

The Effect of Corporate Governance Mechanisms on Financial leverage: Evidence from Firms Listed at Palestine and Jordan Stock Markets

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Abstract

This study aims to investigate the influence of some corporate governance mechanisms (board size, board independence, chief executive officer duality, gender diversity in the board and insider share ownership) on financial leverage (244) listed firms in Palestine and Jordan stock markets during 2006 to 2017. Findings of the study indicate that there is a positive relationship between board size, female on board, and inside ownership with financial leverage. Whereas, an inverse relationship has been found between board independence, and chief executive officer duality with financial leverage.

Keywords: Corporate governance, board independence, board size, chief executive officer duality, gender diversity in the board, inside ownership, financial leverage, Palestine stock exchange, Jordan stock market.

المخلص

هدفت هذه الدراسة الى البحث في العلاقة بين بعض خصائص الحوكمة (عدد اعضاء مجلس الادارة, واستقلالية مجلس الادارة, وازدواجية مهام الرئيس التنفيذي حيث يتولى الرئيس التنفيذي منصب رئيس مجلس الادارة في نفس الوقت الذي يعمل فيه كرئيس تنفيذي في الشركة , وعدد النساء في مجلس الادارة, وعدد الاسهم المملوكة من قبل مجلس الادارة وادارة الشركة) و مستوى

الرافعة المالية (التمويل بالدين) الذي تستخدمه الشركات المدرجة في سوقي فلسطين وعمان للأوراق المالية, حيث تكون مجتمع الدراسة من 244 شركة وتم جمع البيانات اللازمة لإتمام هذه الدراسة من سنة 2006 وحتى سنة 2017.

نتائج الدراسة تشير الى انه هناك علاقة ايجابية بين عدد اعضاء مجلس الادارة ومستوى التمويل بالدين اي ان نسبة التمويل بالدين تزداد بازدياد عدد اعضاء مجلس الادارة, كذلك هناك علاقة ايجابية بين عدد النساء في مجلس الادارة ومستوى التمويل بالدين مما يعني ان ارتفاع نسبة النساء في مجلس الادارة سوف يؤدي الى ارتفاع نسبة التمويل بالدين, بالاضافة الى ذلك هناك علاقة ايجابية بين عدد الاسهم المملوكة من قبل مجلس الادارة وادارة الشركة و مستوى التمويل بالدين اي في حال ارتفاع نسبة الاسهم المملوكة من قبل مجلس الادارة وادارة الشركة سوف ترتفع نسبة التمويل بالدين. ولكن هناك علاقة سلبية بين استقلالية مجلس الادارة ومستوى التمويل بالدين هذا يعني ان نسبة التمويل بالدين تنخفض كلما ازدادت استقلالية مجلس الادارة, كذلك هناك علاقة سلبية بين ازدواجية مهام الرئيس التنفيذي للشركة ومستوى التمويل بالدين اي ان نسبة التمويل بالدين تنخفض اذا تولى الرئيس التنفيذي رئاسة مجلس الادارة للشركة.

Introduction

In the last three decades, many bankruptcy scandals have occurred such as Enron and WorldCom due to the poor corporate governance practices, which encourage managements of these firms to deceive fund suppliers (creditors and investors) by hiding bad news and issuing unrealistic financial and nonfinancial information to the public. As a result, the trust of investors in financial reporting and stock market has been decreased to a high extent, which pushed American Congress to issue Sarbanes Oxley Act in 2002 in order to protect investors through better financial reporting and disclosure.

Corporate governance is a device which oversees firm management actions in order to guarantee management working to maximize shareholders wealth. Shleifer and Vishny, (1997) state that corporate governance provides protection to the fund suppliers by

providing assurance that they will get return on their investments. Therefore, corporate governance is an instrument which decreases agency problems and costs through overseeing firm management behavior and enhancing the information released to stockholders.

In fact, poor corporate governance practices will give big chance to firm management to manipulate financial reporting in order to maximize their own interests instead of maximizing shareholders wealth. On the other hand, good corporate governance practices will improve the efficiency and effectiveness of financial markets. Companies which have strong governance practices will gain market participants' trust and confidence. Corporate governance is deemed to be a significant subject for developing countries due to it is vital role which corporate governance plays in improving the performance of business sector in these countries (Hassan, 2017).

