DETERMINANTS OF VOLUNTARY DISCLOSURES IN THE BANKING BUSINESS: WHAT INFLUENCES MOST?

Nathaporn Gunnarapong, Rajamangala University of Technology Thanyaburi
Supa Tongkong, Rajamangala University of Technology Thanyaburi
Wachira Boonyanet, Chulalongkorn Business School

ABSTRACT

This study investigated the influences of the CAMEL international rating system for financial institutions and banking fundamentals on voluntary disclosures. A voluntary disclosure index was newly developed using bank information provided in annual reports and other sources that were publicly available in the 2016-2019 time period. The voluntary disclosures were finalized into three layers: total voluntary disclosures, extra voluntary disclosures, and non-extra voluntary disclosures. The dataset comprised 20 banks in Thailand. The evaluation of the data employed content analysis (RapidMiner), descriptive statistics, and multiple regressions.

The descriptive results showed that banks in Thailand voluntarily disclosed extra information rather than limit disclosures merely to compliance with legal and regulatory requirements, especially the extra voluntary disclosures. The statistical analysis found that at the .05 significance level, the total voluntary disclosures positively related to the percentage of common shares held by the Thai Government, return on equity and loan to total deposits, but negatively related to percentage of common shares held by foreigners, listed banks, capital adequacy ratio and non-performing loans. The multiple regressions resulted in very similar findings with regard to the non-extra voluntary disclosures, except that there was no significant relationship identified with non-performing loans. In addition, the extra voluntary disclosures negatively related only to listed banks; however, the high adjusted R2 was signposted. This study successfully contributes to the field of study by demonstrating that bank managers need to put more effort to the voluntary disclosures because they reflect their fundamentals (i.e. CAMEL). In addition, in order to reduce concerns about asymmetric information, regulatory authorities should encourage banks to focus on voluntary disclosures and rewarded them if voluntary disclosures are made.

Keywords: CAMEL, Thai Banks, Non-performing Loans.

INTRODUCTION

Studies of corporate disclosure have been carried out since at the end of the 20th century. Concerns about asymmetry constraints are one important underlying reason for these studies (Bergh et al., 2019). Theoretically, management, in an attempt to balance competing priorities of owners, outside investors, and its own (i.e. agency theory) (Jensen & Meckling, 1976) will seek appropriate business practices. Information disclosures comprise a key business practice that helps reduce information asymmetry. Also, in times of rapid economic changes, organizations need capital to operate businesses. Information disclosures, both mandatory and voluntary, should inform stakeholders in a timely and accurate manner. One notable benefit of this sort of

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information disclosure is the ability to obtain lower rates of interest. Mandatory corporate disclosures may not be an issue because they apply equally to all relevant corporations, who are subject to consistent enforcement of the rules and regulations. Previous studies have pointed out clearly that mandatory disclosures relate to corporate performance, stock prices, and cost of capital (Tsalavoutas et al., 2020); however, voluntary disclosures may not be the same. Management has the right to disclose or retain important information depending on how much benefit will accrue to the organization as a result of the voluntary disclosures. Therefore, this study intends to develop a contemporary and proper voluntary disclosure index, and also explores the determinants of such voluntary disclosures. This is aimed at clarifying understanding of what most influences these voluntary disclosures.

Not much research is dedicated to determining the difference in behavior of non-financial institutions and those in the banking sector when it comes to information disclosure. The reason for this has been explained by several authors, who have said that research into information disclosure in the banking sector is limited due the complex and opaque composition of banks. Morgan (2002), for example, said that banks were "*black holes*". This was because stakeholders are privy to less effect information disclosure no matter how much information banks disclose to regulators. In addition, banking businesses in all economies are allotted a crucial and important role in financing the planned economic growth. Because banks are exposed to all risks which can adversely affect their performance, disclosure is critical. These are the main reasons for this study intended focus on banking sector information disclosure.

Voluntary disclosure indices in banking businesses were introduced and have been developed since the late of 20th century (Kahl & Belkaoui, 1981; Hamid, 2004; Hossain & Reaz, 2007; and Abeywardana & Panditharathna, 2016). Previously, only information required for corporate annual reports had been available to be analyzed. However, the recent trend of corporate disclosures has spread to various themes like social media and press conferences, among others. Also, no study of this kind has ever been carried out with respect to the Thai banking sector. Therefore, this study intends to introduce the voluntary index by initially adopting previous indices and adjusting them to the banking businesses by using all publicly available information.

