**INTERNATIONAL JOURNAL
OF BANKING AND FINANCE**
http://e-journal.uum.edu.my/index.php/ijbf

DETERMINANTS OF THE CAPITAL STRUCTURE OF EUROPEAN FIRMS: THE MODERATING ROLE OF EFSF/ESM FINANCIAL ASSISTANCE PROGRAMS

[1]Georgios Chatzinas & [2]Simeon Papadopoulos
Department of Accounting and Finance
University of Macedonia, Thessaloniki, Greece

[1]*Corresponding Author: giorgosxatz@yahoo.com*

ABSTRACT

The present study has investigated the moderating effect of the European Financial Stability Facility (EFSF) / European Stability Mechanism (ESM) support to the firms' indebtness. Using dynamic panel data, three models were estimated and aimed at the determination of the way that EFSF/ESM financial assistance programs could influence the impact of five firm-specific characteristics, namely growth, profitability, size, tangibility and non-debt tax shield on the capital structure of European firms. Data from 2,086 firms for the period 2003 – 2016 were used, and two dummy variables; one for the EFSF/ESM support period and one for any kind of economic crisis period were formed. The results indicated that pecking order prevailed over trade-off theory. Economic crises did not affect severely the firm-characteristics' effects, but the EFSF/ESM programs influence

appeared in three cases. During the period of EFSF/ESM assistance, profitability's negative effect on long-term debt ratio disappeared and on total debt ratio strengthened, growth's positive impact on total debt ratio diminished and non-debt tax shield acquired positive influence on total debt ratio. These changes might be explained by the increased levels of tax rates and decreased levels of uncertainty that the EFSF/ESM programs caused, as well as by the reluctance of lenders to provide new funds.

Keywords: Capital structure, trade-off, pecking order, EFSF/ESM financial programs, Eurozone.

JEL Classification: G32, G38.

INTRODUCTION

The capital structure of firms is affected by economic conditions as indicated by the majority of recent researches that investigated the impact of the international financial crisis of 2007-2009 on the financial leverage of firms (Harisson & Widjaja, 2014; Demirguc-Kunt et al., 2015; Banerjee, 2017; Chatzinas & Papadopoulos, 2018). In the European Union, however, the international financial crisis was converted to debt crisis. Dealing with the consequences of the crisis led to the establishment of the European Financial Stability Facility (EFSF) and its successor, the European Stability Mechanism (ESM). These two mechanisms were aimed at providing financial support to country-members which were facing high fiscal deficits and high debt ratios. The support was accompanied by strict and painful austerity measures. So, the EFSF/ESM were understood as having resulted in a decrease of the country's economic uncertainty due to the fact that the facility guaranteed the country's financial needs and an increase in the tax burden in the context of a stricter fiscal policy. However, at least according to the present available knowledge, previous studies which examined the firms' capital structure of the countries supported by these facilities, were in the same context with the rest of the firms which had been ignoring a possible facilities' impact.

To address the above problem, the present study has focused on the impact of the EFSF/ESM support on the effect that firm-specific

characteristics have on firms' capital structure. To the best of our knowledge, this study is the first of its kind. More specifically, the present study has compared the effect of five firm-specific factors, namely growth, profitability, size, tangibility, non-debt tax shield that have driven capital structure between normal economic conditions and the economic conditions that were formed by the EFSF/ESM financial assistance programs. The determination of these effects should reveal useful information on the way that the EFSF/ESM changes a firm's procedure on financing decisions, as well as whether the trade-off or pecking order theory drives a firm's capital structure. The sample consisted of listed, non-financial and non-utilities firms operating in ten countries, members of the Eurozone (Austria, Cyprus, Estonia, France, Germany, Greece, Ireland, Italy, Portugal and Spain) for the period from 2003 to 2016. The results were quite interesting since they supported the view that a firm's capital structure behavior was interpreted mostly by the pecking order, regardless of the occurrence of an economic crisis. Conversely, the EFSF/ESM financial assistance programs seemed to change the magnitude of the effect of firm-specific capital structure determinants in the following three cases: profitability, growth and Non-Debt Tax Shield (NDTS).

The remainder of the paper is organized as follows: In section II, the trade-off and pecking order theories will be briefly, but comprehensively presented. In line with the predictions of these theories, the research hypotheses of the present study were developed. The research methods (sample, data, variables, and statistical techniques) will be described in Section III, while Section IV presents the results of statistical analysis that will be discussed in Section V. Finally, Section VI sums up the conclusions and recommendations for future research. The section also includes a discussion of the limitations of the research.

LITERATURE REVIEW

Researchers and financial professionals have focused on a firm's capital structure for at least 60 years. The impetus for the formation of modern capital structure theories is to be found in the theorems of Modigliani and Miller (1958; 1963). Based on these, various theories of capital structure have been proposed. The Trade-off and pecking order theory were the two main and competing ones (Mihalca & Antal,

2009). The Trade-off theory supported the existence of an optimal capital structure that minimized the cost of capital and maximized a firm's value (Smart et al., 2004). Particularly, the value of a firm depended positively on the amount of its debt due to the tax savings it created (Modigliani & Miller, 1963). However, the level of debt tax saving would be affected by the tax rates of individuals (Miller, 1977), while it decreased in case the company already had levels of high non-debt tax shield (NDTS), such as depreciations (DeAngelo & Masulis, 1980). In addition, positive dependence was justified by the mitigation of costs arising from owners-managers conflicts (Jensen & Meckling, 1976), while negative dependence might be explained by an increase of financial distress costs (Wruck, 1990) and owners-lenders conflicts (Jensen & Meckling, 1976). On the other hand, no optimal capital structure would exist, according to the pecking order theory, which stated that a firm's capital structure was the outcome of managers' past financing decisions (Shyam-Sunder & Myers, 1999). Managers, in particular, preferred internal funds to external funds based on capital source costs, and when external funds were needed, managers tended to prefer debt to equity (Grinblatt & Titman, 2002). Besides cost, the pecking order hypothesis seemed to face a firm's asymmetry information problems (Sergiescu & Vaidean, 2014). Many researchers have attempted to determine which of the two theories has been more explanatory and has a higher interpretation power regarding a firm's capital structure behavior. The most recent researches have implied that the two theories were not mutually exclusive, but complemented each other (Chatzinas & Papadopoulos, 2018; Banga & Gupta, 2017; Mc Namara et al., 2017; Ohman & Yazdanfar, 2017; Serrasqueiro & Caetano, 2015; Burgstaller & Wagner, 2015).