Even though, there are about 60 years of research since the study of Modigliani and Miller in 1958. The discussion on the optimal proportion of debt aiming to equity financing (financial leverage) remains unsolved topic (Andres et al., 2014). The most significant decisions that company management take are the percentage of debt and the percentage of equity which management will use in firm capital structure, because

optimal level of debt and equity in capital composition can enhance company value and reduce the cost of raising capital (Sivathaasan et al., 2016). Clayman et al., (2012) state that determining the percentage of debt in the composition of the company capital which lead to optimal capital composition is hard, because it relay on company's stock liquidity and corporate governance.

The purpose of this study is to examine the effect of corporate governance mechanisms (board independence, board size, chief executive officer duality, gender diversity on board, and inside ownership) on financial leverage. The outcomes of the previous studies are inconsistency and they reached a mix results. For example, Ranti, (2013) states that there is a positive relationship between chief executive officer duality and level of financial leverage, whereas Agyei and Owusu, (2014) report an inverse association among chief executive officer duality and level of financial leverage. In addition to that, previous studies that have been carried out in developed countries have

advance levels of corporate governance applications and more efficient stock markets comparing to emerging markets such as Palestine and Jordan stock markets. Also, there are few researches in Palestine and Jordan that have examined the effect of corporate governance on financial leverage.

The rest of this study is organized as follows, section 2 introduces a brief background about Palestine and Jordan stock markets, section 3 provides literature review and hypothesis development, section 4 provides research methodology, and section 5 shows results and discussion.

Background of Palestine and Jordan stock markets

Palestine Stock Exchange

The Palestine Stock Exchange was formed in 1995 in order to encourage investment in Palestine as a private shareholding firm .In February 2010, it become public shareholding firm in respond to principles of good corporate governance and transparency. The Palestine Stock Exchange is the first full automated stock market in Arab countries and the only Arab market owned by private sector and publicly traded. The Palestine Stock Exchange works under the control of Palestinian Capital Market Authority. The Palestine Stock Exchange makes every effort to introduce best trading environment through transparency, equitable treatment, and competence. There are 48 listed firms on Palestine Stock Exchange until 17/05/2018 with market capitalization of about \$3,731 million across five main economic sectors; banking and financial services, insurance, investments, industry, and services. Most of the listed companies are profitable and trade in Jordanian Dinar, while others trade in US Dollars (Exchange, 1995).

Amman Stock Exchange

Amman financial market was founded in 1976 and the first business day in the market was on the first of January, 1978. However, in 1999 Amman financial market was split up to compose: Amman stock exchange, Jordanian securities commission, and securities depository centre. "The Amman Stock Exchange (ASE) was established in March 1999 as a non-profit independent institution; authorized to function as a

regulated market for trading securities in Jordan. On February 20th, 2017, the ASE has been registered as a public shareholding company completely owned by the government under the name of: The Amman Stock Exchange Company (ASE Company).

The ASE Company is the legal and factual successor to the ASE. The ASE Company is governed by a seven-member board of directors appointed by the Council of Ministers and a full time chief executive officer oversees day-to-day responsibilities. The ASE Company aims to operate, manage and develop the operations and activities of securities, commodities, and derivatives markets inside and outside Jordan. The ASE Company seeks to provide a strong and secure environment in order to ensure the interaction of supply and demand forces for trading in securities through a proper and fair trading practices, raising the awareness and knowledge of investing in the financial markets and defining the services provided by the ASE Company" (Exchange, 1999).

Literature review and hypothesis development

Board independence and financial leverage

Presence of independent directors on the board of directors composition are desirable due to the diverse experience, diverse knowledge and independency that they have. As the percentage of nonexecutive officers increase, board independence level will raise allowing independent directors to control the behaviors of firm management effectively and efficiently (Ahmed Sheikh and Wang, 2012). Moreover, Weisbach, (1988) states that company management faces strong oversight as the number of independent directors increase in the board.

Anderson et al., (2004) reported an inverse relationship among the proportion of outside directors on the board and the cost of debt financing. Furthermore, they state that debt financing cost is less for companies with higher percentage of outside directors comparing than companies with lower proportion of outside directors on board because fund suppliers looking to the degree of board independence as a significant factor in evaluating the cost of company debt. As well, Abor and Adjasi, (2007) documented a

direct association among number of independent directors on the board and degree of financial leverage.

