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After Covid-19 Pandemic* "

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THE 3rd INTERNATIONAL CONFERENCE ON BUSINESS AND BANKING INNOVATIONS
"Unlocking New Marketing Strategies on ASEAN After Covid-19 Pandemic"

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"Unlocking New Marketing Strategies on ASEAN After Covid-19 Pandemic"

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11. Dr. Muazaroh, SE., MT (STIE Perbanas Surabaya, Indonesia)

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1. Dr. Ronny, S.Kom., M.Kom., M.H.
2. Dewi Aliffanti, S.E.
3. Tanza Dona Pratiwi, S.E.
4. Dio Eka Prayitno, S.Sos.

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FOREWORD

Alhamdulillah, praise be to Allah Subhanahu Wa Ta'ala for granting us the opportunity to organize and publish the proceedings of the 3rd International Conference on Business and Banking Innovations (ICOBBI) with the topic "*Unlocking New Marketing Strategies on ASEAN After Covid-19 Pandemic*". This proceeding contains several researches articles from many fields in Business & Marketing, Banking & Sharia Banking, Accounting & Financial Management, Human Resources Management, Operations Management, Investasi, Insurance & Capital Market, Strategic Management, Technology Management, and Information System.

The 3rd International Conference on Business and Banking Innovations was held on 6th – 7th March 2021 by virtual (online) meeting and organized by the Master Management Study Program of STIE PERBANAS Surabaya in Collaboration with three Higher Education Institutions in Indonesia and two Universities from Asia countries. Keynote speakers in this conference were: Prof. Jessa Frida T Festijo (Lyceum of the Philippines University), Prof. Krisda Tanchaisak, Ph.D (Ramkhamhaeng University Thailand) and Burhanudin, Ph.D (Head of Undergraduate Program In Management of STIE Perbanas Surabaya, Indonesia).

I would like to give high appreciation to the Rector of STIE Perbanas Surabaya for his support at this event. Acknowledgments and thank you to all the steering and organizing committees of the ICOBBI for the extra ordinary effort during the conference until this proceeding published. Thank you very much to all presenter and delegates from various Universities. Beside it, I would like to express our gratitude to the three universities, namely Universitas 17 Agustus Surabaya, STIE 66 Kendari, Institut Institut Bisnis dan Keuangan Nitro Makassar which has been the co-host of this event.

Hopefully, the proceeding will become a reference for academics and practitioners, especially the business and banking industry to get benefit from the various results of the research field of Business and Banking associated with Information Technology. Proceedings also can be accessed online on the website <https://pascasarjana.perbanas.ac.id>.

Chair of the Master Management Study Program
STIE Perbanas Surabaya

Prof. Dr. Tatik Suryani, M.M.





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Tabel of Content

Cover.....	i
Committee.....	ii
Reviewers.....	iii
Foreword.....	iv
Table of Content.....	v

Business and Marketing

Evaluation of Business Strategy Implementation and its Impact to Consumer Purchase Decision)	1 - 5
Prima Roza Paluta; Yudo Anggoro	

Analysis of Factors Affecting Scholar' Disinterest in Entrepreneurship	6-11
Erma Yuliaty; Siti Mundari; Sri Hadijono; Adiati Trihastuti	

Analysis Influence Between Customer Preceive Value On Customer Engagement Through Mediation Affective Commitment And Trust At Aston Inn Batu Hotel Customers In New Normal Era.....	12-23
Abi Darin Widodo; Tjahjani Prawitowati	

The Influence of Customer Relationshio Management (CRM), Customer Behaviour, and Service Quality on Customer Satisfaction at the HK Medical Center Clinic Makassar.....	24-29
Dhita Pratiwi Ar; Akhmad Muhammadin; Karta Negara Salam; Andi Makkulawu Panyiwi Kessi; Rezvanny Maricar	

The Influence Of Cultural, Social, Personal And Psychological Factors On Customer's Decision Of Choosing Bank Insurance	30-40
Novita Rosanti	

Analysis of User Satisfaction with Fintech Applications: FintekSyariah Use EUCS Method	40-50
Fadliyani Nawir; Syahrial Maulana; A. We Tenri Fatimah Singkeruang	

The Influence Of Celebrity Endorsement On The Trust And Decisions Of The People Buying In Online Shop Through Social Media In Makassar.).....	51- 55
Rosnaini Daga	

