



Bank-Specific Factors as Determinants of Dividend Yield: Case of the Indonesia Stock Exchange

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Abstract

Objective – The purpose of this study is to observe the impact on dividend yields caused by bank-specific factors of profitability, liquidity, bank size, leverage, and bank growth.

Design/methodology – This study was conducted on the bank sub-sector of the Indonesia Stock Exchange for the period of 2009-2018, which resulted in 367 bank-year observations. The sample is determined using a purposive sampling method with a criteria of bank that paid dividends hence resulting in 134 bank-year observations. However, to achieve the fit model's goodness, the final sample used was 120 bank-year observations. This paper used OLS Multiple Linear Regression for analyzing data.

Results – The results show that return on assets and leverage negatively affects dividend yield, and bank size has a positive effect. Meanwhile, growth and liquidity do not affect dividend yield. These results are useful for investors in determining their investment decisions in the banks' shares on the Indonesia Stock Exchange and for managers in considering bank-specific factors to meet investors' preferences for dividends.

Keywords: Profitability, Liquidity, Bank Size, Leverage, Growth, Dividend Yield.

1. Introduction

Handorf (2016) depicts dividend policy as per share dividend and payout ratio paid from time to time by a company to its shareholders. There have been many discussions about dividend decisions in financial studies. Academics and professionals have been long confused about whether companies pay dividends and why investors are very much concerned about it (Baker, Mukherjee, & Paskelian, 2006). Regardless of the number of studies conducted, it is still difficult to understand how dividend policy can be influenced by various factors and how they can interact (Rajput & Jhunjhunwala, 2019). Black (1976) describes that not achieving an agreed understanding of a company dividend policy is a "dividend puzzle". The longer we try to explore the image of dividend policy, the more contradictory components tend to be like a puzzle, Black (1976) claims. Although his point has been achieved for more than four decades, Black's observation still sounds reasonable since to date there is no strong hypothesis or agreement on dividend policy.

Until now, the determinants of dividend policy are still being studied since there is still no agreement on what drives a company to pay dividends and the proportions of the payments (Budagaga, 2020; Dewasiri et al., 2019). The yield of dividend, the ratio of dividend payout, and the tendency to pay dividends are usually used to investigate the policy (Dewasiri et al., 2019). However, despite the three variable proxies' repeated use, studies report that the results remain inconsistent.

Based on the research results in 16 countries, Boțoc & Pirtea (2014) report that liquidity and profitability positively influence the ratio of dividend payout. However, Kuzucu (2015) has the opposite view; with the focus of research in Turkey, his conclusion says that the dividend payout ratio is negatively impacted by profitability, and is not affected by liquidity. On the other hand, Al-Kayed (2017) reports findings from conventional banks that dividend yield is negatively affected by the growth of past divi-

dends (lagged dividends), leverage, liquidity, and profitability. Since the 1950s, the indicators of lagged dividends policy have been claimed as the key determinants of dividend policy (Chakraborty, 2010); however, the results have remained inconsistent. Yusof & Ismail (2016) mention lagged dividend as an unimportant indicator of dividend payout ratio in Malaysia, but Al-Kayed (2017) reports that it is a key factor which impacts the dividend policy in Saudi Arabia.

Budagaga (2020) claims that the decision of dividend payment is influenced by several bank key specific factors which include size, profitability, capital adequacy, credit risk, and age, but growth is not a critical factor that affects banks' dividend policy in emerging markets in MENA region. However, the important role of size towards a company's dividend policy is denied by (Al-Najjar, 2011; Bokpin, 2011). Similarly, Kimie & Pascal (2011) also point out that size is a negative indicator of dividend policy in Japanese companies.

Considering the gaps found in previous studies, this present study, therefore, tries to observe the dividend yield determinants of companies listed on the Indonesia Stock Exchange (IDX), especially those belonging to the bank sub-sector. The number of go-public banks on the IDX for ten years, namely 2009 to 2018, shows a rapid development. In 2009, 30 banks went public on the IDX, and in 2018 that number increased to 45 banks (IDX, 2001). Thus, during those ten years, the number of go-public banks on the IDX increased by 50%.

