THE DETERMINANT OF DIVIDEND PAYOUT RATIO: LONG-TERM ANALYSIS IN BUKU EMPAT'S BANKS DURING PERIODS 2008 - 2017

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Abstract: *This research purposed to explored and analyzed those influence from capital adequacy ratios, net interest margins, loan to deposit ratios and non-performing loans towards dividend payout ratios on banks that registered as Buku Empat 2008-2017. Sampling gathered in this research by quantitative approach. Samples which obtained and used were Mandiri Bank, BRI, BNI, and BCA with observation period for 10 years. Data research was secondary data by panel data analysis method. The results shows that capital adequacy ratio had positive and significant influence towards dividend payout ratio, Net interest margin had negative and significant influence towards dividend payout ratio, Loan to deposit ratio had negative and significant impact on dividend payout ratio, non-performing loans had positive and significant impact towards dividends payout ratio.*

Keywords: *capital adequacy ratio, net interest margin, loan to deposit ratio, non performing loan, and dividend payout ratio.*

INTRODUCTION

Banking sector was inseparable from progress of a country in increased and equalized the standard of living from its citizens and push the wheels of economy. The banking sector has said to have an important role in economy because it is an intermediary institution that channels public funds into investment in productive assets that will boost real sector productivity, capital accumulation and aggregate output growth. Beside that, the economic growth from banking sector could be develop with investors funds, one of way is in form of shares with expectation of dividends in return.

Banking sector used dividend policy which considered as an important, because while taking company policy that involving two parties, which is shareholders and bank management these two parties have different interests. Dividend policy is a policy related to dividend payments by companies, in form of determining the amount of dividend payments and the amount of retained profits for company's benefits(bank). The greater retained profit, the smaller the profit that will be distributed to shareholders. Investors who wish to invest in banking sub-sector and expected dividend in return will definitely consider several factors, one of that is by looking at the bank performance.

This research used group of banks with the highest core capital, which is Buku Empat. With core capital ownership for more than Rp 30 trillion, buku empat's banks has capacity to absorb greater potential risk than other bank groups that were also allowed to have a wider service network both domestically and abroad. For investors, this access may attract interest because the convenience of banking services is one of the keys to feeling secure in funds. Beside that to being considered healthier and more competitive in facing competition with large banks in ASEAN region, Buku Empat's Banks were also believed could handle risks that arise related to business expansion abroad. This description related to Buku Empat's Banks that routinely distribute dividends, which also experience fluctuating trend in the end of each period.
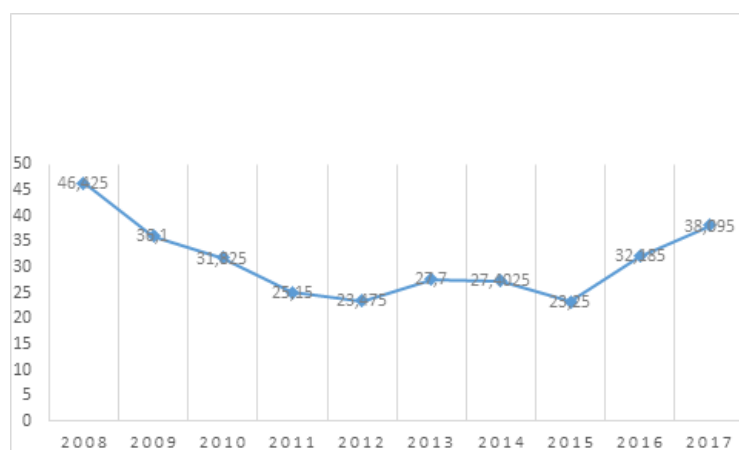

Figure 1. Average Growth of Dividend Payout Ratio of Buku Empat's Banks
Source: Processed by Author (2018)

Information that could help investors' decisions to funds their invest in banking is bank's financial ratios that obtained from financial reports, bank financial reports show the overall banks financial condition (Kasmir, 2003). Meanwhile, financial ratios are comparisons of numbers in financial statements by compare its components so they become numbers in one period or several periods. (Kasmir (2008). Some of financial ratios that used in this research were as its follows:

Table 1. Financial Ratios Used in Research

Variable	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Capital Adequacy Ratio – CAR (%)	15.4	14.6	15.6	15.8	15.8	15.7	17.0	19.3	21.4	21.6
Net Interest Margin – NIM (%)	7.2	6.7	6.8	6.7	6.4	6.6	6.8	6.8	6.8	6.3
Loan to Deposit Ratio – LDR (%)	64.7	63.8	66.2	72.0	78.5	80.0	78.9	82.4	81.7	81.1
Non Performing Loan – NPL (%)	1.6	1.4	1.3	1.0	0.9	0.7	0.7	0.9	1.0	1.1

