Journal of
Risk and Financial Management

Article

The Financial Determinants of Integrated Reporting Disclosure by Jordanian Companies

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Abstract: The paper aims to investigate the effect of financial leverage, profitability, liquidity ratios, cash holdings, and interest coverage ratios on the level of integrated reporting disclosure—as one of the reports that promotes sustainable development—of Jordanian industrial listed companies. The content analysis method was used to analyze the annual reports of 51 listed Jordanian industrial companies during the years from 2014 to 2019 (306 firm-year observations). The analysis showed that financial leverage, profitability, liquidity and cash holdings are important determinants for integrated reporting, whereas the analysis did not support the effect of the interest coverage ratio. To the best of our knowledge, this is the first empirical study that deals with the impact of a set of financial variables on integrated reporting in the context of emerging countries such as Jordan. This is also the first study that deals with disclosing integrated reports through the perspective of shareholders and stakeholders, as integrated reporting contains two parts, financial and non-financial; therefore, the current study contributes to the disclosure literature by providing new theoretical and empirical evidence in the context of emerging markets.

Keywords: integrated reporting; sustainability; cash holding; leverage; corporate disclosure; Jordan

Citation: Al Amosh, Hamzeh, Saleh F. A. Khatib, and Khaled Hussainey. 2022. The Financial Determinants of Integrated Reporting Disclosure by Jordanian Companies. *Journal of Risk and Financial Management* 15: 375. https://doi.org/10.3390/jrfm15090375

Academic Editor: Colin Michael Hall

Received: 4 April 2022
Accepted: 20 April 2022
Published: 25 August 2022

1. Introduction

Over time, accounting disclosure has evolved to take on multiple forms, with stakeholders' increasing demand for financial and non-financial information. Disclosure is also considered one of the key means of communicating information to the audience, and it embodies companies' ethical and social behavior (Khatib et al. 2022a; Zamil et al. 2021). According to the premise of the growing audience, the demand for company reports is constantly increasing, which calls for the need to expand the content of reports issued by companies to meet the needs of the different stakeholders (Bhasin 2017; Chang et al. 2019); hence, companies have started to look outside the box and search for suitable alternatives to fully meet related parties' information needs and to legalize corporate activities.

Consequently, a new disclosure approach appeared, which is integrated reporting (IR). The International Integrated Reporting Council (IIRC) issued an International Integrated Reporting Framework (IIRF) that provides seven guidelines and eight content elements. Based on this framework, disclosure covers the organizational overview and external environments, governance, business model, risks and opportunities, strategy, resource allocation, performance, outlook, and the basis of preparation and presentation (IIRC 2013). The IIRC defined the integrated report as "a concise communication about how an organization's strategy, governance, performance and prospects, in the context of its external environment, lead to the creation of value over the short, medium and long term" (IIRC 2013, p. 7). According to Naynar et al. (2018) and Kılıç and Kuzey (2018), integrated reporting provides insight into the relationship between organizations and stakeholders through a new approach to disclosure that provides integrated information about the financial and non-financial performance of organizations.

As one of the recent revolutions in the field of disclosure, integrated reporting can replace other companies' reports, including social and environmental responsibility reports (Velte and Stawinoga 2017). Zhou et al. (2017) suggested that preparing reports according to the International Integrated Reporting Framework (IIRF) reduces costs related to capital and maximizes companies' market return. In addition, the integrated reporting content affects the investment decision by demonstrating the extent of the institution's ability to create value in the foreseeable future and provide a comprehensive view of its strategy to potential investors (Esch et al. 2019); however, it seems that the issue of adopting integrated reporting is still in its infancy, as most countries in the world, except for South Africa, do not oblige companies or organizations to adopt integrated disclosure of their annual reports (Eccles et al. 2019). Moreover, an emerging country such as Jordan is not an isolated case; it is considered to be an example of a developing country with limited resources, and the idea of integrated reporting in it is still not on the table.

It is commonly held in the literature that there is a significant variation in disclosure practices between countries due to the absence of a legal framework that directs companies to comply with integrated reports preparation, which leaves companies to estimate the items they disclose (Ahmed et al. 2021); hence, understanding the determinants of integrated reporting helps regulators to close the reporting gap between countries and firms. It is also useful for policy formulation to address the integrated reporting challenges in developing countries. Empirically, most of the literature investigates the level of integrated reporting disclosure (e.g., Al Amosh and Mansor 2021; Ahmed et al. 2021; Nicolò et al. 2020; Du Toit et al. 2017), although there is a shortage of literature dealing with the determinants of disclosure. Adams (2002) and Tauringana (2020) suggested that to improve the accountability, extensiveness, quantity, quality, and comprehensiveness of reporting, it is important to understand the factors that affect the disclosure practices. This study, therefore, aims to investigate the impact of financial variables, especially financial leverage, profitability, liquidity ratios, cash holdings, and interest coverage ratios, in terms of integrated reporting.

To do so, the primary sample of the study was collected from all listed industrial companies on the Amman Stock Exchange during the period from 2014 to 2019. The content analysis method was applied to measure levels of integrated reporting. Then, multiple regression analysis was utilized to explore the impact of financial variables in terms of integrated reporting. The investigation showed an apparent discrepancy in the level of disclosure of the content of the International Integrated Reporting Framework in Jordan. It also revealed that all financial variables (except interest coverage ratio) are significant determinants of integrated reporting content's disclosure level.

This study provides several research contributions and expands the literature knowledge base concerning financial factors that affect integrated reporting practices in an emerging economy. It also provides a common perspective on stakeholder theory and shareholder theory in terms of integrated reporting disclosure practices that contain both financial and non-financial information visibility. This study not only examines the financial determinants of integrated reporting, but also examines a new factor that has been overlooked in the literature, such as the interest coverage ratio.

The remainder of the paper is structured as follows. Section 2 is the literature review, which identifies the research gaps and hypothesis. Section 3 outlines the research design. Section 4 presents the results and discussion, and finally, Section 5 summarizes the conclusions, limitations, and future research.

