



Effect of Liquidity, Asset Quality, Sensitivity, Efficiency and Profitability on Capital in State Banks

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ABSTRACT

Capital Adequacy Ratio (CAR) is one of the indicator that used to measure the bank's capital. The aims of this study are to investigate the effects simultaneously and partially from Loan to Deposit Ratio (LDR), Investing Policy Ratio (IPR), Adversely Classified Asset (APB), Non Performing Loan (NPL), Interest Rate Risk (IRR), Net Open Position (PDN), Operational Efficiency Ratio (BOPO), Fee Based Income Ratio (FBIR), Return On Asset (ROA) on CAR and which variable has the dominant effect on CAR. This study used secondary data taken from first period quarterly of 2014 until the fourth quarterly of 2019 of government banks. This study used census that consists PT Bank Mandiri Tbk, PT Bank Negara Indonesia Tbk, PT Bank Rakyat Indonesia Tbk, and PT Bank Tabungan Negara Tbk. The data were processed by using SPSS 21. The result of this study revealed that LDR, IPR, APB, NPL, IRR, PDN, BOPO, FBIR, and ROA simultaneously have significant effect on CAR. PDN and FBIR partially have significant effects on CAR. PDN is the dominant variable that influences CAR.

Keywords: Bank, Government Bank, PDN, CAR.

JEL Classification Code: G10, E02, B41

INTRODUCTION

A bank is a financial intermediary institution, generally established to accept deposits, borrow money, and channel it back to the public in the form of credit or to offer other banking services to the public, in order to provide added value and improve the standard of living of the entire community.

Banks must have minimum capital. The level of capital capacity of a bank can be measured using financial ratios, one of which is the Capital Adequacy Ratio (CAR). CAR is the ratio of capital to weighted assets according to government regulations. CAR is one of the indicators used to measure bank capital adequacy. Banks operating in Indonesia are required to comply with these provisions, which are useful for absorbing risks arising from crisis conditions and non-performing loans, therefore banks must be willing to follow the rules regulated by Bank Indonesia (BI) and the Financial Services Authority (OJK). Banks are required to meet the Minimum Capital Adequacy Requirement (KPM) of at least eight percent of Risk Weighted Assets (RWA).

LDR has a positive or negative effect on CAR. LDR positively affects CAR. This occurs when a bank's LDR increases, which means that there is an increase in total credit extended by a bank with a greater percentage than the increase in third party funds, so that the RWA increases with the assumption of fixed capital, and the CAR value also increases. CAR has a negative effect if the LDR value decreases, meaning that the increase in total loans provided is with a higher percentage than the percentage increase in total third party funds. An increase in RWA with the assumption of fixed capital, causing a decrease in profit, a decrease in capital and a decrease in CAR. The effect of LDR on CAR is supported by the results of Hadi Susilo Dwi Cahyono's research (2015) finding that LDR has a significant

positive effect on CAR.

IPR affects CAR positively or negatively occurs when a bank's IPR increases, which means if there is an increase in investment in securities with a greater percentage compared to third party funds. The bank's income increased more than the increase in costs. Profits increase, capital increases, and CAR also increases, there is an increase in investment in securities with a larger percentage compared to third party funds, causing RWA to increase with the assumption of fixed capital so that profits decrease and CAR decreases. IPR has a negative effect on CAR. The effect of IPR on CAR is supported by the research results of Hadi Susilo Dwi Cahyono, who found that IPR had a significant positive effect on CAR.

Non-performing Earning Assets (APB) has a negative effect on CAR. This occurs when the bank's APB increases, meaning that there is an increase in the non-performing bank's productive assets with a greater percentage than the increase in total productive assets. The increase in reserved expenses was greater than the increase in income, causing bank profits to decline, capital to decline, and CAR to decrease. The influence of APB on CAR is supported by the research results of Hadi Susilo Dwi Cahyono, Anggraeni (2015) who found that APB had a significant negative effect on CAR.

