The Informative Value of CAMEL on Voluntary Disclosures in Thai Banks

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Abstract

Disclosures in banking businesses and attempt to identify the determinants of voluntary disclosures of the industry using fundamental banking information (i.e., types of shareholders, listed status, and CAMEL). The dataset employed information in Thailand, including listed banks. This study aimed to explore the informative value of CAMEL on voluntary disclosures. Firstly, the study replicated the work of Meek, Roberts & Gray (1995) which classified voluntary disclosures into three types; strategic, financial, and non–financial information, then, further developed the voluntary items according to Thai economy and business practice criteria. The summary of significant 200 self–constructed and un–weighted voluntary disclosures were identified. Voluntary disclosure and CAMEL information were collected from annual reports, SETSMART and other sources which the most updated and were publicly available. The data set covered the banks in Thailand over the 2016–2019 reporting period. The data then were analysed using content analysis, descriptive and multiple regressions.

It was found that Thai listed banks were most likely to voluntarily disclose useful information compared to Thai policy banks and foreign banks located in Thailand. At .05 significant level, the listed banks and liquid assets to total assets significantly were more likely to disclose strategic voluntary disclosures, while management efficiency ratio, return on equity and liquid assets to total assets ratio significantly related to financial voluntary disclosures. In addition, size, cost per unit of money lent and liquid assets to total assets ratio significantly related to non–financial voluntary disclosures. The overall conclusion was that CAMEL could be the representative

of the voluntary disclosures. This study was benefit to regulators who wish to motivate and reward banks in order that banks would voluntarily disclose vital information to publics.

Keywords: Strategic disclosures; CAMEL; bank financial ratios

Introduction

The Thai financial market can be categorised in two types: depository financial institutions like commercial banks, government policy institutions and non–depository financial institutions like mutual funds, insurance companies, provident funds, and securities companies. The banking industry have been recognized one of important financial sources in Thailand. In economic turmoil, Thai banks have confronted with risks including operations, financial, credit liquidity and market risk. However, Thai top commercial banks have survived and attempted to keep up their financial performances. This shows that Thai banking industry can considered as a crucial economic fundamental (Panrod, 2018).

Thailand, as a member country of International Monetary Fund (IMF) adopted IMF's recommendation about the Financial soundness indicators (FSIs) which provides vital information of financial health and soundness of a country's financial institutions as well as corporate and household sectors. CAMEL indices are also included in FSIs financial institution parts (IMF, 2019). CAMEL is fundamentally financial ratio based models for assessing commercial bank performance of (FDIC, 1997). Previous studies, for examples, Nguyen, Nguyen & Pham (2020), and Sangmi & Nazir (2010) stated that CAMEL indicted operating performance of banks. Therefore, CAMEL indices have been adopted in various countries. The CAMEL framework is used to evaluate the performance of banking businesses in many countries, especially those that have faced economic turmoil. The original CAMEL rating system was a well–known international rating system that bank supervisory authorities used to rate financial institutions according to previous studies found that the CAMEL framework had informative value, especially in banking performance measu.

Unlike mandatory disclosures, voluntary disclosures have been recognized as informative values to investors. This is because the disclosures provide extra information like business strategies, development plans among others and the disclosures are useful information for various decision making. Voluntary disclosures in banking businesses have been developed in many aspects in the past few decades. (for examples Hossain & Taylor, 2007; and Abeywardana &

Panditharathna, 2016). Also, corporate annual disclosures have been available in various social media. However, previous disclosures were developed in other circumstances and may not relevance to Thai banking businesses. Therefore, this study intended to develop the voluntary disclosure index which was suitable for the Thai banking sector. Also, the study aimed to explore whether CAMEL indicators provided informative value on the voluntary disclosures.

