

Analysis of Minimum Capital Adequacy Ratio as One Indicator of Bank Health

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Abstract. The progress of monetary improvement in Indonesia will rely upon the job of banks in offering monetary types of assistance that can urge expanded financial movement to accomplish effective advancement in different areas. This study means to decide and analyze the greatness of the impact of expansion, bank revenue, advancement, data innovation, outsider assets, and SBI rates on the capital ampleness proportion of business banks that open up to the world. This study utilizes an engaging and confirmation approach, by breaking down Time Series information north of 20 years term. The examination technique in this study utilizes numerous relapse examination. There is a positive and massive impact of the factors of Expansion, Bank Revenue, Advancement, Data Innovation, Outsider Assets, and SBI rates at the same time on the Capital Sufficiency Proportion. Where the six autonomous factors are the prevailing factors that structure the Capital Ampleness Proportion together. There are positive and negative and huge impacts of every variable Expansion, Bank Revenue, Advancement, Data Innovation, Outsider Assets, and SBI rates on the Capital Sufficiency Proportion. The variable that has the greatest effect on the Capital Ampleness Proportion is the SBI rates variable, while the variable with the littlest outright impact on the Capital Sufficiency Proportion is Data Innovation. All models in this study acquired both positive and negative and huge outcomes.

Keywords: capital adequacy ratio; bi rate; inflation

1 Introduction

The improvement of the public economy is continuously moving quick with progressively complex difficulties. Thusly, different changes in accordance with banking area approaches are required so they are supposed to improve and reinforce the public economy. The financial area which has an essential situation as a middle person establishment and supporting the financial framework is an extremely unequivocal figure the said change process.

Bank Indonesia has the power and obligation to evaluate and settle on the plausibility of laying out a bank as well as opening a branch office. The preparatory rule should be complied with while the arrangements in regards to bank business should be improved, particularly about the dissemination of assets, including expanding the job of Natural Effect Examination (AMDAL) for huge scope and, or high-risk organizations. The job of the public financial framework should be expanded by its capability in gathering and appropriating public supports by focusing harder on the funding of public monetary area exercises with need to cooperatives, little and medium ventures, and different degrees of society without separation so it will

reinforce the design of the public economy. In like manner, banks need to focus better on working on financial execution in the functional region of every office.

Amidst expanding worldwide monetary vulnerability, Indonesia's macroeconomic and monetary framework improvements in 2019 showed solid versatility. The effect of the worldwide emergency on the Indonesian economy through generally restricted shipping lanes. Indonesia's product execution stays solid, principally because of commodities of normal asset wares and market expansion with expanding intra-territorial exchange Asia.

Ordinary banking and Islamic banking both play a significant part in building the economy in Indonesia. The crucial job of banking expects banks to work on their presentation, particularly their monetary execution. Banking execution can be evaluated from a few markers, and the monetary report of the bank concerned is one of the pointers that can be utilized as a reason for evaluation.[1]

In the interim, Dahlan contends that the financial development of a nation is exceptionally subject to dynamic turns of events and the genuine commitment of the financial area. While the financial area breakdowns, it will affect the decay of the public economy. Similarly, when the economy deteriorates, the financial area is likewise impacted, and the intermediation capability doesn't work as expected.[2]

Banking conditions during 1997-1998 were faced with the problem of an inadequate bank soundness level, many of which experienced a lack of capital so that they could no longer meet the minimum capital adequacy requirements. Bank Indonesia has laid out a guideline that requires each business bank to give a base capital of 8 % of the complete Gamble Weighted Resources (RWA). The estimation of a bank's base capital sufficiency or bank's capital ampleness depends on the proportion or examination of the bank's capital and how much RWA. RWA is the amount of RWA for monetary record resources (resources recorded yet to be determined sheet) and RWA for authoritative resources (regulatory resources).

