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## Liquidity, asset quality, and efficiency to sustainable growth rate for banking at Indonesia Stock Exchange

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### Abstract

The focus of the bank to increase profit. However, the increase in profit is not important to focus on because the sustainability of growth is more important. Measure the level of sustainable growth is an important factor that needs attention as a reflection for the performance of a bank. The measurement uses the concept of growth called the Sustainable Growth Rate (SGR). This study aims to provide empirical evidence on the effect of liquidity proxy Loan to Funding Ratio (LFR), asset quality proxy by Non-Performing Loan (NPL) and efficiency proxy by Operating Cost to Operating Income (BOPO) toward SGR. The sampling technique is purposive based on the criteria so that the selected 22 banks with the study period 2012-2107. Unit analysis as much as 132 observations. The analysis of data using panel data regression. The findings of the study showed that LFR, NPL, and BOPO had a significant negative effect on SGR. The implications of research that SGR becomes important as it relates to the bank's strategy to continue to grow and continue in order to expand its business maximally while maintaining internal and external funding sources.

### Abstrak

Fokus dari bank untuk meningkatkan profit. Namun, peningkatan profit tidak menjadi fokus utama karena keberlangsungan pertumbuhan menjadi lebih penting. Pengukuran tingkat pertumbuhan berkelanjutan menjadi faktor penting yang perlu mendapatkan perhatian sebagai salah satu cerminan kinerja bank. Pengukuran tersebut menggunakan konsep pertumbuhan yang disebut Sustainable Growth Rate (SGR). Penelitian ini bertujuan untuk memberikan bukti empiris tentang pengaruh likuiditas yang diproksi Loan to Funding Ratio (LFR), kualitas aset yang diproksi oleh Non Performing Loan (NPL) dan efisiensi yang diproksi oleh Beban Operasional terhadap Pendapatan Operasional (BOPO) terhadap SGR. Populasi penelitian adalah seluruh bank umum go public 43 bank. Teknik pengambilan sampel adalah purposive berdasarkan kriteria sehingga terpilih 22 bank dengan periode penelitian 2012-2107. Unit analisis sebanyak 132 pengamatan. Analisis data menggunakan teknik regresi data panel. Hasil temuan penelitian menunjukkan bahwa LFR, NPL dan BOPO berpengaruh signifikan negatif terhadap SGR. Implikasi penelitian menunjukkan bahwa SGR menjadi penting karena terkait dengan strategi bank untuk terus tumbuh dan berlanjut dalam rangka memperluas usaha maksimal dengan tetap memperhatikan sumber dana baik internal maupun eksternal.

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## **1. Introduction**

Banking performance is a benchmark for success in business management, which includes funding, lending, and service. Activities business of bank aims to get the profits. The profit targeted by the bank is the profit that continues to grow. The concept of banking growth it is demanded to be sustainable so that it becomes an indicator in measuring bank performance.

Several previous studies measuring bank performance tended to be based on financial ratios, namely the concept of profitability (Fitriana, Rosyid, & Fakhrina, 2015; Gambacorta, 2017; Tarazi & Zedek, 2014; Haryanto, 2016; Thalib, 2016). Profitability is more proxied by Return on Assets (ROA), which compares the net income to bank assets. Even though banks will strive to continue to grow and develop in accordance with long-term targets. The measurement tool is related to the rate of growth that is beneficial in the long run. According to Ross et al. (2005) consists of two types of growth, namely the Internal Growth Rate (IGR) and the level of sustainable growth (Sustainability Growth Rate-SGR).

The internal growth rate or IGR is a concept of the maximum growth rate that can be achieved by a company in this case, banking without any external funding. The essence of the IGR concept means that companies only use internal funding sources. The concept of SGR is the maximum growth rate that can be achieved by companies and banks without the need for funding from equity and still maintains a constant debt to equity ratio.

The SGR concept developed by Higgins (1981) explains that SGR is a financial policy of each company that is different according to its growth goals. Profit growth can increase assets so that when there is an increase in assets, financial policies or financing sources are needed. The SGR concept is to find out the alignment between elements of the company's main activities reflected in sales growth and funding decision elements that are reflected in the

sources of funding. The direction two elements have a difference in the assessment of financing policies.

