

High-quality integrated reporting based on concentrated versus dispersed ownership

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Abstract

Leading global companies have begun to focus their activities on a larger spectrum, including both financial and non-financial performance, to gain and maintain competitive advantages. Integrated reporting provides opportunities through which companies can increase transparency about their business activities, including environmental, social, and governance (ESG) initiatives. ESG has become increasingly important as a key component of business competitiveness. Using multiple regression models, we empirically investigate the influence of ownership structure on the quality of integrated reporting. Based on a sample of 1,017 integrated reports from Asian and European regions for the period of 2016-2019, we hypothesize and find that companies with dispersed ownership show higher quality integrated reporting as compared to companies with concentrated ownership. Companies with dispersed ownership face a higher level of pressure from various individuals and institutional shareholders, leading to more effective control of the companies' operations. By contrast, companies with concentrated ownership tend to be influenced more by the majority of the shareholders, leading to less effective control of the companies' operations. Our study contributes to the literature on gaining and maintaining competitive advantages through ESG initiatives by providing evidence that the pressures from various shareholders to invest in ESG activities are beneficial for companies marketplace competitiveness. Our study suggests that companies need to diversify their ownership to improve their financial as well as non-financial performance.

Keywords: *concentrated ownership, dispersed ownership, integrated reporting quality, ownership structure, ownership pressure*

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1. INTRODUCTION

In recent years, many companies have begun to broaden their goals to complement the more traditional financial performance with non-financial performance measures such as environment, social, and governance (ESG) variables. To accommodate the changes, the International Integrated Reporting Council (IIRC) developed the integrated reporting (IR) framework, through which companies can disclose the impact of their activities on financial, environmental, social, and governance performance. The IR framework was developed to enable effective communication of companies' activities and strategies to the stakeholders, particularly the shareholders, by disclosing how the companies create sustainable value for the shareholders [1-3]. The IIRC [4] stated that integrated reporting provides information for capital providers regarding the efficient and productive use of companies' resources in carrying out their long-term strategies transparently. High transparency can also minimize the problem of information asymmetry between the managers and the capital providers [5]. Javaid Lone, Ali [6]; Reimsbach, Hahn [7] and Coffee Jr [8] state that the primary purpose of corporate reporting is to minimize information asymmetry among stakeholders to reduce uncertainties in decision-making.

The [4, 9] further stated that integrated reporting is an instrument that can show the connectivity of information related to governance, risk management, opportunities, strategies, performance, and prospects. Many previous studies have investigated the adoption of integrated reporting, but so far, there is only limited research regarding the determinants of the quality of integrated reporting [10, 11]. One of the main reasons for this limited research is that companies face difficulties in fully adopting the IR framework's elements, and there are too many items in the framework that have not been disclosed in integrated reporting [12, 13]. The main goal of the IR is that management can describe the company's long-term opportunities and strategies holistically to provide a good signal to investors to help them in making investment decisions [14, 15].

Previous research has also identified factors that influence the company's disclosure processes, such as corporate governance mechanisms [16-18] and ownership structure [1, 19]. Raimo, Vitolla [1] and Wang, Zhou [18] state that the company's ownership structure has a direct or indirect influence related to the company's disclosure policy. Eng and Mak [20] show that the ownership structure can play a role in monitoring company activities, one of which is the information disclosure process. Fama and Jensen [21] and Jensen and Meckling [22] state that companies that pay attention to good governance mechanisms can provide benefits to shareholders by providing effective management monitoring activities. The reliability of the IR information can provide a positive signal about the assurance and quality of good governance which, in turn, will help investors in their decision-making processes [23].

Despite an increasing interest in investigating the effects of ownership structure on IR disclosure quality, most of this research was conducted using data from the United States and Australia. Our study fills the gap in the literature by investigating the effect of ownership structure on IR quality using a sample of companies in Asia and Europe. We argue that the environment faced by companies in Asia and Europe is different from that in the United States and Australia. In particular, the ownership structure in Asia and Europe tends to be characterized by high ownership concentration as compared to those in the United States and Australia.

Our study is important because ownership structure has a role in influencing the degree of transparency of the presentation of information needed by stakeholders. The ultimate goal is to increase the quality of integrated reporting. The existence of demands from stakeholders can provide an impetus for companies to present complex information coherently [24-26]. This

study provides empirical evidence that ownership structures in terms of concentrated ownership and dispersed ownership both affect the quality of integrated reporting disclosed by the company.

