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Factors determining performance of banks listed on Shanghai stock exchange of Thailand

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Abstract

The purpose is to investigate how do the bank specific factors as liquidity, capital adequacy, assets quality and management efficiency determine performance expressed by return on equity, return on assets and net interest margins of banks listed on Shanghai Stock Exchange and the Stock Exchange of Thailand. Further, GDP growth as macroeconomic variable was added into the investigation.

The findings showed Banks listed on Shanghai Stock Exchange own the Capital Adequacy, Asset Quality, Management efficiency and GDP Growth as significant variables. While banks listed on the Stock Exchange of Thailand own Capital Adequacy, Asset Quality and Management efficiency as significant variables. However, liquidity was found to be insignificant to all chosen banks.

Keywords: Listed banks, Bank performance, Bank specific factors, Macroeconomic variable

Introduction

With chasing back to past 20 years, the global banking sector had been transformed in the environment with impacts on bank performance. By seeing the internal and external factors been affecting bank's profitability throughout the time manner, study on the factors determining bank performance has been hot topic that attracts the concern of purposes of academic research, financial market and banking supervising. On review of the global finance crisis which have had an impact on the worldwide banking industry, study of bank performance has been more important (Dietricha and Wanzenried, 2009).

China-Thailand relationship began since 1975, the relationship between 2 countries has grown significantly (Liu, 2012). The bilateral trade relations grow every year. Updates till 2012, China has become Thailand's largest principal export destination, and the second large principal import source.

China opened the banking markets to foreign investment by the end of 2006. Since 2005, foreign investors could purchase a limited amount of shares with partial privatization in three out of four big state-owned banks, which are listed on the HK and Shanghai Stock Exchange. The state-owned banks were with high non-performing loans, and were re-capitalized during the special government bonds issue, then the non-performing loans were transferred to asset management companies in 1997 (Heffernan and Fu, 2008).On the Thailand side, before 1997 another financial crisis ahead of the global one. Local banks were close the local investors, as the foreign banks focus on the wholesale customers. While after the 1997 crisis, local banks began to attempt for foreign investment, in order to collect large amount of new capital which could not be provided by the local investors (Chantapong, 2003).

The "Global Financial Crisis" began from the developed countries to global. Which led to series of downturns and slump of the global economic in 2007 summer.These 2 countries, as a part of Asia were hence affected, even though they are away from the crisis burst point. Stock market in China was damaged since October of 2007 (Schmidt, 2009).On Thailand's side, the Thai economy was shrinking with the global slump (Chirathivat and Mallikamas, 2010).

This study will refer to the commerce part, particularly the listed banks on Shanghai Stock Exchange (SSE) and Stock Exchange of Thailand (SET). With on side, 14 banks in China and 10 banks in Thailand are chosen.

Financial statements and financial ratios will be utilized to measure bank performance. On the other hand, GDP

growth as a measure of economic growth that affects demand of bank asset will be involved (Ongore and Kusa, 2013).

Literature review

Performance is a channel to define the existence of the set objectives or goals of a firm are achieved in a particular time period. Bank performance is defined as the capacity to generate sustainable profitability (Dr. Oladele, et al., 2012).The damage done by financial crisis has become seriously for emerging market countries. While a decline to downturn of profitability might decrease banks' ability to tolerate risk. (Chantapong, 2003). Impact from banks characteristics, macroeconomic variables and financial structure could be utilized for bank performance examination purposes. (Björnsdóttir, 2010). As most studies proof capital, loans loss and expense control are factors affecting performance, bank-specific along with macroeconomic factor across banks and time periods can be utilized to examine the contribution to variance in profitability (Vong and Chan, 2009).Financial statement analysis is a way to measure the past, current performance of firms. It tells the terms of assets and the terms of the source of capital, therefore presents the internal structure (Appiagyei et al., 2012).

ROE (Return on Equity), ROA (Return on Asset) and NIM (Net Interest Margin) are used to evaluate banks performance on profitability as dependent variables.

