The Effect of Net Interest Margin as a Mediator and Selected Factors in Determining the Profitability of Digital Banks

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Abstract. Most digital banking companies experience negative returns on assets so it is necessary to analyze the factors change its financial position. This research intends to investigate the magnitude of loan to deposit, non-performing loan, and capital adequacy on profitability using net interest margin as mediation. In this research, the contents of sample are 7 (seven) digital banks registered at IDX during the period 2019 to the third quarter of 2022. The existing data were analyzed using Partial Least Square. As the result, the findings show that the magnitude of loan to deposit has a positive effect on net interest margin and then on profitability. Furthermore, net interest margin could to mediate significantly the impact of loan to deposit towards profitability. Meanwhile, non-performing loan has no beneficial impact to profitability. In addition, capital adequacy has an impact negatively on profitability.

Keywords: capital adequacy, loan to deposit, net interest margin, non-performing loan, profitability.

Abstrak. Sebagian besar perusahaan perbankan digital mengalami laba yang negatif sehingga perlu dilakukan analisis faktor-faktor yang dapat mengubah posisi keuangan tersebut. Penelitian ini bertujuan untuk menguji besarnya *loan to deposit*, *non-performing loan*, dan kecukupan modal terhadap profitabilitas dengan menggunakan *net interest margin* sebagai pemediasi. Dalam penelitian ini, jumlah sampelnya adalah 7 (tujuh) bank digital yang terdaftar di BEI selama periode tahun 2019 sampai dengan triwulan III tahun 2022. Data yang terkumpul kemudian dianalisis dengan menggunakan *Partial Least Square*. Hasilnya temuannya menunjukkan bahwa besaran *loan to deposit* berpengaruh positif terhadap *net interest margin* dan kemudian terhadap profitabilitas. Selain itu, marjin bunga bersih dapat memediasi secara signifikan dampak *loan to deposit* terhadap profitabilitas. Selain itu, *non-performing loan* tidak memiliki pengaruh terhadap profitabilitas. Sedangkan kecukupan modal berdampak negatif terhadap profitabilitas.

Kata kunci: kecukupan modal, marjin bunga, pinjaman bermasalah, pinjaman terhadap simpanan, profitabilitas.

INTRODUCTION

Profitability provides investors and potential investors with information that serves as a starting point for making investment choices. The information could be utilized to determine the level of profit earned by the corporate over a specific period as well as the productivity of the use of their resources, both loan and equity. Profitability is an important for investors, as well as for management to set goals, and serve as a public assessment of the business.

The declining profitability in a bank is a challenge that frequently becomes a problem affecting the financial performance. This research observed the digital bank companies registered at IDX. It is because there was a phenomenon occurred between 2019 until 2022 where the profitability of the digital banks was not in good performance. Figure 1 appears the historical data of profitability measured by return on asset of this banking.

Figure 1 informs that from 2019 to third quarter of 2022, almost digital banking companies have a negative return on assets. It means that from total assets utilized, the company suffers losses because the assets utilized do not generate a profit. In the fourth quarter of 2019, the return on assets of digital banking companies was at its lowest. Until two quarter of year 2022, it appears that the return on assets in average is still negative. Meanwhile, at the third quarter of year 2022, returns on asset in average could be positive. The stability of a bank is an evaluation of the financial statements of a bank in accordance with central bank standards over a specific period (Riyadi, 2006).