Analysis Of Costumer Satisfaction Index (CSI) On Marketing Mix From A Management Perspective To Determine The Level Of Customer Satisfaction (Case Study At PT. Global Technindo Utama).....	56 - 66
Muhammad Heykal; Soni Harsono	



THE 3rd INTERNATIONAL CONFERENCE ON BUSINESS AND BANKING INNOVATIONS
"Unlocking New Marketing Strategies on ASEAN After Covid-19 Pandemic"

The Role of Co-creation and Co-creation Experience on Brand Loyalty67 - 77
 One Arto Wiro Suprayogo; Yudi Sutarso

The Effect of Social Media Usage, Brand Awareness, and e-Wom Activities on SMEs
 Customer Satisfaction in East Java78 - 87
 Gede Ariyoga Setya Utama; Tatik Suryani

Analysis of Product Diversification Strategies in Effort to Increase Total Revenue
 (Case Study at PT. Kebon Agung Surabaya)88 - 91
 Tofan Andrew Irawan; Basuki Rachmat

The Influence of Self-Efficacy on Customer Intentions to Use BRImo BRI Application by Mediating
 The Perceived Usefulness, Easy of Use and Risk at BRI Bank in Surabaya.....92 - 99
 Krista Pancasari; Soni Harsono

Banking and Syar'i Banking

The Effect of Bank Liquidity, Asset Quality, Profitability and Bank Size on Capital Adequacy in
 Government Banks.....100 - 103
 Widia Rani Agustiningih; Muazaroh

Exploring Digital Banking in the Philippines: An Aid for Financial Inclusion.....104 - 113
 Michelle Lei S. Victorino

The Effect of Internal and External Factors of Non Performing Loan (NPL) at Foreign Exchange
 Commercial Banks (Go Public) in Indonesia from 2016 – 2020.....114 - 121
 Ajeng Tiara Dewi; Suhartono

The Effect of Operational Efficiency on Profitability in Banking Sector Registered in BEI
 2015-2020122 - 127
 Intan Dwi Mentari; Suhartono

The Effect Of Market Share In The Third Party Fund, Fund Distribution, And Placement With Other
 Banks On The Profitability Of Banks In Timor Leste128 - 143
 Leonardo Bele Bau Amaral



THE 3rd INTERNATIONAL CONFERENCE ON BUSINESS AND BANKING INNOVATIONS
"Unlocking New Marketing Strategies on ASEAN After Covid-19 Pandemic"

Analysis of Corporate Social Responsibility at PT. Bank Rakyat Indonesia Tbk144 - 152
 Ummy Kalsum

Factors Affecting Health Score Bank In Private Commercial Bank National Foreign
 Exchange153 - 167
 Windra Eka Mawarni; Abdul Mongid

Accounting and Financial Management

Strengthening Competitiveness of MSMEs in the New Normal Era: Strategies in Accounting
 Perspective168 - 171
 Abdul Rahman; Lina Ria Marokana Pasaribu

Real Options Valuation of Coal Mining Project Using Binomial Lattice Model172 - 181
 Setiady Ikhsani; Yunieta Nainggolan

The Effect Of The Covid-19 Pandemic On Financial Performance In The Indonesian
 Banking Sector182 - 187
 Arfiana Dewi; Elliv Hidayatul Lailiyah; Rita Nataliawati; Mokhtar Sayyid

Analysis of Financial Ratio and Macroeconomic Variables to Predicting Financial Distress A Study
 on Extractive Companies Registered in BEI188 - 191
 Talita Yuni Elrawati; Emanuel Kristijadi

Effects of Inflation and Economic Growth on the Profitability of Regional Development Banks
 (BPD) in Indonesia Listed on the Indonesia Stock Exchange.192 - 197
 A. We Tenri Fatimah Singkeruang; Fadliyani Nawir; Nuraeni Saeni

The Impact of Financial and Non-Financial Compensation on Employee Motivation: Case Study
 Panin Bank in Makassar City198 - 204
 Ceskakusumadewi Baharuddin; Ramlah; Alda Kurniasari

Human Resources

The Influence Of Work Ability Dan Self Confidence On Employee Performance On Cosmetic
 Companies In Surabaya Indonesia205 - 212
 Siti Mujanah