ROE refers to the ratio of net income compared to the total equity or capital (Khrawish, 2011). It measures how efficiently a company operates the money from shareholders (Wen, 2010). Which is the return to the shareholders of their equity, without involving the risk level that is linked to the leverage (Dietricha and Wanzenried, 2009). This ratio is related to practice and, therefore, considered to be a good indicator for investments, but it is irrelevant to debts and such ratio should be observed through a long period when applied for analysis (Björnsdóttir, 2010). A profitable feedback on equity is what a business supposed to be and what the investors expect in return. Because the ROE states the efficiency of how a bank is generating the investors' funds (Ongore and Kusa, 2013). ROA tells the profit that returns from per unit of assets and indicates the effectiveness of the bank on generating profit (Dietricha and Wanzenried, 2009). It states the efficiency of a bank using the resources for its income and the ability of management to utilize the asset (Ongore and Kusa, 2013). Return on assets measures how profitably a company operates related to the assets (Wen, 2010). Furthermore, it states the bank's efficiency of using the resources from the institution for its income (Khrawish, 2011). Investors

can see how efficiently the bank converts its assets to net earnings by observing the return on asset (Chantapong, 2003). NIM expresses the financial institution's operation efficiency and the ability to generate income and expenses (Omran, 2007). It measures a difference of bank's interest income without interest payout as the net, to the average earning asset (Ongore and Kusa, 2013). NIM is stated as a percentage of earning on loans in an exact period of time and amount of asset out of costs from interest on borrowed funds, divided by an average of assets in the same period (Gul, Faiza and Khalid, 2011). NIM is the measurement of the gap of interest income and interest expenses, compared to the asset. The higher the ratio indicates, the higher profitable and the more strength the financial institution is (Khrawish, 2011).

LTD (liquidity management), CA (Capital adequacy), AQ (Asset quality), ME (Management efficiency) and GDPD (GDP growth) are utilized as independent variables.

LTD relates to the ability of repaying depositors' funds redemption (Sarita, Zandi and Shahabi, 2012).Liquidity is associated with lower rate of return, when LTD ratio is higher, the liquidity will be lower, in other words, higher LTD ratio leads to lower profitability (Dang, 2011; Said and Tumin, 2011). CA refers to the firm's available capital to cover the business risk (Athanasoglou et al. 2005). There are supports that the capital to assets ratio negatively relates to the total revenue dependent variables (Staikouras and Wood, 2011). However, there are as well points explain the positive relationship, a higher ratio might bring higher profitability by reducing subjects related to risk and alternatively expand into some other profitable subjects (Berger, 1995). AQ measures non-performing loans level as the loan portfolio effects banks profitability by its quality. It's the most risky issue for a bank to confront losses that incurred by delayed or illicit borrows (Dang, 2011).The lower the ratio the better the asset quality is (Sangmi and Tabassum, 2010). ME is the capability of the board of management (Dang, 2011).Such to measure the percentage of operating profit from income (Ongore and Kusa, 2013; Sangmi and Tabassum, 2010).

GDPG as a measure of economic activity of an economy, is commonly used as a macroeconomic variable, GDP Growth is supposed to effect bank performance positively (Said & Tumin, 2011). In positive relationship, banks' asset quality that depends on the growth cycle and non-performing loans that relates to the default risk would be larger in downturns than in upturns. While in negative relationship, as higher GDP growth would mean that the banks are operating in a more competitive environment of interest and margins (Staikouras and Wood, 2011).

Table 1 Ratios definition

Ratios	Formulas description
ROE	Net profit after tax divided by stockholder's Equity
ROA	Total income to total asset
NIM	Interest profit divided by average earning assets
LM	Total Loans to total deposit
CA	Total Capital to total assets
AQ	Nonperforming Loans to total loans
ME	Total profit to Total operating revenue
GDPG	Gross Domestic Product Growth