Overall, we find that concentrated ownership has a negative effect on IR quality. The more concentrated the ownership, the worse the quality of IR disclosure. Furthermore, we find that dispersed ownership has a positive impact on IR quality. The more dispersed the ownership, the higher the IR quality. These results suggest that companies need to pay attention to the structure of their ownership. Our results indicate that concentrated share ownership reduces the pressure on companies to provide quality information in integrated reporting [1]. By contrast, when share ownership is spread out, companies tend to provide information that is relevant and needed by the public and other stakeholder groups, thereby increasing pressure and encouraging companies to present high-quality information [11, 27]. The results of this study suggest that the ownership structure is an important aspect that plays an essential role in influencing the level of quality of the company's financial reporting.

The remainder of the paper is organized as follows: Section 2 describes the theoretical background, literature review, and development of research hypotheses. Section 3 presents the research methodology and research data. Section 4 presents the empirical results and discussions of the main finding of this study. Section 5 provides the conclusions and directions for future research in this area.

2. THEORETICAL BACKGROUND

The main purpose of integrated reporting and thinking is to help companies gain and sustain competitive advantages through the efficient and productive allocation of the companies' capital to achieve financial stability and sustainable performance (IIRC 2021). Despite its conceptual appeal, companies that disclose information to stakeholder groups through integrated reporting face difficulties in adopting the overall integrated reporting framework. This is because there are too many items of information that are required to be disclosed in integrated reporting [12]. As a result, many companies face tremendous challenges to disclose various information required by the integrated reporting framework, which in turn, negatively affects the quality of the IR disclosures (Vitolla et al. 2019; Bavagnoli et al., 2018; Eccles & Krzus, 2010; Eccles & Serafeim, 2014; Pistoni et al., 2018).

Research related to IR quality is still relatively rare (Agustia et al., 2020). Recent research (e.g., Mahmoudian & Jermias, 2022; Zamil, et al., 2021; Chen et al., 2021; Agustia et al., 2020; [28] shows that integrated reporting quality is influenced by several factors such as stakeholder' pressures, gender diversity, national culture, and institutional ownership. Zamil, et al. (2021), for example, argue that ownership structure represented by the distribution of shareholders to various individuals and groups has an impact on the companies' governance mechanisms, competitiveness, and performance. Mahmoudian and Jermias (2022) find that gender diversity is positively associated with IR quality. Lai, Melloni [29], Melloni, Caglio [30], and Wang, Zhou [18] find that good governance mechanisms can provide concise, complete integrated reporting and balanced information in the disclosure processes leading to higher IR quality. Previous studies (e.g., Gómez and García [31]; Jamil, Mohd Ghazali [32]; Mekaoui, Brahem [33]; Alnabsha, Abdou [34] show that companies with good quality governance mechanisms positively affect the companies' disclosure practices. Wang, Zhou [18] state that good corporate governance guidelines and practices positively affect the quality and credibility of IR disclosures.

Despite the increasing interest in investigating the factors that affect IR quality, most previous studies have been conducted using data from the United States and Australia. The findings of these studies, particularly concerning the influence of ownership structure on IR

quality, might not be generalized to other regions, particularly Asia and Europe, because of the differences in ownership structures. The ownership structure of companies in Asia and Europe tends to be more concentrated due to the large portion of family ownership as compared to those in the United States and Australia. Our study fills this gap by investigating the influence of ownership structure on IR quality using data from Asian and European companies. We address the following research questions: 1) Does dispersed ownership improve IR quality? and 2) Does concentrated ownership deteriorate IR quality?

Shareholder rights, board procedures, and structures, disclosure guidelines, or ownership structure characteristics are important aspects that must be considered in the corporate governance mechanism (Crisóstomo, Brandão, & López-Iturriaga, 2020; Wang et al., 2020). Jensen and Meckling (1976) argue that information asymmetry exists between managers and shareholders due to the separation of ownership and control. Companies can reduce the information asymmetry by voluntarily disclosing additional information regarding the companies' operations and other activities such as environmental, social, and governance initiatives (Hazaea et al., 2020; Khatib & Nour, 2021; Zamil et al., 2021). Voluntary disclosure through integrated reporting is a corporate strategy to gain legitimacy from stakeholders. Disclosure is an effective way for companies to reduce agency problems and minimize information asymmetry (Healy & Palepu, 2001; Obeng, Ahmed, & Cahan, 2021; Reimsbach et al., 2018; Watson, Shrivess, & Marston, 2002). In addition, disclosure helps management to convey the company's actual performance to the owners (Raimo et al., 2020). Researchers have argued that ownership structure might alleviate the information asymmetry problem (Crisóstomo et al., 2020; Renders & Gaeremynck, 2012; Young et al., 2008). When the ownership structure is dispersed, various individuals and groups will be able to effectively monitor and demand that managers perform activities that will create sustainable performance rather than narrowly pursue short-term financial performance. In this regard, the ownership structure characteristics are considered essential because some shareholders may have the necessary skills, motivation, and knowledge to monitor and prevent information concealment and, therefore, increase disclosure level and quality (De Villiers et al., 2023; Donnelly & Mulcahy, 2008).