On contrary, Wen et al., (2002) documented a significant inverse correlation among degree of company financial leverage and percentage of independent directors on board because when firm management face stronger control from independent directors, management will oblige to use lower degree of financial leverage in order to attain good results. Consequently, greater percentage of external directors on board composition will assist in lowering agency cost.

Corsi and Prencipe, (2015) claimed that nonexecutive directors who monitor firm management oblige to decrease financial leverage degree efficiently in order to raise the value of the company with advantages from reducing agency costs. Likewise, Ganiyu and Abiodun, (2012) studied the effect of board features on company capital structure for

firms listed in Nigerian stock exchange. Findings of their study revealed an inverse insignificant association among board composition and company capital structure. So, the following hypothesis is:

H₁: There is a relationship between board independence and financial leverage.

Board size and financial leverage

Success or failure of the firm depends mostly on the effectiveness and efficiency of the board of directors as they are the top decision maker in the firm (Ahmed Sheikh and Wang, 2012). Furthermore, Adams and Mehran (2003) reported that larger board of directors can efficiently oversee the behaviors of firm managers and introduces diverse knowledge and experience.

Anderson et al., (2004) conclude that the cost of debt financing is cheaper for firms with bigger boards of directors because creditors consider these firms having strong controlling as these firms have a big board with diverse back ground, knowledge, education and experience. Therefore it become easier and cheaper for the firm to get loan which increase financial leverage degree. Similar to that, Bokpin and Arko, (2009)

documented that number of board members is directly and significantly related to the financial leverage level for companies listed in Ghanaian stock exchange.

Also, Kyereboah-coleman and Biekpe (2006) found that board of directors size is directly and significantly correlated with short term debt ratio and total debt ratio. As well, Jaradat, (2015) studied the association between board of directors features and capital structure for listed firms in the Jordanian stock exchange from 2009 to 2015. The study findings revealed a direct considerable association between number of board members and total debts to total assets ratio.

On the other hand, Heng et al., (2012) investigated the association among board of directors characteristics and firm capital structure for seventy five companies in Koalalampour stock exchange. The study outcomes show an inverse and significant association among board of directors size and firm financial leverage. Ranti, (2013) examined the influence of board of directors size and CEO duality on firm's capital structure. Results of the study revealed that board size relates inversely and significantly to

company level of financial leverage. Also, Abor and Adjasi, (2007) pointed out that there is a significant inverse association among number of directors in the board and financial leverage ratio in which, larger boards adapt low debt financing.

Furthermore, Uwuigbe et al., (2014) examined the association among board of directors and debt attributes to equity ratio for listed firms in Nigerian securities exchange. Outcomes of the study revealed an inverse considerable correlation among board of directors size and capital structure. Likewise, Vakilifard et al., (2011) pointed out that there is an inverse significant relationship among number of board directors and level of financial leverage. Thus, companies with big board size have low level of financial leverage. So, the following hypothesis is:

H₂: There is a relationship between board size and financial leverage.

Chief Executive Officer Duality and Financial leverage

Chief executive officer duality occurs when a company's chief executive officer takes also the chairman role in the board composition. From the agency theory view point, the agency problems between stockholders and firm leadership can be minimized by splitting the roles of decision administration and decision monitor. So, chief executive officer should issue and deploy decisions as a decision management function, whereas board of directors should control those decisions as a decision monitor function. But, assigning both roles to chief executive officer may negatively affect board monitor role (Ahmed Sheikh and Wang, 2012).

Ranti, (2013) concludes that a direct association exists among the dual role of chief executive officer and firm's level of financial leverage while a negative linkage exists among number of board members and financial leverage. Likewise, Vakilifard et al., (2011) studied the relationship between governance practices and proportion of debt to equity among

listed firms in Tehran stock exchange from 2008 to 2010. They concluded that there is a direct association among combining the functions of chief executive officers and chairman with proportion of debt to equity. Whereas, an inverse association exists among number of directors in the board and proportion of debt to equity.