The state of the bank's finances as a whole could be seen in its financial statements. The actual state of the bank, as well as its strengths and weaknesses, might be examined in this report. Capital, Assets, Management, Earnings, and Liquidity (CAMEL) analysis is a piece of equipment used to measure a bank's health. The liquidity aspect includes LDR, the assets aspect includes NPL, the capital aspect includes CAR, and the earning aspect includes NIM and ROA. Financial ratios are then used to evaluate these aspects in order to evaluate the financial condition of banking companies (Kasmir, 2000).
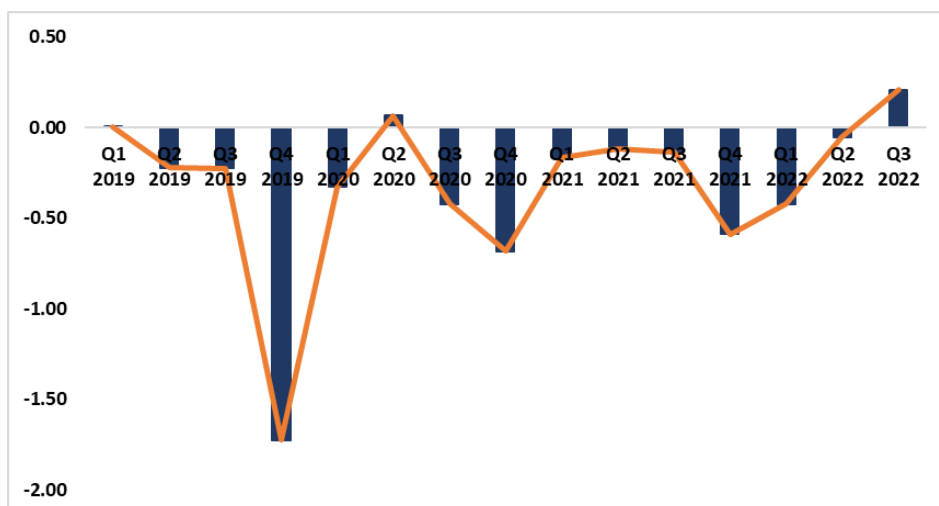
Figure 1. Average Return on Assets of Digital Banking.

This research was adopted and modified from previous researches, particularly research from Sunaryo (2020) which demonstrates the impact of capital adequacy ratio (CAR), net interest margin (NIM), non-performing loans (NPL), and loan to deposit ratio (LDR) toward returns on assets. The distinction of this study and previous studies lies in the research subject, research model, and period. In previous studies, the research subject and time period used were commercial banking companies in the Southeast Asia with observation period during 2012 to 2018. Meanwhile, in the research model, we create a new role for net interest margin as a mediator factor for the impact of loan to deposit towards return on asset. It was because the net interest margin was also as independent variable for loan to deposit as studied by Angbazo (1997), Hardiyanti et al. (2016), and Vodova (2012).

The primary function of banking is the loan-to-deposit distribution of funds to the public. Higher profit was a possible achievement for banks when they could optimize their resources effectively, namely a higher loan to deposit ratio. Harun (2016) and Hardiyanti et al. (2016) have studied this variable and they suggest that LDR has a beneficial impact towards profitability. In contrast, Steven and Toni (2020) and Sunaryo (2020) found that LDR has no meaningful influence on profitability.

To resolve the research gap, we include net interest margin as a mediation between loan to deposit and profitability. This contribution is proposed according to the evidences that the effect of loan to deposit, as studied by Vodova (2012), was positively significant

on net interest margin of banks in Hungary. In addition, the results of Silaban (2017) and Pranowo et al. (2020) show the positive impact from NIM towards profitability.

Non-performing loan is a sign of a bank's progress because it indicates the general bank's inability to participate in the assessment process as well as the provision of loans to the debtor. Finding of Jannati, et al. (2020) on non-performing loan suggest that it has an influence negatively on profitability of financial institutions. Meanwhile, finding of Saerang (2015) shows that it has no significant influence on profitability (ROA).

For the third additional independent variable, we include capital adequacy due to it reflects the bank's capital and we expect that the greater the capital, the higher the profitability of the bank. Capital adequacy ratio reflects the ability of the assets owned to sustain the potential of business from loss operations and to improve the bank's performance. The finding of Sunaryo (2020) suggests that there is an impact positively form capital adequacy towards returns on assets. In contrast, Yusriadi, et al. (2020) demonstrates that capital adequacy has no impact on banking profitability.

THEORETICAL REVIEW

In banking industry regulations, Bank Indonesia issued regulation identifying 8 (eight) types of risks, namely market, liquidity, operational, credit, reputation, legal, compliance, and strategic risks. The relevant risk to this study carries credit risk that is possibility of loss for the bank due to a counterparty's potential inability to pay or fail to fulfil its obligations. In other words, credit risk could occur when the borrowers fail to repay their debts (Yuliastari et al., 2021).

For many banks, credit risk is the biggest risk that exists for banks because usually the margin charged to cover credit risk was smaller than the amount lent so that credit losses could quickly take bank capital. In addition, banks have a major role as financial intermediation, namely channeling third party funds to customers who need to carry out production activities that are important for economic growth. Credit risk could occur in various bank business segments, such as credit (provision of funds), finance and trade, and investment financing.

