“Corporate governance and risk taking of Jordanian listed corporations: the impact of board of directors”

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Mohammad O. Al-Smadi (Jordan)

CORPORATE GOVERNANCE AND RISK TAKING OF JORDANIAN LISTED CORPORATIONS: THE IMPACT OF BOARD OF DIRECTORS

Abstract

The aim of this study is to evaluate the compliance level of corporate governance rules and examine the impact of this compliance on risk taking of corporations in Jordan. This study used panel data of the listed corporations in Amman Stock Exchange from 2013 to 2017. Corporate governance index was constructed to gauge the compliance level of corporate governance rules. The results show a good level of overall compliance of corporate governance rules. As for the compliance of the categories of corporate governance rules, rules of transparency and disclosure are ranked first, while rules of general meeting assembly are ranked fourth. The regression results report a negative influence of corporate governance and corporate risk taking. In addition, four governance variables concerning the features of the board of directors are used in the study. The results reveal a negative impact of the size of the board of directors, independence of the board, and committees of the board on corporate risk taking. It is expected that the outcomes of the study can be used by management of the corporations in addition to the Jordanian Securities Commission that seek to enhance confidence in the Jordanian capital market.

Keywords corporate governance, total risk, idiosyncratic risk, Jordanian listed corporations

JEL Classification G30, G38

INTRODUCTION

As a result of the collapse of giant corporations, such as Enron and WorldCom, in addition to the circumstances that accompanied the recent financial crisis, the concept of Corporate Governance (CG) has attracted an increasing interest at the international level recently. These conditions have affected negatively the confidence in capital markets in both developing and developed countries and showed the shortcomings of the integrity and transparency in these markets. Hence, the competent authorities have begun to take actions aimed at restoring confidence in the financial markets, including reviewing the rules of CG (Darrat, Gray, Park, & Wu, 2016; Sayari & Marcum, 2018).

CG aims to protect minority stockholders and creditors, and it derives its importance through its impact on the corporation. Connelly, Limpaphayom, and Nagarajan (2012) mentioned that a strong governance system stimulates performance of the firm and improves its operational efficiency. In addition, CG has an important role in maximizing the wealth of owners through maximizing the value of the corporation (Brigham & Ehrhardt, 2014). Phan and Hegde (2013) stated that CG minimizes firm's agency cost, information asymmetry, and cost of capital, which cause to lower its risk taking. CG has a notable

function in protecting the corporation from risks through its mediating effect on the relationship between performance and risk (Chang, Yu, & Hung, 2017). Indeed, risk is one of the factors influencing a corporation's success or failure, and corporations differ according to their risk taking (Nakano & Nguyen, 2012). However, there is a widespread discussion among academics and professionals on the association between governance and corporate risk taking, which motivates to conduct empirical investigation in this area (Srivastav & Hagendorff, 2016).

Financial market in Jordan has a significant role in the development and expansion of Jordanian economy. The ratio of market capitalization to GDP for Amman Stock Exchange (ASE) was 59.8% in 2017. This ratio is one of the highest ratios between financial markets in the Arab region (ASE, 2017). In addition, among markets in the MENA region, ASE is one of the most developed markets (Lagoardeâ Segot & Lucey, 2009). However, in order to enhance the investment environment, the Jordanian Securities Commission (JSC) issued the code of CG of listed corporations in the ASE in 2008, which began to be implemented in 2009. This code is developed in line with the principles of governance issued by the Organization of Economic Cooperation and Development (OECD). All listed corporations must comply with the rules and explain non-compliance if it exists (JSC, 2017). However, in the developed markets, previous studies reported a negative relationship between CG and risk, while there is a limited empirical evidence regarding the influence of CG on risk taking of listed corporations in emerging markets (Sayari & Marcum, 2018). Based on the author's knowledge, the relationship between CG and risk taking of the listed corporations has not been examined before in Jordan. Thus, this study aims to fill this important gap in knowledge. This study varies from the previous researches in these areas: (i) it covers all sectors of ASE while most of the prior studies have focused on one sector (Al-Haddad, Alzurqan, & Al-Sufy, 2011; Al-Manaseer, Al-Hindawi, Al-Dahiyat, & Sartawi, 2012), (ii) this study measures the actual practices of all CG rules through constructing Corporate Governance Index (CGI), which reflects the overall impact of the CG. Most of the prior studies used specific governance component like the formation of the board of directors and ownership structure (Cheung, Stouraitis, & Tan, 2010).