Vitolla et al. (2019) show that a dispersed ownership structure increases stakeholders' pressure to adopt the IR framework and relevant and useful information needed by the stakeholders. By contrast, concentrated ownership allowed the majority shareholders to exercise significant control over the management to pursue the interest of the majority shareholders and ignore the other stakeholders' interests. For example, companies might focus on maximizing short-term financial performance and be reluctant to invest in environmental, social, and governance activities. This short-term focus will have a negative effect on the companies' sustainable performance leading to a lower IR quality (Songini et al., 2020). In a similar vein, Ara and Harani (2020) show that the ownership structure directly influences the development of corporate disclosure policies. Similar to previous research, Hu et al. (2018) and Zamil et al. (2021) report that the transparency of report disclosure is positively influenced by the pressures from shareholders. Wang et al. (2020) also show that foreign ownership and government ownership positively impact the voluntary disclosure processes, while concentrated ownership negatively affects the disclosure processes.

The IR framework requires that companies disclose the full range of factors that affect the ability of a company to create value over the short, medium, and long term (IIRC 2021). The requirement to communicate the broad range of activities promotes integrated thinking, decision-making, and actions that focus on the creation of value for the company. The transparency and quality of IR disclosures are influenced by the encouragement that comes from the company's shareholders [35, 36]. The transparency and connectivity of information in

IR give investors a good signal to invest their capital, which encourages management to disclose information related to both short and long-term strategies for the benefit of investors [14, 15]. Jensen and Meckling [22] state that companies that pay attention to governance mechanisms can provide benefits to shareholders by effectively monitoring management's activities. One of the most important factors of good governance is the ownership structure of the company. Raimo, Vitolla [1] argue that the ownership structure can, directly and indirectly, affect the company's policies related to the amount and types of information to be disclosed. The rights of shareholders and the characteristics of the ownership structure are important aspects that must be considered in the corporate governance mechanism [37].

Ara and Harani (2020) find that the companies' ownership structure directly affects the preparation of the companies' disclosure policy. Companies' ownership structure can be categorized into two types: concentrated and dispersed. Concentrated ownership is a structure that can trigger significant agency problems because the power and authority are concentrated in the hand of the majority shareholder, which can limit the interests of some minority shareholders [38, 39]. By contrast, dispersed ownership is the structure that promotes better monitoring of management's activities and encourages companies to implement effective governance mechanisms (Zamil et al., 2021). A concentrated ownership structure is characterized by centralized control, the highest control held by the shareholders, and a deficient level of disclosure transparency (Raimo et al., 2020). A dispersed ownership structure is characterized by decentralized control, the lowest control held by the shareholders, and high quality of disclosure transparency (Songini et al., 2020).

Companies with dispersed ownership characteristics tend to have more significant public pressure [11], while companies with concentrated ownership can limit the authority to access information to the majority shareholders. This concentrated power and authority can reduce the quality of voluntary disclosures [2, 40, 41]. Branco and Rodrigues [42] and Fernandez-Feijoo, Romero [35] find that the transparency of IR disclosure is strongly influenced by how much pressure is placed on the shareholders. Hu, Zhu [43] identified that companies that have concentrated ownership harm a company's voluntary disclosure. Meanwhile, dispersed shareholding tends to present information tailored to the needs of the public and pays great attention to the pressure exerted on the company (Vitolla et al., 2019). Shareholders' beliefs regarding integrated reporting are not expressed only in financial performance but in compliance with applicable standards regarding the implementation of the company's environmental and social costs. This demand is the main aspect of the company that drives the need to disclose information transparently and coherently in the IR (Songini et al., 2020). Based on the previous discussion, we propose the following hypotheses:

H_{1a}: Dispersed ownership has a positive effect on IR quality.

H_{1b}: Concentrated ownership has a negative effect on IR quality.

3. RESEARCH OBJECTIVE, METHODOLOGY, AND DATA

Our study investigates the influence of ownership structure on IR disclosure quality. We argue that dispersed ownership will increase IR quality due to improved effectiveness of the manager monitoring activities and increased pressures to fulfill the need for information from various stakeholders. Concerning concentrated ownership, this ownership structure will have a negative impact on IR quality because the concentrated power and authority of the majority shareholders will diminish shareholders' pressures and their ability to monitor the management.

