Assessment of Assets Quality and Liquidity on Sustainable Growth Rate of Small and Medium Banks in Kilimanjaro, Tanzania

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Abstract
Banks operate with a focus of increasing profits as any other businesses do across the world. This study was aimed at providing empirical evidence on the effect of liquidity proxed by Loan to Funding Ratio (LFR), asset quality proxed by Non-Performing Loan (NPL) and efficiency proxed by Operating Cost to Operating Income (BOPO) toward Sustainable Growth Rate (SGR). Under this study mixed method research approach was employed since the study used both qualitative and quantitative data.The sampling technique is census as the number of banks was few and manageable. The unit of analysis was 4 banks totaling to 80 observation panel data for the period from 2016-2020 in four quarters each year. For qualitative data Key Informant Interview were done to 9 respondents. The findings of the study showed that LFR, NPL, and BOPO had a significant negative effect on SGR which implies that banks are not doing well in terms sustainability growth explained by performance in the respective indicators. The higher the LFR indicates a change in SGR, which has decreased. The higher the level of non-performing loans decreases bank profits and so the bank will continue to be unsustainable in terms of growth. It is recommended thatBanks should keep strategies on maintaining a balance between operational costs and income so that assets quality and liquidity stands at better positions.

Keywords: Asset quality, Liquidity, Bank sustainability, Small and Medium Banks, Tanzania

1.   Introduction

Banks as other business entities are aimed at making profits (Junaidi et al, 2019). The profit targeted by the bank is the profit that continues to grow so that banks existence can be sustained. The concept of banking growth it is demanded to be sustainable as it is an indicator in measuring bank performance and benchmark for success in business management, which includes funding, lending, and service (Gafool et al, 2018). The first explains the quality of assets in terms of managing the lending portfolio while the later explains how liquidity levels are managed by the banks together ensuring sustainability and growth of the banks.

It should also be noted that, there are two types of growth in the banking sector namely the Internal Growth Rate (IGR) and the level of sustainable growth (Sustainability Growth Rate-SGR) as explained by Ross et al. (2005). 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 (Lotto, 2019). 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 including borrowing from the central bank or other commercial banks.

The measurement toolof SGR is related to the rate of growth that is beneficial in the long run.Several previous studies measuring bank performance tended to be based on financial ratios, namely the concept of profitability (Msuku, 2020; Gambacorta, 2017; Kakozi, 2017; Malekano, 2017; 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 longterm targets. While on the other hand Loan to Funding Ratio (LFR) is one of the ratios for measuring bank liquidity. This ratio is used to determine the ability of banks to repay funds withdraws made by depositors by relying on loans provided as a source of bank liquidity.

Furthermore, 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. It can basically be seen from the number of nonperforming loans. Problematic assets are assets that do not generate income so that a specific method is needed in the assessment of creditworthiness of the entity.Measurement of asset quality is normally proxied by non-performing loan (NPL) (Sinda, 2019; Kingu et al, 2019; Malimi, 2017; Haryanto, 2016; Thalib, 2016;Ahmad, 2015).

2. Status of Bank Performance in Tanzania

Thebanking sector in Tanzania recorded a funding gap value of TZs.437.6 billion as at the end of December 2019 compared to a gap of TZS. 969.1 billion, recorded in December 2018 reflecting an increased mismatch between assets (Non-performing Loan, Gross loans and placements abroad) and liabilities (customer deposits in terms on liquidity). The gap was mainly due to increased investment in lending and placements in banks abroad. It is worth noting that, if the funding gap persists, it may exert liquidity pressure in the banking sector going forward as banks

may opt for more expensive source of funding. Loans, advances and overdraft, which grew by 8 percent, accounted for 57.0 percent of total assets as at the end December 2019 (BoT, 2019).In Kilimanjaro (the study area) it was observed through revoke of business licenses and put under probation period of one of small and medium bank(Kilimanjaro cooperative Bank) due to poor assets and liability management, that is assets quality and liquidity problem (BoT, 2019).