The international financial crisis gave a new impetus to the investigation of capital structure theories, since scholars had the opportunity to investigate how economic crises affected the claims of the theories (Harisson & Widjaja, 2014). Thus, after 2007, many studies focused on the impact of a financial crisis on a firm's indebtness (Harisson & Widjaja, 2014; Banerjee, 2017; Chatzinas & Papadopoulos, 2018). Demirguc-Kunt et al. (2020) provided evidence that a financial crisis negatively affected debt on a firm's balance sheets even in economies that did not suffer from the consequences of the international financial crisis. This impact was higher for small and medium enterprises (SMEs) and large non-listed companies. In

the same context, D'Amato (2020) drew the same conclusion, but he claimed that short-term debt was affected more severely. On the other hand, Migliori et al. (2018) did not find evidence that the international financial crisis influenced the way managers made their financing decisions. Moreover, they concluded that neither capital structure theory had been able to interpret these decisions, regardless of the economic conditions. Similar conclusions were drawn by many other researches (Adair & Adaskou, 2017; Zhang & Mirza, 2015; Danso & Adomako, 2014).

In the European Union, the global financial crisis was transformed into a debt crisis that threatened the Eurozone's stability. To face these consequences, four economies, namely Cyprus, Ireland, Greece, and Portugal became financially supported by programs developed, supported and monitored by the European Financial Stability Fund (EFSF) and the European Stability Mechanism (ESM). In all four cases, the financial support was accompanied by strict austerity measures and structural reforms (Singala & Kumar, 2012). In the pre-crisis period, each country's firm capital structure had been investigated. In the case of Cypriot firms, the limited number of studies published, agreed that the trade-off theory was prevailing (Mokhova & Zinecker, 2013; Machielsen, 2012). On the other hand, Greek (Noulas & Genimakis, 2011; Daskalakis & Psillaki, 2008, 2009; Eriotis et al., 2007) and Portuguese (Nunes & Serrasqueiro, 2017; Pacheco, 2016) financing decisions of firms seemed to be mostly driven by the pecking order theory. Finally, there had been ambiguous evidence on Irish firm capital structure behavior, since some researchers had concluded that the trade-off theory was prevailing, while others disagreed with this conclusion (Mac an Bhaird & Lucey, 2010; Bancel & Mittoo, 2004).

As mentioned above, the international financial crisis gave a new impetus to the investigation of capital structure theories. Many researchers tried to approach the factors that could affect a firm's financing decisions and the way a firm change during a crisis (Harisson & Widjaja, 2014; Banerjee, 2017; Chatzinas & Papadopoulos, 2018; Demirguc-Kunt et al., 2020; D'Amato, 2020; Migliori et al., 2018; Adair & Adaskou, 2017; Zhang & Mirza, 2015; Danso & Adomako, 2014). However, the case of a firm's financing decision in Cyprus, Greece, Ireland and Portugal would be different because of the interacting effect that the EFSF/ESM financial supporting programs might have had.

As a result, the aim of the present study has been two-fold. First, the determinants of capital structure and their direct effect were investigated. Second, the moderating effect that the EFSF/ESM programs might impose on the above direct effects was also investigated. More specifically, the identified five firm-specific characteristics were used as determinants of capital structure, while two country-specific characteristics were used as control variables. The former were, on the one hand, growth, size, profitability, tangibility and NDTS. The latter control variables were, on the other hand, tax rates and country risk. The effect of each of these firm-characteristics, as well as the way that the EFSF/ESM programs were anticipated to influence the variables will be discussed below.

According to the trade-off theory, profitability, size, tangibility and tax rates will be positively correlated to debt level, while growth, NDTS and country risk will be negatively correlated. Higher profitability leads to higher taxes, thus motivating firms to increase their debt (Ebrahim et al., 2014; Rahim et al., 2020). Similarly, larger firms and firms with more tangible assets would face a lower level of financial distress risk due to the higher level of diversification and lower cost of information asymmetry, which in turn, would encourage them to expand their debt levels (Chen, 2004; Cortez & Susanto, 2012; Chin & Zakaria, 2018). Finally, as a result of the positive relationship between tax rates and debt tax shield, there would be a positive relationship between tax rates and financial leverage (Modigliani & Miller, 1963). On the other hand, growth opportunities and country risk might be interpreted as in a higher level of anticipated financial distress cost (Stulz, 1990; Demirguc-Kunt et al., 2015), as well as leading to a decrease in a firm's financial leverage.

On the other hand, according to the pecking order assumption, growth, tangibility, tax rates and country risk were positively correlated to debt level, while profitability and size were negatively correlated. Moreover, it is worth mentioning that the NDTS has no anticipated impact on financial leverage (Noulas & Genimakis, 2011). Higher growth might be interpreted as higher anticipated future profitability that would motivate firms to increase the present levels of debt (Frank & Goyal, 2003). Similarly, tangibility would reduce the cost of informational asymmetry and assure the lenders in case of a bankruptcy, allowing debt to increase (Ebrahim et al., 2014). Finally, an increase in tax

rates and in country risk could deteriorate the internally generated cash flows and lead to an increase in financial leverage (Cetorelli & Goldberg, 2011). On the other hand, profitability and size, due to the higher levels of cash flows, would decrease the need for external funds, thus reducing a firm's debt (Jong et al., 2008; Myers, 2001). Table 1 summarizes the above direct effects of the examined firm- and country-specific characteristics on a firm's leverage according to the trade-off and pecking order theories.

Table 1

Synopsis of the Direct Effect of Firm- and Country-Specific Characteristics on a Firm's *Capital Structure According to the Trade-off and Pecking Order Theories*

	Trade-off	Pecking order
Growth	-	+
Profitability	+	-
Size	+	-
Tangibility	+	+
Non-Debt Tax Shield	-	None
Tax Rates	+	+
Country's Risk	-	+

The objective of an ESM loan is "*to assist ESM Members in significant need of financing and which have lost access to the market, either because they cannot find lenders or because the financing costs would adversely impact the sustainability of public finances*". As a result, a country that enters an ESM financial assistance program is a country that will face significant barriers in raising capital from the markets. In entering an ESM program, the country's financial needs are immunized for a long-term period at the expense of strict austerity measures and structural reforms. As a result, EU-members accepting an ESM financial assistance program face two direct economic condition changes. The first one is a decrease of uncertainty; country risk decreases, since the ESM ensures the country's financial needs. The second one is an increase in tax burden, in the context of a stricter fiscal policy. The resultant interacting/moderating effect of the EFSF/ESM programs will have a direct impact on the firm-specific

determinants of capital structure and will be further discussed below. According to the trade-off theory, growth expresses anticipated levels of financial distress risk. As a result, the decreased levels of uncertainty are expected to mediate growth's impact. On the other hand, the bigger the size and the higher the tangibility of firms are, the lower the levels of financial distress risk will be. So, a positive effect of the ESM programs on these determinants' effect on leverage is expected, due to the decreased level of uncertainty, too. Simultaneously, the increase in tax rates increases the Non-Debt Tax Shield, resulting in the amplification of its effect, while the firms are expected to take advantage of the new tax conditions, and intensifying the positive relationship between profitability and tax rates. Consequently, in accordance with the trade-off theory, the following hypotheses were proposed for the present study:

TO-RH1: The negative effect of growth on a firm's financial leverage decreases due to the lower level of uncertainty (Alternatively, a positive change in the negative effect of growth on a firm's financial leverage is anticipated).