2. Literature Review

The IIRC defined an integrated report as "a concise communication about how an organization's strategy, governance, performance and prospects, in the context of its external environment, lead to the creation of value over the short, medium and long term" (IIRC 2013, p. 7). Since its release in 2013, there are still very limited discussions concerning integrated reporting (Al Amosh and Mansor 2021). The literature has suggested that reporting is essential in corporate reporting practices since it provides a new approach that integrates financial and non-financial information into one report (Camodeca and Almici 2017; Zamil et al. 2021). According to Naynar et al. (2018) integrated reporting should provide a clear picture of the nature of relationships between the organization and stakeholders, as well as the risks and opportunities the organization may be subject to in the short, medium, and long term, together with its effect on financial and non-financial performance.

Most discussions on integrated reporting were in the context of South Africa, because of the mandatory legislation through the King III Code and the Integrated Reporting Council in South Africa (Du Toit et al. 2017; Abeysekera 2013; IRCSA 2011). Most studies reported a significant improvement in integrated reporting practices in South Africa (e.g., Haji and Anifowose 2017; Atkins and Maroun 2015; Makiwane and Padia 2013), although Du Toit et al. (2017) reported a decline in the level of compliance. Moreover, Adegboyegun et al. (2020) called for the application of South Africa's mandatory legislation for Nigerian companies, to improve compliance levels in preparing integrated reports because of their benefits for improving corporate long-term performance.

In Europe, the issuance of the European Union (EU) Directive 95/2014 has contributed to the improvement of disclosure practices in general, as the number of reports submitted by companies increased, especially in the field of social responsibility, sustainability reports, and integrated reporting (Doni et al. 2019). In this regard, Nicolò et al. (2020) stated that companies have noticeably complied in disclosing their integrated reports. They found that the most disclosed elements by companies for the years 2016 and 2017 were organizational overview, governance, opportunities and risk, and business model. At the same time, the companies were less concerned with disclosing performance and outcomes, and outlook elements. Developing countries also found a place in recent researchers' agendas. Al Amosh and Mansor (2021) assessed the extent to which Jordanian companies included the items of the content of integrated reports within the listed Jordanian industrial companies' annual reports, and they found a wide variation in the level of disclosure between firms in the items of the content of integrated reports. Their results showed the importance of the legislative factor to adopt an integrated reporting approach in Jordan. Jordan is considered to be one of the emerging economic countries that suffers from many crises related to sustainable development, such as environmental and social crises. Although the Jordanian government announced a comprehensive plan with social, economic, and environmental goals to promote sustainable development by 2025 (Al Amosh 2021), integrated reporting practices in Jordan are still not mandatory.

There is significant variation in disclosure practices between countries due to the absence of a legal framework that directs companies to comply with integrated report preparation, which leaves companies to estimate the items they disclose (Ahmed et al. 2021). Other reasons have been identified, such as legal legislation for disclosure, lack of awareness of the importance of adopting integrated reporting, stakeholder culture, experience, economic, and financial conditions (Al Amosh and Mansor 2021; Bananuka et al. 2019); hence, understanding the determinants of integrated reporting helps regulators to reduce the reporting gap between firms. It is also useful for policy formulation to address the integrated reporting challenges in developing countries. Empirically, most of the literature investigates the level of integrated reporting disclosure (e.g., Al Amosh and Mansor 2021; Ahmed et al. 2021; Nicolò et al. 2020; Du Toit et al. 2017), although there is a shortage of literature dealing with the determinants of disclosure. Adams (2002) and Tauringana (2020) suggested that to improve the accountability, extensiveness, quantity, quality, and comprehensiveness of reporting, it is important to understand the factors that affect corporate disclosure practices; therefore, we are investigating the impact of the firms' financial characteristics on integrated reports, which can have a significant impact on corporate disclosure policy, especially since the integrated reports include forward-looking and strategic information related to future value creation.

2.1. Theoretical Framework

Studies on reporting disclosures generally fall within stakeholder and legitimacy theories, whereas others fall within agency and signal theories (Al Amosh and Khatib 2021b; Sharma et al. 2020; Fallah and Mojarrad 2019; Kılıç and Kuzey 2018). Given that integrated reporting provides information related to future value creation, which investors need, and the community is looking for broader information outside of the company's interest (Flower 2015); the current study, therefore, examines the disclosure of integrated reports through a theoretical lens based on a theoretical approach which is based on the stakeholder's perspective versus the shareholder's perspective. It should be noted that shareholders' theory and their role in the disclosure phenomenon have not been adequately addressed; it did not garner much attention in the disclosure literature, despite shareholders forming an essential part of the stakeholders, and they are the group closest to companies.

Shareholder theory suggested that the company is primarily accountable to shareholders and that they have priority in deciding company aspirations (Crișan-Mitra et al. 2020; Smith 2003). Shareholders' interest is focused mainly on corporate financial statements (Baker and Wallage 2000), they are owners of the company, they have inherent rights to it, and there is also a contractual relationship between shareholders and companies (Castelo 2013). This relationship is explained through agency theory, whereby shareholders are given the authority to make decisions for an administrative board to represent them in managing the company's affairs (Khatib and Nour 2021). Here, the shareholders assume that administrative decisions will be in their interest first.

Friedman (1970) believed that corporate social responsibility is taken on by shareholders only. The company's goal is to maximize shareholder value. The integrated reporting approach may be considered a qualitative leap in a disclosure that mainly serves shareholders' aspirations. Crișan-Mitra et al. (2020) argued that little pressure is perceived from the public for CSR disclosure due to the lack of knowledge about social and environmental domain request programs to raise awareness. Most of the provisions of the integrated reporting framework suggest creating institutional value through several dimensions.

From the agency perspective, management provides voluntary information to shareholders to avoid agency problems and maintain a safe distance from shareholders (Nguyen and Nguyen 2020; Khatib et al. 2021a). The shareholders also have concerns about social and environmental issues (John and Senbet 1998). Thus, disclosure of information that concerns shareholders will alleviate information asymmetry and agency problems (Khatib et al. 2022b; Hazaea et al. 2022). From the stakeholder perspective, disclosure is the communication of information related to the company's activities to the largest existing stakeholders (Al Amosh and Mansor 2021). The ethical perspective is also important for companies to adopt a disclosure approach, as they must consider all stakeholders without discrimination (Al Amosh and Khatib 2021a; Deegan 2009). Consequently, this would be a positive risk to satisfy the various parties, whether it relates to some shareholders or all stakeholders.