To restore banking conditions, the government carried out a recapitalization program for banks. From this program, Law No. 10 of 1998 concerning banking was made, in which Bank Indonesia stipulates provisions regarding bank health by taking into account five aspects known as CAMEL, namely aspects of Capital, Assets, Management, Earnings, and Liquidity as well as other aspects related to bank business are required to carry out business activities under the precautionary principle. One of the fundamental aspects of implementing the prudential principle is the bank's capital adequacy ratio (CAR).[3]

Bank operations can run smoothly if the bank has sufficient capital so that in the event of a situation where the bank experiences problems in meeting its liquidity, the bank remains in a safe condition because it has capital reserves at Bank Indonesia. To meet the minimum capital adequacy or to be able to meet healthy CAR standards, banks must be able to generate profits. The study profitability is reflected in the Net Interest Margin (NIM). The problem of profitability is vital for the bank's development because it involves the issue of public trust who will save their funds in the bank. If the profitability of a bank increases, its capital will also increase.

One way for banks to expand their benefit is to focus on expansion and bank financing costs. Expansion is one of the monetary issues looked by each general public. Proceeded with expansion will influence the government assistance of people and society, one of which expansion will decrease the worth of abundance as cash. The vast majority of society's abundance is kept as cash. Bank stores, bank endlessly stores with other monetary establishments are monetary stores. The genuine worth will diminish on the off chance that there is expansion. There are a few distinctions of assessment in regards with the impact of expansion on saving.[4]

Economic conditions can affect banking operations, where inflation is one of the economic indicators. The effects of inflation include disruption of monetary function, increasing spending tendencies, weakening savings, dredging savings and accumulation of money, price games on capacity norms, accumulation of wealth, and inefficient investment, the distribution of goods is relatively unstable and concentrated.[5]

According to Taswan, the banking challenges ahead related to the ability to disburse bank loans are still low. To achieve sufficiently high economic growth, substantial credit growth is required.[6] Meanwhile, the current financial capacity of Indonesian banks indicates that this high credit growth will be difficult to achieve if domestic banks do not improve their capital conditions. In addition to bank capital constraints, credit activities are hampered in many ways because some banks are reluctant to provide credit due to relatively better risk management and basic banking skills, as well as low expenditures and relatively high operational costs.

The community assesses that the community's need for banking services is still lacking. Although credit to businesses and SMEs have begun to increase, credit penetration is still relatively low. In addition, the increasing complexity of financial products and services due to the globalization of the financial sector also requires adequate responsiveness from various stakeholders. It is increasingly important because users of financial services, especially banks, are increasingly demanding better quality of service and accessibility to banking services.

Weak banking capacity is reflected in the majority of banks which still lack basic banking skills regarding corporate governance, so there is a need for fundamental improvements in this regard. The capacity of several large banks is quite strong, but in general, these banks' capacity is still not by international best practice. Likewise, the capacity of banks to respond to increased operational risk must be further enhanced, particularly by emphasizing the importance of internal control and respect for prudential principles.

2 Methodology

The examination is a quantitative report utilizing optional information distributed by Bank Indonesia, the Focal Insights Organization, and the Service of Money. The auxiliary information was gathered from the Bank Indonesia library and the Focal Department of Insights Library connecting with the variables influencing TPF and their suggestions for credit and Gross domestic product by business field. The information utilized for this examination is optional information with a period series of 20 years (2000-2019), this exploration was directed from October 2021.

The technique utilized in this examination is engaging and confirmation strategies, where the exploration will depict every variable and make sense of the impact between the factors contemplated. While the sort of impact between the factors utilized in the review is causality, specifically the autonomous variable influences the reliant variable.[7]

The examining strategy utilized a purposive testing procedure, in particular the testing technique in view of the terms and models determined to get the ideal information. The predetermined rules are general financial organizations recorded on the IDX. General financial organizations recorded on the Indonesia Stock Trade during 2000 - 2019.

