An Empirical Study of Dividend Policy: Metal Sub-Sectors of IDX Listed Period of 2013-2019

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Abstract. The metals, equipment, and machinery value chains are pretty complex, with backward and forward linkages underpinned by integrated production systems. This study purposed to analyze the financial ratio i.e. profitability and audit committee towards the dividend policy. The dividend policy measure utilizes the dividend payout ratio proxy, and profitability utilizes a return on assets proxy. The source data consist of secondary data from financial reports of the firm's metal sub-sector registered at the Indonesian Stock Exchange for the 2013-2019 period, whereas as many as 18 firms. The sampling technique utilized was purposive sampling, i.e. the technique of specifying the sample upon definite judgment. The data analysis used in this study is an analysis of multiple linear regression. The results showed that Profitability has does imply The Dividend Policy while Audit Committee does not imply The Dividend Policy in Metal Sub-Sectors Corporation who Indonesian Stock Exchange registered period of 2013-2019.

Key words: the dividend policy; profitability; return on assets.

Introduction

Background

The metals, equipment, and machinery value chains are pretty complex, with a front and back connecting added by integrated production systems. Steel is the most essential basic metal, attended by aluminum and distinct non-ferrous metals. Primary steel production is a wide-reaching, energy-intensive industry, and capital, with strong back linkages to iron ore, electricity, and coal, as well as scrap iron (used in mini-mills for generating long steel products) (Andreoni et al., 2021: 54-55). The crude steel holding capacity of the United Kingdom and European Union (EU-28) has been incapable to attain utilization levels of over 80 percent counting since 2009.

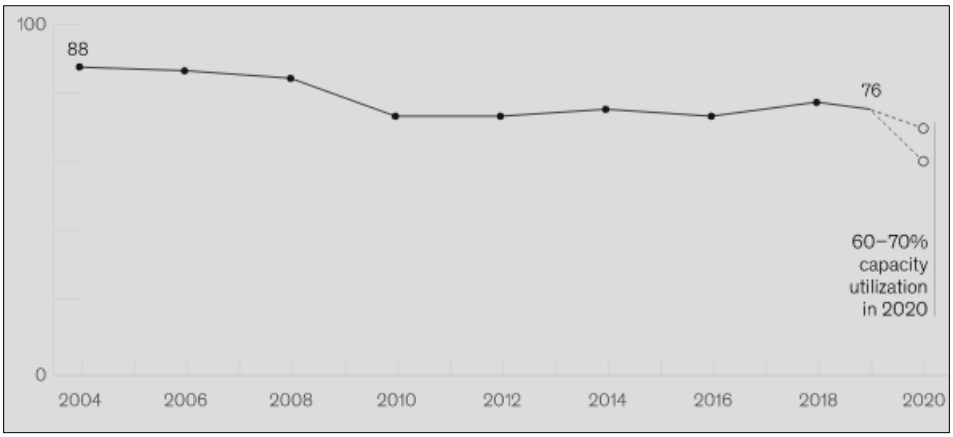

Fig. 1. Decreasing demand and increasing imports lead to a structural underutilization of European steel production (*Source*: McKinsey & Company Article, 2021)

Since 2019, when steel manufacturers' wishes for a wide-awake after-2009 recovery in request had not materialized, indeed more insistence was appended by forth drops in implementation in the next-to year (driven by the COVID-19 crisis) (Espel et al., 2021).

According to a release from VoI-News, said that the metal industry sector in Indonesia can penetrate the export market as evidenced by the increased productivity of the domestic steel industry, and the request in this sector is still arising and showing competitiveness notwithstanding the impact of COVID-19 (Voice of Indonesia, 2020). Hereinbefore, in ten-point cross-sectoral national initiatives in accelerating the implementation of *Making Indonesia 4.0*, one of which emphasizes improving the flow of goods and materials in the chemical, base metal, automotive, and electronics sectors. Indonesia will reinforce local production because it depends on imports and components of high-value raw materials (Indonesian Ministry of Industry, 2018).