The classic management system maximizes the concept of shareholders from the broader concept of stakeholders, and integrated reporting should contain information that meets shareholders' aspirations more than other stakeholders (Brown and Dillard 2014). Moreover, the integrated reporting framework has an element that may prompt shareholders to demand more information disclosure. The study, therefore, tests multiple theoretical perspectives to explain companies' motives in integrated reporting disclosure, which is considered one of the regulatory reports that includes financial and non-financial information. Based on the shareholder theory argument, corporate directors should focus on enhancing corporate financial performance. The stakeholder theory also argues that improving corporate management of stakeholder expectations relates to its non-financial performance level.

2.2. Hypotheses Development

The current study hypotheses were formulated by reviewing the literature related to the factors affecting the level of integrated disclosures, namely, financial leverage, profitability, liquidity ratios, cash holdings, and interest coverage ratios.

2.2.1. Financial Leverage

Leverage plays an influential role in maximizing shareholders' wealth through the impact of share value by the company's financial leverage (Akhtar et al. 2012; Rahman et al. 2019). The leverage ratio also provides essential indicators of funds received from providers of financial capital or shareholders (Girella et al. 2019; Kholis et al. 2020). It also aligns with the integrated reporting objectives of explaining to financial capital providers how the organization creates value in the future (Vitolla et al. 2020; Roman et al. 2019; IIRC 2013; Fahad and Nidheesh 2020). Furthermore, the financial leverage is positively related to the shareholder's required return (Mishra and Modi 2013; Khatib et al. 2021a). This matches the shareholders' perspective on how the company behaves to create value for them, requiring the company to disclose that information. According to stakeholder theory, increasing financial leverage leads to an increase in debt to equity, and thus an increasing conflict of interest, and a rise to the ceiling of stakeholders' demands for information (Al Amosh and Khatib 2021a, 2021b). In addition, the leverage ratio pushes companies to disclose more to obtain financing at a lower cost (Dhaliwal et al. 2014); therefore, companies with higher leverage may be conscious about disclosing more recent information, such as integrated reporting to enhance communication with various stakeholders (Rahman et al. 2019; Scaltrito 2016; Girella et al. 2019).

A number of studies documented the positive effect of financial leverage on disclosure (Vitolla et al. 2020; Terblanche and De Villiers 2019). The positive impact of leverage on the integrated reporting disclosure practices was confirmed by Marrone and Oliva (2020); Raimo et al. (2020); Ghani et al. (2018); Menicucci (2018); and Rahman et al. (2019); however, they did not find a relationship between integrated reporting disclosure practices and financial leverage. Accordingly, based on stakeholder theory, we hypothesize that:

Hypothesis 1 (H1). *There is a significant positive effect of the leverage on the level of IR content disclosure in corporate annual reports.*

2.2.2. Profitability

Profitability expresses an entity's ability to generate profits from its operational, investment, and financing activities. All stakeholders agree that the basis of a company's work is to achieve long-term profitability (Lueg et al. 2016; Ali et al. 2018). High-profit companies enjoy greater accountability with stakeholders and increase society's expectations of the non-financial performance of companies (Modugu 2020; Lu and Abeysekera 2014; Gunardi et al. 2016). According to shareholder theory, the main goal of corporate existence is to maximize its profitability for shareholders (Castelo 2013). Unlike sustainability and corporate social responsibility reports, integrated reporting relates to profitability and long-term value creation (Serafeim 2015). This matches with shareholder theory in that companies should create value for shareholders and meet their expectations. The concepts of value creation and expectations fall within the integrated reporting framework. Companies try to attract shareholders through integrated reporting practices (Vitolla et al. 2019; Serafeim 2015). The higher profitability motivates the corporate management to disclose more information to shareholders to maximize their value and gain their confidence (Singhvi and Desai 1971; Modugu 2020).

Previous literature has shown that profitability is closely related to non-financial disclosure (García-Sánchez et al. 2013; Elfeky 2017; Gunardi et al. 2016; Ali et al. 2018). In the context of integrated reporting, Girella et al. (2019) found that profitability plays a critical role in enhancing the level of integrated reporting disclosure. Vitolla et al. (2020) documented that the quality of disclosure of integrated reporting is directly affected by profitability in a study he conducted on 87 financial institutions from twenty different countries. Menicucci (2018) claimed that profitability is one of the critical determinants of forward-looking information in IR disclosure, and Muttakin and Khan (2014) also believe that the profitability factor pushes companies to disclose more information than the public wants. Indeed, highly profitable companies are likely to devote resources to providing more integrated, accurate information to the public to reduce information asymmetries (García-Sánchez et al. 2013). As a result, we hypothesize that:

Hypothesis 2 (H2). *There is a significant positive effect of the profitability on the level of IR content disclosure in corporate annual reports.*

2.2.3. Liquidity Ratio

The liquidity ratio is one of the financial indicators that show the company's ability to pay its short-term obligations. The higher the liquidity ratio, the greater its ability to fulfil its obligations (Mkumbuzi 2016). It provides an essential index for shareholders to assess the status of companies (Rashid 2018; Modugu 2020). Companies with higher liquidity ratios may disclose more information related to integrated reporting and value creation to reassure shareholders. Moreover, the availability of high liquidity indicates a better company's financial performance (Haninun et al. 2018). This may provide an incentive for companies to provide more information on non-financial performance to satisfy more stakeholders (Mkumbuzi 2016).

