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The Determinants of Capital Structure:A Conceptual Understanding of Non-Financial Firms in Jordan

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Abstract

Jordanis a prominently positioned Middle Eastern country. Economically,Jordan relies onnon-financialfirms which make up the majority of the manufacturingand services sector firms. The Jordanian economy has suffered from high inflation rates, severe unemployment, and bad debts caused by the Arab Spring and political crises that have mired the country since 2011. Bad debts have resulted in firms being unable to settle their loans, hence forcing businesses toresort to combining equity and debt to produce the lowest cost of capital. This justifies the need to investigate the determinantsof capital structure(CS) usingrelevant theories.Several key theories related toCSwill beexamined in this study, including the Trade-off Theory andthe Pecking-Order Theory. This study mainly aims to come up with a theoretical framework that can identify the determinants of CSamongstnon-financial Jordanian firms.The determinants in question include firm size, liquidity,profitability,assets tangibility, growthopportunities, and risks.This study will be carried out by collecting secondary data derived from the annual reports of firms listed on the Amman Stock Exchange (ASE).The researchers expect that the outcomes can improve understandingand facilitate further studies on the subject, ultimately guiding CS decision-making. This study is also expected to facilitate finance managers in making better CS decisions towards maximising shareholder wealth.

Keywords: Capital structure (CS),Jordan, Trade-off theory, Pecking-Order theory.

1. Introduction

In the field of corporate finance, theoretical and empirical studieshave mostly focused on determining the factors influencing optimal capital structure(Hossain & Hossain,2015). Capital structure (CS) is highly significant for any company as the key objective of any business is to maximise the wealth of its shareholders. This goal can be achieved by deciding on an optimal equity-debt combination, thus producing the lowest capital cost (Vo, 2017). Modigliani and Miller (1958) pioneered work on CSand added to the body of knowledge on the topic. Most studieson the determinants of CShave used the trade-off and pecking-order theories, amongst others; these theories have their own explanationsforcorporate financing. The trade-off theory outlines the interchange

between debt tax shields and bankruptcy costs, with the assumption that an optimal CSexists(Bradley,Jarrell,& Kim, 1984);while the pecking-order theory assumes that hierarchal financing decisions primarily rely on internal financing sources with external financing being sought when the sources do not meet the investment requirements. Equity would be the final option (Myers, 1984; Frank &Goyal, 2009). However, these theories do not universally explain CS, thus giving rise to the need for additional investigations (Hossain & Hossain, 2015).

A company'sCSis primarily determined by the factors that affect the company's leverage. "Leverage" here refers to fund borrowing for the acquisition of assets, assuming that the generated revenue will exceed the borrowing cost (Kumar & Rao, 2015). This is a risky move due to the fact that there are no guarantees that the assets will generate the needed income stream or capital, and that the debt will potentially incur further principal and interest costs. Hence, the issue of accessing finance cannot be explained by solely focusing on the determinantsof CS; the prevailingCS and desired CSmust also be assessed (Gill,Biger, Pai,&Bhutani,2009). The prevailingCSdenotes the firm's current choice of accessible financial resources, whilst the desired CS denotes all existingfund sources in the market.

Globally, all decision-makers and stakeholders would want to identify the rightCS that can maximise the value of their firm (Acaravci, 2015). Towards that end, the determinants of CSmust be identified (Hossain & Hossain, 2015). Essentially, decision-makers would want to distinguish the correlation between specific firm measures and debt ratio. They would want to identify the determinants of their firm'sCS. Hence, the decision-makers must establish the effects of altering specific firm measures on their firm's CS. They must principally determine the correlation between specific measures, such asfirm size, profitability, liquidity, assets tangibility, growth opportunitiesand risk on their firm's financing decisions.

Yet, the question of how firms choose their CS as raised by Myers (1984) remainsunanswered (Hamzah & Marimuthu, 2018; Haron, 2014; Hossain & Hossain, 2015). This has led to extensive studies on the significant determinantsofCS that cause the issuance of debt or equity by firms. However, the findings from such studies are inconsistent, indicating the need for further investigation.

In the context of Jordan, despite a number of studies on the key factors influencingCS (e.g., Alnajjar, 2015;El Bahsh,Alattar,& Yusuf, 2018;Yusuf, Al-Attar,& Al-Shattarat, 2015), there remains a gap with regards to the factors affecting optimal CS decisions. The explanation for this is that firms are adjusting rapidly to the target CS,which undergoes changes according to market conditions and specific firm factors(Huang & Ritter, 2009). Additionally, no study has investigated all the factors influencingCS decisions; in fact, there is a need to determine which CS theories are suitable in the context of non-financial Jordanian firms.

