



The Determinants of Firm Value in Indonesia Stock Exchange

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ABSTRACT

We re-examined the determinant firm value of 274 public companies listed in Indonesia Stock Exchange from 2011 to 2020. Companies use market to book ratio to compare a firm's market capitalization to its book value. We augmented a new investment variable trend Environmental, Social, and Governance (ESG) disclosure, research and development voluntary disclosure whether the variables impact public companies' firm value. We also used dividend policy and liquidity on firm value. Panel data regression is used in our analysis. Regression results indicate that ESG and research and development have a positive and significant impact on firm value, while dividend and liquidity policies do not affect firm value.

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INTRODUCTION

According to the theory of a firm is to maximize wealth or company value through an increase in share price (Fama, 1978), (Marlina & Danica, 2009) show that the company's value can be reflected through the company's stock price with the increase of firm value, the company can obtain many benefits, among others, access to the source of fund from the capital market, high selling price or value when the company is bought or merged. Research conducted by (Chang et al., 2016) shows that investment behavior can reduce firm value because controlling shareholders are more incentivized to use company resources as additional consumption and excessive spending rather than focus on increasing firm value. A company's value is critical to maintain its economic position because it can operate for a long time to earn profits and stakeholders' company's welfare. The company must know what factors will influence increasing the value of the company. The beginning of modern capital structure theory was by (Modigliani & Miller, 1958), it proposes that financing decision is not relevant. There was opposing capital structure theory: Trade-Off Theory (Balancing Theory) and Pecking Order Theory (Myers & Majluf, 2018). Both theories express that financing decision is relevant in capital structure policy in imperfect capital market condition.

The ESG is a new development agreement that encourages countries to shift the development method towards sustainable development based on human rights and equality and promote social, economic, and environmental development. Environmental, Social, and Governance are one of the factors that affect the value of the company. In Indonesia, not many company have implemented ESG because it affects the low cost of capital and high, efficient, and sustainable valuation.

Environmental, Social, and Governance (ESG) has received relatively large traction for investors in recent years (Mohammad & Wasiuzzaman, 2021). Environmental, Social, and Governance is one of the factors that affect firm value. In Indonesia itself, not many have implemented ESG because ESG has an influence on the low cost of capital and high, efficient, and sustainable valuations. According to (Melinda & Wardhani, 2020), a good company's ESG performance impacts increasing company value. (Aboud & Diab, 2018) tested the correlation between ESG and firm value. They showed that companies listed in the Egyptian ESG S&P / EGX ESG Index have higher firm values and a positive relationship between firms. While (Behl et al., 2022) found that ESG performance and its components, namely environmental performance (environmental), social performance (social), and governance performance (governance), harm firm value in the short term while in the long term, it has a positive effect. The implementation of ESG standards in Indonesia is quite alarming. Based on the Corporate Knights ranking, Indonesia is ranked 36 globally. This position is far below other ASEAN countries, such as the Philippines in 30th place, Malaysia at 22nd, and even Thailand in 9th rank.

Research and development (R&D) are a new variable important for economic development; developed countries pay extreme attention to R&D activities. Innovation is an idea that contains elements of change and requires follow-up to make it happen. Through research and development activities, companies can realize these innovations. The efficiency of research and development distribution has become a hotly discussed issue in academic and practical environments (Xu & Sim, 2018). R&D activities are conducted to create a new product or develop an existing product to attract consumers that an increase in the number of consumers and consumers will become loyal to the company, and later on, increasing income will have an impact on the company. Xu and Sim (2018) implemented research objects from companies in China and South Korea revealed that research and development investment positively affects firm value.

To generate high profits, the company can pay high dividends to shareholders. The optimal dividend policy will create a balance between current dividends and future growth (Brigham, 2001). Management has two alternatives to the company's net income, which will be distributed to shareholders as dividends or retained as retained earnings for future investment payments (Sartono, 2010). In general, net profits are divided into dividends and some are reinvested. It means that management must decide on how much to share in the form of dividends. This decision is referred to as dividend policy. It is supported by research by (Sondakh, 2019) that the policy has good performance and a positive signal from investors that can increase the company's value.

The results contradict (Sukmawardini & Ardiansari, 2018) that dividend policy has no effect on firm value. According to (Sondakh, 2019), the study results showed that liquidity had a positive effect on firm value, while the opposite result by (Chasanah, 2018) showed that liquidity had no effect on firm value. Based on the background description above, the firm value is defined as market value because company value provides maximal shareholder welfare if the share price increases.

