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Determinants of Corporate Risk Disclosure for Non- Financial Companies Listed on Amman Stock Exchange

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Abstract:

Purpose: *This research aimed to identify the determinants of risk disclosure level by non-financial companies listed on the Amman Stock Exchange (ASE) for the period (2015 - 2019).*

Methodology: *The sample of the research included (80) firms (41 services and 39 industrial firms). The study data was collected from the firms' annual reports included in ASE website, and a multiple regression is used to analyze data and test the hypotheses using (SPSS).*

Finding: *The results of the study indicate that the board of directors' independence, risk management committee's meetings, Audit committee's meeting, foreign Ownership, and the quality of external auditors are significant positive predictors of corporate risk disclosure level.*

Practical Implications: *Based on the study results, the main research recommendation, to regulators, is that firms should focus more on the factors tackled in this study and found to be significant positive predictors of corporate risk disclosure, to enhance them and reflect due care about identifying and dealing with all kinds of risk types in order to achieve an overall higher risk disclosure level that satisfies Jordan corporate governance and disclosure requirements codes.*

Originality/value: *This paper contributes toward the debate about the adequacy of risk disclosure in Jordan by covering part of the shortage in the practical research in this area.*

Keywords: *Corporate risk disclosure level, non-financial companies, Amman Stock Exchange.*

Paper type: *Research article.*

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1. Introduction

The purpose of the current study is to examine the determinant of corporate risk disclosure (CRD) in the manufacturing and service sectors listed on the Amman stock exchange, as many financial crises, in recent years, have been observed all over the world. Among the most crucial one of them is the (2007-2008) financial crisis, which has led to volatility in the global economy as well as it has created some business challenges about dealing with corporate risk policy and disclosure. In fact, building the confidence of stakeholders and providing transparent information is proportionate to the claim that (CRDs) are central to firm risk policy (Abraham and Cox, 2007).

Much emphasis has been given to the definition of risk and its disclosure by the International Financial Reporting Standards (IFRS), e.g., the Standard No.7 ”Financial instruments” which state that disclosure requires organizations to reveal, in their financial statements, information that allows users to determine the financial situation and performance of the financial instruments along with the existence and magnitude of the risks resulted by the financial instruments where the entity is exposed to both during the period and at the end".

According to the International Accounting Standards Board (IASB, 2010), businesses should make every effort to disclose the risks to which they are exposed as well as the steps they have taken to mitigate those risks. In light of this, the Institute of Chartered Accountants of England and Wales (ICAEW, 1999) reiterated the requirement that directors identify and disclose their firms' risk profile in annual reports and other pertinent media. Risk consists of many types; however, this study is concerned with the more important ones which include: financial, operational, empowerment, information processing and technology, integrity and strategic risks (Amrin, 2019).

Information disclosure can genuinely influence information about the trust of users in the success of a firm’s management performance (Azozz *et al.*, 2016). The most fundamental aspect of firms that performs risk observation or administration is the disclosure of risks within the firm. Although, some researchers (Dobler, 2008) warns that risk disclosure may not be informative even in regulated environment. As a result, increasing the amount of risk information in yearly reports and enhancing the standard of transparency are considered essential parts of the principles of corporate governance (Hassan, 2009).

Among the most important function of corporate governance committee is the responsibility to identify, review and track the risks faced and monitor its management process. Risk disclosure should be part of the annual disclosure in the financial statements, as investors cannot see any inside information about the firm's possible risks (Azozz *et al.*, 2016). Risk disclosure is significant and considered an important tool for accurate investment decisions.

In order to detect and avoid risks rising, organizations should have successful risk management, thereby, minimizing the possibility of failure and efficiently managing risks (Naceur & Kandil, 2009). Improving risk disclosure has even been a significant aspect of the reform of corporate governance owing to increased market complexity as well as shifts in business generating uncertainty about the firm's survival (Madrigal *et al.,* 2015).

Stakeholder theory and agency theory are among the most relevant theories to consider when discussing the issue of risk initiation and dealing with. The agency theory focuses on the issues that develop in organizations as a result of the separation between owners and managers (Khalid *et al.,* 2021), while the stakeholder theory is a theory of capitalism that emphasizes the connections between a firm's stakeholders, including its clients, vendors, employees, investors, and communities (Bashir *et al.,* 2022).

The speedy change in the economy, technology, and surrounding environment has recently complicated the business climate, increasing instability and volatility. Moreover, firms are exposed to a variety of risks both inside and outside their organization. Many firms were liquidated and incurred losses for long periods because of not addressing the risks they were exposed to. Therefore, the risk management has become more complicated and important, which in turn increased the significance of (CRD).

Furthermore, policymakers and organizers have known that inclusive financial reporting and transparent information will aid in the prevention of future difficulties by offering a detailed description and greater awareness of the dynamics of business climate and risk elements. Risk disclosure increases knowledge transparency and restores stakeholders trust in firms, allowing making successful long-term decisions. Shareholders prefer that annual reports contain all the information about the risk management of the firm and the internal control structure to maximize firm value and protect their investments.

Jordanian firms who stand good possibility for economic growth in the future need to keep their eyes open on today's business risks. The motivation behind this study is the scarcity of risk reporting studies in Jordan so far in contrast to the western countries that have been adequately studying risk-reporting practices and associating it with certain corporate characteristics. This study will try to answer the following questions:

What is the impact of the board of directors' independence (BODI) on the corporate risk disclosure (CRD) for the non-financial firms listed on Amman Stock Exchange (ASE) during the period (2015-2019)?

What is the impact of the risk management committee's meetings (RMCM) on the corporate risk disclosure for the non-financial firms listed on Amman Stock Exchange (ASE) during the period (2015-2019)?

What is the impact of the audit committee's meetings (ACM) on the corporate risk disclosure for the non-financial firms listed on Amman Stock Exchange (ASE) during the period (2015-2019)?

What is the impact of the foreign ownership (FOR) on the corporate risk disclosure for the non-financial firms listed on Amman Stock Exchange (ASE) during the period (2015-2019)?

What is the impact of the quality of external auditor (AUD) on the corporate risk disclosure for the non-financial firms listed on Amman Stock Exchange (ASE) during the period (2015-2019)?