The rapid development of the number of banks on the IDX will certainly attract many investors to invest their funds into the shares issued by banks. Meanwhile, the goal of investors to invest their funds in stock securities is to get returns in the form of price increases and dividends received. Thus, observing the dividend yield determinants in the bank sub-sector on the IDX is imperative and appealing. This study is hoped to lead to the advancement of the current dividend theory and its application to the banking sector in Indonesia. Practically, it can be used to guide investors and potential investors in identifying the determinants of dividend yield. The determinants of dividend yield in this study are bank-specific factors proxied by profitability, liquidity, leverage, bank growth, and bank size. The five variables have been used by several previous studies in different countries and not only in the banking sector. They are Jabbouri (2016) in non-bank companies in the MENA market, Al-Kayed (2017) in the Saudi Arabian banking sector, and Dewasiri et al., (2019) on a manufacturing company in Sri Lanka.

This paper is structured in several parts. Part 2 (two) presents the literature review and hypotheses development. Part 3 (three) describes the research method; population, sample, data, and analysis tools. Part 4 presents the research results and discussion. Finally, Part 5 gives the conclusion, theoretical and practical contributions of this paper, limitations of the research, and suggestions for future researches.

2. Literature Review and Hypotheses

The relationship between dividend policy and share method preferences have been discussed through a number of theories. Lintner (1956) and Gordon (1959) say the Bird-in-the-Hand theory claim that investors prefer dividends to retained earnings. The Tax Preference theory states that higher dividend payments cause lower tax brackets and vice versa, Elton & Gruber (1970) mentions. The Signaling theory claims that since investors have unbalanced information, a company uses dividends to communicate its profitability to outside shareholders (Bhattacharya, 1979). The Free Cash Flow theory, which identifies free cash flow as manager excess cash flow, claims that dividend disbursement will stop managers from investing in various projects with negative net value. Thus, it can be said that dividends are a way to minimize agency conflicts and reduce agency costs (Jensen, 1986).

Myers (1984) through the Pecking Order theory of dividends agrees that companies' investment is initially funded by retained earnings, next guaranteed debt or, can as some say, risky debt, and at last by equity. Although this hypothesis does not directly impact the dividend payments, it is still needed to reconcile dividends and investments (Fama & French, 2001). The Life Cycle theory of dividends by Mueller (1972) argues that soon after a company grows larger and more mature, the financing for its investments will also get bigger. The shareholders will face reduced dividend income, and this will greatly influence the company's life cycle.

Fama & French (2001), then, claim that companies with high profits and low growth prospects will likely pay dividends while those with low profits and high growth will not. In other words, companies in the adult stage have a stronger tendency of dividend payment, while the younger ones do not (DeAngelo, DeAngelo, & Stulz, 2006). La Porta, Lopez-De-Silanes, Shleifer, & Vishny (2000), who propose a substitution model of dividends, agree that dividend is considered as the result of the effective legal protection of corporate governance and as a replacement for corporate governance mechanisms.

The Influence of Profitability towards Dividend Yield

The signaling and the pecking order theory describe the correlation between profitability and company dividend policy (Fama & French, 2001; Yarram & Dollery, 2015). Profitability gives a negative influence on company dividend policy (Kimie & Pascal, 2011; Kuzucu, 2015). However, Amidu (2006), Al-Malkawi (2007), Bokpin (2011), Al-Najjar (2011), Patra, Poshakwale, & Ow-Yong (2012), and Boțoc & Pirtea (2014) state that it is indeed a determinant that positively impacts the dividend policy. Similarly, Baker, Dewasiri, Yatiwelle Koralalage, & Azeez (2019), through their research on companies in Sri Lanka, argue that profitability is the most important determinant of dividends. The results of research on Islamic banks in Saudi Arabia by Al-Kayed (2017) report that Return on Assets (ROA), as profitability measure, significantly and negatively impact dividend yield. Therefore, the first hypothesis put forward is:

H1: Profitability negatively influences dividend yield.

The Influence of Bank Size towards Dividend Yield

The Agency Cost theory explains that broad ownership structures in larger companies will reduce investors' ability to manage the financing activities they invest in. This, in turn, causes more unbalanced information and higher agency costs. To overcome this problem, the study of Al-Malkawi (2007) concludes that the size of company significantly and positively determine dividend policy. However, Bokpin (2011) and Al-Najjar (2011) deny this great impact. Kimie & Pascal (2011) through their study in Japanese companies context also propose that company size is a negative determinant of dividend policy. Some results of more recent studies, however, are in line with the finding of (Al-Malkawi, 2007). Patra et al., (2012), Kuzucu (2015), and Yusof & Ismail (2016) all conclude that company size positively influences dividend policy. Baker et al., (2019) report that company size significantly and positively determine the dividend payments of Sri Lanka companies. Therefore, the second hypothesis to be proposed is:

H2: Bank size positively influences dividend yield.