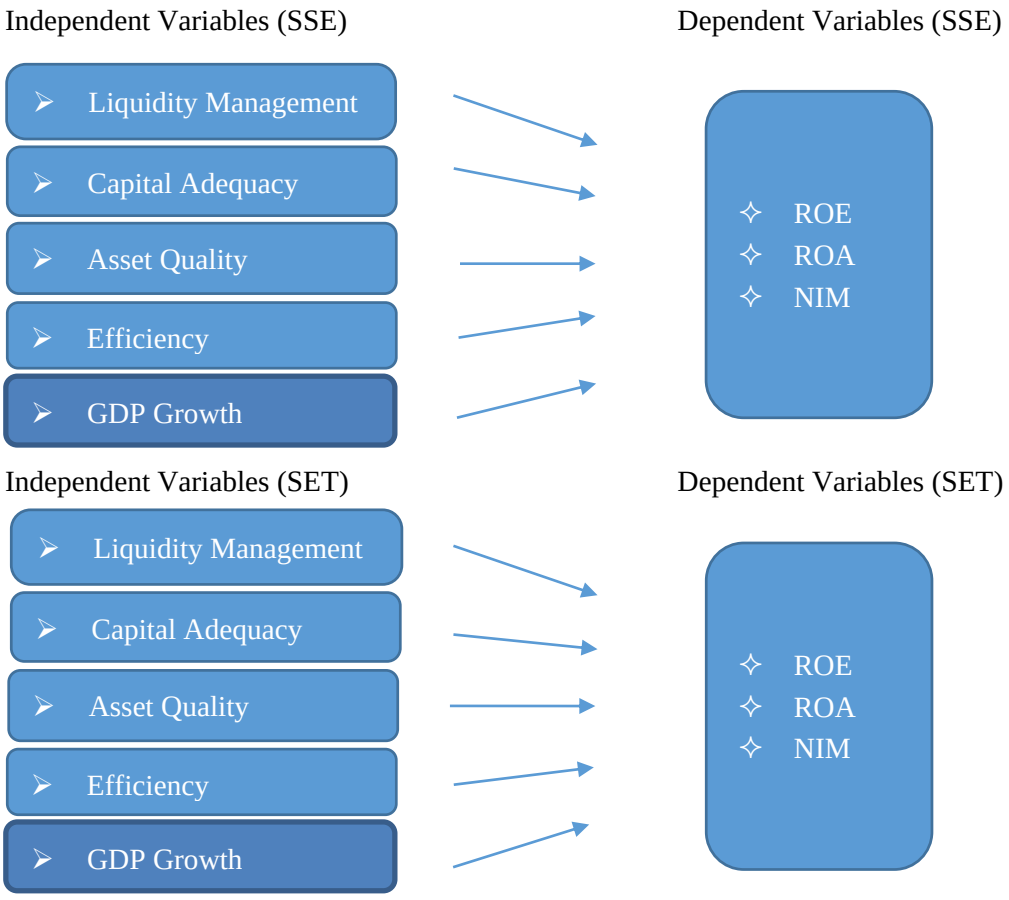

Figure 1 Conceptual framework

Methodology

This study will apply the income statement and balance sheet which are from each listed bank's annual reports from 2007-2012. The data set contains 14 listed banks from Shanghai Stock Exchange, and 10 from 11 listed banks from Stock Exchange of Thailand. In particular, the "LHBANK : LH FINANCIAL GROUP PUBLIC COMPANY LIMITED" from Stock Exchange of Thailand is excluded, due to this listed bank provides annual report from 2010 to 2012, which does not meet the required data time range that begins from 2007.

In purpose to measure banks performance, financial ratios formulas are applied for the calculation. Outcome of the calculation will be utilized onto the model specification, therefore to access the result of bank performance.

The Dependent variables used to indicate bank performance are ROE, ROA and NIM. While Liquidity, capital adequacy, asset quality and efficiency are taken as the independent variables, GDP will be external variable.

- Listed banks in Shanghai Stock Exchange

$$n_{it} = a_0 + b_1(LM_{it}) + b_2(CA_{it}) + b_3(AQ_{it}) + b_4(ME_{it}) + b_5(GDP_{CNt}) + \varepsilon_{it} \ldots$$

- Listed banks in The Stock Exchange of Thailand.

$$n_{it} = a_0 + b_1(LM_{it}) + b_2(CA_{it}) + b_3(AQ_{it}) + b_4(ME_{it}) + b_5(GDP_{THt}) + \varepsilon_{it} \ldots$$

Where:

- n_{it} = Performance of bank i at time t represented by ROA, ROE, NIM
- a = Intercept
- LM_{it} = Liquidity of bank i at time t
- CA_{it} = Capital adequacy of bank i at time t
- AQ_{it} = Asset quality of bank i at time t
- ME_{it} = Management Efficiency of bank i at time t
- GDP_{CNt} = Gross Domestic Product Growth of China at time t
- GDP_{THt} = Gross Domestic Product Growth of Thailand at time t
- $b_1 - b_5$ = Coefficients parameters
- ε_{it} = Error term where i is cross sectional and t time identifier

Analyze data with the statistical program. Firstly summarize the quantitative description of features of samples and data (Mann, 2013).Then proceed the validity

test to exam multicollinearty and see whether there is correlation between independent variables in a regression model (Rahmawati and Hosen, 2012). Heteroskedasticity test is to see if there is different variance from the residual between observations in the regression or not (Suhardjanto, et al., 2009). Autocorrelation test is to exam whether there the correlation between the error in period t with bullies error in period t-1 (previous period) exists in the linear regression model (Rahmawati and Hosen, 2012).Finally to run the multiple regression analysis.