Fosberg, (2004) investigated the influence of chief executive officer duality on debt to equity ratio among American companies. Results of the study shows a positive relationship exists between chief executive officer duality and degree of financial leverage. Bokpin and Arko, (2009) found that there is a direct association among chief executive officer dual role and firm level of financial leverage arguing that chief executive officer has a preference to obtain fund through debt. Priya and Nimalathan, (2013) examined the association among board of directors features and financial leverage for Sri Lankan chosen hotels and restaurants. The study findings revealed that there is a direct association among chief executive officer duality, board of directors size and meetings frequency with financial leverage.

In contrast, Kyereboah-coleman and Biekpe, (2006) reported an inverse significant relationship among dual leadership composition and debt to equity ratio arguing that

when one person takes the tasks of chief executive officer and chairman, agency problems will increase. Therefore, the cost of debt will be higher for these firms which lead to lower level of debt financing. Agyei and Owusu, (2014) reported that a negative association exists between dual leadership structure and firm capital structure measured by debt to equity ratio. Similarly, Ganiyu and Abiodun, (2012) emphasized that there is an inverse association among the dual role of chief executive officer and debt to equity ratio.

Saad, (2010) collected data from 126 firms listed in Malaysian stock exchange from 1998 until 2006, to investigate the effect of governance mechanisms on debt to equity ratio. Results of the study indicated that an inverse association exists among chief executive officer duality and debt to equity ratio. While, a direct association exist among number of board members and debt to equity ratio. So, the following hypothesis is:

H₃: There is a relationship between chief executive officer duality and financial leverage.

Gender diversity on board and financial leverage

The fear from female shortage in decision making levels causes many countries worldwide to issue many legislations and actions. In the last century, global interest in female existence in

the composition of board of directors has increased dramatically. United States of America is the first country who has controlled the percentage of female in the board of directors and it is started by this action in 2000. Today, many countries are frequently monitoring female and male balance in board structure such as Norway, Spain, Iceland, Finland, Netherlands, Sweden, Poland and Canada (Vinnicombe, 2009).

Gulamhussen and Santos, (2010) revealed that diversity of the board of directors is important to make financial decisions such as percentage of debt to equity and monitoring. Likewise, Jaradat, (2015) examined the influence of governance practices on firm financial leverage among listed companies in Amman stock exchange from 2009 to 2013. The study findings show that there is a direct association among gender diversity in the board, number of board members, and board independence with firm financial leverage.

Boards with skills, experience and knowledge variety have greater chance to obtain needed resources than boards with less diversity (Pfeffer, 1972). Also, Kosnik, (1990) states that companies with diverse board will gain better benefits than others firms. Because diverse board provides different views and more flexible in term of decision making process which reacts faster to dynamic environment (Eisenhardt and Bourgeois, 1988).

However, Faccio et al., (2016) conclude that companies managed by woman chief executive officer have less debt financing comparing to equity, more earnings stability, and greater opportunity of survival than companies managed by man chief executive officer. Also, Huang and Kisgen, (2013) conclude that there is a big variation in company action among companies with men executives and companies with women executives. Companies with women executives introduce lower growth, are less probably to use debt financing and they are less probably to perform acquisitions comparing to firms with men executives.

Abobakr and Elgiziry,(2015) studied the relationship among some governance characteristics and company's level of financial leverage among 36 listed companies in Egyptian securities market during 2007 until 2011. Results of the study indicated that women on board, board size and block shareholding relate inversely to degree of

financial leverage. So, the following hypothesis is:

H₄: There is a relationship between gender diversity on board and financial leverage.

Insider ownership and financial leverage

Cheng and Tzeng, (2011) state that ownership composition plays an essential component in governance practices due to it is impact on management behavior which reflects in debt to equity ratio and firm performance. Fama and Jensen, (1983) state that managers whom possess sufficient shares to govern the board could expropriate firm resources. Whereas, Jensen and Meckling, (1976) state that managerial equity ownership decreases firm management motivations to expropriate stockholders wealth and leads to agreements between management interests and stockholders' interests.

Mehran, (1992) shows that there is a direct association among equity possession by firm management and company's debt level. Similarly, Bokpin and Arko, (2009) emphasize that there is a direct relationship among management equity ownership and firm level of financial leverage. Consistently, Phani et al., (2004) have shown that there is a direct association among insider shareholdings and financial leverage in the enterprise with insider shareholdings more than or equal to fifty one percent, but when insider shareholdings is less than fifty one percent, an inverse association exist with financial leverage.