Non-Performing Loans (NPL) have a negative effect on CAR if the NPL increases, meaning that there is an increase in non-performing loans with a percentage greater than the percentage increase in total loans. The increase in costs that must be reserved is greater than the increase in income, causing bank profits to fall, capital to decline, and CAR to decrease (Berger, 1997).

IRR has a very positive or negative effect on CAR. IRR increases, then there is an increase in IRSA by a greater percentage than the increase in IRSL in

this case, it will cause interest rates to tend to increase and cause an increase in interest income that is greater than the increase in interest costs which will make profits increase and CAR will also increase. increases, but if the bank's interest rate decreases, the bank's capital decreases. IRR has a positive effect on CAR. IRR can also have a negative effect on CAR if the interest rate decreases, then the increase in interest income is lower than the increase in interest costs. Bank profits decreased, bank capital decreased and CAR decreased. The effect of IRR on CAR is supported by the results of Hadi Susilo Dwi Cahyono's research which found that IRR had an insignificant negative effect on CAR at Go Public Private National Foreign Exchange Banks.

The Net Open Position (NOP) has positive and negative effects on CAR. The PDN ratio can have a positive effect on CAR, because if PDN increases, it means that there has been an increase in foreign currency assets with a percentage greater than the percentage increase in foreign currency liabilities, and if followed by an increase in the exchange rate, it will cause an increase in foreign currency income greater than the increase in foreign currency expenses so that will lead to increased profits and increased capital resulting in an increase in CAR. PDN has a negative effect on CAR, because if PDN increases, it means that there has been an increase in foreign currency assets with a percentage greater than the percentage increase in foreign currency liabilities, and if followed by a decrease in the exchange rate, it will cause a decrease in foreign currency income that is greater than the foreign currency expense so that it will lead to reduced profits. and reducing capital will result in a decrease in CAR. The effect of PDN on CAR is supported by the research results of Hadi Susilo Dwi Cahyono and Anggraeni (2015) which state that the ratio of PDN has a significant positive effect on

CAR.

Operational Expenses on Operating Income (BOPO) here have a negative effect on CAR. BOPO increases, meaning that there is an increase in operating expenses with a greater percentage than the percentage increase in operating income owned by the bank. Bank profits decline, capital declines, and CAR declines. The effect of BOPO on CAR is supported by the results of Hadi Susilo Dwi Cahyono's research, Anggraeni found that BOPO has no significant negative effect on CAR.

Fee Based Income Ratio (FBIR) has a positive effect on CAR. The bank's FBIR increased, meaning that there has been an increase in operating income excluding interest with a greater percentage than the increase in operating income. Bank profits increase, capital increases, and CAR increases. The influence of the FBIR on CAR is supported by the results of research by Hadi Susilo Dwi Cahyono and Anggraeni (2015) which found that the FBIR had an insignificant positive effect on CAR.

ROA has a positive effect on CAR. If ROA increases, then there is an increase in profit before tax that is greater than the total assets owned by the bank. The increase in bank capital which makes bank profits increase, CAR also increases. The effect of ROA on CAR is supported by the results of Bertin's (2014) study which found that ROA had a positive effect on CAR.

METHODOLOGY

The sampling technique used was purposive sampling method, with the census technique, so that the entire population was used in this study. The four state banks are PT Bank Mandiri, Tbk; PT Bank Negara Indonesia, Tbk; PT Bank Rakyat Indonesia, Tbk and PT Bank Tabungan Negara, Tbk. This study uses a sample of Government Banks from the first quarter of 2014 to the fourth quarter of 2019 using the census technique. The data

used in this study is quarterly secondary data. The data collection technique uses documentation techniques obtained through published financial reports from the OJK website.