So the future of small and medium bank seems to have many uncertainties due to continuation of being put under supervision, merged or given a probation period like China Commercial Bank Limited which is currently under control of National Microfinance Bank (BOT, Nov 2020). A few studies have been done in Tanzania on small and medium banking performance; Quin and Pastory 2012; Amin et al. 2014). Pastory and Mutaju (2013) studied the influence of capital adequacy on asset quality position of large banks in Tanzania and all have generalized the problem on banks while the impact of assets and liabilities management differ upon bank size.

This research is important because first, previous studies still produce findings varying between Loan to Funding Ratio (LFR), Non-Performing Loans (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 BoT will continue to maintain their health performance.

Furthermore, 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. Using the theory of SGR is important as banks' effort in increasing sustainable growth so that bank activities will continue to be consistent.The practical benefits of the study are expected to be one of the sources of information related to SGR banking in the study area but also to other banks in the country that falls in the same level (small and medium).

Findings can also be used as input for financial information in an effort to implement regulations as the BoT 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 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 from the respective banks. Bearing all this in mind, the focus of this study is on two objectives as follows:

i.   To examine assets quality on contribution to sustainable growth rate of banks' capital in Kilimanjaro region.
ii.   To examine the influence of liquidity management on the sustainable growth rate of small and medium banks in Kilimanjaro region.

Three hypotheses were tested with regards to assets quality and liquidity in the study area as follows:

H1: Loan to funding ratio (LFR) positively influences the sustainable growth rate (SGR)
H2: Non-performing loan (NPL) negatively influences the sustainable growth rate SGR)

H3: Operational Income to Operating Costs(BOPO) positively influences the sustainable growth rate (SGR).

3. Theoretical framework

Efficiency Structure theory advocated by Grants (2015) proposes that enhanced managerial scale efficiency leads to higher concentration and then to higher profitability. The efficient-structure theory also includes two hypotheses: The X-efficiency and scale efficiency hypotheses (Grant, 2015). The X-efficiency hypothesis argues that banks with better management and practices control costs and raise profit, moving the bank closer to the best-practice, lower bound cost curve.

The scale-efficiency hypothesis argues some banks achieve better scale of operation and, thus, lower costs (Rettab et al., 2010). Lower costs lead to higher profit and faster growth for the scale efficient banks.In additional the portfolio theory approach is the most relevant and plays an important role in bank performance. The Theory anticipates that the investors should construct portfolio to maximize theirexpected return in relation to systematic risk level (market risk).

According to the Portfolio balance model of asset diversification, the optimum holding of each asset in a wealth holder's portfolio is a function of policy decisions determined by a number of factors such as the vector of rates of return on all assets held in the portfolio, a vector of risks associated with the ownership of each financial assets and the size of the portfolio. It implies portfolio diversification and the desired portfolio composition of commercial banks are results of decisions taken by the bank management.

Further, the ability to obtain maximum profits depends on the feasible set of assets and liabilities determined by the management and the unit costs incurred by the bank for producing each component of assets (Grant, 2015) .So portfolio theory is mostly applicable and preferred more than market power theory and efficiency theory because first you construct portfolio and then efficiency in operation so as to win market share (market power theory).

4. Empirical Literature Review

4.1 Liquidity management onSGR

Among other things, sustainability of any bank is dependent on the internal growth rate (IGR)which 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 explains on how a company is able 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 thesources 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 which is termed as 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.

Researches on determinants of SGR are carried out by several researchers, such as (Nasim&Irnama, 2015; Utami et al., 2018). As SGR is relevant is many sectors of the economy, research in the service sector for example, was carried out by Nasim & Irnama (2015) who 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 study of objects in the manufacturing sector by Utami et al. (2018) with 466observations using a panel data between 2012-2016 study period indicate that the higher SGR has a high impact on increasing debts in corporate funding. Furthermore, research in the textile companies in India conducted by Pandit&Rachanatejani(2011) found that the variable profit margin, assets turnover, leverage, and retained earnings had a significant positive effect on SGR. Moreover, a 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.

