

Impact of Information Disclosure Quality on Firm Financial Performance

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Abstract: With the rapid development of the global economy and the continuous evolution of the market environment, the operation of non-financial firms in the global market has attracted much attention. This research selects A-share listed non-financial firms as samples and uses data analysis methods, such as descriptive statistics and correlation analysis, to explore the impact of information disclosure quality on the firm's financial performance. The research result shows that the information disclosure quality is significantly and positively related to the firm's financial performance. The research result provides a valuable reference for firms' managers to formulate information disclosure strategies, for investors to make investment decisions, and for regulators to improve the supervision mechanism of information disclosure.

Keywords: Non-financial firms, Information disclosure quality, Financial performance, Hypothesis testing, Regression analysis.

1. Introduction

In the context of modern corporate governance and the functioning of capital markets, information disclosure quality holds a pivotal position. For non-financial firms, high-quality information disclosure is not only the necessary measure to meet regulatory requirements, but also may have an important impact on firm financial performance. This research centers around the impact of information disclosure quality on firm financial performance as the topic, focuses on A-share listed non-financial firms, and combines research methods such as descriptive statistics, correlation analysis, regression analysis and robustness tests. It explores whether information disclosure quality is positively correlated with firm financial performance. The contribution of this research is reflected in many aspects. Firstly, it bridges the research gap in the domain of the relationship between information disclosure quality and firm financial performance, thus bearing crucial theoretical significance for further research in this area. Secondly, it provides a decision-making basis for the firm's managers, helps them optimize information disclosure strategies to reduce information asymmetry between firms and those external stakeholders, enhances investor confidence, and optimizes firms' financing environments. Thirdly, it forms effective supervision and incentive for firms' internal management and promotes the rational allocation and efficient utilization of firm's resources.

2. Literature Review and Hypotheses Development

During the operation of firms, internal managers often have more information about firms' conditions and development prospects than external investors and other stakeholders, and the information asymmetry may lead to market failure and resource misallocation. For example, because of the complexity and professionalism of technological innovation, there is an important information gap between some emerging firms and external investors, which leads to the difficulties in the development of some potential firms due to the financing difficulties [1]. Hart has stated that a comprehensive information disclosure system is beneficial for shareholders to oversee management [2]. Additionally, firms can convey high-quality information to the global market to show their good operating conditions and development potential, which can help to gain competitive advantages, such as lower financing costs. Therefore, this research proposes the following hypothesis:

Hypothesis 1 (H1): Information disclosure quality is positively correlated with return on total assets.

3. Research Design

3.1. Measurement of Variables

3.1.1. Dependent Variables (DV)

This research focuses on ROA, a measure of firm financial performance, which reflects the utilization efficiency of a firm's assets. ROA is calculated by comparing net profit to average total assets, covering a firm's combined performance in generating profits [3]. It provides a standardized calculation method, facilitating analysis and comparison of different firms' performance. Barron found that ROA can cross industry boundaries and intuitively show firms' relative level in asset profitability, providing an effective basis for horizontal comparison among firms and providing high reference value for investors and stakeholders to evaluate and make investment decisions on multiple firms [4]. Higher ROA indicates well-operated assets and strong profitability, enhancing a firm's reputation in the capital market and attracting investors. Strict accounting standards and audit processes make ROA data more accessible and effective [5].

3.1.2. Independent Variables (IV)

In today's financial markets, regulators have increasingly emphasized the importance of information disclosure and continuously strengthened the regulatory requirements of it. Therefore, IDQ has become an important indicator to measure the information disclosure quality. Previous research found that there is information asymmetry between internal managers and external investors, and high-quality information disclosure can effectively decrease this asymmetry [6]. The finding of Botosan shows that when firms improve the information disclosure quality, investors can obtain more information about firms' operation, financial status and future development prospects, then reducing the risk assessment errors caused by insufficient information [7]. Healy and Palepu pointed out that firms with high-quality information disclosure are often regarded as subjects with more transparency and credibility, which can attract more investors [8]. Merton also showed that in the incomplete information market, firms with high-quality information disclosure are more likely to obtain financial support [9]. Based on all of this information, this research uses IDQ as the independent variable to study the relationship between information disclosure quality and firm financial performance, which will have strong theoretical value for firms to optimize information disclosure strategies to enhance their own financial performance.