According to Gossy (2008), the liquidity ratio is related to the shareholders' claims, which indicates that liquidity ratios influence the attitudes of shareholders towards companies. The literature did not provide conclusive results regarding the relationship between liquidity and disclosure. Ghani et al. (2018) stated that there is no significant correlation between the liquidity ratio and integrated reporting disclosure. Similarly, Gunardi et al. (2016) denied that liquidity has any relationship with disclosing social responsibility information. Moreover, Yu et al. (2018); Modugu (2020) and Masum et al. (2021) reported encouraging results in linking the liquidity factor to disclosure. The study investigated environmental and social disclosure practices and governance in 47 countries since 1996 and found that companies with higher liquidity will practice disclosure more often and will be more transparent than others. Albitar (2015) also supported these results with evidence from Jordan. On the other hand, de Carvalho et al. (2021) indicated that the liquidity factor positively affects corporate governance practices. From this standpoint, the study suggests the following hypothesis:

Hypothesis 3 (H3). *There is a significant positive effect of the liquidity ratio on the level of IR content disclosure in corporate annual reports.*

2.2.4. Cash Holdings

Cash holdings are one of the companies' most liquid assets (Bhattacharyya et al. 2021; Kuzey and Uyar 2017). Stakeholder theory argues that companies should use their resources to meet their aspirations. It also stresses the necessity of utilizing the company's resources to maximize its value (Castelo 2013; Mansell 2013); therefore, cash holdings can affect agency problems between management and shareholders, such as information asymmetry problems (Khatib et al. 2021b; Sher 2014). Companies practice storing precautionary cash in anticipation of various issues such as fulfilling obligations, thinking of new investments, engaging in voluntary activities, and disclosing them to ease agency costs (Kuzey and Uyar 2017; Benjamin et al. 2020). According to Sher (2014), the level of disclosure is likely to be related to the company's cash holdings to achieve a consensus of interests between management and different stakeholders. From this standpoint, the integrated reports harmonize financial aspects that meet the aspirations of shareholders and the non-financial elements that fall within stakeholders' demands; therefore, companies may exploit cash holdings to provide information consistent with integrated reports as a mechanism to resolve disputes with various parties.

According to Jadiyappa et al. (2020) the relationship between cash holdings and corporate social responsibility disclosure is inconclusive. This leads to the need for more in-depth research into the impact of cash holdings and new disclosure channels (e.g., integrated reporting). With a shortage of studies that have dealt with the role of cash holdings as a determining factor for companies' disclosure of information, Benjamin et al. (2020) pointed out that the disclosure of waste increases gradually with a higher level of the company's cash holdings. Chang et al. (2019) also reinforced this argument, arguing that companies with high-performing corporate social responsibility are closely related to higher corporate cash holdings. In line with stakeholder theory and the relevant literature, we hypothesize that:

Hypothesis 4 (H4). *There is a significant positive effect of the cash holdings on the level of IR content disclosure in corporate annual reports.*

2.2.5. Interest Coverage Ratio

Interest coverage ratio refers to the company's profitability and solvency, so the greater it is, the higher its solvency capacity. The interest coverage ratio enhances financial performance and improves social and ethical practices (Naseem et al. 2019). Shareholders' wealth is affected by financial fluctuations such as the interest coverage ratio, and shareholder wealth may decrease with a decrease in the interest coverage rate and vice versa (Lee and Hu 2018). It also indicates the company's ability to pay its obligations to debtors (Crespi and Renneboog 2010), which may reassure the shareholders of the company's financial position. This may prompt shareholders to request forward-looking information. The shareholders' goal is to ensure their profitability and the company's ability to maximize its value year after year.

The literature has not documented sufficient evidence to determine the relationship or to test the relationship between the interest coverage ratio and corporate disclosure. In terms of non-financial disclosure, Zhao (2020) believes that the relationship between the interest coverage ratio and the social responsibility disclosure is unclear. The interest coverage ratio, as one of the ratios that indicate the company's risk, may motivate shareholders to request more financial and non-financial information. This includes information about the company's strategy and plans, risk management, future performance, and how resources are used to create value for the company and stakeholders; therefore, we hypothesize that:

Hypothesis 5 (H5). *There is a significant positive effect of the interest coverage on the level of IR content disclosure in corporate annual reports.*

3. Research Method

3.1. Sample and Data Collection

The initial sample consists of all 62 listed industrial companies on the Amman Stock Exchange during the period from 2014 to 2019. The year 2014 was chosen because it is the year after the issuance of the IIRF by the IIRC in 2013, so the author assumed that the content of companies' annual reports would be more in line with the IIRF guidelines. Furthermore, the end of the period was also set in 2019 because it was the most recent year in which the public's annual reports were available. The industrial sector was chosen as one of the most influential sectors in the economy and development (Li and Lin 2017; Al Amosh and Khatib 2021a, 2021b). The focus of this study was on the industrial sector, as it is the sector that has the most impact on society, the environment, and the economy (Al-Ghandoor et al. 2008; Qiu et al. 2021). It is also one of the sectors affecting Jordan's economic growth the most. Eleven companies were excluded because their data were not available over the years of the study; therefore, the final sample consisted of 51 companies (306 firm-year observations), 82% of the study's initial sample. Furthermore, this study has been conducted using the content analysis method and panel data analysis related to IR and the financial indicators were collected from the annual reports of the Jordanian industrial companies listed on the Amman Stock Exchange.

3.2. Research Model

To test the hypotheses, the multiple regression model is developed as follows:

$$\text{IR Disclosure} = a + \beta\,1\ \text{FLEV} + \beta\,2\ \text{PROF+} + \beta\,3\ \text{LIQR} + \beta\,4\ \text{ICR} + \beta\,5\ \text{CASH} + \beta\,6\ \text{CAGE} + \beta\,7\ \text{CSZE} + \beta\,8\ \text{CTYP} + \varepsilon$$

where;

IR = Integrated Reporting
FLEV = Financial Leverage
PROF = Profitability
LIQR = Liquidity Ratio
ICR = Interest Coverage Ratio
CASH = Cash Holdings
CAGE = Company Age
CSZE = Company Size
CTYP = Company Type of Industry
ε = Error Terms

3.3. Variables' Measurement

Table 1 presents definitions of the variables, the source of data, and the expected sign. To measure integrated reporting, this study used content analysis as a method of coding. Then, the binary coding (0, 1) was used to indicate whether the disclosure elements (Appendix A) are identical to the content of the International Integrated Reporting Framework or not. Furthermore, five independent variables were investigated as determinants of IR and these factors were selected after a comprehensive review of previous studies. Following extensive prior research in corporate disclosure (i.e., Al Amosh and Mansor 2021; Kansal et al. 2014), we measured financial leverage by the total debt divided by the total equity. Leverage aligns with the integrated reporting objectives of explaining to financial capital providers how the organization creates value in the future (Vitolla et al. 2020; Roman et al. 2019).

