FINANCIAL SOUNDNESS EVALUATION OF SELECTED COMMERCIAL BANKS IN INDONESIA: AN APPLICATION OF BANKOMETER MODEL

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ABSTRACT

Derived from the public concern about which bank to choose to be work with because of many kinds of banks are available right now in the banking industry in Indonesia also because of the Asean Economic Community (AEC) era nowadays which is establishing a system of free-trading among ASEAN country, author wants to give a recommendation which banks are good to be work with also as a reference for the investors who are looking to invest especially in banking industry in Indonesia, using the new model developed by IMF in 2000 called Bankometer. It is using the 6 parameters of financial ratios which are; capital to asset; equity to asset; CAR; NPL; cost to income and loans to assets. This study examined 19 private owned banks with the criteria private owned bank with total assets Rp 50 trillion because of the availability of the bank and the published financial statements. The result shows all the 19 banks are termed into super sound bank for the last three years. The top three banks are: Bank of Tokyo Mitsubishi stood at the peak, followed by Citibank and BTPN.

Keywords: Bankometer, Financial Soundness, Private-owned banks

INTRODUCTION

Research Background

Financial institutions, especially bank plays a vital role as a financing vehicle to the economy movement of a country. A well-developed banking system is considered as the backbone of financial system of a country. It ensures the sustainable economic development and welfare by forming adequate capital and allocating funds efficiently for investment projects, payment services, healthy and robust financial systems (Rahman, 2017).

According to Kasmir (2010), bank is a financial institution with main core activity is gathering funds from the society and distribute the funds back to the society also provides other bank services. The other services provided by a bank are; remittances, making payments and billing.

In order to do these activities, bank needs customer which is the public, and for the public to entrust their money to the bank, bank must show the public that they are a trusted bank to be entrusted with the funds. To gain public especially customers trust, bank needs to

do the financial performance evaluation for every certain period. By doing the financial performance evaluation, public have the knowledge of how is the situation within the bank performance. So regarding to the ASEAN Economic Community (AEC), by this financial performance evaluation also could help the investors as a reference of which banks are good to invest with.

One of the method or model to evaluate financial soundness of a bank according to *Peraturan Bank Indonesia No. 13/1/PBI/2011* regarding *Penilaian Tingkat Kesehatan Bank Umum* stated Risk Profile, Good Corporate Governance (GCG), Earnings, and Capital are the assessment factors within the Risk-Based Bank Rating (RBBR) as a method to evaluate the financial soundness of a bank in Indonesia. The previous model to evaluate financial soundness of bank in Indonesia is CAMELS.

There are 118 of commercial banks who are competing to win the market listed in Bank Indonesia. Among the 118 listed bank there are top 10 banks which are; BRI; Bank Mandiri; BCA; BNI; CIMB Niaga; BTN; Panin Bank; Permata Bank; Maybank; and Danamon that have high market share based on asset in Indonesian banking industry according to Info Bank News (2017).

Table 1. List of banks in Indonesia with high market share based on Asset (Consolidation)

Rank	Bank Name	Total Assets	Market Share
1	Bank Mandiri	Rp 1.038.706.000.000.000	15,43 %
2	BRI	Rp 1.003.644.000.000.000	14,91 %
3	BCA	Rp 676.739.000.000.000	10,05 %
4	BNI	Rp 603.032.000.000.000	8,96 %
5	CIMB-Niaga	Rp 241.571.728.000.000	3,58 %
6	BTN	Rp 214.168.479.000.000	3,18 %
7	Panin Bank	Rp 199.175.000.000.000	2,95 %
8	Danamon	Rp 174.086.730.000.000	2,58 %
9	Maybank	Rp 166.678.902.000.000	2,47 %
10	Permata Bank	Rp 165.527.512.000.000	2,45 %
	Total	Rp 4.483.329.351.000.000	66,56 %

Source: Company Annual Report, 2016

Because of the many kinds of banks that are available right now, public or the society tends to be confused which bank to choose whether to deposit or borrow funds. The competition within state-owned and private owned bank to win over customers to proof that they are trusted bank to be invested with is getting intense. Basically, the difference between the state-owned and private-owned bank is the ownership structure. State-owned banks shares are fully or majority owned by the governance. Where, private owned banks shares are owned by private party. So in order to proof and show to the public or society that

private owned commercial banks are also trusted banks for the public, author wants to rate the financial soundness of private owned commercial banks in Indonesia, using the Bankometer model.