Millenial Generation Level of Trust Toward OJK213 - 216
 Distiani Fitria Kusuma



THE 3rd INTERNATIONAL CONFERENCE ON BUSINESS AND BANKING INNOVATIONS
"Unlocking New Marketing Strategies on ASEAN After Covid-19 Pandemic"

Human Resource Allocation Management System for A Multi-Office Architecture Firm...217 - 221
 Giovanni Riandy Tyashadi; Yuliani Dwi Lestari

The Effect of Critical Thinking And Spiritual Intelligent on Employee Performance With Career Development as Intervening Variables on Manufacture Industries222 - 226
 Sumiati

The Effect of Organizational Culture, Work Environment, Work Dicipline and Work Loyalty on Employee Performance at PT. Bank Central Asia Surabaya227 - 232
 Mufidatul Laili; Lutfi

The Effect Of Work Stress, Work Motivation, Work Environment And Job Satisfaction On Employee Performance PT Bank Central Asia, Tbk Surabaya233 - 237
 Merryza Yulinda Putri; Suhartono

The Effect of Workload and Emotional Intelligence on Nurse Performance: In the Perspective of Human Relationship Theory238 - 243
 Amiartuti Kusmaningtyas; Pipit Erfiana

The Effect of Servant Leadership and Kaizen Work Culture on Quality of Work Life, Job Satisfaction and Performance of Hospital Employees in Lamongan Regency244 - 249
 Umar Yeni Suyatno, Ida Aju Brahmasari; Ida Ayu Brahma Ratih

Analysis Of The Influence Of Leadership And Motivation On Employee Performance At Pt. Bank Mandiri Kcp Surabaya Sungkono250 - 254
 Diyah Fitriani; Abdul Mongid

Operating Management

Decision-Making Model in Selecting Strategy for Food Supply in Livestock Business using Analytical Hierarchy Process (AHP). A Case Study of WD Putra Farm.....255 - 258
 Ayu Agustine Hernowo ;Yuliani Dwi Lestari

Determination of Alternative Retail Layout Using Market Basket Analysis A Case Study of Maga Swalayan259 - 263
 Desi Nur Hana Kurnia; Yuliani Dwi Lestari





THE 3rd INTERNATIONAL CONFERENCE ON BUSINESS AND BANKING INNOVATIONS
"Unlocking New Marketing Strategies on ASEAN After Covid-19 Pandemic"

Operating Management

Performance of Pertamina-Indonesia among Oil and Gas Companies in the Fortune Global 500 of Southeast Asia. Can She Take the Lead?.....264 - 273
 Krisna; Subiakto Sukarno

Multi Criteria Decision Making Analysis of Supply Chain Alternatives for Coal Mining Concession at Central Kalimantan Case Study: PT Hamparan Mulya274 - 284
 Franklyn Berris Panjaitan; Yos Sunitiyoso

Urban Development Management Strategy In Providing Housing And Habitable Settlement Areas In Kendari City.....285 - 295
 Indira Yuana

The Effect of Operational Efficiency, LDR, NIM, NPL on Capital in Regional Development Banks

Intan Dwi Mentari^{1,*} Suhartono²

Email: intandwimentari@gmail.com

ABSTRACT

Research on capital is very important in bank operations, because the capital owned by the bank can be used to cover losses arising from bank operations. Banks require a minimum capital ratio or usually called the Capital Adequacy Ratio (CAR). CAR is the capital adequacy ratio that functions to manage the risk of loss that may arise by the Bank. The purpose of this study was to determine the effect of the variables of OCOI/BOPO, LDR, NIM, and NPL both simultaneously and partially on CAR, and which variables contributed to the dominant contribution to the Capital Adequacy Ratio (CAR). The population consists of Regional Development Banks. The sampling technique used a purposive sampling method, selected as samples were BPD Lampung, BPD Bengkulu, and BPD Central Sulawesi. Collecting data using the documentation method and then analyzed using multiple linear analysis techniques. The results showed that OCOI/BOPO, LDR, NIM, and NPL together had a significant effect on the Capital Adequacy Ratio (CAR). OCOI/BOPO partially has a significant negative effect on the Capital Adequacy Ratio (CAR). LDR partially has a positive and insignificant effect on the Capital Adequacy Ratio (CAR). NIM partially has a positive and significant effect on the Capital Adequacy Ratio (CAR). Partially NPL has a significant positive effect on the Capital Adequacy Ratio (CAR).