TO-RH2: The positive effect of profitability on a firm's financial leverage increases due to the higher levels of tax rates (Alternatively, a positive change in the positive effect of profitability on a firm's financial leverage is anticipated).

TO-RH3: The positive effect of size on a firm's leverage increases due to the lower levels of uncertainty (Alternatively, a positive change in the positive effect of size on a firm's financial leverage is anticipated).

TO-RH4: The positive effect of tangibility on a firm's leverage increases due to the lower levels of uncertainty (Alternatively, a positive change in the positive effect of tangibility on a firm's financial leverage is anticipated).

TO-RH5: The negative effect of NDTS on a firm's financial leverage increases due to the higher levels of tax rates (Alternatively, a negative change in the negative effect of NDTS on a firm's financial leverage is anticipated).

On the other hand, the pecking order theory postulated that growth has the potential for higher future profitability. The decrease in the level of uncertainty increases the probability of higher future growth, resulting in an amplification of growth's direct impact. Moreover, the lower level of uncertainty negatively influences the level of informational asymmetry. So, tangibility's direct impact on a firm's financial leverage is anticipated to increase. Profitability and size reduce the external financial needs of the firms. However, the increase of tax levels is anticipated to increase the need for external financing, intensifying the impact of these two firm-specific factors. Finally, no impact of the NDTS on a firm's leverage is anticipated in normal economic conditions. Consequently, in accordance with the pecking order hypothesis, the following hypotheses have been proposed for the present study:

PO-RH1:The positive effect of growth on a firm's financial leverage increases due to the lower level of uncertainty (Alternatively, a positive change in the positive effect of growth on a firm's financial leverage is anticipated).

PO-RH2:The negative effect of profitability on a firm's financial leverage increases due to the higher level of tax rates (Alternatively, a negative change in the negative effect of profitability on a firm's financial leverage is anticipated).

PO-RH3: The negative effect of size on a firm's leverage increases due to the lower levels of uncertainty (Alternatively, a negative change in the negative effect of size on a firm's financial leverage is anticipated).

PO-RH4:The positive effect of tangibility on a firm's leverage increases due to the lower levels of uncertainty (Alternatively, a positive change in the positive effect of tangibility on a firm's financial leverage is anticipated).

Table 2 summarizes the above changes of direct effects of the examined firm -specific characteristics under the EFSF/ESM financial assistance programs, on a firm's leverage according to the trade-off and pecking order theories.

Table 2

Synopsis of the Change of Direct Effect of Firm -Specific Characteristics under the EFSF/ESM Financial Assistance Programs on a Firm's Capital Structure According to the Trade-off and Pecking Order Theories

Change of effect of:	Trade-off	Pecking order
Growth	+	+
Profitability	+	-
Size	+	-
Tangibility	+	+
Non-debt tax shield	-	None

METHODOLOGY

Bloomberg's database was used and accounting data on Cypriot, Irish, Greek, and Portuguese firms was retrieved from 2003 to 2016. To distinguish between the effect of the EFSF/ESM programs and the effect of the international financial crisis, data from French, German, Italian and Spanish firms were collected. In order to mitigate the potential bias due to country size, Estonian and Austrian firms were then added. Finally, firms of the financial sector and utility firms were excluded from the sample. The final sample consisted of 2,086 firms and was winsorized at the 1 percent level.

Table 3 presents the variables used in the analysis carried out in the present study. These variables have already been discussed above, except for two cases. In particular, these two variables refer to the two dummy variables that were formed to distinguish between the effects of a general economic crisis and the economic conditions that might be attributed to the EFSF/ESM financial support.

Table 3

Variables of the Present Study

Variable	Symbol	Expressed by:	Level	Source	Previous Researches
Financial leverage	FL	(1) Long-term debt to total assets ratio	Firm	Bloomberg Database and Own Processing	Moradi & Paulet (2019); Daskalakis et al. (2017); Degryse et al. (2012)
		(2) Total debt to total assets ratio	Firm		Liang et al.(2020); Doan et al. (2019); Daskalakis et al. (2017); Degryse et al.(2012)
Growth	Gr	Percentage change of total assets	Firm		Nguyen et al. (2020); Moradi & Paulet (2019); Degryse et al. (2012)
Profitability	Pr	Operating income to total assets	Firm		Liang et al. (2020); Domnes et al. (2019); Ballios et al. (2016); Gaud et al. (2005
Size	Si	Natural logarithm of total assets	Firm		Vo (2017), Danso & Adomako (2014); Moradi & Paulet (2019); Hall et al. (2004

(continued)

Variable	Symbol	Expressed by:	Level	Source	Previous Researches
Tangibility	Ta	Sum of PPE and inventory to total assets	Firm		Kremp et al. (1999); Vo, (2017); Adair & Adaskou, (2017); Ghazuani, (2013)
NDTS	NDTS	Depreciations to total assets	Firm		Moradi & Paulet (2019); Daskalakis et al. (2017); Cortez & Suzanto (2012)
Tax rates	Tr	Sum of tax rates and social security cost as a percentage of a firm's revenue	Country	Eurostat Database	
Country risk	Cr	A country's credit rating, which was calculated as the average of the annual credit ratings of Standard and Poor's, Fitch and Moody's for each country.	Country	Standard and Poor's, Fitch and Moody's websites and Own Processing	
EFSF/ESM Dummy	D	It is equal to 1 for the years after the introduction of the programs, otherwise is equal to 0	Country	Own Processing	
Any kind of economic crisis dummy	D_c	Equal to 1 when both the annual economic growth rate is negative and the EFSF/ESM dummy is equal to zero, and 0 otherwise	Country	Eurostat and Own Processing	

Based on the above specified variables, the following regressions were estimated. The first regression assessed the impact of each of the independent variables, without taking into account the special economic conditions formed by the EFSF/ESM financial programs, or by any type of crisis. The second estimates the respective impact, considering only the special economic conditions as a result of the EFSF/ESM financial programs. Finally, the third one estimated the respective impact, taking into account the special economic conditions due to both EFSF/ESM financial programs and by any type of economic crisis.