Profitability reflects the capacity of a company or a bank to generate a profit over a specific period of time and it could be measured by return on asset (ROA). According to Ang (1997), ROA is a method for determining how effectively banks use their assets to generate profits. ROA consists of net income divided by total properties held. ROA is the result of the NIM factor with resource turnover. Asset turnover demonstrates how far a company can go in the production of its assets, while NIM demonstrates the capacity of a company to generate income from each sale. According to Husnan (1998), increased ROA indicates a rise in the profitability of a company and in the trust of its shareholders and customers.

Loan to deposit refers to loans or money given to third parties throughout IDR or other currencies. The loan to the third party fund consists of earnings, cash reserves in IDR or foreign reserves, and bank deposits, is included in the line of credit, but not the loan to other banks. Bank Indonesia allows a maximum loan to deposit ratio (LDR) of 110%. The bank's capacity to reimburse deduction from depositors by utilizing the provided credit as a liquidity source is shown by the LDR. The bank's liquidity capacity is shown to be lower when the ratio is higher. This is due to the increasing amount of money required to finance credit (Dendawijaya, 2000).

The role of NIM (net interest margin) in this research is to mediate the impact of LDR towards ROA. According to Bank Indonesia, NIM was computed by dividing net interest income by productive assets. According to Almilia and Herdinigtyas (2005), the higher the NIM proportion, the greater the bank's interest expense on tangible capital. If this occurs, it may indicate that the economic efficiency of the bank is going to improve. In conformance with Bank Indonesia's regulations, the amount of NIM that must be achieved by a bank is above 6%.

Non-performing loan is one way to tell how well the asset quality of a bank is doing. The regulation as stated by Bank Indonesia No: 6/10/PBI/2004, April 2004, regarding the certification scheme for the soundness of commercial banks, states that a bank is not healthy if its NPL value is higher than 5%. The bank loses money because of having a higher NPL. One of the risks that arise due to the increasingly complex banking activities is the emergence of NPL. The larger the scale of bank operation, the supervision aspect of operating activities decreases, resulting in a greater NPL or greater credit risk.

First-party funds, or the amount invested by the owner in order to establish a bank, come from capital. Capital is a crucial element for the growth of a business, but it carries with it the possibility of loss if the bank is already in operation. Bank capital must always adhere to the internationally accepted standards, which are established by the Banking for International Settlements (BIS), namely the CAR of 8%, in order for banks to thrive and compete in the global banking market (Riyadi, 2006). The CAR reveals the extent to which a bank's equity markets (credit points, investment opportunities, financial products, asserts on some other banks) are backed by capital from the bank itself to borrowing (debt) and public funds. The CAR is a performance metric used by banks to assess their financial strength in light of the risks inherent in their loans and other assets (Dendawijaya, 2000).

The Impact of Loan to Deposit on Returns on Asset. LDR could measure a liquidity of bank because it shows how much of the assets owned by bank are leveraged by capital from outside the bank. Higher profits are possible for banks that use their resources effectively. Profits would be higher for a bank with a higher LDR as evidence from Samad (2015) found that beneficial impact of LDR on the profitability of the Bangladesh banking industry. Vodova (2012) discovered a favorable link between LDR and the ROA of Hungarian banks.

According to finding of Hardiyanti et al. (2016), the LDR positively affects ROA at Indonesian commercial banks during period 2011-2013. In addition, a study carried out by Harun (2016) suggests that a bank's loan disbursement increases in proportion to its LDR, which in turn increases the interest income and profits. In other words, ROA (profitability) is positively affected by the LDR (liquidity). Therefore, we formulate the following hypothesis:

H_1: Liquidity has a positive influence on profitability.

The Impact of Loan to Deposit to Net Interest Margin. The ability of a bank in converting deposits into loans and other forms of credit to generate revenue and profit is illustrated by the LDR. It would generate in low income, a low NIM, and missed opportunities to earn interest if third-party funds was not channeled properly. A high level of profit (NIM) will be possible for banks that are able to properly channel their funds (LDR); increased NIM proportional to increased LDR. The theory of interest supports the

influence of LDR on NIM, stating that a large LDR bank can increase NIM by increasing its income from bank interest.

A bank is less liquid when its LDR is higher because it might have problems in paying its current bills, such as customer deposits that was suddenly withdrawn. Because of this reason, the LDR should remain within acceptable limits. Research from Hardiyanti et al. (2016) proved that LDR has a beneficial impact on NIM. In addition, the LDR studied by Vodova (2012) demonstrates that NIM of Hungarian banks' is significantly affected by increasing the LDR. This finding supported Angbazo (1997) and Buyuksalvarci & Abdioglu (2006). According to previous explanation, we formulate the following hypothesis:

H_2: Liquidity has a positive influence on net interest margin.

