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Implementation of Basel II and Good Corporate Governance towards Risk Managementin Indonesian Banking Industry

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***Abstract*---*This study aims to examine the effect of Basel Capital Accord and Good Corporate Governance regulations on Risk Management in Indonesian Banking. The Basel Capital Accord variable is obtained from the report of Directorate of Banking Research and Regulation of Bank Indonesia on Basel II Implementation in Indonesia, and GCG Variable is measured using self assessment method according to Bank Indonesia Circular Letter no. 9/12 / DPNP. The population of this study is all Indonesian banks listed on the Indonesia Stock Exchange during the period 2011 to 2016 with the method of panel data regression analysis. This research is descriptive verification research with Purposive Sampling method which is one of Non Probability Sampling method. From the results of the study it was found that the Minimum Capital Ratio and Operational Risk positively and significantly influence the management of credit risk banking. While Ratio of Capital Adequacy Ratio and Operational Risk have positive and significant impact to operational risk management. Credit Risk has a negative and significant effect on credit risk management as well as Capital Adequacy Ratio which negatively and significantly influence to operational risk management*

Keywords*---*Basel capital accord, Good corporate governance, Manajemen Risiko, Perbanka

I. INTRODUCTION

The development of the economy accelerated over time so that it managed to create revolutionary changes, one of them in banking. Today almost everyone is using and familiar with banking services. Progress in the banking sector is encouraging banks to become one sector industry that became the motor of economic progress of a nation. The Bank is the only depository financial institution, a financial institution licensed to raise funds directly from the public in the form of savings. The intermediation function includes channeling the funds back to the community in the form of loans and investments. Over time, the role of banking is very large in mobilizing public funds for various purposes has increased enormously. If the first role of the banking sector as a facilitator only government and some large companies, then now turned into a sector that is very influential on the economy. So that both the national and international banking world experienced many dynamics and changes in harmony with the times that

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cause the complexity of the transaction becomes increasingly increasing and the level of risks that asapun become higher along with the increasing types and types of transactions offered by the bank to its customers.

Therefore, the management of the banking sector needs to review the operational activities with risks arising from the existence of these activities. Supported by research conducted by Brown and Caylor (2004) as well as Arcay and Va'zquez (2005) said that the implementation of Good Corporate Governance in running a company is expected to make the company performance better and also more transparent in providing information needed by market. Besides Siagian (2011) said that Corporate Governance is predicted to minimize Agency Problems in the company, because GCG will improve communication among managers and shareholders, enhance the role of boards of commissioners and directors and independent committees, protect the interests of minority shareholders and can also increase the value of the company. And also in some cases the company's remuneration system is not in line with the strategy, risk appetite, and long-term interests of the company. Thus, the study recommends the importance of oversight board management and also the risk management of a company as a part of GCG implementation. In addition, there is a bank's obligation to conduct Self Assessment of bank soundness by using Risk Based Bank Rating (RBBR) either individually or consolidated, among others, covering the assessment of Good Corporate Governance (GCG) as referred to in the Bank Regulation Indonesia Number 13/1 / PBI / 2011 concerning Assessment of Commercial Bank Rating (Statute Book of the Republic of Indonesia Year 2011 Number 1, Supplement to Statute Book of the Republic of Indonesia No. 5184), Bank Indonesia Regulation Number 8/4 / PBI / 2006 on Good Corporate Governance for Commercial Banks (Schouten, 2019).

One way to strengthen the banking industry is by doing sustainable business to be able to perform banking functions well. This effort is done in order to improve the banking system to become healthy, efficient and able to compete in the era of globalization and free trade, such as by increasing the capital owned by banks. Because with strong capital can make banking institution can take a high risk (Sitompul, 2008). Capital for a bank is very important in maintaining the stability of the financial system. In order to avoid and mengantidipasi all problems that have the potential to hit the banking world carried out preventive measures that can cope with all the risks and obstacles to be faced. One that plays an important role is regulation, namely arrangements related to how to regulate and minimize the risks that exist in the banking world given the importance of the function and role of banks in the economy.

According to data from Bank Indonesia in 2011 Bank Indonesia together with several banks continue to conduct periodic quantitative impact research to see the consequences of Basel II implementation of bank capital. Thus, the impact of Basel II on bank capital should be seen individually and it is imperative to early assess and increase the effectiveness of risk management in order to optima utilize existing incentives. CAR declines can occur for banks whose risk is greater, but for banks whose credits are dominated by retail and mortgages will lead to lower capital requirement calculations, since retail and mortgages are lower than those currently applied. Thus, the focus of Basel II implementation in Indonesia is the development and improvement of risk management quality by national banks in accordance with Bank Indonesia Regulation (PBI) NO. 5/8 / PBI / 2003 concerning Application of Risk Management for Commercial Banks. And this effort certainly does not choose between big banks and small banks because the risk management culture necessarily acts as a common patron. If Basel II implementation is expected to cause a decrease in exposure for certain sectors such as due to use of credit ratings to corporations in the standard approach to credit risk, on the other hand Basel II implementation encourages increased exposure to other sectors such as retail sector loans such as small business loans , individuals, and housing by using credit risk weight reduction for each sektro. The effect will cause a shock to banks, debtors, and the economy but will not last long and only "Fine Tuning" which is prevalent in an economy. Thus, the increase in bank capital within the framework of the implementation of the Indonesian Banking Architecture is indirectly a means for banks. Because adequate capital support will enable banks to develop the Human Resources and information technology necessary to implement Basel II. Thus, the obligation to meet the minimum core capital of commercial banks is Rp. 80 billion at the end of 2007 and Rp. 100 billion at the end of 2010 in addition to increasing the economies of scale in the implementation of operational activities also provides an opportunity for banks to improve risk management capabilities (www.bi.go.id).

The implementation of Basel II is based on Indonesia's demand for BI and Banking readiness, as it basically wants to improve the risk management aspect so that banks will be more resistant to changes occurring domestically, regionally and internationally. In principle, banks are given the flexibility to apply a more advanced approach such as IRB if the readiness of IT, HR, and System and Bank Risk Profile that support is believed to apply more

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advanced approach banks can benefit. The BI Supervisor will validate the bank's readiness before allowing the bank to calculate the capital adequacy with its own calculations. So that Bank Indonesia finally educate specially bank supervisor who will act as market risk validator and credit risk validator. The incident shows that the banking world is full of dynamics and can not be separated from the risk itself. One way to strengthen the banking industry is to conduct sustainable business and perform banking functions well. This effort is done in order to improve the banking system to become healthy, efficient and able to compete in the era of globalization such as by increasing the capital owned by banks. Because with strong capital can make banking institution can take a high risk (Sitompul, 2008). Capital for a bank is very important in maintaining the stability of the financial system.