To test the hypotheses developed in the previous section, we collected data from the official website of the integrated reporting database. The sample includes data from companies in Asia and Europe that provide integrated reporting from 2016 to 2019. Since our data is

unbalanced (i.e., the number of cross-section data has an unequal number of observations or time series), we follow the approach used by Shao, Xiao, and Xu (2011). The unbalanced data occurs because some companies' data are incomplete or the reports cannot be downloaded from the companies' website. The final data used for statistical analyses consists of 236 companies with a total of 942 integrated reports.

The effect of dispersed ownership, concentrated ownership, and integrated reporting quality was examined using the panel data regression models as follows:

$$IRQ_{i,t} = a + \beta_1 CON_OWN_{i,t} + \beta_2 LEV_{i,t} + \beta_3 ROA_{i,t} + \beta_4 FSIZE_{i,t} + ROE_{i,t} + e \dots\dots\dots(1)$$

$$IRQ_{i,t} = a + \beta_1 DIS_OWN_{i,t} + \beta_2 LEV_{i,t} + \beta_3 ROA_{i,t} + \beta_4 FSIZE_{i,t} + ROE_{i,t} + e \dots\dots\dots(2)$$

IRQ is measured using a model of integrated reporting scoreboard (IRS) developed by Pistoni, Songini [44]. The model scorecard considers four areas: background, content, form and assurance, and reliability. The maximum score of integrated reporting quality is 75. The level of reliability of the scoreboard of integrated reporting quality is tested through Macdonald's Omega, which indicates that the score was above the acceptable level of 0.70. Concentrated ownership is measured by the total percentage of the ten largest shareholdings [45]. Huang and Kung [46] state that concentrated share ownership will reduce information disclosure and cost savings. Meanwhile, dispersed ownership is measured by the smallest total percentage of the largest shareholding [45]. In addition, several control variables were used in this research model, namely firm size (SIZE) measured by the natural logarithm of total assets [47-49]. Leverage (LEV) is measured by the ratio of total debt to total equity [47, 48, 50]. Profitability (ROA) is measured using ROA [47, 48, 51]. Return on equity (ROE) is measured by the ratio of net profit after tax to total company equity [11, 45].

To investigate whether the results are robust to different specifications, we performed two additional tests. Firstly, we divided the sample into two groups based on the ownership structure (i.e., less than 50 percent spread and more than 50 percent spread). Secondly, we divided the sample into a concentrated ownership structure of less than 50 percent and a concentrated ownership structure of more than 50 percent.

4. RESULTS AND DISCUSSION

Table 1 shows that the integrated reporting quality in Asia and Europe is reasonably good. The value of the mean is 61.526, which is almost the highest value of integrated reporting quality of 75. The standard deviation of integrated reporting shows a value of 7.961, meaning that integrated reporting quality in Asia and Europe does not yet have the same quality. Dispersed ownership shows an average value (mean) of 61.210, which shows that the ownership structure in Asian and European companies mostly has dispersed ownership of 61.2%. For concentrated ownership, the average value (mean) is 38.789, which indicates that 38.7% of ownership structure is concentrated in Asian and European companies. This indicates that companies in Asia and Europe presenting integrated reporting are supported by pressure from mainly dispersed shareholders. Table 1 presents the descriptive statistics.

Tab. 1 - Descriptive Statistic.

Variable	Obs	Mean	Std. Dev	Min	Max	VIF
IRQ	1017	61.52606	7.961247	40	74	
DIS_OWN	1017	61.21069	12.6499	16	86.2	1.01
CON_OWN	1017	38.78931	12.6499	13.8	84	1.03
SIZE	1017	21.593	.7842096	20.01274	25.48585	1.04
LEV	1017	1.080038	1.334537	0.0014641	10.00762	1.11
ROA	1017	0.953041	3.899304	0.000347	31.41474	1.03

ROE	1017	0.8550221	1.644793	0.0007046	12.71589	1.09
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Source: researcher processed, 2023

Note: This table presents descriptive statistics of the variables used in our analysis. IRQ is the integrated reporting score based on four areas: background, content, form, and assurance and reliability. We classify shareholder ownership based on dispersed ownership and concentrated ownership. DIS_OWN is based on the smallest total percentage of the largest shareholding or concentrated. CON_OWN is based on the percentage of the ten largest shareholdings. SIZE is measured by the natural logarithm of total assets. LEV is the ratio of total debt to total equity. ROA is the ratio of total earnings to total assets. ROE is the ratio of net income after tax to total company equity.