Therefore, by rating the financial soundness of private owned commercial banks in Indonesia using Bankometer model, the author aims to answer the public concerns about where to allocate their funds also as a reference to an investors which banks are good to invest with.

Research Objectives

1. To compare financial soundness among selected commercial banks in Indonesia using Bankometer model (Solvency score).

THEORETICAL FRAMEWORK

Bank

According to UU No. 10 Tahun 1998 bank is a business entity that collects funds from the society in the form of savings and distributes it to the society in the form of credit and / or other forms in order to improve the standard of living of the society.

Financial Statements

According to Kasmir (2010), financial statements are the report that shows financial situation of an institution in a certain period of time. The income statement and the balance sheet are the basic reports that a firm constructs for use by management and for distribution to stockholders, regulatory bodies, and the general public.

Bankometer

Bankometer model is a model to evaluate the soundness of a bank with the parameter uses Solvency (S-score). This bankometer is a new developed model by the recommendation of IMF in Shar (2010) which are combining of both CAMEL and CLSA-stress test.

The formula of Bankometer is such as follows:

$$S = 1{,}5*CA + 1{,}2*EA + 3{,}5*CAR + 0{,}6*NPL + 0{,}3*CI + 0{,}4*LA$$

Where,

"S" stands for solvency is a dependent variable. The independent variables under this model are:

X_1= Capital to Asset ratio (CA)   : $\geq 4\%$

X_2= Equity to Asset ratio (EA)   : $\geq 2\%$

X_3= Capital Adequacy Ratio (CAR)   :$40\% \leq CAR \geq 8\%$

X_4= Non-Performing Loans to Loans Ratio (NPL)   : $\leq 15\%$

X_5= Cost to Income ratio (CI)   :$\leq 40\%$

X_6= Loans to Asset ratio (LA)   :$\leq 65\%$

These percentages explain a bank that:

1. Has more than 4% capital to assets ratio

2. Has equity to assets ratio greater than 2%

3. Has capital adequacy ratio between 8% and 40%

4. Has controlled non-performing loans (NPL) ratio below 15%

5. Has maintained cost to income ratio less than 40%

6. Has maintained liquidity by controlling loans to assets ratio below 65%

May be classified as "super sound bank" under this Bankometer model.

The criteria to determine the soundness of a bank according to Altman in Rahman (2017) are as follows:

1. The banks having S score greater than 70 are solvent and termed as "Super sound bank", holding favorable financial status.

2. The banks having S score less than 50 are termed as "Insolvent", experiencing high risk of financial distress.

3. Last, the banks having S score between 50 and 70 are in moderate position and can be classified into "Gray Zone", because of the susceptibility to error classification.

Financial Ratios

Financial ratios are used to evaluate the company management financial performance. Each ratio serves different purposes, depends on the objective a certain ratio is to be evaluated. According to Fraser and Ormiston (2004), the objectives will vary depending on the perspective of the financial statement user and the specific that are addressed by the analysis of the financial statement data. According to Dendawijaya in Said (2012) the following types of financial ratios are namely:

1. Liquidity ratio

   a. Cash ratio

   $$Cash\ Ratio = \frac{Cash}{Current\ Liabilities} \ X \ 100\ \%$$

b. Reserve Requirement

Reserve requirement is a requirement set to each commercial banks to sorted out some of their third party funds collected, to bank Indonesia. The percentage of RR has undergone several changes since 1997. Now the set percentage is 5% (Said, 2012).