The Influence of Leverage towards Dividend Yield

Lintner (1956) states that debt does not really influence the dividend policy of a company. Besides debt, leverage and other external financing also do not give much impact on dividend policy (Abor & Bokpin, 2010). However, Rozeff (1982) states that company will pay low dividends if it has high leverage. It is done to reduce transaction costs caused by external financing. On the other hand, company will pay fewer dividends when the debt ratio is high, Al-Malkawi (2007) says.

Bokpin (2011), Patra et al. (2012), and Arko, Abor, Adjasi, & Amidu (2014) prove dividend policy is mainly determined by leverage. However, Yusof & Ismail (2016), with

their research in Malaysian companies, argue that it negatively determines the dividend policy. Similarly, Al-Kayed (2017) through his study on conventional banks in Saudi Arabia reports that leverage has a negative and significant effect on dividend yields. Therefore, the third hypothesis to be proposed is:

H3: Leverage negatively influences dividend yield.

The Influence of Bank Liquidity towards Dividend Yield

Liquidity is discovered to be a lesser-known factor in Lintner's (1956) qualitative study of 28 company managers. However, Baker, Farrelly, & Edelman (1985) state that it is the main determinant of dividend policy. Since then, studies regarding the influence of liquidity towards company dividend payout policy have been conducted by many (Dewasiri et al. 2019). Banerjee, Gatchev, & Spindt (2007) highlight the negative relation between these two, calling it the "dividend liquidity hypothesis" which is, then, also agreed by (Zhiqiang, Zhang, & Tang, 2015).

Baker & Kapoor (2015) in their research on Indian companies also reveal strong agreement for the relation between liquidity and share dividends. The level of liquidity does not significantly impact the dividend yield of Sri Lankan companies, Dewasiri et al. (2019) report. However, Al-Kayed (2017) shows that it actually gives a significant positive effect on conventional banks in Saudi Arabia. Thus, the fourth hypothesis to be proposed is:

H4: Liquidity positively influences dividend yield.

The Influence of Bank Growth toward Dividend Yield

Companies with higher growth opportunities have the opportunity to distribute more infrequent dividends. This is done to maintain a larger portion of the company's revenue in order to finance its growth (Rozeff, 1982). Therefore, many experts predict that dividend payments have a negative correlation with company growth. Nevertheless, Budagaga (2020) concludes that bank growth is not an essential factor which influences the dividend policy of the banking industry in MENA emerging markets. Similar with the arguments put forward by (Rozeff, 1982), Al-Kayed's research (2017) concludes that bank growth significantly and negatively impacts the dividend yield of conventional banks in Saudi Arabia. Therefore, the fifth hypothesis is:

H5: Bank growth negatively influences dividend yield.

3. Research Method

All bank subsectors listed on the IDX for the period of 2009 to 2018 became the population of this study, which resulted in 367 banks. The sample selection uses purposive sampling with the criteria that the bank publishes its financial reports and pays dividends. The results show 134 bank-year observations of paying dividends. However, to achieve a goodness of fit from the model, 14 bank-year observations with outliers data are omitted. Data analysis used the Ordinary Least Squares (OLS) method, which was processed using the E-Views 10 application. The following is a statistical equation model built..

$$DYD_{i,t} = \beta_0 + \beta_1 ROA_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 LEV_{i,t} + \beta_4 LIQ_{i,t} + \beta_5 GRW_{i,t} + \varepsilon_{i,t} \dots \dots \dots (1)$$

In which:

DYD = Dividend Yield; dividend per annual share divided by market price per share.

ROA = Return on Assets; profit after tax divided by total assets.

SIZE = Bank Size; the logarithm (log) of total assets.

LEV = Leverage; total debt divided by total assets.

LIQ = Liquidity; cash on hand divided by total assets.

GRW = Growth; the growth of total interest income.

4. Result and Discussion

Based on the 120 bank-year samples analyzed, descriptive statistics are presented, which present the mean, maximum, minimum, and standard deviation values as follows:

	DYD	ROA	SIZE	LEV	LIQ	GRW
Mean	2.0783	0.0224	8.0871	0.8548	0.0162	0.1361
Maximum	4.5300	0.0399	9.0799	0.9316	0.0354	0.4033
Minimum	0.0200	0.0070	6.3808	0.7300	0.0007	-0.0526
Std. Dev.	0.9512	0.0091	0.6968	0.0473	0.0088	0.0959

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Table 1. Descriptive Statistic