Table 2 shows the ownership structure based on the regions covered by this study. Panels A and B present the descriptive statistics of the mean value of the ownership structure between groups. Panel A shows a comparison between the ownership structure spread across Asia and Europe. Panel A shows that the European companies' mean value of 61.260 is higher than that of the Asian companies, which have a mean value of 61.142. These results indicate that ownership is spread across European companies more than that of Asian companies. However, when viewed from the standard deviation value, the Asian region shows a higher value of 12.914; this indicates that the Asian region has a better distribution of ownership structure than the European region. Panel B presents a comparison between concentrated ownership structures, seen from the higher Asian mean value of 38.857, which means that concentrated ownership in Asian companies dominates the ownership structure in the region. A possible explanation is that the characteristics of companies in the Asian region are more like family-owned companies. That is supported by the standard deviation value of 12.914, which is higher than the European region, meaning that the distribution of ownership is quite concentrated in the region at 0.4%.

Tab. 2 - Panel A. Dispersed Ownership by Region

Variable	Continent	Obs	Mean	Std. Dev	Min	Max
DIS_OWN	Asia	430	61.14275	12.91465	22.09	86
DIS_OWN	Europe	587	61.26045	12.46323	16	86.2

Panel B. Concentrated Ownership by Region

Variable	Continent	Obs	Mean	Std. Dev	Min	Max
CON_OWN	Asia	430	38.85725	12.91465	14	77.91
CON_OWN	Europe	587	38.73955	12.46323	13.8	84

Source: researcher processed, 2023

Note: Table 2 Panel A shows the dispersed ownership by region; this table distinguishes the composition between Asian and European companies to see the tendency of the percentage of share ownership that is dispersed.

Panel B shows concentrated ownership by region; this table distinguishes the composition between Asian and European companies to see the percentage of concentrated ownership.

Table 3 presents a correlation among variables used in this study. The results provide early support to our prediction that companies with a dispersed ownership structure will have a significant positive correlation, while companies with a concentrated ownership structure will have a significant negative correlation. Dispersed ownership (DIS_OWN) has a positive and significant correlation with the IR quality (IRQ), ($r(1, 1015) = 0.153, p < 0.01$), while concentrated ownership (CON_OWN) has a negative and significant correlation with the IR

quality ($r(1, 1015) = -0.153, p < 0.01$). The correlation test results show that the ownership structure has a correlation that can affect the quality of integrated reporting; it is possible that the greater spread of ownership can increase the integrated reporting quality so that companies with concentrated ownership do not feel the complexity of pressures faced by companies with dispersed ownership. Table 3 presents the correlation results.

Tab. 3 Correlation Test

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) IRQ	1,000						
(2) DIS_OWN	0.153***	1,000					
(3) CON_OWN	-0.153***	-1,000	1,000				
(4) SIZE	0.069**	-0.003	0.003	1,000			
(5) LEV	0.049	-0.020	0.020	0.163***	1,000		
(6) ROA	0.088***	0.021	-0.021	-0.043	-0.139***	1,000	
(7) ROE	-0.083***	-0.078**	0.078**	0.097***	0.239***	-0.051	1,000

Source: researcher processed, 2023
 Note: Table 3 shows the correlation coefficients of the variables used in our main analysis. All variables are winsorized at the 1st and 99th percentiles. Values with asterisks *, **, and *** indicate significance at the 10%, 5%, and 1 % levels, respectively (2-tailed).

We performed a Winsorization procedure at the 1st and 99th percentiles to address the outliers in our data. Winsorization is the transformation of statistics by sorting the data and replacing the data below and above a specified percentile with the next data value (Chambers & Chambers, 2000). This method will reduce the effects of possibly spurious outliers on the regression estimates (Boudt et al., 2020). Winsorized estimators are usually more robust to outliers than their estimators based on the original data (Chambers & Chambers, 2000). In our study, we replace the data below 1st percentile with the value at or above the 1st percentile and the data above the 99th percentile with the value at or below the 99th percentile. We use a two-sided Winsorization, since this procedure is considered appropriate when the outliers appear at both ends of the data distribution (Chambers & Chambers, 2000).

Table 4 shows the regression analysis results following the previously disclosed equations. This section presents the results of the regressions performed to examine hypothesis 1a and hypothesis 1b. The F-statistics is highly significant, ($R^2 = .048, F(6, 1010) = 6.26, p < 0.01$). The R^2 of 4.8% is considered low, indicating that the independent variables explain only a small proportion of the variability in the dependent variable even after we perform the Winsorization procedure to deal with the presence of outliers in the data. This low R^2 , however, is comparable to the R^2 reported by previous studies in this area. For example, Lai et al. (2016) report an R^2 of 2.7 %, while Vitola et al. (2019) report an R^2 of 6.3 % and 7 %.