The logical strategy used to test the exploration speculation is Various Direct Relapse Investigation (Multivariate Straight Relapse Examination). As to sufficiency of information, the OLS technique expects that how much information utilized should be more noteworthy than the complete number of factors engaged with the model.[8]

3 Result and Discussion

Table 1. Inflation, Bank Interest, Promotions, Information Technology, Third Party Funds and SBI rates on Capital Adequacy Ratio

Dependent Variable: CAR
 Method: Least Squares
 Date: 12/05/21 Time: 08:30
 Sample: 2000S1 2019S2
 Included observations: 40

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.894612	5.324920	0.543597	0.5904
INFLASI	-0.158334	0.058367	-2.712725	0.0128
BUNGA	0.357788	0.1466452	2.439821	0.0235
PROMOSI	0.336887	0.138914	2.425147	0.0243
TI	0.105024	0.050383	2.084516	0.0483
DPK	-0.173514	0.0600364	-2.890153	0.0085
SBI	0.465005	0.1582224	2.938932	0.0075
R-squared	0.727503	Mean dependent var		19.95525
Adjusted R-squared	0.717917	S.D. dependent var		2.803485
S.E. of regression	2.083053	Akaike info criterion		4.463175
Sum squared resid	143.1907	Schwarz criterion		4.758729
Log likelihood	-82.26349	Hannan-Quinn criter.		4.570038
F-statistic	6.273595	Durbin-Watson stat		2.686700
Prob(F-statistic)	0.000179			

Based on the Cobb Douglass model, it can be translated into the following analysis:

3.1.1 Return to Scale Analysis

In view of the consequences of the computation of the Re-visitation of Scale esteem in model 1, the number is 0.932856. These outcomes demonstrate that the RTS esteem < 1 . So the outcomes demonstrate that the size of creation diminishes (diminishing return), and that implies that each 1% expansion of the Expansion variable, Bank Revenue, Advancement, Data Innovation, Outsider Assets, and SBI rates can increment by 0.932856% Variable Capital Sufficiency Proportion.

3.1.2 Output Elasticity Analysis of Production Input

In light of the computation results got the worth of the coefficient of flexibility (β_i) of every variable is as per the following:

- Expansion variable (X1) has a relapse coefficient worth of - 0.158334. The negative image can be disregarded in light of the fact that it just shows the course of development of creation yield. This figure shows that each 1% increment in expansion will diminish the Capital Sufficiency Proportion by - 0.158334%. In the Cobb-Douglas model, the relapse coefficient esteem is equivalent to the flexibility coefficient, the worth is 0.158334 demonstrating that expansion is in the inelastic class ($e < 1$). Subsequently, it tends to be deciphered that each 1% increment in expansion won't give a 1% decline in the Capital Sufficiency Proportion. The Capital Sufficiency Proportion can't diminish in the event that

it is brought about by expansion, yet different variables are expected to decrease the Capital Ampleness Proportion.