SGR is often used by bankers (Higgins, 1981) to assess a company, creditworthiness. Information about Actual Growth Rate (AGR) to SGR. If AGR is consistently greater credit SGR, management will face the problem of funding sources to deal with these conditions. Conversely, if AGR is consistently lower than SGR, bankers tend to allocate funds in the form of investments. In the end, the goal of SGR leads to the survival of the company in the long run so that there is a balance between the growth rate of assets and profitability.

Empirical research on SGR determinants is carried out by several researchers, such as (Nasim & Irnama, 2015; Utami et al., 2018). Research in the service sector was carried out by Nasim & Irnama (2015) found that profit margins, asset turnover, and leverage had a positive effect on sustainable growth rate. Nasim & Irnama (2015) researched with service sector objects on the Indonesia Stock Exchange found that profit margins, asset turnover, and leverage positively influenced sustainable growth rates. The findings of Utami et al. (2018) with objects in manufacturing companies and the number of observations 466 with the 2012-2016 study period indicate that the higher SGR has a high impact on increasing debt in corporate funding. Research with the object of textile companies in India was conducted by (Pandit & Rachanatejani, 2011) found that the variable profit margin, assets turnover, leverage, and retained earnings had a significant positive effect on SGR. The research of Amouzesh et al. (2011), found that the liquidity ratio was not significant to SGR with the object of research on the Iran Stock Exchange.

Other research on SGR for determining stock returns is done by (Olson & Pagano, 2005), (Lockwood & Prombutr, 2010). The results of these two studies that in the long run, SGR can be a determinant of changes in stock prices in the capital market even for banks that merge. Different studies have

been conducted by previous researchers by Platt et al. (1995) that SGR can be used to predict companies that are experiencing financial difficulties.

The latest research on SGR is Normaisarah et al. (2018) in public companies in Malaysia based on sharia. The object of the study was 450 observations with the period 2004-2014. The research findings show that variable dividends, profitability are significant towards SGR, while liquidity is not significant. Research by Normaisarah et al. (2018) measures SGR by using Zakon's Model, which is specifically used for sharia-based research. Other studies using the SRI-KEHATI and IDX30 indices for the period 2010-2013 were found in the study (Hartono & Utami, 2016). The findings of this study indicate that in the SRI-KEHATI index several variables that have a significant effect on SGR are ROA, CR, and PER whereas using the IDX30 variable that has a significant effect is ROA and CR while the PER is not significant.

Several concepts and variables emerged as determinants of SGR from some previous researchers, namely LDR which is currently LFR as a proxy for liquidity (Atemnkeng & Nzongang, 2006; Yuliani, 2007; Respati & Yandono, 2008; Mintarti, 2009; Amouzesh et al., 2011; Ahmad, 2015; Firdausi, 2016; Haryanto, 2016; Thalib, 2016). Research (Zulkifli et al., 2018) on the determinants of LFR using 10 commercial banks on the Indonesia Stock Exchange with the 2011-2016 period with a total N sample of 60 observations found that the determinant of LFR was CAR and NPL while BOPO had no significant effect on LFR.

Measurement of asset quality proxied by NPL (Mintarti, 2009; Damayanti & Chaniago, 2014; Pratiwi, 2014; Ahmad, 2015; Haryanto, 2016; Thalib, 2016). Asset quality reflects the quality of current assets in several bank assets contained in the balance sheet and cash flow. Asset quality relates to credit risk faced by banks as a result of lending and investment funds in various existing portfolios. Asset quality can be seen from the number of non-

performing loans. Problematic assets are assets that do not generate income so that a method is needed in the assessment of creditworthiness – proxy asset quality measurements with Non-Performing Loans (NPL).

This research is important because first, previous studies still produce findings varying between LFR, NPL, and BOPO on SGR. Second, this study uses the SGR concept where researchers in the financial field are more focused on non-financial companies so that this research is more varied. Third, banking by functioning as an intermediary institution with regulations from the Financial Services Authority (OJK) makes banks will continue to maintain their health performance. This study measures fundamental performance as a result of bank operations in its function as intermediation.

The purpose of this study provides empirical evidence of the effect of LFR, NPL, and BOPO on SGR for banks in Indonesia. This research is expected to be useful, both theoretically and practically. Theoretical benefits provide benefits to the theories of bank health assessment as measured by SGR. In particular theories in financial management and banking management will dominate the topic of this research. The theory of SGR as a bank effort in increasing sustainable growth so that bank activities will continue to be consistent.