$$FL_{i,t} = b_0 + \sum_{j=1}^{n} v_j FL_{i,t-j} + a_1 Gr_{i,t} + a_2 Pr_{i,t} + a_3 Si_{i,t} + a_4 Ta_{i,t} + a_5 NDTS_{i,t} + \quad (1)$$
$$a_6 Tr_{i,t} + a_7 Cr_{i,t} + \varepsilon_{1,i,t}$$

$$FL_{i,t} = b_0 + \sum_{j=1}^{n} v_j FL_{i,t-j} + a_1 Gr_{i,t} + a_2 Pr_{i,t} + a_3 Si_{i,t} + a_4 Ta_{i,t} + a_5 NDTS_{i,t} + \quad (2)$$
$$a_6 Tr_{i,t} + a_7 Cr_{i,t} + c_1 D_{ifc} \cdot Gr_{i,t} + c_2 D_{ifc} \cdot Pr_{i,t} + c_3 D_{ifc} \cdot Si_{i,t} +$$
$$c_4 D_{ifc} \cdot Ta_{i,t} + c_5 D_{ifc} \cdot NDTS_{i,t} + c_6 D_{ifc} \cdot Tr_{i,t} + c_7 D_{ifc} \cdot Cr_{i,t} + \varepsilon_{2,i,t}$$

$$FL_{i,t} = b_0 + \sum_{j=1}^{n} v_j FL_{i,t-j} + a_1 Gr_{i,t} + a_2 Pr_{i,t} + a_3 Si_{i,t} + a_4 Ta_{i,t} + a_5 NDTS_{i,t} + \quad (3)$$
$$a_6 Tr_{i,t} + a_7 Cr_{i,t} + b_1 D \cdot Gr_{i,t} + b_2 D \cdot Pr_{i,t} + b_3 D \cdot Si_{i,t} + b_4 D \cdot Ta_{i,t} + b_5 D \cdot$$
$$NDTS_{i,t} + b_6 D \cdot Tr_{i,t} + b_7 D \cdot Cr_{i,t} + c_1 D_{ifc} \cdot Gr_{i,t} + c_2 D_{ifc} \cdot Pr_{i,t} + c_3 D_{ifc} \cdot Si_{i,t} +$$
$$c_4 D_{ifc} \cdot Ta_{i,t} + c_5 D_{ifc} \cdot NDTS_{i,t} + c_6 D_{ifc} \cdot Tr_{i,t} + c_7 D_{ifc} \cdot Cr_{i,t} + \varepsilon_{3,i,t}$$

where *i* refers to each firm, *t* to each year and ε the residuals.

The above three Dynamic panel data models were estimated using the Generalized Method of Moments (GMM) for endogeneity problems (omitted variables, confounding factors, simultaneity, and measurement errors) to be faced (Roodman, 2009). System GMM was preferred to Difference GMM, since panel data comprised a large N and small T dataset (Arellano & Bover, 1995), while the number of lagged dependent variables was selected so that the models satisfied both the test for instrument validity (Sargan/Hansen) and the test for second-order serial correlation (Arellano & Bond, 1991). Simultaneously, Wald tests were also executed to test for the sign of coefficients of the variables (Ghazouani, 2013; Degryse et al., 2012).

RESULTS

Table 4 shows the descriptive statistics of the variables used in the present study (arithmetic mean and standard deviation). All the

leverage ratios increased during the EFSF/ESM financial supporting period, while the same change was observed for tangibility and country risk. On the other hand, growth, profitability and tax rates decreased.

Table 4

Descriptive Statistics for the Research Variables

	Total Sample			D = 0 (No EFSF/ESM Support)			D = 1 (During EFSF/ESM support)		
	N	Mean	Std. Dev.	N	Mean	Std. Dev.	N	Mean	Std. Dev.
FL1	26,999	0.1429	0.1529	25,187	0.1414	0.1511	1,812	0.1647	0.1747
FL2	26,999	0.2448	0.2135	25,187	0.2364	0.2043	1,812	0.3624	0.2904
Gr	26,999	0.0624	0.3185	25,187	0.0712	0.3221	1,812	-0.0599	0.2320
Pr	26,999	0.0226	0.1529	25,187	0.0236	0.1555	1,812	0.0089	0.1097
Si	26,999	5.4844	2.2691	25,187	5.4948	2.2847	1,812	5.3399	2.0345
Ta	26,999	0.3476	0.2416	25,187	0.3413	0.2388	1,812	0.4360	0.2624
NDTS	26,999	0.0393	0.0341	25,187	0.0398	0.0345	1,812	0.0323	0.0278
Tr	26,999	0.5952	0.1357	25,187	0.6071	0.1284	1,812	0.4298	0.1268
Cr	26,999	3.3272	4.0860	25,187	2.5069	2.5667	1,812	14.7287	4.2248

Note. FL1 Long-term Debt to total asset, *FL2* Total debt to total assets, *Gr* Growth, *Pr* Profitability, *Si* Size, *Ta* Tangibility, *NDTS* Non-Debt Tax Shield, *Cr* Country Risk, *Tr* Tax rates.

Table 5 presents the estimated three regressions using long-term debt to total assets ratio as the dependent variable. In cases of all models, tangibility ($a_4 > 0$, $p < 0.01$) and growth ($a_1 > 0$, $p < 0.01$) positively influenced leverage, while profitability exerted a negative impact ($a_2 < 0$, $p < 0.01$). Out of the country-characteristics, the impact of the tax rates ($a_7 > 0$, $p < 0.01$) was positive. The estimation of model (2) shows that the EFSF/ESM support increased the effect of profitability on a firm's leverage ($b_2 > 0$, $p < 0.10$) when no other crisis was taken into account; while model (3) indicates that there was no interaction of the EFSF/ESM and firm-specific characteristics when crises were taken into account. Regarding the country-specific characteristics, the impact of country risk decreased ($b_7 < 0$, $p < 0.10$) and the tax rates increased ($b_6 > 0$, $p < 0.10$), in both model (2) and model (3).