Keywords: Liquidity Risk, Market Risk, Credit Risk, Operational Risk, and CAR

1. INTRODUCTION

A bank is a financial institution that acts as a mediator between parties that have excess funds and those who need funds. The bank itself functions to raise funds in the form of credit and / or other forms. In carrying out this function, banks are required to be able to apply the principle of prudence in managing the capital owned by the bank. Capital management is very important in bank operations, because the capital owned by a bank can be used to cover losses arising from bank operations. In the aspect of capital, it can be measured using financial ratios, one of which is the Capital Adequacy Ratio (CAR), this CAR ratio is to compare between capital and Risk Weighted Assets (RWA). CAR will be said to be good if there is a tendency for the CAR to increase from period to period.

Liquidity risk is the risk due to the inability of a bank to meet its maturing obligations from cash flow funding sources, and / or from high quality liquid assets that can be pledged as collateral, without disrupting the activities and financial condition of the bank (Indonesian Bankers Association, 2015: 137). Liquidity risk can be measured using a financial ratio, namely the Loan to Deposit Ratio (LDR). Loan to Deposit Ratio (LDR) is a ratio that measures the amount of credit extended to third parties and is compared with the amount of public funds and capital used. Loan to Deposit Ratio (LDR) has a negative effect on liquidity risk, because if the LDR increases, it means that there is an increase in total credit disbursed by a percentage greater than the increase in total funds from third parties, as a result there is an

increase in income and the ability of banks to fulfill obligations on party funds. third, to increase, which will result in a decrease in liquidity risk.

Credit risk is the risk due to the failure of the debtor and/or other parties to meet the obligation to pay off credit at the bank (Indonesian Banker Association, 2015: 67). Credit risk at banks can be measured using financial ratios, namely Non-Performing Loans (NPL). Non-Performing Loan (NPL) is a ratio that shows the ability of bank management to manage non-performing loans from all loans extended by the Bank. Non-Performing Loans (NPL) have a positive effect on credit risk. The NPL ratio has a positive effect on credit risk, if the NPL increases, it means that there is an increase in non-performing loans that is greater than the total credit extended by banks. As a result, the potential for non-performing loans is increasing, which means that the credit risk faced by banks is increasing.

Operational risk is the risk due to insufficient and / or malfunctioning internal processes, human error, system failure, and / or external events that affect bank operations (POJK No. 18 / POJK.03 / 2016). Bank operational risk can be measured using a financial ratio, namely Operational Cost to Operational Income (OCOI/BOPO). Operational Cost to Operational Income (OCOI/BOPO) is a comparison between operating costs and operating income in measuring the level of efficiency and ability of a bank to carry out its operational activities. (Dewi et al, 2015). Operational Cost to Operational Income (OCOI/BOPO) has a positive effect on operational risk, because if OCOI/BOPO has increased, it means that there is an

increase in operating costs with a greater percentage of the increase in operating income. OCOI/BOPO has a negative effect on CAR, if OCOI/BOPO has increased, it means that there is an increase in operating costs with a greater percentage of the increase in operating income, which results in decreased profits, decreased bank capital, and CAR will decrease.

Net Interest Margin (NIM) is a comparison between net interest income and average earning assets. Meanwhile, net interest income is obtained from interest income earned by banks minus bank interest costs that become expenses. Net Interest Margin (NIM) has a positive effect on CAR, because the increase in NIM, the better the bank's performance. Regarding the effect of NIM on CAR, (Romdhane, 2012) argues that NIM research has a positive and significant effect on CAR.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1 LITERATURE REVIEW

2.1.1 Regional Development Bank

Regional development bank is one of the banks that participates in running the economy in Indonesia and as the holder of regional finance, which has been regulated in Law (UU) No. 13, 1962 concerning the principles of the Regional Development Bank (BPD) provisions. This bank was established with the aim of helping to implement equitable development to all regions in Indonesia. Regional Development Bank (BPD) capital is fully owned by the Regional Government (Pemda) at each level (Kasmir, 2012: 22).

Bank capital is a fund that is invested by the owner in the framework of establishing a business entity which is intended to finance bank business activities in addition to complying with stipulated regulations. According to (PBI No.15 / 12 / PBI / 2013) capital consists of core capital and supplementary capital. Core capital is its own capital, which is stated in the equity position, while supplementary capital is loan capital and asset revaluation reserves and reserves for allowance for earning assets losses.