Practical benefits are expected to be one of the sources of information related to SGR banking in Indonesia for OJK, which can be used as input for financial information in an effort to implement regulations as banking regulatory authorities in Indonesia. For bank managers, SGR is a measure of financial performance as an evaluation of bank activities that include funding, lending, and services. Investors, know that SGR banks go public so that they can be used as a source of information for buying and selling banking shares. For the society, monitors the bank health performance, especially from the viewpoint of interest rates so that it will be related to the decision to save and borrow funds.

## 2. Hypotheses Development

Bank liquidity reflects the ability of banks to meet short-term obligations at maturity. The more liquid banks indicate that the availability of funds and sources of bank funds for now and in the future do not experience problems. The availability of bank funding sources includes three sources, namely the bank itself, the wider community, other financial institutions (Yuliani, 2016). The source of funds originating from the bank itself consists of the capital deposits of shareholders and retained earnings. Sources of funds from the wider community include the growth of Third Party Funds (TPF) which can be seen in the number of deposits, savings and time deposits. Other financial institutions' funding sources consist of liquidity loans from Bank Indonesia, interbank loans or call money, existing bank loans abroad and from *Surat Berharga Pasar Uang* (SBPU).

Loan to Funding Ratio (LFR) is one of the ratios for measuring bank liquidity. Based on PBI No. 17/11/PBI/2015, there has been a change in LDR to LFR by taking into account securities in addition to bank funding sources other than demand deposits, savings, and time deposits. This ratio is used to determine the ability of banks to repay funds withdrawals made by depositors by relying on loans provided as a source of bank liquidity. The measurement of LFR refers to SEBI No.13/30/ dnp-16 December 2011 which has been amended by the latest regulation effective as of August 2015 the mention of LDR to be LFR, namely by comparing the total credit provided with total DPK. The best standard for LFR is between 78% and 100%.

Measurement of sustainable growth is a concept that was first described by (Higgins, 1977, 1981) is the maximum growth in the company in the future. According to (Normaisarah et al., 2018) an important topic of sustainability is SGR being an important indicator in the company's business because it is used to measure prosperity performance for company owners and managers. SGR measure-

ment includes two things, namely a combination of operating performance and financial performance. Combination of operating and financial performance such as profit margin, asset efficiency, capital structure and retention rate (Amouzesh et al., 2011)

Banking liquidity is measured by LFR referring to (Atemnkeng & Nzongang, 2006; Yuliani, 2007; Respati & Yandono, 2008; Mintarti, 2009; Amouzesh et al., 2011; Ahmad, 2015; Firdausi, 2016). The higher LDR means that banks have an increase in total credit, which is greater than the increase in deposits so that interest-based spread-based income will be higher than the interest costs given to customers in collecting deposits. This condition indicates that the higher the LFR, the SGR will show changes in the increase without using external funding. Based on the description above, the research hypothesis is:

H<sub>1</sub>: loan to funding ratio (LFR) influences the sustainable growth rate (SGR)

Asset quality reflects the ability of assets owned by banks in providing credit. Based on SEBI No.13/30/dnp-16 December 2011 that asset quality is important for banks because it explains credit risk. The ratio used to assess credit risk is that the NPL refers to previous research (Mintarti, 2009; Damayanti & Chaniago, 2014; Pratiwi, 2014; Ahmad, 2015; Haryanto, 2016; Thalib, 2016). Measurement of NPL by comparing the ratio of loans given is problematic with total loans disbursed. The higher the NPL, the more banks are not careful in giving credit. Healthy NPL, according to the OJK is <5%, meaning that from the number of loans disbursed, only a few experience problems so that they fall into the category of non-performing loans.

The quality of assets in the company can be grouped with asset management (asset management). Asset management in conventional companies is a measurement of the ratio of activities that are often used is total asset turnover (Gunawan & Leonnita, 2015; Nasim & Irnama, 2015; Ekpu &

Paloni, 2016). This ratio is to measure the ability of banks to effectively manage existing assets so as to minimize business risks. Banking in an effort to minimize business risk is to apply the principle of prudence in the allocation of funds in this case lending activities.