As shown in Table 1, firm profitability was measured by return on assets (ROA) and measured by net income divided by total assets. This indicator has been widely used in the literature (Elfeky 2017; Baalouch et al. 2019). The higher profitability motivates the corporate management to disclose more information to shareholders to maximize their value and gain confidence (Singhvi and Desai 1971). Previous literature has shown that profitability is closely related to non-financial disclosure (Elfeky 2017; Gunardi et al. 2016). Firms' liquidity is also considered as an influence on IR disclosure, and it is measured in this study as current assets divided by current liabilities (i.e., Samaha and Dahawy 2011; Barako et al. 2006). Cash holdings are also included as a determinant of integrated reporting. According to Sher (2014), the level of disclosure is likely to be related to the company's cash holdings to achieve a consensus of interests between management and different stakeholders. It is calculated as the ratio of cash and short-term investments to total assets (Khuong et al. 2019; Martínez-Sola et al. 2013). Furthermore, the interest coverage ratio equals earnings before interest and taxes (EBIT), divided by interest expenses for the year. It has been suggested that the interest coverage ratio indicates the company's ability to pay its obligations to debtors (Crespi and Renneboog 2010), which may reassure the shareholders of the company's financial position. This may prompt shareholders to request forward-looking information. The control variables included in this model are company size, age, and the type of industry that were manually collected from corporate annual reports. These variables were chosen after reviewing a set of disclosure literature (e.g., Hu and Loh 2018; Elfeky 2017; Haddad et al. 2015).

Table 1. The study variables measurement.

Panel A Independent Variables			
Variable	**Operationalization**	**Sources**	**Expected Sign**
Financial Leverage	Total debt divided by the total equity	Published annual reports of companies	+
Profitability	Measured by return on assets ROA, which is the equal net income, and is divided by the total assets	Published annual reports of companies	+
Liquidity Ratio	Current assets are divided by current liabilities	Published annual reports of companies	+
Cash Holdings	The ratio of cash and short-term investments to total assets	Published annual reports of companies	+
Interest Coverage Ratio	The interest coverage ratio is equal to earnings before interest and taxes (EBIT), divided by interest expenses for the year.	Published annual reports of companies	+
Control variables			
Company Age	The number of years of the company since its establishment	Published annual reports of companies	+
Company Size	Measured by the natural logarithm of total assets (e.g.,	Published annual reports of companies	+
Company Type of Industry	Measured by the type of sub-sectors	Amman stock exchange—company profiles	+

To determine the most appropriate model for the current study, the Hausman test was conducted, as shown in Table 2. The appropriate model is the fixed effect.

Table 2. Hausman test results.

Test	Chi-Sq Value	Prob.	Conclusions
IR Disclosure model	11.57	0.0032	Fixed effects

Note(s): if prob > 0.05 then RE is appropriate model; if prob < 0.05 then FE is appropriate model.

4. Results

4.1. Descriptive Statistics

Table 3 presents the descriptive statistics for the dependent variable, which includes the content elements of integrated reporting. It shows that there is an apparent discrepancy regarding the level of disclosure in the content of the International Integrated Reporting Framework. The analysis shows that Jordanian industrial companies interacted when disclosing some items, but neglected others during the study years; the results were high regarding risks and opportunities, where the disclosure rate was close to 85%, followed by basis of preparation and presentation at 75%. The percentages were relatively moderate concerning organizational overview and external environment, business model, strategy allocation, and performance, although the results were not as expected for governance and outlook.

After examining International Integrated Reporting Framework content over the years of study, a slight increase in the level of disclosure is noticeable, as the rate of disclosure was (mean = 40.06%) in 2014, until it gradually increased in 2019 to (mean = 44.59%), where the rate of disclosure over six years was (42.75%).

Table 4 shows the level of study variables; regarding the independent variables, the mean financial leverage FLEV is 82.94%, with a minimum of 80% and a maximum of 589.2%. The mean Profitability PROF is about 6.73%, with a minimum of 3% members and a maximum of 38.7% members. The mean Liquidity ratio LIQR is about 179.66%, with a minimum of 12.1% and a maximum of 420.9%. The mean Cash holdings CASH is about 25.61%, with a minimum of 3.6% and a maximum of 305.8%. The mean Interest coverage ratio ICR is about 746.8%, with a minimum of 0% and a maximum of 700.6%.

Table 3. Descriptive analysis of the dependent variables (IR elements disclosure).

	N	Minimum	Maximum	Mean%	SD%
Organizational Overview & External Environment	306	18	88	47.65	21.506
Governance	306	13	52	18.22	12.442
Business model	306	9	89	51.61	13.316
Risks and opportunities	306	0	100	84.93	22.307
Strategy allocation	306	0	100	56.13	17.215
Performance	306	0	100	61.24	19.127
Outlook	306	0	87	21.76	19.811
Basis of preparation & presentation	306	0	100	74.68	16.644

Table 4. Descriptive Analysis of the total yearly IIRF content disclosure.

Year		Total IIRF Content Disclosure
2014	Mean%	40.06
	N	51
	S.D.%	14.82
2015	Mean%	41.85
	N	51
	S.D.%	17.606
2016	Mean%	43.04
	N	51
	S.D.%	18.058
2017	Mean%	43.24
	N	51
	S.D.%	14.991
2018	Mean%	43.71
	N	51
	S.D.%	18.394
2019	Mean%	44.59
	N	51
	S.D.%	16.472
Total	Mean%	42.75
	N	306
	S.D.%	13.908

Note: The study sample (N = 51) per year.

4.2. Correlation Matrix

Table 5 provides the results of the correlation matrix and the multicollinearity test results for independent variables. The association between liquidity and company size is highest at 0.363. The weakest correlation is found between cash holdings and company size at 0.057. The VIF values ranged between 1.33 and 1.72, and tolerance values ranged from 0.606 to 0.882. This result implies that multicollinearity does not constitute a problem in our analysis.

