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Factors Affecting Conventional General Bank Capital Buffers In Indonesia

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ABSTRACT: Capital Buffer is an additional capital buffer that serves to anticipate future losses due to excessive bank financing or credit growth that has the potential to disrupt economic stability. This study aims to determine the effect of cost of holding capital, cost of financial bankruptcy, adjustment costs, bank credit risk, and bank size on capital buffers. This research was conducted at conventional commercial banks in Indonesia during 2015-2018. The number of samples used in this study amounted to 12 companies with an observation period of 4 years. The analysis technique used is multiple linear regression analysis. The results showed that the cost of holding capital, adjustment costs, and bank size did not significantly influence the capital buffer, but the cost of bankruptcy and bank credit risk had a positive and significant effect on capital buffer.

Keywords: capital buffer, cost of holding capital, cost of financial bankruptcy, adjustment cost, bank credit risk, bank size

I. INTRODUCTION

Banks in carrying out their activities are inseparable from risk. Therefore, it is important for the Bank to prepare a number of funds as a support to minimize the risks that will arise from dynamic economic growth (Abbas et al. 2019). Supporting funds in bank capital are called capital buffers. Capital buffer is an additional capital buffer that serves to anticipate future losses due to excessive banIndonesian banks use a capital buffer policy with a countercyclical type based on Bank Indonesia Regulation No.15 / 12 / PBI / 2013. Countercyclical Capital Buffer (CCB) aims to prevent increased systemic risk stemming from excessive credit growth. The regulation is related to the procyclicality of bank lending, which is increasing during the economic expansion period (boom) and slowing down during the economic contraction period (bust). The tendency of procyclicality behavior between credit growth and economic growth causes capital buffer to be important to be implemented in Indonesian banks.

Capital buffer can be measured by knowing the difference from the average Capital Adequacy Ratio (CAR) in the banking industry with a minimum capital policy set by the banking regulator. Bank Indonesia (2015) states that one of the main tasks of banks is lending to the public. The credit channeling has certain risks, such as significantly increased non-performing loans and fluctuating economic changes, so to anticipate these risks, banks need to reserve a certain amount of funds or have a capital buffer in accordance with banking regulations.

Capital buffer is influenced by several factors, namely cost of holding capital, cost of financial bankruptcy, adjustment costs, credit risk, bank size, liquidity, asset structure, bank growth, company control, statutory regulations, and stakeholder preferences (Syaifuddin, 2007: 46). This study uses five variables, namely cost of holding capital, cost of financial bankruptcy, adjustment costs, credit risk, and bank size because of the direct impact caused by the five factors in determining the reserve capital in a bank.k financing or credit growth that has the potential to disrupt economic stability (Valencia & Bolanos, 2018).

There is controversy about research findings related to the effect of cost of holding capital on capital buffers making it interesting to re-examine. Research conducted by Castro & Demick (2016) on Spanish banking, Jokipii & Milne (2011) on Chinese banking, Anggitasari (2013) and Fikri (2012) on Indonesian banking, and Tabak (2011) on Brazilian banking shows that the cost of holding capital has a negative effect on capital buffer. The results of this study contradict the findings of Bayuseno & Chabahib (2014), D'Avack & Sandrine (2007), and Nier & Baumann (2006) who found a positive effect between the cost of holding capital and capital buffer.

Research findings related to the effect of cost of financial bankruptcy on capital buffers show different results from one study to another. Purwati et al. (2016), Anggitasari (2013), Atici & Gursoy (2013),

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Fikri (2012), Jokipii & Milne (2011), and Wijantini (2007) found a positive relationship between the cost of financial bankruptcy and capital buffer. These findings contradict the results of research conducted by Fauzia & Idris (2016), Bayuseno & Chabahib (2014), Alfon et al. (2005) who found a negative relationship between the cost of financial bankruptcy and capital buffer.

Research conducted by Bayuseno & Chabahib (2014), Atici & Gursoy (2013), and Esterella (2004) found that adjustment costs have a significant positive effect on capital buffers. Dai & Guo's research findings (2018), Vu & Turnell (2015), and Fikri (2012) related to the adjustment cost of capital buffer showed positive results, but not significant.

Abbas et al. (2019), Anggitasari (2013), and Fikri (2012) conducted a study related to the effect of bank credit risk on capital buffers and found that bank credit risk had a positive effect on capital buffers. This finding is contrary to the research of Bayuseno & Chabahib (2014), Anggitasari (2013), and Jacques & Nigro (1997) who found a negative influence between bank credit risk and capital buffer.