The Impact of Net Interest Margin to Return on Asset. Management of a bank's productive assets, as measured by the NIM ratio, is directly correlated with the ability of a bank to create NIM. The probability of a bank running into trouble decreases as this ratio rises, as does the interest from the bank's earning assets. With the expansion in revenue, pay can add to benefits to the bank. Therefore, it is possible to draw the conclusion that a bank's profitability increases in proportion to the magnitude of the change in its NIM, indicating an improvement in its financial performance.

Research of Dumicic and Ridzak (2013) concludes that NIM has a beneficial influence on ROA. It means that increased NIM would bring increased ROA. The results of another study by Hardiyanti et al. (2016); Pranowo et al. (2020); and Silaban (2017) shows the beneficial impact of NIM on ROA. Using this explanation, the following statement is the third hypothesis of this research:

H_3: Net interest margin has a positive influence on profitability.

The Role of NIM Mediating the Impact of LDR on ROA. The effect of LDR on ROA mediated through NIM was based on the theory of markup bank loan interest rates. The banks set a larger profitability enhancement premium targets as indicated by good bank liquidity able to increase ROA when NIM is large enough. Previous studies have shown this to be the case, as shown by Vodova, (2012), Hardiyanti et al. (2016), and Anindiansyah et al. (2020) which showed the results that NIM served as a go-between for LDR and ROA. The following hypotheses can be formulated using this description:

H_4: Net interest margin has an important role in mediating the impact of liquidity on profitability.

The Impact of Non-Performing Loan to Returns on Asset. Kasmir (2016) claims that an NPL measures a bank's preparedness to absorb the risk of credit disappointment on the part of borrowers. Costs would rise because of a higher NPL, which has the potential to result in bank losses. When this ratio rises, the bank's credit quality deteriorates, and the proportion of bad loans rises. Consequently, the bank will experience losses from its core business activities, lowering its ROA. It was found that the NPL to total loans has a negative impact on ROA because a higher NPL ratio indicated a greater quantity of bad loans, thus preventing banks from obtaining income from loan interest (Hasbi and Willy, 2015).

Previous researches have investigated the effect of NPL on bank performance, among others Indah and Arief (2016), and Dewi (2017) showed that NPL had a severe outcome on ROA. This research was supported by Lohano & Kashif (2019) and Tangngisalu et al (2020) show that banks' bottom lines took a hit due to NPL (loans that are not making payments). The following hypotheses can be formulated using this description:

H_5: Non-performing loan has a negative influence on profitability.

The Impact of Capital Adequacy to Return on Asset. The CAR is used to determine whether banks with sufficient capital can make riskier loans and hold other high-risk assets (Dendawijaya, 2000). According to regulation of Bank Indonesia, a bank should have a minimum CAR of 8% of the RWA to be considered healthy. This depends on the arrangements set of Bank for International settlement.

The CAR could be measurement for the safety and soundness of a bank that suggest that a higher number indicates that the bank is better able to retain and grow its capital. It means that the profitability of a bank is proportional to the amount of risk it takes on. The results form Arsyad & Djoko (2019), Ayanda et al. (2013), and Sunaryo (2020) conclude evidences that a higher CAR was associated with a higher profitability. The following hypothesis could be formulated using this description:

H_6: Capital adequacy has a positive influence on profitability.

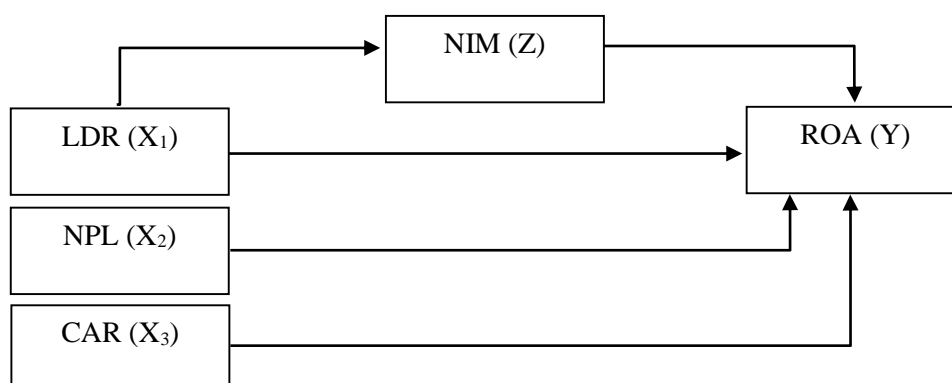**Research Model**. The following is a research model that stems from the previously stated hypothesis:

Figure 2. Research Model.