Loan to Funding Ratio (LFR) is one of the ratios for measuring bank liquidity. Banking liquidity is measured by LFR as also found by (Atemnkeng&Nzongang, 2006; Yuliani, 2007; Respati&Yandono, 2008; Mintarti, 2009;Amouzesh et al., 2011; Ahmad, 2015; Firdausi, 2016). The higher LFR 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.

4.2 NPL to SGR

In the banking operations, asset quality reflects the ability of assets owned by banks in providing credit to its clients. Asset quality is important for banks because it explains credit risk level that the bank can withstand. 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 BoT is supposed to be less than 5% (<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 in the form of defaulters.

As for the quality of assets in the company, this can be grouped with 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. 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 in banks will continue to grow better.

4.3 BOPO to SGR

Operating income to operating costs (BOPO) according to Setiawan(2017) is a comparison between operating costs and operating income. BOPO has an influence on bank profitability since it shows how much banks can do with the cost efficiency. This ratio is often referred to the efficiency of ratio that is used to measure the ability of a bank's management to control its operational costs against operating income. BOPO ratio shows the operational risk yielded by the bank. Operational risk occurs due to uncertainty regarding the bank's business activities, including possible losses from operations.This is partly dueto a decline in profits affected by the structure of the bank's operating costs and the possibility of failure of services and its new products offered. Any increase in operating costs will result in a decrease in profit before tax which in turn will reduce the profit or profitability of the bank. According to BOT (2018) a bank must maintain a cost-to-income ratio of not more than fifty-five percent (55%) over a rolling period of twelve months.

Bank in Tanzania determines the best rate for the BOPO ratio is below 55%, because if the BOPO ratio exceeds 55% to close to 70%, the bank can be categorized as inefficient in carrying out its operations. According to Advances in Economics, Business and Management Research, volume 64 703 (Frianto, 2012), that BOPO / Operating income operating costs ratios which are often called efficiency ratios are used to measure the ability of a bank's management to control operating costs against operating income. The BOPO ratio describes how much the bank reduces its operating costs on one side, and how much the ability to increase its operating income on the side. Budi (2008)and Setiawan (2017) shows that there is a significant negative influence between BOPO and ROA. Yatiningsih(2015) obtained results that BOPO has a negative and significant effect on ROA.

5. Materials, Data and Methods

The study was done in Kilimanjaro Region in Tanzania. Kilimanjaro was chosen as one of the areas that were affected by the Bank of Tanzania's decisions to close down or put banks on probation as a result of nonperformance according to the standards laid down by the regulator. The population for the study was all small and medium banks in Kilimanjaro amounting to 4 banks in operation.Under this study mixed method research approach employed since the researcher use both qualitative and quantitative data.The sampling technique is census as the number of banks were few and manageable (Cresswell et al., 2018).

The unit of research analysis is panel data of 80 n observations from the four banks from 2016 – 2020 itemized in 4 quarters each year. Data sources are the financial statements of each bank and qualitative data obtained from 9 bank officers through Key Informant Interviews (KII). The data

collection technique is documentation (documentary review) and recording, calculating according to the variables under study. As for qualitative data, content analysis was used where codding and themes development was done. Under quantitative datathe study used the StatisticsPackage for Social Sciences (SPSS) ver. 26for data Analysis. The operational definition of the variable is shown in Table 1.

Table 1: Definition of Variables

Variables	Operational Definition	Measurement	Expected sign
Loan to Funding Ratio (LFR), X_1	An assessment of bank liquidity in repaying funds withdrawals made by depositors by relying on allocated credit.	*LFR = Loan/Deposits*	*+ve*
Non-Performing Loan (NPL), X_2	Assessment of asset quality where the smaller the ratio shows the more effective the bank. The NPL used is gross NPL.	*NPL = Total NPL/Total Credit*	*-ve*
BOPO, X_3	Assessment of the efficiency and ability of banks in conducting their operations.	*BOPO = Operational costs/Operational Income*	*+ve*
Sustainable Growth Rate (Y)	Assessment of maximum profit growth obtained by banks without external funding sources	*SGR = ROE x R/1 – (ROE x R)* *ROE = Return of equity* *R (Retention rate) = 1-DPR*	