c. Loans to Deposit (LDR)

$$LDR = \frac{Total\ Loans}{Total\ Deposits}\ X\ 100\ \%$$

d. Loans to Asset (LAR)

$$LAR = \frac{Total\ Loans}{Total\ Assets}\ X\ 100\ \%$$

2. Profitability ratio

a. Return on Asset (ROA)

$$ROA = \frac{Net\ Income}{Total\ Assets}\ X\ 100\ \%$$

b. Return on Equity (ROE)

$$ROE = \frac{Net\ Income}{Total\ Equity}\ X\ 100\ \%$$

c. Operating Expense to Operating Income (OEOI)

$$OEOI = \frac{Operating\ Expense}{Operating\ Income}\ X\ 100\ \%$$

d. Net Profit Margin (NPM)

$$NPM = \frac{Net\ Income}{Operating\ Income}\ X\ 100\ \%$$

3. Solvency ratio

a. Capital Adequacy Ratio (CAR)

$$CAR = \frac{Total\ Capital}{Risk\ Weighted\ Assets}\ X\ 100\ \%$$

b. Debt to Equity (DER)

$$DER = \frac{Total\ Debt}{Total\ Equity}\ X\ 100\ \%$$

c. Long-term debt to Asset Ratio

$$LTD - AR = \frac{Long - term\ debt}{Total\ Assets}\ X\ 100\ \%$$

Previous Research

Amir Hussain Shar (2010) is studied about Performance Evaluation of Banking Sectors in Pakistan: An Application of Bankometer. In order to verify the Bankometer model, they also used the CLSA stress test to test the authenticate result from bankometer. And the result shows that, the banks that are categorized under stress from stress test are categorized as insolvent using Bankometer. And the banks categorized as sound bank also found solvent in Bankometer model as well. But there are also banks that are sound under stress but found insolvent for bankometer criteria. This is because, even the Bankometer is method came from CAMEL and CLSA stress test but there is an adjustment for the percentages. The big 5 banks already sound under CLSA stress test, but could not fulfill the Bankometer solvency requirements.

Md. Zahidur Rahman (2017) is studied about Financial Soundness Evaluation of Selected Commercial Banks in Bangladesh: An Application of Bankometer Model. The calculation solvency score (s-score) shows that the selected private commercial banks in Pakistan for the year 2015 are all the banks attained the solvency score on bankometer procedure. So, all the banks are classified as "super sound bank" and have not experienced any financial distress during the year 2015. The top three banks with the highest s-score are; Al-Arafa Islami Bank Limited (s-score = 125,78%); City Bank Limited (s-score = 124,57%); and NCC Bank Limited (s-score = 123,38%).

Dr. Ismail Younes Yameen and Mr. Mohammad Sami Ali (2016) are studied about Evaluating the Financial Soundness of the Jordanian Commercial Banks by Applying BankoMeter's Model. The result shows all the Jordanian commercial banks are financially sound, and none of them are has solvency score under the standard percentage. And they also find by using the bankometer would help the Jordanian banks to gauge the solvency problems.

RESEARCH METHOD

Type of Research

This research is a quantitative research with descriptive study that involves a numeric or statistical approach to the research design that examines the situation, as it exists in its current state. This descriptive study will examine the current financial soundness of the selected commercial banks in Indonesia with Bankometer (6 Solvency ratios).

Place and Time of Research

This research was conducted for all the selected commercial banks in Indonesia with the criteria Private Owned Banks with total assets more than Rp 50 trillion in 2016 with the time of the research for 2 months (July-August 2017).

Research Procedure

The procedures of conducting this research are as follows:

1. Define the problem
2. Determine the samples within the bank population
3. Determine the data for conducting the research
4. Input the data into the Bankometer formula
5. Comparing and rating the banks
6. Give recommendation

Population and Sample

Polit and Hungler (1999:37) referred the population as an aggregate or totality of all the objects, subjects or members that conform to a set of specifications. In this research the population was the 114 listed private-owned banks at Bank Indonesia. Sample is a subset of the population (Sekaran and Bougie, 2010). This research was conducted using purposive sampling with the criteria, private-owned bank listed in Bank Indonesia with the total assets more than Rp 50 trillion in 2016 numbered 19 banks as a sample of this research.