Regarding bank size, research conducted by Anggitasari (2013), Tabak (2011), and Kishan & Opiela (2000) found that bank size has a positive effect on capital buffer. Kaufman's research findings (2014), Fikri (2012), and Prasetyantoko & Soedarmono (2010) found conflicting results, where the bank size negatively affected the capital buffer.

Conventional commercial banks are the largest holders of capital in the Indonesian banking industry in accordance with Indonesian Banking Statistics in 2019. Financial Services Authority (FSA) data shows that conventional commercial banks have greater capital when compared to other forms of banks, namely Rural Credit Banks (BPRs) during the 2015-2018 period. The results show that public funds collected by conventional commercial banks are far greater than other forms of banks, so conventional commercial banks are more vulnerable to risk in the event of a crisis because they can trigger a large impact in the event of failure and do not have a proportional amount of capital buffer . In connection with this urgency, research was conducted on conventional commercial banks during the 2015-2018 period.

II. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

The cost of holding capital is the opportunity cost due to the decision to maintain liquid capital compared to investing in certain financial instruments. Theoretical analysis from Myers & Majluf (1984) states that when the opportunity cost of capital is high, banks tend to set a lower capital buffer because the risk of capital loss will be much smaller in liquid form compared to investment instruments. Research Castro & Demick (2016) found a negative and significant effect between the cost of holding capital and capital buffer. Banks will tend to set capital buffer costs in lower amounts if they have high opportunity capital costs. The findings of this study are also supported by research by Anggitasari (2013), Fikri (2012), Jokipii & Milne (2011), and Tabak (2011). Based on the description that has been explained, the hypothesis of this study:

H₁: Cost of Holding Capital has a negative and significant effect on Capital Buffer

Cost of financial bankruptcy is the cost incurred to reduce the probability of bankruptcy of the bank. Capital buffer theory states that the greater the probability of bankruptcy at a bank, the bank will have a tendency to increase the capital buffer to anticipate bankruptcy that is likely to occur. Research conducted by Purwati et al. (2016) shows the results that the cost of financial bankruptcy has a positive and significant effect on capital buffer. Banks with a high probability of bankruptcy will tend to increase company costs, including capital costs. The findings of this study were also supported by Anggitasari (2013), Atici & Gursoy (2013), Fikri (2012), Jokipii & Milne (2011), and Wijantini (2007). Based on the description that has been explained, the hypothesis of this study:

H₂: Cost of Financial Bankruptcy has a positive and significant effect on Capital Buffer

Adjustment costs are costs incurred to make adjustments or changes related to banking activities. Capital buffer theory states that the higher the costs used to make adjustments, the bank will tend to increase the capital buffer as an anticipatory fund or reserve for changes outside the estimated adjustment cost. In line with this theory, research conducted by Bayuseno & Chabahib (2014), Atici & Gursoy (2013), and Estrella (2004) shows the results that adjustment costs have a positive and significant effect on capital buffers. Banks tend to increase capital buffer (capital buffer) in line with increased adjustment costs to cover losses that are likely to arise from changes that occur. Based on the description that has been explained, the hypothesis of this study:

H₃: Adjustment Cost has a positive and significant effect on Capital Buffer

Bank credit risk is the risk of losses owned by banks due to the inability of the debtor to pay off debt obligations as well as interest. Capital buffer theory states that increasing the buffer capital of a bank can reduce the risk of the bank. The theory states that the higher the credit risk of the bank, the bank will tend to increase the capital buffer to anticipate risks that may arise, such as the existence of bad loans that exceed the estimated amount. The research findings of Abbas et al. (2019) shows that bank credit risk has a positive and significant effect on capital buffer. The results of the study were also supported by Anggitasari (2013) and Fikri (2012). Based on the description that has been explained, the hypothesis of this study:

H4: Bank credit risk has a positive and significant effect on Capital Buffer

Bank size is a measure that describes the ownership of assets of a bank. The theory of Too Big To Fail (1984) states that the greater the size of a bank, the risk of failure owned by the bank is relatively small because large banks tend to have financial fundamentals that are strong enough and stable to economic shocks. Large banks tend to be more stable towards economic movements compared to small banks because large banks have strong internal and external fundamentals. Kaufman's research findings (2014) showed that bank size had a negative and significant effect on capital buffer. These results are also supported by research by Fikri (2012) and Prasetyantoko & Soedarmono (2010). Based on the description that has been explained, the hypothesis of this study:

H₅: Bank size has a negative and significant effect on Capital buffer

III. METHODS

This research is a quantitative research using associative method conducted at conventional commercial banks with the 2015-2018 research period. The object of this research is the banking capital buffer in Indonesia in the 2015-2018 research period. The type of data used in this study is quantitative data. This study uses secondary data in the form of financial statements of conventional commercial banks for the 2015-2018 study period on the Indonesia Stock Exchange. The population in this study were 41 conventional commercial banks in Indonesia during the 2015-2018 period. This study uses a sample of 12 conventional commercial banks in Indonesia during 2015-2018. The sample in this study was determined using a sampling technique that is nonprobability sampling with purposive sampling technique. The criteria used as research samples are conventional commercial banks that do not conduct mergers / acquisitions and publish complete annual reports during the 2015-2018 research period. The data analysis technique used in this study is multiple linear regression analysis. Data processing for multiple linear regression analysis was carried out using SPSS (Statistical Program for Social Science) for Windows.

