CAPITAL STRUCTURE, BOARD SIZE AND FIRM PERFORMANCE: EVIDENCE FROM JORDAN

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ABSTRACT

This paper focus on an important issue that has received little attention in previous studies. It is the effect of boar size on the relationship between capital structure and the financial performance of companies. Through used the sample includes the industrial companies listed in Amman Stock Exchange, the generalized least squares method, as a panel data technique to study the moderating of boar size on the relationship of capital structure and financial performance. Where capital structure measured by (equity ratio and long-term debt) and the financial performance measured by Tobin's Q. The results showed, board size moderates the relationship between equity and financial performance. Also, Tobin's Q significantly affected by equity and the relationship is negative.

Keywords: Capital Structure, Board Size, Firm Performance

INTRODUCTION

The decisions which related with Capital Structure (CS) of companies is considered one of the most important financial decisions for financial decision makers, because its close association with other financial decisions variables such as investment and operational decisions. Poor capital structure decisions can lead to high costs that are a burden on Financial Performance (FP). Some companies prefer to rely on debt because it is alternative source and less expensive but a non-permanent source. Other companies prefer not to rely on debt because may be lead to risk bankruptcy. Which necessitates the financial management to determine the mix of the financial source in a balanced manner, which reflected positively on the achievement of the main company objective to increase the firm vale? Research related with the capital structure began to crystallize scientifically at the end of 1950s, when the first theory appeared in this field, which known the traditional theory of capital structure. This theory emerged in the end of 1950s and early 1960s by the two Milo & Mudgliani.

The Corporate Governance (CG) mechanisms help the investors to ensure their capital back and receive an adequate return on their investments. Companies with strong corporate governance provides disclosures, transparent and it is friendly for the investors therefore they can access to the capital markets with better terms. Corporate governance is defined as the system directed and controlled the company's business (Cadbury, 1992), and it include the rules, processes designed and framework the relationships to ensure that the managers work for shareholders and firm interest. An optimal capital structure is the debt to equity ratio for the companies that minimizes the cost of capital and lower the probability of bankruptcy. there have many empirical studies providing evidence that corporate governance, financial decisions and financial performance companies are influenced by the conflicts between owners and managers (agency problem). Corporate governance activities increase the effectiveness of companies, appropriate supervision and control, so it has an

important role to ensure the shareholders interest and reduce the conflicts (agency problem) (Shleifer & Vishny, 1997). With good governance structure, it is easier for companies to get loans from creditors because the functional company structure save the benefits of stakeholders reduces the conflicts (agency problem) and increased transparency. Companies with weak governance practices faced more agency conflict because the managers in these companies can get private benefits easily due to weak CG structure.

Problem Statements

Many researchers examined the relationship between capital structure and firm value, but the results of these studies were different. Also it dealt the issue of corporate governance and its impact on the financial performance of firms. These studies were limited in emerge countries, including Jordan.

Though review of Jordanian company's performance, in the last period there was a decline in the performance of listed companies in Amman Stock Exchange and there are change in the capital of some companies also there are a some of companies were liquidated, at the beginning of 2018 (Algad, 2018). According to the studies that dealt with the capital structure and its impact on Jordanian firms' performance, the results were different as (Al-Taani, 2013; Gang, 2014). Hence, this study attempts to explain the effect of the capital structure on the financial performance of manufacturing companies listed on Amman Stock Exchange (ASE) and examine the moderating of Board Size (BS) as mechanisms of the corporate governance on this relationship.

LITERATURE REVIEW

Al-Taani (2013) examine the impact of capital structure on financial performance, the researcher measured the capital structure by (TDTE) (TDTF) and the financial performance by (NP)(ROCE)(ROE)(NIM). Also he used the secondary data from the annual financial statement from 2007 to 2011 for 12 commercial banks. The study found, total debt significantly and positively effects on NP, ROCE and NIM but insignificant with ROE.

In Pakistan and based on secondary data of Pakistani banking which published at Karachi stock exchange from 2007 to 2011 (Saeed et al., 2013) examine the impact of capital structure (measured by long debt to capital and short debt to capital) on financial performance (measured by ROA, ROE and EPS). The result showed appositive relationship between capital structure and Pakistani banking performance.