Source: Research Variables, 2021

The regression model used in the study is adopted from Junaidi et al, (2019)as follows:

SGR = β0 +βLFR + βNPL + βBOPO + ɥ…………

6.   Findings ad Discussion

6.1 Descriptive Statistics

This section of the analysis provides an overview on the data set while attempt is also made to describe the main features of the data. The study tries to assess the quality of assets and liquidity level to sustainability growth of small and medium banks in Kilimanjaro, Tanzania. In this part of the study, the description of the data series are based on mean, maximum, minimum and

standard deviation of ratios of asset and liability management compared to ratio of financial performance of Tanzaniamoney deposit banks.

The summary statistics of pooled series of the asset quality and liquidity measure are shown in the table 2 below:

Table 2: Descriptive Statistics

Variables	N	Min.	Max.	Mean	Standard deviation
LFR (x_1)	80	44.71	98.88	56.74	12.05
NPL (x_2)	80	0.21	6.44	4.98	0.99
BOPO (x_3)	80	33.89	82.61	59	8.90
SGR (y)	80	0.64	36.02	67	11.56

Source: Data analysis, 2021

SGR value in descriptive is 11.56% which can be interpreted that, the growth rate 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 BoT 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.It should be noted that 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 as noted by Amouzesh et al. (2011). Thus, Operational performance in banking includes three things, namely funding, lending, and services, while financial performance includes funding sources both internally and externally.

6.2 Assets Qualityto SGR

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 4.98 percent, meaning that overall banks have unhealthy NPL as the smaller the ratio, the better the bank. The minimum value of all research samples is 0.32percent; this NPL value is also in unhealthy category meaning that from the number of funds disbursed about 0.21percent is included in non-performing loans. The maximum value of 5.65 percent indicates that the bank has high nonperforming loans because the BoT 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.

As with regards to effectiveness of the banks, efficiency ratios measures bank operational activities. This study used BOPO as a proxy of the efficiency ratio which is a comparison

between operating costs and operating income. The smaller the BOPO, the more efficient is the standard ratio (Nicodem, 2020; Zulkifli et al., 2018; Cahyono&Anggraeni, 2015; Fitriana, Rosyid&Fakhrina, 2015; Romadloni&Herizon, 2015). Based on Table 2, all study samples of BOPO values were 56.74%. This condition reflects the BOPO of small and medium banks in Kilimanjaro being not in an efficient category. The standard deviation of 8.90% indicates that the distribution of data is smaller than the average value so that normal data distribution can be stated. The lowest BOPO was 33.89%, and the highest was 82.61%, indicating that banks were still inefficient, so operational costs were indicating to be higher than operating income in all the studied banks.

6.3 Liquidity management to SGR

6.3.1 Loan to Funding Ratio (LFR)
Descriptive statistics results show that, the lowest value of LFR is 10.2 percent, and the highest is 32.23 percent. 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 (Romadloni&Herizon, 2015; Thalib, 2016; Zulkifli et al., 2018). The standard deviation is smaller than the average value reflecting the distribution of normally distributed data. The standard deviation value is 10.332 percent, which means there is still extreme, but there is less data pattern (only four banks data being taken quarterly) so that the tendency of LFR data is moderately good.

Table 3: Panel data Regression Results

Variables	Coefficient	T-Statistics	p-value
Constant	2.996	1.872	0.005
LFR	-0.062	-0.542	0.006
NPL	1.224	3.107	0.000
BOPO	-0.367	-6.110	0.002

R – Squared = 0.821
F-statistics = 6.222
Sig. = 0.000
Dependent variable: SGR sig. < 0.05*; sig. < 0.10

Source: Data Analysis, 2021

The regression results as shown in Table 2, empirical findings of the study indicate that there is an influence between LFR on SGR.The hypothesis is rejected as the sign of the expected results is negative which means the studied banks with regards to this ratio are not able to support SGR. The results of this study support the findings of Normaisarah et al. (2018) and Amouzesh et al (2011). The LFR concept is the ratio of loans disbursed to third parties both in Tanzania Shillings 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 as each individual bank may advance credit to other operating 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.