The implementation and development of innovative financial instruments will serve as additional occasions to manage financial flows and risks, bring down the cost, time and amount of transactions. One of the underlying holdings is in the dividend category, which includes a futures component of individual stock dividends, futures on dividend indexes, and future stock dividends (Lutsyshyn et al., 2019). Lintner (1956) indicated that financial managers rather arrange dividend policy with an objective long-term payout ratio fervently in the mind of the user, that financial managers may "smooth" cash dividends consecutive to corporation earnings over time, and that cash dividends are more likely to be shell out by old firms with long-term probable earnings (Garg & Bhargaw, 2019). Dividends are the main goal of investors in investing in shares, if the amount of dividends is not as expected by investors, investors are more likely not to buy shares or sell shares if they already have them (Stice & Stice, 2014).

Several prior studies include: (1) Raju and Rane's (2018) empirical analysis examined the dividend smoothing and impacts of Lintner's model in BSE Metal sector firms utilizing 51 A & B listed companies period 2001-2016 and attained 782 final data originated from the Centre for Monitoring Indian Economy (CMIE). Data analysis throughout time-series and cross-sectional. The study utters dividend policy of the corporations depend strongly on lagged dividend and net income after tax also supports and further confirms Lintner's (1956) findings. (2) Fajarina and Isnalita's (2018) empirical investigation examined the impact of dividend policy as a moderator function to verify the firm's value on specific factors utilizing data observation period is held from 2013-2016 and attain 108 final data with judgment sampling from the Indonesian Stock Exchange Corporation. Data analysis was processed with moderated regression analysis. Dividend policy, which moderator function able to the relationship liquidity, profitability, and leverage in a corporation which judgment with a level significant probability. (3) Garg and Bhargaw's (2019) empirical analysis examined the dividend and implementations of determinants in BSE-500 listed companies utilizing data observation period is held from 2002-03 until 2013-14 from Bombay Stock Exchange. Data analysis was processed with multiple regression. Empirical results show that profit for the year after tax and lagging dividends are the most important factors that positively influence the company's current dividend policy. (4) Alexandra P. Chigrinskaya's (2021) analysis identified the optimal objective with the proposed systematic and comparative analysis for the investment practice and its implementation of dividend policy on renowned Russian companies. This

analysis gauges with cause analysis and effect relationships, observation, as well as inductive-deductive methods of scientific knowledge, probably to reveal the linkage of economic processes. Companies in one category, such as blue chips based on liquidity, do not automatically indicate similarity in profitability and dividend payments measure, frequency as well as the similarity of statements of corporate dividend policy. (5) Shivani Sharma's (2021) comparative analysis examined the selected metal and cement corporations as determinants to be judged before making a dividend decision in Nifty 50 registered company in the period from 2009-2019 and processed 40 observations from the metal sector and 20 observations from cement sector data originated from the NSE Exchange. Data processed with regression analysis. Earning per share is the significant determinant of dividend policy in the metal industry while in the cement industry the retained earnings are the significant determinant of dividend policy. (6) Ullah, Mubasher, and Gul (2021) empirically examined the dividend and implementations of determinants in pharmaceuticals listed companies utilizing a data observation period from 2014 until 2018 from the Pakistani Stock Exchange. Data analysis was processed with multiple regression models. Empirical results show that corporate governance which consists of board size, independence, meetings, and gender diversity has a significant positive implication for corporate dividend policy. (7) Widyastuti and Putri's (2021) empirical analysis examined the dividend and implementations of effect in manufacturing listed companies utilizing data observation period is held from 2017 until 2019 from the Indonesian Stock Exchange. Data analysis was processed with multiple regression analysis. Empirical results show that profitability, liquidity, and good corporate governance do not affect dividend policy.