Also in Bangladesh Ahsan et al. (2014) investigated the impact of Capital Structure (CS) on the Financial Performance (FP). The sample was 36 firms listed in Dhaka Stock Exchange from 2007 to 2012. The researchers measured the CS by (long, short term debt and total debt ratios) and the FP by EPS, ROE, ROA, and TOBIN'S Q. They concluded the firm's performance negatively associated with CS.

In Jordan Gang (2014) used panel data for sample consist 167 Jordanian firms from 1989 to 2003 to investigate the effect of CS on the FP. The researcher used total debt to asset, total debt to equity, short term debt to asset and total debt to capital to measure capital structure. For financial performance he used EPS, MBVR, MBVE, ROE, ROA, PROF and Tobin's Q. The researcher concluded CS has significantly negative impact on the company's performance also short debt has significantly positive impact on Tobin's Q.

Kanwal, et al., (2017) investigated the impact of capital structure (Debt to Equity, Long and Short-term ratios) on the financial performance (ROE, ROA, Tobin's Q and PE) for 213 Kenyan firms from 1999 to 2015. The researchers found long, and short-term debt have negative impact on performance. In Vietnam Vo & Phan (2013) examined the impact of CG on financial performance for 77 from 2006 to 2011 vitamin firms. The study showed the BS has negative impact on ROA.

Also, Doğan & Yildiz (2013) in Turkey studied the impact of board director size on the performance of Turkish banking. They analysis the data for 12 banks from 2005 to 2010. The results were negatively and significantly between board size and ROE, ROA, but the relationship was negative and non-significant between board size and Tobin's Q.

In Jordan Alabdullah, et al., (2014) studied the impact of CG on the FP for 109 industrial and services companies listed in AES. The results indicated that the BS has a negative relationship with firm's performance.

THEORETICAL FRAMEWORK

The asymmetry information arises When management has internal information about the company where investors do not have access to this information, may exploited to make decisions for the benefit of the managers, which leads to agency problem because of the separation of management from ownership (Jensen & Meckling, 1976). The efficiency of investment decisions was taken by the management effects on the return, risk and market value of the company. If managers prefer their personal interest and neglect the owners' interests, this leads to destruction the company.

The agency problem arises because of the separation between administration and ownership (Hannah, 2007; Jensen & Meckling, 1976) The biased management behaviour to their personal interests lead to decrease in net profits of the owners through invest in projects with low profitability or may drain the company's resources by increasing management expenses and incentives for managers (Kajananthan & Achchuthan, 2013). The agency cost is attributed to the fact that managers have a small share in the company, so they consume more welfare (Harris & Raviv, 1991) suggested the debt in CS of companies provides information about agent behaviour and management oversight. The management may choose the debt source in CS to reduce information asymmetry and to improve effective governance or debt may be imposed through a stock holder to ensure good management and restricting its conduct. Debt contracts increase the governance efficiency, and the CG may effect on the decision related with capital structure.

Debt obligates the company to pay the money, thus reducing amount available money to the company's managers for spend it in their personal interests and thus can invest the companies' money for owners benefits (Jensen, 1993). When funding sources are chosen by management, managers seek to stay away from debt because it effects on their power in companies (Myers & Majluf, 1984). Debt in the company's CS motivates managers to make more effort for shareholders' benefit, to maintain their positions, which leads to increase the company's value (Gansuwan et al., 2012).

More importantly, the literature indicates debt reduces free cash flows so it limits administrative flexibility and restricts managers and their ability to increase their salaries and incentives (Jensen, 1986 & Morellec, 2004). This disciplinary effect leads managers to prefer low debt to avoid this problem (Morellec et al., 2012). Kochhar (1997) discussed the competitive advantage of companies and its ability to manage company's finance. Where the governance structure of the company can control the cost and efficiency of performance with different strategic assets to settle the financial issues that effect on shares value. Where the management makes financial decisions to reach optimal market value.