Results

Analysis

Analyze financial performance of listed banks on SSE and SET from 2007 to 2012. Begins with 2007, banks listed on SET performed better than banks listed on SSE, till 2009 these figures declined for both listed banks in SET and listed banks in SSE. This might be caused by the effect of the global economic crisis and its effect on Asia. Then from 2010 onward, the trend of performance for listed banks on both sides begins to increase. As overview for the average performance, it shows investment opportunity and profitability. Further, by the end of 2012, value of ROE, ROA and NIM of listed banks in SSE and banks in SET both increased to be even higher than 2007, and banks in SSE performed slightly better than banks in SET.

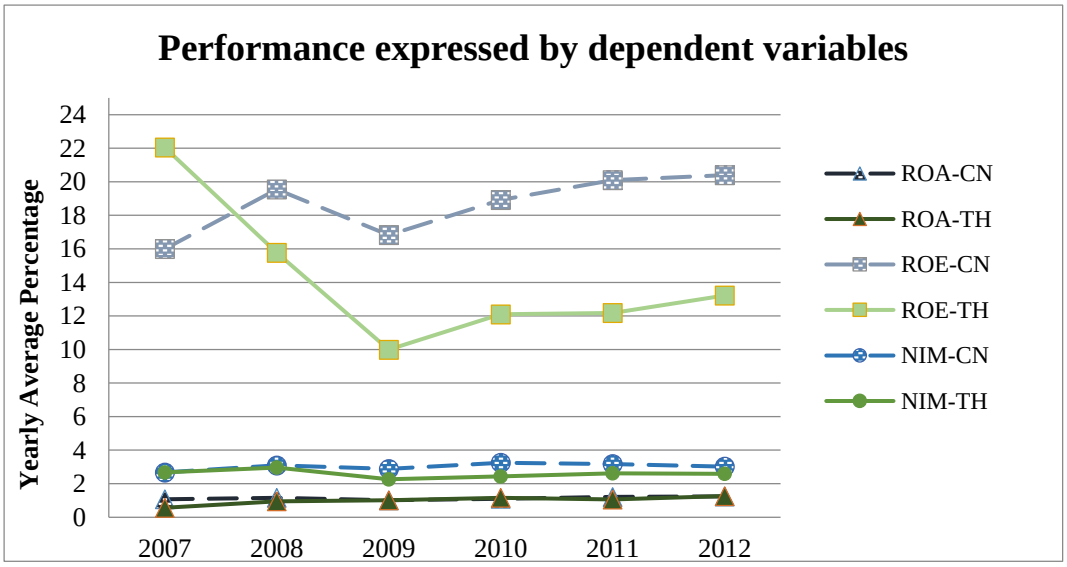

Figure 2 Performance expressed by dependent variables

Description Statistics provides mean score of ROE, ROA and NIM. It states the listed banks on Shanghai Stock Exchange perform slightly better on return on equity and return on assets than those on the Stock Exchange of Thailand. While banks on SET earn higher net income margin than banks on SSE.

Mean score of liquidity for listed banks on SSE is lower than banks listed on SET, listed banks on SSE have higher ability to repay depositors' funds redemption, and on the other hand with higher liquidity. Mean score of capital adequacy states lower than those on SET, with lower profit, the higher score represents less risky investment preference. Asset quality states listed banks on SSE are with lower credit risk. The last internal independent variable is management efficiency, it states banks listed on SSE higher operating better than and those on SET.

Table 2 Description statistics

Variables	Location	MAX	MIN	MEAN	MEDIAN	Std. DEV	Obsn
ROE	SSE	30.01	-6.02	18.63	18.86	4.92	84
	SET	227.20	-96.00	14.67	12.32	32.38	60
ROA	SSE	2.53	0.41	1.13	1.14	0.29	84
	SET	3.26	-6.36	1.05	1.06	1.15	60
NIM	SSE	3.42	1.82	2.59	2.59	0.37	84
	SET	5.07	0.45	2.95	3.07	0.92	60
LM	SSE	85.11	50.84	68.64	70.94	6.95	84
	SET	128.36	57.76	94.81	94.74	11.94	60
CA	SSE	26.51	0.00	12.20	11.97	3.20	84
	SET	18.20	1.48	14.58	15.18	2.54	60
AQ	SSE	23.57	0.38	1.57	1.10	2.56	84
	SET	18.59	2.10	6.84	4.90	4.57	60
ME	SSE	77.56	18.49	47.31	49.13	9.77	84
	SET	222.05	1.19	38.89	36.26	28.31	60
GDPG	SSE	14.16	7.70	10.08	9.47	2.01	84
	SET	7.80	2.30	3.47	3.75	3.79	60