3.1.3. Control Variables (CV)

The research uses Firm Size, Assets Liabilities Ratio, Firm Age, and List Age as control variables to improve the study's accuracy. Since large firms can use economies of scale to reduce costs and improve profitability, they often have stronger resource acquisition and bargaining power [10]. Larger firms have stronger resource acquisition and bargaining power, which can impact the relationship between IDQ and ROA. The Assets Liabilities Ratio mirrors debt financing levels, and firm age indirectly impacts financial performance. Post-IPO firms face stricter supervision and information disclosure requirements, while List Ages affect the firm's image and investor cognition.

3.2. Sample Selection and Data Source

This research investigates the impact of intangible asset quality on the financial performance of A-share listed firms from 2013 to 2023. Data was sourced from the CSMAR database and Shenzhen Stock Exchange's IDQ ratings. Special treatment (ST) companies were excluded due to abnormal financial conditions. Financial sectors like banking and insurance were excluded due to their differing corporate governance models and financial reporting standards. Firm samples with incomplete or missing data were excluded to ensure dataset integrity. Continuous variables were winsorized at the 1% level to mitigate potential distortion caused by extreme outliers.

3.3. Hypothesis Test

To test the proposed hypothesis, we proposed the following regression model. The model is mathematically expressed as follows: $ROA_{it} = \beta_0 + \beta_1 IDQ_{it} + \beta_2 Size_{it} + \beta_3 Lev_{it} + \beta_4 FirmAge_{it} + \beta_5 ListAge_{it} + \epsilon_{it}$ where ROA_{it} is the return on total assets of the firm; IDQ_{it} is the information disclosure quality of the firm; $Size_{it}$ represents the firm size, which is calculated by taking the logarithm of total assets; Lev_{it} indicates the financial leverage ratio; $FirmAge_{it}$ denotes the firm age; and $ListAge_{it}$ shows firm's list age.

4. Data Analysis and Discussion

4.1. Descriptive Statistics

The sample encompasses a total of 29,536, all of them retained to two decimal places. Generally speaking, the standard deviation of each variable is relatively small, while the median and the mean are fairly close to each other. This indicates that the overall volatility of the data is low and the data selection is sound. For the measurement of firms' financial performance, the mean value of ROA of the sample firms is 0.04, and the standard deviation is 0.07, which is relatively moderate, indicating that there is a certain degree of dispersion in the level of profitability. IDQ has a mean of 3.04 and a standard deviation of 0.62, reflecting a similar pattern of change. These descriptive statistics set the stage for further analysis, and the detailed results of each variable are shown in Table 1.

Table 1: Descriptive statistics

Variable	Mean	SD	1 st Qu.	Median	3 rd Qu.
<i>Dependent variables</i>					
ROA	0.04	0.07	0.01	0.04	0.07
<i>Independent variable</i>					
IDQ	3.04	0.62	3.00	3.00	3.00

Table 1: (continued).

<i>Control variables</i>					
Size	22.26	1.27	21.36	22.07	22.96
Lev	0.41	0.20	0.25	0.41	0.56
FirmAge	3.01	0.30	2.83	3.05	3.22
ListAge	2.17	0.78	1.61	2.20	2.89
N	29,536				

Note: According to the 4 steps data processing, this paper final gets 29,536 observations, where N is represented sample size. Hereinafter the same.

4.2. Correlation Analysis

Table 2 shows the Pearson correlation coefficients between DV, IV and CV. As the table shows, there is a positive correlation between IDQ and ROA, which initially supports the hypothesis of this research, indicating that information disclosure quality will positively affect firm financial performance. Conversely, among the outcomes related to the control variables, with the exception of Firm Size, all other variables exhibit negative correlations with both ROA and IDQ. This suggests that as the levels of these indicators increase, the financial performance and the quality of information disclosure of the sample firms tend to decline.