The authors point out that managers adopt on the non-threatening CS decision, where they can change the CS at any time. The increasing debt levels are leading to increase bankruptcy risk and acquisition which puts the managers under pressure and fear for their interests Grossman & Hart (1982). The higher levels of debt stimulate the managers to work for firm's benefit, where debt consider a monitoring tool (Harford et al., 2008).

La Rocca (2007) He also discussed the importance of CG mechanisms as moderator to explain the links between CS and firm values and stressed the importance of the complementary

role between the CS and CG mechanisms. Accordingly, the researcher developed a study model to examine the moderating of board director size as CG mechanisms on the relationship between CS and firms value. Also, board directors are a monitoring tool to perform management to protect the company and shareholders' interests, also to advice for reduce the agency costs. The Board Directors is an important factor for effective CG (Jackling & Johl، 2009). The Resource dependency theory suggests that increasing the Board Directors size may benefit the Company by providing a network with the external environment and securing a broader resource base (Pfeffer & Salancik, 2003).

There are some studies supporting small size boards such as (Andrés et al., 2005; Cheng, 2008; Eisenberg et al., 1998; Hermalin & Weisbach, 2001) where they assume they positively affect performance. However, (Dehaene et al., 2001) they suggest that larger BS reduce the effectiveness members' connection and decision-making. Where the large BS increases the difficulty, lack the flexibility and the coordination among the Board Director members (Huther, 1997), reduce the ability of firm board to control management (Eisenhardt, 1989). On the other hand, others believe that the large size of the firm's board reduce managers' ability to control the board (Zahra & Pearce, 1989) And enables wide vision of administrative issues (Bonn et al., 2004). Also the large board is abler to control management behaviour where it is difficult for senior executives to control the board (Mak & Roush, 2000). The large board can be a source of experience in companies as well as external communications that are lacking by the company (Gabrielsson, 2007).

In contrast, the Board Directors is responsible for manage company actives and making strategic decisions (such as determine the CS). Several studies have demonstrated the relationship between board director size and firm's CS (Abor & Biekpe, 2005; Al-Najjar & Hussainey, 2009; Berger et al., 1997; Du & Dai, 2005; Mehran, 1992; Wen et al., 2002). However, the results were different in the studies related with CS and board director size. Scholars say smaller size boards have higher debt ratios than larger boards (Berger et al., 1997). This is explained by the fact that small boards are effective to oversight the management and are likely to affect managers' decisions (Tarus & Ayabei, 2016). Where (Abor & Biekpe, 2005) found the company with large board would prefer to have a low debt to equity ratio. Berger, et al., (1997) found that large board director size is associated with lower debt ratio and assumed that the larger board will increase the pressure on managers to reduce debt.

In another context (Jensen, 1986) found that companies with large board size are associated with a large debt ratio in CS. Studies have shown that companies with large boards have higher levels of debt in their CS (Abor, 2007; Jensen, 1986). This can be explained by the fact that larger board can link the company to creditors due to the large of external relations in the large boards, thus increasing debt ratio in CS (Tarus & Ayabei, 2016).

The results of Wen, et al., (2002) shows a positive relationship between board director size and the firm's CS where they found the larger board, which more entrenched because of the monitoring by regulatory bodies, seek to increase the leverage to raise the company value. Anderson, et al., (2004) also found that the lower cost of debt in the companies which have large BS may be due to creditors consider the larger board is more effective in control of financial accounting processes.

That led to conclude there is a reciprocal relationship between the CS and board director size. Companies wishing to increase the debt ratio may increase the number of board members (in case the number is small) In order get the trust of creditors to obtain loans with lower interest rates or to take advantage the external relations of the board director members. Also, creditors may force the companies to participate in its board.

HYPOTHESIS OF STUDY

H1 Company's FP is positively associated with long term debt ratio in companies listed in ASE.