From the observation in table description statistics above, mean score of ROE, ROA and NIM during 2007 – 2012 is 18.63, 1.13 and 2.59 on SSE, while 14.67, 1.05 and 2.95 on SET respectively. It shows that the listed banks on Shanghai Stock Exchange perform slightly better on return on equity and return on assets than those on the Stock

Exchange of Thailand. While banks on SET earn higher net income margin than banks on SSE.

From that table, it shows the data on description statistic of the factors that independently affect the performance of the listed banks on Shanghai Stock Exchange and on the Stock Exchange of Thailand as well.

As seen from the table, mean score of liquidity for listed banks on SSE is 68.64, which is lower than 94.81 for banks listed on SET. It indicates the percentage of using depositors' funds on lending. With regarding to the "loans to deposit" ratio definition, listed banks on SSE have a higher ability to repay depositors' funds redemption, and on the other hand with higher liquidity.

Mean score of capital adequacy states at 12.20 for banks listed on SSE, and 14.58 for those on SET. With a lower profit, the higher score represents less risky investment preference. An asset quality is stated at an average of 1.57 and 6.84 for banks listed on SSE and SET respectively, as the percentage of non-performing loans out of total loans, listed banks on SSE are with lower credit risk. The last internal independent variable is management efficiency, its mean score is at 47.31 and 38.87 for banks listed on SSE and SET. The percentage of operating profit to total income, can be used to show the wellness of the banks' operating function.

Validity test outcome

Validity test found that there is no multicollinearity problem in the regression equations. Multicollinearity is tested with correlation coefficients. Absolute Correlation coefficients above 0.8 among variables indicates the multicollinearity.

Table 3 Correlation among independent variables

Variables SSE	LM	CA	AQ	ME	GDPG
LM	1				
CA	-0.323	1			
AQ.	-0.171	-0.394	1		
ME	-0.139	0.443	-0.168	1	
GDPG	-0.030	-0.022	0.367	-0.182	1
Variables SET	**LM**	**CA**	**AQ**	**ME**	**GDPG**
LM	1				
CA	0.411	1			
AQ	-0.045	-0.361	1		
ME	0.152	0.042	0.136	1	
GDPG	0.049	-0.007	-0.109	-0.026	1

The absolute correlation among the independent variables of banks listed on SSE and SET are all below 0.8, hence, there is no existence of serious multicollinearity problems.

On the other hand, the multicollinearity can be tested by an observation on the VIF value. According to Guajarati (2004), VIF above 10 indicates to the problem of the multicollinearity. According to table of variance inflation factor of variables below, data shows that there is no existence of multicollinearity.

Table 4 Variance inflation factor of variables

Variables	VIF	
	SSE	SET
Liquidity	1.28	1.25
Capital Adequacy	1.81	1.41
Asset Quality	1.61	1.21
Management Efficiency	1.30	1.05
GDP Growth	1.25	1.02

However, there is existence of either or both Heteroskedasticity and Autocorrelation. Heteroskedasticity and autocorrelation test are based on the original multiple regression model equations of listed banks on the Shanghai Stock exchange and the Stock Exchange of Thailand. In purposes to solve the problems, equation estimation will be progressed on least squared with consistent coefficient of Newey-West.

Relationship between dependent and independent variables

This section states briefly about the relationship among dependent and independent variables, and their relationship with the bank performance expressed by ROE, ROA and NIM. The coefficients in between each explanatory and explained variables shows the measurement and trend of the relationship, which can be strong, weak, positive or negative.

A higher value of the coefficient refers to a stronger relationship, while a lower value indicates a weaker one. A positive score presents the positive relationship, then a negative score means the opposite.

