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ESG Performance on Investment-Cash Flow Sensitivity: Case Study of Non-Financial Companies Listed on the Indonesian Stock Exchange

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Abstract

This research aims to analyze the influence of ESG performance on Investment - Cash Flow Sensitivity of non-financial companies listed on the Indonesia Stock Exchange for the 2017-2022 period. ESG performance was measured using ESG ratings from Sustainalytics' ESG Research and Ratings, obtained from the Bloomberg Terminal database. Testing process was carried out on 50 registered non-financial companies in Indonesia for six years with a total of 300 observations obtained through purposive sampling techniques. The results of research employed panel balance data and the OLS method found that there are still phenomena Investment – Cash Flow Sensitivity occurred and good ESG performance could reduce Investment – Cash Flow Sensitivity. Thus, it can be indicated that companies implementing good ESG performance can more easily obtain funding sources.

Keywords: investment-cash flow sensitivity, ESG performance, company investment, company ownership structure, agency problem, overinvestment, asymmetric information, underinvestment.

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1. Introduction

In an increasingly complex and diverse business era, the attention to environmental, social, and governance (ESG) issues is currently increasing. ESG covers various aspects, including responsible environmental practices, fair social policies, and good and transparent governance. ESG is not only a concern from an ethical standpoint, but also has significant implications for corporate performance and investment decision-making.

ESG practices in business are increasingly gaining attention around the world. Companies that consider ESG aspects in their business strategy are expected to achieve long-term sustainability and provide added value to stakeholders. Several studies have shown that companies with strong ESG practices tend to have lower risk and better long-term performance. Eccles et al. (2014) found that companies with strong sustainability practices tend to have better long-term performance from an examination of the impact of corporate sustainability on organizational performance and processes. Flammer (2015) utilized a discontinuity regression approach to examine whether corporate social responsibility (CSR) contributes to better financial performance. The results show that CSR is associated with better financial performance. Khan et al. (2015) evaluated the impact of material sustainability on corporate financial performance and found that corporate sustainability is materially important and is associated with better financial performance. Zhang & Liu (2022) found that companies that have good ESG performance in China also have higher financial flexibility, which means that adopting ESG practices can help companies facing an uncertain business environment, thereby helping in alleviating financing constraints. Quintiliani (2022) found that there is a positive correlation between ESG score and company value. Sprenger & Lazareva (2022) found that good corporate governance has a positive influence in reducing financing constraints in Russian companies that are not listed on the stock exchange, but the level of corporate transparency does not have the same impact in reducing financing constraints, even in an environment with weak property rights protection and transparency can exacerbate financing constraints. However, there have not been many studies that specifically concern to how these ESG factors can affect Investment-Cash Flow Sensitivity. Thus, there is potential to conduct more in-depth research on how ESG factors can affect a company's

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Investment-Cash Flow Sensitivity as well as whether there is a relationship between ESG performance and a company's investment decisions towards changes in cash flow.

Company investment decisions are crucial for the sustainability and growth of the company. This decision involves allocating funding to various projects and investments with the aim of maximizing shareholder value. In fact, this decision is often challenging, further complicated by limitations in obtaining external funding due to asymmetric information or the emergence of personal interests within the internal company due to agency problems.

In a perfect capital market, a company's investment decisions do not depend on its financial situation (Terra, 2008). A company undertakes an investment project only if the present value of the discounted cash flow exceeds the related capital expenditure. In other words, a company will invest as long as the marginal value of capital expenditures produces at least the same value in present value of its cash flows (Tobin James, 1969). In addition, there is no capital rationing because the company can always obtain external financing at the same cost, as the cost of capital. However, in imperfect capital markets, the financial structure of a company becomes relevant. For example, if capital market participants face significant uncertainty about the company's future prospects, then external funding costs often exceed internal funding costs. This results in company investment decisions being influenced by the availability of existing cash flow. This phenomenon is known as Investment – Cash Flow Sensitivity.