Equity ownership by management motivates firm management to use the optimal degree of debt financing. Managers who own shares will face the same losses as stockholders when they utilize less degree of debt than optimal degree in firm capital structure (Abor, 2008). Hewa Wellalage and Locke, (2012) conclude that management equity ownership has a directly impact on the percentage of long debt financing. Also, Céspedes et al., (2010) reported that as the level of managerial ownership increases, the degree of firm financial leverage will raise. Driffield et al., (2005) emphasize that insider shareholding has a direct influence on debt to equity ratio.

In contrast, Berger et al., (1997) revealed that company's debt to equity ratio is influenced by the level of managerial entrenchment. Managers who own stocks try to

keep away from debt in order to protect their own interests and the firm from outside threat. Ahmed Sheikh and Wang, (2012) state that an inverse association exists among management shareholding and fraction of debt financing. Similarly, Agrawal and Nagarajan, (1990) documented that there is an inverse relationship exist mong stock possession by management and fractions of debt to equity.

Friend and Lang, (1988) conclude that an inverse association exists among management equity ownership and proportion of debt to equity. Whereas, Huang, (2006) conclude that there is no association among insider share holding and firm capital structure. Kumar, (2005) Studied the linkage among company's ownership structure and financial structure for listed enterprise in India from 1994 to 2000. The study results show that

there is no significant association exists among directors shareholdings and firm capital composition. So, the following hypothesis is:

H₅: There is a relationship between insider ownership and financial leverage.

Methodology

Sample and Data

This study aims to examine the impact of corporate governance mechanisms on financial leverage. The sample of this study will compose of 244 companies, in which 48 firms listed in Palestinian stock exchange and 196 firms listed in Jordanian stock exchange over the period 2006-2017. Data about these companies which is necessary to accomplish this study will be collected through financial reports of these companies and the websites of Palestinian stock exchange and Jordanian stock exchange from 2006 to 2017.

Measurement

The dependent variable in this study is financial leverage which measured by dividing total debt on (total debt plus total equity), and the independent variables is corporate governance mechanisms: board size which measured by counting the number of board members, board independence which measured by dividing the number of independent directors in board on total number of board members, chief executive officer duality is a dummy variable which takes 1 when the roles of chief executive officer and chairman are not separated and hold by one person otherwise 0, female on board which is measured by dividing number of women in board on total number of board members, and inside ownership which measured by dividing (number of shares owned by board members and their relatives and number of shares owned by management and their

relatives) on total number of shares outstanding. The following table1 illustrates how the dependent variable (financial leverage) and independent variables (board size, board independence, chief executive officer duality, gender diversity on the board, and insider ownership) will be measured. Also, it illustrates the prior studies, and expected sign.

Table 1 shows independent and dependent variables, measuring methods, and expected sign.

Variable		Acronyms	Measuring method	Previous studies	Expected sign
Independent variables	Board size	BS	The number of directors on the board	Chung et al., (2010), Loukil and Yousfi, (2012)	negative
	Board independence	BI	The number of independent directors divided by the total number of directors on the board.	Levesque et al., (2010), Bar-Yosef and Prencipe, (2013)	negative
	Chief Executive Officer duality	CD	Takes value 1 if the chairman and the CEO are the same person and 0 otherwise.	Chen et al., (2015), Bar-Yosef and Prencipe, (2013)	positive

	Gender diversity on board (female on board)	FB	The number of women on board divided by total number of directors in the board.	Terjesen et al., (2016), Adams and Ferreira, (2004)	negative
	Insider ownership	IO	The sum of shares owned by board members and their relatives and firm management and their relatives divided by total number of shares outstanding.	Heflin and Shaw, (2000), Tobiasson et al., (1999)	positive
Dependent variable	Level of financial leverage	LV	Total debt/(total debt + total equity) or total debt divided by total assets	Aprullah et al., (2013), Lipson and Mortal, (2009)	

Hypothesis testing

The multi-variable regression model is used to reveal the relationship between many independent variables and dependent variable. So, the Multi-variable regression model is suitable for this study in order to find the effect of corporate governance mechanisms on financial leverage. In addition, many studies have used multi- variable regression in the same manner: (Amer Al-Jaifi et al., 2017, Bar-Yosef and Prencipe, 2013, Chen et al., 2007, Loukil and Yousfi, 2012, Prommin et al., 2014, Sakwa, 2015). Therefore, this study will use the multi-variable regression model as follow.