Table 5

Estimation of the Models with Unbalanced Panel Data: The Long-term Debt to Total Assets Ratio as the Dependent Variable

Variable	FL1: Long-term Debt to Total Assets		
Model	(1)	(2)	(3)
Gr	0.0333***	0.0298***	0.0350***
Pr	-0.0800***	-0.0925***	-0.0881***
Si	0.0044	0.0043	0.0031
Ta	0.1377***	0.1358***	0.1312***
NDTS	0.1405	0.1201	0.0848
Tr	0.4149***	0.2711**	0.2717**
Cr	-0.0005	-0.0006***	-0.0002
D x Gr		0.0450	0.0396
D x Pr		0.1520*	0.1439
D x Si		-0.0027	-0.0017
D x Ta		0.0200	0.0215
D x NDTS		0.0313	0.0837
D x Tr		0.1556**	0.1464**
D x Cr		-0.0034*	-0.0038**
D_{ifc} x Gr			-0.0235
D_{ifc} x Pr			-0.0069
D_{ifc} x Si			0.0022**
D_{ifc} x Ta			0.0014
D_{ifc} x NDTS			0.0828
D_{ifc} x Tr			-0.0209**
D_{ifc} x Cr			-0.0007
Year 2009	-0.0022	-0.0026	0.0049
Year 2010	-0.0039	-0.0044*	0.0005
Year 2011	-0.0051	-0.0058**	-0.0012
Year 2012	-0.0051	-0.0071**	-0.0026
Year 2013	-0.0002	-0.0030	0.0013
Year 2014	0.0042	0.0014	0.0062
Year 2015	0.0083**	0.0054	0.0100*
Year 2016	0.0046	0.0008	0.0052
Constant	-0.2840***	-0.1989**	-0.1948**

(continued)

Variable	FL1: Long-term Debt to Total Assets		
Model	(1)	(2)	(3)
No of Firms		2,083	
No of Observations		13,786	
AR(2) : p-value	0.1993	0.1799	0.1494
Sargen Test : p-value	0.1355	0.1250	0.1009

$^{*}p < 0,10,\ ^{**}p < 0,05,\ ^{***}p < 0,01$

Note. 1. FL1 Long-term debt to total asset, *Gr* Growth, *Pr* Profitability, *Si* Size, *Ta* Tangibility, *NDTS* Non-debt tax shield, *Cr* Country's risk, *TR* Tax Rates, *D* dummy variable for years of EFSF/ESM financial support, D_{ifs} dummy variable for years of other type of economic crisis.

Note 2. The estimated impact of Lags of the Dependent Variable is omitted.

Table 6

Estimation of the Models with Unbalanced Panel Data: The Total Debt to Total Assets Ratio as the Dependent Variable

Variable	FL2: Total Debt to Total Assets		
Model	(1)	(2)	(3)
Gr	0.0473***	0.0494***	0.0491***
Pr	-0.2377***	-0.2257***	-0.2165***
Si	-0.0179**	-0.0182**	-0.0193**
Ta	0.2241***	0.2217***	0.2252***
NDTS	0.1462	0.1303	0.0984
Tr	0.2476**	0.3038**	0.3124***
Cr	0.0016**	0.0022***	0.0026**
D x Gr		-0.0142	-0.0123
D x Pr		-0.1875*	-0.2075**
D x Si		0.0011	0.0025
D x Ta		0.0106	-0.0037
D x NDTS		0.3588	0.4396*
D x Tr		-0.0753	-0.0837
D x Cr		0.0002	-0.0002
D_{ifc} x Gr			-0.0006
D_{ifc} x Pr			-0.0380

(continued)

Variable	FL2: Total Debt to Total Assets		
Model	(1)	(2)	(3)
D_{ifc} x Si			0.0022**
D_{ifc} x Ta			-0.0144
D_{ifc} x NDTS			0.1333
D_{ifc} x Tr			-0.0153
D_{ifc} x Cr			-0.0007
Year 2009	-0.0226***	-0.0225***	0.0247***
Year 2010	-0.0261***	-0.0262***	-0.0017
Year 2011	-0.0165***	-0.0163***	0.0077*
Year 2012	-0.0215***	-0.0215***	0.0028
Year 2013	-0.0227***	-0.0224***	0.0019
Year 2014	-0.0161***	-0.0157***	0.0083
Year 2015	-0.0125***	-0.0120***	0.0119***
Year 2016	-0.0199***	-0.0189***	0.0050
Constant	-0.0788	-0.1098	-0.1329
No of Firms		2,083	
No of Observations		13,786	
AR(2) : p-value	0.5470	0.5819	0.5636
Sargen Test : p-value	0.2996	0.2918	0.2875

$^{*}p < 0,10,\ ^{**}p < 0,05,\ ^{***}p < 0,01$

Note. 1. FL2 Total debt to total asset, *Gr* Growth, *Pr* Profitability, *Si* Size, *Ta* Tangibility, *NDTS* Non-debt tax shield, *Cr* Country's risk, *TR* Tax Rates, *D* dummy variable for years of EFSF/ESM financial support, D_{ifs} dummy variable for years of other type of economic crisis.
Note. 2. The estimated impact of Lags of the Dependent Variable is omitted.

Table 6 shows the estimations of the regression with total debt to total assets ratio as the dependent variable. The results were similar to those presented in Table 5 with the following differences. Firstly, firm size seemed to influence negatively the leverage ratio of total debt to total assets (b_3<0, p<0.05). Secondly, considering the EFSF/ESM period and/or crisis period, the country risk had influenced a firm's leverage in a positive way in the normal economic conditions period (a_6>0, p<0.05). Third, there was a positive impact on the NDTS during the EFSF/ESM financial assistance period [b_5>0, p<0.10]. Fourth, the effect of profitability during the EFSF/ESM period seemed to become more negative (b_2<0.20, p<0.10).

Table 7

Wald Tests for the Statistical Significance of the Independent Variables

Model	(1)	(2)		(3)		
		Normal Economic Conditions	During EFSF/ESM Support	Normal Economic Conditions	During Crisis	During EFSF/ESM Support
Period	Total	$D = 0$	$D = 1$	$D = D_c = 0$	$D_c = 1$	$D = 1$
FL1: Long-term Debt to Total Assets						
Gr	+	+	+	+		+
Pr	-	-		-	-	
Si						
Ta	+	+	+	+	+	+
NDTS						
Tr	+	+	+	+	+	+
Cr			-			-
FL2: Total Debt to Total Assets						
Gr	+	+		+	+	
Pr	-	-	-	-	-	-
Si	-	-	-	-	-	-
Ta	+	+	+	+	+	+
NDTS			+			+
Tr	+	+	+	+	+	+
Cr	+	+		+	+	

Note. FL1 Long-term debt to total asset *FL2* Total debt to total asset, *Gr* Growth, *Pr* Profitability, *Si* Size, *Ta* Tangibility, *NDTS* Non-debt tax shield, *Cr* Country's risk, *TR* Tax Rates, *D* dummy variable for years of EFSF/ESM financial support, D_{ifs} dummy variable for years of other type of economic crisis.