Table 5 Correlation coefficient among variables of SSE

SSE	ROE	ROA	NIM
LM	0.240290	-0.147069	0.089814
CA	0.077746	0.680808	-0.005382
AQ	-0.610298	-0.145005	0.099295
ME	0.320886	0.646932	-0.195588
GDPG	-0.252952	-0.138739	0.076591

Table 6 Correlation coefficient among variables of SET

SET	ROE	ROA	NIM
LM	-0.437518	-0.126502	0.286931
CA	-0.684715	-0.087617	0.337392
AQ	0.046958	-0.397164	-0.641846
ME	-0.444574	-0.622710	-0.031055
GDPG	0.037587	0.019182	0.026148

Coefficient of Liquidity from banks listed on SSE shows positive relationship between ROE and NIM while negatively related to ROA, and on SET there is only NIM related positively. However, by observing the Capital Adequacy part, variables are positively related to the ROE and ROA, but negatively to NIM on SSE, especially to ROA the most strongly, and less strongly to ROE, then to the NIM. This might state that the banks meet no uncertainty on earnings due to leverage. But on SET, Capital Adequacy shows the negative relationship between ROE and ROA, then strongly relates to ROE, but for NIM it states positive and second strong relationship. This might indicate that it is safe assets investment preference for high Capital Adequacy.

Assets Quality as the percentage of non-performing loans out of total loans, represents the banks credit risk level. On SSE, correlation coefficient shows negatively to ROE, ROA and positively to NIM. The higher the ratio is, the more poor banks perform. The correlation is strong with ROE. It might be because the loans are fixed with the largest percentage of assets which earn from the equity. On the other side, Assets Quality on SET

correlates to ROE positively, then negatively to ROA and strongly to NIM. This might be due to the fact that banks listed on SET prefer lower non-performing loans percentage by decreasing the income from assets.

Management Efficiency is another explanatory variable. It is related to ROE and ROA positively, then to NIM negatively for banks listed on SSE, however, it is negatively related to ROA strongly of banks listed on SET. This, from another point of view, indicates that banks try to low down the non-performing loans percentage by sacrificing operating income amount.

The external variable would be the Gross Domestic Product Growth which from the table shows negative relationship between ROE and ROA, then a positive relationship with NIM for banks listed on SSE, but shows positive relationship among all explained variables of banks listed on SET. This kind of relationship is mixed. When it shows negatively and strongly with banks listed on SSE, and positively and weakly with banks listed on SET.

Regression result

Regression result proves hypothesis, that Liquidity, Capital Adequacy, Assets Quality or Management Efficiency affects the performance of banks listed on SSE and SET. The result presents that Capital Adequacy, Assets Quality and Management efficiency affect banks listed on SSE and SET significantly. For hypothesis H7, that GDP Growth affects listed banks performance as external factor, which is proofed as well. As there the GDP Growth significantly and negatively effects performance of banks listed on SSE.

Capital Adequacy, Assets Quality and Management Efficiency are significantly related to performance expressed by ROE of bank listed on SSE. For model ROA, Capital Adequacy, Assets Quality and Management Efficiency are significant. While on model NIM, there only the Asset Quality states at the significant level. However, on SSE the Liquidity management was found to be non-significant.

On the other side, model ROE of banks listed on SET owns Capital Adequacy, Assets Quality and Management Efficiency as significant. Then for model ROA, there the Assets Quality and Management Efficiency state significantly. On model NIM, there only the Assets Quality presents significant relationship. While the Liquidity management was still found to be non-significant.

Table 7

Variables / SSE	Model 1 (ROE)	Model 2 (ROA)	Model 3 (NIM)
Constant	13.34167 (1.872332)	-0.470538 (-1.081538)	2.127812 **(3.340441)***
LM	0.047199 (0.540725)	0.006771 (1.625283)	0.008607 (1.164603)
CA	-0.520760 **(-3.593680)***	0.060356 **(3.625773)***	0.026740 (1.342171)
AQ	-1.331417 **(-10.57728)***	0.029874 **(3.849468)***	0.026982 **(2.062466)***
ME	0.188795 **(2.644162)***	0.011920 **(3.409544)***	-0.009510 (-1.942228)
GDPG	0.155414 (1.067347)	-0.020829 **(-2.2029910)***	-0.004892 (-0.200338)
R^2	0.516627	0.661688	0.077998
Adjusted R^2	0.485642	0.640002	0.018896

Externally, GDP Growth as macroeconomic variable is stating significantly related to performance expressed by ROA of banks listed on SSE only.

Table 8 Regression output adjusted with consistent coefficient of Newey-West.