Study Objectives:

This study aims at identifying the most important determinants of risk disclosure among non-financial Jordanian companies, and to examine the relationship between these determinants and the extent of risk disclosure by these companies. More specifically, the aim of the study is to achieve the following objectives:

Review the financial statements of non- financial companies to identify risk items disclosure revealed by sample companies.

Examine the relationship between risk disclosure index and its possible determinants among firm characteristics.

Study Importance:

Measuring risk disclosure level of non-financial companies in Jordan and trying to associate it with its possible determinants is important to regulators and all corporate stakeholders. However, this study's specific importance stems from contributing to the debate on the role of corporate characteristics and its governance level in promoting risk management and disclosure. In addition, this study is important because it takes place in the context of a developing country (Jordan), to help alleviate the shortage in research in this area of interest to stakeholders, regulatory authorities, and the financial market to encourage firms to pay more attention to risk disclosure quantity and quality in annual reports.

2.1 Theoretical Framework

2.1.1 Agency theory

In order to monitor managers' risk attitudes and ensure the disclosure of information about risk factors and risk management activities beyond what is strictly necessary, this theory explains how the knowledge gap between shareholders and managers can

be closed by implementing risk management programs and rewarding managers for their efforts. The issues that develop in businesses as a result of the distance between owners and managers are expressed by agency theory in management and economics.

The idea aids in the implementation of various governance measures to regulate how agents act in joint businesses where ownership is held by people or groups in the form of shares and these shareholders give the directors permission to manage the firm on their behalf (Daily *et al.*, 2003; Wasserman, 2006). Agency theory is also defined as contracts, in which one or more people (owners) hire other people (agents) in which management is given a mandate by the shareholders to carry out the business of running the firm. On the other hand, the shareholders delegate their authority to management to make decisions and implement them achieve goals (Eisenhardt, 1989).

2.1.2 Stakeholder theory

Any individual or group that has a claim to an organization's interests, resources, or outputs or who could be impacted by those things is referred to as a stakeholder (Lewis, 2001). The use of stakeholder theory necessitates the stakeholders' ongoing presence and support, and whenever a stakeholder is more powerful and has greater authority, the firm should seek their permission before changing its practices. As a result, disclosure is seen as a crucial component of the dialogue it has with its stakeholders.

According to Roberts (1992), the core of stakeholder theory is the complex and dynamic link between an organization's environment and itself. The firm’s primary goal is to develop the capacity to strike a balance between the competing needs of various firm stakeholders (Roberts, 1992).

2.2 Literature Review and Hypotheses Development`

The importance of risk management and disclosure to firms has risen over the past period, along with the corporate governance debate, which suggests enhancing the transparency of disclosure in order to reduce risk exposure. For instance, Ayuningtyas and Harymawan (2022) examined the relationship between the presence of risk management committees and risk disclosure procedures of listed firms in Indonesia for the period (2010-2018). The study hypotheses were investigated using descriptive analysis as well as statistical regression analysis. The study's findings imply that firms with a risk management committee will show more risk since they have a dedicated committee with knowledge in risk management.

Adamu and Ivashkovskaya (2021) examined the effects of corporate governance characteristics on the corporate risk disclosure (CRD) reported in emerging countries (South Africa and Nigeria) using 192 annual reports from 42 firms over a five-year period (2014-2018). The hypotheses were evaluated using both statistical regression

analysis and manual content analysis. The study's findings indicate that while historical information and good news are perceived as less meaningful, future information and bad news are more beneficial to a variety of stakeholders.

Operational risk disclosure is also more relevant than environmental and strategic risk disclosure. In addition, when examining the core characteristics that drive risk disclosure, the size of the board, the proportion of independent members, and diversity are variables that are more crucial. Non-executive directors and CEO-Duality, on the other hand, are inconsequential in determining the risk information to disclose.

Alshirah *et al*. (2020) looked at how family ownership affected the relationship between the board of directors' qualities and the disclosure of firm risk for the period 2014 to 2017. They looked at the effects of board size, board expertise, and board meetings on CRD. The researchers used 376 annual reports of non-financial Jordanian companies listed on ASE. A random effect model was used to examine the study's data. The study concluded that the degree of risk disclosure was positively related to the board's experience. Contrarily, risk disclosure is adversely impacted by the CEO duality.

Grassa *et al*. (2020) studied the impact of deposit structure and ownership structure on risk disclosure, the sample included 71 Islamic banks for the period 2009-2014. The study made use of a variety of ownership forms, including foreign and government ownership and block holders. Additionally, the study employed GDP, AAOIFI adoption, bank size, age, and leverage as controls. The testing of hypotheses involved regression analysis. The results show that Islamic banks disclose risks at higher levels for ownership structure and all other control factors but at lower levels for block holders.

Alkurdi *et al*. (2019) made an effort to pinpoint how Corporate Governance qualities affected risk disclosure in the listed Jordanian corporations between 2008 and 2015. They used Ordinary Least Squares regression analysis with data of 15 listed Jordanian banks.

According to the research, corporate governance characteristics like board size and the presence of non-executive directors have a positive impact on voluntary risk disclosure. When managerial ownership features are taken into account, independent directors and audit committee size, on the other hand, have a favorable impact on Mandatory Risk Disclosure. Finally, the results revealed that profitability and leverage are two factors that affect risk disclosure. The sector, time, and risk index of the current study are different from this one, which was conducted in Jordan.

Habtoor *et al*. (2019) made an effort to determine the impact of firm ownership structure on CRD in the Saudi market. Based on 307 observations from non-financial firms reports, they used panel data analysis. According to the findings,

government and royal ownership favorably influence firm risk disclosure. Family ownership and institutional ownership, on the other hand, have a detrimental impact on business risk disclosure.

In a study of 99 manufacturing businesses listed on the Indonesian Stock Exchange between 2015 and 2017, Sumardani *et al*. (2019) looked at the effects of CRD on the cost of equity capital and firm values. The market value to book value ratio, the leverage ratio, growth, the consumer price index, profits from the current and preceding years, and the audit committee's independence were all evaluated by the researchers as potential influencers on the firm's cost of capital. In order to evaluate the hypotheses, the data were evaluated using multiple regression analysis. The findings revealed that (CRD) increases firm value while having a negative impact on the cost of equity capital

Amrin (2019) examined how risk disclosure in Indonesian non-financial enterprises is impacted by corporate governance and entity characteristics. There were 312 non-financial companies in the sample, all of which were traded on the Indonesia Stock Exchange. According to the findings of regression analysis, (CRD) procedures are significantly affected by external auditors, the size of the audit committee, the presence of risk monitoring or risk management committees. The findings also indicated that the organization's age had a negative impact on its (CRD) policies. The current study relied on the CRD index used in this study.