Table 5. Descriptive Analysis of Independent Variables.

Variables	N	Minimum	Maximum	Mean%	SD%
FLEV	306	0.8	5. 892	82.94	6.07
PROF	306	0.03	0. 387	6.73	16.124
LIQR	306	0.121	4.209	179.66	18.9
CASH	306	0.036	3.058	25.61	16.928
ICR	306	0	7.006	74.68	16.644

4.3. Regression Analysis

Concerning the first hypothesis, financial leverage appears to influence shareholders and stakeholders' attitudes in favor of demanding value creation information with a significant positive impact at $p < 0.01$ (see Table 6). Companies with a higher financial leverage provide shareholder information related to integrated reports' content to demonstrate the effectiveness of management performance. Leverage is also a tool for managing relationships with various stakeholders (Mishra and Modi 2013). This evidence is consistent with that reported by Marrone and Oliva (2020); Raimo et al. (2020); Vitolla et al. (2020); and Terblanche and De Villiers (2019).

Table 6. Correlation analysis results for independent variables.

Variable	FLEV	PROF	LIQT	CASH	ICR	CSIZ	CAGE	CTYP
FLEV	1							
PROF	0.208	1						
LIQT	0.217 **	−0.198	1					
CASH	−0.155 **	0.096	−0.252 **	1				
ICR	−0.093 **	−0.133 *	0.198 **	0.103	1			
CSIZ	−0.174	0.244	0.363 **	−0.057	0.296 **	1		
CAGE	0.177 *	−0.099	0.247 **	−0.078	0.347 **	−0.208 **	1	
CTYP	−0.169 **	0.119	0.108	−0.095	0.266 **	0.311 **	0.027	1
VIF	1.47	1.36	1.33	1.65	1.52	-	-	-
Tolerance	0.680	0.735	0.752	0.606	0.658	-	-	-

** Correlation is significant at the 0.01 level (2-tailed); * correlation is significant at the 0.05 level (2-tailed); FLEV = Financial Leverage; PROF = Profitability; LIQR = Liquidity Ratio; CASH = Cash Holdings; ICR = Interest Coverage Ratio; CAGE = Company Age; CSIZ = Company Size; CTYP = Type of Industry; VIF = Variance inflation factor.

Table 7 shows that highly profitable companies tend to disclose integrated reporting content to meet shareholders' aspirations to maximize their value and enhance their confidence in their performance at $p < 0.05$. Moreover, the high profitability prompts shareholders to think about maximizing profitability in the future; therefore, companies disclose information on integrated reporting to show their strategies for creating value in the future. When a company allocates part of its profits to enhance its non-financial performance in addition to financial performance, it satisfies all parties, whether they are shareholders or all stakeholders. These results support the arguments of Vitolla et al. (2020) and Girella et al. (2019) concerning the relationship between profitability and disclosure of integrated reporting items. It also supports other views on the relationship of profitability with non-financial disclosure (e.g., Elfeky 2017; Gunardi et al. 2016).

Furthermore, the results revealed that the liquidity ratio positively affects the level of disclosure about the content of integrated reports at $p < 0.01$. This suggests that companies with high liquidity tend to provide additional information in their annual reports on their plans and strategy in creating institutional values, which preserves the financial soundness of the company and achieves shareholder interests. The results contradict the claims of Ghani et al. (2018). On the other hand, they are consistent with the results of Yu et al. (2018) and Albitar (2015) regarding the effect of liquidity on the level of disclosure in general. With a p-value higher than 0.1, the interest coverage ratio seemed to have an insignificant association with integrated reporting and we, therefore, reject H5.

Additionally, the findings showed a significant and positive effect of cash holdings on the integrated reporting content's disclosure level at $p < 0.01$. Companies with high cash holdings can quickly meet stakeholders' expectations. The cash-rich companies use their money to fund future projects and strategies (Benjamin et al. 2020). This enhances the creation of value in the medium and long term and enhances shareholder confidence in the company's management. Although the new variable, the interest coverage ratio, did not provide any evidence of its impact on the level of disclosure of integrated reporting content by the listed Jordanian industrial companies, based on the regression analysis results, Hypotheses H1, H2, H3, and H4 are accepted, and H5 is rejected. The results were also supported by the two control variables, company size and industry type.

Table 7. Regression analysis results.

Variables	Estimates	Std. Error	*t*-Value	Sig.
FLEV	0.000	0.000	2.262	0.000 **
PROF	0.006	0.003	2.197	0.048 *
LIQT	0.037	0.011	3.317	0.001 **
CASH	0.010	0.003	4.192	0.004 **
ICR	0.131	0.014	4.062	0.395
CSIZ	0.001	0.000	3.969	0.000 **
CAGE	−0.115	0.000	−1.122	0.263
CTYP	0.012	0.002	3.346	0.029 *
Year Dummies	Include			
Industry Dummies	Include			
(Constant)	0.23	0.046	7.993	0.000
R^2	0.385			
Adj. R Square (R^2)	0.364			
F-Statistics	12.32			
Sig.	0.000			
No. of observations 306				

Notes: ** significant at 1% level; * significant at 5% level; Sig. = significance level; FLEV = Financial Leverage; PROF = Profitability; LIQR = Liquidity Ratio; CASH = Cash Holdings; ICR = Interest Coverage Ratio; CAGE = Company Age; CSIZ = Company Size; CTYP = Type of Industry.

4.4. Robustness Checks

Robustness tests are an essential tool to confirm the regression model estimate (Chakroun et al. 2017); this is done through several tests, the most common of which are diagnostic tests via adding, eliminating, or varying the variables (Lu and White 2014). In this study, an additional analysis was conducted to test the robustness by adding two new variables to the regression model. In this study, we included two additional control variables, namely, working capital (WCAP) and the size of the audit company (BIG4). Sial et al. (2018) suggested that the size of an audit firm has a significant influence on the engagement of corporate disclosure. Similarly, it has been reported that working capital is a significant factor that drives corporate disclosure practices (Zuo et al. 2012). As shown in Table 8, the results' robustness test is somewhat similar to those in the previous regression analysis. This indicates that the main results are robust and consistent.