Variables / SET	Model 1 (ROE)	Model 2 (ROA)	Model 3 (NIM)
Constant	191.7115 **(4.167668)***	3.810329 **(3.417392)***	1.969969 **(2.105147)***
LM	-0.298020 (-1.161441)	0.003226 (0.300323)	0.019929 (1.775872)
CA	-8.619944 **(-3.287494)***	-0.100873 (-1.454577)	-0.000269 (-0.007499)
AQ	-1.042657 **(-2.437676)***	-0.100976 **(-2.691846)***	-0.128624 **(-4.602928)***
ME	-0.435212 **(-4.145226)***	-0.022912 **(-2.543214)***	0.000577 (0.210080)
GDPG	0.274371 (0.467549)	-0.003916 (-0.197556)	-0.013684 (-0.919118)
R^2	0.674913	0.525417	0.482167
Adjusted R^2	0.644812	0.481474	0.434220

- Coefficient states above
- T-Statistics states in the parentheses
- Significant states with "*"

From observation, data can prove hypotheses, that Liquidity, Capital Adequacy, Assets Quality or Management Efficiency affect the performance of banks listed on SSE and SET. The result shows that Capital Adequacy, Assets Quality and Management efficiency affect banks listed on SSE and SET significantly. For hypothesis H7, GDP Growth affects listed banks performance as external factor which is proofed as well. As the GDP Growth has significant and negative effects on performance of banks listed on SSE.

To be more specific, the T-Statistic value of model ROE of banks listed on SSE with Liquidity, Capital Adequacy, Assets Quality and Management Efficiency are 0.54, -3.59, -10.58 and 2.64 respectively. These present Capital Adequacy, Assets Quality and Management Efficiency are significantly related to performance

expressed by ROE of bank listed on SSE at a minimum confidence level of 95%. For model ROA, these four explanatory variables stated with 1.63, 3.63, 3.85 and 3.41, this means Capital Adequacy, Assets Quality and Management Efficiency are significantly related to performance expressed by ROA of bank listed on SSE. While for model NIM, there is only the Asset Quality showing at the significant level. However, on SSE the Liquidity management was found as non-significant.

On the other side, model ROE of banks listed on SET, T-statistic value of the explanatory variables stated at -1.16, -3.29, -2.44 and -4.15 respectively, this result indicates that the Capital Adequacy, Assets Quality and Management Efficiency are significantly related to performance expressed by ROE of bank listed on SET. Then for model ROA, the Assets Quality and Management Efficiency show significantly at -2.69 and -2.54. Similar to banks listed on SSE, on model NIM, only the Assets Quality with T-statistic value -4.60 presents the significant relationship. While the Liquidity management is non-significant.

Externally, GDP Growth as macroeconomic variable is shown at 1.067, -2.202 and -0.200 for T-statistic value with ROE, ROA and NIM of banks listed on SSE, then -0.198, -0.0.200 and -0.919 with dependent variables of banks listed on SET, So it is found as significantly related to performance expressed by ROA of banks listed on SSE only.

Conclusion and discussion

Conclusion

The objective of this study is to examine the factors that determine performance of listed banks on Shanghai Stock Exchange and The Stock Exchange of Thailand.

With purpose to achieve the objective, six years panel data for total 24 listed banks was analyzed with multiple regression models. In order to see the effects across year and banks, penal data is utilized. During the analysis, factors that determine listed banks performance expressed by ROE, ROA and NIM were tested. The Capital Adequacy, Assets Quality and Management Efficiency are found to be significantly affecting listed banks performance expressed by ROE, ROA and NIM.

This study owns the Capital Adequacy, Assets Quality and Management Efficiency as significant factors to the performance expressed by ROE of listed banks on SSE. The effectiveness level from high to low ranks as Assets Quality, Capital adequacy then Management Efficiency. However, for banks listed on SET, there the variables exist as Capital

adequacy, Assets Quality then Management Efficiency.

Discussion

Such so, for banks listed on SSE. Capital adequacy states negative relationship in model ROE which stands in line with Flamini et al. (2009) and Staikouras and Wood (2011), while positive in model ROA supports Berger (1995) and Tan and Floros (2012). Assets Quality states most strong and negative correlation coefficient with ROE, and positive with ROA and NIM, hence, while the non-performing loans percentage increases, the return on assets increases. This might be listed banks in SSE tend to utilize a part of the loans to promo the total income by generating assets, and in such concern, while total asset remains, the outcome is with higher percentage but anyway in such situation the risk increases as well. Management efficiency states significant and positive relationship to the bank performance expressed by ROE and ROA. This presents banks listed on SSE generate the operating revenue well as a part of the total income.