Hence, this current study intends to propose a theoretical framework of thedeterminants of CSby reviewing relevant theoretical and empirical literature. The findings of this studymay improve understanding onCSdecisions andenrich the current body of knowledge on financial decisions inthe context of Jordan.This paper is divided into five sections including this introductory section. Section

Two discusses the theories of CS and reviews relevant literature. Section Three deliberates on the determinants of CS and the research framework development. Next, Section Four explains thestudy methodology,whilst Section Five concludes the study.

2. Related theories and literature

CS refers to the integration between debt and equity capital; it describes a firm's financial structure and how it finances its investments via the debt-equitycombination (Younas & Kassim, 2020).There is a basic difference between debt and equity capital. Debt capital denotes the money borrowed from banks in the form of loans. Equity capital denotes the firm's funds held by the owner or shareholders. CS refers to the optimal ratio between debt and equity capital towards maximising the firm's value.

Following the study by Modiglianiand Miller (1958) on the effect of CS choices on firm value, a number ofCStheories, including the Agency theory, Free Cash Flow theory, Pecking-order theory, Static Trade-off theory, and Signallingtheory, were developed to help establish the optimal CS for firms.In the context of this study, the trade-off and pecking-order theories seem to be relevant.

According to the trade-off theory, optimal debt is achieved when the debt financing's marginal benefit equals its marginal cost. Benefits-wise, debt enables the tax of interest expenses to be deducted and the agency costs of equity to be reduced resulting from the surplus free cash flows. The disadvantage of debtis that it increases interest rates and bankruptcy costs, whether directly or indirectly, particularly in conditions ofextreme debt. OptimalCScan be achieved by changing the levels of debt and equity up to the point where the tax shield's marginal benefit is equivalent to the financial distress' marginal cost. This theory suggests that every firm has an optimal level of debt. It does not contemplate the aspects of information asymmetry or agency cost (Bradley et al., 1984). Generally, the theory suggests that the benefits and costs of debt should be traded-off as the first step to attaining capital.

The pecking-order theoryasserts that firms forgo target debt ratios, favouring internal financing over external financing and debt over equity, whenever there is a need for external financing. The emergence of pecking-order behaviour is due to financing costs,i.e., transaction costs linked to new securities and asymmetric information (Myers &Majluf, 1984).According to this theory, high-growth firms with high financing requirements will incur high debt ratios caused by the reluctanceof the managers to issue equity. Firms are less interested in equity because it involves greater information asymmetry, causing more expensive issuance compared to other funding sources (Baskin, 1989).

Both the above-mentioned theories highlight various factors influencing the making ofCS decisions. Sheikh and Wang (2011) suggested that the pecking-order theory highlights the factors of profitability, assets tangibility, and liquidity; while, the trade-off theory outlines the factor of earnings volatility. According to Sofat and Singh (2017), the pecking-order theory is linked to profitability, whilst the trade-off theory is related more toassets tangibility and earnings volatility. This means that none of the theories can inclusively explainCS decision (Hamzah &Marimuthu, 2018; M'ng, Rahman,&Sannacy, 2017). However, these theories can give insightsintothe decision-making on CS.Fama andFrench (2005) asserted that extensive research has been conducted on both

the trade-off and pecking-order theories, and that there are elements of truth in both theories which can help explain financing decisions.

According to previous studies, firm-specific factors, including profitability, firm size, and assets tangibility have significant effects onCS (Frank & Goyal, 2009;M'ng et al., 2017).Likewise, Kayo and Kimura (2011) indicated firm-specific factorsas the key determiners of CS decisions as opposed to industrial or macroeconomic factors.

Eldomiaty (2008) and Haron(2014) suggested that although contemporary studies in the context of developing countries are gaining prominence, the body ofliterature remains scarce due to the fact that the equity and capital markets in developing nations areinefficient and imperfect compared to those in developed nations.Additionally, based on the literature review, although empirical research in developing nations is growing, there is a dearth of studies in the context of the Asian region (Driffield &Pal, 2010;M'ng et al., 2017).Hence, this current study aims to enrich the existing body of knowledge by discussing the relationship betweenthe determinants of CS in the context of Jordan. Based on the review of relevant studies,several factors are acknowledged as the factors influencing the leverage level.

3. Determinants of capital structure and the research framework

The research framework isbased on the variables derived from the related theories and literature. Six independent variableswill be used in this study, namely firm size,liquidity, profitability, assets tangibility,growth opportunities, and risk;with leverage level as the dependent variable.