Research Objectives

1. This study aimed to explore the informative value of CAMEL on voluntary disclosures

Literature Review

CAMEL initially introduce by Federal Deposit Insurance Corporation (FDIC) and have been continuously developed until 1997. CAMEL is the model which measures the financial performance of banks composing of 5 categories: Capital adequacy, Asset quality, Management quality, Earnings ability and Liquidity (FDIC, 1997). In addition, IMF introduced Financial soundness indicators (FSIs) to provide financial health and soundness of a country's financial institutions as well as corporate and household sectors and CAMEL is also one part of FSIs. Previous studies have been carried out mostly around Asian countries relating to the capability of CAMEL to indicate the sustainability of banks. The studies included as follows. Sangmi & Nazir (2010) developed CAMEL models to measure operating results of two Indian banks. The study found that the models enabled to highlight the position of the banks. Kumar et al. (2012) used CAMEL models to classify whether Indian banks were well preformed. The study found out the two banks were a backseat and display low economic soundness. Ahsan (2013) carried on the study on the benefit of CAMEL. The models could identify the top three Islamic banks financial performance in every respect in Bangladesh. Ab–Rahim et al. (2018) found that Singaporean public listed banks were the top performer measuring by CAMEL as compared to their counterparts in Southeast Asia. Panrod (2018) used seven Thai commercial banks as a data set to observe financial health. CAMEL models were used as devices for analysis. The study found that the Thai banks attempted to retain their financial positions and almost all banks be successful in anticipated goals. When associating to industrial average norms, it was found that some banks may need some improvement. Kandel (2019) carried out a study using CAMEL to analyze financial performance of commercial banks of Nepal. The study revealed that banks with better CAMEL reflected higher

ROA and ROE of Nepal banks. The same results of previous studies have been carried out and found benefit of CAMEL. Due to the fact that voluntary disclosure positively related to the stock returns (Gunarapong, Tongkong & Boonyanet, 2021), the study intended to extend prior study by investigating whether CAMEL related to voluntary disclose or not. This was fundamental link or implies that CAMEL could be considered as a representative of voluntary disclosures, then relate to stock returns. The hypothesis of CAMEL on voluntary disclosures is as follow:

H_1: There is an association between CAMEL on voluntary disclosures.

In addition, to reduce the likelihood of omitted variable bias, the study included significant control variables. It was to reduce omitted variable bias and failure rejecting a hypothesis (Bartov, Gul, & Tsuib, 2000). This study adopted well–known variables of banking fundamentals as control variables including age of banks (see, for example, Soliman, 2013), total assets (Karim, Pinsker & Robin (2013), government shareholders, foreign shareholders (Holland, 1998) and types of banks (Marra, & Suijs (2004).

This study is structured as follows. The literature review section presents the theory of funding needs. CAMEL Bank Voluntary Disclosure Concept and Related Sections The study provided the theoretical foundation for this study. The research design section describes the voluntary exposure of banks in this study. Examples and Data Collection and measuring variables while the results section analyzes the empirical results in detail. The last section summarizes the conclusions and implications of this research.

Research Methodology

1. Sample and data considerations

This research was considered as an empirical study using cross–sectional observed from population at one specific point of time. Data collection based on the 20 banks located in Thailand. The 20 banks included ten listed banks, six government policy banks and three foreign banks. Comprehensive data on voluntary disclosures, banking fundamentals and CAMEL information were extracted from the annual report during 2016–2019 totalling 80 observations from SET Market Analysis and Reporting Tool (SETSMART) and other sources which were announced on the these years for which data were publicly available. The analysis employed both descriptive and inferential statistics. Mainly, Pearson correlation analysis were performed to investigate whether independent variables had multicollinearity concerns. If in the case, data transformation (i.e.

natural log) were employed. Once the testing indicated that no issues against regression assumptions, multiple regressions were used to analyse the data.

2. Definitions of variables and model specifications

Firstly, the study replicated work of Meek, Roberts and Gray (1995). The study classified voluntary disclosures as strategic, financial and non–financial voluntary disclosures. Then, the study further developed voluntary index using Thai economy and business practices. Initially, the checklists combined 572 criteria. Then, using the RapidMiner techniques together with the authors' previous experience in Thai banking industry, the 200 checklists were concluded with the three classifications. The control variables included well–known variables: age of banks, total assets, government shareholders, foreign shareholders, types of banks and CAMEL. The definitions and operationalization of variables are shown in Table 1.