Table 2: Correlation coefficient

	ROA	IDQ	Size	Lev	FirmAge	ListAge
ROA	1.00					
IDQ	0.35	1.00				
Size	0.05	0.23	1.00			
Lev	-0.34	-0.10	0.48	1.00		
FirmAge	-0.09	-0.06	0.23	0.18	1.00	
ListAge	-0.18	-0.05	0.44	0.33	0.55	1.00

4.3. Multicollinearity Analysis

Most of the variables exhibit pairwise correlations beneath 0.5, indicating that multicollinearity may not be a concern among them. However, when there is a high linear correlation between variables, the estimation of the regression coefficient will be inaccurate, and the standard error will increase, which will affect the judgment of the relationship between variables [11]. In this research, since the correlation coefficient between FirmAge and ListAge in this research is 0.55, it is necessary to use multicollinearity analysis to make accurate judgment. According to the generally accepted judgment criteria, when the variance inflation factor value (VIF) is less than 10, it means that there is no serious multicollinearity between variables [12]. The VIF values for all variables in this research were far below this standard, which means in the model, each variable affects ROA relatively independently, and the information carried by each variable is not over-covered or repeated by other variables. The detailed results of testing variance inflation factor are illustrated in Table 3.

Table 3: Variance Inflation Factor

Variables	VIF
IDQ	1.15

Table 3: (continued).

Size	1.68
Lev	1.40
FirmAge	1.43
ListAge	1.73

4.4. Regression Analysis

The regression results are shown in Table 4. As the table shows, after controlling for factors such as firm size, the IDQ coefficient is 0.0277, which has a significant positive impact on ROA, indicating that the higher the quality of information disclosure, the higher the ROA. This conforms to the expected hypothesis (H1). Additionally, the multiple R-square value is 0.2561, and the adjusted R-square value is 0.2559, which means the model has a certain degree of fit. The F statistic is 2,033. This means the overall model is significant, and the independent variable has a good explanatory ability to the dependent variable.

Table 4: Regression analysis result for Hypothesis 1 (H1)

	ROA	
	Model-1	Model-2
Intercept	-0.0809*** (-44.21)	-0.2592*** (-34.60)
IDQ	0.0384*** (65.25)	0.0277*** (47.63)
Size		0.0125*** (36.31)
Lev		-0.1270*** (-63.33)
FirmAge		0.0050*** (3.73)
ListAge		-0.0138*** (-24.38)
Multiple R-squared	0.126	0.2561
Adjust R-squared	0.126	0.2559
F	4,258	2,033

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

4.5. Robustness Test

Due to the limitations of model setting and many other factors, the results of the model may not be accurate enough [8]. Return on equity (ROE) can reflect the return level of shareholders' equity, which means this is another important indicator to measure firm financial performance [3]. As a result, it can use ROE to replace ROA, the dependent variable in this research, for a robustness test when studying the relationship between information disclosure quality and financial performance, which can verify whether this relationship is still valid from another perspective and then ensure the robustness of research conclusions. The detailed results of are shown in Table 5.

Table 5: Results to replace the dependent variable

	ROE	
	Model-1	Model-2
Intercept	-0.1836*** (-48.58)	-0.6486*** (-40.65)
IDQ	0.0774*** (63.59)	0.0559*** (45.03)
Size		0.0290*** (39.51)
Lev		-0.2046*** (-47.90)
FirmAge		0.0074*** (2.60)
ListAge		-0.0240*** (-19.93)
Multiple R-squared	0.120	0.2040
Adjust R-squared	0.120	0.2038
F	4,043	1,513

5. Conclusion

This research reveals that the quality of information disclosure significantly impacts firm financial performance. It fills research gaps and holds significant theoretical reference value. The study advises managers to optimize information disclosure quality in strategic planning, focusing on integrity and accuracy. It also serves as a reference for investors, recommending a shift in information disclosure quality as a key standard for evaluating enterprise investment value. However, the research has limitations, as only a few variables were selected as control variables, resulting in potential accuracy issues. Future research should consider including more variables, such as firms' innovation capability, to improve accuracy and reliability, providing a more detailed decision-making basis for firms, investors, and stakeholders.

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