H2 *Company's FP is negatively associated with equity ratio in companies listed in ASE.*
H3 *Board director size increases the relationship between long term debt ratio and companies FP listed in ASE.*
H4 *Board director size increases the relationship between equity ratio and companies FP listed in ASE.*

METHODOLOGY

This study uses secondary data from 2013 to 2017 for industrial firms listed on ASE. The source of this data is the annual financial statement published in Amman stock exchange. 56 firms listed on ASE on industrial sector at the end of 2017. The study analysed the data for only firms traded during the study period (2013-2017), the firms which listed after 2013 and suspended in study period were dropped. Also the companies which incomplete and unavailable its information were excluded. Thus, the total number of companies surveyed was 48.

Model Specification

Panel data approach is appropriate in studies that deal with various types of variables that change over time and between entities, and which are constant over time and change between entities (Wooldridge, 2010). Various estimation methods can use for panel data such as random and fixed effects. Furthermore, robust standard error is used in the case of heteroscedasticity and autocorrelation problems (Hoechle, 2007). Based on data that was collected, panel data approach is considered appropriate for the current study. Therefore, adopting the above model from wahba (2014) becomes thus:

$$(Q)it = \beta 1 + \beta 2(EA)it + \beta 3(LONG)it + \beta 4\,(SIZ)it + \beta 5\,(BORS)it + \beta 6(EA)it * (BORS)it + \beta 7\,(LONG)it * (BORS)it + Uit$$

Table 1
DEFINITION OF THE RESEARCH VARIABLES

variable	Acronym	Definition
Tobin's Q	TQ	The sum of equity market value and total debt book value divided by total assets book value
Equity ratio	EA	Log audit fees
Long term debt	LEV	Total debt book value divided by total equity
Board size	BORS	Total current assets divided by current liabilities
Firm size	SIZE	The natural logarithm of the total assets book value

Data Analyses

The results of descriptive statistics (Table 2) Showed that the mean of TOBINSQ for Jordanian manufacturing companies is (1.12) there are vary in their market value this is shown through the Maximum and Minimum. We can note there is a convergence of company's behaviour toward equity financing, where the mean of equity ratio was (0.660) and the median (0.68). But there is very for using long term debt, the mean was (0.035) and the median (0.00). The average of firm size around (7.35), there is vary in the firm's size. The mean of board director size is (7.73). Heteroscedasticity is serious problems that effect on our model. To insure that Heteroscedasticity is unlikely a problem. The researchers employed panel cross section heteroscedasticity LR test and panel period heteroscedasticity LR test, the results show the probability of likelihood ratio is (0.00) for both tests that mean we reject the null hypothesis (residuals are homoscedastic). Thus we have not Heteroscedasticity problem in our model.

Table 2
DESCRIPTIVE STATISTICS

	Q	EA	LONG	SIZE	BORS
Mean	1.120066	0.660724	0.035614	7.353132	7.7375
Median	0.933832	0.688969	0	7.261786	7
Maximum	7.720285	0.996002	0.817662	9.408009	13
Minimum	0.00884	0.036484	0	2.596372	4
Std. Dev.	0.814767	0.210829	0.078523	0.682542	2.16907
Sum	268.8158	158.5736	8.547386	1764.752	1857
Sum Sq. Dev.	158.6591	10.62323	1.473645	111.3413	1124.463
Observations	240	240	240	240	240

Table 3
CORRELATION MATRIX

Probability	TQ	EA	LONG	SIZE	BORS
TQ	1				

EA	-0.029462	1			
	0.6497	-----			
LONG	-0.008605	-0.351086	1		
	0.8945	0	-----		
SIZE	-0.175541	-0.086513	0.089424	1	
	0.0064	0.1816	0.1673	-----	
BORS	0.084788	0.096588	-0.082552	0.233138	1
	0.1905	0.1357	0.2025	0.0003	-----

The relationship between the current study variables is illustrated in Table 3. The interrelationships level among independent variables has been examined which should be less than 0.8 percent as suggested by Yoshikawa & Phan (2003). Pearson‘s correlation was also used to check for multicollinearity among the independent variables (Weisberg, 2005). From the results in Table 4, there was no multicollinearity problem.