As for SGR which is a reflection of the measurement of bank performance in the future, its value is a combination of elements of operating performance and financial performance as explained by 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. The SGR value of 15.70% in descriptive statistics 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 businesscompetition between banks is relatively tight. In addition, the regulation of BoT is quite firm in continuing to supervise banks in the country. Close supervision by government regulations can be one of the controls for banks in developing strategies related to the soundness of their respective banks. This is also supported by key informants who said that:

> *there is un-diversification of funds since the percentage of total deposit of funds are provided as loan to customer instead of diversifying such fund into different portfolio such as purchasing treasury bills, offering overdraft, bank guarantee and fixed deposit to other bank (16 July 2021)*

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 is due to 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.

6.3.2 BOPO to SGR

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&Fakhrina, 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 small and medium banks in the study area to be in an inefficient 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 1shows that the average SGR of banks during 2016-2020 was 10.49%. The SGR, 10.49% value, indicates that banks can expand their business to a maximum of the SGR. If the average bankin the category of studied banks 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% indicate that there are banks that grow well and fast, but there are also banks that have slow or even very slow growth pulling down the ones that may be doing well.

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). The differences may be attributed due to areas of study being different and hence differences in research findings.

6.3.3Assets Qualityto SGR

Based on the results of the regression test, the hypothesis that NPL has a significant effect onSGR is stated to be accepted. The regression coefficient is positive. This means that the larger the NPL value, the lower the SGR value. A nonperforming loan (NPL) is a loan in which the borrower is in default due to the fact that they have not made the scheduled payments for a specified period. Although the exact elements of nonperforming status can vary depending on the specific loan's terms, "no payment" is usually defined as zero payments of either principal or interest. The specified period also varies, depending on the industry and the type of loan. Generally, however, the period is 90 days or 180 days.This study is able to provide empirical evidence that banks in the study sample have a questionable sustainable capability in revenue growth taking all banks together. 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. All 9 key informants also agreed that:

> *Non-Performing Loan affects the banks performance and hence hinders sustainable growth due to decrease in profitability and decrease the capacity of banks' ability to make borrowing. If BOT observe the tendency of NPL ratio increasing at each quarter at increasing rate they provide ultimatum to bank to stop providing loan until the ratio dropped at decreasing rate and this will affect the bank income and its sustainability growth.(13 July 2021)*

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) while the current study is not on foreign exchange as stated.

7.   Conclusion and Recommendations

7.1 Conclusions

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 positive towards SGR. The higher the level of non-performing loans will decrease bank profits so that the bank will continue to be unsustainable in terms of grow. The efficiency factor proxied by Operational Costs and Operating Income (BOPO) on SGR is significantly negative. The higher BOPO ratio will give cause banks at some stage to erode capital and miss the opportunity to get a higher income from spread-based income.

7.2 Recommendations
(i)   To banking industry
Based on findings bank should maintaining its liquidity level by establishing maximum level at which bank should not issue no more loan to public so as to be able to meet daily demand. According to BOT (2018) for bank healthy liquidity environment should not exceed 50% of total deposit, so as for bank sector may set health liquidity environment between of 45% to 55%. This means maximum bank can offer is 55% of all customer deposit. This will reduce loan acquired by bank in funding deposit when due. In terms of foreign currency should maintain below 7% of its core capital since fluctuation of rate my lead to loss/profit.

Also, in relation to assets quality the bank should ensure collateral that backup loan taken by customer are 150%, since at time of default the bank can be able to recover 100% of its value whether its value depreciate or appreciate. Bank should also calculate provisional by taken into consideration the loan status each month either currents, substandard or loss. Provisional will help an organization during default to offset such Non-performing loan with amount provided for.

(ii)   Future researcher
The ratios used in this study use bank health measurements that are fundamental and based on accounting with historical data of only five years (2016 -2020). 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 Loan to Fund 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 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 collectability, which is smooth, substandard, doubtful, and stalled.

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