Previous research on asset quality against SGR according to the findings (Gunawan & Leonnita, 2015) was significantly negative with the object of research of 76 companies at the Kuala Lumpur Stock Exchange with the period 2013-2014 using multiple linear regression techniques. Research on service sector companies on the IDX that there is a significant positive effect between asset quality on SGR (Nasim & Irnama, 2015). The NPL measures the level of asset quality, which shows how much the bank is able to implement the bank's functions in lending activities. The smaller NPL ratio shows that SGR banks will continue to grow better. Based on the description above, the research hypothesis is:

H<sub>2</sub>: non-performing loan (NPL) influences the sustainable growth rate (SGR)

The health measurement of banks by evaluating efficiency can be proxied by the ratio of Operational Costs and Operating Income (BOPO). Operational costs include all costs incurred by banks to finance bank operations as an institution of mediation between surplus communities and deficit communities. Operating income is revenue in bank banking as a result of performance in funding, lending, and service activities.

Based on the provisions of banking regulations, namely OJK and BI in SEBI No.3/ 30/DPNP dated December 14 in 2001, the BOPO ratio is in the healthy category if <93.52%. The higher the BOPO ratio indicates the bank operates increasingly inefficient. This means that the bank is in the form of getting smaller BOPO because the smaller the ratio, the more efficient the operational costs incurred by the bank are concerned so that the possibility of a bank in a problematic condition is getting smaller.

This means that if a bank has BOPO more than BI provisions, the bank is categorized as unhealthy and inefficient.

The role of BOPO in relation to SGR can be explained in conventional companies of measurement with leverage ratios. This ratio is used by several researchers (Pandit & Rachanatejani, 2011; Rahim & Saad, 2014; Gunawan & Leonnita, 2015; Nasim & Irnama, 2015; Normaisarah et al., 2018). The use of leverage in conventional companies results in the emergence of operational costs, namely the cost of interest. Banks will book these costs as a measure of efficiency performance. The higher operational costs will affect the reduction in operating profit so that in the end, it will reduce net income.

The use of external funding, which indirectly increases operating costs and bank efficiency indicators, the BOPO ratio will affect the sustainable growth of banks. The relationship between BOPO and SGR can be explained when the bank is inefficient; it will affect the growth rate like the research findings (Normaisarah et al., 2018). Based on the explanation above, the research hypothesis is:

H<sub>3</sub>: operational costs and operating income (BOPO) influence the sustainable growth rate (SGR)

### **3. Methods, Data, and Analysis**

The study population was 43 banks that went public. The sampling technique is purposive sampling with criteria: 1) banks that publish complete annual financial reports during the study period ending on December 31. 2) banks that report dividend payout ratio data during the study period continuously, 3) banks that have net income during the study period because they are related to the return on equity (ROE) data. Based on these criteria, banks that meet the requirements are 22. The names of the banks as research samples are Bank Central Asia, Bank Mandiri, Bank Negara Indonesia, Bank Rakyat Indonesia, Bank Tabungan Negara, Bank Jawa Barat dan Banten, Bank Jawa Timur,

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Bank Danamon Indonesia, Bank Sinarmas, Bank Mayapada Internasional, Bank Tabungan Pensiunan Nasional, Bank Pan Indonesia, Bank Rakyat Indonesia Agroniaga, Bank Bukopin, Bank Bumi Arta, Bank Mega, Bank Mestika Dharma, Bank Capital Indonesia, Bank Ina Perdana, Bank CIMB Niaga, Bank Dinar Indonesia, Bank Victoria International. The unit of research analysis is panel data of 132 n observations. Data sources are the financial statements of each bank and the IDX website. The data collection technique is documentation and recording, calculating according to the variables under study. The operational definition of the variable is shown in Table 1.