By using panel data regression, the researchers applied panel date analysis. To analyse panel data the researchers employed Hausman (1978) test to prefer between fixed effect model and random effect model. According to the result, fixed effect model preferred to the random effect model because the probability of Hausman test is (0.0000) (Gujarati, 2003).

Table 4
FIXED EFFECT WITH ROBUST STANDARD ERROR REGRESSION

Variables	Fixed effect with Robust standard error regression	
	Coef.	t-Statistic
EA	-1.1	-2.3**
LD	1.7	0.9
SIZ	-1.3	-4.5***
BORS	0.54	3.46***

EA*BORS	0.09	1.8*
LD*BORS	-0.18	-0.8
_CONS	-1.14	-1.7
R-sq:	0.73	
Prob(F-statistic)	0	
F-statistic	13	

According to the results were reported in table 4 equity ratio has negative and significant effect on Tobin's q where ($p<0.10$), this value is consistent with the previous study done by Rouf (2015). Also, BS has positive effect on the relationship between equity ratio and Tobin's q where ($p<0.10$). The firm size has negative effect on Tobin's q where ($p<0.10$). Long term debt insignificant effect on Tobin's q where ($p>0.10$), This value is consistent with the previous study done by (Tilab, 2014). R-squared (0.792) that mean this model explain 79%, 2 of the change in firms' performance.

CONCLUSION AND DISCUSSION

The determination of optimal CS is the most important factor in firm financing. Where companies seek to reach optimal CS which leads to increase market value. Previous studies have focused on the relationship between debt policy and firm FP. The researchers provided deferent results regarding the impact of CS on the FP.

Based on agency theory, this study provides evidence about the impact of board director size on the relationship between CS and FP. By analysis panel data for industrial companies in Jordan. Where found that board director size in the industrial companies listed on the ASE affects the relationship between equity ratio and FP of companies. The inclusion of this result is the optimal CS may be contingent on roles, power, contextual variables as well as the stakes of key internal and external actors. This means that it is possible the effectiveness of CG mechanism (debt) is affected by other CG mechanisms. This is consistent with finding of Cotei, et al., (2011) that the company valuation is influenced by the legal and financial systems, not just the attributes of the company.

This can be explained by the fact that financing the firm through equity reduces the financial obligations of the firm and this increase the cash flows in the firm, according to Jensen (1986) the managers of the company that has high cash flows tend to spend on projects that inefficient and negative value also they consume more in-kind benefits and raise their rewards. Managers may also tend to spend those flows in some areas, such as spending in unnecessary and undesirable advertisement (Joseph & Richardson, 2002). There is evidence that companies generate high free cash flows tend to spend on unnecessary investments and do not add value to the company, Therefore, high free cash flows may lead to higher agency costs if managers cannot from their efficient investment to the interests of shareholders (Brigham & Ehrhard. 2011). On the other hand, the positive association between equity and firm performance when board size is concentrated can be explained by the large board size may be a source of firm experience as well as external communications that the company lacks (Gabrielsson, 2007). Either Bonn, et al., (2004) suggests that the large board size has a widely vision for management issues facing the company. The large board can be monitoring the management behavior where it is more difficult for the managers to control the large board (Mak & Roush, 2000).

This paper has implications on the practitioners, the managers and practitioners should consider that the financing decisions have multi diminutions which differ with firm characteristics. Who want to increase the value of their companies is likely to be helped by this paper in choosing the right CS. Managers also need to pay attention to the characteristics of the company, such as size, because of its important impact on the firm value, where they should study the firm life cycle in

their financial decisions. Where the company depends in the beginning of its activities on debt either in maturity stage, the firm the rebalance its CS, where gradually replacing the debt with internal capital (La Rocca et al. 2011). The previous studies have dealt extensively the importance of the Board of Directors' characteristics such as the size (see for example Vo & Phan, 2013; Doğan & Yildiz, 2013; Alabdullah, et al., 2014) but it did not address the impact of BS on the relationship between CS and FP. Researchers in future are advised to apply such a study to other sectors in the ASE, in addition to small and medium enterprises. Researchers are also recommended to examine the effect of CG mechanism on the relationship between financing decisions and FP.

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