- b. Bank Interest Variable (X2) has a regression coefficient value of 0.357788. This figure shows that every 1% increase in Bank Interest will increase the Capital Adequacy Ratio by 0.357788%. In the Cobb-Douglas model, the value of the regression coefficient is the same as the elasticity coefficient, the value of 0.357788 indicates that bank interest is in the inelastic category ($e < 1$). Thus, it can be interpreted that every 1% increase in Bank Interest will not provide a 1% increase in the Capital Adequacy Ratio. The Capital Adequacy Ratio cannot increase if it is only driven by bank interest, but other factors are needed to increase the Capital Adequacy Ratio.
- c. Promotion variable (X3) has a regression coefficient of -0.336887. This figure shows that every 1% increase in the Promotion will increase the Capital Adequacy Ratio by 0.336887%. In the Cobb-Douglas example, the value of the regression coefficient is the same as the elasticity coefficient, the value of 0.336887 indicates that the promotion is in the inelastic category ($e < 1$). Thus, it can be interpreted that every 1% increase in the Promotion will not provide a 1% increase in the Capital Adequacy Ratio. The Capital Adequacy Ratio cannot increase if it is only driven by promotions, but other factors are needed to increase the Capital Adequacy Ratio.
- d. The Information Technology variable (X4) has a regression coefficient value of 0.105024. This figure shows that every 1% increase in Information Technology will increase the Capital Adequacy Ratio by 0.105024%. In the Cobb-Douglas model, the value of the regression coefficient is the same as the elasticity coefficient, the value of 0.105024 indicates that Information Technology is in the inelastic category ($e < 1$). It can be interpreted that every 1% increase in the amount of Information Technology will not provide a 1% increase in the Capital Adequacy Ratio. The Capital Adequacy Ratio cannot increase if it is only driven by Information Technology, but other factors are needed to increase the Capital Adequacy Ratio.
- e. The Outsider Asset's variable (X5) has a relapse coefficient worth of - 0.173514. The negative image can be disregarded in light of the fact that it just shows the heading of development of creation yield. This figure shows that each 1% expansion in Outsider Subsidizes will decrease the Capital Ampleness Proportion by - 0.173514%. In the Cobb-Douglas model, the relapse coefficient esteem is equivalent to the versatility coefficient, the worth is 0.173514 showing that Outsider Assets are in the inelastic classification ($e < 1$). Hence, it tends to be deciphered that each 1% expansion in the Expansion Rate won't give a 1% reduction in the Capital Sufficiency Proportion. The Capital Sufficiency Proportion can't diminish assuming it is just determined by Outsider Assets, yet different elements are expected to lessen the Capital Ampleness Proportion.
- f. Variable SBI rates (X3) have a relapse coefficient of 0.465005. This figure shows that each 1% increment in SBI rates will lessen the Capital Ampleness Proportion by 0.465005%. In the Cobb-Douglas model, the worth of the relapse coefficient is equivalent to the versatility coefficient, the worth of 0.465005 demonstrates that SBI rates are in the inelastic classification ($e < 1$). In this way, it tends to be deciphered that each 1% increment in SBI rates won't bring about a 1% reduction in the Capital Sufficiency Proportion. The Capital Ampleness Proportion can't diminish assuming it is just determined by SBI rates, yet different elements are expected to expand the Capital Sufficiency Proportion.

The SBI rates variable which has the biggest result flexibility esteem shows that the expansion of SBI rates can energize a superior Capital Sufficiency Proportion contrasted with different factors. In the mean time, the result flexibility worth of the contribution for the Data Innovation variable gets the littlest worth in outright worth. It shows that Data Innovation is simply ready to make a little commitment to the Capital Sufficiency Proportion.

Aside from that, a few factors can diminish the worth of the Capital Sufficiency Proportion. Factors of Expansion and Outsider Assets have a negative worth on the versatility of result from inputs. It shows that controlling expansion and outsider assets successfully, can diminish a critical decline in the Capital Sufficiency Proportions.

3.1.3. Hypothesis test

a. Simulant Test

To test the joint impact of Expansion, Bank Revenue, Advancement, Data Innovation, Outsider Assets, and SBI rates on the Capital Ampleness Proportion, the Snedecor F test measurement is utilized. The consequence of F-insights or Fcount is 6.273595 (Table 4.14) and Prob (F-measurements) is 0.000179 at an importance level of 5%, while the worth of F table with the quantity of $n = 40$ and the quantity of autonomous factors = 6 factors and the reliant variable = 1 variable, then, at that point, $df1 = k-1 = 6-1 = 5$, and $df2 = n - k - 1 = 40-6 - 1 = 33$, utilizing an importance level of 5%, F table = 2.5026 is gotten.

The exploration speculation, in regards to the concurrent impact: tried with the F test. $H_{0,j}$ is dismissed if $Tcount > T$ table ($k, n-k-1$), at a level (huge = 0.05 and levels of opportunity $db1 = k$ and $db2 = n - k - 1$), where $n =$ test size and $k =$ number of free factors. Or on the other hand assuming that the likelihood worth of factual mistake (p -esteem) $< \alpha = 0.05$. In this condition, the elective speculation $H_{a,j}$ is acknowledged.