Data were analyzed using descriptive and inferential statistical approaches. Descriptive statistics use the maximum, minimum, average, and standard deviation values for each research variable, which include LFR, NPL, BOPO, and SGR. Inferential statistics are used to test the research hypothesis. The inferential analysis tool uses panel data regression

using Eviews 10. The estimation of the panel data regression model uses estimates with pooled OLS (common effect), fixed effects, and random effects. After finding out the right model is followed by selecting the best method with the Hausman Test, Chow Test, and Lagrange Multiplier (LM) test. The equation of this study:

$$SGR = \alpha + \beta_1 LFR + \beta_2 NPL + \beta_3 BOPO + \beta \quad (1)$$

Furthermore, the normality test and classical assumption test are carried out, which includes (1) multicollinearity, (2) heteroscedasticity, and (3) autocorrelation – normality test by looking at the results on the value of Jarque-Bera (JB). If the probability of JB is > 0.05, then the decision that the data is normally distributed. Multicollinearity test uses a partial method between independent variables. If the correlation coefficient value is < 0.85, it can be concluded that there is no correlation between the independent variables. Heteroscedasticity test us-

**Table 1.** Operational definitions of variables

Variables	Operational Definition	Measurement	Source
Loan to Funding Ratio (LFR) (X <sub>1</sub> )	An assessment of bank liquidity in repaying funds withdrawals made by depositors by relying on allocated credit.	$LFR = \frac{Loan}{Deposit}$	BI Regulation No. 17/11 / PBI / 2015
Non Performing Loan (NPL) (X <sub>2</sub> )	Assessment of asset quality where the smaller the ratio shows the more effective the bank. The NPL used is gross NPL.	$NPL = \frac{Total\ NPL}{Total\ credit}$	SEBI No. 6/23/DPNP 2004
BOPO (X <sub>3</sub> )	Assessment of the efficiency and ability of banks in conducting their operations.	$BOPO = \frac{Operational\ Cost}{Income\ Operational}$	SEBI No. 6/23/DPNP 2004
Sustainable Growth Rate (Y)	Assessment of maximum profit growth obtained by banks without external funding sources	$SGR = \frac{ROE \times R}{1 - (ROE \times R)}$ ROE = Return on Equity R (Retention Rate) = 1- DPR	Ross et al. (2005)

ing the Glesjer method while the autocorrelation test uses Durbin Watson.

#### 4. Results

Descriptive statistical results are presented in Table 2. The average LFR of 83.83 percent means that the liquidity ratio of commercial banks is in the healthy category. The lowest value of LFR is 50.61 percent, and the highest is 108.86 percent (Romadloni & Herizon, 2015; Thalib, 2016; Zulkifli et al., 2018). The gap between lows and highs more than twice shows that each bank seeks to increase the LFR in accordance with the provisions of banking regulations, namely a healthy LFR of 78-110 percent. The standard deviation is smaller than the average value reflecting the distribution of normally distributed data. The standard deviation value is 11.84 percent, which means there is still extreme, but there is less data pattern so that the tendency of LFR data is quite good.

**Table 2.** Descriptive statistics results (N = 132)

Variables (%)	Min.	Max.	Mean	Standard Deviation
LFR	50.61	108.86	83.83	11.84
NPL	0.21	5.65	2.21	1.15
BOPO	50.76	99.04	79.98	10.74
SGR	0.70	41.44	10.49	6.58

Bank health measurements derived from the quality of non-performing loans are seen in the NPL ratio. The smaller NPL indicates the better the bank in applying the precautionary principle in accordance with the philosophy of the bank as an intermediary institution (Ahmad et al., 2013; Greuning & Bratanovic, 2011; Haryanto, 2016; Thalib, 2016; Zulkifli et al., 2018). The NPL value in Table 2 shows an average of 2.21 percent, meaning that overall banks go public have a healthy NPL. The smaller the ratio, the better the bank. The minimum value of all research samples is 0.21 percent, this NPL value is very healthy category meaning that from the

number of funds disbursed only 0.21 percent is included in non-performing loans. The maximum value of 5.65 percent indicates that the bank has high non-performing loans because the OJK provision is <5 percent. The NPL value of almost 5 percent is an important concern for banks because credit risk is relatively risky, so the precautionary principle remains the main benchmark before loans are disbursed.

Efficiency ratios measure bank operational activities. This study uses BOPO as a proxy of the efficiency ratio. BOPO is a comparison between operating costs and operating income. The smaller the BOPO, the more efficient the standard ratio is <93.5% (Cahyono & Anggraeni, 2015; Fitriana, Rosyid & Fakhriana, 2015; Pratiwi, 2014; Romadloni & Herizon, 2015; Zulkifli et al., 2018). Based on Table 2, all study samples of BOPO values were 79.78%. This condition reflects the BOPO of banks going public in an efficient category. The standard deviation of 10.74% indicates that the distribution of data is smaller than the average value so that normal data distribution can be stated. The lowest BOPO was 50.76%, and the highest was 99.04%, indicating that banks were still inefficient, so operational costs were higher than operating income.