Table 1 Summary of definitions and operationalization of variables

Variables	Acronym	Measurements
Dependent variables		
Strategic voluntary disclosure	A	Replicated the work of Meek, Roberts & Gray (1995) and adjusted by Thai economy and business practice criteria
Financial voluntary disclosure	B	
Non–financial voluntary disclosure	C	
Control variables		
Age of banks	AGE	Number of years since its inception
Total assets	SIZE	Total assets
Government shareholders	GOVER	Percentage of government shareholding
Foreign shareholders	FOWN	Percentage of foreign shareholding
Types of banks	TYPE	1 = listed bank , otherwise; 0
CAMEL		
Capital Adequacy ratio	CAR	Capital and reserve/Total risk weight assets
Non–performing loans	NPL	Non–performing loans/Total loans
Cost per unit of money lent	CML	Operating cost/Total amount disbursed
Management efficiency ratio	MER	Net profit after tax/Total No. of staffs
Return on equity	ROE	Net profit after tax/Total Equity
Loan to deposit ratio	LQ1	Loans/Total deposits
Liquid assets to total assets ratio	LQ2	Liquid assets/Total assets
Liquid assets to deposit ratio	LQ3	Liquid assets/Total deposits

The three equations to test the informative value of CAMEL on voluntary disclosures are shown as follows:

$$A = \alpha + \beta_1(\text{AGE}) + \beta_2(\text{SIZE}) + \beta_3(GOVER) + \beta_4(FOWN) + \beta_5(Type) + \beta_6(CAR) + \beta_7(NPL) + \beta_8(CML) + \beta_9(MER) + \beta_{10}(ROE) + \beta_{11}(LQ1) + \beta_{12}(LQ2) + + \beta_{13}(LQ3) + \varepsilon \dots\dots\dots\dots\dots\dots (1)$$

$$B = \alpha + \beta_1(\text{AGE}) + \beta_2(\text{SIZE}) + \beta_3(GOVER) + \beta_4(FOWN) + \beta_5(Type) + \beta_6(CAR) + \beta_7(NPL) + \beta_8(CML) + \beta_9(MER) + \beta_{10}(ROE) + \beta_{11}(LQ1) + \beta_{12}(LQ2) + + \beta_{13}(LQ3) + \varepsilon \dots\dots\dots\dots\dots (2)$$

$$C = \alpha + \beta_1(\text{AGE}) + \beta_2(\text{SIZE}) + \beta_3(GOVER) + \beta_4(FOWN) + \beta_5(Type) + \beta_6(CAR) + \beta_7(NPL) + \beta_8(CML) + \beta_9(MER) + \beta_{10}(ROE) + \beta_{11}(LQ1) + \beta_{12}(LQ2) + + \beta_{13}(LQ3) + \varepsilon \dots\dots\dots\dots\dots (3)$$

Research Results

1. Descriptive statistics

This study classified voluntary disclosures into 3 types: strategic, financial and non–financial disclosures with the indices of 70, 65 and 65 items, respectively. The explanation of data definitions explained in Table 2. In the line of BAY (Bank of Ayudhya), the bank got the average number of items disclosed in strategic voluntary disclosures in four years at 63.8 items which was 91.1% (63.8/70) of the total items of strategic voluntary disclosures and so on in financial and non–financial voluntary disclosures. The three voluntary disclosures combine at the total voluntary disclosure column. In the case of BAY, the total average of voluntary disclosures is at the 60.30 item which is 90.37% of the total voluntary disclosures.

Table 2 shows the descriptive of voluntary disclosures of banks in Thailand. The analysis shows that the listed banks were voluntarily disclosed at the highest scores (70.29%) following by government policy banks (56.66%) and foreign banks (31.84%). BAY got the highest score among listed banks following by KTB (Krung Thai Banks) and KBANK (Kasikorn Bank), while BACC (Bank for Agriculture and Agricultural Cooperatives) got the highest score among government policy banks following by SME (Small and Medium Enterprise Development Bank of Thailand) and EXIM (Export–Import Bank of Thailand). However, foreign banks had no motivation to voluntarily disclosed. Banks in Thailand preferred to voluntarily disclosed non–financial voluntary disclosures (56.68%). BAY, as a listed bank, also got the highest score of non–financial voluntary disclosures (93.5%), while BAAC, as a government policy bank, got the highest score of non–financial voluntary disclosures (92.3%). The overall total voluntary disclosures of banks in Thailand was

52.93%. Individually, BAY, KTB, BAAC, respectively, voluntarily disclosed extra information to stakeholders.