Data Collection Method

This study entirely depends on secondary data sources. In this research, 3 years financial data (2014-2016) have been used for the analysis purpose and these data are publicly available on their website.

Data Analysis Method

Bankometer model is a model to evaluate the soundness of a bank with the parameter uses Solvency (S-score). This bankometer is a new developed model by the recommendation of IMF in Shar (2010) which are combining of both CAMEL and CLSA-stress test.

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Where,

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    Last, the banks having S score between 50 and 70 are in moderate position and can be classified into "Gray Zone", because of the susceptibility to error classification.

RESULT AND DISCUSSION

Result

Table 2. S-score calculation for the year 2016

S=(1.5*CA)+(1.2*EA)+(3.5*CAR)+(0.6*NPL)+(0.3*CI)+(0.4*LA)										
No	Variables	X1	X2	X3	X4	X5	X6	S-Score	Category	Rank
	Bank Name	CA ≥ 4%	EA ≥ 2%	40% ≤ CAR ≥ 8%	NPL ≤ 15%	CI ≤ 40%	LA ≤ 65%			
1	BCA	17	16.66	21.9	1.3	60.4	61.46	165.626	Super sound	7

		S=(1.5*CA)+(1.2*EA)+(3.5*CAR)+(0.6*NPL)+(0.3*CI)+(0.4*LA)								
	Variables	X1	X2	X3	X4	X5	X6			
No		CA ≥ 4%	EA ≥ 2%	40% ≤ CAR ≥ 8%	NPL ≤ 15%	CI ≤ 40%	LA ≤ 65%	S-Score	Category	Rank
	Bank Name									
2	CIMB Niaga	14.66	14.16	17.96	3.89	90.07	74.55	161.017	Super sound	9
3	Panin Bank	17.01	17.17	20.49	2.81	83.02	62.78	169.538	Super sound	6
4	Bank Danamon	18.52	20.9	20.9	3.1	48.8	70.3	170.63	Super sound	5
5	Maybank	13.07	11.56	16.77	3.42	84.36	69.44	147.308	Super sound	14
6	Bank Permata	11.07	11.65	15.6	8.8	150.8	57.26	158.609	Super sound	11
7	Bank of Tokyo Mitsubishi	66.33	11.02	84.68	0.38	85.35	65.01	460.936	Super sound	1
8	OCBC NISP	14.69	14.12	18.28	1.88	79.84	67.56	155.063	Super sound	12
9	Bank Bukopin	9.31	9.05	15.03	3.77	86.97	68.76	133.287	Super sound	16
10	UOB	13.22	11.5	16.44	3.24	95.9	69.92	149.852	Super sound	13
11	BTPN	16.58	17.33	25	0.79	82	69.13	185.892	Super sound	3
12	Bank Syariah Mandiri	8.81	8.11	14.01	4.92	94.12	70.5	131.37	Super sound	17
13	Bank Sumitomo Mitsui	13.95	10.9	19.8	0.16	82.02	81.76	160.711	Super sound	10
14	Citibank	21.89	12.97	30	2.8	81.6	54.87	201.507	Super sound	2
15	Bank Mega	15.43	17.39	26.21	3.44	81.81	40.09	178.391	Super sound	4
16	DBS	16.14	12.16	20.21	3.74	89.55	60.62	162.894	Super sound	8
17	Standard Chartered Bank	11.64	0.93	16.59	5.41	98.7	39.09	125.133	Super sound	19
18	Bank Mayapada	11.35	11.59	13.34	2.11	83.08	77.58	134.845	Super sound	15
19	Bank Muamalat	9.36	6.49	12.74	3.83	97.76	71.72	126.732	Super sound	18