Using panel data of Jordanian listed corporations in ASE during the period from 2010 to 2017, this study aims to (i) evaluate the compliance of listed corporations with the principles of CG and (ii) examine whether compliance the principles of CG influences risk taking of the listed corporations in ASE. This study adds to the literature by proposing CG as an expected determinant of corporate risk taking. It offers empirical evidence to the management of the corporation to use CG as a tool to minimize their risk taking. Policy makers can also benefit from the outcomes of the study for any proposed regulation of CG.

1. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

1.1. Theoretical framework

The concept of CG is linked to the agency theory that was developed by Jensen and Meckling (1976). This theory argues that the separation between ownership and management of the corporation gives managers the incentive to pursue their self-advantages rather than the advantages of the owners of the corporation. This separation triggers additional costs called agency costs, which affect the value of the corporation. Moreover, the separation between ownership and management leads to the problem of information asymmetry, consequently causing adverse selection and moral hazard problems, which increases agency costs and external financing costs (Myers & Majluf, 1984). However, CG is proposed as a tool to address the agency problem through promoting transparency and accountability and identify the responsibilities of the related parties in the corporation (OEDC, 2015, p. 9). There is no standard definition of CG because of the difference between the views of the legalists and the economists (Rouf, 2014). However, governance principles first published in 1999 by OECD are considered as a benchmark for policy makers, corporations and investors in this field. According to these principles, CG is defined

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as "a set of relationships between a company's management, its board, its shareholders and other stakeholders" (OECD, 2004, p. 11).

There are two different points of view regarding the effect of CG and corporate risk taking. John, Litov, and Yeung (2008) proposed two arguments. First argument supposes a positive influence of investor protection on corporate risk taking. This argument is justified by the idea that corporation insiders seek to maintain their benefits through diversified cash flow of the corporation to their own interest when corporation's cash flow is high. Therefore, insiders select risky investment in order to obtain high cash flows offsetting the decline in the diversified cash flows, especially in countries where the degree of investors' protection is high. Second argument supposes a negative influence of investor protection on corporate risk taking. This argument depends on the idea that in the countries where investors are more protected, the impact of dominated shareholders becomes less, which needs giving managers of the corporation greater discretion to reduce the corporation's exposure to risk. In a more recent study, Jiraporn, Chatjuthamard, Tong, and Kim (2015) proposed two hypotheses to clarify the effect of CG on corporate risk taking. First hypothesis suggests that a weak CG environment reduces corporate risk taking. This is due to the idea that when the governance environment is weak, the managers of the corporate who tied up their wealth in the corporation are exposed to more corporate specific risk. Therefore, they develop less risky policies to protect their wealth. In contrast to the previous hypothesis, the authors argued that a weak CG environment could lead to an increase in corporate risk taking. They mentioned that the awarding of compensation contracts that link compensation to the corporation's performance for the managers induce them to participate in riskier operations in order to obtain more compensation. In this case, strong governance limits hazardous management practices.

1.2. Empirical studies

An overview of the previous related studied literature showed that there are limited empirical studies that link between CG and risk taking of the listed corporations. Majority of prior studies focused on the correlation between specific aspects of CG and corporations' performance.