RESEARCH METHODS

To analyze the variables and the relationship, this study collect the secondary data of each digital banking corporations registered at IDX. All data needed for this study were provided in their financial report. The financial reports were taken from the official website of IDX (www.idx.co.id).

Research population were digital banking corporations recorded on IDX year of 2019 until last quarter of 2022. In accordance with the goal of this study, the banks chosen as the sample must meet the following requirements.

1. Digital banking companies recorded at the IDX that regularly publishes quarterly financial reports during the observation period.

2. Digital banking companies with audited financial reports.

3. Digital banking companies that involve IDR in the financial reports.

4. Digital banking companies that have completed data for all research variables.

According to the criteria using purposive sampling method, we obtained 7 (seven) digital banks as the sample for this research. All companies and codes of digital banks as the sample include PT Bank Jago Tbk (ARTO), PT Bank Raya Indonesia Tbk (AGRO), PT Bank MNC Internasional Tbk (BABP), PT Allo Bank Indonesia Tbk (BBHI), PT

Bank BTPN Tbk (BTPN), PT Bank Bumi Arta Tbk (BNBA), and PT Victoria International Tbk (BVIC).

The profitability ratio indicates how much of asset utilized to generate net earnings (Nahdi et al., 2013). The operational definition of the company's profitability is the net profit compared by the total asset. The ROA formula was utilized to determine the profitability (Dwiputri & Najmudin 2021; Banani et al., 2021; Sukeci et al., 2014).

$$ROA = \frac{Net\ Profit}{Total\ Asset} x100\%$$

In the operational context, LDR compares loans made by banks to the third parties in form of Rupiah or other foreign currency with the third party fund, such as current account, saving, and deposit - not interbank funds or other interbank loans. The following formula is used to determine the LDR.

$$LDR = \frac{Total\ Loans}{Total\ TPF} x100\%$$

The NPL variable in this research compares the total number of loans granted with total number of substandard, doubtful, and bad loans. The formula to obtain the NPL was determined as follows.

$$NPL = \frac{Total\ Troubled\ Financing}{Total\ Financing} x100\%$$

The CAR in this study operationally is a comparison between capital of digital bank and risk-weighted asset (credits, investments, securities, claims on other banks). The CAR was calculated by using the formula:

$$CAR = \frac{Capital}{Risk\ Weighted\ Assets\ (RWA)} x100\%$$

The NIM operationally compares interest income with productive asset. The formula below can be used to calculate the NIM:

$$NIM = \frac{Interest\ Income}{Productive\ Assets} x100\%$$

This study utilizes the partial least squares (PLS) method to process and analyse the data. Each hypothesis would be examined with SmartPLS version 3.3 software. PLS is an underlying condition examination (Structural Equation Modelling/SEM) in view of

change that can test estimation models as well as test underlying models. The advantage of PLS is a method that has a soft modelling and it could has smaller number of sample, i.e. less than 100. This study adopts the analysis method of Rosid et al. (2022) and Suzana et al. (2022) applying SEM-PLS in investigating the effect of a mediator variable.

RESULTS AND DISCUSSION

Results of Descriptive Statistical Analysis. The purpose of descriptive statistics is to offer a quick summary of some information. It could make the information clearer and easier to understand, as seen from the average, standard deviation, minimum, and maximum values. Table 1 shows the descriptive statistics results of each variable in this research.