Source: Processed by Author (2018)

As for the research gap related to the factors which affect dividend distribution, Pangalila and Ogi (2019) found that CAR had positive influence against DPR, Wahyuni (2017) finds that CAR had negative impact towards DPR, Karuan (2017) finds that CAR had none impact towards DPR. Chowdhury, et. al. (2016) said that NIM had positive impact over DPR, Collins, et., Al (2009) seen that NIM had negative influence over DPR, Rasyid (2018) stated that NIM had no effect over DPR. Ahmed (2015) found that LDR has a positive effect on the DPR, Nadem, et., Al. (2018) found that the LDR had negative impact towards DPR, Murni (2016) utter that LDR had no influence towards DPR. Fauziah and Iskandar (2015) found that NPL had positive impact to DPR, Ahmad and Muqaddas (2016) found that NPL had negative effect on DPR, Rasyid (2008) found that NPL had no influence on DPR.

Based on declining trend from dividend payout ratio, the fluctuation of financial ratios at buku empat's banks during period 2008-2017 and those various prior research results, Therefore the authors raised the research topic as follows: **"Determinant Dividend Payout Ratio: Long-Term Analysis in Buku Empat's banks during Periods 2008 - 2017 ".**

LITERATURE REVIEW
Dividend Payout Ratio (DPR)
According to Ang (1997), dividend payout ratio was comparison between dividends per share and profits per share. Thus, the higher of DPR was determined by company, the greater the amount of company profits that will be paid as dividends to shareholders.

Capital Adequacy Ratio (CAR)
According to Dendawijaya (2009:121) in Irawan and Syarif (2019) Capital Adequacy Ratio (CAR) is a ratio that shows the extent of which all bank assets that contained risk (loans, investments, securities, claims at other banks) were also funded from its capital funds. Beside that to obtained funds from sources outside the bank, such as community funds, loans and others.

Net Interest Margin (NIM)
Net Interest Margin (NIM) is ratio used to measure the ability of bank management to manage its productive assets to generate net interest income. Net interest income is derived from interest income less interest expense. The greater the ratio, the higher profits interest income from assets managed by the bank. (Frianto and Pandia, 2012: 71; in Irawan and Syarif, 2019).

Loan to Deposit Ratio (LDR)
According to Kasmir (2012:319) in Irawan and Syarif (2019) Loan to Deposit Ratio (LDR) is a ratio to measure the composition of amount of credit given compared to amount of public funds and own investments used. Meanwhile, according to Dendawijaya (2001:101) in Irawan and Syarif (2019), the Loan to Deposit Ratio is how far the bank has ability to refinance withdrawals of funds by depositors by relying on loans provided as a source of liquidity.

Non Performing Loan (NPL)
According to Kuncoro and Suhardjono (2011:420) in Irawan and Syarif (2019) Non-Performing Loan (NPL) is a condition when customers can no longer pay part or all of their obligations to the bank as promised. Meanwhile, according to Selamet Riyadi (2006:160) in Irawan and Syarif (2019) Non-Performing Loans is ratio between the amount of credit given by collectivity level 3 to collectivity level 5 and compared to total loans which given by the bank.

Theoretical Framework and Hypothesis

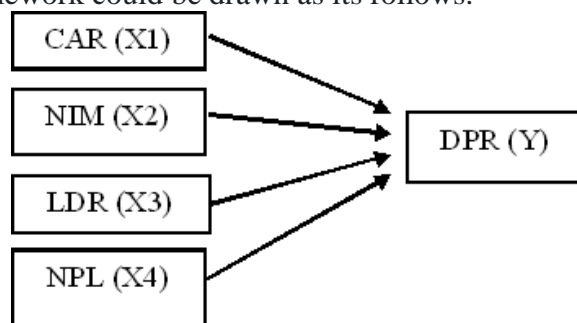This research framework could be drawn as its follows:

Figure 2. Theoretical Framework

The hypothesis in this research were 1) CAR has thought to had an influence towards DPR; 2) NIM was suspected of having an influence against DPR; 3) LDR was suspected to had an influence over DPR; 4) NPL suspected to influenced DPR.