Source: Data Processed, 2017

Table 3. S-score calculation for the year 2015

		S=(1.5*CA)+(1.2*EA)+(3.5*CAR)+(0.6*NPL)+(0.3*CI)+(0.4*LA)								
	Variables	X1	X2	X3	X4	X5	X6			
No		CA ≥ 4%	EA ≥ 2%	40% ≤ CAR ≥ 8%	NPL ≤ 15%	CI ≤ 40%	LA ≤ 65%	S-Score	Category	Rank
	Bank Name									
1	BCA	15.47	15.08	18.7	0.7	63.2	65.22	152.219	Super sound	10
2	CIMB Niaga	13.25	12.01	16.28	3.74	97.38	74.25	152.425	Super sound	9
3	Panin Bank	17.18	16.82	20.13	2.44	86.66	64.3	169.591	Super sound	5
4	Bank Danamon	16.61	18.19	19.7	3	52	68.79	160.609	Super sound	8
5	Maybank	11.44	9.99	15.17	3.67	89.18	71.39	139.755	Super sound	14
6	Bank Permata	11.89	10.3	15	2.7	98.8	68.9	141.515	Super sound	13

No	Variables Bank Name	X1 CA ≥ 4%	X2 EA ≥ 2%	X3 40% ≤ CAR ≥ 8%	X4 NPL ≤ 15%	X5 CI ≤ 40%	X6 LA ≤ 65%	S-Score	Category	Rank
	S=(1.5*CA)+(1.2*EA)+(3.5*CAR)+(0.6*NPL)+(0.3*CI)+(0.4*LA)									
7	Bank of Tokyo Mitsubishi	68.15	9.24	81.16	0.72	88.04	67.49	451.213	Super sound	1
8	OCBC NISP	14.52	13.62	17.32	1.3	80.14	71.28	152.078	Super sound	11
9	Bank Bukopin	8.88	7.98	13.56	2.83	87.56	69.99	126.318	Super sound	17
10	UOB	13.64	11.85	16.2	2.68	96.46	70.81	150.25	Super sound	12
11	BTPN	16.3	16.75	23.8	0.7	82	72.29	181.786	Super sound	3
12	Bank Syariah Mandiri	8.79	7.98	12.85	6.06	94.78	72.6	128.846	Super sound	15
13	Bank Sumitomo Mitsui	17.58	12.4	24.76	0.43	72.23	79.2	181.517	Super sound	4
14	Citibank	20.61	11.81	28.2	2.3	89.2	53.03	193.139	Super sound	2
15	Bank Mega	15.07	16.88	22.85	2.81	85.72	47.49	169.234	Super sound	6
16	DBS	15.73	11.82	19.44	4.16	95.28	65.54	163.115	Super sound	7
17	Standard Chartered Bank	11.24	0.63	16.06	4.78	101.14	41.82	123.764	Super sound	19
18	Bank Mayapada	10.29	9.7	12.97	2.52	82.62	72.38	127.72	Super sound	16
19	Bank Muamalat	9.05	6.21	12.36	7.11	97.41	71.25	126.276	Super sound	18

Source: Data Processed, 2017

Table 4. S-score calculation for the year 2014

No	Variables Bank Name	X1 CA ≥ 4%	X2 EA ≥ 2%	X3 40% ≤ CAR ≥ 8%	X4 NPL ≤ 15%	X5 CI ≤ 40%	X6 LA ≤ 65%	S-Score	Category	Rank
	S=(1.5*CA)+(1.2*EA)+(3.5*CAR)+(0.6*NPL)+(0.3*CI)+(0.4*LA)									
1	BCA	12.83	13.69	16.9	0.6	62.4	62.65	138.963	Super sound	12
2	CIMB Niaga	13.32	12.2	15.58	3.9	87.86	75.65	148.108	Super sound	8
3	Panin Bank	14.32	13.36	17.3	2.01	79.81	64.84	149.147	Super sound	7
4	Bank Danamon	15.1	16.67	17.9	2.3	55.7	71.01	151.798	Super sound	6
5	Maybank	12.69	10.11	15.76	2.23	92.13	74.15	144.964	Super sound	10
6	Bank Permata	10.7	9.22	13.6	1.7	89.8	70.89	131.03	Super sound	14
7	Bank of Tokyo Mitsubishi	79.27	9.05	77.77	0.96	56.74	74.22	449.246	Super sound	1
8	OCBC NISP	14.9	14.49	18.74	1.34	79.46	66.3	156.49	Super sound	5
9	Bank Bukopin	8.72	8.61	14.2	2.78	89.21	69.91	129.507	Super sound	16