The results of the first regression show a significant positive effect of the dispersed ownership structure on the quality of integrated reporting ($\beta = 0.102, p < 0.01$). The results of the second regression show a significant negative effect of concentrated ownership structure and quality of integrated reporting ($\beta = 0.103, p < 0.01$). The coefficient values of dispersed ownership (DIS_OWN) and concentrated ownership (CON_OWN) have similarities but have opposite directions of their influences. We use the total percentage of the top 10 shareholders for concentrated ownership, while dispersed ownership uses the percentage of remaining share ownership from the percentage of concentrated ownership. Therefore, the coefficient values indicate the impact of dispersed ownership and concentrated ownership on IR quality

respectively. The results presented in Table 4 support both hypothesis 1a and hypothesis 1b. Table 4 presents the regression results of the two research models.

Tab. 4 - Regression analysis

	Dispersed Ownership on Integrated Reporting Quality		Concentrated Ownership on Integrated Reporting Quality	
	Model 1		Model 2	
	Coeff	t-statistic	coeff	t-statistic
DIS_OWN	0.102	0.000 (***)		0.001 (***)
CON_OWN			-0.103***	
SIZE	0.695**	0.018(**)	0.697**	0.020(**)
LEV	0.419**	0.013(**)	0.421**	0.016(**)
ROA	0.200***	0.007(***)	0.200***	0.005(***)
ROE	-0.420***	0.005(***)	-0.420***	0.005(***)
_cons	40.298***		50.582***	
Year FE	Included		Included	
Continent FE	Included		Included	
r2	0.048			
Number of obs	1017			
F	6.26***			
Prob>F	0.0000			

Source: researcher processed, 2023

Note: This table reports regression results on the relation ownership structure (dispersed ownership and concentrated ownership) on Integrated Reporting Quality. All regressions control for the continent and year-fixed effects. Standard errors clustered at the firm and year and t-statistics are reported in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively.

4.1 Robustness Test

We used multiple endogeneity tests to minimize the endogeneity issues in our results from the previous OLS regression. The endogeneity tests used Heckman's two-stage regression model. This study is based on data from Europe and Asia, which are quite diverse, prompting us to test for potential endogeneity issues to reduce bias in this research data. This endogeneity test addresses several critical problems in fundamental regression analysis in management, accounting, and business studies as a whole [52]. Heckman's two-stage regression test is used to overcome problems related to unobserved variables, which are variables that are not included in the primary regression model that may influence the dependent variable. The results of the Heckman two-stage regression analysis are provided in Table 5.

Tab. 5 - Heckman two-stage regression.

	First stage Regression	Second stage Regression	First stage Regression	Second stage Regression
	DIS_OWN	IRQ	_OWN	IRQ
DIS_OWN		2.212***		
		(4.59)		
CON_OWN				-2.229***
				(-4.62)
MILLS		-10.294		-14.728
		(-0.09)		(-0.13)

SIZE	0.011	0.621	-0.004	0.596
	(0.21)	(0.74)	(-0.09)	(0.71)
LEV	0.010	0.347	-0.008	0.320
	(0.33)	(0.46)	(-0.26)	(0.42)
ROA	0.010	0.137	-0.008	0.112
	(0.93)	(0.20)	(-0.79)	(0.17)
ROE	-0.005	-0.435	0.008	-0.419
	(-0.20)	(-1.10)	(0.31)	(-1.06)
_cons	-0.234	55.215	0.029	61.472
	(-0.21)	(0.50)	(0.03)	(0.56)
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
F	3.119***		3.119***	
Adjusted Rsquare		0.038		0.039
N	1017	1017	1017	1017

Source: researcher processed, 2023

The Heckman two-stage regression analysis shows a significant positive relationship between DIS_OWN and IRQ ($\beta = 2.212, p < 0.01$) and a significant negative relationship between CON_OWN and IRQ ($\beta = -2.229, p < 0.01$), which support our hypotheses. In addition, our inverse mills ratio (MILLS) shows an insignificant effect on IRQ according to the second-stage regression (i.e., the results show an insignificant relationship between MILLS, DIS_OWN, and IRQ ($\beta = -10.294, p > 0.05$) and MILLS, CON_OWN and IRQ ($\beta = -14.728, p > 0.05$). These results confirm that the results generated from our model from the primary analysis are not entirely endogeneity, particularly in the unobserved variables.