This sensitivity is observed due to the difference in costs between internal capital and external capital, which causes financing constraints. The observed sensitivity can be caused by agency costs of free cash flow (FCF) (Jensen, 2009) or asymmetric information (Berardi, 2011; Myers, S., & Majuf, 1984). Therefore, factors that reduce barriers to the capital market (financing friction) can reduce Investment-Cash flow sensitivity (Ağca & Mozumdar, 2008). Starting from research by Fazzari, Hubbard, and Petersen (1988), which found that companies that experienced greater cost differences between external funding and internal funding had higher Investment-Cash Flow Sensitivity. Kaplan & Zingales (2000); Whited, T., and Wu (2006) found that companies experiencing financing constraints experienced Investment-Cash Flow Sensitivity. Hadlock (1998) revealed that companies that have a smaller number of assets (size) and a younger age of membership on the stock exchange (age) tend to experience Investment-Cash Flow Sensitivity. Hasan, Song, and Waisman (2012) found that good corporate governance can reduce the dependence of companies in emerging markets on internal cash flow and reduce financing constraints. Utama & Utama (2016) used investment opportunities as a factor that influences investment opportunities and found that higher investment opportunities can reduce Investment-Cash Flow Sensitivity. This shows that excess investment still relatively dominates underinvestment among listed manufacturing companies in Indonesia. Samet & Jarboui (2017) used Corporate Social Responsibility as a factor influencing Investment-Cash Flow Sensitivity and found that good CSR performance can weaken investment sensitivity to internal funds and companies that implement strong CSR practices are in a better position to obtain financing in capital markets through reducing financing constraints and agency costs.

Considering that there is still limited research that examined how good ESG practices can influence company policies in making investment decisions, this research intends to fill this gap by exploring ESG performance in companies in reducing the influence of Investment-Cash Flow Sensitivity. ESG performance can function as a positive signal (signaling theory) for stakeholders, including investors and shareholders. When a company shows good performance in terms of environmental, social and corporate governance, this can be considered an indicator that the company has a sustainable and responsible strategy. By implementing sustainable business practices, companies can reduce environmental and social risks that can have a negative impact on company operations and reputation. This can result in operational efficiency, reduce costs, and improve the company's long-term performance. This improved performance can contribute to increased shareholder prosperity, either through higher dividends or increased share value.

In Indonesia, ESG implementation policies have progressed during the recent years. The government has issued ESG-related laws and regulations, such as the Capital Markets Law and the Sustainability Reporting Guidelines, which require public companies to report information regarding ESG and corporate governance practices. Moreover, there are also national initiatives, such as the Gold Indonesia Certification Program and the Green Indonesia Program, which encourage sustainable practices in the mining and renewable energy sectors. Many companies have increased their social responsibility and involved themselves in social and environmental activities. Although there have been positive developments in the implementation of ESG policies in Indonesia, there are still challenges in implementing them thoroughly and consistently. Some of these challenges include a lack of understanding, lack of access to relevant data and information, and limited capacity to implement ESG practices.

By conducting in-depth research on the influence of ESG on Investment-Cash Flow Sensitivity, it can be obtained the better understanding about how environmental, social, and governance factors influence corporate investment decisions in relation to corporate cash flow. The results of this research can provide guidance for companies and investors to

integrate ESG factors in decision making, with a focus on achieving long-term sustainability and sustainable added value. Thus, this research is expected to provide an important contribution in enriching understanding of the implementation of ESG in the context of business and investment in Indonesia, as well as providing guidance for the development of sustainable and high-performance business strategies to companies and other stakeholders. In addition, the findings of this research are expected to contribute to the academic literature that considers the relationship between ESG, Investment-Cash Flow Sensitivity, and ownership structure.

2. Methods

This is conclusive research with a descriptive type of research used to test the influence of cash flow availability on company investment decisions (Investment – Cash Flow Sensitivity) and the influence of ESG performance in reducing Investment – Cash Flow Sensitivity. In this study, the financial data used was obtained from Thomson Reuters' Refinitiv Eikon data base. Data from financial companies was excluded, considering that the company's operational activities are collecting funds from third parties. Thus, it is not relevant to be used as a sample in this research. The total data on non-financial companies that have had ESG performance assessments from Sustainalytics' ESG Research and Ratings is 50 companies and with a research period of 6 years (2017-2022), a sample of 600 observation data was obtained. In order to test the hypothesis, descriptive statistical analysis was used and panel data regression using Ordinary Least Squares (OLS).

3. Results and Discussion

3.1. Descriptive Statistics

The data collection in this study consists of 50 non-financial companies listed on the Indonesia Stock Exchange over a period of 6 years in 2017-2022. Thus, it was obtained 300 total observations. Descriptive statistical analysis is explained in the Table 1.