In order to study the association between CG and future firm stock return and risk, Cheung et al. (2010) developed an index of CG to evaluate the implementation of CG of the corporations in Hong Kong Exchange based on OECD principles of CG and the code of best practices of the Hong Kong exchange. They found that CG has a positive impact on firm stock return measured by the cumulative abnormal return, and a negative effect on firm risk measured by market beta and standard deviation of daily stock return. The same influence was found between changes of CG measured by the change of CG index and firm stock return and risk. In addition, they found that CG is affected negatively by both family dominated firms and concentrated ownership. The authors suggested that it is necessary for the firms to improve their CG practices, especially in the firm which is characterized by high ownership concentration. Using data of twelve Malaysian listed banks during the period from 1996 to 2005, Adnan, Ab Rashid, Meera, Htay (2011) examined the association between CG and risk taking. They used three proxies of risk taking, which are total loans to total assets ratio and the ratio of total loans to total deposits as measurements of liquidity risk, in addition to the standard deviation of stock return as a measurement of market risk. They found a negative association between risk and separate leadership structure, board composition, institutional ownership, and block ownership, while the influence of board size on risk was positive. At the end of their study, the authors recommended doing more studies on the association between risk management and CG variables.

In Japanese firms, Nakano and Nguyen (2012) found a negative effect of board size on bankruptcy risk, which suggests that large board is correlated with low risk. This relationship was found to be weak when a firm has several investment alternatives, and strong when a firm's growth opportunities is few. In the same Eastern region, Su and Lee (2013) used data of 314 family listed firms in Taiwan Exchange Market to investigate the relationship between CG and firm risk taking. The authors used research and development intensity to assess firm risk taking, and choose three CG

variables, which are family ownership, family involvement, and outside directors. The hierarchical regression results showed a negative effect of family ownership and family involvement on firm risk taking. In addition, a positive moderate influence of the outside directors on the association between risk taking and both family involvement and ownership was found. This moderate effect emerged when outside directors are appointed voluntarily. A negative relationship was also found between CG and risk taking of the firms listed in the report of institutional shareholder services by Jiraporn et al. (2015). They used two proxies of risk taking, which are total risk and idiosyncratic risk. In addition, the authors used two measurements to evaluate the quality of CG which are the governance score and institutional shareholder services score. The latter score takes into account the overlap between governance standards in contrast to the first score that assesses the standards separately. In a recent study, Sayari and Marcum (2018) investigated how CG standards affect risk taking of corporations in emerging markets. The authors started their analysis through studying the correlation between overall CG and firm risk taking, which is gauged by the standard deviation of the corporate monthly stock return. A significant negative impact was found between CG and firm risk taking in the emerging markets, which is measured by governance disclosure score available in Bloomberg database. Then, the authors analyzed the influence of four governance variables on risk taking of the corporation. They found that only one governance rule has a significant influence on corporate risk taking in the emerging markets, which is the number of independent directors. Among emerging markets, firms in China showed different behavior of risk taking. In addition, to the pervious corporate variables, the results revealed that the following CG variables which are the number of committees, availability of ethics policy, and CEO duality have a significant influence on Chinese firms risk taking. At the end of their study, the authors suggested that firms in the emerging markets can reduce risk through applying best CG practices used in US firms.

1.3. Hypotheses development

Overall, as shown in the preceding discussion, the empirical results of the prior studies reported a negative correlation between CG and corporate risk taking, but there is no proof to support this finding in corporations operating in Jordan. Thus, the following hypothesis is developed:

H1: Applying the rules of corporate governance reduces risk taking of the corporation in Jordan.

Board of directors is considered one of the inside governance channels that improve the efficiency of the corporation's management. In order to study the correlation between CG and corporate risk taking more deeply, and according to the prior studies, four governance variables associated with the features of the board of directors were selected. The first governance variable is the size of the board. According to the rules of CG in Jordan, the number of members in the board ranges between 5 and 13. Adnan et al. (2011) mentioned that the small size of the board reduces agency cost and fosters the supervision function of the board in the risk management process. In contrast, a large board increases probability of conflicts between the members, and thus makes coordination between them more difficult. Salloum and Azoury (2012) who studied the influence of CG on the financial distress in Lebanon found that corporations with large size of boards are more likely to face financial distress. Therefore, it is assumed that small size of board supports the monitoring role of the board, which reduces corporate risk taking, so the following hypothesis is developed:

H2: A corporation with small size of the board of director exhibits low risk taking.