Agyei-Mensah and Buertey (2019) investigated the connections between culture, corporate governance (CG), and corporate risk reporting practices of listed enterprises in Nigeria and South Africa (2013-2017). To test the hypotheses, statistical regression analysis and descriptive analysis were used. The findings of this study revealed that power distance has a negative relationship with (CRD), that is, organizations with a bigger power distance have a smaller CRD, and vice versa. Furthermore, institutional ownership and profitability were found to be favorably associated with business risk disclosure.

Elshandidy *et al*. (2018) used a manual content analysis of 100 annual reports to look at the primary criteria for risk disclosure quality for financial firms listed on Shanghai's A-shares market from 2013 to 2015. The independent variables included business size, growth, market liquidity, and capital structure. The results indicated that the firm 's size had the biggest influence on risk disclosure. It has not been demonstrated that other factors, such as business risk and capital structure, significantly affect the quality of risk disclosure.

Abdullah *et al*. (2015) used content analysis of annual reports to look into what influences 424 publicly traded firms in the Gulf Cooperation Council countries' awareness of (CRD). The researchers used both univariate and multivariate analyses to evaluate hypotheses. They showed that Islamic financial institutions disclose business risk less frequently than corporations with robust corporate governance.

Al-Shammari (2014) tried to explain the relationship between (CRD) and firm traits which include: leverage, liquidity, profitability, size, industry type, auditor type and complexity. 109 annual reports of non-financial Kuwaiti businesses were represented in the study sample. The researcher used a multivariate regression analysis to evaluate the relationship between risk disclosure and elements specific to each firm. The analysis found that the amount of risk disclosure was severely limited for all types of risks.

Furthermore, (CRD) appears to be strongly connected with the firm's liquidity, size, auditor type, and structural complexity. Additionally, it was revealed by the results that there were significant differences between industries and that there was no link between (CRD) and business profitability or leverage.

2.2.1 Hypotheses Development

Based on the study theoretical framework and literature review sections, the following hypotheses were proposed:

H1: *Board of directors' independence does not affect the level of risk disclosure of non- financial companies.*
H2: *Firm's risk management committee meetings do not affect the level of risk disclosure of non-financial companies.*
H3: *Audit committee meetings do not affect the level of risk disclosure of non-financial companies.*
H4: *Firm foreign ownership does not affect the level of risk disclosure of non-financial companies.*
H5: *Firm's external auditor quality does not affect the level of risk disclosure of non-financial companies.*

2.2.2 What distinguishes this study

The previous studies indicated that various firm characteristics impact risk disclosure. They employ a set of properties that include major variables such as firm liquidity, profitability, size, audit type, and leverage. However, foreign ownership, and the frequency of meetings of risk management committee were neglected to a large extent in previous Jordanian studies.

Furthermore, there is a scarcity in risk disclosure studies in the Jordanian market. Alshirah *et al*. (2000) being the closest study to the current one, have measured risk disclosure, differently, using the number of risk information statements in yearly reports. Although done, similarly, on non-financial companies from the same market, ASE, this study differs in term of the period, 2015 to 2019 versus 2014 to 2017 and in the types of independent and control variables used, where this study used more internationally accepted and more comprehensive risk index. This study used the following factors as possible determinants of risk disclosure level among Jordanian non-financial companies: Board of director's independence, risk management committee meetings (activity), audit committee meetings (activity),

foreign ownership, and the quality of external auditor. The first three factors are also considered corporate governance indicators.

Beside the predictor variables mentioned above this study used the following control variables, firm profitability, firm size, and firm leverage, being more common control variables used in CRD studies, in order to arrive at a reasonable specification of the data analysis model.

3. Study Methodology

3.1 Population and Sample

The population of the study is all non-financial Jordanian companies in the service and industrial sectors listed on the Amman stock exchange for a five-year period (from 2015 to 2019). The initial sample consist of 83 firms, however, after deleting 3 service companies due to missing data the final sample consist of 80 firms (39 industrial and 41 service) representing 96.4% of the study population. Appendix (B) at the end of the study lists the names of sample firms as shown on the ASE database for 2020.

The study did not cover financial sector (bank, insurance, diversified financial services, and real estate), because its companies are subject to different corporate governance code and different regulatory authority (central bank of Jordan). The study final sample of 80 industrial and service firms also met the following conditions:

The financial year of the sample firm ends on 31/12.
The annual reports of the firm are available for the study period (2015-2019).
The annual reports include all data needed to measure the study variables.

3.2 Study Model

The study model is built based on the theoretical framework and literature review, especially, Amrin, 2019 study. The model is depicted in Figure 1 below, which shows the relationship between the independent variables (determinants of risk disclosure) and the dependent variable (risk disclosure index) beside the control variables, namely: the firm profitability, size, and leverage.

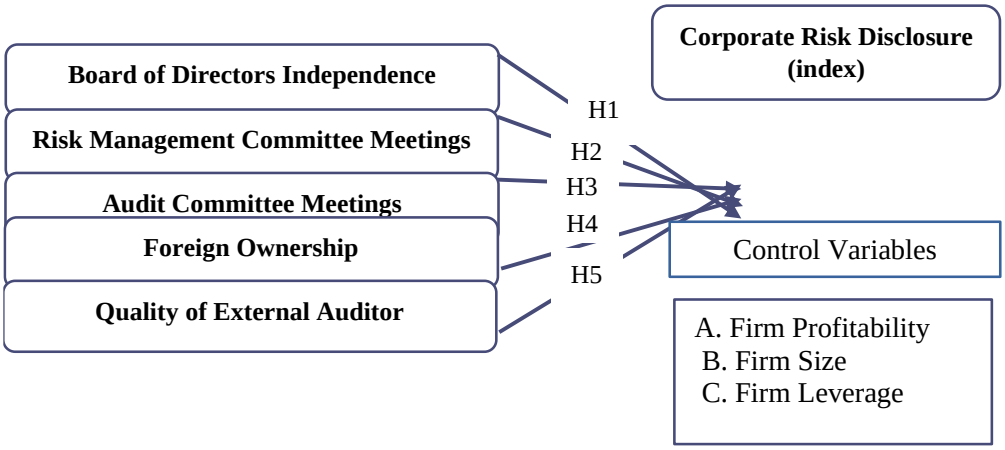
Given the above study model, the equivalent regression model is given in the following equation:

$$CRD_{it} = \beta 0_{it} + \beta 1\ BODI_{it} + \beta 2\ RMCM_{it} + \beta 3\ ACM_{it} + \beta 4\ FOR_{it} + \beta 5\ AUD_{it} +$$

$$B6\ PROF_{it} + \beta 7\ SIZE_{it} + \beta 8\ LEV_{it} + E_{it}$$

Where:
CRD_{it}: corporate risk disclosure (index or level) for firm i in period t.
$BODI_{it}$: board of directors' independence for firm i in period t.
$RMCM_{it}$: number of risk management committee meetings for firm i in period t.
ACM_{it}: number of audit committee meetings for firm i in period t.
FOR_{it}: the percentage of foreign ownership for firm i in period t.
AUD_{it}: the quality of external auditor for firm i in period t.
$PROF_{it}$: profitability of firm i in period t.
$SIZE_{it}$: size of firm i in period t.
LEV_{it}: leverage of firm i in period t.
E_{it} : standard error.

Figure 1. *Research Theoretical Framework (based on Amrin 2019)*



Source: *Own study.*

3.3 Data Sources

The data needed to run the regression model of the study was obtained from secondary sources, basically, the annual reports of sample firms displayed on ASE website for the study period (2015-2019). Other sources the study benefited from include: relevant articles, theses and company websites.

3.4 Measurement of Variables

In order to test the research hypotheses, and answer the study questions, the independent variables are measured and clarified as shown in Table 1 below.

3.4.1 Independent Variables Measurement

Table 1 shows independent variables measurement and the previous studies used the same measurement approach:

Table 1. *Summary of Independent Variables Measurement*

Independent Variables	Measurements
Board of Directors' Independence	Measured by the proportion of independent non-executive directors divided by the total number of board directors (Elshandidy *et al.*, 2015).
Risk management committee Meetings.	Number of risk management committee meetings in the Year as disclosed in the annual report (Abdullah *et al*., 2015).
Audit Committee Meetings.	Number of audit committee meetings in the year as disclosed in the annual report (Allegrini and Greco 2013).
Foreign Ownership.	The proportion of shares held by foreign investors in the company capital (Grassa *et al.*, 2020).
The Quality of External Auditor.	Dummy variable that takes the value of 1 if the firm is audited by a BIG-4 Audit firm and 0 otherwise (Abid & Shaiq, 2015; Alshirah *et al*., 2020).

Source: Own study.

3.4.2 Corporate Risk Disclosure Measurement

The current study's dependent variable is the level of risk disclosure as used by Amrin (2019). The level of risk disclosure in firm's annual reports was measured using the content analysis method (Linsley & Shrives, 2006; Abraham & Cox, 2007; Elzahar & Hussainey, 2012; Elshandidy *et al*., 2018). Because the goal of the study is to concentrate on the volume of risk disclosures level rather than the quality of it, most accounting researches agree that content analysis is the most popular and commonly utilized approach to analyzing risk disclosure (Haniffa & Cooke, 2002).

The term content analysis refers to the process of extracting conclusions from reports using a series of procedures (Abid & Shaiq, 2015). Risk disclosure in this study and similar ones is classified into (six) primary categories as follows: Financial risk, operational risk, empowerment risk, data processing and technology risk, integrity risk, and strategy risk.

Each main category has several elements (as shown in appendix A at the end of the study). The researchers assign the value of "1" if the risk item is disclosed in firm's annual report and "0" otherwise. The formula for the firm risk disclosure level or index is computed as a ratio as follows:

CRD=the number of risk items disclosed/total number of all- risk disclosure

3.4.3 Control Variables Measurement

The level of risk disclosure for firms may differ due to various reasons, therefore the study uses some control variables, especially, those that have been used in similar studies, most notably firm size, leverage, and firm profitability. These variables are explained briefly as follows.

3.4.3.1 Firm Profitability

Profitability is considered the best indicator of the firm 's performance in the financial market. It is the main measure to demonstrate management success in dealing with risk, as the theory of signaling indicates that high profitability represents a strong motivation to demonstrate the quality of management work and its ability to successfully manage risks (Elshandidy et al., 2015). As a result, the first control variable in this study is the firm profitability, measured by return on assets (ROA).

3.4.3.2 Firm Size

Many disclosure studies found that firm size is an influential factor in revealing corporate risks information in annual reports. For example, Madrigal et al. (2015), found that the larger the firm, the greater its exposure to risk. Agency theory also assumes that with greater information asymmetry between owners and managers, larger corporations will have a higher tendency to disclose risk information than smaller ones, which results in lower agency costs (Watts & Zimmerman, 1983). Therefore, this study will use firm size as second control variable. It is measured by the natural logarithm of total assets.

3.4.3.3 Leverage

Firms may pay high interest rates if they frequently borrow money from others to meet their financial demands. According to Uyar and Kili (2012), highly leveraged organizations have higher monitoring costs, and firms with a higher percentage of debt in their capital structure may see wealth transfers from loan holders to shareholders (Jensen & Meckling, 1976). In order to demonstrate to the market that they can manage risks effectively and efficiently, managers will also be more likely to provide additional risk-related information (Abraham and Cox, 2007; Hassan, 2009). Leverage is measured as follows:

LEV=Total Debt /Total Assets

3.5 Data Analysis Techniques

After being gathered, the data is loaded into the statistical package for the social sciences (SPSS V.25) application and then examined. The averages and standard deviations of all study variables, as well as their highest and lowest values, were extracted using descriptive statistical techniques to assist provide a description of each variable. Additionally, the Multiple Regression Analysis was used to test the effects of all independent and control variables on the study's dependent variable in order to assess the validity of the hypotheses. Pearson's correlation test was also used to determine how closely the study variables are related to one another.

4. Research Results

4.1 Descriptive Statistics

Table 2 below shows the variables' means, standard deviation, highest values, and lowest values.