The main objective of this present study, then, is to introduce contemporary voluntary 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 about 20 banks operating in Thailand between 2016 and 2019, including listed banks, policy banks and foreign banks.

The main contributions of this paper are threefold. First, the study successfully developed a voluntary disclosure index, segregated into total voluntary disclosures, extra voluntary disclosures and non-extra voluntary disclosures. Thus, this study expanded the existing literature by introducing a contemporary voluntary disclosures index in three dimensions in banking businesses. Secondly, like previous studies, indices are always somewhat long and detailed, and it is often somewhat difficult to collect the data. This study relies on easily identifiable determinants of voluntary disclosures in banking businesses: types of shareholders, listed status, and return on equity. Lastly, the study uncovered interesting information from the descriptive statistics, including the extent of voluntary disclosures of banks in Thailand and CAMELS indicators. These results will provide benefits to stakeholders and regulatory authorities as fundamental information.

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The next sections of this study are structured as follows: The literature review section presents the capital needs theory, the bank voluntary disclosure concept, CAMEL and related studies which provide the theoretical foundation for this study. The research design section explicates the bank voluntary disclosures in this study, samples and data collection, and the measures of variables, while the results section analyses the detailed empirical results of the study. The final section outlines the conclusions and implications of this research.

LITERATURE REVIEW AND HYPOTHESIS

Capital Needs Theory

This study is based mainly on the capital needs theory. According to Meek et al. (1995), the capital needs theory suggests that if company managers decided that by disclosing additional company information would be beneficial in terms of raising capital, then the mangers would be encouraged to do so. The capital needs theory also suggests that if a capital market transaction were about to be made, then the company would have the incentive to voluntarily disclose information. Meek et al. (1995) also suggested that when extensive information is disclosed, there will be a decrease in asymmetry problems benefitting the company. Other similar studies have been carried out. For example, Soltani (2000) claims that there are three distinct types of capital market effects that occur from voluntary information disclosure. First, there will be an improvement in the company share liquidity in the stock market. Second, a lowering the cost of capital will result, and lastly, there will be an increase in the level of financial analysis on the firm. Specifically, stockholders would be more capable of evaluating the firm potential from the disclosed information. This would benefit managers' understanding of capital market value, with the result that the company strategy and operations would be more efficient (Dye, 2001).

Many empirical studies have discussed the informative value of voluntary disclosures. Schuster & O'Connell (2006) stated that by voluntarily disclosing more information to investors, doubt and uncertainty in the minds of those investors would be reduced, which would in turn benefit the company by lowering its cost of capital. In terms of the stock market, by decreasing the costs of equity capital, stock market liquidity can be enhanced. Thus, the disclosure of additional information would usually increase the demand for the company shares or reduce the transaction costs. In addition, in confirmation of the finding that a higher level of information disclosure would enhance the stock market liquidity, Zhang & Ding (2006); Heflin et al. (2005); and Hassan et al. (2011) stated that it is more beneficial if the uncertainty surrounding the company future performance is decreased, which occurs when a company chooses to voluntarily disclose more information.

Bank Voluntary Disclosures

Corporate voluntary disclosures have been conducted in various countries. Focusing on corporate annual reports, the analysis uncovered different levels of information disclosure related to certain corporate fundamentals. To improve the ability to effectively evaluate the literature, the existing research in voluntary disclosure was categorized into two specific groups. The first group comprised empirical studies in which the research was conducted in order to evaluate the different levels of voluntary disclosure in the annual and related reports of companies in a non-banking sector, while the second group comprised empirical studies that evaluated the different level of voluntary disclosure in the annual and related reports for companies in the banking sector. For the

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most part, voluntary disclosures have been measured by a number of checklists introduced by researchers. For example, for non-banking sectors, Meek et al. (1995) developed an un-weighted disclosure checklist that included 85 voluntary disclosure items. The checklist comprised three major groups of information: strategic information, financial information, and nonfinancial information. The contents of each annual report were compared to the items on the checklist and coded to identify whether or not the annual report contained the disclosure item. For banking sector, Baumann & Nier (2004), for example, designed a bank disclosure index that measures seventeen indicators of the level of disclosure. Relying on the checkbox approach derived from the framework under the risk categorized by the Financial Soundness Indicators (FSI), the International Monetary Fund (IMF) and the Basel Committee on Banking Supervision, the indices are capable of evaluating the process of providing information by major banks. Another example is found in a study by Huang (2006), which used a similar approach to the one introduced by Baumann & Nier (2004). The study developed a checklist for determining bank disclosure level that resulted in a composite index for individual factors and a weighted average of the individual index values that could be used nationally.