The second governance variable is the independence of board of directors. Sayari and Marcum (2018) argued that since CG is considered a functional monitoring system, it is necessary to support the independence of the board of directors to handle its role of representing the corporation's stockholders and supervise the executive management of the corporation. Therefore, more independent directors in the board mitigate unreasonable risky actions of the management. In addition, Darrat et al. (2016) suggested that the influence of board independence rely on the type of the operations of the corporations. Outside directors are beneficial in the corporation whose operations

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are not complicated and do not need specialized knowledge. However, according to the rules of CG in Jordan, at the minimum, a third of the board of members must be independent. Salloum and Azoury (2012) found that the number of outside directors affects the possibility of financial distress negatively. Thus, the following hypothesis is developed:

H3: A corporation with more independent directors exhibits low risk taking.

The third governance variable is CEO duality. According to the agency theory, the combination of the functions of Chairman and CEO threatens the monitory role of the board of directors. Sayari and Marcum (2018) mentioned that since the responsibilities of the Chairman and CEO are different, it is better to separate between the two positions. This is because duality leads to concentrate the power within CEO, which leads to ignoring the role and the ability of the board in controlling and monitoring management. In addition, CEO duality gives the CEO excessive confidence, which adversely affects his/her ability to undertake right investment decisions and thereby directing the corporation towards more risk taking. Ali and Nasir (2018) who studied the influence of CG on the financial distress of Malaysian corporations found that the corporation that exercising CEO duality is more vulnerable to financial distress. Thus, in the line of agency theory, the following hypothesis is developed:

H4: A corporation with CEO duality exhibits high risk taking.

The fourth governance variable is committees of the board of directors. The committees formed in the board of directors serve a supplementary role for the works of the board of directors during the processes of planning and decision making. The rules of CG in Jordan require from the listed corporations to have auditing committee, nomination and compensating committee, governance committee, and risk management committee. Majority of the members for the auditing committee, nomination and compensating committee; member of the governance committee must be independent. Each committee has its own responsibilities that support the corporations CG works. For example, auditing committee is accountable for monitoring and auditing the accounting operations of the corporation, while governance committee develops the executive procedures for the CG rules, and follows up their implementation, in addition to preparing the annual governance report. However, Sayari and Marcum (2018) reported a negative impact of the number of committees on corporate risk taking in emerging markets. Thus, based on the expected role of the committees in the CG works, the following hypothesis is developed:

H5: A corporation with more committees exhibits low risk taking.

2. RESEARCH METHODOLOGY

2.1. Population and sample of the study

The population of the study consists of all listed corporations in ASE during the period from 2013 to 2017, which were 194 corporations at the end of 2017. Banks and insurance corporations were excepted because they have their own regulating standards that commensurate with the nature of their works (Manzaneque, Priego, & Merino, 2016). The sample of the study consists of the corporations that have met the following conditions: (i) the corporation should be listed on the ASE during the period of the study, (ii) availability of corporation's data needed to measure the variables of the study. Thus, the final sample of the study consists of 480 firm-year observations that represent all sectors of the ASE, which are financial sector (except banks and insurance corporations), services sector, and industrial sector.

2.2. Variables and data of the study

The goal of the study is to investigate whether CG affects the risk taking of the listed corporations in ASE. Accordingly, the dependent variable of the study is corporate risk taking. Following Jiraporn et al. (2015), two proxies of corporate risk taking are used, which are total risk (TR) and idiosyncratic risk (IR). The standard deviation of monthly stock return over each year is used to measure total risk, and the standard deviation of the market model residuals measured from monthly stock