Table 1. Descriptive Statistical Results

Variable	N	Minimum	Maximum	Mean	Std. Deviation
LDR	60	47.54	210.43	98.01	3197.795
NPL	60	0.00	20.76	2.26	238.369
CAR	60	14.01	538.01	44.20	6982.837
ROA	60	-6.81	4.78	0.52	157.487
NIM	60	0.62	11.08	3.99	170.829

Result of Inner Model Analysis. The structural model, also known as the internal model, is a model that describes the interplay between the underlying latent variables. The structural model in this study is described at figure 3.
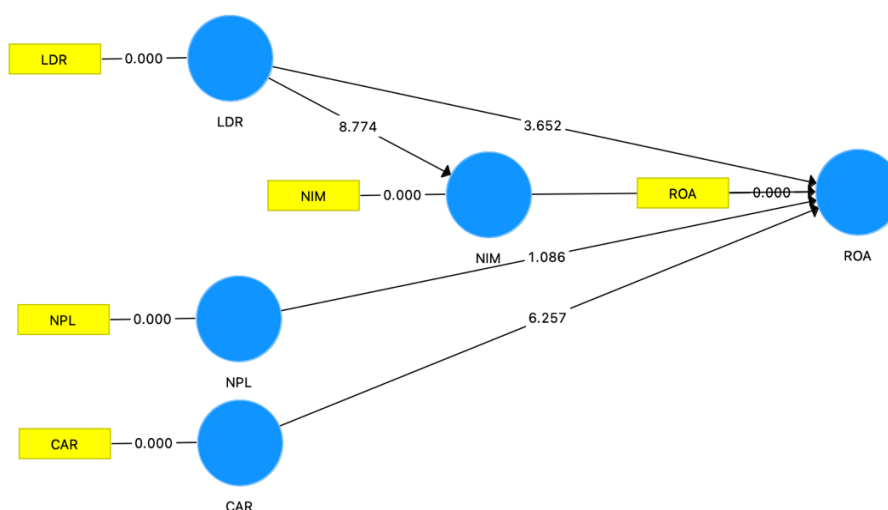

Figure 3. Structural Model.

R-square is utilized to decide the impact of specific exogenous dominant factors on inactive factors whether they make a meaningful difference. Using R-square values of 0.75, 0.50, and 0.25, the model could be ranked as either comprehensive, centrist, or weak.

Table 2. R-Square Test Results

Variable		R-Square
Profitability (Return on Asset)	Variable Y (Endogen 1)	0.477
Net Interest Margin	Variable Z (Endogen 2)	0.178

The company's profitability variable has an R-square value of 0.477, and the NIM variable has an R-square value of 0.178, as shown in table 2. The R-square for the company's profitability is 0.477, indicating that the LDR, NPL, and CAR variables account for 47.7% of the profitability variability. The profitability variability of a digital bank could be explained by the variables of 17.8% LDR, NPL, and CAR, as indicated by the R-square value of 0.178 for the NIM variable.

When the Q-square value is greater than 0, the model's predictive power is evaluated. Based on the calculation, it generates that the value of Q-square is 0.570. It means that Q-square is in the range of values that are tolerated by the research model and fit with the data and can be observed.

Hypothesis Test. In testing the speculation in this review utilizing a few models that should be met, to be specific the first example and p-values. To choose a path for hypothesis testing, a reflection of the original sample's worth is used. If the value of the original sample is negative, the direction is negative, and if it is positive, the direction is positive. Then in the research, the p-values that must be achieved so that the hypothesis can be accepted are less than 0.05. If one or both of these criteria are not met then the hypothesis is rejected.

Table 3 shows that the LDR has an impact positively on the NIM with p-value 0.000 and the ROA with p-value 0.000. Furthermore, the NIM has an impact positively on the ROA. The interesting evidence suggests that the NIM is able to mediate between the LDR

and the ROA with p-value 0.017. In contrast, the NPL has no impact on the ROA; meanwhile the CAR has an impact negatively on the ROA.

Table 3. Hypothesis Test Results

Variable Relations	Original Sample	Standard Deviations	t-Statistic	P-Value
LDR → ROA	0.404	0.111	3.652	0.000
LDR → NIM	0.421	0.048	8.774	0.000
NIM → ROA	0.214	0.077	2.771	0.006
LDR → NIM → ROA	0.090	0.037	2.405	0.017
NPL → ROA	-0.214	0.137	1.086	0.278
CAR → ROA	-0.604	0.097	6.257	0.000

Discussion. The hypothesis of the impact from loan to deposit towards return on assets was tested, and the result generates a p-value of 0.000, with a positive original sample value. Therefore, the hypothesis could be accepted because the LDR has a significant impact towards ROA. This result implies that the greater the worth of the computerized bank's credit to store proportion is a benchmark for the development of advanced bank productivity on the Indonesian stock exchange. The finding of this study was consistent with the previous studies by Samad (2015), Vodova (2012), Hardiyanti et al. (2016), Harun (2016) which states that the LDR has a beneficial impact on ROA. In the contrary, it differs from researches conducted by Steven and Toni (2020) and Sunaryo (2020) showing that the ROA was unaffected by the LDR.