IV. RESULT AND DISCUSSION

Hypothesis Test or Test t

Hypothesis testing aims to determine the effect of independent variables (independent) individually or partially on the dependent variable (dependent). Testing is done by comparing the level of significance of each independent variable with $\alpha = 0.05$.

Model	β	Sig.	Accepted/Rejected
Cost of Holding Capital (ROE)	.015	.381	Rejected
Cost of Financial Bankruptcy (NPL)	.358	.003	Accepted
Adjustment Cost (BUFF _{t-1})	.021	.551	Rejected
Bank Credit Risk (LOTA)	.106	.003	Accepted
Bank Size (BSA)	.027	.690	Rejected

Tabel 4.1 Result of Hyphothesis Test or Test t

Source: Secondary data, 2019

Effect of Cost of Holding Capital on Capital Buffer

 H_1 in this study is the cost of holding capital has a negative and significant effect on capital buffer. The test results based on Table 4.10 shows that the variable cost of holding capital has a ß value of 0.015 and a significance value of t test of 0.381> $\alpha < 0.05$. This value proves that the cost of holding capital does not significantly influence the conventional commercial bank capital buffer in Indonesia during 2015-2018, so H1 in this study was rejected. The results of this study support the results of research from Fauzia & Idris (2016), Purwati et al. (2016), and Andiani (2017) which states that the bank's decision to increase the cost of holding capital does not have much impact on the bank's decision to establish a buffer fund at the bank due to other risk factors that are not only related to the risk of investment funding at the bank, such as the risk of a bank regulation that must be followed without exception. The phenomenon that the determination of capital buffers in Indonesia Regulations on Bank Capital, is a strong reason for the insignificant cost of holding capital to the capital buffer of commercial banks conventional during the 2015-2018 period. The cost of holding capital to the 21.90% apparently did not have much impact on determining the bank's capital buffer.

Effect of Cost of Financial Bankruptcy on Capital Buffer

 H_2 in this study is the cost of financial bankruptcy has a positive and significant effect on capital buffer. The test results based on Table 4.10 shows the variable cost of financial bankruptcy has a ß value of 0.358 and a significance value of t test of 0.003 $<\alpha = 0.05$. This value indicates that the cost of financial bankruptcy has a positive and significant effect on the capital buffer of conventional commercial banks during the 2015-2018 period, so that H_2 in this study was accepted. The results of the influence of cost of financial bankruptcy on capital buffer in this study support the results of research from Purwati et al (2016), Anggitasari (2013), Atici & Gursoy (2013), Fikri (2012), Jokipii & Milne (2011), and Wijantini (2011) 2007) which also states that the cost of financial bankruptcy has a positive and significant effect on capital buffer. This finding is in line with the capital buffer theory which states that the greater the probability of bankruptcy at a bank, the bank will have a tendency to increase the capital buffer to anticipate bankruptcy that is likely to occur. Cost of financial bankruptcy in conventional commercial banks in Indonesia during the period 2015-2018 with a value of 0.21% to 15.75% turned out to have a significant impact on capital buffer decisions because the high cost of financial bankruptcy is a direct warning to a bank that the level of bankruptcy risk the bank has been classified as high, so to minimize the risk that is likely to occur, the bank needs to increase the buffer funds as one of the bank's management strategies in addition to trying to reduce the risks that arise.

Effect of Adjustment Cost on Capital Buffer

 H_3 in this study is that the adjustment cost has a positive and significant effect on capital buffer. The test results based on Table 4.10 shows that the adjustment cost variable has a ß value of 0.021 and a significance value of the t test of 0.551> $\alpha < 0.05$. This value proves that the adjustment cost has no significant effect on the capital buffer of conventional commercial banks in Indonesia during 2015-2018, so H_3 in this study was rejected. The results of this study are supported by research findings found by Fikri (2012), Vu & Turnell (2015), and Dai & Guo (2018) which states that the adjustment cost does not significantly influence the capital buffer. The results are also not in line with the capital buffer theory which states that the higher the costs used to make adjustments, the bank will tend to increase the capital buffer as an anticipatory fund or reserve for changes outside the estimated adjustment cost. Adjustment costs of conventional commercial banks in Indonesia during the 2015-2018 period which ranged from 3.61% to 58.43% apparently did not have much impact on capital buffers due to the absence of the phenomenon of fundamental changes that occur in banks (changes in regulations or market conditions in outside of management predictions) that makes banks have to change the reserve funds (capital buffer) they have during 2015-2018.