Table 1 shows that the DYD variable has an average value of 2.0783; this shows that investors get a dividend yield that is twice the market price per share. The maximum value for DYD is 4.5300, the minimum is 0.0200, and the standard deviation is 0.9512. The ROA variable has an average value of 0.0224, which indicates that the banks achieve a relatively small return on assets by only 2.24%. The maximum value of ROA is 0.0399, the minimum is 0.0070, and the standard deviation is 0.0091. The SIZE variable has an average value of 8.0871, a maximum value of 9.0799, a minimum of 6.3808, and a standard deviation of 0.6968. The LEV variable has an average value of 0.8548, which indicates that 85.48% of the total assets owned by the bank are funded by debt. The maximum LEV is 0.9316, the minimum is 0.730, and the standard deviation is 0.0473. The LIQ variable has an average value of 0.0162, which indicates that bank cash on hand is 1.62% of total assets. The maximum LIQ value is 0.0354, the minimum is 0.0007, and the standard deviation is 0.0088. The GRW variable has an average value of 0.1361, which indicates that the total growth of interest income banks paying dividends is 13.61% for each year. The maximum value of GRW is 0.4033, the minimum is -0.0526, and the standard deviation is 0.0959.

Table 2 presents a summary of the goodness of fit of the statistical equation models built for this study along with the results of testing the effect of the independent variables (return on assets, liquidity, size, growth, and leverage) on the dependent variable (dividend yield).

Independent Variable	Coefficient	Std. Error	t-Statistic	Prob.	VIF
ROA	-45.098	18.023	-2.5022	0.0144**	2.9951
LIQ	14.953	16.175	0.9245	0.3580	2.2674
SIZE	0.5603	0.1911	2.9313	0.0044***	1.9864
GRW	-1.1126	1.1171	-0.9960	0.3222	1.2848
LEV	-5.7598	2.35411	-2.4467	0.0166**	1.3889
C	3.3913	2.1437	1.5819	0.0176	

Table 2. OLS Multiple Regression Results

Dependent Variable: DYD

			Heteroskedasticity Test:		
R-squared		0.2006	White Method		
Adjusted R-squared		0.1512	Obs*R-squared		15.1927
F-statistic		4.0640	Prob. Chi-Square(20)		0.7653
			Breusch-Godfrey Serial Correlation LM		
Prob(F-statistic)		0.0024	Test:		
Jarque-Bera		4.4613	Obs*R-squared		0.2915
Probability		0.1075	Prob. Chi-Square(2)		0.8644

Notes: **statistically significant at 5%; ***statistically significant at 1%

The OLS gives Adjusted R-squared value of 0.1512 and Prob (F-statistic) 0.0024, which indicate that the significant variation in DYD is determined at 15.12% by changes in ROA, LIQ, SIZE, GRW, and LEV. The OLS results have a Jarque-Bera value of 4.4613 with a Jarque-Bera Probability of 0.1358; this shows that the analyzed data is normally distributed. The Variance Inflation Factor (VIF) for all independent variables scores less than 10; this indicates that there is no multicollinearity symptom in the model built. The results of the Heteroskedasticity Test with the white method have Obs * R-squared

values of 15.1927 and Prob. Chi-Square is 0.7653; this result explains that there is no heteroscedasticity symptom in the model built. The Breusch-Godfrey Serial Correlation LM has an Obs* R-squared value of 0.2913 with Prob. Chi-Square 0.8644, indicating that the model built does not have autocorrelation symptoms. Overall, the classical assumption test results show that the OLS multiple regression model is free from econometric problems.

Table 2 also shows that the effect of ROA on DYD has a coefficient value of -45.098, with a probability value of 0.0144. These results identify that banks with significantly higher profitability (ROA) have lower dividend yields (DYD). Myers (1984) pecking order theory of dividends explains that retained earning is the first main financing source a company used when it needs investment. This condition leads to a negative relation between profitability and dividend yield. This is similar with Al-Kayed (2017) who carry out a research in the Saudi Arabian banking industry for four years (2011 – 2014). He proves that the profitability proxied by the Return on Assets (ROA) variable gives a significant negative impact on the dividend yield (DYD). Shares issued by banks that have greater profitability get higher appreciation in the capital market, according to the bird-in-the-hand theory, so that stocks with a market price per share may be higher. This is predictable, which is why the dividend yield of bank stocks with a higher ROA has a smaller DYD.