4.2 Additional Tests

Two additional analyses were used to deepen our understanding of the effects of concentrated share ownership structure and dispersed share ownership structure on integrated reporting quality. Firstly, we divide the sample into two groups based on the ownership structure (i.e., less than 50 percent spread and more than 50 percent spread). Secondly, we divide the sample into a concentrated ownership structure of less than 50 percent and a concentrated ownership structure of more than 50 percent. Table 6 shows the results of these additional tests.

Tab. 6 - Additional Tests.

	(1)	(2)		(1)	(2)
	IRQ	IRQ		IRQ	IRQ
DIS_LOW	-0.034		DIS_HIGH	0.110***	
CON_LOW		0.034	CON_HIGH		-0.110***
SIZE	-0.315	-0.315	SIZE	0.979***	0.979***
LEV	0.709	0.709	LEV	0.376**	0.376**
ROA	0.075	0.075	ROA	0.211***	0.211***
ROE	-0.874***	-0.874***	ROE	-0.238	-0.238
_cons	66,503***	63,062***		33,289***	44,336***
Year FE	Included	Included		Included	Included
Continent FE	Included	Included		Included	Included

r2	0.120	0.120	r2	0.039	0.039
N	144	144	N	873	873

Source: researcher processed, 2023

Note: This table reports the regression results of the additional models to deepen our understanding of the results of the main regression analysis. This additional analysis confirms the influence of ownership structure (spread ownership and concentrated ownership) on integrated reporting quality. DIS_HIGH is a high percentage of distributed ownership. DIS_LOW is a distributed ownership with a percentage smaller than the concentrated ownership. CON_HIGH is a high percentage of concentrated ownership, while CON_LOW has concentrated ownership with a smaller percentage than scattered ownership. This measurement is based on the results of descriptive analysis of the mean value of the ownership structure variable (dispersed and concentrated ownership). All regressions control for the effect of fixed continents and years. Standard errors are clustered across companies and years, and t-statistics are reported in parentheses. ***, **, and * show significance at the 1%, 5%, and 10% levels, respectively.

4.3. Dispersed ownership or concentrated ownership and integrated reporting quality

Our study confirms that companies' ownership structures affect the quality of IR disclosures. The results of our study are consistent with the notion that the primary purpose of corporate reporting is to minimize information asymmetry among stakeholders to reduce uncertainty in decision-making (Javaid Lone, Ali [6]. Reimsbach, Hahn [7] showed that disclosures in integrated reports (without separating financial and sustainability information) can increase assurance in stakeholder decision-making. In addition, the company's main purpose in presenting information in integrated reports is to provide a useful signal to investors with an overview from management regarding the companies' opportunities and long-term strategies [14, 15]. Voluntary adoption of the integrated reporting framework is the company's strategy to gain legitimacy from its stakeholders. The results of this study suggest that the ownership structure is one important aspect that plays an essential role in influencing the level of quality of the company's financial reporting. These results are consistent with the arguments proposed by Raimo, Vitolla [1], which state that the ownership structure can, directly and indirectly, affect company policies in the disclosure process. The ownership structure applies different pressures on influencing corporate control. The pressure from concentrated ownership tends to be less than the pressure from dispersed ownership. The existence of demands from stakeholders can provide an impetus for companies to present complex and coherent information [11, 24, 25, 35]. [37]) assert that there are differences in demands in corporate governance mechanisms and accessibility in controlling the company, indicating that shareholder rights and ownership structure characteristics must be considered when investigating the determinants of IR quality.

The demand for transparency regarding the complexity of the information presented in integrated reporting is highly dependent on the company's share ownership structure because the company's internal stakeholders provide significant authority compared to other stakeholder groups. This advantage provides added value for dispersed ownership to demand transparency of integrated reporting disclosures. The results of our study indicate that the dispersed ownership structure can improve the quality of information presented through integrated reporting. Our study shows that the pressure exerted by dispersed shareholders, consisting of various individuals and groups, has a positive impact on IR quality. Meanwhile, companies with a concentrated ownership structure face fewer challenges from their shareholders, resulting in lower-quality integrated reporting disclosures. The results of our study support the claim made by Ara and Harani (2020) that the ownership structure directly influences the company in preparing the company's disclosure policy. The results of this study are also

consistent with those of Hu, Zhu [43], who find that companies with concentrated ownership harm the company's voluntary disclosure. Companies with concentrated ownership characteristics can have authority in information accessibility, but this authority can reduce the quality of voluntary disclosures [1, 2, 53]. Dispersed ownership requires companies to meet information needs with a high level of transparency so that the potential for conflicts of interest is mitigated. The conflict causes demands that encourage companies to consider the relevance of the information to be disclosed. Companies with dispersed ownership characteristics tend to have more significant public pressure [11].