returns is used to measure idiosyncratic risk. The compliance level of CG is the independent variable. It is gauged by Corporate Governance Index (CGI) which is developed by the author. CGI measures the actual practices of CG based on the rules of CG of the listed corporations in ASE issued by JCS in 2010. Rules of CG are classified into four categories, which are: rules of the board of directors, rules of the shareholders, rules of the transparency and disclosure, and rules of general assembly meetings. Each category is evaluated based on a group of criteria, which are in total equal 60 criteria, and each criterion is assessed through a grade based on the corporate level of compliance with the criteria giving grade 1 for the compliance, and 0 for non-compliance. The overall CGI is calculated based on the sum of grade of all 60 criteria. In addition, sub-CGI for each category is developed using the sum of grade of all criteria contained in the category. However, the value of CGIs ranges from 0 which means weak compliance of CG to 60 which means strong compliance of CG. Furthermore, in order to investigate the effect of governance variable concerning the features of the board of directors on corporate risk taking, four variables were chosen, namely: the size of the board of directors (SBD) measured by the numbers of members in the board of directors, independence of the board of directors (IBD) measured by the number of independent directors in the board of directors, CEO duality (CEOD) measured by a dummy variable takes 1 if CEO and chairman are same person and 0 otherwise, in addition to the committees of the board of directors (COMM) measured by the number of committees formed in the board (Adnan et al., 2011; Ali & Nasir, 2018).

Based on the review of previous literature, three control variables that might have an impact on the corporate risk taking were selected, which are leverage (LEV) calculated by the ratio of total liabilities to total assets and size (SZE) computed by the logarithm of total assets. In addition, a dummy variable for each sector is used to capture the sector effect (Sayari & Marcum, 2018).

Data of the study were obtained from different sources. For the measurements of corporate risk variables, monthly price of the stock and market index were gathered from the website of ASE (www.ase.gov.jo). The data of the governance variables were extracted from the corporate governance reports which are a part of the corporations' annual reports that are available in JSC website (www.jse.gov.jo). In addition, the data of the control variables were obtained from companies' guide available in the website of ASE.

2.3. Empirical model

In order to accomplish the study's aims, two empirical models were developed. In the first model, corporate risk taking is regressed on corporate governance index as the following:

$$Corporate\ risk\ taking_{it} = \beta_0 + \beta_1 CGI_{it} + \\ + \beta_2 X_{it} + \varepsilon_{it}. \quad (1)$$

In the second model, corporate risk taking is regressed of four corporate governance variables as the following:

$$Corporate\ risk\ taking_{it} = \beta_0 + \beta_1 SBD_{it} + \\ + \beta_2 IBD_{it} + \beta_3 CEOD_{it} + \beta_4 COMM_{it} + \\ + \beta_5 X_{it} + \varepsilon_{it}, \quad (2)$$

where CGI is the corporate governance index, SBD is size of board of directors, IBD is independence of the board of directors, $CEOD$ is CEO duality, and $COMM$ is number of committees formed in the board of directors, X denotes a vector of the control variables, β_0, β_1, β_2, β_3, β_4, β_5 are vectors of the coefficient, and ε is the error term. This study used panel data during the period from 2013 to 2017.

3. RESULTS AND DISCUSSION

3.1. Assessment of corporations compliance with principles of CG

Table 1 presents descriptive statistics of the overall CGI over the period of the study, which reflects the corporations' overall compliance with the principles of CG. In the full sample, the value of CGI ranges from 30.42 (minimum value) to 52.74 (maximum value). The values of mean, medium, minimum, and maximum increased during the period of the study, which indicates that the compliance of principles of CG has improved as mea-

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sured by CGI. The high standard deviation value of the full sample reflects the disparity between corporations in the compliance with governance principles.

Table 1. Descriptive statistics of overall CGI

Values	2013	2014	2015	2016	2017	Full sample
Mean	40.44	45.80	49.21	50.00	50.63	47.22
Median	39.34	43.10	45.56	47.62	49.20	45.53
Minimum	30.42	31.89	32.33	35.63	42.15	30.42
Maximum	45.23	48.10	49.56	50.11	52.74	52.74
Standard deviation	2.21	2.11	2.99	2.75	2.46	2.69
Observations	96	96	96	96	96	480

For comparison, corporations were classified into three levels based on the value of the governance index as shown in Table 2. It is noted that 56.3% of the corporations have a fair level of CG compliance, while 42.7% of the corporations have a good level of CG compliance. In addition, the mean value of CGI of listed corporations in the ASE is 47, which is good based on classification of this study.