SGR measures the combination of operating performance, efficiency, and source of funds. SGR can be used as a benchmark to predict future revenue growth plans more realistically. Table 2 shows that the average SGR of banks during 2012-2017 was 10.49%. The SGR, 10.49% value, indicates that banks going public can expand their business to a maximum of the SGR. If the average bank tries to expand its business more than SGR on average, the bank needs external funding. The standard deviation of 6.58% reflects that the variation in the distribution of different data is quite small from the average distribution. The lowest SGR value of 0.7% and the highest of 41.44% indicates that there are banks that grow well and fast, but there are also banks that have slow or even very slow growth.

**Selection of panel data regression model**

Determination of the best panel data regression model with the Common Effect (CE) method, Fixed Effect (FE) or Random Effect (RE) through testing Chow Test, Hausman Test, and Lagrange Multiplier Test. The following are the test results. Based on the results of the Chow Test to choose between CE and FE, a Cross-section F value of 2.448 with a probability of 0.0015 <0.05 can be concluded that the FE model is better than the CE model. Then the model testing between FE and RE is based on the Hausman Test. The test results obtained random cross-section with Chi-Sq. The statistics are 3.857 with a probability of 0.277 > 0.05, so the conclusion of the FE model is better than RE. Based on the results of the above tests, the best regression model for this study is FE so that the LM Test does not need to be done.

**Normality test and classical assumption test**

Normality test is needed as the first step before processing data for regression. The purpose of

the normality test is related to screening data before testing the hypothesis. Normality testing using Jargue-Bera. The JB results are obtained at 1.995 with a probability value of 0.369 > 0.05 so that it can be concluded that the data is normally distributed. The results of classic testing assumptions are shown in Table 3, the classical assumptions have been fulfilled.

**Panel data regression test results**

Based on Table 5, the R<sup>2</sup> value is 0.797. This value indicates that the LFR, NPL, and BOPO variables are jointly able to explain the variation in the SGR value of 79.7% while 20.3% is explained by other variables not included in this research model. The regression equation formed based on Table 5 is as follows:

$$SGR = 54.551 - 0.089LFR - 1.326NPL - 0.422BOPO + \eta \tag{2}$$

**Table 4.** Classical assumption test results

Variables	Multicollinearity Test			Autocorrelation Test	Heteroscedasticity Test
	Correlation Matrix			Durbin-Watson	Spearman's rho
	LFR	NPL	BOPO	Value	Sig
LFR	1.000	0.144	-0.177	1.796	0.856
NPL	0.144	1.000	0.162		0.437
BOPO	-0.177	0.162	1.000		0.770

**Table 5.** Panel data regression test results

Variables	Regression Coefficient	t statistic	p-value	Decision
Contant	54.551	10.314		
LFR	-0.089	-1.689	0.094	H <sub>1</sub> accepted**
NPL	-1.326	-5.207	0.000	H <sub>2</sub> accepted*
BOPO	-0.422	-10.536	0.000	H <sub>3</sub> accepted*
R-squared			0.797	
F-statistic			17.537	
Significant			0.000	
Dependent variable: SGR=sig. p-value < 0.05*; sig. p-value < 0.10				

## 5. Discussion

### **Loan to funding ratio (LFR) significantly influences the sustainable growth rate (SGR)**

The empirical results of the study indicate that there is an influence between LFR on SGR. The LFR concept is the ratio of loans disbursed to third parties both in rupiah and in foreign currencies to the number of third party funds (TPF), namely in the form of demand deposits, savings and time deposits. This type of credit does not include loans disbursed to other banks. LFR is a reflection of the liquidity ratio, which measures how much the bank is able to repay funds withdrawals made by depositors by relying on loans.