Table 2. *Descriptive Statistics for all Study Variables*

Descriptive Statistics				
	Minimum	Maximum	Mean	Std. Deviation
BODI	0.000	0.889	0.410	0.242
RMCM	0.000	8.000	1.725	1.728
ACM	0.000	11.000	4.973	1.692
FOR	0.000	0.988	0.180	0.233
AUD	0.000	1.000	0.425	0.495
PROF	-0.360	0.387	0.025	0.084
SIZE	5.963	9.158	7.506	0.605
LEV	0.001	0.959	0.337	0.215
CRD	0.526	1.000	0.709	0.117

Source: *Own study.*

Where:
BODI: board of directors' independence, RMCM: risk management committee meetings, FOR: foreign ownership, ACM: audit committee meetings, AUD: quality of external audit, PROF: profitability, SIZE: firm size, LEV: leverage, CRD: corporate risk disclosure level.

Table 2 presents the results of the descriptive analysis for each variable of the study. The results show that the mean of the board of directors' independence (BODI) is 0.410 with a relatively low standard deviation of 0.242. This low standard deviation indicates low dispersion of the variable values around its mean. The maximum value of the board of director's independence variable is 88.89%, whereas two non-financial companies have this value (AL-Bilad Medical Services and Jordan Steel).

It should be noted that the mean of (BODI) satisfies the requirement of the Jordanian corporate governance code which stipulate that independent board members must be at least one third. The mean number of risk management committee meetings (RMCM) is 1.725 meetings per year, with a minimum value of zero and a maximum value of 8 meetings (achieved by both Philadelphia Pharmaceuticals and the Arab Potash firms). This mean is closed to the minimum number of meetings required by the Jordanian corporate governance code (2 meetings).

The mean of the number of audit committee meetings (ACM) is 4.973 meetings per year, this result as consistent with the corporate governance law in Jordan , which

call for 4 meetings at least annually. The minimum value of (ACM) is zero and the maximum value is 11 meetings (by Philadelphia Pharmaceuticals firm). The standard deviation was (1.692), which indicates a low dispersion of variable values around its mean.

Regarding the percentage of foreign ownership (FOR), the results in Table 4 illustrate that the average for this variable is 0.18, and the range of foreign ownership is between 0% and 98.8%. This indicates a low percentage of foreign ownership in industrial and service firms listed on the Amman Stock Exchange during the period (2015-2019). There is only one firm with non-foreign ownership among shareholders (National Petroleum), while there are several non-financial companies with very high of foreign percentage ownership, for example, National Poultry (98.8%), Siniora Food Industries (95.98%), and Bindar Trading and Investment (93.3%).

The mean value of the quality of external audit (AUD) variable is 0.425. The quality of the external audit (AUD) variable is measured by a dummy variable that equals one if the company is audited by a BIG-4 audit firm and zero otherwise. Therefore, the minimum value of this variable is zero and the maximum value is one. This mean indicates that on average less than half of sample firms are audited by Big-4-firms.

For the control variables, the first one is the firm size, which is measured by the natural logarithm of total assets. The average firm size is 7.506. The minimum value is 5.963 (for the Nopar for Trading and Investment firm. The minimum is equivalent to 918,837 JOD), and a maximum value is 9.158 (for Jordan Petroleum Refinery), which is equivalent to 14,402,216 JOD). The second control variable is profitability, which is measured by the return on assets ratio. The average profitability ratio is 0.025, with a minimum value of -0.360 (for Jordan Wood Industries in 2019), and a maximum value of 0.387 (for Jordanian Duty-Free Shops in 2017).

The standard deviation of this variable is 0.084 indicates a high dispersion around its mean. For the last control variable, the results in table 4-2 illustrate that the average for the leverage variable is 0.337, with a minimum value is 0.001 (for the Nopar for Trading and Investment in 2016), and the maximum value is 0.959 (for Irbid District Electricity in 2019). The relatively low standard deviation for this variable of 0.215 indicates a low dispersion of variable values around its mean.

The dependent variable in the current study is the level of (CRD). This variable has been measured by a ratio using six main categories of risk: Financial risk; operational risk; empowerment risk; information processing and technology risk; integrity risk; and strategic risk. Table 4, shows the mean of the CRD variable is 0.709, which indicates that sample firms disclose significant amount of risk information from all types. Some are required by accounting standards and some are voluntary. The highest value of CRD amounted to 1 (or 100% disclosure) for the

General Investment firm, while the lowest value was 0.526 for the Jordan Poultry Processing and Marketing firm. The standard deviation for this variable is quite low (0.117).

4.2 Regression Analysis

Before conducting a regression test, more than one validity test must be done to check on the suitability of study data for regression analysis. The following is an explanation of these tests:

Multiple Correlation between Independent Variables:
Before performing a multiple regression analysis, researchers need make sure that independent variables do not have a strong correlation. Table 3 displays the results of the correlation between all variables. There is no multi-linear connection between the independent variables, as evidenced by the correlation ratios being less than 0.80. (Lee and Yu, 2019; Kumar, 2020).

The results in Table 3 also indicate the relationship between the business risk disclosure index and the independence of the board of directors is significantly positive at 1%. This suggests that increasing board independence will enhance the index of corporate risk disclosure (CRD). Additionally, the correlation analysis results reveal a substantial positive association (at 1% level) between the (CRD) index and the frequency of risk management committee meetings. This demonstrates that increasing the frequency of risk management committee meetings will improve the index of (CRD).

Furthermore, the results of the correlation analysis show a strong association between the number of audit committee meetings and CRD. This demonstrates how the corporate risk disclosure index might be enhanced by holding more audit committee meetings.

The results of the correlation study also demonstrate a substantial positive association between the corporate risk disclosure index and the percentage of foreign ownership, with a significant level of 1%. This suggests that raising the foreign ownership proportion will improve the corporate risk disclosure index.

A significant positive correlation also exists between the (CRD) index and the quality of the external auditor as shown in table 3, at a significant level of 1%. This suggests that improving the quality of external audit will enhance the corporate risk disclosure index.

The correlation analysis's results also demonstrate a significant positive relationship between the (CRD) index and both firm profitability and size, at a significant level of 1and 5% respectively. This suggests that more profitable, and larger firms have higher (CRD) index.