The second hypothesis was accepted because the test of the causality from the LDR to the NIM yields p-value of less than 0.05 or 0.000 and the original sample value appears positive sign. It shows that the LDR has an impact positively to NIM. This indicates that NIM of digital banks would rise as the LDR rises. The finding of this study was identical to the evidence of previous studies, among others Angbazo (1997), Buyuksalvarci and Abdioglu (2006), Vodova (2012), Hardiyanti et al. (2016) in light of finding showing a significant positive causality form the LDR on the NIM.

According to the third hypothesis testing of the NIM and ROA, the result suggests that p-value is 0.006 (less than 0.05) with a positive original sample value. Therefore, the hypothesis is accepted, as the NIM has a significantly positive impact towards ROA. It means the higher the NIM value of the digital banks is a benchmark for the growth of

digital bank profitability on the Indonesian stock exchange. Consistent with previous studies, the finding is the same with the conclusions of Hardiyanti et al. (2016) and Pranowo et al. (2020) stating a beneficial impact of NIM on ROA. However, the findings contradict the study of Harun (2016) which concludes that the NIM has no influence on ROA.

According to the analysis, this research find that the NIM could mediate the impact of LDR towards ROA. This means that an increase in LDR results in an increase in NIM. When NIM increases, ROA also increases, and vice versa. Therefore, changes in ROA are caused by changes in LDR through changes in NIM. This result is in line with previous findings that LDR has a positive effect on NIM (Vodova, 2012; Hardiyanti et al., 2016) and NIM has a positive effect on ROA (Pranowo et al., 2020). The finding of mediator variable for NIM could be solved the research gap of the causality from LDR to ROA.

The evidence generated from the hypothesis testing about causality of NPL and ROA shows that the p-value is more than 0.05, which is 0.278 with the original sample value being negative. As a result, it can conclude that the fifth hypothesis was rejected which means the NPL did not have an impact significantly on ROA. This implies that on the Indonesian stock market, a digital bank's Non-Performing Loan value does not necessarily influence on its profitability. This finding was different from studies carried out by Indah and Arief (2016), Dewi (2017), Lohano and Kashif (2019), and Tangngisalu et al (2020) suggesting that the NPL has an impact negatively on the profitability.

The testing result for sixth hypothesis demonstrates that the p-value is less than 0.05 or 0.000 and the original sample value is negative. The hypothesis was, therefore, rejected because the sixth hypothesis states that the CAR has an impact positively on ROA. The result from this study differs from the conclusion from Ayanda et al (2013), Bernardin (2016), Arsyad and Djoko (2019), and Sunaryo (2020) suggest that the CAR affects positively and significantly on ROA. The finding suggests that as the CAR falls, the Return on Assets rises. The possible explanation for the finding include the high CAR used to cover the risk of loss or the asset that contain risk. It could limit an ability of the bank to expand its business. The bank's financial performance will be negatively impacted by the delay in business expansion caused by the higher CAR.

CONCLUSION

In general, the findings of this research could answer the research problem formulation regarding why the digital banks on the IDX are not profitable during observation period. The analysis shows that the greater returns on asset was from the higher loan to deposit and the higher net interest margin. In addition, the higher net interest margins was caused by the higher loan to deposit. Therefore net interest margin could mediate the positive impact form loan to deposit towards returns on asset. Meanwhile, the impact of non-performing loan was not significant to returns on asset and capital adequacy has an impact negatively on returns on asset.

Several limitations exist in this study, namely the sample in the study was only 7 (seven) digital bank companies, due to limited company financial reports. The second limitation is the period of observation utilized in this research is relatively short only 4 years, namely the period from 2019 to the third quarter of 2022. According to the limitations, it can be recommended for further research to add the sample and the observation period to increase the level of generalization.

Digital banking companies could prioritize loans in an effort to increase their profitability. In addition, they could achieve higher interest income by expanding credit loans from third party funds. However, the use of bigger loan to deposit could increase the risks faced and could even harm the bank. Because the core business of a bank is lending which could increase bank profitability. Investors could pay more attention to provide loans and capital to digital banking companies and should consider in investing their funds in the right banks.

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