The following equation will illustrate the relationship between corporate governance mechanisms and financial leverage:

$$\text{Lev}_{it} = \beta_0 + \beta_1(\text{BoardSize}_{it}) + \beta_2(\text{BoardIndependence}_{it}) + \beta_3(\text{CEODuality}_{it}) + \beta_4(\text{GenderDiversity}_{it}) + \beta_5(\text{InsiderOwnership}_{it}) + E_{it}$$

Where,

Lev: Represent the financial leverage.

i: Represent the company .

t: Represent the time .

β : Represent the sensitivity of financial leverage (Lev) from change in one variable.

E: Represent the residual.

Results and discussion

Descriptive statistics

Descriptive statistics aim to clarify the kind and behavior of the data, also it contains descriptive details about variables (dependent, independent and control variables). Mean introduces the average of the data or provides the central tendency of the data, median is the central item of the data, highest and lowest points of the data assist in identifying outliers, standard deviation shows the deviation of variables and data uncertainty from the mean, skewness tells how the data is skewed negatively, positively or zero (normally distributed). Kurtosis tells whether the distribution of data is flat

distributed or peak distributed. Data is normally distributed when kurtosis is equal to three, data has a peaked distribution and concentrated around the mean when kurtosis is higher than three, whereas data has flat distribution and dispersed around the mean when kurtosis is less than three Hassan, (2017).

Table 2 introduces the descriptive statistics for corporate governance mechanisms (IO: inside ownership, FB: female on board, BS: board size, BI: board independence), financial leverage, and stock liquidity of the study with 1976 observations and cover the period from 2006 to 2017. Inside ownership has a mean of 0.450103 median of 0.4311 , the maximum value is 0.9826 , the minimum value is 0 and the standard deviation is 0.248593. Female on board has a mean of 0.335526 with maximum value of 4 , minimum value of 0 , the standard deviations of 0.659323 and the median is 0. Board size has a mean of 8.279352 with maximum value of 15 , minimum value of 3, median of 8 also standard deviation of 2.222987. Board independence has a mean of 1.432186 , the median is 0, , the maximum value is 11 , the minimum value is 0, and the standard deviation is 1.984358. LV2: (is the total debt divided by (total debt plus total equity)), has a mean of 0.359616, median of 0.306183, maximum value of 1.042351, minimum value of 0.000367 and standard deviation of 0.265404.

Control variables (CD, PJ, and FN) are excluded from descriptive statistics because it is a dummy variables which takes 1 or 0 only, and it has no meaning in descriptive

statistics. Chief executive officer duality, is a control variable which takes 1 if the chairman and chief executive officer are the same person and 0 when the two positions occupied by two different persons. PJ is a control variable which refers to the firms listed at Palestinian stock exchange and firms listed at Jordanian stock market and this control variable takes 1 for firms listed at Palestinian stock exchange and 2 for firms listed at Jordanian stock market. FN, is a control variable which takes 0 when it refers to financial firms and 1 when it refers to non financial firms.

Table 2 show descriptive statistics

	IO	FB	BS	BI	LV2
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Mean	0.450103	0.335526	8.279352	1.432186	0.359616
Median	0.4311	0	8	0	0.306183
Maximum	0.9826	4	15	11	1.042351
Minimum	0	0	3	0	0.000367
Std. Dev.	0.248593	0.659323	2.222987	1.984358	0.265404
Skewness	0.100823	2.131353	0.180248	1.298607	0.608427
Kurtosis	2.183015	7.391514	2.302226	3.8957	2.305956
Jarque-Bera	58.30231	3083.882	50.78697	621.4351	161.5733
Probability	0	0	0	0	0
Sum	889.4044	663	16360	2830	710.6003
Sum Sq. Dev.	122.0515	858.5461	9759.798	7776.913	139.1178
Observations	1976	1976	1976	1976	1976

Correlation

Correlation matrix is employed to identify the issue of multi-collinearity of the data. The correlation can take values between -1 and +1 only. When the correlation between two variables has a value of +1, this means that a perfect positive correlation exists among the variables. On the other hand, when the correlation between two variables has a value of -1, this means that a perfect negative correlation exists among variables. Also, when the correlation between two variables has a value of 0, this indicates that there is no correlation exists between variables. If any correlation has a value of 0.8 or more this refers to a higher probability of multicollinearity problem in that variable.