The importance of this role causes the regulation of capital to refer to the Basel International Standard Committee on Banking Supervision. The Stadar, known as Basel I, was first established in 1988, which in its journey had many adjustments as a consequence of the rapid development of instruments in the financial market, and finally agreed to establish a capital accounting standard for the more sensitive banks known as Bassel II. BIS (Bank for International Settlements) which made improvements related to the existing capital framework in 1988 Accord by issuing a new capital concept - fully known as Basel Capital Accord II. Basel II aims to improve the security and health of the existing financial system in the company by focusing on the calculation of risk-based capital, supervisory review process, and market dicipline. The Basel II framework is structured on a forward looking approach basis which allows for improvements and can also adapt from time to time. This framework also can follow the changes that occur in the market with the developments that exist in risk management. Basel II has various complexities and preconditions that are very heavy for banks. This is very reasonable, because the benefits that will be obtained by banks in the form of capital savings and also close the risks that exist. In addition, since Basel II is an International standard, it will make it easier for a bank that already operates globally to be accepted by the market.

Risk management is one of the solutions to overcome banking problems, according to Bank Indonesia itself. Risk management is a procedure and methodology used to identify, monitor and control the risks arising from each business activity of the bank (Tampubolon, 2004). The focus of the risk management function is to anticipate the occurrence of incidents that can harm the bank so that it needs integrated control in the form of a system of risk management along with risk management strategies and policies for all bank activities. According Darmawi (2011: 16-18) written that there are several risks that are often faced by banks that are credit risk, liquidity risk and operational risk. Credit risk will arise due to the failure of the customers to fulfill their obligations. Indicator used in measuring credit risk is NPL or (Net Performing Loan) that is ratio between total problem loans with total credit given by bank to debtor.

Liquidity risk is a risk caused by the inability of the bank to meet the obligations that have matured. With the LDR (Loan To Deposit Ratio) indicator which is an indicator used for the liquidity ratio that describes the ability of the bank to repay the withdrawal by giving the credit given as the source of liquidity, which is calculated by comparing the amount of loans disbursed with third party funds (Saudi, 2018).

Operational risks are caused by inadequate internal bank processes, human errors, technological systems, funds or external problems. The indicator used is BOPO (Operating Expenses to Operational Meetings). BOPO demonstrates the bank's management capability in controlling operational costs on its Operating Income.

Basically, the implementation of the Basel Capital Accord Standard focuses on improving the quality of risk management in every well-considered risk profile for banking risk management (Bank for International Settlement, 2005) as well as the implementation of Good Corporate Governance in the banking sector in order to make the company do good corporate governance so that the company's performance increases so as to provide added value to investors in particular and stakeholders in general. But it does not eliminate the possibility that there are various obstacles that may be faced by banks in Indonesia, either directly or indirectly, which ultimately will have an impact on the effectiveness of the implementation of risk management.

I.I. Problem Identification

Based on the background description, the problems related to the influence of Basel Capital Accord II and Good Governance's implementation of Risk Management in Indonesian banking become important for further investigation. These three variables will be the main problem in this research. The discussion will begin in Basel as the main variable. This study will measure Basel regulations issued by the Basel Committee and how much they affect the regulations set by Bank Indonesia in relation to any risk posed. The research will be conducted by looking

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at what has been established by Bank Indonesia on Basel Capital Accord and risk measurement of banking operational activities related to 3 main risks: credit risk, liquidity risk and operational risk. One of the core of Basel is risk management that provides a framework for calculating risk to capital from exposure caused by the risk of loss due to operational failure (Hussain et al., 2018).

The next discussion is about the analysis of GCG implementation (Good Corporate Governance) which represented the composite value of banking GCG taken from the annual report published by the bank to its effect on risk management. This analysis is conducted comprehensively on the measurement of the extent of the application of these variables to the emergence of various risks. In the three variables will be assessed how much the influence of Basel and GCG on risk management.

II. LITERATURE REVIEW

According to Article 1 of Act Number 7 of 1992 concerning Banking as amended by Act Number 10 of 1998, it states: "Business entities that collect funds from the public in the form of savings and distribute them to the public in the form of lending funds or other forms in the to improve the standard of living of many people"

II.I. Basel Capital Accord

The basic objective of establishing BCBS (The Basel Committee on Banking Supervision) is to close the gap of world banking regulations. In essence, it is not possible to set up an overseas bank that is not reachable by adequate regulations. However, on the other hand, the establishment of BCBS is not intended to hold the world's legal banking authority but rather expect individual bankers to apply appropriate standards and guidelines. In July 1988 the committee issued Basel I "International Coverage of Capital Measurement and Capital Standards" which was the first attempt to produce a standard methodology to calculate the amount of risk-based capital that a bank should hold. Then in January 1996 BCBS published the "Amendment to the Capital Accord to Incorporate Market Risks" which was an amendment to Basel I in 1988. The amendment was the result of a development method with a twin-track approach that assessed the valuation (quantitative) internal banks are based on published standards and qualitative standards. In 1999, BCBS started working with major banks from member countries to develop the new Capital Accord by publishing the First Consultative Package. Since then the banking enters the Basel II Accord era. Based on the inputs from bankers and bank's supervisory authorities in the world and the result of dialogue with banking practitioners, in January 2001 BCBS published the Second Consultative Package which is expected to be implemented in 2004. However, the Basel II implementation plan in 2004 was delayed with increasingly many suggestions and criticisms for BCBS that later published the Third Consultative Package in April 2003. It was followed by the publication of the International Convergence of Capital Measurement and Capital Standards in July 2004. In November 2005 BCBS re-published the International Convergence of Capital Measurement and Capital Standards to complete the document July 2004 based on the results of the three Quantitative Impact Studies conducted since 2003.

II.II. Good Corporate Governance (GCG)

OECD defines Good Corporate Governance as:

"Corporate governance is the system by which business corporation are directed and and controlled. The corporate governance structure specifies the distribution of rights and responsibilities among different participants int teh corporation, such as board, the managers, shareholders, and other stakeholders, and spells out the rules and procedure for making decisions on corporate affairs. By doing this, it also provids the structure through which the company objectives are set, and the means of attaining those objectives and monitoring performance".

II.III. Risk Management

Based on the understanding and business activities undertaken by banks, shows the complexity of banks as one type of financial institution when compared with non-bank financial institutions. Complexity can be seen from the completeness of business activities that can be done bank covering the basic functions of the bank as a depository financial institution (depository financial institution) and channeled it in the form of loans and investment as a form of intermediation function. In addition, in line with the development of the banking world, banks can perform almost all the functions of non-bank financial institutions (non-depository financial institutions), especially from factoring, consumer financing, credit card until trustee.