Finally, Table 7 shows the results of Wald tests on the statistical significance of the coefficients. According to Table 7, after the acceptance of an EFSF/ESM financial assistance program, profitability had a negative impact on the long-term leverage, but its effect on the total debt leverage nullifies. In addition, the impact of profitability was intensified (became more negative) regarding total debt to total

assets ratio, but weakened (became more positive) in the case of long-term debt to total assets ratio. The negative effect of size appeared only in the case of total debt ratio, which remained strong during the EFSF/ESM support period. Tangibility positively influenced both the leverage ratios regardless of economic conditions. Regarding total debt to total assets ratio, the positive effect of growth lost its statistical significance and the impact of the NDTS became positive during the period of EFSF/ESM financial assistance. With regard to country-specific characteristics, country risk had no effect on the long-term leverage, but there was a positive effect on the total debt ratio. However, during the EFSF/ESM support, the effect of country risk on long-term leverage transforms to negative and its effect on total debt ratio was nullified. The impact of tax rates remained positive regardless of the referring leverage ratio, or the referring economic conditions. Finally, it is worth mentioning that only one difference was noticed when normal economic conditions were compared to the crisis period; the positive impact of growth on long-term leverage ratio was diminished.

Discussion

The statistical analysis presented in the foregoing section seemed to suggest that the pecking order theoretical framework has a significantly higher interpretation power than the trade-off perspective of things, when it comes down to explaining a firm's financing decisions. However, there were also findings that neither theory could explain (Wong, 2018), such as the positive impact of the NDTS during the EFSF/ESM support period, and findings that only Trade-off predicts, such as the positive change of the effect of profitability. So, it was considered safe to conclude that financial leverage could not be interpreted exclusively by the trade-off or pecking order theory, but both theories were necessary (Chatzinas & Papadopoulos, 2018; Banga & Gupta, 2017; Mc Namara et al., 2017; Ohman & Yazdanfar, 2017; Serrasqueiro & Caetano, 2015; Burgstaller & Wagner, 2015). More specifically, it was found that growth and tangibility positively influenced the financial leverage of firms, but the impact from profitability and size had proved to be negative. However, the present study has provided evidence that the debt level would increase when the growth prospects increased (Frank & Goyal, 2003) and when the tangibility increased due to the lower levels of financial distress costs

(Frank & Goyal, 2003; Ebrahim et al., 2014). On the other hand, the financial leverage would decrease when the profitability increased due to the higher amounts of available internal funds (Myers, 2001), and when the size of a firm would increase due to the lower levels of risk (Gaud et al., 2007).

The above impacts have also been observed in periods of crisis, with only one exception; the effect of growth on the long-term leverage would be nullified during a period of crisis. On the other hand, some effects would be diminished or strengthened in the case of EFSF/ESM support periods. What could be the reasons for this result? During a crisis, an increase of uncertainty was observed, resulting in a rise of the cost of both debt and equity (Cetorelli & Goldberg, 2011). However, an EFSF/ESM program would reduce uncertainty, as it would see the implementation of strict fiscal policy measures (increase of taxes and/or government spending cuts).

As a result, the factors that inhibited the above effects should be sought as a result of these changes. A probable reason could be a firm's need for reorganization. An EFSF/ESM program would incorporate measures that could affect a variety of macro and micro economic variables through the implementation of structural reforms. Except for interest rates and tax rates, other parameters such as the disposable income, consumption and consumption habits, investment procedures, and savings were also influenced by government policies. In this rapidly changing environment, the management of a firm would be responsible for the firm's survival. Appropriate adjustments in prices, costs, wages and expenses should be decided and implemented. As a result, the managers would have to reorganize many aspects of the firm's function.

Under the above assumptions, each change that the EFSF/ESM program triggered will be discussed below. Firstly, during the period of EFSF/ESM assistance, the negative effect of profitability on the long-term leverage would disappear and the negative effect on total debt leverage would strengthen. Alternatively, the EFSF/ESM financial assistance could negatively change the effect of profitability on the total debt leverage, which would be consistent with *PO-RH2*, but positively change the respective effect on the long-term leverage. Previous researchers have found that an increase in profitability

seemed to lead firms to increase the long-term debt, but to reduce the short term debt (Vo, 2017). The interaction effect of the EFSF/ESM might be explained under this view. The more profitable a firm was, the more it would reduce its short-term debt because of the tax rates increase. This reaction of firms was also proposed by D'Amato (2020). However, the same adjustment was not likely to be implemented for the long-term debt usually used for long-term investments, since the EFSF/ESM program had reduced the level of uncertainty.

Secondly, the positive impact of growth on the total debt ratio, which is in accordance with the pecking order theory, will diminish when an economy enters an EFSF/ESM financial assistance program. The same change is not observed in case of the long-term debt ratio. Moradi and Paulet (2019) observed that shareholders during the international financial crisis seemed to be obliged to finance their firms' growth due to the cost of capital increase in the banking sector, and the negative economic prospects. This may be also the case in the context of the EFSF/ESM programs. Since the borrowing interest rates of the banking sector are expected to slowly adjust, firms with high growth opportunities seem to face problems to get access to short-term funds (inadequate funds, expensive interest rate) and therefore, they turn to self-financing.

Thirdly, the Non-Debt Tax Shield will have a positive effect on the total debt to total assets ratio during EFSF/ESM assistance, a result that has been anticipated by the no capital structure theory. Previous researches have also faced this conflicting result and two explanations have been provided. Either the firms' profitability was so high that the full exploitation of debt- and non-debt tax shields was justified or, due to high tax rates, the firms had found new ways to decrease their tax burden (Moradi & Paulet, 2019; Moradi & Paulet, 2015). Given that during an EFSF/ESM program, a firm's profitability was not expected to be significantly high, it was safe enough to suppose that the firm increased its depreciations and amortization, as a means of reacting to the increase in taxes.

With regard to the two macroeconomic variables, the impact of country risks and tax rates on the leverage will be mostly positive. Hence, the present study has been able to provide empirical evidence that as a country's financial conditions deteriorated, a firm's financial leverage

would increase, just as the pecking order theory had predicted. On the other hand, the rationale behind the positive influence of tax rates on a firm's optimal capital structure might be explained by both the pecking order and trade-off theories.

CONCLUSION

The present study examined five firm-specific capital structure determinants, namely growth, profitability, size, tangibility and tax deductibility in ten Eurozone-member countries in order to study the impact of the EFSF/ESM financial supporting programs on a firm's financial leverage. The results showed that the pecking order theory prevails. However, a detailed examination of the evidence indicates that despite the pecking order's prevalence, trade-off is also necessary for a full comprehension of a firm's financing decisions.