Table 1. Overview of Descriptive Statistics

Variable	Mean	Median	Maximum	Minimum	Std. Dev.
I/K	0.2102	0.1450	0.7917	0.0343	0.1955
Q	1.8828	1.2988	5.8107	0.8212	1.3439
CF/K	0.5151	0.3117	2.2344	-0.0952	0.5880
DNWC/TA	0.1919	0.1865	0.6014	-0.2327	0.2322
SALES/TA	0.8059	0.6184	2.1165	0.1659	0.5790
DEBT/TA	0.6657	0.6260	1.3592	0.2204	0.3125
ESGR	2.5689	2.4950	4.6650	0.9590	1.0957

(total observations = 300, i = 50 and t = 6)

The investment variable (I/K) has an average of 0.2102, a median of 0.1450, a maximum value of 0.7917, while a minimum value of 0.0343. The standard deviation, which is a measure of the spread of data, is 0.1955. The relatively small standard deviation indicates that the I/K values tend to be in a range closer to the average.

Investment opportunities variable (Tobin's Q Ratio - Q) has a mean of 1.8828, a median of 1.2988, the maximum value observed in the Q variable is 5.8107, while the minimum value is 0.8212. The large standard deviation of 1.3439 indicates significant variation in the Q values. The wide range between the maximum and minimum values indicates significant differences between individual values in this data.

The cash flow variable (CF/K) has an average of 0.5151 and a median of 0.3117. The maximum value in the CF/K variable is 2.2344, while the minimum value is -0.0952. The standard deviation of 0.5880 indicates that there is quite significant variation in the CF/K values. The range of observed values shows a fairly large difference between the maximum and minimum values.

The DNWC/TA variable has a mean of 0.1919 and a median of 0.1865. The maximum value in the DNWC/TA variable is 0.6014, while the minimum value is -0.2327. A standard deviation of 0.2322 indicates relatively small variations in

DNWC/TA values. The range of observed values is relatively narrow, indicating relatively higher consistency in these data.

The SALES/TA variable has an average of 0.8059 and a median of 0.6184. The maximum value in the SALES/TA variable is 2.1165, while the minimum value is 0.1659. A standard deviation of 0.5790 indicates that there is significant variation in the SALES/TA values. The range of observed values is quite large, indicating significant differences between individual values in these data.

The DEBT/TA variable has an average of 0.6657 and a median of 0.6260. The maximum value in the DEBT/TA variable is 1.3592, while the minimum value is 0.2204. A standard deviation of 0.3125 indicates relatively small variations in DEBT/TA values. The range of observed values is relatively narrow, indicating relatively higher consistency in these data.

The LTD/TA variable has a mean of 0.3488 and a median of 0.3190. The maximum value in the LTD/TA variable is 0.9004, while the minimum value is 0.0577. Similar to the DEBT/TA variable, the standard deviation of the LTD/TA variable is 0.2399 indicating relatively small variations in its values. The range of observed values is relatively narrow, indicating relatively higher consistency in these data.

3.2. Correlation Analysis

Table 2. Correlation Analysis

	I/K	Q	CF/K	DNWC/TA	SALES/TA	DEBT/TA	ESGR
I/K	1						
Q	-0.01504	1					
CF/K	0.263738	0.204713	1				
DNWC/TA	-0.09723	0.092241	0.144077	1			
SALES/TA	-0.04419	0.413745	0.213014	0.232765	1		
DEBT/TA	0.279059	-0.22973	-0.06524	-0.42181	-0.08594	1	
ESGR	-0.1795	-0.0882	-0.09926	-0.11865	0.043673	-0.13852	1

It can be seen that the investment variable (I/K) has the largest and positive correlation with the cash flow variable (CF/K) and debt variable (DEBT/TA), as well as the largest and negative correlation with the rating variable of ESG (ESGR), compared with other variables. Meanwhile, there is no large enough correlation (> 0.8) between the other independent variables.

3.3. Regression Analysis

The Table 3 show the regression results for hypothesis H1. Table 3 presents the regression test results, whether there is a positive sensitivity between investment and cash flow (Investment - Cash Flow Sensitivity) during the research period. It can be seen that the cash flow variable positively and significantly influences investment. This is in accordance with the research of Almeida, H., and Campello (2007); Fazzari et al. (1988); Zingales (2014), that cash flow has a positive effect on company investment, which indicates the existence of Investment-Cash Flow Sensitivity, a different thing was found by Chen and Chen (2012), that no Investment-Cash Flow Sensitivity was found, as is the case with the main research & Utama (2016) who did not find a positive Investment-Cash Flow Sensitivity.