The dependent variable in this study is CAR. The independent variables in this study are Liquidity which is measured using LDR and IPR, Asset Quality is measured using APB and NPL, Sensitivity is measured using IRR and PDN, Efficiency is measured using BOPO and FBIR, and Profitability is measured using ROA.

RESULT AND DISCUSSION

The LDR variable partially has a positive and insignificant effect and contributes 0.3969 percent to the CAR, meaning that the second hypothesis which states that the LDR partially has a significant positive or negative effect on CAR at Government Banks is rejected. The IPR variable partially has an insignificant negative effect on CAR in the research sample banks. The value of the coefficient of determination can be seen that the IPR contributes 1.6900 percent to the CAR, meaning that the third hypothesis which states that the IPR partially has a significant positive or negative effect on the CAR at Government Banks is rejected.

The APB variable partially has an insignificant positive effect and contributes 1.8225 percent to the CAR, meaning that the fourth hypothesis which states that the APB partially has a significant positive effect on the CAR at Government Banks is rejected. The NPL variable partially has an insignificant negative effect and contributes 0.6561 percent to the CAR in the research sample banks, meaning that the fifth hypothesis which states that the NPL partially has a significant negative effect on the CAR at Government Banks is rejected.

The IRR variable partially has a positive and insignificant effect and contributes 0.0529 percent to the CAR in

the research sample banks, meaning that the sixth hypothesis which states that the IRR partially has a significant positive or negative effect on CAR at Government Banks is rejected.

The PDN variable has a significant positive effect and contributes 18.6624 percent to CAR in the research sample banks, meaning that the sixth hypothesis which states that PDN partially has a significant positive or negative effect on CAR at Government Banks is accepted.

The BOPO variable partially has an insignificant negative effect and contributes 2.4025 percent to the CAR in the research sample banks, meaning that the seventh hypothesis which states that the OOP partially has a significant negative effect on the CAR at Government Banks is rejected. The FBIR variable partially has a significant positive effect and contributes 8.2369 percent to the CAR in the research sample banks, meaning that the eighth hypothesis which states that the FBIR partially has a significant positive effect on CAR at Government Banks is accepted.

The ROA variable partially has an insignificant positive effect and contributes 0.0784 percent to the CAR in the research sample banks, meaning that the ninth hypothesis which states that ROA partially has a significant positive effect on CAR at Government Banks is rejected.

CONCLUSION

Based on data analysis and discussion, the following conclusions can be drawn: LDR, IPR, APB, NPL, IRR, PDN, BOPO, FBIR, and ROA simultaneously have a significant effect on CAR in the research sample banks for the period I, 2014 to fourth quarter, 2019 with an influence of 13.9 percent, the remaining 86.1 percent is influenced by other variables outside the study. Partially, LDR has an insignificant positive effect on CAR in the research sample banks for the period I quarter, 2014 to quarter IV, 2019

and contributes 0.3969 percent to CAR. Partially IPR has an insignificant negative effect on CAR in the research sample banks for the period I quarter, 2014 to the fourth quarter, 2019 and contributes 1.6900 percent to CAR. Partially APB has an insignificant negative effect on CAR in the research sample banks for the first quarter, 2014 to the fourth quarter, 2019 and contributed 1.8225 percent to the CAR. Partially, NPL has an insignificant negative effect on CAR in the research sample banks for the period I quarter, 2014 to quarter IV, 2019 and contributes 0.6561 percent to CAR.

Partially, the IRR had an insignificant positive effect on CAR in the research sample banks for the period I quarter, 2014 to quarter IV, 2019 and contributed 0.0529 percent to the CAR. Partially, PDN had a significant positive effect on CAR in the research sample banks for the period I quarter, 2014 to quarter IV, 2019 and contributed 18.6624 percent to CAR. Partially BOPO has an insignificant negative effect on CAR in the research sample banks for the period I quarter, 2014 to quarter IV, 2019 and contributes 2.4025 percent to CAR. Partially FBIR has a significant positive effect on CAR in the research sample banks for the period I quarter, 2014 to quarter IV, 2019 and contributes 8.2369 percent to CAR. Partially ROA has an insignificant positive effect on CAR in the research sample banks for the period I quarter, 2014 to quarter IV, 2019 and contributes 0.0784 percent to CAR. The variables LDR, IPR, APB, NPL, IRR, PDN, BOPO, FBIR and ROA which have a dominant contribution are PDN of 18.6624 percent in Government Banks for the period I quarter, 2014 to quarter IV, 2019.