This research gap is the dividend policy as proposed as a result variable, which (Fajaria & Isnalita, 2018) utilize as a moderator variable. This research is also focused on metal sub-sectors (Raju & Rane, 2018) with an empirical study. However, prior research did not focus utilize specific sectors, such as the metal and cement sector throughout comparative analysis (Sharma, 2021), the pharmaceuticals sector throughout empirical analysis (Ullah et al., 2021), the manufacturing sector throughout empirical analysis (Widyasti & Putri, 2021), and another is not stated with a specific sector company and another. Financial ratios only consist of profitability used as a dimension in this study as the same as from (Fajaria & Isnalita, 2018), (Chigrinskaya, 2021) and (Widyasti & Putri, 2021). Besides, differ this study utilizes an audit committee in the corporate governance structure and also uses the research period from 2013 to 2019 where listed companies have consistently adopted International Financial Reporting Standard (IFRS).

Research Purposes

1. To find out and analyze the profitability in influencing the dividend policy
2. To find out and analyze the audit committee in influencing the dividend policy

Theoritical Review

Dividend Signalling Theory

The dividend signaling theory was first proposed by Sudipto Bhattacharya (1979), by compiling a model of the equilibrium level of dividend payments with length as the planning surveillance of outside investors because they have limited company information. In addition, changes in cash dividends contain information that results in stock price reactions (Ambarwati, 2010: 82). The occurrence of asymmetric information among managers and investors, so that investors use dividend policy as a signal about the company's prospects. Therefore, shareholders can receive cash from the current

company in the form of dividend payments or the form of capital gains. Shareholder prosperity is not affected by current or future dividend policy.

The Bird in Hand Theory

The bird in hand theory was first proposed by M. J. Gordon (1959), Merton H. Miller and Franco Modigliani (1961), which dividend policy has no effect on the firm value or its cost of capitals, and also does not affect the level of profit. This theory explains that investors want high dividend payments from company profits according to the investor's goal, namely investing their shares to get large dividend, investors do not want to invest in companies if dividends are received in the long term. Investors will be willing to pay a higher price for companies paying dividends at this time. This statement allows interaction between investment decisions and financial decisions (Titman, 1984). This model suggests that equity holders have incentives to maximize the welfare of non-investor stakeholders in the firm by obtaining current income in dividend distribution form.

Agency Theory

The agency theory was first proposed by Michael C. Jensen and W.H. Meckling (1976), to notify stakeholder interest issues that have agency conflicts due to the company's tendency not to act following the principal's interests. Managers have every incentive to consume company wealth because the costs of consumption are not borne alone. This gap raises agency costs to safeguard the principal's interests in the investment framework and the firm's value (Sarwani & Husain, 2021).

Financial Ratio's

Financial ratios are the most widely used measuring tools in analyzing financial information. Financial ratios can be said to be a restatement of accounting data in terms of time (Keown et al., 2017). The use of analysis in financial ratios can assist stakeholders' in seeing trends that are difficult to detect and use as comparisons for the components of the ratio which include liquidity, activity, profitability, and coverage. The usefulness of this financial ratio analysis is very dependent on the ability of financial statement analysts in applying and interpreting it (Subramanyam, 2014).

Eugene F. Brigham and Joel F. Houston (2016) state that sundry ways to gauge profitability invent it utilize Return on Assets (ROA) calculation. ROA is the quantity of the firm's potential to generate profits with all its assets. A good company profitability condition will encourage investors to invest in the company (Rosikahet al., 2018).

Audit Committee

Corporate governance is an aggregate of rules that explain the relationship between shareholders, creditors, agents, personnel, government, internal and external stakeholders' focusing rights and obligations, and the system that immediately monitors the corporation (OECD, 2019). In internal structures, such as the audit committee is the reliance of the board of commissioners in operating the functions of GCG. The Indonesia Stock Exchange necessitates public companies to get an independent audit committee (Pertamawati et al., 2021). Based on Financial Services Authority Regulations, Number 55/POJK.04/2015 of the Formation and Work Guidelines for the Audit Committee and the Indonesia Stock Exchange, Clause 4 refers that the audit committee compiles at least three people from Independent Commissioners and parties from outside the corporations.