RESEARCH METHODS

This type of research used descriptive and associative method approaches, because there were several variables that will be examined their relationship and its purposed to served structured, factual, and accurate picture of facts and relationship between those variables, such as those influence from capital adequacy ratio (CAR), net interest margin (NIM), loan to deposit ratio (LDR) and non performing loan (NPL) towards dividend payout ratio (DPR). The measurement from these variables through:

$$DPR = \frac{Devidend}{Net\ Profit} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (1)$$

$$CAR = \frac{Core\ Capital + Complement\ Capital}{Risk\ Weighted\ Assets} \times 100\% \dots\dots\dots\dots\dots\dots\dots\dots\dots (2)$$

$$NIM = \frac{Profit\ After\ Tax}{Total\ Assets} \times 100\% \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (3)$$

$$LDR = \frac{Total\ Credits\ Granted}{Total\ Deposit + Equity} \times 100\% \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (4)$$

$$NPL = \frac{Total\ Credit\ Loss}{Total\ Credit} \times 100\% \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (5)$$

In this research the population used Buku empat banking companies during period of 2008-2017. Determination of sampling used purposive sampling method, such as the chosen sampling which only buku empat's banking companies. There were 5 samples in this research but 4 companies were taken, because 1 out of 5 companies at buku empat contained outlier data. The samples from this company were Mandiri Bank, BNI, BRI, and BCA.

The data collection method as purposes of this research were documentation method by collecting all secondary data published by IDX Statistic about banking companies that listed on Indonesia Stock Exchange during period 2008-2017. This research were also used quantitative analysis techniques by statistics, such as Panel Data Regression analysis with e-views version 9.5.

FINDINGS AND DISCUSSION

Descriptive Analysis

Standard deviation of DPR, CAR, NIM, LDR and NPL tends to be smaller than that average in each year, this indicates that the results were quite good because the standard deviation had reflection of high deviations, so data distribution shows normal results and does not cause bias. So it can be concluded that there's no large fluctuation from DPR, CAR, NIM, LDR, and NPL towards Buku empat's Banks companies.

Analysis of Data Quality

Analysis of data quality were to be called stationarity in this research was measured by Augmented Dicky Fuller (ADF). Based on test results, it was common that the data for this four independent variables had Prob value. ADF smaller than α (0.05), meaning that this data does not contained a unit root or the data was qualified the stationary or mean variance requirements, and those data covariance was constant or unchanging, therefore this four independent variables could be relied on as for the panel regression model processed.

Table 2. Stationary Test Results

Variable	T – Statistic	Probabilitas
Capital Adequacy Ratio	14. 5975	0.0675
Net Interest Margin	29.3929	0.0009
Loan to Deposit Ratio	17.4399	0.0258
Non Performing Loan	30.2123	0.0002

Panel Data Regression Model

There are three kinds of model in panel data regression, such as: Common Effect model, Fixed Effect model and Random Effect model.

Table 3. Panel Data Modeling Examination Results

Variable	Common Effect	Fixed Effect	Random Effect
C	68.4293	72.12165	29.36793
	(0,0005)	(0,0233)	(0,0000)
CAR	0.986407	0.942616	0.10510
	(0.0010)	(0.02622)	(0.8820)
NIM	-5.407293	-4.150429	-0.94446
	(0.0430)	(0.0029)	(0.6813)
LDR	-0.418525	-0.504014	-0.42078
	(0.0259)	(0.01246)	(0.0063)
NPL	13.11316	8.292047	5.405907
	(0.0000)	(0.01785)	(0.0137)
R-Square	0.6849	0.34055	0.284922
Adj R-Square	0.6451	0.19629	0.203198

Based on common effect method, it can be concluded that CAR, NIM, LDR and NPL were proven to be significant with probability level of 95 percent ($\alpha = 5\%$) because the acquisition of the probability was smaller than $\alpha = 0.05$. And the results of the R-square (R2) from this method give a fairly high value of 0.6849 or 68.49%, so the Common Effect method could be explained that strong relationship that occured between independent variables and dependent variable.

Based on fixed effect method, it can be concluded that CAR, NIM, LDR and NPL were proven to be significant with a probability level of 95 percent ($\alpha = 5\%$) because the acquisition probability is smaller than $\alpha = 0.05$. However, the results from R-square (R2) of this method provide high enough value among the others methods, which equal to 0.3405 or 34.05%, therefore Fixed Effect method explained how strong relationship that occured between independent variables and dependent variable.