3.1The independent variables

3.1.1Firm size

Firm size refers to the natural logarithm ofnet sales (Drobetz&Wanzenried, 2006). The size of a firm is projected to have a positive effect on the level of debt. Larger companies have a higher possibility of becoming bankrupt, thus attracting greater debt (Sbeiti, 2010). Debt ratios areprojected to have a positive correlation with firm size becauselarger firms are likely to be more diversified and have lower earnings variance, thus allowing higher debt ratio tolerance (Titman &Wessels, 1988). Yet, most scholars in the field have suggested that larger firmscause higher information asymmetry, hence attracting less debt, or that larger firms possess greater access to equity funding as opposed to smaller firms (Bae, 2009; Marsh, 1982). The negative correlation between firm size and CScould be caused by the ability of the larger firms to conduct financing via share issuance instead of debt financing, rendering them to incur lesser debts in their CS (Deloof &Overfelt, 2008). Nonetheless, this studyhypothesises a positive correlation between firm size anddebt level.

3.1.2 Liquidity

Liquidity refers to an asset's direct convertibility into cash without disrupting the ability of its price to fulfil short-term requirements under a specific acute stress scenario and without readjusting the fundamentalCS(Berkman, Iskenderoglu, Karadeniz,&Ayyildiz, 2016). Liquidity is the ratio of current assets tocurrent liabilities (De Jong, Kabir,& Nguyen, 2008). Liquidity ratios commonly pose

a combination of effects on CS decision. The trade-off theory suggests that highly liquid firms have the ability to use high debts because of their capability to fulfil their obligations (Vo, 2017). This suggests a positive correlation between liquidity and debt ratio, whereby highly liquid firms (i.e., those with large short-term assets over short-term liabilities) possess lower liquidity risks and borrow more due to their repayment capacity (Hamzah & Marimuthu, 2018). Meanwhile, the pecking-order theory indicates that highly liquid firms can finance the investments by using their internal funds (Khemiri&Noubbigh, 2018). In short,leverage and liquidity are projected to have a negative correlation as firms with higher debts are linked to greater liabilities and lower prevailing current assets.

3.1.3 Profitability

Profitability refers to a firm's ability to generate funds after fulfilling all expenses and taxes (Haron, 2014;M'ng et al., 2017). It entails the ratio of operating income to sales. The pecking- order theory suggests that a firm favours employing retained earnings instead of debt for the purpose of project financing (Rani,Yadav,& Tripathy, 2019). According to Moradi and Paulet (2019), profitable firms are more likely to utilise internal funds to fulfil their financing requirements. Hence, profitability and debt level have an optimistic correlation.The trade-off theory suggests that highly profitablefirms promote debt financing and offerfirms an incentive to benefit from the tax shield on interest payments (Sheikh et al., 2010). Hence, this study suggests a positive correlation between profitability and debt ratio.

3.1.4 Assets tangibility

Assets tangibilityrefers to the ratio of equipment, plant and net propertyto total assets(Haron, 2014).A majority of theories on CSstate that asset type has an effect on the choice of CS. According to the trade-off theory, leverage is positively correlated to tangible assets. As opposed to intangible assets, tangible assets typically have a higher collateral value, thus implying their ability to support higher debts (Acaravci, 2015). A higher assets tangibility ratio provides a higher securitylevel as the collateral assets can be liquidated if bankruptcyoccurs (M'ng et al., 2017). With tangibleassets, the effects of financial distress can be reduced. A majority of empirical studies have found that leverage and assets tangibility are positively correlated (e.g.,Acaravci, 2015; Titman & Wessels, 1988). Hence, assets tangibility is expected to positively affecta firm's debt repayment capability and the likelihood of banks to give loan extensions.

3.1.5Growth Opportunities

Growth opportunity is defined as new investment prospects that improve the value of a firm (Ahsan, Wang,& Qureshi, 2016; Saarani&Shahadan, 2013).It is denoted by the annual percentage change in total assets (Hamzah & Marimuthu, 2018).According to Jensen and Meckling (1976) and Myers and Majluf (1984), high growth firms utilise greater equity financing as firms with higher leverage tend to steer clear of profitable investment prospects. Based on the assertion of the trade-off model, firms with greater investment opportunities possess lower leverage due to their stronger motivation to evade underinvestment and asset substitution arising from the agency conflicts between the

stockholder and bondholder. Hence, this theory expects leverage and investment opportunities to be negatively correlated. The pecking-order theory states that firm growth has a negative correlation with CS.As a result, high growth firms may initially avoid issuing debts, and leverage is projected to have a negative correlation with growth opportunities (Acaravci, 2015; Titman & Wessels, 1988).Thus, this current study suggests that growth opportunities negatively affect leverage ratio.