2.1.2 Bank Capital Ratio

The OCOI/BOPO ratio is used to measure the efficiency and ability of a bank to carry out its operational activities. OCOI/BOPO is obtained from the comparison of operating costs to operating income. Operating costs are calculated based on the sum of total interest expenses and total other operating expenses, while operating income is obtained from the sum of total interest income and total other operating income. Operational costs are costs incurred by the

bank in carrying out its daily activities including: salary costs, marketing costs, interest costs. Meanwhile, operating income is the income received by the bank which is obtained through lending in the form of interest rates.

a. Capital Adequacy Ratio (CAR)

Capital Adequacy Ratio (CAR) merupakan rasio kecukupan modal yang berfungsi menampung risiko kerugian yang kemungkinan dihadapi oleh bank. Menurut Kasmir (2016:46). Untuk menghitung risiko menggunakan rumus yaitu sebagai berikut :

$$CAR = \frac{\text{Core Capital} + \text{Supplementary Capital}}{\text{ATMR}} \times 100\%$$

Information :

- Total core and complementary capital
- RWA for credit, market, operations

2.1.3 Operational Risk

Operational risk is the risk due to inadequate and/or malfunctioning internal processes, human error, system failure, and / or external events that affect the Bank's operations (POJK No. 18 / POJK.03 / 2016).

a. Operational Cost to Operational Income (OCOI/BOPO)

OCOI/BOPO is a comparison between operating costs and operating income in measuring the level of efficiency and the ability of the Bank to carry out its operational activities. The smaller the OCOI/BOPO value, the more efficient the banking will be in operating. OCOI/BOPO can be calculated using the following formula SEOJK 14 / SEOJK.03.2017:

$$OCOI/BOPO = \frac{\text{Total Operating Expenses}}{\text{Total Operating Income}} \times 100\%$$

Information :

- Operating Expenses: interest expense, commitment and contingent loss expenses, earning assets write-off expenses and also other expenses related to the bank's business activities.
- Operating Income: interest yield, commissions and fees, income from foreign exchange transactions and also other income.

2.1.4 Liquidity Risk

Liquidity risk is the risk due to the inability of a bank to meet its obligations due from cash flow funding sources and from high quality liquid assets that can be used without disrupting the activities and financial condition of a bank (POJK No. 18 / POJK.03/2016). The liquidity ratio can be measured using the following ratios:

a. Loan to Deposit Ratio (LDR)

Loan to Deposit Ratio (LDR) is the ratio between the total amount of loans granted to the amount of public funds. The formula used to calculate LDR is SEOJK14 / SEOJK.03.2017:

$$LDR = \frac{\text{Amount of Credit Granted}}{\text{Total Third Party Funds}} \times 100\%$$

Information:

- Credit is total credit extended to third parties (excluding loans extended to other banks)
- Total Third Party Funds; the sum of current accounts, savings, time deposits.

2.1.5 Market Risk

Market risk is the risk of price changes in the balance sheet position and administrative reining including derivative transactions, due to overall changes in market conditions, including the risk of changes in option prices. (Indonesian Bankers Association, 2015: 107). Market risk can be measured using financial ratios, which are as follows:

Net Interest Margin (NIM) is a proxy for the Market Ratio. Net Interest Margin (NIM) is the ratio between net interest income and average earning assets. This ratio is formulated as follows:

$$NIM = \frac{\text{Net Interest Income}}{\text{Average Productive Assets}} \times 100\%$$

Information:

- Net Interest Income; all interest income minus all interest expenses
- Average Earning Assets; credit and placements with other banks that provide interest income

2.1.6 Market Risk

Credit risk is the risk due to failure of the debtor and / or other parties to meet the obligation to pay off credit at the bank. (Indonesian Bankers Association, 2015: 67).

Credit risk can be measured using the ratio of Non Performing Loans (NPL) and Non Performing Assets (APB). (SEOJK No. 43 / POJK.03 / 2016).

a) Non Performing Loan (NPL)

Non Performing Loans (NPL) is a ratio to measure total non-performing loans with substandard, doubtful and non-performing quality compared to total loans extended by banks. The NPL formula is as follows:

$$NPL = \frac{\text{Problemated Credits}}{\text{Total Credit}} \times 100\%$$

Information:

- Non Performing Loans: substandard credit (KL), doubtful (D), loss (M).
- Total Credit: the amount of credit extended to non-bank third parties.