This study attempts to introduce a new checklist of voluntary disclosures using previous studies in both banking and non-banking businesses. Initially, the study replicated the work of Meek et al. (1995). From that foundation, the study developed the checklists using subsequent studies and based on economy and banking practices in Thailand.

CAMEL

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 in order to rate financial institutions according to five factors represented by the abbreviation CAMEL including Capital adequacy, Asset quality, Management, Earnings, and Liquidity. A sixth component, Sensitivity was added in 1997; hence the abbreviation was changed to CAMELS. Many studies state that CAMEL is considered to be an effective framework for assessing the safety and soundness of banks, mitigating potential risk of bank failure, and managerial and financial control of the bank (Dang, 2011 & Trautmann, 2006). However, some studies have argued that the framework may not fit all banks in different parts of the globe (Dang, 2011; & Maude & Dogarawa, 2016). Hawashe (2014), though, concluded that CAMEL was the most successful bank financial indicator. Later, the Bank for International Settlement (BIS) recommended that CAMEL might not have done enough to indicate bank stability and sustainability, and that other financial soundness indicators (FSIs) should be added to CAMEL (BIS, 2008). At that point, an *"S"* to indicate the financial fundamentals of each country was added (like in Thailand, Net foreign exchange position to equity was added into CAMEL). In sum, previous studies found that the CAMEL framework had informative value, especially in banking performance measurement. However, its informative value on voluntary disclosures was quite limited.

Previous Studies

Previous literature has mentioned that the information value of CAMEL on voluntary disclosures within the banking sector is quite limited. Related studies are discussed in this section.

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Kahl & Belkaoui (1981) conducted the very first empirical study to determine the level of disclosure in commercial banking. Their dataset was composed of 70 commercial banks across 18 countries, and a total of 30 disclosure items were evaluated in the disclosure index. These items were selected based on investment perspective, financial and accounting literature, and stock investment decisions, and were given by an entity knowledgeable about the international financial report. Each item of information was disclosed using a scale of zero to four, in which higher scores indicated higher value of information. The study found a positive relationship between the level of disclosure and the size of the commercial bank; however, the level of information disclosures from commercial bank was different in each country.

Hamid (2004) continued this direction of study in an effort to find the relationship of corporate characteristics and the level disclosures on social information. The dataset was drawn from the Malaysia Central Bank, Kualalumpur Stock Exchange, and Banking Institute of Malaysia. The study explored corporate characteristics, including firm size, financial performance (return on equity and return on assets), listing status, business aging, and company profile. The results showed significant positive relationships between the firm size, listing status and business aging to the level of social information disclosed. However, company profile and profitability were found to have no significant correlation with the social information disclosures.

Hossain & Taylor (2007) conducted another empirical study on the 38 listed banks in India. The study investigated whether the six attributes of bank size, bank aging, multiple listing, business complexity, composition of the board and assets-in-place influenced the level of voluntary disclosures. A 65-item disclosure index was developed. The measurement method utilized a dichotomous approach, or the un-weighted approach, where, if the information was disclosed, it would be scored as 1, but if undisclosed, it was scored as zero. The results showed strong correlations between bank size and assets-in-place to the level of voluntary disclosures. In contrast, attributes such as bank aging, board composition, business complexity, and the composition of the board had no significant effect on the information disclosures.

Hossain (2008) conducted another empirical study of the 38 listed banks in India in order to observe whether various attributes such as bank size, bank aging, multiple listings, business complexity, board composition, profitability, market discipline and assets-in-place influenced the level of information disclosure. The study constructed a total of 184 disclosure indices, consisting of 101 mandatory items, selected in line with the following regulations: (1) Banking companies Act, 1949 (2) Company Act, 1956, (3) Listing rules-clause 49, (4) Company Act, 1956, (5) RBI guidelines and 83 voluntary items that may disclosed in a bank annual report. The measurement method utilized a dichotomous approach, or the un-weighted approach, where if the information is disclosed, it was scored as 1, but if it did not, it was scored as zero. The results indicated a significant positive correlation between the information disclosure levels and bank size as well as for profitability, board composition and market discipline. However, bank age, assets-in-place and the business complexity resulted in negative correlations.