The variable investment opportunities (Q) did not significantly influence investment, so it can be concluded that the company's investment decisions are positively and significantly influenced by the level of the company's cash flow and are not influenced by investment opportunities. From these results, it can be concluded that the company's investment decisions are more influenced by the level of the company's cash flow and are not influenced by investment opportunities, so that in this case, the existence of Investment - Cash Flow Sensitivity is clearly visible.

Changes in working capital (DNWC/TA) do not have a significant effect investment, as well as company income (Sales/TA) does not influence significantly investment. Indications of financial distress, as put forward by Whited (1992), which influence Investment-Cash Flow Sensitivity, not in accordance with the results of this research, the financial distress variable (Debt/TA) shows a positive and significant influence on investment, which indicates that the increase in investment is influenced by the amount of debt (external funding) obtained by the company.

Table 3. H1 Hypothesis Testing

Dependent Variable: I/K

Variables	Hypothesis	Coefficient	t-statistic	one-tailed prob.
Intercept		0.0412	0.9821	0.1634
CF/K	+	0.0631***	3.0473	0.0013
Q	+	0.0133	1.2589	0.1046
DNWC/TA	-	0.0133	0.2009	0.4205
SALES/TA	+	0.0094	0.3247	0.3729
DEBT/TA	-	0.1491***	3.4878	0.0003
n=300				
R-Squared			0.08263	
Adjusted R-squared			0.067029	
F-statistic			5.296304***	

Siginificant coefficients are indicated by * (10% level), ** (5% level), *** (1% level).

The adjusted R-squared value in table above is 0.067029, which shows that the regression model can explain around 6.7% of the variation in investment (I/K). The F-statistic value is 5.296304 and is significant, which shows that the overall regression model has significant statistical significance for both models.

According to the description, it can be concluded that in hypothesis H1, H0 is rejected and H1 is accepted. The Table 4 show the regression results for hypothesis H2.

Table 4. Hypothesis Testing H2

Dependent Variable: I/K

Variables	Hypothesis	Coefficient	t-statistic	one-tailed prob.
Intercept		0.0498	1.1826	0.1190
CF/K	+	0.1214***	3.1864	0.0008
Q	+	0.0088	0.8058	0.2105
CF/K.ESGR	-	-0.0246**	-1.8303	0.0341
DNWC/TA	-	0.0102	0.1546	0.4386
SALES/TA	+	0.0157	0.5372	0.2958
DEBT/TA	-	0.1449***	3.3959	0.0004
n=300				
R-Squared			0.092275	
Adjusted R-squared			0.073687	
F-statistic			4.964173***	

Siginificant coefficients are indicated by * (10% level), ** (5% level), *** (1% level).

Table 4 presents the results of a regression test whether implementing good ESG performance can reduce Investment-Cash Flow Sensitivity. The interaction coefficient between cash flow and ESG performance (CF/K.ESGR) shows a negative coefficient sign (-) at a significant level of 5%). This shows that companies with better ESG performance have Investment-Cash Flow Sensitivity the lower one. It can be concluded that good ESG performance will reduce positive Investment-Cash Flow Sensitivity, so that for hypothesis H2, H0 is rejected, and H2 is accepted.

The adjusted R-squared value is 0.073687, which shows that the regression model can explain around 7.37% of the variation in investment (I/K). The F-statistic value in the table is 4.964173 and is significant, which shows that the overall regression model has significant statistical significance.

4. Conclusion

Based on research conducted with research objects on non-financial companies on the Indonesia Stock Exchange, it was found that there is still dependence on internal funding (cash flow) in investing (positive Investment - Cash *Flow Sensitivity*), which is in line with Almeida's research, H., and Campello (2007); Fazzari et al. (1988); Zingales (2014), that cash flow has a positive effect on company investment, which indicates the existence of Investment-Cash Flow Sensitivity. However, different finding was found by Chen & Chen (2012), that there was no Investment-Cash Flow Sensitivity, as well as research by Utama & Utama (2016) which did not find any positive Investment-Cash Flow Sensitivity.

Good ESG performance is able to reduce the positive influence of Investment-Cash Flow Sensitivity. When companies have good ESG performance, they tend to manage environmental, social and governance risks better, thereby having a competitive advantage that can increase value in the long term, allowing them to gain support from stakeholders, such as investors, customers and employees, which further strengthens their position in the market. This can increase a company's access to external funding sources, such as loans based on ESG criteria or investors focused on socially and environmentally responsible investments. Thus, companies have more options to fund their investments, which can reduce dependence on internal cash flow.