A crisis in general, changes the magnitude, but not the sign of the effect that a firm's characteristics have on its financial leverage. On the other hand, when the EFSF/ESM support programs were implemented, changes in effects of three firm-characteristics were observed. During the period of the EFSF/ESM assistance, the negative effect of profitability on long-term leverage disappeared, and on total debt leverage strengthened, the positive impact of growth on total debt ratio diminished and the NDTS had a positive influence on the total debt ratio. These changes might be explained by the fact that the firms were motivated to proceed to re-organization due to the following three environmental factors: increased levels of tax rates, decreased levels of uncertainty, and the reluctance of lenders to provide new funds.

The above analysis was based on data from the stock exchange of listed European firms. As a result, the study has focused on large firms. A similar study for small and medium sized enterprises would be interesting and worthwhile. Finally, an interesting practice can be recommended for policy makers. To the best of our knowledge, it is the first time that the effect of financial distress has been distinguished from the effect of tax rates. As a result, policy makers should make every effort to provide low tax rates in the event of rising interest rates.

ACKNOWLEDGMENT

REFERENCES

Adair, P., & Adaskou, M. (2017). *The capital structure of French SMEs and impact of the financial crisis: A dynamic panel data analysis (2002-2010)*. https://hal-upec-upem.archives-ouvertes.fr/hal-01667313/document

Arellano, M., & Bond, S. (1991). Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *The Review of Economic Studies*, *58*(2), 277-297.

Arellano, M., & Bover, O. (1995). Another look at the instrumental variable estimation of error-components models. *Journal of Econometrics*, *68*(1), 29-51.

Bancel, F., & Mittoo, U. R. (2004). Cross-country determinants of capital structure choice: A survey of European firms. *Financial Management, 33*(4), 103-132.

Banerjee, A. (2017). Capital Structure and its determinants during the pre and post period of recession: Pecking order vs. Trade off theory. *Indian Journal of Science, 11*(1), 44-58.

Banga, C., & Gupta, A. (2017). Effect of firm characteristics on capital structure decisions of Indian SMEs. *International Journal of Applied Business and Economic Research, 15*(10), 281-301.

Burgstaller, J., & Wagner, E. (2015). How do family ownership and founder management affect capital structure decisions and adjustment of SMEs? *The Journal of Risk Finance, 16*(1), 73-101.

Cetorelli, N., & Goldberg, L. S. (2011). Global banks and international shock transmission: Evidence from the Crisis, *IMF Economic Review, 59*(1), 41–76.

Chatzinas, G., & Papadopoulos, S., (2018). Trade-off vs pecking order theory: Evidence from Greek firms in a period of debt crisis. *International Journal of Banking, Accounting and Finance, 9*(2), 170-191.

Chen, J. J. (2004). Determinants of capital structure of Chinese-listed companies. *Journal of Business Research, 57*(12), 1341-1351.

Chin, K. Y., & Zakaria, Z. (2018). Board characteristics and capital structure of Malaysia consumer products sector. *International Journal of Banking and Finance*, *13*(1), 71-94.

Cortez, M. A., & Suzanto, S. (2012). The determinants of corporate capital structure: Evidence from Japanese manufacturing companies. *Journal of International Business Research, 11*(3), 121-134.

D' Amato, A. (2020). Capital structure, debt maturity, and financial crisis: empirical evidence from SMEs. *Small Business Economics, 55*, 919-941.

Danso, A., & Adomako, S. (2014). The financing behaviour of firms and financial crisis. *Managerial Finance, 40*(12), 1159-1174.

Daskalakis, N., & Psillaki, M. (2008). Do country or firm factors explain capital structure? Evidence from SMEs in France and Greece. *Applied Financial Economics, 18*(2), 87-97.

Daskalakis, N., & Psillaki, M. (2009). Are the determinants of capital structure country or firm specific? *Small Business Economics, 33*(3), 319-333.

Daskalakis, N., Balios, D., & Dalla, V. (2017). The behaviour of SMEs' capital structure determinants in different macroeconomic states. *Journal of Corporate Finance, 46*(10), 248-260.

DeAngelo, H., & Masulis, R. W. (1980). Optimal capital structure under corporate and personal taxation. *Journal of Financial Economics, 8*(1), 3-29.

Degryse, H., de Goeij, P., & Kappert, P. (2012). The impact of firm and industry characteristics on small firms' capital structure. *Small Business Economics, 38*(4), 431-447.

Demirguc-Kunt, A., Marinez-Peria, S.M., & Tressel, T. (2020). The global financial crisis and the capital structure of firms: Was the impact more severe among SMEs and non-listed firms? *Journal of Corporate Finance, 60*, 101514, https://doi.org/10.1016/j.jcorpfin.2019.101514

Demirguc-Kunt, A., Martinez-Peria, M. S., & Tressel, T. (2015). *The Impact of the Global Financial Crisis on Firms Capital Structure*. The World Bank. https://elibrary.worldbank.org/doi/abs/10.1596/1813-9450-7522

Doan, T. T. T. (2019). Firm-specific factors as determinants of capital structure: Evidence from an emerging country. *International Journal of Economics and Management Systems, 4*, 298-304.

Ebrahim, M. S., Girma, S., Shah, M. E., & Williams, J. (2014). Dynamic capital structure and political patronage: The case of Malaysia. *International Review of Financial Analysis, 31*, 117-128.

Eriotis, N., Vasiliou, D., & Ventoura-Neokosmidi, Z. (2007). How firm characteristics affect capital structure: An empirical study. *Managerial Finance, 33*(5), 321-331.

European Stability Mechanism (ESM): https://www.esm.europa.eu/assistance/lending-toolkit#lending_toolkit

Frank, M. Z., & Goyal, V. K., (2003). Testing the pecking order theory of capital structure. *Journal of Financial Economics, 67*(2), 217-248.

Gaud, P., Hoesli, M., & Bender, A. (2007). Debt-equity choice in Europe. *International Review of Financial Analysis, 16*(3), 201-222.

Gaud, P., Jani, E., Hoesli, M., & Bender, A. (2005). The capital structure of Swiss companies: An empirical analysis using dynamic panel data. *European Financial Management, 11*(1), 51-69.

Ghazouani, T. (2013). The capital structure through the trade-off theory: Evidence from Tunisian firm. *International Journal of Economics and Financial Issues, 3*(3), 625-636.

Grinblatt, M., & Titman, S. (2002). *Financial Market and Corporate Strategy* (2nd ed.). The McGraw-Hill Companies.