Table 2 Descriptive statistics of the types of voluntary disclosures in this study

No.	Banks	Strategic voluntary disclosures (70 items)		Financial voluntary disclosures (65 items)		Non–financial voluntary disclosures (65 items)		Total voluntary disclosures (200 items)	
		Average of number items disclosed	Average disclosure score (%)	Average of number items disclosed	Average disclosure score (%)	Average of number items disclosed	Average disclosure score (%)	Average of number items disclosed	Average disclosure score (%)
Listed Banks									
1	BAY	63.8	91.1	56.3	86.5	60.8	93.5	60.30	90.37
2	BBL	49.5	70.7	40.8	62.7	42	64.6	44.10	66.00
3	CIMBT	35	50	33	50.8	41	63.1	36.33	54.63
4	KBANK	46.5	66.4	48.5	74.6	53.3	81.9	49.43	74.30
5	KKP	51	72.9	55	84.6	29.5	45.4	45.17	67.63
6	KTB	57	81.4	50	76.9	57.8	88.8	54.93	82.37
7	LHBANK	43	61.4	49	75.4	51	78.5	47.67	71.77
8	SCB	51.3	73.2	52.3	80.4	48.5	74.6	50.70	76.07
9	TCAP	46	65.7	40.5	62.3	54.5	83.8	47.00	70.60
10	TISCO	31	44.3	36	55.4	41	63.1	36.00	54.27
11	TMB	44	62.9	44	67.7	42.3	65	43.43	65.20
Average		47.10	67.27	45.95	70.66	47.43	72.94	46.82	70.29
Government Policy Banks									
12	BAAC	53	75.7	39	60	60	92.3	50.67	76.00
13	EXIM	43.3	61.8	32.5	50	46	70.8	40.60	60.87
14	GHB	31.5	45	36	55.4	42	64.6	36.50	55.00
15	GSB	20.5	29.3	28	43.1	25	38.5	24.50	36.97
16	IBANK	35.3	50.4	30.8	47.3	33.8	51.9	33.30	49.87
17	SME	44	62.9	32.5	50	46	70.8	40.83	61.23
Average		37.93	54.18	33.13	50.97	42.13	64.82	37.73	56.66
Foreign Banks									
18	ICBC	10.5	15	17	26.2	22	33.8	16.50	25.00
19	SC	34.5	49.3	16.3	25	31	47.7	27.27	40.67
20	UOB	31.5	45	19	29.2	10	15.4	20.17	29.87
Average		25.50	36.43	17.43	26.80	21.00	32.30	21.31	31.84
Average (whole)		36.84	52.62	32.17	49.48	36.85	56.68	35.28	52.93

Table 3 indicates the descriptive statistics of the independent variables in this study. The interesting information of banks in Thailand were found as follows. The longest history is Thai banks has started more than a century which is Siam Commercial Bank, while banks had various size whit the average total assets of 1.94 Trillion Thai Baht. Thai Government still owned 100% of common shareholders of eight banks, while foreign parties hold the parts of shareholders at the average of 8.62% of total shareholders. A half of banks were listed in the Stock Exchange of Thailand (55%). Also, CAMEL information which were required by Bank of Thailand are showed in Table 3.