Capital adequacy presents significant and negative relationship with performance expressed by ROE listed on SET, supports the point of Dietricha and Wanzenried (2009). Assets Quality states negative correlation coefficient with ROE, ROA and NIM, hence, while the non-performing loans percentage increases, the return on equity or asset, as well the net income margin decrease. This result supports the point that Asset Quality correlated to bank performance negatively along with Ongore and Kusa (2013), Dang (2011) and Sangmi and Tabassum, (2010). Management efficiency states significant and negative relationship to the bank performance expressed by ROE and ROA.This might be due to the banks internal management decision and strategy, that after the financial crises, investors realized it's more important to look at ability withstand finance shocks,by reducing the interest rate to gain more investment and borrowing, which helps to enlarge the revenue meanwhile increases assets and decreases the non-performing loans amount, hence ROE and ROA are increased.

Liquidity presents no significant relationship with either listed banks performance on SSE or SET. With standing in line with Said and Tumi (2011) and Ongore and Kusa (2013).

Then, it's to conclude that for banks listed on SSE, the ones with lower capital ratio and non-performing loans ratio, or higher total operating revenue to total profit gains more return on equity. These variables are found to be positively related to ROA, and positively related to the NIM as well. For banks listed on SET, those own lower Capital adequacy, Assets Quality then Management Efficiency ratios again higher return on equity and asset, while the

ones with lower non-forming loans percentage earn more net income margin.

Limitation and recommendation

This study only groups banks listed on SSE and SET as samples. However, does not involve all the listed banks in China. There is the “Shenzhen Stock Exchange” as another stock exchange in mainland China not involved. Therefore, further research can be proceed with sampling the listed banks on "Shenzhen Stock Exchange" as it is the another stock exchange in mainland China. In order to understand whether there would be different regression outcome for listed banks in different stock exchange while in the same country and economy.

In this study, independent factors were selected based on CAMEL rating system (Dang, 2011) and macroeconomic variable involved GDP growth only. The further research can utilize other bank specific factors and inflation as macroeconomic variable, in order to find the main factors to develop the model.

As per the regression output and statistics, recommendation would refer the significant factors and their correlation with the dependent variables.

For investors investment preferences decisions. A bank with lower capitalization could be more able to catch the potential profitable trading opportunities, which benefits investors with the higher return from investment. A bank with relatively lower non-performing loans percentage means higher stability and lower risk, which benefits investors with more stable invest environment. A bank with relatively higher operating profit percentage means higher ability the bank can arrange investor’s funds to generate income, which benefits investors with higher profit. A bank can survive in the a competitive environment means that bank made correct decisions, and can benefit investors more than banks operate in a less competitive environment. Further, investors do not have to consider the liquidity as it is not affecting the bank performance significantly. Investments can be considered on banks listed on SSE as they own relatively higher value of ROE and ROA while comparing with banks listed on SET, so it means banks listed on SSE are more profitable and the investment will be with higher return.

For bank management implications. As the performance of Banks listed on SSE is strongly and negatively correlated to the Asset Quality, banks could consider to further increase the loans amount in purpose to increase loan portfolio quality, which could further attract investments and enlarge the return on equity. For the other side, banks listed on SET might consider to focus more on the Capital Adequacy as it is strongly and negatively

relates to bank performance. Banks could manage to catch more investments opportunities which could gain profit, and provide more return on shareholder's equity. And the higher benefit to shareholders would as well attract more investments. Therefore, banks are to: Firstly, catch more potential trading opportunities with their capitalization. Which would provide the investors with higher return on their investments, meanwhile build up reputation of banks then further attract more investments which contributes to the improvement of the sources of funds. Secondly, increase the operating profit by reducing the operating cost, in order to lowering the chances that incurring bank failure in incidents. Which would represent the management efficiency in operating banks then further gain the investors' confidence. Thirdly, lower the non-performing loans percentage as it is the risk that might lead to bankrupt throughout economic changes. The raise of non-performing loans will increase banks operation difficulties by affecting on their utilization of total loans. Lower the loans risk, higher the sustainability of banks while the economic shrinks.

However, this research limits by only studying sample groups of banks listed on SSE and SET. However, it does not cover all the listed banks in China. There is the "Shenzhen Stock Exchange", another stock exchange in mainland China which is not covered. Therefore, for further research, it can be processed with sampling the banks that listed on "Shenzhen Stock Exchange" which is another stock exchange in mainland China. In order to understand whether there will be a different regression outcome for listed banks in different stock exchange market, while in the same country and economy.

In this study, independent factors were selected based on CAMEL rating system (Dang, 2011) and macroeconomic variable involved GDP growth only. The further research can use other bank specific factors and inflation as macroeconomic variables, in order to find the main factors to develop the model.

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