Table 3. *Results of Pearson Correlation between Variables*

Correlations									
	CRD	BODI	RMCM	ACM	FOR	AUD	PROF	SIZE	LEV
CRD	1								
BODI	.231**	1							
RMCM	.250**	.046	1						
ACM	.258**	-.078	.415**	1					
FOR	.221**	.064	.119*	-.004	1				
AUD	.311**	-.381**	.160**	.310**	.162**	1			
PROF	.134**	-.120*	.158**	.238**	-.004	.165**	1		
SIZE	.103*	-.161**	0.0868	.198**	.150**	.357**	.243**	1	
LEV	-.086	-.008	-.075	-.067	-.107*	.058	-.268**	.363**	1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Note: *BODI: board of directors' independence, RMCM: risk management committee meetings, FOR: foreign ownership, ACM: audit committee meetings, AUD: quality of external audit, PROF: profitability, SIZE: firm size, LEV: leverage, CRD: corporate risk disclosure level.*

Source: *Own study.*

Multicollinearity Test:

To confirm the previous result, the coefficient of variance inflation factor values were calculated for all independent variables to ensure the none existence of multiple linear correlations, and the results were shown in Table 4 below. Table 4 shows that the values of the coefficient of variance inflation factors were less than 10, and the values of (Tolerance) were higher than 0.1, which indicates that there is no problem with multicollinearity between the study variables, and therefore study hypotheses can be tested. (Kim, 2019; Shrestha, 2020).

Table 4. *Multicollinearity Test*

Coefficients		
	Collinearity Statistics	
Model	Tolerance	VIF
(Constant)		
BODI	.822	1.217
RMCM	.801	1.248
ACM	.731	1.368
FOR	.884	1.131
AUD	.689	1.451
PROF	.760	1.316
SIZE	.636	1.573
LEV	.695	1.439

Source: *Own study.*

4.3 Test of Hypotheses

This aims to investigate how each independent variable affects the level of corporate risk disclosure level (CRD). The independent variable examined in this study includes board of director's independence (BODI), the number of risk management committee meetings (RMCM), the number of audit committee meetings (ACM), the percentage of foreign ownership (FOR) and the quality of external audit (AUD). As a result, five hypotheses were developed to answer the questions of the study, and the results, using multiple regression analysis, are displayed in Table 5.

Table 5. *Multiple regression test Results*

	B	T	Sig.
(Constant)	.569	7.869	.000
BODI	.184	8.098	.000
RMCM	.007	2.046	.041
ACM	.008	2.285	.023
FOR	.061	2.695	.007
AUD	.091	7.519	.000
PROF	.090	1.331	.184
SIZE	-.004	-.350	.727
LEV	-.029	-1.060	.290
R	.546		
R^2	.298		
Adjusted R^2	.284		
F	20.779		
Sig.	.000		

Note: *BODI: board of directors' independence, RMCM: risk management committee meetings, FOR: foreign ownership, ACM: audit committee meetings, AUD: quality of external audit, PROF: profitability, SIZE: firm size, LEV: leverage, CRD: corporate risk disclosure level.*

Source: *Own study.*

Table 5 presents the results of the multiple regression analysis that aims to analyze the impact of the independent and control variables (BODI, RMCM, ACM, FOR, AUD, PROF, SIZE and LEV) on the dependent variable (CRD) level. The results show adjusted R-squared is 0.284, which indicates that about 28% of the variability in the (CRD) happened as a result of the variability in the independent and control variables while about 72% occurred because of unobservable factors. Moreover, the results in table 4 show that the f-test value is 20.779, which is significant at 1%. This confirms the significance of the overall regression model.

5. Hypotheses Tests Results and Discussion

First Hypothesis Test ($H0_1$): Board of directors' independence does not affect the level of risk disclosure of non-financial companies listed in ASE.

Table 5 illustrates the findings of the multiple regression analysis that has been used to test the hypotheses of the study. The results show that, for the first hypothesis, the coefficient for the board of directors' independence (BODI) is 0.184, which is significant 0.00 level. As a result, the first hypothesis should be rejected, and it is determined that the independence of the board director has significant positive effect on the level of risk disclosure of non-financial companies listed in ASE.

This suggests that adding more independent directors to the board will help Jordanian non-financial companies of disclose risks at a higher level. This result is consistent with the findings of (Adamu and Ivashkovskaya, 2021; Alshirah *et al.*, 2020), who discovered that board diversity and independence have greater impact on raising risk disclosure. The relationship between independent members and the amount of risk information to reveal is described by agency and stakeholder theories. According to agency theory, appointing independent board members reduces the potential for agency conflict between investors and managers by increasing transparency and decreasing asymmetric information issues.

Additionally, independent directors act as representatives to shareholders, employees, communities and other stakeholders, as predicted by stakeholder theory. As a result, they monitor top managers' activities and ensure the best disclosure of the information requested by stakeholders. Accordingly, the presence of independent directors on a firm 's board of directors may improve financial reporting (Saggar and Singh, 2017). This result is supported by the correlation coefficient 23.1% between CRD and BODI.

Second Hypothesis Test ($H0_2$): Firm risk management committee meetings do not affect the level of risk disclosure of non-financial companies listed in ASE.

Table 4 multiple regression analysis findings indicate that the number of risk management committee meetings (RMCM) variable has a coefficient of 0.007, significant 0.041. This result indicates a significant positive impact of the number of risk management committee meetings on the level of risk disclosure of non-financial companies listed in ASE and that the second hypothesis should be rejected. This result is corroborated by the positive correlation of 25% between CRD and RMCM.

The risk management committee may put efforts on assessing risk tolerance, risk profiling, and confirming the firm's internal controls (Ayuningtyas & Harymawan, 2022). As a result, more meetings of the risk management committee may increase board risk monitoring as well as the volume of risk disclosure. The result of this hypothesis test agrees with of Abdullah *et al*. (2017), who found that even the simple creation of a risk management committee boosted risk management transparency among Malaysian enterprises.

Third Hypothesis Test ($H0_3$): Audit committee meetings do not affect the level of risk disclosure of non-financial companies listed in ASE.

According to Table 4 multiple regression analysis findings, the coefficient for the audit committee meetings (ACM) variable is 0.008, significant at 0.023. Accordingly, the third hypothesis should be rejected, leading to the conclusion that the quantity of audit committee meetings has a considerable positive effect on the degree of risk disclosure of non-financial companies listed in ASE. This suggests that the level of (CRD) increases with the increase in the number of audit committee meetings This result is supported by the positive correlation coefficient of 25.8% between CRD and ACM.