Bank Indonesia Regulation No.5 / 8 / PBI / 2003 dated May 19, 2003 concerning Risk Management for Commercial Banks, is a form of Bank Indonesia's seriousness in banking risk management. The seriousness is

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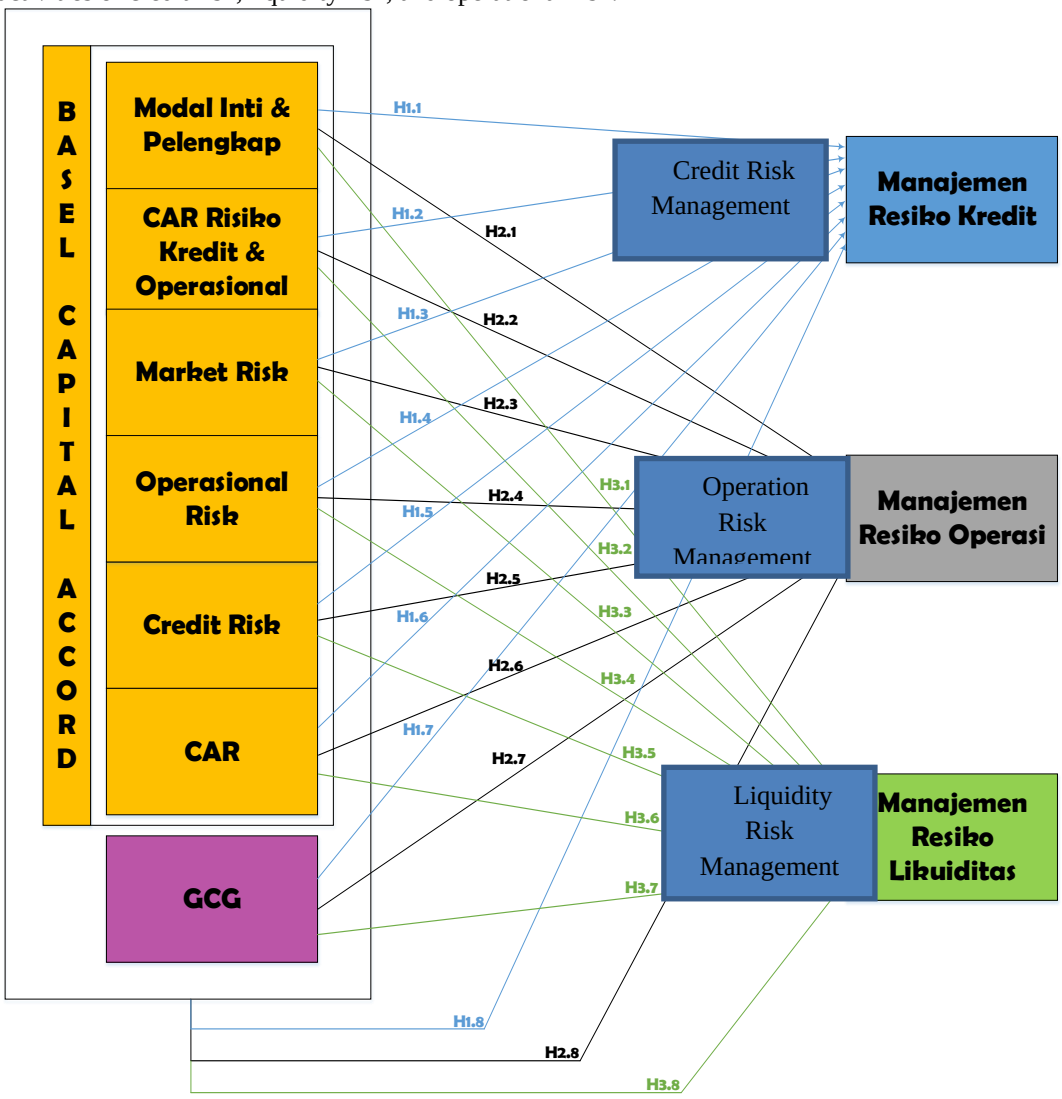
further reinforced by the issuance of Bank Indonesia Regulation No.7 / 25 / PBI / 2005 in August 2005 regarding Risk Management Certification for Management and Officers of Commercial Banks, which requires all bank officials from the lowest to the highest level to have appropriate risk management certification with his level of office.

Based on the above two regulations, Bank Indonesia emphasizes that banks in conducting business and controls are required to manage the risks, which include measures of measurement, monitoring and control measures. Bank Indonesia asks banks in Indonesia to manage their risks in an integrated management structure, as well as to build the systems and management structures required to achieve them. In Bank Indonesia Regulation no. 11/25 / PBI / 2009 and BI SE 14/35 / DPNP, which entered into force in 2012, require banks to disclose the implementation of risk management specifically covering qualitative and quantitative disclosure.

II.IV. Theoritical Framework

Banking Risk Management in this study used a referral from Damawi (2011-16-18) that there are 3 risks often faced by the activities of credit risk, liquidity risk, and operational risk.



Figures 2.1:*Theoritical Framework*

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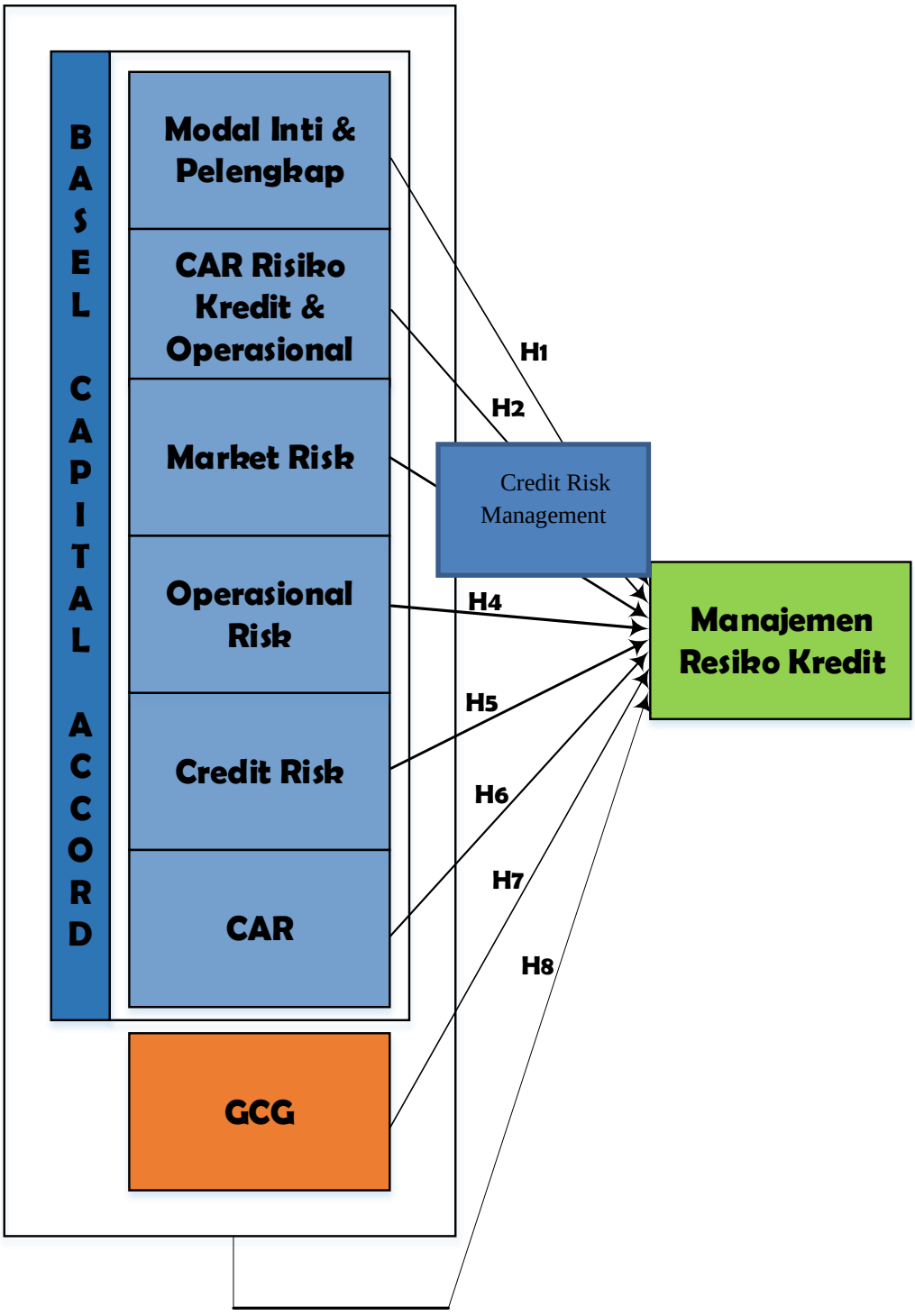