In light of the aftereffects of the computations in Table 1, the worth of Fcount 6.273595 is more prominent than the worth of Ftable 2.5026. In this way it tends to be reasoned that Expansion, Bank Revenue, Advancement, Data Innovation, Outsider Assets, and SBI rates fundamentally affect the Capital Sufficiency Proportion.

b. Partial Test

Table 2. Partial Test Results

Partial Influence	β_1	t count	p-Value	Conclusion
The Effect of Inflation on the Capital Adequacy Ratio	0,158334	2,712725	0,0128	Reject H_0 , acknowledge H_1 . There is a critical and constructive outcome of expansion on the Capital Sufficiency Proportion
The Influence of Bank Interest on Capital Adequacy Ratio	0,357788	2,439824	0,0235	Reject H_0 , acknowledge H_1 . There is a critical and constructive outcome of Bank Revenue on the Capital Sufficiency Proportion
Effect of Promotion on Capital Adequacy Ratio	0,336887	2,425147	0,0243	Reject H_0 , acknowledge H_1 . There is a critical and constructive outcome of the

The Influence of Information Technology on the Capital Adequacy Ratio	0,105024	2,084516	0,0483	Advancement on the Capital Sufficiency Proportion Reject H0, acknowledge H1. There is a critical and positive impact of Data Innovation on the Capital Sufficiency Proportion
The Effect of Third Party Funds on the Capital Adequacy Ratio	- 0,173514	- 2,890153	0,0085	Reject H0, acknowledge H1. There is a critical and positive impact of Outsider Finances on the Capital Sufficiency Proportion
Effect of SBI rates on Capital Adequacy Ratio	0,465005	2,938932	0,0075	Reject H0, acknowledge H1. There is a critical and beneficial outcome of SBI rates on the Capital Sufficiency Proportion

Table 3. Coefficient of Determination Test Results

Simultaneous Influence	R ²	F _{count}	p-Value	Standard Error of Reg
Effect of Inflation, Bank Interest, Promotion, Information Technology, Third Party Funds and SBI rates on Capital Adequacy Ratio	0,727503	6,273595	0,000179	2,083053

The greatness of the impact of Expansion, Bank Revenue, Advancement, Data Innovation, Outsider Assets, and SBI rates on the Capital Sufficiency Proportion, is 72.7530 %, and the excess 27.2470 % is affected by different factors outside the exploration factors.

Subsequently, the concurrent impact of the free factors, specifically Expansion, Bank Revenue, Advancement, Data Innovation, Outsider Assets, and SBI rates on the Capital Sufficiency Proportion in Indonesia, makes a positive and huge difference. It is reasonable, taking into account that the six factors that influence Indonesia's Capital Sufficiency Proportion are the predominant factors that can influence the degree of Capital Ampleness Proportion of business banks in Indonesia.

In any case, the absolute impact of different factors outside the exploration model that has been resolved is still very enormous, adding up to 27.2470 percent. With respect to different factors that influence Indonesia's Capital Ampleness Proportion however are not inspected, including BOPO, DER, ROA, and other supporting variables of the Capital Sufficiency Proportion.

The consequences of this study expressed that of the six exploration factors still up in the air, all factors had a huge positive or adverse consequence on the Capital Sufficiency Proportion.

In line with the large potential contribution of the six research variables to the Capital Adequacy Ratio of commercial banks in Indonesia, especially for Indonesian Banking Regulators such as the Financial Services Authority, they must begin to pay attention to these six variables to increase the Capital Adequacy Ratio. Apart from that, with the ability to control

Inflation and Third-Party Funds, a significant decrease in the Capital Adequacy Ratio will not occur, and Commercial Banks in Indonesia will continue to perform well and maximally.

Concerning efforts to increase the Capital Adequacy Ratio, the Government, through the banking regulator or OJK, must prioritize various aspects supporting the increase in the Capital Adequacy Ratio. In addition, OJK is expected to issue various regulatory studies that encourage an increase in the Capital Adequacy Ratio. The study is related to the factors capable of increasing the Capital Adequacy Ratio at Commercial Banks in Indonesia, controlling inflation through various monetary policies, and improving the performance of commercial banks both through the promotion and development of information technology.