Based on random effect method, it can be concluded that LDR and NPL were proven to be significant with probability level of 95 percent ($\alpha = 5\%$) because the probability acquisition was smaller than $\alpha = 0.05$, while other variables give insignificant results with acquisition from greater probability. from $\alpha = 0.05$. The result of R-square (R2) from this method gives the lowest value compared to other two regression models, which is equal to 0.2849 or 28.49%, however the Random Effect method could be explained the strength of relationship between independent variable and dependent variable.

Panel Data Regression Model Selection

Based on the results of the three model tests (Common Model, Effect Model and Random Model), selecting the best model is by doing the chow test, the Hausman test, and the Langrange multiplier test. Based on the test results, it can be concluded that the Common Effect model used in panel data regression with the DPR variable as the dependent variable, and the CAR, LDR, NIM, and NPL variables as independent variables.

Table 4. Panel Data Model chosen Test Results

Chow Model Test	Hausman Model Test	LM Model Test	Conclusion
Prob. < α, H1 was accept by Common Effect Model	Prob. > α, H1 was accept by Random Effect Model	LM test value < Chi Square Table, H0 was accept by Common Effect Model	By Common Effect Model

Classic Assumption Test

Based on multicollinearity test results obtained on centered variance inflation factors (VIF) on independent variable Capital Adequacy Ratio (1.355036), Net Interest Margin (4.021655), Loan Deposit Ratio (1.606976) and Non Performing Loan (3.589980) because VIP centered value respectively no independent variable was greater than 10, it can be said that there has no Multicollinearity .

Table 5. Multicollinearity Test Results

Variable	Varian Inflation Factor (VIF)
CAR	1.355036
NIM	4.021655
LDR	1.606976
NPL	3.589980

Based on Heteroscedasticity test result (Glejser test) with estimation Prob F-value (4.46) was 0.1630, which greater than alpha level of 0.05 (5%) so based on hypothesis test, Ho was accepted, that means there is no heteroscedasticity.

Table 6. Heteroscedasticity Test Results

Heteroscedacity Test	Glejser Model		
F Statistic	1.361336	Prob F (4.35)	0.2672

Panel Data Regression Analysis

By Common Effect model, the panel data regression equation was formed as follows:
DPR = 68.42937 + 0.986407CAR - 5,407293NIM - 0.418525LDR + 13,113167NPL

Table 7. Common Effect Model Test Results

Information	Coefficien	t-statistic	Probability
C	68.42937	3. 818832	0.0005
CAR	0.986407	1.303363	0.0010
NIM	-5.407293	-2.003166	0.0430
LDR	-0.418525	-1.829434	0.0259
NPL	13.11316	2.986969	0.0051
R-squared	0.684922		
Adjusted R-squared	0.603198		
F-statistic	3.486420		
Prob(F-statistic)	0.016917		

Research Hypothesis Examination

Based on F test result, it is known that DPR (Y) as dependent variable had value of F = 3.486420 and value of Prob.= 0.016917. While F table value with df = n-k-1 = 34 and k = 5, the value of F = 2.49 was obtained, it could be seen that F Statistic value = 3.486420 > F table value = 2.49. Thus H0 was rejected, this could be means that independent variables together had significant influence towards dependent variable.

Table 8. Results of F Test Analysis

Dependent Variable	Independent Variabel	F-Statistics Value	Prob.
DPR	CAR, NIM, LDR and NPL	3.486420	0.016917

Based on determination coefficient test result, it is known that value of R-Squared = 0.684922. This shows that 68.49% from DPR was influenced by CAR (X1), NIM (X2), LDR (X3), and NPL (X4) variables, while the rest (100% - 69.06%) was 33.51% of DPR was influenced by other factors outside this research.

Table 9. Results of Determination Coefficient

Dependent Variable	Independent Variabel	R-Square Value	Adjusted R-Squared Value
DPR	CAR, NIM, LDR dan NPL	0.684922	0.603198

Based on the results of the t test in Table 7 above, it can be interpreted as follows:

1) CAR probability of 0.0010 was smaller than 0.05, so this variable were actually in H0 rejection area , meaning that CAR had influence towards dividend payout ratio at Buku empat's Banks during period of 2008-2017.

2) NIM probability of 0.0430 was smaller than 0.05, so this variable is in rejection area of H0, meaning that NIM had an impact towards dividend payout ratio at Buku Empat's Banks during period of 2008-2017.

3) LDR probability of 0.0259 was smaller than 0.05, so this variable still in H0 rejection area, meaning that LDR had impact on dividend payout ratio at Buku Empat's Banks during period of 2008-2017.