Effect of Bank Credit Risk on Capital Buffer

 H_4 in this study is that bank credit risk has a positive and significant effect on capital buffer. The test results based on Table 4.10 shows the bank credit risk variable has a ß value of 0.106 and a t-test significance value of 0.003 < α = 0.05. This value indicates that bank credit risk has a positive and significant effect on the capital buffer of conventional commercial banks during the 2015-2018 period, so that H_4 in this study was accepted. The results of this study are supported by the results of the study found by Abbas et al. (2019), Anggitasari (2013), and Fikri (2012) which state that bank credit risk has a positive and significant effect on capital buffer and the results are also in accordance with capital buffer theory which states that increasing the buffering capital of a bank can reduce the risk of banks the. The higher the credit risk held by the bank, the bank will tend to increase the capital buffer to anticipate risks that may arise, such as the existence of bad loans that exceed the estimated amount.

Effect of Bank Size on Capital Buffer

 H_5 in this study is that bank size has a negative and significant effect on capital buffer. The test results based on Table 4.10 shows that the variable bank size has a ß value of 0.027 and a significance value of t test of 0.690> $\alpha < 0.05$. This value proves that the bank size has no significant effect on the capital buffer of conventional commercial banks in Indonesia during 2015-2018, so H_5 in this study was rejected. The results of this study were supported by Purwati et al (2016), Fauzia & Idris (2016), and Akbari (2018) who stated that bank size had no significant effect on capital buffers. Bank size of conventional commercial banks in Indonesia during the 2015-2018 period which ranged from 3.61% to 58.43% apparently did not have much impact on capital buffer because the amount of capital buffer in the long run was not affected by the size of the total assets owned by bank because the bank has mastered the rhythm of capital allocation in various situations, so in setting capital buffer, the bank does not focus on the total assets owned, but instead focuses on historical capital allocations that have been set and forecasting based on that history. The results of this study also contradict the Too Big Too Fail Concentus which states that the larger the size of a bank, the risk of failure owned by the bank is relatively small because large banks tend to have stronger fundamentals and guaranteed by the government.

V. CONCLUSION

Based on the results of the analysis that has been described regarding the factors that affect capital buffers at conventional commercial banks in Indonesia during the 2015-2018 period, the following conclusions are obtained:

- 1. Cost of holding capital has no significant effect on capital buffer. The cost of holding capital of conventional commercial banks in Indonesia during the period 2015 2018 tends to be very small, so it does not have much impact on the capital buffer. The bank's decision to increase the cost of holding capital does not have much impact on the bank's decision to establish a buffer fund at the bank due to other risk factors, such as the risk of a bank regulation that must be followed without exception.
- 2. Cost of financial bankruptcy has a positive and significant effect on capital buffer. Cost of financial bankruptcy in conventional commercial banks in Indonesia during the period 2015-2018 turned out to have a significant impact on capital buffer decisions because the high cost of financial bankruptcy was a direct warning to a bank that the level of bankruptcy risk from the bank was classified as high, so as to minimize the risk It is likely that this will happen, banks need to increase their buffer funds as one of the bank's management strategies, in addition to reducing the risks that arise.
- 3. Adjustment cost does not significantly influence the capital buffer. Adjustment costs of conventional commercial banks in Indonesia during the 2015-2018 period did not seem to have much impact on capital buffers due to the absence of the phenomenon of fundamental changes that occur in banks (changes in regulations or market conditions outside of management predictions) that make banks have to change reserve funds (capital buffer) held during 2015-2018
- 4. Bank credit risk has a positive and significant effect on capital buffer. Increasing the buffer capital of a bank can reduce the risk of the bank. The higher the credit risk held by the bank, the bank will tend to increase the capital buffer to anticipate risks that may arise, such as the existence of bad loans that exceed the estimated amount.
- 5. Bank size has no significant effect on capital buffer. Bank size of conventional commercial banks in Indonesia during the 2015-2018 period apparently did not have much impact on capital buffers because the amount of capital buffer in the long run was not affected by the size of the total assets owned by banks because banks had mastered the rhythm of capital allocation in various situations, so in determining the capital buffer, the bank does not focus on the total assets owned, but rather focuses on historical capital allocations that have been set and forecasting based on historical.

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