Dividend Policy

The shareholder's desire to derive from the enterprise retained earnings for a look at a future period described by dividend policy. The flotation costs that appear appropriate to the sale of new stock occasion changes in share prices also influence dividend policy (Sarwani & Husain, 2021). Dividend policy measurement is widespread using the dividend payout ratio (DPR). The dividend policy can decide the share price and raises

certainty about the shareholders' answers. Dividend policy measurement utilizes the dividend payout ratio (DPR) (Titman, Keown, & Martin, 2014).

Research Model and Development Hypothesis Proposed

Research models of reasoning have needed to disclose the thought of a researcher, so it needs a parameter, i.e., a model. Forming a model is bounded by the form of structure, a form of content, and certain meanings (Husain, 2019). Then, a statement is created on the research model which is a transient response to the study formulation has been stated in the shape of a question independent clause (Sugiyono, 2018, hal. 64). The research model proposed can be seen in Fig. 2 below:

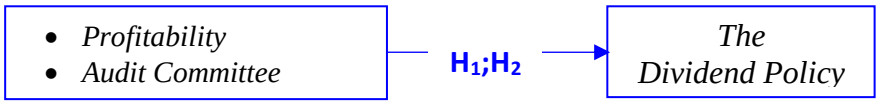

Fig. 2. Research Model Proposed

Previous research on dividend policy that is influenced by profitability of financial ratio's dimension, among others, was carried out by (Raju & Rane, 2018) on profit after tax which resulted in a strong significance with a temporary positive effect with a negative effect on research (Sharma, 2021), then confirmed through research (Fajaria & Isnalita, 2018) on dividend policy through moderating variables that strengthen its impact on firm value. However, in (Widyasti & Putri, 2021) study which resulted in profitability has no significant impact. TTherefore, based on the above findings regarding financial ratios, namely profitability and dividend policy, this study proposes a hypothesis to be studied in the context of metal sub-sector companies registered in Indonesia for the 2013-2019 period which is stated as follows:

H_1 : Profitability does imply towards The Dividend Policy

Previous research on dividend policy that is influenced by the audit committee of corporate governance dimension, among others, was carried out by (Ullah, Mubasher, & Gul, 2021) which resulted in board size, board independence, and board meetings have significance, but in (Widyasti & Putri, 2021) study which resulted in audit committee has no significant impact. Therefore, based on the above findings regarding financial ratios, namely profitability and dividend policy, this study proposes a hypothesis to be studied in the context of metal sub-sector companies registered in Indonesia for the 2013-2019 period which is stated as follows:

H_2 : Audit Committee does imply towards The Dividend Policy

Research Methods

This study employs the type of causal-comparative with a quantitative analysis approach. This study emphasizes propose data in the form of amounts and analysis using statistics (Sugiyono, 2018, hal. 07). The operationalization of the research variables, i.e. Financial Ratio's (Liquidity and Profitability dimensions), Audit Committee, and the Dividend Policy deployed using the following tabulation.

Tabel 1. Operationalization of Variables, Dimensions and Research Measures

Variable	Dimensions	Measures	Reference
The Financial Ratio's	Profitability	$\text{Return On Assets} = \frac{\text{Net Income}}{\text{Total Assets}}$	(Zhou et al., 2018)

Audit Committee	Audit Committee (AC) Members	$\text{Audit Committee} \geq 3 \text{ Members}$	(OJK Indonesia, 2015: 3)
The Dividend Policy	Dividend Payout Ratio (DPR)	$\text{DPR} = \frac{\text{Cash Dividend per Share}}{\text{Earnings per Share}}$	(Gitman & Zutter, 2015: 630)
Source: Research Proposed (2021)			