Table 3 show the correlation matrix between corporate governance mechanisms (BS: board size, FB: female on board, BI: board independence, CD: chief executive officer duality, and IO: inside ownership) and financial leverage. Female on board and board size has the strongest degree of correlation (0.153368) among corporate governance variables (independent variables) in table 3 which is less than 80%. So, multicollinearity problem does not exist among corporate governance mechanisms (independent variables).

Board size has a positive correlation with financial leverage. This means, as the number of board members increase level of financial leverage will increase. This finding is in accordance with Wen et al., (2002). Female on board has a positive correlation with

financial leverage. Which demonstrates that as the percentage of female on board increases, level of financial leverage will increase. This conclusion agrees with Jaradat, (2015). Board independence has a negative correlation with financial leverage. This means, when the number of independent directors on board increases, level of financial leverage will decrease. This finding consists with Uwuigbe et al., (2014). Chief executive officer duality has a negative correlation with financial leverage. This indicates that as the roles of chief executive officer and chairman hold by one person, level of financial leverage will decrease. This finding agrees with Agyei and Owusu, (2014). Inside ownership has a positive correlation with financial leverage. This means that there is a direct relationship exists between inside ownership and level of financial leverage. This result consists with Bokpin and Arko, (2009).

Table 3 Correlation matrix between corporate governance and financial leverage

Variable	BS	FB	BI	CD	IO	LV2
BS	1	_____	_____	_____	_____	_____
FB	0.153368	1	_____	_____	_____	_____
BI	0.092294	-0.03112	1	_____	_____	_____
CD	-0.11367	-0.00082	-0.05127	1	_____	_____
IO	0.134861	0.0348	-0.03951	-0.05874	1	_____
LV2	0.337558	0.013411	-0.07798	-0.091	0.033606	1

Regression

From table 4, It is observed that board size (BS) has a positive and significant effect on financial leverage. Positive coefficient value of board size (0.033016) with P-value of (0) indicates that there is a direct relationship ship between board size and financial leverage, which means as the number of board member increases, level of financial leverage will increase.

The finding agrees with the study of Ahmed Sheikh and Wang, (2012). Female on board has coefficient of (-0.0183) with P-value of (0.0196). Which demonstrates that there is a negative and significant association among female on board and financial leverage,

this means as the number of females on board increases, level of financial leverage will decrease. This result consists with Faccio et al., (2016). Furthermore, according to the coefficient (-0.00819) and P-value (0.0031) of board independence, board independence has negative and significant relationship with level of financial leverage, it means that as the number of independent directors on board increases, level of financial leverage will decrease. This result consists with Corsi and Prencipe, (2015). Moreover, chief executive officer duality (CD) has coefficient of (-0.02951) with P-value of (0.0284) which shows that there is an inverse and significant association between chief executive officer duality and level of financial leverage. This finding consists with Agyei and Owusu, (2014). Also, inside ownership (IO) has a negative and insignificant relationship with financial leverage as the coefficient (-0.00931) and P-value (0.658) show. This demonstrates that as the proportion of inside ownership increases, level of financial leverage will decrease. This finding agrees with Ahmed Sheikh and Wang, (2012).

Table 4 Regression Analysis of the study variables

Dependent Variable: LV2				
Method: Panel Least Squares				
Date: 11/05/18 Time: 12:30				
Sample: 2006 2017				
Periods included: 12				
Cross-sections included: 228				
Total panel (unbalanced) observations: 2077				

Variable	Coefficient	Std. Error	t-Statistic	Prob.
BS	0.033016	0.00249	13.25839	0
FB	-0.01831	0.007837	-2.33563	0.0196
BI	-0.00819	0.002768	-2.9599	0.0031
CD	-0.02951	0.013459	-2.19277	0.0284
IO	-0.00931	0.021038	-0.44269	0.658
R-squared	0.211213	Mean dependent var		0.361263
Adjusted R-squared	0.208544	S.D. dependent var		0.267366
S.E. of regression	0.237859	Akaike info criterion		-0.03043
Sum squared resid	117.0578	Schwarz criterion		-0.00871
Log likelihood	39.60349	Hannan-Quinn criter.		-0.02247
F-statistic	79.14506	Durbin-Watson stat		0.1657
Prob(F-statistic)	0			