This result is also consistent with some previous empirical studies, such as Allegrini and Greco (2013) who concluded that audit committee meetings and corporate disclosure are positively related. In the same context, Musallam (2018) discovered a strong link between the existence of audit committee meetings and disclosure. Furthermore, having more audit committee meetings can help lower the risk of fraud, because such committee members are able to share their expertise in setting firm's accounting choices and policies. Regular meetings of the audit committee can lead to more informed choices on accounting and auditing concerns (Alkurdi *et al.,* 2019).

Fourth Hypothesis Test ($H0_4$): Firm foreign ownership does not affect the level of risk disclosure of non-financial companies listed in ASE.

The results of multiple regression analysis in table 4 show that, the coefficient for the percentage of foreign ownership (FOR) variable is 0.061, significant at 0.007. Therefore, the fourth hypothesis, should be rejected and conclude that there is a significant positive impact of the foreign ownership on the level of risk disclosure of non-financial companies listed in ASE. This indicates that the higher the percentage of foreign ownership the higher the level of risk disclosure of non-financial companies. This result is supported by the positive correlation coefficient 22.1% between CRD and FOR.

This finding is in line with some previous empirical research, such as Barako *et al*. (2006) and Grassa *et al*. (2020), who found that high proportion of foreign ownership promotes disclosure. Due to their expertise and advanced understanding of trading and financial market rules, it is often assumed that foreign investors are more experienced than local investors. Increased foreign ownership results in increased shareholder action and better board composition. Under these conditions, the board of directors is under increasing pressure to improve firm transparency and offer high-quality accounting information, including risk-related disclosure (Grassa *et al*., 2020).

Fifth Hypothesis Test ($H0_5$): Firm external auditor does not affect the level of risk disclosure of non-financial companies listed in ASE.

The results of multiple regression analysis in table 4 show that, the coefficient for the quality of external audit (AUD) variable is 0.091, significant at 0.000. Therefore, the fifth hypothesis, should be rejected and conclude that there is a significant positive impact of the firm external auditor on the level of risk disclosure of non-financial companies listed in ASE. This indicates that using one of the Big- four external auditors will contribute positively to the level of risk disclosure of non-financial companies.

This result is supported by the positive correlation coefficient of 31.1% between CRD and AUD. This finding is in line with some prior empirical studies that showed businesses who hire Big-4 audit firms provide more risk information (Oliveira *et al*., 2011; Campbell *et al*., 2014). The quality of the firm risk disclosure may be improved as a result of Big-four auditors doing this crucial role. Auditors in their audit reports in accordance with current auditing standards must describe any major discrepancies between financial statements and other information in annual reports.

Therefore, if the auditor thinks the business risk that is reflected in the financial statements is not adequately reported in the annual report's business risk section, they should note the disparity in the audit report. Auditors will also talk with the firm's management about any business risks that could result in material misstatements of financial statements because they are qualified to advise management on whether and how business risk should be reported based on their understanding of client business risk and their expertise evaluating business risk. Based on their expertise, auditors will provide disclosure advice as needed.

6. Conclusion

Corporate risk disclosure (CRD) has acquired importance and attracted observed attentiveness over the last period. In developing countries, however, there is still a lack of research on (CRD). Therefore, this study was conducted to examine the impact of several factors on CRD level in Jordan. These factors include: Board of directors' independence, risk management committees, Audit committees meeting, Foreign Ownership, and the quality of external auditors.

The sample consists 80 firms (39 industrial and 41 service companies) listed on Amman Stock Exchange for five years (2015-2019), making 400 annual observations. Using regression analysis via SPSS, the findings of the study show that all independent variables examined are significant predictors of (CRD) level. In more details it is found that the board of directors' independence has positive significant impact on the level of (CRD).

This finding agrees with the agency theory view, which indicates that the existence of independent board directors has a role in reducing agency conflict between management and shareholders by lowering information asymmetries and improving financial reporting.

The findings also indicate that risk management committee meetings, and foreign ownership are significant positive predictors of (CRD) level. Similarly, audit committee meetings and the quality of external auditors have a positive significant impact on (CRD) level, demonstrating the effectiveness of the internal and external audit functions in helping to address the agency's issues by enhancing risk disclosure practices in financial reports and expanding the use of contemporary accounting standards.

It was argued that there should be significant positive relationship between both firm size and profitability, which are employed as control variables in this study, and the level of risk disclosure, since signaling and agency theories suggests that large corporations with good financial circumstances are more likely to disclose risk information than smaller firms. The findings of the current study support the idea of the positive relationship but this relationship is not significant. Regarding the final control variables, leverage, the findings indicate this variable has insignificant negative relationship with (CRD). It is possible, that companies with high debt levels might not be able to disclose risks in a more open manner, in order not to hamper their ability to secure outside capital.

This paper contributes toward the debate about the adequacy of risk disclosure in Jordan by covering part of the shortage in the practical research in this area. In fact, based on the study results, the main research recommendation, to regulators and all concerned users, is that firms should focus more on the factors tackled in this study and found to be significant positive predictors of CRD level to enhance them and reflect due care about identifying and dealing with all kinds of risk factors in order to achieve an overall higher risk disclosure level that satisfies Jordan corporate governance and disclosure requirements codes.

In addition, the following future research recommendations are suggested (1) Expand the sample to cover more sectors such as insurance firms and use a longer time period to improve the dependability of the results. (2) Include more corporate governance control variables, to enhance the predictability of corporate risk disclosure model.

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Appendix (A): Categories of Risk Disclosure Index (Based on Amrin, 2019)

Risk Category	**Risk Items**
Financial risk	1-Commodity. 2-Going concern. 3-Capital cost.
Operational risk	4-Customer satisfaction. 5-Product development. 6-Efficiencyandperformance. 7- Sourcing, 8-Stockobsolescence. 9-products and services failure. 10Environmental. 11-Health and safety. 12-Brandnameerosion. 13-Management process. 14-Price fluctuation of the Factor of Production. 15-The interruption in the delivery chain.
Empowerment risk	16-Leadershipandmanagement. 17- Outsourcing. 18-Performanceincentives. 19-communications.
Information processing and technology risk	20-Integrity. 21-Access. 22-Availability. 23-Infrastructure.
Integrity risk	24-Management and employee fraud. 25- Illegal actions. 26-Risk management policy. 27-Risk management organization.
Strategic risk	28-Environmentalscan. 29-Industry. 30-Businessesportfolio. 31-competitors. 32-Pricing. 33-Valuation. 34-Planning. 35-Lifecycle. 36-performancemeasurement. 37-Regulatory. 38-Political and sovereign.