Table 2. Classification of corporations based to the value of CGI

Value of CGI	Classification	No. of corporations	Percentage (%)
0-20	Weak	0	0
21-40	Fair	55	56.3
41-60	Good	41	42.7

Table 3 reports descriptive statistics of the sub-CGI, which reflect the corporations' compliance of each category of the principles of CG. The results showed that the corporate governance category related to disclosure and transparency was ranked first with an average of 50, followed by the corporate governance category concerned to the rights of the shareholders with an average of 45.60, then the corporate governance category concerned to the responsibilities of the board of directors was ranked third with an average of 42.10, and finally the corporate governance category related to the general assembly meetings was ranked fourth an average of 40.24.

Table 3. Descriptive statistics of sub-CGI

No.	Category	Mean	S.D.	Rank
1	Responsibilities of the board	42.10	2.56	3
2	Rights of shareholders	45.60	3.43	2
3	Transparency and disclosure	50.00	2.53	1
4	General assembly meetings	40.24	3.53	4

3.2. Hypotheses testing

This study employed panel data regression analysis. A set of tests were conducted to validate the regression results as the following. Variance Inflation Factor (VIF) of the variables is measured to test the presence of multicollinearity. The results in Table 4 show that VIF for all variables is less than 5, indicating the absence of multicollinearity.

Table 4. Results of multicollinearity test

Variable	VIF	Tolerance
CGI	2.1890	0.4568
SBD	3.5238	0.2838
IBD	2.5319	0.3949
CEOD	2.8513	0.3507
COMM	2.4319	0.4112
LEV	1.4295	0.6995
SZE	1.3731	0.7282

The existence of heteroscedasticity was examined using Breusch-Pagan/Cook-Weisberg test for the dependent variables of the study. According to the statistics in Table 5, the null hypothesis of Breusch-Pagan/Cook-Weisberg test is accepted for the first model, while it is rejected for the second model, which implies the existence of heteroscedasticity in this model.

Table 5. Results of heteroscedasticity test

Model	Dependent variable	Chi^2	Prob. > Chi^2
Model 1	Total risk	9.3005	0.7231
	Idiosyncratic risk	13.4836	0.9713
Model 1	Total risk	12.5020	0.0010
	Idiosyncratic risk	15.4431	0.0020

Note: H_0: Constant variance.

In addition, Wooldridge test is used to test the presence of autocorrelation. According to the statistics in Table 6, the null hypothesis of the first-order autocorrelation is rejected for the first model, while it is not rejected for the second model, which indicates to the existence of autocorrelation in this model.

Table 6. Results of autocorrelation test

Model	Dependent variable	*F*-statistics	*p*-value
Model 1	Total risk	0.8351	0.3990
	Idiosyncratic risk	0.1601	0.7045
Model 2	Total risk	23.4300	0.0000
	Idiosyncratic risk	27.6890	0.0000

Note: H_0: No first-order autocorrelation.

Table 7. Regressions models on corporate risk taking

Variables	Model 1		Model 2	
	Total risk	Idiosyncratic risk	Total risk	Idiosyncratic risk
CGI	–0.400 (–16.341)***	–0.145 (–2.280)**	–	–
SBD	–	–	–0.283 (–4.643)***	–0.112 (–1.870)*
IBD	–	–	–0.368 (–5.252)***	–0.101 (–1.965)*
CEOD	–	–	0.022 (1.563)	0.020 (1.650)
COMM	–	–	–0.251 (–2.953)**	–0.161 (–1.310)
LEV	0.321 (2.914)**	0.611 (5.160)***	0.012 (2.570)**	0.094 (2.289)**
SZE	–0.111 (–2.510)**	–0.075 (–2.125)**	–0.225 (–1.840)*	–0.245 (–2.073)**
Sector dummies	Yes	Yes	Yes	Yes
R-square	0.337	–	0.315	–
Adjusted *R*-square	0.294	–	0.287	–
Observations	480	–	480	–

Note: ***, **, * significance at the 1%, 5%, and 10% levels, respectively, *t*-statistics are in parentheses.