REFERENCE

Berger, A. N., & DeYoung, R. (1997). Problem loans and cost efficiency in commercial banks. *Journal of*

Banking and Finance, 21(6), 849–870. [https://doi.org/10.1016/S0378-4266\(97\)00003-4](https://doi.org/10.1016/S0378-4266(97)00003-4)

Gustaf Naufan Febrianto dan Anggraeni. 2016. Pengaruh *Business Risk* terhadap *Capital Adequacy Ratio* (CAR) pada Bank Umum Swasta Nasional *Go Public*. *Journal of Business and Banking*, 6 (1), 147-166.

Hadi Susilo Dwi Cahyono dan Anggraeni. 2015. Pengaruh Likuiditas, Kualitas Aset, Sensitivitas Pasar, Efisiensi, dan Profitabilitas Terhadap CAR Pada Bank Devisa Yang *Go Public*. *Journal Business And Banking*, 5 (1), 113-130.

Jara-Bertin, M., Arias Moya, J., & Rodriguez Perales, A. (2014). Determinants of bank performance: evidence for Latin America. *Academia Revista Latinoamericana de Administracion*, 27(2), 164–182.

Kasmir. 2019. *Analisis Laporan Keuangan*. Raja Grafindo Persada, Jakarta.

Mudrajad Kuncoro dan Suhardjono. 2012. *Manajemen Perbankan : Teori dan Aplikasi*. Yogyakarta: BPFE.

Nugroho Novan Setiawan. 2016. "Pengaruh Likuiditas, Kualitas Aset, Sensitivitas, Efisiensi dan Profitabilitas terhadap CAR pada Bank Umum Swasta Nasional Non Devisa di Indonesia", Skripsi Sarjana Tak diterbitkan, STIE Perbanas Surabaya.

Otoritas Jasa Keuangan. Laporan Publikasi. (<https://www.ojk.go.id>) diakses pada Maret 2020.

Peraturan Otoritas Jasa Keuangan No. 5/POJK.03/2015 tentang Kewajiban Penyediaan Modal Minimum dan Pemenuhan Modal Inti Minimum Bank Perkreditan Rakyat.

Peraturan Otoritas Jasa Keuangan No. 11/POJK.03/2016 tentang Kewajiban Penyediaan Modal Minimum Bank Umum.

- PT Bank Mandiri, Tbk. 2020. "Laporan Publikasi". www.bankmandiri.com. id diakses Maret 2020.
- PT Bank Negara Indonesia, Tbk. 2020. "Laporan Publikasi". www.bni.com. id diakses Maret 2020.
- PT Bank Rakyat Indonesia, Tbk. 2020. "Laporan Publikasi". www.bri.co.id diakses Maret 2020.
- PT Bank Tabungan Negara, Tbk. 2020. "Laporan Publikasi". www.btn.com. id diakses Maret 2020
- Syofian, Siregar. (2015). *Metode Penelitian Kuantitatif*. Prenamedia Group. Jakarta.
- Undang – Undang No. 10 tahun 1998 (Perubahan Undang – Undang Nomor 7 Tahun 1992 tentang Perbankan).
- Veithzal Rivai, Sofyan Basir, Saworno Sudarto, dan Arifandy Permata Veithzal. 2013. *Comercial Bank Management* : Manajemen Perbankan dari Teori ke Praktik. Jakarta. PT Raja Grafindo Persada.