Figures 2.2:*Theoretical Framework Influence of Basel Capital Accord, Good Corporate Governance toward credit risk management*

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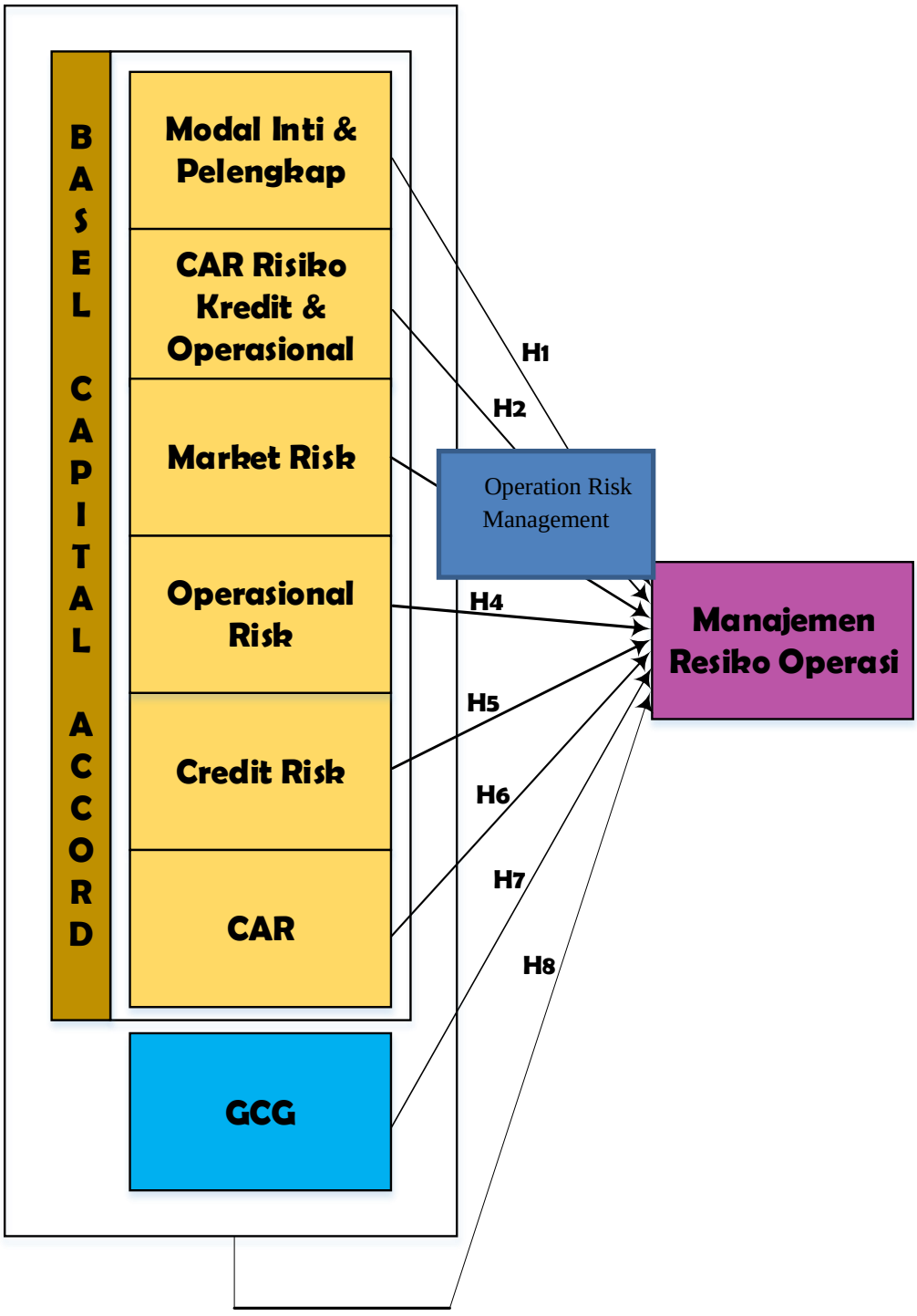

Figures 2.3:*Theoretical Framework Influence of Basel Capital Accord, Good Corporate Governance toward operational risk management*