Table 3 Descriptive statistics of independent variables

Variables	Mean	SD	Maximum	Minimum
AGE	45.6	30.57	114	7
SIZE (Trillion Thai Baht)	1.94	1.15	3.29	0.07
GOVER	7.67	7.92	100	0
ln_GOVER	2.03	2.07	4.61	0
FOWN	8.62	6.06	100	1
ln_FOWN	2.15	1.80	4.61	0
TYPE	0.75	0.44	1	0
CAR	17.06	2.53	22.91	11.54
NPL (%)	15.40	5.07	20.87	10.06
ln_NPL	9.64	1.62	11.57	0
CML (%)	2.51	0.88	4.56	0.37
MER (Thousand Baht per person)	1,796,950.42	13,041,477.26	104,335,157.23	- 23,324,387.44
ln_MER	16.13	2.40	19.06	11.88
ROE (%)	9.29	5.11	19.3	-1.96
LQ1 (Times)	100.64	17.75	146.37	56.51
LQ2 (Times)	76.65	1.04	94.58	44.77
ln_LQ2	4.57	0.04	4.65	4.44
LQ3 (Times)	142.03	1.21	219.20	93.69
ln_LQ3	4.9561	0.19162	5.39	4.54

Note: Variables are defined as follows: AGE stands for age of banks; SIZE refers to total assets; GOVER is percentage of common shares held by government; FOWN is percentage of common shares held by foreigners; TYPE refers to types of banks (listed or non–listed); CAR refers to capital adequacy ratio; NPL stands for non–performing loans/total loans; CML refers to Operating cost/Total Amount disbursed ; MER refers to management efficiency ratio; ROE is return on equity;

and LQ1 is loans/total deposits; LQ2 is liquid assets/total assets; and LQ3 is liquid assets/total deposits.

Table 4 presents the correlation matrix for the independent variables used in the regression analysis. This is to test for multicollinearity problems. It was fond that the Pearson correlation of ln_FOWN and ln_GOVER is 0.804 which is a bit higher than 0.75. Such a value indicates that no serious collinearity problem exists (Armstrong, 2019).

Table 4 Pearson correlation matrices of the dependent variables

	AGE	SIZE	ln_GOVER	ln_FOWN	TYPE	CAR	ln_NPL	CML	ln_MER	ROE	LQ1	ln_LQ2	ln_LQ3
AGE	1												
SIZE	-.266*	1											
ln_GOVER	.028	.250*	1										
ln_FOWN	-.071	-.067	-.804**	1									
TYPE	-.133	-.186	-.720**	.695**	1								
CAR	-.156	-.169	-.357**	.408**	.493**	1							
ln_NPL	-.061	.081	-.302**	.040	.109	.005	1						
CML	.057	-.008	-.335**	.343**	.406**	.238*	.170	1					
ln_MER	-.174	-.112	-.087	.118	.094	.224*	-.118	-.020	1				
ROE	.079	.119	.027	-.155	-.090	.045	.126	-.085	-.022	1			
LQ1	.023	-.148	-.215	.134	.300**	.172	-.058	.032	.011	.254*	1		
ln_LQ2	.253*	-.091	.151	-.176	.055	-.073	.172	.206	-.219	.159	.174	1	
ln_LQ3	-.115	-.366**	-.604**	.514**	.506**	.374**	.017	.149	.121	-.079	.259*	-.325**	1

Note: * significant at the 0.05 level, * *significant at the 0.01 level. Variables are defined as follows: AGE stands for age of banks; SIZE refers to total assets; GOVER is percentage of common shares held by government; FOWN is percentage of common shares held by foreigners; TYPE refers to types of banks (listed or non-listed); CAR refers to capital adequacy ratio; NPL stands for non-performing loans/total loans; CML refers to Operating cost/Total Amount disbursed ; MER refers to management efficiency ratio; ROE is return on equity; and LQ1 is loans/total deposits; LQ2 is liquid assets/total assets; and LQ3 is liquid assets/total deposits.

2. Regression analysis

As stated in the study objective, the study intended to observe the informative value of CAMEL on voluntary disclosures. The voluntary disclosures in this study were classified into three levels: strategic, financial and non-financial voluntary disclosures. The regression results of the informative value of CAMEL on voluntary disclosures are given in Table 5.