The company's primary purpose is to escalate firm value; increasing company share price (Jensen & Meckling, 2012) . (Fama & French, 2006), the firm value is proxied through total excess market value of the company and book value of assets is divided with the book value of assets. Company market value is obtained from the price of common shares multiplied by share outstanding. Other market value proxy is price to book value and Tobin Q.

Our research use PBV as the proxy of firm value which are given by financial market to management and organizational of company which is growing. there is a discrepancy between the results of previous studies, so this study will re-examine whether ESG, research and development, dividend policy, and liquidity affect firm value.

RESEARCH METHOD

Population and Sample

The population used nonfinancial companies listed on the Indonesia Stock exchange (IDX). The purposive sampling method is used to determine the exact sample with the criteria first criteria listed on Indonesia Stock Exchange for the years 2011 to 2020 and published full financial report from 2010 to 2020. Of 344 sample companies, 70 have yet to issue complete financial reports; the number of sample companies that will be used is a total of 274 sample companies with 2740 observational data from 2011 to 2020. After all the data had been collected, the data was stored in Microsoft Excel; we used panel data regression to be processed using Eviews 12 with a significance level of 0.05 or 5%. The equation is as follows:

$$PBV = \alpha + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + e$$

Information :

The dependent variable :

Y = Firm Value measured by Price to Book Value

Independent Variables :

X1 = Environmental, Social, and Governance (ESG) as measured ESG Score

X2 = Research and Development measured R & D expenditures in the year (IRND)

X3 = Dividend Policy measured by Dividend Pay Out Ratio (DPR)

X4 = Liquidity measured by (CR)

Operationalization of Variables Definition

Measurement of the dependent and independent variables used in this study can be explained as follows :

Dependent Variable

The dependent variable used in this study is firm value. The Price to Book Value (PBV) ratio is the ratio used to determine the company's value by comparing the market price/share with the company's book value. According to research conducted by (Mudjijah et al., 2019), PBV can be calculated using the following formula :

$$\text{Price Book Value (PBV)} = \frac{\text{Market Value Per Share}}{\text{Book Value Per Share}}$$

Independent Variables

a. Environmental, Social, and Governance (ESG)

ESG is a company activity related to the surrounding ecology, interaction with the social environment, and the company's internal control system to achieve company goals and meet stakeholder needs. The ESG indicator can be measured using the ESG value in the year in which the ESG value is disclosed. (Giannopoulos et al., 2022) finding suggest that strong significant relationship between ESG initiatives and financial performance. More specifically, the regression model, with ROA as the dependent variable, suggests that ESG initiatives have a clear negative impact. On the other hand, the variable Tobin's Q increases when ESG increases. This could be explained by the different horizons of the measures and other factors affecting the business environment.

$$ESG = \text{ESG Score}$$

b. Research and Development

The intensity of Research and Development (R&D) is defined as all expenditures for activities carried out by the company to create new products and processes, to improve existing products, and to discover new knowledge so that this knowledge can be utilized in the future. (Spiceland et al., 2020). In this study, the indicator that can be used to measure R&D

expenditure is R&D Expenditure in the year in which R&D costs are charged (Buchdadi et al., 2018).

$$IRND = Ln (R\&D \text{ Expenditures in the year})$$

c. Dividend Policy

The dividend per share determines how much return is obtained by investors who invest shares in the company. According to (Fajaria, 2018), the Dividend Payout Ratio (DPR) proxy can be measured by comparing dividends per share with earnings per share.

$$\text{Dividend Payout Ratio (DPR)} = \frac{\text{Dividend Per Share}}{\text{Earnings Per Share}}$$

d. Liquidity

Liquidity is the company's ability to meet or pay short-term obligations that mature in a predetermined period. The current ratio, one of the most commonly cited financial ratios, measures the firm's ability to meet its short-term obligations. Liquidity is measured using the Current Ratio (CR). (Gitman & Zutter, 2015)

$$\text{Current Ratio (CR)} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

RESULTS AND DISCUSSIONS

Data Analysis

Descriptive statistical tests in this study cover all research variables, and the results of descriptive statistics can be seen in table below :

Table 1. Descriptive Statistics

	Mean	Median	Maximum	Minimum	Std.Dev.
PBV	1.075756	0.733300	9.124200	-2.799900	1.218697
ESG	5.098660	0.000000	88.39570	0.000000	15.79993
IRND	1.636714	0.000000	27.13200	0.000000	5.887273
DPR	16.57441	0.000000	398.6283	0.000000	30.76791
CR	168.7818	130.2045	1087.965	0.000000	168.9741

Table 1 above shows that the results of descriptive statistics provide the mean (average), median (middle value), highest and lowest values (maximum and minimum), and standard deviation. These results were obtained from 2740 samples of public companies listed on the Indonesia Stock Exchange from 2011 to 2020 and processing data using Eviews 12 software.