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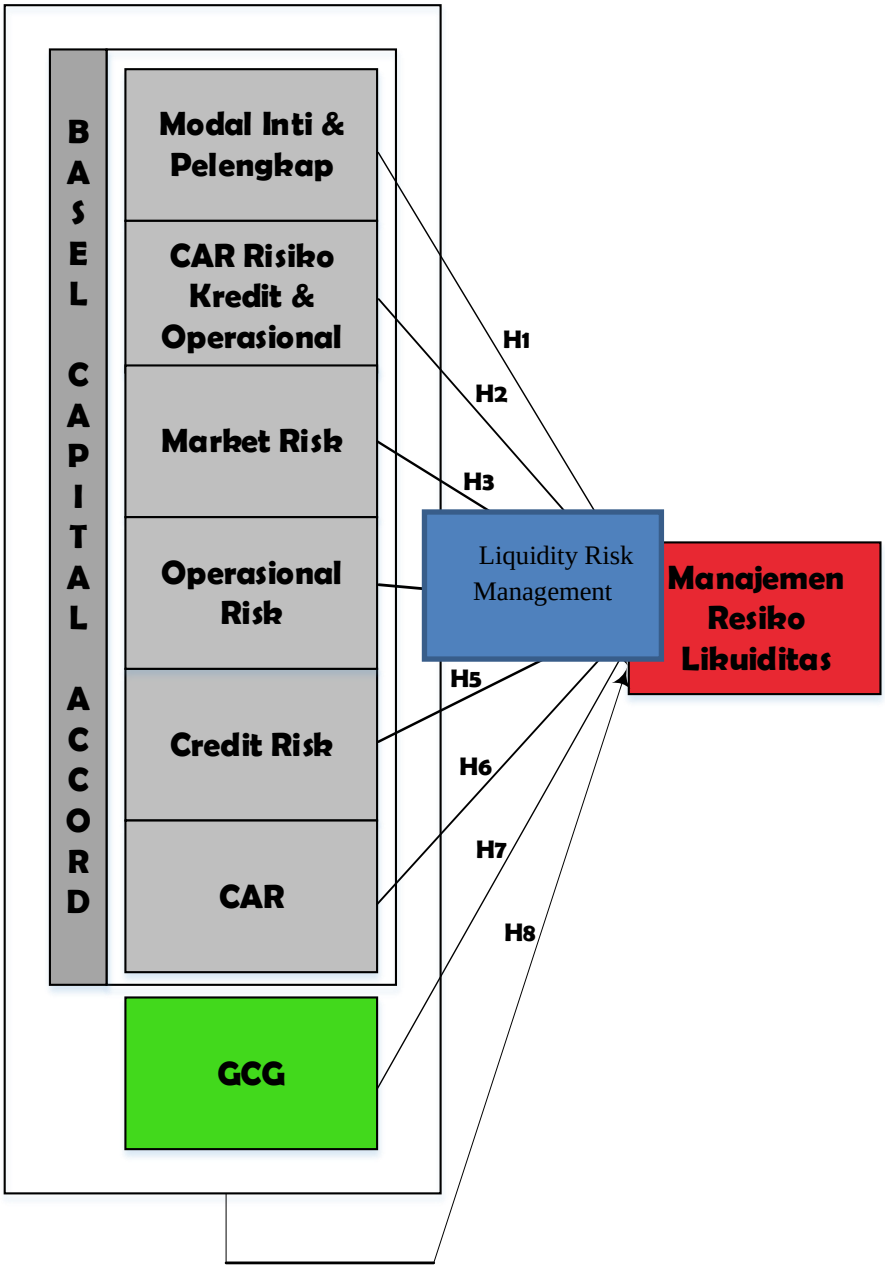

Figures 2.4:*Theoretical Framework Influence of Basel Capital Accord, Good Corporate Governance toward liquidity risk management*

III. RESULT AND DISCUSSION

This research uses a quantitative approach which is a deductive process that learns something by looking at a common or special pattern. Using a quantitative approach means that this research is based on theories that are universal and built on the common thing and then discuss it specifically (Prasetyo and Jannah, 2005). The data used in this study is quantitative data in the form of numbers.

In this research using verifikatif method that is by conducting hypothesis test through statistical data processing and testing. Verifikatif analysis is intended to determine the truth of a hypothesis done by collecting data from the object under study. This study is also called non-experimental, because it does not control and manipulation of existing research variables.

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III.I. Population and Sample

The population used in this study are all companies listed on the Indonesia Stock Exchange (BEI). And the selected sample is based on the following criteria:

- Commercial banks listed on the Indonesia Stock Exchange
- Banking companies that publish their financial statements and complete annual reports for the period ended 31 December during the 2011-2016 observation year

III.II. Variable Operationalization

III.II.I. Dependent variable

The dependent variable in this research is Risk Management on the basis of the risks often faced by banks that are credit risk, liquidity risk and operational risk. As written Darmawi 2011: 16-18 that there are 3 risks often faced by banks that are credit risk, liquidity risk and operational risk.

- Credit Risk
  Under the terms of Bank Indonesia, the maximum NPL is 5% by the following formula:
  NPL = (Troubled Financing) / (Total Financing)
  Operational Risk
  The efficiency of BOPO ratio is as follows:
  BOPO = (Total Operating Expenses) / (Total Operating Income)
- Liquidity Risk
  LDR can be formulated as follows (In accordance with SE No. 6/23 / DPNP dated May 31, 2004):
  LDR = (All Loans Given) / (All Funds Given)

Independent Variable

- The minimum capital ratio or Solvency Ratio (MIP) as the first independent variable.
- Capital Adequacy Ratio (CRKO) .It is for credit risk and operational risk.
- Market Risk. An internal model approach that allows banks to use their own developed methods that must meet the qualitative and quantitative criteria established by the Basel Committee and refers to the approval of the regulatory authorities. The internal model approach establishes a higher capital charge on the previous day's VaR or the average daily VaR value for 60 workdays multiplied by three minimum facto
- Credit Risk. IRB Approach IRB approach recognizes that banks generally know more about their debtors than ratings agencies. This approach allows banks to apply more precise differentiation for each risk than the seven risk groups (0, 20, 35, 50, 75, 100 and 150%) contained in the standardized approach.
- Operational Risk. defined by the Basel Committee as " risks which either directly or indirectly stem from the inability or failure of internal processes, persons and systems as well as external events ". There are three approaches in determining capital expenses for operational risk: o Basic Indicator Apparoach establishes a capital charge for operational risk of a certain percentage (called " alpha factor ") of gross income used as an estimate of bank risk exposure.
- Capital Adequacy Ratio. is the adequacy of capital that shows the ability of banks in maintaining adequate capital and bank management capabilities in identifying, measuring, supervising and controling risks that affect the amount of capital. The CAR ratio also shows how far all bank assets have risks such as credit, securities placements, bills with other banks, etc.
- Good Corporate Governance.
  The parameters are based on Bank Indonesia Circular Letter no. 15/15 / DPNP 2013 in which the bank must use self assessment method as GCG measurement parameter.

III.II.II. Overview of Research Sample

The overall object or population of this study is commercial banks in Indonesia. The initial population of banking companies listed on the Indonesia Stock Exchange from 2011 to 2016 is 43 companies. Of these, there are 26 banks that always present complete financial statements as of December 31, 2011 until December 31, 2016 and Listed on the Indonesia Stock Exchange. Thus, the observationaldata used for this study were 26 banks.