Table 5 states that when analysing whether banking fundamentals and CAMEL as independent variables related to strategic voluntary disclosures, it was found that the model showed the adjusted R^2 with the value of 0.858. The results of the multiple regression test indicated significant variables influencing the strategic voluntary disclosures included types of banks (TYPE) (β = 7.043, p = 0.028) and liquid assets to total assets (ln_LQ2) (β = 317.236, p = 0.001). This means when banks are listed firms, they prefer to voluntary disclosures. In addition, when banks have higher liquid assets to total assets, they are more likely to voluntarily disclosed extra information.

In addition, Table 5 indicates that when analysing whether banking fundamentals and CAMEL as independent variables related to financial voluntary disclosures, the analysis showed the adjusted R^2 with the value of 0.860. The outcomes of the multiple regression test indicated significant variables influencing the financial voluntary disclosures included types of banks (TYPE) (β = 6.771, p = 0.038), management efficiency ratio (ln_MER) (β = –.764, p = 0.032), return on equity (ROE) (β = 0.906, p = 0.001) and liquid assets to total assets (ln_LQ2) (β = 300.654, p = 0.001). This means when banks are listed firms, they prefer to voluntary disclosures. In addition, when banks get lower management efficiency ratio they prefer higher voluntary disclosures. Also, when banks have higher liquid assets to total assets, they are more likely to voluntarily disclosed extra information.

Lastly, Table 5 points out that when analysing whether banking fundamentals and CAMEL as independent variables related to non–financial voluntary disclosures, it analysis shows that the adjusted R^2 with the value of 0.860. The outcomes of the multiple regression test indicated significant variables influencing the non–financial voluntary disclosures included total assets (SIZE) (β = –0.001, p = 0.035), cost per unit of money lent (CML) (β = –4.080, p = 0.005), and liquid assets to total assets (ln_LQ2) (β = 380.952, p = 0.001). This means when banks are listed firms, they prefer to voluntary disclosures. In addition, when banks get lower cost per unit of money lent, they prefer higher voluntary disclosures. Also, when banks have higher liquid assets to total assets, they are more likely to voluntarily disclosed extra information.

Table 5 The factors influencing voluntary disclosures

Variables	*(A) Strategic voluntary disclosure*		*(B) Financial voluntary disclosure*		*(C) Non–financial voluntary disclosure*	
	β	*t*–stat (*p*–value)	β	*t*–stat (*p*–value)	β	*t*–stat (*p*–value)
Constant	–1350.978	–12.482 (.000)	–1367.694	–12.392 (.000)	–1642.827	–10.928 (.000)
AGE	–.020	–.683 (.497)	–.041	–1.393 (.168)	–.024	–.602 (.549)
SIZE	–0.001	–1.160 (.250)	0.001	.381 (.705)	–0.001	–2.153 (.035*)
ln_GOVER	.729	.809 (.421)	.434	.473 (.638)	1.311	1.048 (.299)
ln_FOWN	.626	.710 (.480)	–.188	–.210 (.835)	1.229	1.004 (.319)
TYPE	7.043	2.240 (.028*)	6.771	2.112 (.038*)	3.982	.912 (.365)
CAR	.137	.367 (.715)	.236	.617 (.539)	–.858	–1.648 (.104)
ln_NPL	.991	1.664 (.101)	1.123	1.849 (.069)	.538	.650 (.518)
CML	1.148	1.138 (.259)	.660	.641 (.523)	–4.080	–2.912 (.005*)
ln_MER	–.097	–.284 (.777)	–.764	–2.187 (.032*)	–.105	–.222 (.825)
ROE	–.326	–1.918 (.059)	.906	5.230 (.001)	–.293	–1.242 (.219)
LQ1	–.011	–.223 (.824)	.088	1.715 (.091)	.025	.351 (.727)
ln_LQ2	317.236	15.040 (.001*)	300.654	13.978 (.001*)	380.952	13.002 (.001*)
ln_LQ3	–11.197	–1.873 (.065)	5.246	.861 (.393)	–3.341	–.402 (.689)
F–stat, F–stat Sig	*37.598, 0.000*		*38.390, 0.000*		*24.520, 0.000*	
Durbin Watsan	*1.762*		*1.994*		*1.246*	
Adj R^2	*0.858*		*0.860*		*0.795*	