The effect of LIQ on DYD has a coefficient value of 14.953, with a probability value of 0.358. The results of this analysis indicate a tendency that banks with a higher level of liquidity (LIQ) have a higher dividend yield (DYD); however, this effect is not statistically significant. Thus, this study cannot prove that liquidity (LIQ) has an effect on dividend yield (DYD). Therefore, the findings of this study do not fully agree with the free cash flow theory, which claims that the excess cash flow owned by a company should be distributed to shareholders as cash dividends so that there is a significant positive relation between liquidity and dividend yield. These findings are similar with the results of Al-Kayed's (2017) which prove that liquidity does not have a significant effect on dividend yield (DYD). In addition, Dewasiri et al., (2019) through their research conducted in Sri Lanka also conclude that the company liquidity is not an essential determinant of dividend yield.

The effect of bank size (SIZE) on DYD has a coefficient value of 0.5603, with a probability value of 0.0044. This empirical evidence indicates that a bank with a larger size (SIZE) has a significantly higher dividend yield (DYD). This empirical finding supports Mueller (1972) life cycle theory of dividends, which states that larger and older companies tend to pay dividends while those smaller and younger do not (DeAngelo et al., 2006). Furthermore, the studies of Patra et al., (2012), Yusof & Ismail (2016), and Jabbouri (2016) identify that company size is a positive determinant of dividend policy. This result is in line with Dewasiri et al., (2019), which prove that size has a positive and significant effect on dividend yields in Sri Lankan companies.

The effect of GRW on DYD has a coefficient value of -1.1126 with a probability value of 0.3222, this empirical evidence shows a tendency that banks that have higher growth (GRW) provide a smaller dividend yield (DYD), but it is not statistically significant. Thus, this study cannot prove that bank growth (GRW) has a significant effect on dividend yield (DYD). This empirical evidence does not fully support the life cycle theory of dividends, which explains that companies with higher growth tend not to pay or pay fewer dividends (Fama & French, 2001). The findings of this study are in line with the study results Al-Kayed (2017) which proves that growth has no effect on dividend yield (DYD). The effect of LEV on DYD shows a coefficient value of -5.7598 and a probability value of 0.0166. The results of this analysis indicate that banks with a significantly higher debt ratio (LEV) have a lower dividend yield (DYD). With regard to this finding, Rozeff (1982) shows that companies with high leverage tend to have low dividend payout ratios in order to reduce the transaction costs caused by external financing. Al-Malkawi (2007) shows that companies with high debt ratios more likely pay infrequent

dividends. The results of research by Bokpin (2011), Patra et al., (2012) and Abor, Adjasi, & Amidun (2014) identify leverage as the key determinant of dividend policy. Furthermore, Yusof & Ismail (2016) through their study in Malaysia claim that debt is a negative determinant of dividend policy. The results of this study are in line with what have found by Al-Kayed (2017) on the Saudi Arabian banking industry.

5. Conclusions, Limitations, and Suggestions

This study was aimed to observe the influence of bank-specific factors, proxied by return on assets, liquidity, size, growth, and leverage variables, towards dividend yield. The research was conducted on the banking sub-sector of the Indonesia Stock Exchange (IDX) listed during 2009 – 2018. The data analysis method used Ordinary Least Squares (OLS) with multiple linear regression techniques that are processed using the E-Views 10 application. The results prove that Dividend Yield the bank sub-sector on the Indonesia Stock Exchange during the period of 2009 to 2018 is negatively and significantly affected by Return on Assets and Financial Leverage. Meanwhile, it is positively and significantly influenced by Bank Size. However, this study cannot prove that Bank Growth and Bank Liquidity have a significant effect on Dividend Yield. The results provide support for the life cycle theory and the pecking order theory of dividends. This can be demonstrated by proving that banks with a larger size provide higher dividend yields, and banks with higher profitability provide fewer dividend yields. These results recommend investors and potential investors on the IDX to invest in stocks issued by banks that have a large total asset size so that the investor will obtain a greater dividend yield.

This study has several limitations, including examining only bank-specific factors proxied by the variables return on assets, liquidity, size, growth, and leverage on dividend yield as the functional variables of the dividend policy. The observations covered the period 2009 to 2018 and the Ordinary Least Squares (OLS) method was used to analyze the data. The next research agenda is suggested to consider other variable definitions for bank-specific factors, for example, lagged dividends, capital adequacy, credit risk, bank age, and non-performing loans. Apart from that, bank governance and macroeconomic conditions also need to be considered in analyzing the determinants of bank dividend policy. Dividend policy variable proxies, in addition to dividend yield, are recommended to use the dividend payout ratio and the tendency to pay dividends, as have been used by previous researchers.

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