The dependent variable (Y) is the company's value, with a sample of 2740, explaining that the mean (average value) owned is 1.075. For the median (middle value) of 0.733. Meanwhile, the maximum and minimum values of the firm value variables are 9,124 and -2,799, respectively.

The ESG variable shows a mean (average value) of 5,098. For the median value, the result is 0.000. Meanwhile, the maximum and minimum values for the ESG variable are 88,395 and 0.000, respectively. The IRND variable shows a mean (average value) of 1,636. The median (middle value) shows a result of 0.000. Meanwhile, the maximum and minimum values for the IRND variable are 27,132 and 0.000, respectively. The DPR variable gives a mean (average value) of 16,574. The median value itself has a value of 0.000. For the highest and lowest values, respectively, 398,628 and 0.000. The CR variable shows the mean (average value) of 168,781. The median (middle value) shows a result of 130,204. Meanwhile, the maximum and minimum values for the CR variable are 1087,965 and 0.000, respectively.

The regression method used in panel data has three models Common Effect, Fixed Effect, and Random Effects. Two tests will be conducted to determine the best model to be used in this study: the Chow test and the Hausman test. Chow test was performed to choose between Common Effect and Fixed Effect models. If the probability (p-value) is Chi-Square or F-test which is more significant than (0.05), then H0 is accepted so that the model used is the Common Effect; if the p-value < (0.05), then H0 is rejected so that the model used is Fixed Effect. Based on the results of statistical testing, the probability value of Cross-section F is 0.0000, where this value is smaller than 0.05, so the appropriate model of this test is a fixed effect. In this section, it is explained that the results of the research and at the same time is given the comprehensive discussion.

Table 3. Chow Test Result – Fixed Effect

Effect Test	Probability
Cross-section F	0.0000

The Hausman test determines which model is better Fixed Effect or Random Effect. If the probability of Chi-Square or Cross Section Random is more significant than 0.05, then H0 is accepted, so the model used is a Random Effect. If the p-value < (0.05), then H0 is rejected, so the Fixed Effect model will be used. Based on the test results, the probability value of a random cross-section is 0.0199, where this value is smaller than 0.05, so the appropriate model of this test is a fixed effect. After conducting the Chow and Hausman tests, the Fixed Effect Model is the most appropriate model used in multiple linear regression analysis.

Table 4. Hausman Test Result – Fixed Effect

Test Summary	Probability
Cross-section random	0.0199

Regression Analysis

From the results of the analysis, it can be concluded that the panel data regression equation is as follows :

$$PBV = 0.925874 + 0.007509 ESG + 0.019790 IRND + 0.001333 DPR + 0.000338 CR + \varepsilon$$

Table 3 shows that the probability value (F-statistic) is 0.000, with a significance level of <0.05, which means that the independent variable simultaneously affects the dependent variable. The results show that the Adjusted R-squared value of 0.338841 is close to one, which indicates that the independent variable can provide all the information needed to predict the variability of the dependent variable.

Table 3. Panel Data Regression Results

Variable	Pred. Sign	Coefficient	t-Statistic	Prob.	Result
C		0.925874	21.77971	0.0000	-
ESG	(+)	0.007509	2.694097	0.0071	Accepted
IRND	(+)	0.019790	3.321938	0.0009	Accepted
DPR	(+)	0.001333	1.624584	0.1044	Rejected
CR	(+)	0.000338	1.683744	0.0924	Rejected
Prob (F Statistic)				0.0000	
Adj R Squared				0.3388	
N				2740	

Note: *p < 0.05

Hypothesis H1 states that the ESG variable has a probability value of 0.0071 which means it is smaller than alpha (α) 0.05. The Coefficient value is 0.007509; the ESG variable has a significant positive effect on the Firm Value . in line with research conducted by (Aboud & Diab, 2018), which

examines the relationship between ESG and firm value. The results show that companies listed in the Egyptian S&P ESG / EGX ESG Index have higher firm values, and there is a positive relationship between firms that rank higher in the index and firm value.