This study designates to the 'Ratio' scale type, which, represents all the characteristics of the nominal, ordinal, and interval scales plus the nature of the existence of an absolute zero value. The population is the firm's metal sub-sector registered at the Indonesian Stock Exchange from 2013 through 2019, whereas as many as eighteen firms. Taking into account the differences in criterion and characteristics that fulfill the requisite, the sampling technique was taken using the purposive sampling manner, i.e., the technique of specifying the sample upon a definite judgment (Sugiyono, 2018, hal. 61). The samples obtained were firms that consistently had their shares listed on the stock exchange within the period of observation and had complete data and information on the object under study in the financial statements. The data analysis method uses multiple linear regression. The proposed equation model is:

$$\text{Y} = \alpha + \beta X_1 + \beta X_2 + \text{e}$$

Results

Sample Selection Yields

The data utilized for this study is a secondary source. The data was acquired do the recapitalizing financial reports covered current ratios and profitability ratios, good corporate governance from annual reports i.e. about audit committee and calculation dividend payout ratio from metal sub-sectors firm is who registered in Indonesia Stock Exchange period of 2013-2019 which book closed at December 31, and as many as 15 firm's stated as final sample (Appendix).

Yielding of Descriptive Statistics

The descriptive statistics outcomes from 105 data observations view as follows:

Tabel 2. Descriptive Statistics Test Results

	Minimum	Maximum	Mean	Std. Deviation
Profitability	-0.2487	0.8050	0.012284	0.1001323
Audit Committee	2	4	3.02	0.277
The Dividend Policy	0.000	0.870	0.1320	0.23009
Source: *SPSS Ver23.00* (2021)				

Look up on Table 2 of output processing data, profitability with return on assets proxy has a mean of 0.012284 points, which deviation score is 0.1001323, it means that averages by deviation score have discrepancy very few i.e. less than 30 percent of the mean scoring or fulfill normality assumption. Audit Committee with the counting of corporation members measurement has a minimum score is 2 members and the maximum score is 4 members, which means the score is 3.02, it means that audit committee members in metal sub-sectors corporation become this data sample fulfilled the requirements determined by the Financial Services Authority are at least 3 (three) members of the audit committee. The dividend policy with dividend payout ratio proxy has

a mean of 0.1320 points, and which deviation score is 0.23009, which means that averages by deviation have a discrepancy quite large i.e. more than 50 percent of the mean scoring.

Outcome: ClassicAssumption Test

Based on the yielding from processing data, data normalcy identified by viewing the output in the spread of p-plots from the runs program in consorted as follows:

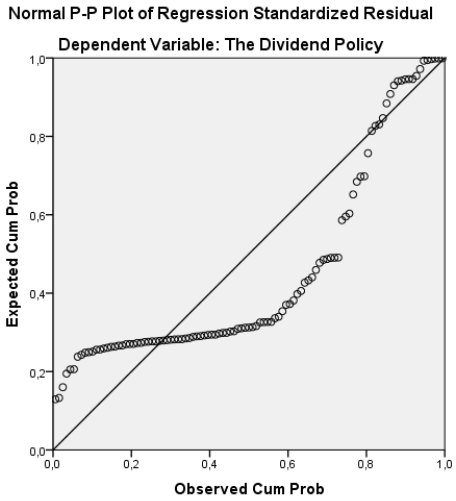

Fig. 3. The P-Plots of Data Normalcy from Processing Output. *Source*: SPSS Ver23.00 (2021)

The results of the normalcy test by viewing the p-plots chart aloft (Fig. 3) exhibit that the residual values are spread out and follow the direction of the diagonal line, meaning that the proposed regression model has met the assumption of data normalcy. Data multicollinearity identified by viewing the output in the program with a tolerance and variance inflation factors (VIF) scores are fulfilled, if higher than 0.1 and lower than 10 (ten) in consorted as follows:

Tabel 3. Data Multicollinearity Tests

	Tolerance	VIF Score
Profitability	0.993	1.007
Audit Committee	0.993	1.007
Source: Data Processing (2021)		

The results of the data multicollinearity test exhibit the tolerance score of the independent variable higher than 0.1, i.e. each of 0.993 points, whilst the VIF score is less than 10 (ten), i.e. each of 1.007 scores; thus, there is no multicollinearity matter in the regression model among variables above. Data heteroscedasticity was identified by viewing the output in the program with a significant score of Rank Spearman with correlated the unstandardized residual value with all the independent variables.