	S=(1.5*CA)+(1.2*EA)+(3.5*CAR)+(0.6*NPL)+(0.3*CI)+(0.4*LA)								
	Variables	X1	X2	X3	X4	X5	X6			
No		CA ≥ 4%	EA ≥ 2%	40% ≤ CAR ≥ 8%	NPL ≤ 15%	CI ≤ 40%	LA ≤ 65%	S-Score	Category	Rank
	Bank Name									
10	UOB	13.15	12.47	15.72	3.72	90.53	70.56	147.324	Super sound	9
11	BTPN	14.47	15.56	23.2	0.7	80	69.27	173.705	Super sound	4
12	Bank Syariah Mandiri	7.96	6.9	14.12	6.84	100.6	73.38	133.276	Super sound	13
13	Bank Sumitomo Mitsui	18.7	13.8	23.51	0.66	67.73	80.9	179.97	Super sound	3
14	Citibank	21.46	14.04	25.5	1.7	79.8	59.38	187	Super sound	2
15	Bank Mega	9.48	10.47	15.23	2.09	91.25	50.49	128.914	Super sound	17
16	DBS	11.4	11.26	16.15	4.27	86.32	62.9	140.755	Super sound	11
17	Standard Chartered Bank	11.58	1.84	16.87	1.62	92.92	46.13	125.923	Super sound	18
18	Bank Mayapada	8.1	7.68	10.44	1.46	84.27	71.85	112.803	Super sound	19
19	Bank Muamalat	9.26	6.29	13.91	6.55	97.38	69.05	130.887	Super sound	15

Source: Data Processed, 2017

Discussion

The results of calculating 6 Bankomoter ratios for the last three years are all the banks termed into super sound banks for having s-score above the standard which is 70. Means, those banks were solvent and not prone to financial distress according to bankometer model (Laila and Widihadnanto, 2017). The average s-score for the last three years are as follow; Bank of Tokyo Mitsubishi with highest s-score of 453,798; Citibank with 193,882; BTPN with 180,461; Bank Sumitomo Mitsui with 174,066; Panin Bank with 162,759; Bank Danamon with 161,012; Bank Mega with 158,846; DBS with 155,588; OCBC NISP with 154,544; CIMB Niaga with 153,85; BCA with 152,269; UOB with 149,142; Maybank with 144,009; Bank Permata with 143,718; Bank Syariah Mandiri with 131,164; Bank Bukopin with 129,704; Bank Muamalat with 127,965; Bank Mayapada with 125,123 and Standard Chartered Bank with 124,94.

CONCLUSION AND RECOMMENDATION

Conclusion

There are banks that have the ratios above the limit set by IMF in terms of Cost to Income ratio (CI) and Loans to Assets ratio (LA). Based on the results and discussions in the previous chapter, all of the 19 banks have consistently maintain their financial soundness as the solvency scores and have the s-score higher than the limit of 70 over the period of 2014-2016 and termed into super sound banks.

Recommendation

Based on the conclusion above, the recommendation that suggested in this research is to maintain the soundness as the solvency scores of all the banks in the future. Also for the banks that have CI ratio and LA ratio above the limit set by IMF, are to minimize their CI ratio below 40% because all the 19 banks in the last three years have not made into the standard and for Bank Permata, DBS, BCA, Panin Bank, Bank of Tokyo Mitsubishi, OCBC NISP, Bank Bukopin, BTPN, Maybank, UOB, Bank Danamon, Bank Syariah Mandiri, Bank Muamalat, CIMB Niaga, Bank Mayapada and Bank Sumitomo Mitsui to minimize their LA ratio below 65%.

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