Table 8. Robustness analysis results.

Variables	Estimates	Std. Error	*t*-Value	Sig.
FLEV	0.000	0.001	2.335	0.001 **
PROF	0.022	0.017	2.102	0.033 *
LIQT	0.062	0.009	2.499	0.012 *
CASH	0.077	0.014	3.371	0.002 **
ICR	0.284	0.019	3.916	0.487
WCAP	0.344	0.025	2.228	0.039 *
BIG4	0.437	0.034	2.159	0.271
CSIZ	0.001	0.000	3.969	0.000 **
CAGE	−0.183	0.000	−1.122	0.439
CTYP	0.065	0.004	3.346	0.041 *
Year Dummies	Include			
Industry Dummies	Include			
(Constant)	0.32	0.055	6.818	0.000

Table 8. *Cont.*

Variables	Estimates	Std. Error	*t*-Value	Sig.
R^2	0.338			
Adj. R Square (R^2)	0.324			
F-Statistics	18.61			
Sig.	0.000			
	No. of observations 306			

Notes: ** significant at 1% level; * significant at 5% level; Sig. = significance level; FLEV = Financial Leverage; PROF = Profitability; LIQR = Liquidity Ratio; CASH = Cash Holdings; ICR = Interest Coverage Ratio; WCAP = Working Capital; BIG4 = Audit Company Size; CAGE = Company Age; CSIZ = Company Size; CTYP = Type of Industry.

5. Discussion

Firms' transparency is a critical value that stakeholders consider nowadays. Growing interest has been given to integrated reporting among scholars and regulators. According to Naynar et al. (2018), integrated reporting should provide a clear picture of the nature of relationships between the organization and stakeholders as well as the risks and opportunities the organization may be subject to in the short, medium, and long term, together with its effect on financial and non-financial performance. The integrated reporting framework has an element that may increase the shareholders' desire to demand more information disclosure; however, it seems that the issue of adopting integrated reporting is still in its infancy, as most countries in the world, except for South Africa, do not oblige companies or organizations to adopt integrated disclosure of their annual reports (Eccles et al. 2019). In this study, several derivers of integrated disclosure engagement were investigated.

The analysis showed that leverage is also a tool for managing relationships with various stakeholders (Mishra and Modi 2013). In line with other research, a positive and significant relationship was found between the level of leverage and integrated disclosure (see Terblanche and De Villiers 2019; Vitolla et al. 2020; Marrone and Oliva 2020; Raimo et al. 2020). This means that firms with higher financial leverage provide shareholder information related to integrated reports' content to enhance communication with different stakeholders and demonstrate the effectiveness of management performance. Additionally, a similar association was reported between firms' profitability and disclosure. The high profitability prompts shareholders to think about maximizing profitability in the future; therefore, companies disclose information on integrated reporting to show their strategies for creating value in the future. According to Vitolla et al. (2020) Girella et al. (2019) and Orazalin and Mahmood (2019), profitable companies are much more likely to disclose more information to legitimize their activities. Elfeky (2017) and Gunardi et al. (2016) argued that profitable firms report more non-financial information to the public (e.g., Elfeky 2017; Gunardi et al. 2016).

Furthermore, the findings showed a significant and positive effect of cash holdings on the integrated reporting content's disclosure. This enhances the creation of value in the medium and long term, and enhances shareholder confidence in the company's management. The cash-rich companies use their money to fund their future projects and strategy (Benjamin et al. 2020); however, the investigation failed to support the effect of the interest coverage ratio, whereas a positive relationship was reported between liquidity and integrated disclosure, and this result is supported by several researchers such as Yu et al. (2018) and Albitar (2015). This indicates that high liquidity firms tend to provide additional information in their annual reports on their plans and strategies when creating institutional values, which preserve the company's financial soundness and achieve shareholder interests.

6. Conclusions, Limitations, and Future Research

The content of the integrated reporting focuses on the company's performance by providing innovative information about the medium- and long-term strategies, and its ability to create value. It provides information of critical importance to shareholders and other stakeholders. Although it is not mandatory, except for South Africa, there is an opportunity to adopt the idea of integrated reporting as a new method of disclosure in various countries, which could reach emerging countries.

Accordingly, this study investigated the effect of a set of potential financial determinants on the level of disclosure in the content of integrated reports in the listed Jordanian industrial companies, and the level of content disclosure in the annual reports. Understanding the determinants of integrated reporting helps regulators to close the reporting gap between countries and firms. It is also useful for policy formulation to address the integrated reporting challenges in developing countries. In the context of the elements of disclosure, the results indicate a bright side in terms of disclosing risks and opportunities, and the basis of preparation and presentation. The items of organizational overview and external environment, business model, strategy allocation, and performance received a moderate amount of attention. In contrast, the results were not promising regarding governance and outlook. Overall, the results indicate an increase in disclosure over time.

Moreover, the results indicated that companies with high financial leverage tend to provide more information about the content of integrated reports in their annual disclosures to enhance stakeholders and shareholders' confidence in the management's ability to maximize their value. The increase in corporate profitability drives shareholders to greater aspirations in future information to verify companies' abilities to create value in the long term. In addition, from a stakeholder theory perspective, high profitability increases stakeholder expectations towards companies, encouraging them to diversify their disclosure between the financial and non-financial, to satisfy various parties. In addition, the cash holding and liquidity factors motivate corporate management to provide more strategic information to shareholders to reassure them of their capital, investments, and interests, as companies with an availability of sufficient cash stimulate integrated thinking in planning for future opportunities to maximize the value of the company, and thus, shareholder value. This is in full agreement with the shareholder theory perspective, in that companies are responsible for creating value for their owners; however, the interest coverage ratio does not prompt stakeholders and shareholders to request more information regarding the integrated reporting framework.