Tabel 4. Data Heteroscedasticity Tests

	Correlations Score	Significant Score
Profitability	-0.187	0.056
Audit Committee	-0.161	0.102
Source: Data Processing (2021)		

The results of the data heteroscedasticity test exhibit the significant score from both variables i.e. each of 0.056 and 0.102 points, which have more than 0.05 scores. thus, there is no heteroscedasticity matter because the correlate score is greater and no impact error is high. Data autocorrelations were identified by viewing the Durbin Watson (dW) from the output program regression aims to find out whether in a linear model there is a correlation between the nuisance errors in period t and period t-1 in consorted as follows:

Tabel 5. Data Autocorelation Tests

(k = 2; α 5 percent) (Ghozali, 2018: 458)	dL	dU	dW
Scoring	1.6433	1.7209	0.7200
Source: Data Processing (2021)			

The results of the data autocorrelation tests (Table 5) exhibit the dL score is more higher than dW (durbin watson) score i.e. 0.7200, this means that there is a positive autocorrelation. The results of this test can be improved by the Cochrane Orcutt method, namely the transformation with the following equation:

$$Yt = \alpha + Xt\beta + \varepsilon t$$

whereas:

Yt : dependent variable following time - t
β : estimated (beta) coefficient
εt : error term at time – t

Tabel 6. Data Autocorelation Tests (Cochrane Orcutt)

(k = 2; α 5 percent)	dL	dU	dW
Scoring	1.6433	1.7209	2.4030
Source: Data Processing (2021)			

The results of the data autocorrelation tests (Table 6) exhibit the dW score is more than 2 points of scoring i.e. 2.403, this means that no matter about autocorrelation.

Multiple Linear Regression Analysis

Upon the results of the output program, the multiple linear regression equations produced in this study are:

$$Y = -0.265 + 0.475\ X_1 + 0.129\ X_2$$

The constant value of minus 0.265 has a very large scale, where the Profitability and Audit Committee dimensions (X_1; X_2) if it has a score equal to zero, the dividend payout ratio score is 26.5 percent. These constants are constructs whose data worths are permanent and cannot be altered. Profitability (X_1) has a coefficient value of 0.475, this means that if the other independent variables have a fixed value and the return on assets score increases, then the Dividend Policy will increase by 47.5 percent. Audit Committee (X_2) has a coefficient value of 0.129, this means that if the other independent variables have a fixed value and the members of the board increase, then the Dividend Policy will increase by 12.9 percent.

Hypothesis Testing

Table 7. Hypothesis Tests

Variable	Regression Coefficients	t-Stats	Sig
Constant	-0.265	-1.090	0.278
Profitability	0.475	2.150	0.034
Audit Committee	0.129	1.618	0.109
R	0.249		
R^2	0.043		
F Stats.	3.359		0.039
Source: Data Processing (2021)			

The score of R^2 is 0.043, indicating that the magnitude of the coefficient of determination is 4.3 percent. These results indicate that the independent variables involved in this study were able to influence the divergence of changes in the dependent variable by only 4.3 percent, while the residual 95.7 percent was consequenced another variable not had in this study. The F-count value is 3.359 and the t-test states that the regression coefficient value of the Profitability dimensions is 0.475 with a significance of 0.039, which is less than (<) 0.05, thereupon H_1 is proved, This means that Profitability does imply towards The Dividend Policy. The t-test states that the regression coefficient value of the Audit Committee dimensions is 0.129 with a significance of 0.109, which is more than (>) 0.05, thereupon H_2 is rejected, This means that Profitability does not imply towards The Dividend Policy

Discussion

The statistical outcome for one of independent variable of financial ratio's i.e. profitability with return on assets proxy of significantly smaller than 0.05 i.e. 0.034 value, which means that profitability does imply towards the dividend policy with a positive mark of t-Stats is 2.150. These findings confirm the dividend signaling theory and bird in hand theory, where investors use dividend policy as a signal about the company's prospects and want high dividend payments from company profits in the form of return on company assets. This study is also in line with previous research (Raju & Rane, 2018), where profitability affects dividend policy with a strong positive significance while prior findings i.e. (Sharma, 2021) have a strong negative implication, but in (Widyasti & Putri, 2021) study which resulted in profitability has no significant impact. Therefore, the higher the return on assets reported as a form of company profitability has an impact on the company's dividend policy.