SGR is a reflection of the measurement of bank performance in the future. SGR value is a combination of elements of operating performance and financial performance Amouzesh et al. (2011). Operational performance in banking includes three things, namely funding, lending, and services, while financial performance includes funding sources both internally and externally. SGR value in descriptive for 10.49% can be interpreted the growth of bank sustainability in the study sample is relatively slow. Deceleration occurs because not only of internal factors, one of which is LFR but can be determined by external conditions considering the level of business competition between banks is relatively tight. In addition, the regulation of OJK and BI is quite firm in continuing to supervise banks. Close supervision by government regulations can be one of the controls for banks in developing strategies related to the soundness of their respective banks.

The results of this study support the findings of Normaisarah et al. (2018) and Amouzesh et al (2011). However, the results of the study do not support the research conducted by Gunawan & Leonnita (2015) and Atemnkeng & Nzongang (2006). The difference in the results of this study is due to the first, differences in the object of research, namely manufacturing in two countries, namely Indonesia and Kuala Lumpur (Gunawan & Leonnita, 2015) while research (Atemnkeng & Nzongang, 2006) was

carried out in a fairly past period 1987-1999. Some of these differences allow differences in research findings.

### **Non-performing loans (NPL) significantly influence the sustainable growth rate (SGR)**

Based on the results of the regression test, the hypothesis that NPL has a significant effect on SGR is stated to be accepted. The regression coefficient is negative. This means that the smaller the NPL value, the higher the SGR value. This study is able to provide empirical evidence that banks in the study sample have sustainable capabilities in revenue growth.

Banks as intermediary institutions that have the main task of funding and lending, the main risk faced is a credit risk. The indication of credit risk related to the bank's prudential principles can be seen from the higher NPL. Credit risk is regulated in Bank Indonesia Regulation (PBI) No.5/8/PBI/2003, concerning Implementation of Risk Management for Commercial Banks and its implementing regulations in the form of a Bank Indonesia Circular Letter.

The findings of this study support a number of earlier studies conducted by (Ahmad, 2015; Gunawan & Leonnita, 2015; Mintarti, 2009; Thalib, 2016). In contrast, this study does not support the findings (Romadloni & Herizon, 2015) and (Cahyono & Anggraeni, 2015). The difference in the results of this study is due to the object of research, namely in foreign exchange banks for the period 2010-2014 (Romadloni & Herizon, 2015). In addition, only three private national banks have quarterly data for 2010-2014 (Cahyono & Anggraeni, 2015).

### **Operational costs and operating income (BOPO) significantly influence the sustainable growth rate (SGR)**

The results of this study are able to provide empirical evidence that there is a significant nega-

tive effect between BOPO and SGR. This means that the lower the BOPO, the higher the SGR. Negative directions indicate that banks have the ability to increase higher income if they can operate efficiently.

## 6. Conclusion, Limitations, and Suggestions

### Conclusion

Liquidity proxied by the Loan to Funding Ratio (LFR) was found to be significant towards the change in the Sustainable Growth Rate (SGR). The higher the LFR indicates a change in SGR, which has decreased. LFR is a reflection of the liquidity ratio, which measures how much the bank is able to repay funds withdrawals made by depositors by relying on loans. Asset quality that is proxied by Non-Performing Loans (NPL) is significantly negative towards SGR. The lower level of non-performing loans will increase bank profits so that the bank will continue to grow and continue. The efficiency factor proxied by Operational Costs and Operating Income (BOPO) on SGR is significantly positive. The higher BOPO ratio will give banks the opportunity to get a higher income from spread-based income.

### Limitation and suggestions

The ratios used in this study use bank health measurements that are fundamental and based on accounting with historical data. Future research can examine by differentiating longer periods by paying attention to t-1. The impact of these ratios tends to be meaningful for long-term periods. In addition, this study uses the LFR ratio alone as a measure of health from bank liquidity. Future research can use other ratios in accordance with the concept of liquidity based on SEBI No.13/24/DPNP October 25, 2011 consists of two ratios so that the next study tries to use other ratios other than LFR.

The quality of assets proxied with NPL is included in credit risk. The results of this study are able to prove empirically. However, the future research can classify asset quality in four types based on the level of collectibility, which is smooth, substandard, doubtful, and stalled. The perspective of bank health methods in different groups between CAMELS and RGEC. The CAMELS method of measuring BOPO as an element of earnings while RGEC is included in the element of efficiency.

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## Liquidity, asset quality, and efficiency to sustainable growth rate for banking at Indonesia Stock Exchange

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