Note: *p*–value are in parentheses. *significance at 0.05 level. Variables are defined as follows: A refers to strategic voluntary disclosures; B refers to financial voluntary disclosures; C refers to non–financial voluntary disclosures; AGE stands for age of banks; SIZE refers to total assets; GOVER is

percentage of common shares held by government; FOWN is percentage of common shares held by foreigners; TYPE refers to types of banks (listed or non-listed); CAR refers to capital adequacy ratio; NPL stands for non-performing loans/total loans; CML refers to Operating cost/Total Amount disbursed ; MER refers to management efficiency ratio; ROE is return on equity; and LQ1 is loans/total deposits; LQ2 is liquid assets/total assets; and LQ3 is liquid assets/total deposits.

Discussion

The aim of this study was to investigate whether CAMEL and banking fundamentals influenced voluntary disclosures. This study replicated voluntary disclosures based on Meek, Roberts & Gray (1995) and developed the voluntary disclosure checklists under Thai economy and business practices. Data collection based on all banks located in Thailand including commercial and non-commercial banks totally 20 banks during 2016-2019. The analysis mainly employed multiple regressions. The results showed that banks in Thailand voluntarily disclosed extra information to publics. The level of voluntary disclosures varied depending on types of banks, but listed banks preferred to voluntarily offer extra information to stakeholders. Multiple regression analysis found that types of banks and assets to total assets significantly related to the strategic voluntary disclosures, while types of banks, management efficiency ratio, return on equity and liquid assets to total assets significantly related to the financial voluntary disclosures. Finally, total assets, cost per unit of money lent and liquid assets to total assets significantly related to non-financial voluntary disclosures. The overall conclusion was that some CAMEL financial indicators could be considered as the representative of voluntary disclosures.

Knowledge from Research

The findings of this study contribute to both practitioner and academic literatures in three folds. Firstly, listed banks which are always bigger than the other non-listed firms were more likely to voluntarily disclosed vital information to publics than government policy and foreign banks did. This is consistent with the work of Karim, Pinsker & Robin (2013) and Meek, Roberts & Gray (1995) that larger firm disclosed more items than smaller firms. This provides vital information to publics with the hope that the disclosures are useful information and positively related to stock returns. Regulators such as Ministry of Finance and Central Bank who control government policy banks should take this finding into consideration. This is to regulate all policy banks need to

disclose vital information to publics due to the fact that their capitals are from public taxes. Secondly, banks in Thailand preferred to disclose financial information rather than qualitative information (i.e. strategic and non–financial disclosures). This finding agrees with Järvinen et al. (2020). The quantitative disclosures are always precise and direct to points and always not subjective. Finally, the result showed that liquid assets to total assets significantly positively related to all voluntary disclosures: strategic, financial and non–financial voluntary disclosures. Bank stakeholders should consider that when liquidity are in doubted banks always prefer to voluntarily disclose information related to liquidity. This is to hide liquidity problems. Regulators should pay attention to liquidity information as pre–warning signal before troubles come into play.

Limitations of this study was that even if this study attempted to develop voluntary disclosure indices, the criteria might change from time to time. Continues development of voluntary disclosures should be taken into consideration. Also, the dataset of this study included banks in Thailand. Hence, the conclusions and implications of this study may not be generalized to overall banking industry in other countries. Finally, statistical techniques should be employed including fixed effects and random effects.

Recommendation

The findings of this study Large companies disclose more items than smaller companies. This provided important information to the public in the hope that the revelation would be helpful and positively relevant to the stock restoration. Regulators such as the Ministry of Finance and the central bank that regulate government policy banks should consider these findings. This is control where all policy banks are required to disclose sensitive information to the public because their funds come from public taxes. Finally, the results showed that liquid assets to total assets were significantly positively correlated with all voluntary disclosures: strategic, financial, and non–voluntary disclosures. Bank stakeholders should consider that when in doubt about liquidity Banks often wish to voluntarily disclose information related to liquidity. to cover up liquidity problems Regulators should pay attention to liquidity data as an early warning before problems arise.