The statistical outcome for the independent variables i.e. audit committee with members is significantly larger than 0.05 i.e. 0.109 value, which means that the audit committee does not imply towards the dividend policy with a positive mark of t-Stats is 1.618. These findings are out of tune with the agency theory, where the number of audit committee memberships owned by the company is only limited to complying with OJK regulations which require a minimum of 3 (three) audit committee members, and also they no immediately play a role in formulating dividend policy or in monitoring the functions of corporate governance. This study is also in line with previous research (Widyasti & Putri, 2021), where the audit committee affects dividend policy with a weak positive and insignificant. Therefore, the large or small number of audit committee members owned by the company is not a guarantee in formulating a dividend policy.

The statistical outcome for determination coefficients from multiple regression produces an R^2 score is 0.043, this indicates that 4.3 percent of the dividend policy is

explained by profitability, and the audit committee. In comparison, the residualized 95.7 percent is influenced by distinct factors not added to the submitted model research. According to the summary of coefficient determination. This model explains profitability, and audit committee because it has a low R^2 score.

Conclusion

Upon the results and discussion phase, the inferences in this research are:

1. Profitability does imply towards The Dividend Policy in Metal Sub-Sectors Corporation Indonesian Stock Exchange registered in 2013-2019

2. Audit Committee does not imply towards The Dividend Policy in Metal Sub-Sectors Corporation Indonesian Stock Exchange registered in 2013-2019

This study has some restrictions. The index score measurement of the dividend policy empirical analysis utilizes dividend payout ratio, current and previous research only involve the sub-sector in metal, registered in the IDX. While this proxy has many uses from prior research, this study fails to predict audit committees, especially in Indonesia's developing market. This study's amount of sample corporations is confined because of the implementation of Making Indonesia 4.0, one of which emphasizes improving the flow of goods and materials in one of the parts i.e. base metal sectors utilizing analysis empirical study since IFRS implementation in 2013.

Furthermore, studies can add other sectors in manufacturing corporations by basic and chemical sector, various sector, and consumer goods sector, notably having a complex operation or the large scale of company assets. Future studies may take another sample out of corporations registered in developing economies, such as Southeast Asia or Africa. Suggestions for improvement in future research, the proxy for gauging the dividend policy can change with another proxy, such as earnings per share (EPS), net profit after tax, or another. It is emphasized to identify other factors that were not included in this study, such as other corporate governance components, other financial ratios, and macroeconomic factors.

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Appendix

IPO Date	Corporation Name	Ticker Code
Jul 12th, 1990	PT Alakasa Industrindo Tbk	ALKA
Jan 2nd, 1997	PT Alumindo Light Metal Industry Tbk	ALMI
Dec 21th, 2011	PT Sarana Central Bajatama Tbk	BAJA
Jul 18th, 2001	PT Betonjaya Manunggal Tbk	BTON
Nov 28th, 1989	PT Citra Turbindo Tbk	CTBN
Dec 23th, 2009	PT Gunawan Dianjaya Steel Tbk	GDST
Dec 5th, 1994	PT Indal Aluminium Industry Tbk	INAI
Feb 22th, 2013	PT Steel Pipe Industry of Indonesia Tbk	ISSP
Aug 6th, 1997	PT Jakarta Kyoei Steel Works Tbk	JKSW
Nov 10th, 2010	PT Krakatau Steel (Persero) Tbk	KRAS
Aug 20th, 1993	PT Lion Metal Works Tbk	LION
Jun 4th, 1990	PT Lionmesh Prima Tbk	LMSH
Dec 14th, 2009	PT Pelat Timah Nusantara Tbk	NIKL
Oct 30th, 1990	PT Pelangi Indah Canindo Tbk	PICO
Sep 30th, 1993	PT Tembaga Mulia Semanan Tbk	TBMS