Maingot & Zeghal (2008) investigated the level of information disclosure of eight Canadian banks. The disclosure index included 54 items. These items were selected based upon previous literature and the Toronto Stock Exchange Corporate Guidelines. The evaluation was conducted using a coding mechanism, where, if the information was disclosed, it was scored as 1, otherwise, it was scored as zero. The research was conducted on finding the relationship between bank size and the level of information disclosure. The results indicated that larger banks trended to disclose more information in their websites, while smaller banks utilized annual reports and the proxy circulars to provide the disclosed information to the public. Additionally, this research

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indicated that a positive relationship existed between bank size and the amount of information disclosed.

Kribat (2009) conducted research in Libyan context. This research was conducted to evaluate the level of both mandatory and overall information disclosure made by Libyan Banks, evaluating the relationship between four bank characteristics -- bank size, bank age, ownership structure and profitability -- and information disclosure. The disclosure index was made upon 126 information items, while the samples comprised 11 government and private sector banks. Kribat (2009) stated that the mandatory disclosure checklist was constructed based on relevant Libyan laws, namely Commercial Law, Income Tax Law and Banking Law. The study concluded that the Libyan banks failed to comply with the disclosure requirements; however, the results indicated a positive relationship between both the profitability and the bank age towards the information disclosure, while the bank size was found to have a negative relationship.

Hossain & Hammami (2009) examined the determinants of voluntary disclosures of 25 listed firms of the Doha Securities Market. The disclosure checklist consisted of 44 voluntary items. The findings indicated that age, size, complexity, and assets-in-place were significant, while profitability was insignificant in explaining the level of voluntary disclosure.

Bhasin et al. (2012) investigated the determinants of voluntary disclosure and disclosure categories in financial and non-financial reports of banking companies listed on the Kazakhstan Stock Exchange. The study developed 65 items measuring voluntary disclosure using a non-weighted approach for computing the total disclosure score. The study also examined the association between voluntary disclosure and governance factors such as board size and board composition. The empirical results suggest that the number of outside directors had the most significantly positive impact on the disclosure score, and that an increase in bank size also leads to a higher degree of voluntary reporting.

Abeywardana & Panditharathna (2016) intended to develop a voluntary disclosure index including 83 items, and attempted to identify the determinants of voluntary disclosure level by employing panel data analysis. The study found that banks preferred to disclosure general information, and information about the corporate environment, financial performance, and risk management. Furthermore, the study found that firm size, profitability, the firm age, leverage and board independence were determinants of voluntary disclosure level, and that, among them, firm size, profitability and the firm age had positive relationships, while leverage and board independence had negative relationships.

Research Design

Bank voluntary disclosures in this study

For voluntary disclosures in this study, initially, the work of Meek et al. (1995) was replicated in order to establish the overall theme of voluntary disclosures. Later, the study developed a voluntary index using the Thai economy and banking business practices, and the identified voluntary disclosures. Existing voluntary disclosures checklists were also gathered from similar subsequent studies. Initially, the checklists combined to a total of 572 items. Then, using the RapidMiner techniques together with the authors' previous experience in Thai banking industry, the 185 checklists with unweighted scores were summarized. The study then classified the voluntary disclosures into three layers. The 185 voluntary disclosures were labeled total voluntary disclosures, and were categorized into two layers: 32 extra voluntary disclosures and 153 non-extra voluntary disclosures. The extra voluntary disclosures were classified as the top

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25% of total voluntary disclosures (Borghei et al., 2018). Finally, each of the 185 voluntary disclosures was categorized as strategic information, financial information or non-financial information. The flowchart of work procedures to identify the voluntary disclosures of this study is shown in Figure 1.