The Hausman test indicates that fixed effect should be used. Therefore, table 5 provides the fixed effect results of the relationship between corporate governance mechanisms (BS: board size, FB: female on board, BI: board independence, CD: chief executive officer duality, and IO: inside ownership) and financial leverage. Board size has a coefficient of (0.001363) and P-value of (0.6065). This means that there is a positive and insignificant association among board size and financial leverage. So, when the number of board members increases, level of financial leverage will increase. The finding agrees with the study of Ahmed Sheikh and Wang, (2012). Female on board has a positive and insignificant relationship with financial leverage according to the value of the coefficient (0.00748) and P-value (0.2738). This means that when the proportion of female on board increases, level of financial leverage will increase. This result agrees with Ahmed and Ali, (2017). Furthermore, board independence has a coefficient of (-0.00132) with P-

value of (0.5505). This refers to the existence of negative and insignificant relationship between board independence and financial leverage. This means, level of financial leverage decreases as the number of independent directors on board increases. This conclusion agrees with Wen et al., (2002). Chief executive officer duality has a negative and insignificant association with financial leverage upon the coefficient value (-0.01582) and P-value (0.1679). This indicates that level of financial leverage will decrease when the firm has dual leadership structure (chief executive officer role and

chairman role are hold by the same person). This finding agrees with Bar-Yosef and Prencipe, (2013). Moreover, inside ownership has a coefficient of (0.046214) with P-value of (0.0062). This means that there is a positive and significant relationship between inside ownership and financial leverage. (i.e. as the percentage of inside ownership increase level of financial leverage will increase). This result consists with Heflin and Shaw, (2000).

Table 5

Dependent Variable: LV2				
Method: Panel Least Squares				
Date: 11/26/18 Time: 12:46				
Sample: 2006 2017				
Periods included: 12				
Cross-sections included: 228				
Total panel (unbalanced) observations: 2077				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
BS	0.001363	0.002645	0.515163	0.6065
FB	0.00748	0.006833	1.094699	0.2738
BI	-0.00132	0.002204	-0.59707	0.5505
CD	-0.01582	0.011468	-1.37951	0.1679
IO	0.046214	0.016863	2.740613	0.0062
	Effects Specification			
Cross-section fixed (dummy variables)				
R-squared	0.874028	Mean dependent var		0.361263
Adjusted R-squared	0.858179	S.D. dependent var		0.267366
S.E. of regression	0.100688	Akaike info criterion		-1.64821
Sum squared resid	18.69454	Schwarz criterion		-1.01566
Log likelihood	1944.665	Hannan-Quinn criter.		-1.41639
F-statistic	55.14728	Durbin-Watson stat		0.956544
Prob(F-statistic)	0			

Conclusion

This study aims to examine the relationship between corporate governance and financial leverage for 244 firms listed in Palestine and Jordan stock markets from 2006 to 2017. Independent variables in the study are board size: number of members in the board of directors, board independence: proportion of independent directors in the board, chief executive officer duality: dummy variable which take 1 when the roles of

chief executive officer and chairman hold by one person and otherwise 0, female on board: number of women on board to total number of board members, inside ownership: number of shares owned by board members and their relatives and firm management and their relatives. The dependent variable is financial leverage which measured as the proportion of debt to total assets.

Results of the study shows that there is a positive and insignificant relationship between board size and financial leverage, a positive and insignificant association among female on board and financial leverage, a positive and significant relationship between inside ownership and financial leverage. This means, as the number of board members increases, level of financial leverage will increase, also as the number of female on board increases, level of financial leverage will increase, and as the proportion of inside ownership increases, level of financial leverage will increase. However, there is an inverse and insignificant relationship found between board independence and financial leverage. This indicates that as the proportion of independent board members increases, level of financial leverage will decrease. Also, a negative and insignificant association reached between chief executive officer duality and level of financial leverage. Which means, when the roles of chief executive officer and chairman are holds by one person, level of financial leverage will decrease.

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