Source: *Own study.*

Appendix (B): List of Research Sample

Services	
Company's Name	Symbol
Health Care Services	
AL-BILAD MEDICAL SERVICES	ABMS
THE CONSULTANT & INVESTMENT GROUP	CICO
IBN ALHAYTHAM HOSPITAL COMPANY	IBNH
INTERNATIONAL FOR MEDICAL INVESTMENT	ICMI
Educational Services	
AL-ZARQA EDUCATIONAL & INVESTMENT	ZEIC
THE ARAB INTERNATIONL FOR EDUCATION & INVESTMENT.	AIEI
AL-ISRA FOR EDUCATION AND INVESTMENT "PLC"	AIFE
PETRA EDUCATION COMPANY	PEDC
PHILADELPHIA INTERNATIONAL EDUCATIONAL INVESTMENT COMPANY	PIEC
Hotels and Tourism	
JORDAN HOTELS & TOURISM	JOHT
ARAB INTERNATIONAL HOTELS	AIHO
MEDITERRANEAN TOURISM INVESTMENT	MDTR
ZARA INVESTEMENT HOLDING	ZARA
AL- SHARQ INVESTMENTS PROJECTS(HOLDING)	AIPC
AL-DAWLIYAH FOR HOTELS & MALLS	MALL
JORDAN PROJECTS FOR TOURISM DEVELOPMENT	JPTD
AL-RAKAEZ INVESTMENT CO.	RICS
SURA DEVELOPMENT & INVESTMENT PLC	SURA
Transportation	
JORDAN NATIONAL SHIPPING LINES	SHIP
SALAM INTERNATIONL TRANSPORT & TRADING	SITT
JORDAN EXPRESS TOURIST TRANSPORT	JETT
JORDAN INVESTMENT & TRANSPORT CO.	ALFA
TRANSPORT& INVESTMENT BARTER COMPANY	NAQL
MASAFAT FOR SPECIALISED TRANSPORT	MSFT
RUM GROUP FOR TRANSPORTATION & TOURISM INVESTMENT	RUMM
Technology and Communication	
JORDAN TELECOM	JTEL
AL-FARIS NATIONAL COMPANY FOR INVESTMENT & EXPORT	CEBC
Utilities and Energy	
JORDAN ELECTRIC POWER	JOEP
IRBID DISTRICT ELECTRICITY	IREL
AFAQ FOR ENERGY CO. P.L.C	MANE
NATIONAL PETROULEUM	NAPT
JORDAN PETROLEUM REFINERY	JOPT
Commercial Services	
JORDANIAN DUTY FREE SHOPS	JOD
JORDAN INTERNATIONAL TRADING CENTER	JITC
JORDAN TRADE FAC	JOTE
SPECIALIZED TRADING & INVESTMENT	SPTI
BINDAR TRADING & INVESTMENT CO . P.L.C	BIND
OFFTECHOLDING GROUP PLC	OFTC
NOPAR FOR TRADING AND INVESTMENT	NOTI
INJAZ FOR DEVELOPMENT & PROJECTS	ATCO
SOUTH ELECTRONICS CO. P.L.C	SECO

Industrial	
Pharmaceutical and Medical Industries	
DAR AL DAWA DEVELOPMENT & INVESTMENT	DADI
HAYAT PHARMACEUTICAL INDUSTRIES CO.	HPIC
PHILADELPHIA PHARMACEEUTICALS	PHIL
Chemical Industrial	
THE INDUSTRIAL COMMERCIAL & AGRICULTURAL	ICAG
PREMIER BUSINESS AND PROJECTS CO.LTD	ACDT
NATIONAL CHLORINE INDUSTRIES	NATC
JORDAN INDUSTRIAL RESOURCES	HJOIR
THE ARAB PESTICIDES & VETERINARY DRUGS MFG. CO.	MBED
INTERMEDIATE PETROCHEMICALS INDUSTRIES CO.	IPCH
Food and Beverages	
JORDAN POULTRY PROCESSING & MARKETING	JPPC
JORDAN DAIRY	JODA
GENERAL INVESTMENT	GENI
UNIVERSAL MODERN INDUSTRIES	UMIC
NATIONAL POULTRY	NATP
NUTRI DAR	NDAR
JORDAN VEGETABLE OIL INDUSTRIES	JVOI
SINIORA FOOD INDUSTRIES PLC	SNRA
Tobacco and Cigarettes	
AL-EQBAL INVESTMENT CO.(PLC)	EICO
UNION TOBACCO & CIGARETTE INDUSTRIES	UTOB
Mining and Extraction Industries	
ARAB ALUMINIUM INDUSTRY /ARAL	AALU
NATIONAL STEEL INDUSTRY	BNAST
JORDAN PHOSPHATE MINES	JOPH
THE ARAB POTASH	APOT
JORDAN STEEL	JOST
NATIONAL ALUMINIUM INDUSTRIAL	NATA
NORTHERN CEMENT CO.	NCCO
TRAVERTINE COMPANY PLC	TRAV
Engineering and Construction	
AFAQ HOLDING FOR INVESTMENT & REAL ESTATE DEVELOPMENT CO. P.L.C	MANR
THE JORDAN PIPES MANUFACTURING	JOPI
READY MIX CONCRTE AND CONSTRUCTION SUPPLIES	RMCC
ARABIAN STEEL PIPES MANUFACTURING	ASPMM
AL-QUDS READY MIX	AQRM
ASSAS FOR CONCRETE PRODUCTS CO. LTD	ASAS
JORDAN WOOD INDUSTRIES CO. LTD.	WOOD
Electrical Industries	
NATIONAL CABLE & WIRE MANUFACTURING	WIRE
ARAB ELECTRICAL INDUSTRIES	AEIN
UNITED CABLE INDUSTRIES	UCIC
Textiles, Leathers and Clothing's	
CENTURY INVESTMENT GROUP	CEIG
THE JORDAN WORSTED MILLS	JOWM

Source: *Own study.*