and firm leverage on negwZscore as a measure of firm stability. Executive remuneration, according to hypothesis 1, has a negative impact on a firm's stability (negwZscore). The result is statistically significant with upside down and U-shaped relationships under both the fixed and random effect models.

This U-shaped relationship between executive remuneration and firm stability indicates the contradictory connection. Specifically, the result states that a firm becomes more stable when it offers good remuneration, but that after a certain point increased remuneration causes the stability of the firm to decrease. The reason behind this relationship might be the motivation level of executives to achieve stability of the firm's assets and debt payment.

Table 1. Multivariate analysis.

Variables	(1) (fe)	(2) (re)
	negwZscore	negwZscore
GrDivers1	0.156 (0.653)	0.207 0.616
BRemun5	3.462*** (0.664)	2.320*** (0.618)
c.BRemun5#c.BRemun5	-0.133*** (0.0268)	-0.0926*** (0.0254)
BIndependent	-0.0311 (0.438)	-0.178 (0.426)
Own1	-0.477 (0.428)	-0.540 (0.389)
Size	0.126 (0.189)	0.0527 (0.0985)
BSize1	-0.00457 (0.0446)	-0.0449 (0.0396)
BExecutive	-1.351* (0.746)	-1.217* (0.712)
wroa	-2.539*** (0.883)	-4.405*** (0.873)
leverage1	4.653*** (0.587)	4.915*** (0.520)
Constant	-28.079*** (5.178)	-18.181*** (3.813)
Observations	558	558
Number of Iden	125	125
R-squared	0.231	0.210

Hypothesis 2 states that a firm's leverage has a statistically significant positive impact on that firm's stability (negwZscore). The results show that firm stability increases with an increase of firm leverage. Specifically, the capacity of a firm to pay their debts increases with a stable asset and equity measurement in both the fixed and random effect models. Regarding the control variables, the results are in line with several previous studies (Harymawan & Nowland, 2016; Marsili, 2006; Mas-Ruiz & Ruiz-Moreno, 2011); firm size has a positive impact on firm stability, meaning that a firm's stability increases when its size increases. Gender diversity on the board also has a positive impact on firms' stability, a fact which is also supported by a number of studies (Attah-Boaky, Adams, Kimani, & Ullah, 2020; Dwyer, Richard, & Chadwick, 2003; Fernando, Jain, & Tripathy, 2020). Gender diversity on the board can lead to more appropriate board decisions being made, boosting the firm's competitive

profile and performance as well as its stability (Romano, Cirillo, Favino, & Netti, 2020). On the other hand, board size, board independence, and board executive are shown to have a negative impact on firms' stability. A larger board may cause undue complexity and inefficiency in its operations (Adeabah, Gyeke-Dako, & Andoh, 2018; Linck, Netter, & Yang, 2008). As a result, firms' overall stability might suffer under a larger board. Also, shareholders' ownership of a firm negatively influences firm stability as measured by negwZscore. The reason is that, when a firm's ownership is more concentrated in its shareholders it can cause conflict between satisfying their personal interests and the proper focus on improving the firm's stability. However, return on assets (ROA) also has a significant negative impact on firms' stability. The reason may be that companies that fail to generate good profit on their assets or through investment create less revenue growth. Firms can achieve sustainable stability by increasing their focus on asset investment and secured cash conversion policies (Rostami, Rostami, & Kohansal, 2016; Takon, 2013). Finally, this empirical study recommends that firms increase their stability by addressing a number of issues such as board size, independence, firms' ownership, firms' size, executive remuneration, return on assets and others. Proper policy implementation of asset investment, board independence management, shareholders' ownership, and remuneration policies can make firms' stability more sustainable.

5. CONCLUSIONS AND IMPLICATIONS

This study has examined the impact of executive remuneration and firm leverage on firm stability measured by negwZscore using an empirical approach. Previous studies have shown that executive remuneration and firm leverage have a significant influence on the stability of a firm. This study examined a sample of 180 listed European firms for which a 6-year panel dataset for the years 2013 to 2018 was constructed. This study has found that firm stability, as measured by wZscore and then multiplied by negative 1 to facilitate understanding, is impacted by both executive remuneration and firm leverage to a degree that is statistically significant. Executive remuneration is significantly and negatively related to firm stability, displaying a U-shaped relationship. That means that when executive remuneration increases, firm stability improves up to a certain point, after which excessive remuneration and other compensation benefits lead to a decrease in firm stability due to executives' reluctant and sluggish attitudes. However, inadequate remuneration and compensation benefits cause executives to be unwilling to perform their jobs properly. Rather, a properly balanced executive remuneration package will increase the firm's stability as measured by the negwZscore. In addition, the other important finding of this study is that firm leverage is significantly and positively correlated with firm stability as measured by negwZscore. This finding states that when firm leverage is good, firms also become more stable, as a firm's stability increases with an increase in its leverage. As a result, a firm will be able to cover its long-term debt with its equity and assets in times of unprecedented circumstances. However, our empirical study has not investigated data from non-European firms, emerging economies and other countries. Also, the significance of other variables that may influence firms' stability is not explained here. The use of a larger sample might add some interesting implications in this regard. Finally, data availability remains an issue for investigations of this type.

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