References

Abeywardana, N.L.E., & Panditharathna, K.M. (2016). The extent and determinants of voluntary disclosures in annual reports: Evidence from banking and finance companies in Sri Lanka. *Accounting and Finance Research, 5*(4), 147–162.

Ab–Rahim, R., Kadri, N., Ee–Ling, A.–C., & Dee, A. A. (2018). CAMEL analysis on performance of ASEAN public listed banks. *International Business Research, 11*(4), 96–105.

Ahsan, M.K. (2013). Measuring financial performance based on CAMEL: A study on selected Islamic banks in Bangladesh. *Asian Business Review, 6*(1), 2305–8730.

Armstrong, R. A. (2019). Should Pearson's correlation coefficient be avoided? *Ophthalmic & Physiological Optics, 39*(5), 316–327.

Bartov, E., Gul, F., & Tsuib, J. (2000). Discretionary–accruals model and audit qualifications. *Journal of Accounting and Economics, 30*(3), 421–452.

Federal Deposit Insurance Corporation (FDIC). (1997, January 1). *Uniform Financial Institution Rating System. Statement of policy*. https://www.fdic.gov/regulations/laws/rules/5000–900.html

Gunarapong, N, Tongkong, S., & Boonyanet, W. (2021). Informative value of voluntary disclosures on stock returns: An empirical evidence from Thai commercial banks. Paper presented at the 3rd International Conference on Business, Management, Social Science, Technology, Education and Engineering (ICBMTE2021), PENANG, Malaysia.

Holland, J. (1998). Private voluntary disclosure, financial intermediation and market efficiency. *Journal of Business Finance & Accounting, 25*(1–2), 29–68.

Hossain, M., & Taylor, P. J. (2007). The empirical evidence of the voluntary information disclosure in the annual reports of banking companies: The case of Bangladesh. *Corporate Ownership and Control, 4*(3), 111–125.

International Monetary Fund (IMF). (2019). *Financial soundness indicators compilation guide*. International Monetary Fund.

Järvinen, J. T., Laine, M., Hyvönen, T., & Kantola, H. (2020). Just look at the numbers: A case Study on quantification in corporate environmental disclosures. *Journal of Business Ethics, 175*(1), 23–44. https://doi.org/10.1007/s10551–020–04600–7.

Kandel, S. (2019). Analysis of financial performance of commercial banks of Nepal using CAMEL approach. *IEEE–SEM, 10*(6), 210–237.

Karim, K. E., Pinsker, R., & Robin, A. (2013). Firm size and the voluntary disclosure of nonfinancial information by private versus public firm managers. *Managerial Auditing Journal, 28*(9), 866–892.

Kumar, M. A., Harsha, G. S., Anand, S., & Dhruva, N. R. (2012). Analyzing soundness in Indian banking: A Camel Approach. *Journal of Management Sciences, 1*(3), 9–14.

Marra, T., & Suijs, J. (2004). Going–public and the influence of disclosure environments. *Review of Accounting Studies, 9*, 465–493.

Meek, G. K., Roberts, C. B., & Gray, S. J. (1995). Factors influencing voluntary annual report disclosures by U.S., U.K. and Continental European Multinational Corporations. *Journal of International Business Studies, 26*(3), 555–572.

Nguyen, A. H., Nguyen, H. T., & Pham, H. T. (2020). Applying the CAMEL model to assess performance of commercial banks: empirical evidence from Vietnam. *Banks and Bank Systems, 15*(2), 177–186.

Panrod, T. (2018). Performance evaluation of commercial banks in Thailand by using CAMEL model. *Humanities, Arts and Social Sciences Studies, 18*(1), 171–188.

Sangmi, M., & Nazir, T. (2010). Analyzing financial performance of commercial banks in India: Application of CAMEL model. *Pakistan Journal of Commerce and Social Sciences, 4*(1), 40–55.

Soliman, M. M. (2013). Firm Characteristics and the Extent of Voluntary Disclosure: The Case of Egypt. *Research Journal of Finance and Accounting, 4*(17), 71–81.