2.2 HYPOTHESIS

Effect of Independent Variables on Capital Adequacy Ratio (CAR). The independent variables used in this study are OCOI/BOPO, LDR, NIM, and NPL on the dependent variable with the Capital Adequacy Ratio (CAR).

2.2.1. Effect of Operational Cost to Operational Income (OCOI/BOPO) on CAR

OCOI/BOPO has a negative effect on CAR. This can happen if the OCOI/BOPO has increased, meaning that there is an increase in operating costs by a percentage greater than the percentage of increase in operating income, which results in decreased profits, decreased bank capital, and CAR will also decrease. The effect of business risk as measured using OCOI/BOPO has a negative effect on CAR. This is reinforced by the results of research by Fangky A Sorongan (2020) and Yuliani (2015) stating that OCOI/BOPO has a negative and significant effect on CAR. Meanwhile, Iqbal (2016) and Prasetyo (2016) state that OCOI/BOPO has a negative and insignificant effect on CAR.

Hypothesis 1: OCOI/BOPO has a negative effect on CAR

2.2.2 Effect of Loan to Deposit Ratio (LDR) on CAR

In the previous explanation, the Loan to Deposit Ratio (LDR) has a positive or negative effect on CAR.

LDR has a positive effect on CAR, because if the LDR increases, it means that there is an increase in total credit with a greater percentage of total TPF, then there is an increase in bank income that is greater than the increase in costs, which results in increased profits and capital, assuming fixed RWA, the CAR will increase. . LDR has a negative effect on CAR, because if the LDR increases, it means that there is an increase in total credit, which is greater than the percentage of total third party funds, as a result an increase in RWA with the assumption of fixed bank capital, the CAR will decrease. The effect of business risk as measured using the LDR has a positive and negative effect on CAR. This is reinforced by the results of research by Dewa Ayu and Ni Ketut (2015) which state that LDR has a negative and significant effect on CAR, while Carla Magno Araujo Amaral (2014) and Dewi Ratna Sari (2017) state that LDR has a significant positive effect on CAR.

Hypothesis 2: LDR has a positive effect on CAR

2.2.3 Effect of Net Interest Margin (NIM) on CAR

NIM has a positive effect on CAR, because the decrease in NIM is due to an increase in net interest income which is smaller than the increase in total assets, as a result of decreasing bank profits, decreasing bank capital and CAR should also decrease. This is confirmed by the results of research by Dewa Ayu and Ni Ketut (2014) which state that NIM has a positive and significant effect on CAR.

Hypothesis 3: NIM has a positive effect on CAR

2.2.4 Effect of Non Performing Loan (NPL) on CAR

NPL has a negative effect on CAR, because if NPL increases, it means that there is an increase in non-performing loans with a greater percentage than total credit, as a result the increase in reserved expenses is greater than the increase in income, profit and bank capital decreases, it will result in a decrease in CAR. The effect of business risk as measured using NPL has a negative effect on CAR. This is reinforced by the results of research from Fangky A Sorongan (2020) which states that NPL has a negative and insignificant effect on CAR. Muhammad Rolis (2019) and Ahmad Yusril Al Human, Ellen Theresia Sihotang (2019) stated that NPL has a significant positive effect on CAR.

Hypothesis 4: NPL has a negative effect on CAR

Based on the descriptions that have been discussed in the previous sub-chapter, the framework in this study can be formulated as follows:

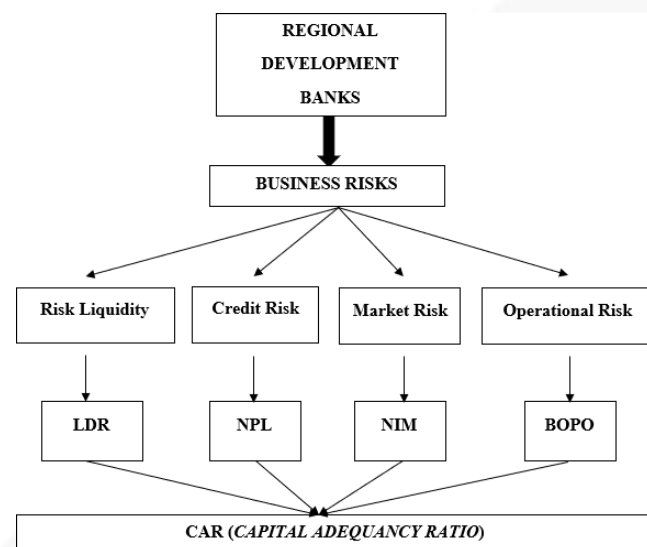


Figure 1 Research Framework

3. RESEARCH METHODOLOGY

In this study, the research limitation is limited to the influence of the independent variable on the dependent variable. The independent variable is a variable that affects or becomes the result of the dependent variable. According to Sugiyono (2012: 39). The dependent variable is the variable that is influenced by the effect, because of the independent variables. According to Sugiyono (2012: 39). The independent variables in this study include OCOI/BOPO, LDR, NIM, and NPL. The dependent variable is the CAR at the Regional Development Bank (BPD). This research data starts from 2016 first quarter to 2020 second quarter.

3.1 Population, Sample and Sampling Technique

The population of the Bank in this study is the Regional Development Bank in Indonesia in 2016, the first quarter to 2020, the second quarter. In this research, which was conducted at the Regional Development Bank which will be used as a sample there are 27 banks.

3.2 Data and Data Collection Methods

This study uses secondary data obtained from the Financial Services Authority (OJK) Financial Statements at the Regional Development Bank (BPD) for the 2016 first quarter to 2020 second quarter which has been analyzed and the method used in this study uses the documentation method where the data is obtained. from the published financial reports of regional development banks in 2016 for the first quarter to 2020 for the second quarter.

3.3 Data Analysis Techniques

In this research, the technical data analysis that will be used is descriptive analysis techniques and statistical analysis. The descriptive analysis is aimed at analyzing or describing the data that has been collected from the research results. Meanwhile, statistical analysis aims to prove the hypothesis of this study and the measuring tool is multiple regression analysis. The steps in multiple regression analysis are as follows:

a) Multiple Linear Regression Analysis

According to Pardade and Manurung (2014: 27), it is known that in multiple regression, the dependent variable is influenced by two or more independent variables so that it has a functional relationship between the dependent variable (Y), namely CAR, and the independent variables, namely OCOI/BOPO, LDR, NIM, and NPL. To determine the effect, multiple linear regression analysis equations can be used as follows:

Multiple linear regression analysis is a statistical tool that is used to determine whether or not the independent variable influences the dependent variable. The purpose of multiple regression analysis is to determine the significance of the influence of the predictor variable on the dependent variable, so that it can contain the right predictions. The test steps are as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + e$$

Information :

Y : CAR
A : Constant
 $\beta_1 - \beta_7$: Regression Coefficient
X1 : Operational Cost to Operational Income (OCOI/BOPO)
X2 : Loan to Deposit Ratio (LDR)
X3 : Net Interest Margin (NIM)
X4 : Non Performing Loan (NPL)
E : Standard Error

The steps in regression analysis are as follows:

b) Simultaneous test (F-test)

Simultaneous test (F-test) basically shows whether all the independent or free variables included in the model have a joint influence on the dependent or dependent variable (Imam Ghazali, 2013: 98). The steps for testing are as follows:

1) The Formulation of the Zero Hypothesis and the Alternative Hypothesis

$$H_0 = \beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = \beta_6 = \beta_7 = 0,$$

which means that all independent variables (OCOI/BOPO, LDR, NIM, and NPL)

together have an insignificant effect on the dependent variable (CAR).

- $H_1 = \beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4 \neq \beta_5 \neq \beta_6 \neq \beta_7 \neq 0$, which means that all independent variables (OCOI/BOPO, LDR, NIM, and NPL)

together have a significant effect on the dependent variable (CAR).

2) Determine the level of significant area $\alpha = 5\%$ or 0.05

c) Parsial Test (t-test)

Partial test (t test) is used to determine the effect of each independent variable on the dependent variable (Imam Ghazali, 2013: 178). In this study using one-sided and two- sided tests, namely:

- 1) One-sided test for the NIM variable which has a positive effect on CAR.
- 2) One left-sided test for the independent variables NPL and OCOI/BOPO which have a negative effect on CAR.
- 3) Two-sided test for the LDR variable which has a positive and or negative significant effect on CAR.

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