References

Ağca, Ş., & Mozumdar, A. (2008). The impact of capital market imperfections on investment-cash flow sensitivity. *Journal of Banking and Finance*, *32* (2), 207–216. https://doi.org/10.1016/j.jbankfin.2007.02.013

Almeida, H., and Campello, M. (2007). *Financing Constraints, Asset Tainability, and Corporate Investment*. 1429–1460.

Berardi, M. (2011). Credit Rationing in Markets With Imperfect Information. *SSRN Electronic Journal* . https://doi.org/10.2139/ssrn.1010965

Chen, H., & Chen, S. (2012). Investment-cash flow sensitivity cannot be a good measure of financial constraints: Evidence from the time series. *Journal of Financial Economics*, *103* (2), 393–410. https://doi.org/10.1016/j.jfineco.2011.08.009

Eccles, R.G., Ioannou, I., & Serafeim, G. (2014). The impact of corporate sustainability on organizational processes and performance. *Management Science* , *60* (11), 2835–2857. https://doi.org/10.1287/mnsc.2014.1984

Fazzari, SM, Hubbard, RG, Petersen, BC, Blinder, AS, & Poterba, J.M. (1988). Financing Constraints and Corporate Investment. *Brookings Papers on Economic Activity* , *1988* (1), 141. https://doi.org/10.2307/2534426

Flammer, C. (2015). Does corporate social responsibility lead to superior financial performance? A regression discontinuity approach. *Management Science* , *61* (11), 2549–2568. https://doi.org/10.1287/mnsc.2014.2038

Hadlock, C. J. (1998). Ownership, Liquidity, and Investment. *The RAND Journal of Economics*, *29* (3), 487. https://doi.org/10.2307/2556101

Jensen, M. C. (2009). Agency costs of free cash flow, corporate finance, and takeovers. *Corporate Bankruptcy* , 11–16. https://doi.org/10.1017/cbo9780511609435.005

Kaplan, S. N., & Zingales, L. (2000). Investment-cash flow sensitivities are not valid measures of financing constraints. *Quarterly Journal of Economics*, *115* (2), 707–712. https://doi.org/10.1162/003355300554782

Khan, M., Serafeim, G., & Yoon, A. (2015). Corporate Sustainability: First Evidence on Materiality. *SSRN Electronic Journal* . https://doi.org/10.2139/ssrn.2575912

Myers, S., & Majuf, C. (1984). Capital structure puzzle. *National Bureau of Economic Research Cambridge*, *5* (5), 55–64.

Quintiliani, A. (2022). ESG and Firm Value. *Accounting and Finance Research*, *11* (4), 37. https://doi.org/10.5430/afr.v11n4p37

Samet, M., & Jarboui, A. (2017). CSR, agency costs and investment-cash flow sensitivity: a mediated moderation analysis. *Managerial Finance*, *43* (3), 299–312. https://doi.org/10.1108/MF-02-2016-0042

Sprenger, C., & Lazareva, O. (2022). Corporate governance and investment-cash flow sensitivity: Evidence from Russian unlisted firms. *Journal of Comparative Economics*, *50* (1), 71–100. https://doi.org/10.1016/j.jce.2021.05.004

Terra, P. R. (2008). The cost of capital, corporate finance and the theory of investment. *Revista de Administração e Contabilidade Da Unisinos*, *5* (2), 154–155. https://doi.org/10.4013/base.20082.07

Tobin James. (1969). A General Equilibrium Approach To Monetary Theory. *Journal of Money, Credit and Banking* , *1* (1), 15–29.

Main, C. A., & Main, S. (2016). Interaction between incentives to expropriate and investment opportunities as a determinant of overinvestment problem in Indonesia. *Asian Academy of Management Journal of Accounting and Finance*, *12* (1), 73–99.

Whited, T., and Wu, G. (2006). Financing constraints Risk. *The Review of Financial Studies* .

WHITED, T. M. (1992). Debt, Liquidity Constraints, and Corporate Investment: Evidence from Panel Data. *The Journal of Finance* , *47* (4), 1425–1460. https://doi.org/10.1111/j.1540-6261.1992.tb04664.x

Zhang, D., & Liu, L. (2022). Does ESG Performance Enhance Financial Flexibility? Evidence from China. *Sustainability (Switzerland)* , *14* (18). https://doi.org/10.3390/su141811324

Zingales, S. N. K. and L. (2014). Do Investment-Cash Flow Sensitivities Provide Useful Measures of Financing Constraints. *The Quarterly Journal of Economics*, *112* (1), 169–215.