In addition to Government and regulatory elements, commercial banks in Indonesia must intensively make various efforts to benefit from their investments.

Therefore, to further improve various aspects that support the improvement of Indonesian banking, cooperation between the government regulator, commercial banks, and other "stakeholders" needs to sit together to build synergy in setting various incentives, setting strategies, and operational programs.

The achievement component of banking in Indonesia, addressed by an expansion in the capacity of banking capital, is more affected by factors such: Expansion, Bank Revenue, Advancements, Data Innovation, Outsider Assets, and SBI rates. In any case, notwithstanding the factors referenced above, there are different factors among them:

- a. Margaretha and Setyaningrum mention in their research that the rate of return on assets (risk index), management quality, and asset liquidity has a negative and significant effect on CAR. while the liquidity of liabilities in the proxy of the variable Equity to Total Liabilities (EQTL) has a positive and significant effect on CAR.
- b. The role of the government in providing policies related to increasing the Capital Adequacy Ratio. The policy can be directed at increasing business assistance through credit relief, assistance in the development of banking information technology, and so on.
- c. The outcomes are in accordance with the field peculiarity which shows that changes in expansion, bank revenue, advancements, data innovation, outsider assets, and SBI rates in Indonesia will bring about a higher Capital Sufficiency Proportion.

The higher the Capital Adequacy Ratio, the wider the impact on the improvement of Indonesian banking in various sectors, especially the level of public consumption. The improvement in Indonesian banking performance will directly contribute to the Capital Adequacy Ratio of banking in Indonesia.

The results are supported by the theory:

Research from Sorongan mentions the inflation factor has a negative and significant influence on the Capital Adequacy Ratio. It happens because inflation is an increase in prices in general and occurs continuously, causing national income to decrease, and making people reduce consumption levels. The income they get is more likely to be used for buying primary needs rather than saving their money in the bank which can cause bank capital to decline. This study is also in line with research conducted by Chaerunissa who argues that inflation has a significant effect on the Capital Adequacy Ratio.

Nasution stated in his research which aims to analyze the Capital Adequacy Ratio, that Third Party Funds have a negative and significant influence on the Capital Adequacy Ratio. It is because the high level of Third Party Funds indicates that banks must try harder in marketing their banking products, if it is not supported by a good economy, the public as consumers will not be able to take advantage of banking products as investments or fulfill their needs and consumption.

Another study from Darumi which aims to analyze the promotion strategy of Islamic banking in increasing investors obtained the result that a good promotional strategy can increase the opportunities of Islamic banking in Indonesia in obtaining and retaining investors. The results of his research state that promotion has a positive and significant effect on increasing investors as proxied by the ratio of Islamic banking capital capabilities.

4 Conclusion

There is a positive and tremendous impact of the factors of Expansion, Bank Revenue, Advancement, Data Innovation, Outsider Assets, and SBI rates at the same time on the Capital Sufficiency Proportion. Where the free factor is the prevailing variable that shapes the Capital Sufficiency Proportion together.

There are positive and negative and huge impacts of every variable Expansion, Bank Revenue, Advancement, Data Innovation, Outsider Assets, and SBI rates on the Capital Ampleness Proportion. The variable that has the best effect on the Capital Sufficiency Proportion, while the littlest variable is the outright impact variable on the Capital Ampleness Proportion, is Data Innovation. All models in this study acquired both positive and negative and huge outcomes.

To build the concurrent impact of the factors; Expansion Rates, Bank Revenue, Advancements, Data Innovation, Outsider Assets, and SBI on the Capital Sufficiency Proportion as need might arise to be taken: a) The Service of Money and the Monetary Administrations Authority as banking controllers in Indonesia can pursue financial choices by thinking about these factors. b) speeding up SBI with the goal that the Vehicle level can be ceaselessly expanded from here on out. c) expanding the utilization of data innovation that can uphold banking execution.

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