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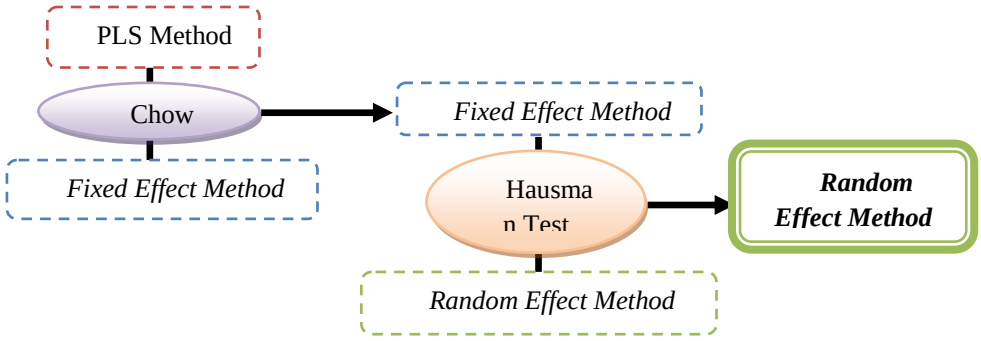
III.III. Descriptive Statistic Analysis

III.III.I. Descriptive Statistic Analysis of Independent Variable and Dependent Variables

	STDev	Max	Min	Mean	Median	Skew
LDR	0,11782964	1,02613333	0,55983333	0,820631036	0,833491667	-0,74773102
NPL	1,370976	7,558333	0,220267	2,4074953	2,3275	214,97264
BOPO	0,1498427	1,27051667	0,618	0,845582308	0,852908333	0,636751247
MIP	2,7768E+13	8,6613E+13	3,3737E+11	2,14465E+13	9,92774E+12	1,387034457
CRKO	0,03498216	0,28805	0,12201667	0,178938013	0,175133333	1,427840072
RP	4,5489E+12	2,2884E+13	1,2771E+10	1,87854E+12	6,62156E+11	4,314326981
RO	3,206E+13	1,2812E+14	1,7092E+11	2,13442E+13	8,42253E+12	1,98755803
RK	1,3022E+14	4,3086E+14	1,3739E+12	1,04277E+14	4,86759E+13	1,292408067
CAR	0,03389043	0,28598333	0,12996667	0,183877607	0,178916667	1,240953899
GCG	0,41233822	2,83333333	1,15	1,868288462	1,873333333	0,237907142

III.III.II. Conclusion Selection Method

Based on the results of tests that have been done and the number of n objects larger than the period under study, then obtained the most appropriate model conclusions for this study are as follows



Figures 5:14*Overview Selection Method*

Source: Gujarati, Basic Econometrics

III.IV. Selection Model

III.IV.I. Chow Test

A test done to choose between Pooled Least Square (PLS) and Fixed Effect Model (FEM). This test is done by assessing the probability of F from the processing output with the following hypothesis:

H_0 :β = 0 (*Pooled Least Square)*
H_1 :β ≠ 0 (*Fixed Effect)*

With a significance level of 95% (α = 5%), the rejection criterion is reject H0 if the probability value F <0.05 and does not reject H0 if the probability value F> 0.05.Of the three ouput results running Eviews dependent variable to the independent variable gives the result of the same F-Stat that is as follows:

Tabel 5. 3:*Hasil Uji Chow*

Effects Test	Prob.
Cross-section F	0.0000
Cross-section Chi-square	0.0000

Source: data processed using Eviews7

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Based on table 4.2 shows that the value of F-statistics is smaller than the level of significance α = 5% then H0 is rejected. The probability value of F-statistics model is 0.0000 thus Fixed Effect Method (FEM) panel data method is better than Pooled Least Square method.Furthermore, if the Chow test has been concluded that the selected Fixed Effect Model (FEM) then need to do next test that is Hausman test done to choose between Fixed Effect Model (FEM) or Random Effect Model (REM).

III.IV.II. Hausman Test

This test is done after Chow test if the FEM method is used. The value to be considered in the Hausman test is the probability value of Chi-Square. Here are the results of Hausman's Test:

Hausman Test Results

Test Summary	Chi-Sq. d.f.	Prob.
Cross-section random BCA & GCG to NPL	10.547001	0.1596
Cross-section random BCA & GCG to BOPO	9.059077	0.2484
Cross-section random BCA & GCG to LDR	13.710457	0.0566

Source: data processed using Eviews7

In this Hausman test, the value to be observed is the probability value of Chi Square with Degree of Freedom by k where k is the number of independent variables. The hypotheses used in Hausman's Test are as follows:H0: Random Effect Model (REM)H1: Fixed Effect Model (FEM)In the statistical results table using Eviews it is shown that the probability of Chi Square is 0.1596; 0.2484; and 0.0566, the test results are not significant because p-value is more than 5%, so H0 is accepted and H1 is rejected. Therefore, a good model for this research is to follow the Random Effect. As the provisions that apply to the Hausman test is that if the Hausman statistic value is smaller than the critical value then the appropriate model is to use the model Random Effect Model (REM)*).*

Koefisien Determinasi R^2 dan *Adjusted* R^2

The value of R2 is the value that shows how well the regression model used in the study. According to Nachrowi and Usman (2006), R2 is very useful for measuring the "proximity" between the predicted value and the true value of the dependent variable. The value of R2 is in the range of 0 <R2 <1. When close to zero or 0, the dependent variable increasingly can not be explained by the independent variables used in the study. Conversely, if close to 1, then the regression model used increasingly bank. Meanwhile, Adjusted R2 is intended to strengthen the prediction power of a model.

R^2 dan Adjusted R^2toward Credit Risk Management

R-squared	0.095064
Adjusted R-squared	0.052263

Source: data processed using Eviews7

Based on the above table shows that R2 is 9.5% which means that risk management as dependent variable in this research can be explained by 78,03% by model, while 90,5% is explained by other factors outside model. The independent variables in this research are Minimum Capital Ratio, Capital Requirement Calculation, Market Risk, Credit Risk, Operational Risk, Capital Adequacy Ratio and Good Corporate Governance. able to explain the effect of 9.5% to the dependent variable.

While the rest of 90.5% is explained by other factors not covered by this research regression model. As written by Penza and Bansal, 2001 that credit risk can occur in unsecured loans, bonds / notes and on derivative products whose transactions are conducted in an unorganized manner (such as swaps, forwards, and derivative over the counter products). Credit risk is more as a risk of loss caused by failure of counterpart in executing payment according to agreement. While Crouhy, Galai and Mark (2001, p. 35) state that credit risk is a risk when changes in counterparty credit quality can affect the value of bank positions. In another study, Pagach and Warr (2010) note

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that risk management is influenced by financial performance variables such as leverage, return on equity, financial slack, opacity, market to book ratio, duration ratio and loan loss provisions.

Adjusted R2 represents the adjusted R2 value. Since the more independent variables used in the equation will further reduce the value of this R2 (Rohmana, 2010). In this study Adjusted R2 value of 0.052263 means that can be interpreted in general that the model's ability to explain the variation of Credit Risk Management is 5.22%. To overcome the weakness of R2, Henry Theil suggested by seeingAdjusted R2 .. In conclusion, the greater the value of Adjusted R2 the better the model.