Hypothesis H2 states that the Research and Development Variable (IRND) has a probability value of 0.0009 which means it is smaller than alpha (α) 0.05 and a Coefficient value of 0.019790, the IRND variable has a significant positive effect on the Firm Value. The study is in line with research conducted by (Suparyanto dan Rosad, 2020), and (Tung et al., n.d.) mention that the empirical evidence confirms that the impact of R&D spending on stock price is quite faint. This study contributes some new evidence to support the efficient management of companies in emerging countries

Hypothesis H3 states that the Dividend Policy (DPR) has a probability value of 0.1044, it is greater than alpha (α) 0.05 and a Coefficient value of 0.001333, it means that the DPR variable has no significant positive effect on the Firm Value, the hypothesis H3 in this study rejected. The results of this study are also supported by previous research by (Pristina & Khairunnisa, 2019) and (Septariani, 2017) that DPR has no effect on firm value.

Hypothesis H4 states that the Liquidity Variable (CR) has a probability value of 0.0924, it is more significant than alpha (α) 0.05 and a Coefficient value of 0.000338; the CR variable has a positive and insignificant effect on the Firm Value variable, hypothesis H4 in this study is rejected. This study is in line with (Manurung & Herijawati, 2016) and (Chasanah, 2018)) study that liquidity does not affect firm value.

CONCLUSION

Based on the research that has been done, it can be concluded that ESG and Research and Development variables positively and significantly affect the Firm Value variable. In contrast, the Policy Dividends and Liquidity have no significant positive effect on the Firm Value variable.

The contribution of this research is significant for several parties; among others, this research can be a consideration or source of additional information to investors in making investment decisions.

The limitation of the study only used four variables; further researchers can add other independent variables to explain the dependent variable on companies in other sectors and use higher ratios that the results can complement the inconsistencies of previous research, and for companies that have minus profits are expected to pay more attention to increasing profits in their companies so that can increase the value of the company to avoid the uncertainty of the company in the future.

References

- Aboud, A., & Diab, A. (2018). The impact of social, environmental and corporate governance disclosures on firm value: Evidence from Egypt. *Journal of Accounting in Emerging Economies*, 8(4), 442–458. <https://doi.org/10.1108/JAEE-08-2017-0079>
- Behl, A., Kumari, P. S. R., Makhija, H., & Sharma, D. (2022). Exploring the relationship of ESG score and firm value using cross-lagged panel analyses: case of the Indian energy sector. *Annals of Operations Research*, 313(1), 231–256. <https://doi.org/10.1007/s10479-021-04189-8>
- Brigham, F. dan H. (2001). *Dasar-Dasar Manajemen Keuangan*. Edisi 8, Buku 2. Jakarta: Salemba Empat. *Brigham, F Dan Houston*, 53(9), 1689–1699. http://eprints.ums.ac.id/37181/22/DAFTAR_PUSTAKA.pdf
- Chang, K., Kang, E., & Li, Y. (2016). Effect of institutional ownership on dividends: An agency-theory-based analysis. *Journal of Business Research*, 69(7), 2551–2559. <https://doi.org/10.1016/j.jbusres.2015.10.088>
- Chasanah, A. N. (2018). 292253-Pengaruh-Rasio-Likuiditas-Profitabilitas-182479F9. *Jurnal Penelitian Ekonomi Dan Bisnis*, 3(1), 39–47. <https://publikasi.dinus.ac.id/index.php/jpeb/article/view/2287>
detail-opac @ pustaka.unimal.ac.id. (n.d.). <https://pustaka.unimal.ac.id/opac/detail-opac?id=21386>
- Fajaria, A. Z. (2018). The Effect of Profitability, Liquidity, Leverage and Firm Growth of Firm Value with its Dividend Policy as a Moderating Variable. *International Journal of Managerial Studies and Research*, 6(10), 55–69. <https://doi.org/10.20431/2349-0349.0610005>