3.1.6 Risk

Risk significantly affectsCS, as measured by the standard deviation of profitability or the business risk of the firm (Baranoff,Papadopoulos,& Sager, 2007). According to the trade-off theory,firms with high failure possibility should not engage in high debts (Wiwattanakantang, 1999). A firm with high earnings risk has high tendencies to enterinto bankruptcy, and hence is not credit-worthy for debt. Therefore, this theory asserts that risk has a negative correlation with debt, which is consistent with the pecking-order theory's proposition. The negative correlation between risk and CS could be because risky firms are more likely to sidestep using external financing and use internal financing instead to avoid going bankrupt (Alipour,Mohammadi,& Derakhshan, 2015).Hence, this current study proposes that risk is negatively correlated to leverage ratio.

3.2The dependent variable

CS can also be denoted by leverage level, as measured by the total debt to total capital book ratio (M'ng et al., 2017). According to Drobetz and Wanzenried (2006), leverage measure refers to the employed capital which indicates the effect of historical CS decisions and is directly linked to the debt-related agency problem as suggested by Jensen and Meckling (1976). Book leverage is broadly employed in CS studies as asserted by Fama and French (2005). Hence, the current study's dependent variable (i.e.,leverage ratio)will be measured by the total debt to total capital book ratio, in which total capital will be delineated as the sum of total debt and book equity.

3.3 The research framework

Using the variables presented in the theoretical framework, hypothesis testing will be carried out to achieve the study's objective, i.e., to determine the effect of firm-specific factors on the leverage level ofJordanian firms. Based on the literature review, the following are hypothesised, i.e.,the leverage level in Jordanian firms is:(1) positively influenced by firm size; (2) negatively influenced by liquidity; (3) positively influenced by profitability; (4) positively influenced by assets tangibility;(5) negatively influenced by growth opportunities;and(6) negatively influenced by risk. Figure 1 depicts the study's proposed theoretical framework based on the previous discussion.

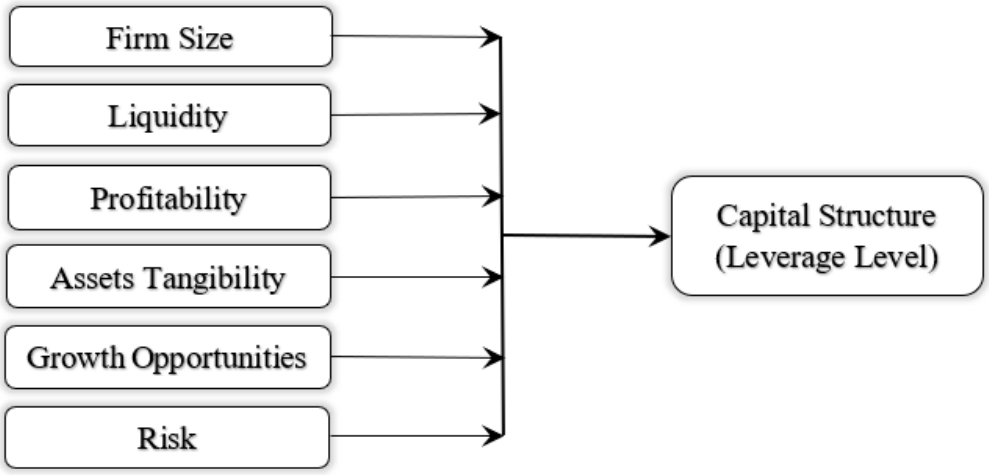

Figure 1: Proposed Theoretical Framework

4. Methodology

This study will employ a quantitative research method, relying on secondary financial data derived from the annual reports of non-financial firms listed on theAmman Stock Exchange (ASE) between 2016 and 2019. The annual reports can be sourced from the ASE and the companies' websites. The unit of analysis will be thelisted manufacturingand services firms. This study will comprise the entire population of109 firms listed on theASE.

5. Conclusion

Although non-financial firmsare known to be significant in Jordan, the factors influencingthe firms' CS have not beenthoroughlydiscussed in academic literature. In order to gain insightsinto how non-financial firms decide on their CS,the determinantsof CS must be identified. This current study'stheoretical framework comprising the above-mentioned factors will usea sample of 109ASE listedfirms from 2016 to 2019.Using the available data, the six factors of CS will beanalysed, namely firm size, liquidity, profitability, assets tangibility, growthopportunities, and risk.The findings are expected to enrich the currentbody of knowledge on this areaby providing insightsinto the factors that influence CS decisions.Additionally, top managers can use the findings to establishan optimal CS towards improving firm performance.

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