R^2 dan *Adjusted* R^2toward Operational Risk Management

R-squared	**0.154344**
Adjusted R-squared	0.114344

Source: data processed using Eviews7

Based on the above table shows that R2 is 0.154344 which means that risk management as the dependent variable in this study can be explained by 15.44% by model, while 84.56% is explained by other factors outside the model. The independent variables in this research are Minimum Capital Ratio, Capital Requirement Calculation, Market Risk, Credit Risk, Operational Risk, Capital Adequacy Ratio and Good Corporate Governance. able to explain the effect of 15,43% to dependent variable of operational risk management.

While the rest of 84.56% is explained by other factors not covered in the regression model of this study. As stated by Fiordelisi et al, 2011 that banks with higher capital levels have better capacity to improve efficiency than banks with low capital levels. With a high level of capital, banks can improve the quality of their human resources. In addition, banks can improve the quality of performance in providing credit evaluation that can improve bank efficiency. In addition, the influence of risk level on banking efficiency can be evident through bad luck hypothesis (Berger and DeYoung, 1997) where it is mentioned that there are external factors that can increase the risk of such as inflation and economic growth. An increase in bank risk will lead to a decrease in the level of bank efficiency. This is in line with the research by Berger and DeYoung, 1997 that there are external factors that can increase bank risk. Thus, banks need a higher cost to cope with the increase in bank risk, thereby increasing the operational costs causing the downturn of efficiency. Operational costs that may be incurred are increased costs related to supervision of customers and ensure the quality of credit is still running.

Adjusted R2 represents the adjusted R2 value. Since the more independent variables used in the equation will further reduce the value of this R2 (Rohmana, 2010). In this study Adjusted R2 value of 0.114347 means that can be interpreted in general that the model's ability to explain the variation of Operational Risk Management is 11.43%. To overcome the weakness of R2, Henry Theil suggested by seeing Adjusted R2 .. In conclusion, the greater the value of Adjusted R2 the better the model.

R^2 and *Adjusted* R^2 Liquidity Risk Management

R-squared	**0.015235**
Adjusted R-squared	-0.031342

Source: data processed using Eviews7

In reality the adjusted value of R2 can be negative, even if the desired value must be positive. According to Gujarati (2003) if in the empirical test obtained adjusted value R2 negative, then the value of adjusted R2 is considered zero. Mathematically if the value of R2 = 1, then adjusted R2 = R2 = 1 whereas if the value R2 = 0, then adjusted R2 = (1 - k) / (n - k). If k> 1, then adjusted R2 will be negative.

Thus, the minus value in adjusted R-square can be due to 3 things that are less good model (so R-Squared is small), the variable is too much or even the observation data is too little. As written Dendawijaya, 2009 that the ratio of LDR states the extent to which the ability of banks in paying the withdrawal of funds made by depositors rely on the credit given as suber liquidity. Inability arises when the bank can not make money to meet withdrawals, credit

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commitments, or increase in assets. The withdrawal of funds came about because of the loss of trust from the community. Or in other words, the bank's inability to fulfill the obligations due from funding sources of cash flow funds from high-quality liquid assets that can be mortgaged, without disturbing the activities and financial condition of the bank.

Small R square value in this study is probably due to the independent variable that becomes the influence factor on the dependent variable of the liquidity risk management only within the internal company only. While liquidity may be caused by a lack of funds caused by unforeseen events such as large value erasers or national currency crises.

Significance of Multiple Linear (*F-stat*)

Summary F-*stat* and *Prob. F-stat* to NPL

F-statistic	Prob(F-statistic)	Significant	Hypothesis
2,221059	0.035614	Signifikan*	Rejected H_0

Note: showing significance level of 1%
Source: data processed using Eviews7

Based on the table can be explained that the value of F-stat is equal to 2.221059 with probability 0. This shows that the value is at 99% confidence level or can be categorized highly significant, because it has a significance value of 0.035614 <0.05. If the significance value of F is smaller than 0.05 then the alternative hypothesis is rejected and vice versa if the significance value F is greater than 0.05 then the alternative hypothesis can not be rejected.

Summary F-*stat andProb. F-stat* to BOPO

F-statistic	Prob(F-statistic)	Significant	Hypothesis
3.858868	0.000693	Signifikan*	Rejected H_0

Note: showing significance level of 1%
Source: data processed using Eviews7

Table can be explained that the value of F-stat is 3.858868 with probability 0. This indicates that the value is at 99% confidence level or can be categorized highly significant, because it has a significance value of 0.000693 <0.05. If the significance value of F is smaller than 0.05 then the alternative hypothesis is rejected and vice versa if the significance value F is greater than 0.05 then the alternative hypothesis can not be rejected.

Summary F-*stat andProb. F-stat* to LDR

F-statistic	Prob(F-statistic)	Significant	Hypothesis
0.327094	0.940694	Tidak Signifikan*	H_0 be accepted

Note: showing significance level of 1%
Source: data processed using Eviews7

Based on table 5.10 it can be explained that the value of F-stat is 0.327094 with probability 0.940694. This shows that the value is at 99% confidence level or can be categorized as highly significant, because it has a significance value of 0.940694> 0.05. If the significance value of F is smaller than 0.05 then the alternative hypothesis is rejected and vice versa if the significance value F is greater than 0.05 then the alternative hypothesis can not be rejected.

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Partial Significance (*T-stat*)

Partial test result (t-Test)

Variabel Dependen	Variable Independen	Coefficient	Std. Eror	t-statistic	Prob.	description
Manajemen Risiko Kredit (NPL)	MIP	2.34E-14	1.12E-14	2.087897	0.0389	**Significant**
	CRKO	1.740090	2.176887	0.799348	0.4256	Not Significant
	RP	-4.03E-15	1.39E-14	-0.289935	0.7724	Not Significant
	RO	1.02E-14	3.70E-15	2.755036	0.0068	**Significant**
	RK	-9.06E-15	3.86E-15	-2.348361	0.0205	**Significant**
	CAR	-1.482907	2.102226	-0.705398	0.4819	Not Significant
	GCG	0.153474	0.138978	1.104305	0.2716	Not Significant
Manajemn Risiko Operasional (BOPO)	MIP	7.89E-15	1.07E-13	0.073580	0.9414	Not Significant
	CRKO	**67.81799**	**21.11435**	**3.211939**	**0.0016**	**Significant**
	RP	1.31E-14	1.34E-13	0.097787	0.9222	Not Significant
	RO	**1.07E-13**	**3.58E-14**	**2.997377**	**0.0032**	**Significant**
	RK	-1.16E-14	3.62E-14	-0.321555	0.7482	Not Significant
	CAR	**-84.08096**	**20.39649**	**-4.122326**	**0.0001**	**Significant**
	GCG	0.616745	1.344870	0.458591	0.6472	Not Significant
Manajemen Risiko Likuiditas (LDR)	MIP	-1.12E-13	1.53E-13	-0.729329	0.4670	Not Significant
	CRKO	2.939852	30.57097	0.096165	0.9235	Not Significant
	RP	4.97E-14	1.93E-13	0.256743	0.7977	Not Significant
	RO	2.04E-14	5.16E-14	0.395576	0.6930	Not Significant
	RK	3.45E-14	5.04E-14	0.685033	0.4944	Not Significant
	CAR	8.245299	29.54454	0.279080	0.7806	Not Significant
	GCG	-2.547810	1.941601	-1.312221	0.1915	Not Significant