Hall, G. C., Hutchinson, P. J., & Michaelas, N. (2004). Determinants of capital structures of European SMEs. *Journal of Business Finance and Accounting, 31*(5/6), 711-728.

Harrison, B., & Widjaja, T. W. (2014). The determinants of capital structure: Comparison between before and after financial crisis. *Economic Issues, 19*(2), 55-82.

Jensen, M., & Meckling, N. (1976). The theory of the firm: Managerial behavior, agency cost and ownership structure. *Journal of Financial Economics, 3*(10), 305-360.

Jong, A., Kabir, R., & Nguyen, T. T. (2008). Capital structure around the world: The roles of firm- and country- specific determinants. *Journal of Banking and Finance, 32*(9), 1954-1969.

Kremp, E., Stoss, E., & Gerdesmeier, D. (1999). Estimation of a Debt Function: Evidence from French and German Firm Panel Data. In: A. Sauve, & M. Scheuer (Eds.), *Corporate Finance in Germany and France: A Joint Research Project of Deutsche Bundesbank and the Banque de France,* www.ssrn.com

Liang, C. C., Liu, Y., Troy, C., & Chen, W. W. (2020). Firm characteristics and capital structure: Evidence from ASEAN-4 economies. *Advances in Pacific Basin Business, Economics and Finance, 8*(9), 149-162.

Mac an Bhaird, C., & Lucey, B. (2010). Determinants of capital structure in Irish SMEs. *Small Business Economics, 35*(3), 357-375.

Machielsen, B. (2012). Empirical evidence on the existence of a pecking order: A study about whether the pecking order theory is an accurate means to describe the incremental financing practices by firm in the European Union. *Bachelor Thesis in the area of Business Administration of Twente Univesity*, https://essay.utwente.nl/63784/1/BSc_Bas_Machielsen_s1131044.pdf

Mc Namara, Murro, P., & O'Donohoe, S. (2017). Countries lending infrastructure and capital structure determination: The case of European SMEs. *Journal of Corporate Finance, 43*(4), 122-138.

Migliori, S., Maturo, F., & Paolone, F. (2018). Capital structure determinants in family firms: An empirical analysis in context of crisis. *International Business Research, 11*(4), 65-83.

Mihalca, G., & Antal, R. (2009). An empirical investigation of the trade-off and pecking order hypotheses on Romanian market. In *ASMDA. Proceedings of the International Conference Applied Stochastic Models and Data Analysis* (Vol. 13, pp. 109-114). Vilnius: Gediminas Technical University, Department of Construction Economics & Property.

Miller, E. M. (1977). Risk, uncertainty, and divergence of opinion. *The Journal of Finance, 32*(4), 1151-1168.

Modigliani, F., & Miller, M. (1958). The cost of capital, corporation finance and theory of investment. *American Economic Review, 48*(3), 261-297.

Modigliani, F. & Miller, M. (1963). Taxes and the cost of capital: A correction. *American Economic Review, 53*(3), 433-443.

Mokhova, N., & Zinecker, M. (2013). The determinants of capital structure: The evidence from the European Union. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis, 61*(7), 2533-2545.

Moradi, A., & Paulet, E. (2015). A causal loop analysis of the austerity policy adopted to address the Euro crisis-effects and side effects. *International Journal of Applied Decision Sciences*, *8*(1), 1-20.

Moradi, A., & Paulet, E. (2019). The firm-specific determinants of capital structure–An empirical analysis of firms before and during the Euro crisis. *Research in International Business and Finance, 47*(1), 150-161.

Myers, S. C. (2001). Capital Structure. *Journal of Economics Perspectives, 15*(2), 81-102.

Nguyen, H. M., Vuong, T. H. G., Nguyen, T. H., Wu, Y. C., & Wong, W. K. (2020). Sustainability of both pecking order and trade-off theories in Chinese manufacturing firms. *Sustainability*, *12*(9), 3883.

Noulas, A., & Genimakis, G. (2011). The determinants of capital structure choice: Evidence from Greek listed companies. *Applied Financial Economics*, *21*(6), 379-387.

Nunes, P. M., & Serrasqueiro, Z. (2017). Short-term debt and long-term debt determinants in small and medium-sized hospitality firms. *Tourism Economics, 23*(3), 543-560.

Öhman, P., & Yazdanfar, D. (2017). Short-and long-term debt determinants in Swedish SMEs. *Review of Accounting and Finance, 16*(1), 106-124.

Pacheco, L. (2016). Capital structure and internationalization: The case of Portuguese industrial SMEs. *Research in International Business and Finance, 38*(9), 531-545.

Rahim, N., Nor, F. M., Ramli, N., & Marzuki, A. (2020). Determinants of capital structure for Malaysian shariah-compliant firms: The Impact of Revised Screening Methodology. *International Journal of Banking and Finance*, *14*, 45-74.

Roodman, D. (2009). A note on the theme of too many instruments. *Oxford Bulleting of Economics and Statistics, 71*(1), 135-158.

Sergiescu, L., & Vaidean, V.-L. (2014). Determinant factors of the capital structure of a firm – an empirical analysis. *Procedia Economics and Finance, 15*, 1447-1457.

Serrasqueiro, Z., & Caetano, A. (2015). Trade-off theory versus pecking order theory: Capital structure decisions in a peripheral region of Portugal. *Journal of Business Economics and Management, 16*(2), 445-466.

Shyam-Sunder, L., & Myers, S. C. (1999). Testing static tradeoff against pecking order models of capital structure. *Journal of financial Economics, 51*(2), 219-244.

Singala, S., & Kumar, R. (2012). The global financial crises with a focus on the European sovereign debt crisis. *ASCI Journal of Management, 42*(1), 20-36.

Smart, B. S., Megginson, L. W., & Gitman, J. L. (2004). *Corporate Finance*. Thomson South-Western.

Stulz, R. (1990). Managerial discretion and optimal financing policies. *Journal of Financial Economics, 26*(1), 3-27.

Vo, X. V. (2017). Determinants of capital structure in emerging markets: Evidence from Vietnam. *Research in International Business and Finance, 40*(4), 105-113.

Wong, W. C. (2018). Debt conservatism and debt-equity choices: Evidence from REITs' unused debt capacity. *International Journal of Banking and Finance*, *13*(1), 1-28.

Wruck, K. H. (1990). Financial distress, reorganization, and organizational efficiency. *Journal of Financial Economics*, *27*(2), 419-444.

Zhang, X., & Mirza, S. S. (2015). Determinants of capital structure of firms in pre-post financial crisis: Evidence from China. *Research Journal of Finance and Accounting, 6*(12), 33-51.