4.4 Dispersed ownership (low) or (high) and integrated reporting quality

Ownership structure spread over companies in Asia and Europe in the range of less than 50 percent cannot affect the quality of integrated reporting. This is due to the possibility of concentrated ownership dominating the company's control so that the rest are a minority who do not have authority over the company. This additional test supports the hypothesis in this study that the share ownership structure spread over 50 percent (DIS_HIGH) has a positive and significant effect on the quality of integrated reporting ($\beta = 0.110$, $p < 0.01$). These results suggest that high share ownership distribution can positively impact the company's activities, especially in the presentation of integrated reporting. Companies in Asia and Europe, in paying attention to the quality of the integrated reporting that is disclosed, must consider a balanced composition of shareholders, to put pressure on improving the quality of corporate governance mechanisms. Wang, Zhou [18] state that a set of good corporate governance and good practices can affect the quality and credibility of integrated reporting. Raimo, Vitolla [1] emphasize that the ownership structure can, directly and indirectly, affect company policies in the disclosure process.

4.5 Concentrated ownership (low) or (high) and integrated reporting quality

Ownership structure concentrated in companies in Asia and Europe with less than 50 percent ownership range cannot affect the quality of integrated reporting. These results indicate that the company has a dominant characteristic of distributed share ownership, so the percentage of concentrated ownership is too small to have the authority to control the company. The simple analogy is that if the company has the characteristics of a concentrated shareholding of less than 50 percent, it will be dominated by more than 50 percent of distributed ownership. Vice versa, if the share ownership is spread out less than 50 percent, it will be dominated by a concentrated shareholding of more than 50 percent. This additional test supports the hypothesis in this study that the share ownership structure concentrated above 50 percent (CON_HIGH) has a negative and significant effect on the quality of integrated reporting ($\beta = -0.110$, $p < 0.01$). This result indicates that a higher concentration of share ownership can harm governance mechanisms, especially in the presentation of integrated reporting. Lai, Melloni [29], Melloni, Caglio [30], and Wang, Zhou [18] recognize that good governance mechanisms can provide concise, complete integrated reporting, and balanced information in the disclosure process. Companies in Asia and Europe, in paying attention to the quality of the integrated reporting that is disclosed, must consider a balanced composition of shareholders, to put pressure on improving the quality of corporate governance mechanisms.

5. CONCLUSION

Ownership structure has a role in influencing the transparency and coherence of the presentation of information needed by stakeholders who demand quality improvement of integrated reporting disclosures. Voluntary integrated reporting is a corporate strategy to gain legitimacy from stakeholders. Researchers have shown that companies in Asia and Europe

presenting integrated reporting are supported by pressure from mainly dispersed shareholders. This study confirms that the effectiveness of information and transparency are influential factors in the company's reporting system. The results of the competitiveness show that a dispersed ownership structure can improve the quality of information presented through integrated reporting. These results clearly indicate that a dispersed ownership structure can improve the quality of information presented through integrated reporting.

Meanwhile, companies with a concentrated ownership structure can reduce the quality of integrated reporting. The ownership structure has different pressures in influencing corporate control. The pressure from concentrated ownership tends to be less than the pressure from dispersed ownership. The demand for transparency on the complexity of the information presented in integrated reporting is highly dependent on the company's share ownership structure. The findings of our study indicate that if a company has the characteristics of a concentrated shareholding of less than 50 percent, it will be dominated by more than 50 percent of dispersed ownership.

Our study contributes to the literature on the influence of ownership structure on IR quality. While previous studies have reported results based on data from the United States and Australia, our study uses data from companies in Asia and Europe and provides empirical evidence that dispersed ownership has a positive impact on IR quality. Moreover, our study finds that concentrated ownership deteriorates the IR quality. Our study also makes a practical contribution to those companies in Asia and Europe that should pay more attention to the composition of their shareholders to promote good governance mechanisms. Our findings suggest the companies in these two regions need to disperse their ownership to increase the pressures from various individual and group ownership, leading to a higher IR quality.

Despite the results, our study has two limitations that create the opportunity for future research in this area. First, the size of our sample is relatively small, because integrated reporting is still in its early stage of development, and many companies do not provide complete information in their reports, or their information is not downloadable. Future research may replicate our study with a larger sample size to increase the validity of the reported results. Second, due to data limitations, we did not include other types of pressures such as those from competitors or customers. Future research can validate our results by including the level of pressure from such entities.

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