4) NPL probability of 0.0051 was smaller than 0.05, so this variable still in HO rejection area, Meaning that NPL had an impact against dividend payout ratio at Buku Empat's Banks during period of 2008-2017.

Discussion of Research Results

Capital Adequacy Ratio had positive influence over Dividend Payout Ratio. Capital Adequacy Ratio, which is the ratio of minimum capital adequacy ratio that must be owned by a bank. In according to government regulations, a minimum Capital Adequacy Ratio was 8% from weighted assets (Cashmere, 2014:44) in attachment of 14 Bank Indonesia circular letter number 3/30/DPNP which dated on December 14, 2001 Capital Adequacy Ratio was calculation of risk-weighted capital and assets (RWA) that carried out based on provisions of the Applianced minimum capital adequacy requirements. The results from this research were supported the research from Pangalila & Ogi (2019) which stated that Capital Adequacy Ratio (CAR) had positive influence towards dividend payout ratio.

Net Interest Margin had negative affect towards Dividend Payout Ratio. NIM shows the result from comparison between interest income on assets, which is also difference between interest on deposits and interest on loans. If the company profits net interest income, it will also increase the bank's profitability, the greater of NIM received, the increased bank income which could affect those increasing in dividends. This results were in line with research by Collins, et., Al. (2009) which describe that Net Interest Margin (NIM) had negative impact against dividend payout ratio, meaning if there has slight possibility of less mitigation by reducing interest expenses, but not enough to avoid loss of interest income as a whole. And include not enough for non-interest income.

Loan to Deposit Ratio had negative effect on Dividend Payout Ratio. LDR describe bank liquidity which shows the bank's ability to return funds that withdrawn by customers with relying on public funds loans .The smaller LDR value, the higher liquid that company has, the higher liquid company has, the greater dividend earned. The results were support other research from Nadem, et., al. (2018) meaning that Loan to Deposit Ratio (LDR) had negative influence towards dividend payout ratio.

Non Performing Loans had positive impact towards Dividend Payout ratio. NPL shows how much non-performing loans in bank, an increase in NPL had an impact on reducing bank capital. If there were many debtors who were unable to return credit within a certain period, financing capital decreases, which could affects the company's cash dividend. This results were in line with research by Fauziah and Iskandar (2015) meaning that Non-Performing Loans (NPL) had positive influence against dividend payout ratio. This result were explained that dividends effectively moved risk from owners to debt holders so internal problem of low credit repayments was unaffected decision of investment.

CONCLUSION AND SUGGESTION
Conclusion

Based on analysis results and discussion, it could be concluded that: 1) Capital Adequacy Ratio (CAR) had positive and significant influence towards Dividend Payout Ratio (DPR) at Buku Empat's banking companies during 2008–2017; 2) Net Interest Margin (NIM) had negative and significant impact towards Dividend Payout Ratio (DPR) at Buku Empat's banking companies during 2008–2017 3) Loan to Deposit Ratio (LDR) had negative and significant influence Dividend Payout Ratio (DPR) at Buku Empat's Banking companies during 2008-2017 and 4) Non-Performing Loans (NPL) had positive and significant impact towards Dividend Payout Ratio (DPR) at buku empat's Banking companies during 2008–2017.

Suggestion

Based on discussion and conclusions result regarding those variables which include Capital Adequacy Ratio, Net Interest Margin, Loan to Deposit Ratio and Non-Performing Loans to Dividend Payout Ratio at Buku Empat's Banks the author tried to created some suggestions as for consideration in this belows:

1) The investors who will invest in banking companies are advised to choose companies with sufficient levels of capital and rates of return that have an upward tendency, therefore it would reduce the risk when invested. The results of this research stated that Capital Adequacy Ratio (CAR), Net Interest Margin (NIM), Loan to Deposit Ratio (LDR) and Non Performing Loan (NPL) had impact towards Dividend Payout Ratio so the investors and potential investors were advised to recognize those analysis from these five variables when decide to invest.

2) Companies should pay attention to capital adequacy ratio that has been set by regulator and Concerned about efficiency and effectiveness in manage funding sources or allocating appropriate funds to carry out those intermediation function. Both in terms of investment, operation and capital management so as to minimize the possibility of risks that could stumbled those investment growth so it would becomes an advantage for both companies and investors.

3) Future research is expected to use other internal factors that are likely influenced the Dividend Payout Ratio apart from the factors that contained in this research. And Also, it will use longer research period and more samples in order to get valid results.

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