- Fama, E. F. (1978). American Economic Association The Effects of a Firm's Investment and Financing Decisions on the Welfare of Its Security 05:53:43 AM All use subject to JSTOR Terms and Conditions. Source: *The American Economic Review*, 68(3), 272-284.
- Fama, E. F., & French, K. R. (2006). Profitability, investment and average returns. *Journal of Financial Economics*, 82(3), 491-518. <https://doi.org/10.1016/j.jfineco.2005.09.009>
- Giannopoulos, G., Fagernes, R. V. K., Elmarzouky, M., & Hossain, K. A. B. M. A. (2022). The ESG Disclosure and the Financial Performance of Norwegian Listed Firms. *Journal of Risk and Financial Management*, 15(6). <https://doi.org/10.3390/JRFM15060237>
- Gitman, L. ., & Zutter, C. . (2015). *Principles of Managerial Finance 14th Edition* Gitman, L. ., & Zutter, C. . (2015). *Principles of Managerial Finance 14th Edition*. www.pearsonmylab.com.
- Jensen, M., & Meckling, W. (2012). Theory of the firm: Managerial behavior, agency costs, and ownership structure. *The Economic Nature of the Firm: A Reader, Third Edition*, 283-303. <https://doi.org/10.1017/CBO9780511817410.023>
- Manne, H. G., & Berle, A. A. (1964). The American Economic Republic. *Michigan Law Review*, 62(3), 547. <https://doi.org/10.2307/1286430>
- Manurung, M. S., & Herijawati, E. (2016). Pengaruh Likuiditas Dan Profitabilitas Terhadap Nilai Perusahaan (Study Empiris Pada Perusahaan Manufaktur Sektor Logam Dan Sejenisnya Yang Terdaftar Di Bursa Efek Indonesia). *Jurnal Ilmiah Akuntansi Dan Teknologi*, 8(2), 1-6.
- Marlina, & Danica. (2009). Pengaruh Profitabilitas Terhadap Nilai Perusahaan (Kebijakan Dividen Dan Kesempatan Investasi Sebagai Variabel Mediasi). *E-Jurnal Manajemen Universitas Udayana*, 4(12), 253308.
- Melinda, A., & Wardhani, R. (2020). the Effect of Environmental, Social, Governance, and Controversies on Firms' Value: Evidence From Asia. *International Symposia in Economic Theory and Econometrics*, 27(August), 147-173. <https://doi.org/10.1108/S1571-038620200000027011>
- Mohammad, W. M. W., & Wasiuzzaman, S. (2021). Environmental, Social and Governance (ESG) disclosure, competitive advantage and performance of firms in Malaysia. *Cleaner Environmental Systems*, 2(September 2020), 100015. <https://doi.org/10.1016/j.cesys.2021.100015>
- Modigliani, F & Miller, M.H. 1958. The Cost of Capital, Corporation Finance and The Theory of Investment. *The American Economic Review*. 13(3): 261- 297
- Mudjijah, S., Khalid, Z., & Astuti, D. A. S. (2019). Pengaruh Kinerja Keuangan Dan Struktur Modal Terhadap Nilai Perusahaan Yang Dimoderasi Variabel Ukuran Perusahaan. *Jurnal Akuntansi Dan Keuangan*, 8(1), 41-56.
- Myers, S. C., & Majluf, N. S. (2018). September 2016 Latest Revision December 2018. *ReVision*, December. <https://www.nber.org/papers/w1396.pdf>
- Pristina, F. A., & Khairunnisa. (2019). Analisis Pengaruh Kebijakan Dividen , Keputusan Investasi Dan Keputusan Pendanaan Terhadap Nilai Perusahaan. *JURNAL ASET (AKUNTANSI RISET)*, 11 (1), 2019, 123-136 *Analysis*, 11(1), 123-136.
- Sartono, A. (2014). *Manajemen Keuangan Teori dan Aplikasi*. Yogyakarta: BPFE.
- Septariani, D. (2017). Pengaruh Kebijakan Dividen dan Kebijakan Hutang terhadap Nilai Perusahaan (Studi Empiris pada Perusahaan LQ45 di BEI Periode 2012-2015). *JABE (Journal of Applied Business and Economic)*, 3(3), 183. <https://doi.org/10.30998/jabe.v3i3.1769>
- Sondakh, R. (2019). the Effect of Dividend Policy, Liquidity, Profitability and Firm Size on Firm Value in Financial Service Sector Industries Listed in Indonesia Stock Exchange 2015-2018 Period. *Accountability*, 8(2), 91. <https://doi.org/10.32400/ja.24760.8.2.2019.91-101>
- Spiceland, J. D., Nelson, M. W., & Thomas, W. B. (2020). *Intermediate Accounting*. McGraw-Hill Education, 3(April), 49-58.
- Sukmawardani, D., & Ardiansari, A. (2018). THE INFLUENCE OF INSTITUTIONAL OWNERSHIP. PROFITABILITY, LIQUIDITY, DIVIDEND POLICY, DEBT POLICY ON FIRM VALUE. *Management Analysis Journal*, 7(2), 212-222.
- Suparyanto dan Rosad (2015). (2020). 濟無No Title No Title No Title. *Suparyanto Dan Rosad (2015)*, 5(3), 248-253.
- Tung, L. T., Minh, Q., & Binh, Q. (n.d.). *The impact of Research and Development (R & D) spending on firm value : Empirical evidence from SouthEast Asia*.
- Xu, J., & Sim, J. W. (2018). Characteristics of corporate R & D investment in emerging markets: Evidence from manufacturing industry in China and South Korea. *Sustainability (Switzerland)*, 10(9). <https://doi.org/10.3390/su10093002>