The study also has several practical implications for regulators, policymakers, investors, shareholders, stakeholders, and many relevant parties. In particular, the study benefits companies by identifying the essential financial determinants that motivate companies to include information related to the content of integrated reports in their annual reports. The results are also useful for regulators of capital markets, policymakers, and government agencies, to think more seriously about motivating Jordanian companies listed on the stock exchange to adopt integrated reporting. Such an approach benefits the market by attracting foreign capital and enhancing the state's investment environment, which supports the Jordanian economy, which is still in the growth stage. This can be done through the issuance of awareness publications on the importance of integrated reports for managers and shareholders, for a greater understanding of the new global reporting practices in preparation for their adoption as mandatory legislation for disclosure. The study is also of interest to financial analysts in the capital markets examining money and potential investors, by providing more accurate financial analyses and building the most appropriate investment decisions based on future information that will be published, as the investors also look to highly transparent companies that provide distinct disclosures in its annual reports. Moreover, the results provide evidence for shareholders looking to create value and they show how financial determinants affect companies' aspirations and strategies in the future. In addition, stakeholders look to the non-financial side of the reports, and the results provide them with a vision that makes the relationship between companies' financial performance, and how they can enhance their non-financial aspirations, clear.

This study is subject to several limitations and can be the basis for future research. The study sample is restricted to the industry sector, where future research could choose samples from other sectors such as banking and insurance. In addition, the study is limited to published company reports. Future research can incorporate several means of disclosure used by companies, such as press articles, websites, and personal interviews. The study dealt with the integrated reporting content as a single unit and examined the proposed determinants; therefore, future researchers can be more detailed in determining the factors affecting the integrated reporting framework's most disclosed items. Moreover, future research can study several emerging countries, which will help generalize the results. In addition, it will also be interesting to test other determinants of disclosure, such as governance mechanisms and ownership structures, or a combination of factors to explain the phenomenon of integrated reporting items disclosure.

Author Contributions: Conceptualization, H.A.A.; methodology, H.A.A. and S.F.A.K.; software, H.A.A.; validation, S.F.A.K. and K.H.; H.A.A. and S.F.A.K.; formal analysis, H.A.A.; investigation, H.A.A.; resources, H.A.A.; data curation, H.A.A.; writing—original draft preparation, H.A.A.; writing—review and editing, S.F.A.K. and K.H.; supervision, K.H.; project administration, H.A.A. All authors have read and agreed to the published version of the manuscript.

Funding: Open Access funding provided by Qatar National Library.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Not applicable.

Conflicts of Interest: The authors declare no conflict of interest.

Appendix A Integrated Reporting Checklist

Index Code	Disclosure Categories
Organizational overview and external environment	
OE1	The nature of the organization's work and the circumstances in which it operates
OE2	Mission and vision of the organization.
OE3	Culture, morals and values.
OE4	Ownership and operating structure.
OE5	Competitive environment of the Organization.
OE6	The most important factors influencing the external environment
OE7	Needs of stakeholders.
OE8	Economic conditions in which the organization operates.
OE9	Market forces.
OE10	Impact of technological changes.
OE11	Demographic and Societal issues.
OE12	Environmental challenges faced by the Organization
OE13	The legislative and regulatory environment in which the organization operates.
OE14	The political situation in the countries in which the Organization operates.
Governance	
GO1	Disclose how the governance structure contributes to creating value for the organization.
GO2	Disclose the characteristics of the organization's leadership structure.
GO3	The processes on which the organization builds its strategic decisions and organizational culture.
GO4	Procedures for impact and monitoring of strategic direction of the organization.
GO5	The reflection of organizational culture, its values and ethics in its use and its impact on capital.
GO6	Promote and encourage innovation by governance officials.
GO7	Whether the organization is implementing governance practices that exceed legal requirements
GO8	Relationship of wages and incentives provided to create value for the organization.

Index Code	Disclosure Categories
Business model	
BM1	A diagram showing the main elements of the organization.
BM2	Identify the basic elements of the business model.
BM3	Show how the key inputs relate to the capitals on which the organization depends.
BM4	Disclose inputs that contribute to creating value for the organization.
BM5	The extent to which the organization is distinguished in the market (e.g., product differentiation, market segmentation, marketing).
BM6	The degree of adoption of the business model on revenue generation.
BM7	The extent to which the business model adapts with changes.
BM8	Approach to innovation.
BM9	Organization initiatives such as (staff training, process improvement).
BM10	Organization outputs of products, services and by-products such as waste and emission of gases.
BM11	Internal results such as organizational reputation, job loyalty, income and cash flow.
BM12	External results such as (customer satisfaction, tax payment, brand loyalty, social and environmental impacts).
BM13	Positive results lead to maximizing capital and creating value.
BM14	Negative results leading to capital reduction and lack of value.
Risks and opportunities	
RO1	Disclose the risks that affect the organization's ability to create value.
RO2	Sources of risk, whether internal or external.
RO3	Procedures taken to address the risks to which the Organization is exposed.
Strategy and resource allocation	
SR1	Strategic objectives of the Organization.
SR2	The organization current strategies or intends to implement.
SR3	Resources allocated for the implementation of the Strategy.
SR4	Measure achievements and goals.
SR5	Factors influencing the granting of a competitive advantage to the Organization (innovation, intellectual capital exploitation, evolution of the Organization and social and environmental considerations).
Performance	
PE1	Quantitative indicators related to objectives, opportunities and risks.
PE2	The positive and negative effects of the organization on capital.
PE3	Organization's response to stakeholder needs.
PE4	Linking previous and current performance.
PE5	Key performance indicators that combine financial measures and other components.
Outlook	
OL1	Outlook of Organization about the external environment.
OL2	Impact of the external environment on the organization.
OL3	Organization's preparedness to respond to challenges that could occur.
OL4	The impact of the external environment, risks and opportunities on achieving the organization's strategic objectives.
OL5	The availability of financial and natural resources that support the institution's ability to create value in the future.
OL6	Disclosure of the Organization's expectations in accordance with regulatory or legal requirements.

Index Code	Disclosure Categories
Basis of preparation and presentation	
BP1	Summary of the process of determining the material importance of the organization (such as determining the role of those responsible for governance and staff who prioritize of material matters).
BP2	A description of the reporting boundary and how it has been determined.
BP3	Summary of the significant frameworks and methods used to quantify or evaluate material matters included in the report (e.g., the applicable financial reporting standards used for compiling financial information, a company-defined formula for measuring customer satisfaction, or an industry-based framework for evaluating risks).

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