Source: data processed using Eviews7

T test is useful to test the significance of the regression coefficient, ie whether the independent variable significantly influences or not. While t test also see partially influence from independent variable to variable dependent. From table 5.11, we get 3 equations of multiple linear regression as follows:

- **$CRM_{i,t}$= 0.731768 + 2.34E-14$MIP_{i,t}$ + 1.740090$CRKO_{i,t}$- 4.03E-15$RP_{i,t}$ + 1.02E-14$RO_{i,t}$ - 9.06E-15$RK_{i,t}$ - 1.482907$_6$$CAR_{i,t}$ + 0.153474$GCG_{i,t}$ + ε >> Formula 1**
- **$CRO_{i,t}$= 34.01387 + 7.89E-15$MIP_{i,t}$ + 67.81799$CRKO_{i,t}$+ 1.31E-14$RP_{i,t}$ + 1.07E-13$RO_{i,t}$ - 1.16E-14$RK_{i,t}$ - 84.08096$CAR_{i,t}$ +0.616745$GCG_{i,t}$ + ε >> Formula 2**
- **$CRL_{i,t}$= 0,731768 - 1.12E-13$MIP_{i,t}$ + 2.939852$CRKO_{i,t}$+ 4.97E-14$RP_{i,t}$ + 2.04E-14$RO_{i,t}$ + 3.45E-14$RK_{i,t}$ + 8.245299$CAR_{i,t}$ - 2.547810$GCG_{i,t}$ + ε >> Formula 3**

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From the three equations above, we can see that the variable Minimum Capital Ratio and Return On Equity have a positive and significant effect on Credit Risk Management. Similarly, the variable Ratios of Equity Participation and Operating Risk have a positive and significant impact on Operational Risk Management. While the variable Credit Risk has a negative and significant effect on credit risk management also Capital Adequacy Ratio has negative and significant effect to operational risk management.

IV. CONCLUSION AND RECOMMENDATION

IV.I. Conclusion

This study analyzes the influence of Basel Capital Accord and Good Corporate Governance regulations set by the government against Risk Management in Indonesian banking. To measure the Basel Capital Accord, the researchers used measures of the Minimum Capital Ratio variable, Capital Adequacy Ratio, Market Risk, Operating Risk, Credit Risk and Capital Adequacy Ratio. While the Good Corporate Governance variable is measured using the result of self assessment value of composite value determined by Bank Indonesia. This study uses panel data from 26 Indonesian banking companies listed on the Stock Exchange from 2011 to 2016. From the results of model selection test, this research uses Hausman Test model by selecting Random Effect Method (REM) method to accommodate existing data analysis .

Based on the test results obtained by using multiple linear analysis, we can know that credit risk management banking listed on the Stock Exchange Period 2011 to 2016 which proxied with NPL and BOPO influenced simultaneously by the variable ratio of minimum capital, calculation of capital requirement, market risk, credit risk, operational risk, capital adequacy ratio and good corporate governance significantly. While the variable ratio of minimum capital, calculation of capital requirement, market risk, credit risk, operational risk, capital adequacy ratio and good corporate governance have no effect simultaneously on credit risk management that listed on the Stock Exchange Period 2011 to 2016 proxy with LDR .

In addition, this study aims to obtain empirical evidence about the partial influence of independent variables on the dependent variable as follows:

1. Minimum Capital Ratio based on t-test shows positive and insignificant effect on Credit Risk Management period 2009-2016.
2. Capital Requirement Calculation based on t-test shows positive and insignificant effect on Credit Risk Management period 2009-2016.
3. Market Risk based on t-test showed positive and insignificant effect on Credit Risk Management period 2009-2016.
4. Credit Risk based on t-test shows a positive and significant impact on Credit Risk Management period 2009-2016.
5. Operational Risk based on t-test showed a significant and negative effect on Credit Risk Management period 2009-2016.
6. Capital Adequacy Ratio based on the t-test showed a negative and insignificant effect on Credit Risk Management period 2009-2016.
7. Good Corporate Governance based on t-test shows positive and insignificant effect on Credit Risk Management period 2009-2016.
8. The Minimum Capital Ratio based on the t-test shows a positive and insignificant effect on Operational Risk Management in the period 2009-2016.
9. Capital Requirement Calculation based on t-test shows a positive and significant impact on Operational Risk Management period 2009-2016.
10. Market Risk based on t-test shows positive and insignificant effect on Operational Risk Management period 2009-2016.
11. Operational Risk based on t-test shows a positive and significant impact on Operational Risk Management period 2009-2016.
12. Credit Risk based on the t-test shows a negative and insignificant effect on Operational Risk Management period 2009-2016.
13. Capital Adequacy Ratio based on t-test shows a significant negative and significant impact on Operational Risk Management period 2009-2016.
14. Good Corporate Governance based on the t-test showed a positive and insignificant effect on Operational Risk Management in 2009-2016 period.

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15. The Minimum Capital Ratio based on the t-test shows a negative and insignificant effect on the Liquidity Risk Management period 2009-2016.
16. Capital Requirement Calculation based on t-test shows positive and insignificant effect on Risk Management of liquidity period 2009-2016.
17. Market Risk based on t-test shows a positive and insignificant effect on the liquidity risk management in 2009-2016 period.
18. Operational Risks based on the t-test show a positive and insignificant effect on the Liquidity Risk Management period 2009-2016.
19. Credit Risk based on the t-test shows a positive and insignificant effect on the Risk Management of the liquidity period 2009-2016.
20. Capital Adequacy Ratio based on t-test shows positive and insignificant effect to Operational Risk Management is applied pe

IV.II. Suggestions

a. The bank's management needs to pay attention to the Bank's operational potentials that will result in an increase in the allowance for loan losses. This is because if the greater the level of allowance for credit losses incurred, the greater the amount of assets that are reduced.

b. For banks in Indonesia, banks should minimize the operational risk management of banks by pressing the human fraud rates that may occur through the optimization of supervision, job rotation, penalties and rewards.

c. Banks must have human resources that have a kaspasitas in conducting credit assessments to support in conducting analysis in conducting lending to prospective borrowers. This is done to anticipate the increase of NPL (Non Performing Loan). With a detailed credit assessment and in accordance with the procedure, it is expected that the amount of credit disbursed by the bank is large, but does not increase the amount of bad credit. The bank's management should always control and monitor the flow of daily bank transaction changes, so that any number of changes that occur can be known quickly

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