Based on the previous diagnostic tests, the existence of heteroscedasticity and autocorrelation in the second model is noted, which suggests that pooled Ordinary Least Squared (OLS) estimation technique is not recommended. Hence, Generalized Squared Standards (GLS) estimation technique was used to avoid this problem, while OLS is appropriate for the first model.

As shown in Table 7, in the line of expectations, and consistent with the previous empirical results, the OLS regression results report a negative effect of CG on corporate risk taking. This result suggests that strong CG is correlated with low corporate risk taking. Thus, *H1* is accepted. Model 2 provides GLS estimates of the CG variables concerning to the board of directors. Against expectations, the results showed a negative association between board size and corporate risk taking, which implies that a corporation with large board size exhibit low risk. The potential justification of this finding is that more directors in the board could increase accountability of the directors and controlling of CEO, which contributes in reducing corporate risk. This result is similar to the finding of Ali and Nasir (2018). Thus, *H2* is rejected. As expected, the independence of the board and corporate risk taking are negatively correlated. This indicates that the higher board independence is the lower corporate risk taking. This result is similar to the results of Sayari and Marcum (2018). The coefficient of CEO duality shows a positive impact on corporate risk taking, which indicates that corporations that practice CEO duality are less risky. However, *H3* is insignificant, which is similar to the finding of Adnan et al. (2011). As expected, committees formed in the board affect negatively corporate risk taking which implies that an increase of the number of committees minimizes corporate risk taking. However, the relationship is significant with the total risk, while it is not significant with idiosyncratic risk. Thus, *H4* is accepted. Table 2 also provides the impact of control variables on corporate risk taking. In both models, leverage has a positive influence on corporate risk taking, which suggests that high leveraged corporation exhibits more risk. In contrast, size affects corporate risk taking negatively, which indicates that large corporation is riskier than small corporation.

CONCLUSION AND RECOMMENDATIONS

The circumstances of the collapse of large corporations such as Enron and WorldCom in addition to the circumstance accompanying the recent global financial crisis have contributed to the resurgence of the debate about the effect of CG on corporate risk taking. In response to these conditions, local and inter-

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national regulators have revisited and updated the governance legislation in order to restore confidence in the capital markets. Despite these efforts, the link between CG and corporate risk remains debatable among academics. Thus, this study aims to assess the compliance of Jordanian listed corporations by rules of CG and study the association between CG and corporate risk taking.

In order to achieve the goals of the study, CGI was constructed to evaluate corporations' compliance of the rules of CG. Based on the results of CGI, it is found that overall compliance of the Jordanian listed corporation by the rules of CG is fair. In addition, according to the corporations' compliance of the four categories of CG rules, the rules of disclosure and transparency ranked first, while the rules of the general assembly meetings are ranked fourth. Then, CG index and four governance variables concerning to the characteristics of the board are regressed on total risk and idiosyncratic risk. The findings of the study provide evidence that CG minimizes corporate risk taking. The result suggests that large board size, more independent director in the board, more committees of the board assist the board of directors to monitor the influence of CEO and handle the responsibilities to the shareholders, and thus reduce risk resulting from excessive powerful of CEO and insufficient oversight by the board of directors. According to the outcomes, this study recommends management of corporations to improve their compliance of CG rules related to the general assembly meetings and responsibilities of the board and continue to comply with the CG rules related to the transparency and disclosure and the rights of shareholders, because of their role in reducing corporate risk. The study also recommends JSC to update the rules of CG based on the best practices in the world and encourage corporations to comply with the rules of governance, as they have an impact on reducing their risk taking.

Although the study accomplishes its objectives, some limitations were faced. First, this study covers five years period. It is possible to find different results if the data cover a longer period. Second, this study faced data limitation that prevents including more corporations in the analysis. Finally, this study is limited to the listed corporations in Jordan. Therefore, future studies can extend this study to include more countries and do a comparison with developed countries in order to show on the best practices of CG.

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