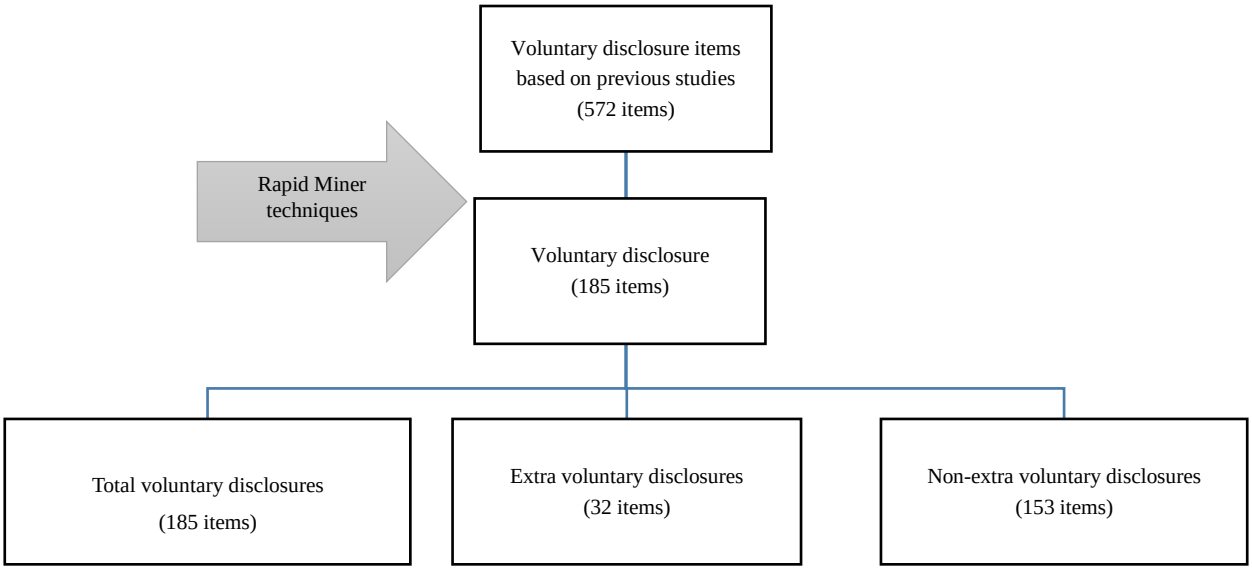

FIGURE 1
DEVELOPMENT OF THE VOLUNTARY DISCLOSURES IN THIS STUDY

Sample and Data Collection

This research was undertaken as an empirical study using cross-sectional observation of a population at one specific point of time. Data collection was based on 20 out of 35 commercial and non-commercial banks in Thailand. The reason for selecting only 20 banks was because the others were not authorized as a full branch, and had limited operations such as no deposits and no loans. The 20 banks included listed banks, government policy banks, and foreign banks. The listed banks were:

1. Bank of Ayudhya (BAY);
2. Bangkok Bank (BBL);
3. CIMB Thai Bank (CIMBT);
4. Kasikorn Bank (KBANK);
5. Kiatnakin Bank (KKP);
6. Krung Thai Bank (KTB);
7. LH Financial Group Bank (LHBANK);
8. Siam Commercial Bank (SCB);
9. Thanachart Capital Bank (TCAP);
10. Tisco Financial Group Bank (TISCO); and
11. TMB Bank (TMB).

Government policy banks were:

1. Bank for Agriculture and Agricultural Cooperatives (BAAC);
2. Export-Import Bank of Thailand (EXIM);
3. Government Housing Bank (GHB);

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4. Government Saving Bank (GSB);
5. Islamic Bank of Thailand (IBANK); and
6. Small and Medium Enterprise Development Bank of Thailand (SME).

Foreign banks were:

1. Industrial and Commercial Bank of China (ICBC);
2. Standard Chartered Bank (Thai) (SC); and
3. United Overseas Bank (UOB).

The banks in Thailand that were not included in the dataset because they are not authorized for full branch operations included the following:

1. Thai Credit Retail Bank Public Company Limited
2. ANZ (Thai) Public Company Limited
3. Bank of China (Thai) Public Company Limited
4. Mega International Commercial Bank Public Company Limited
5. Sumitomo Mitsui Trust Bank (Thai) Public Company Limited
6. Bank of America National Association
7. BNP Paribas
8. Deutsche Bank AG
9. Indian Oversea Bank
10. JPMorgan Chase Bank National Association
11. Mizuho Bank Limited, Bangkok Branch
12. Oversea Chinese Banking Corporation Limited
13. RHB Bank Berhad
14. Sumitomo Mitsui Banking Corporation
15. Hong Kong and Shanghai Banking Corporation Limited

Inclusive data on voluntary disclosure, banking fundamentals and CAMEL information were extracted from 2016-2019 annual reports, and totaled 80 observations from the SET Market Analysis and Reporting Tool (SETSMART) and other sources which provided information from the most recent year for which data were publicly available. The analysis employed both descriptive and inferential statistics. Before running the inferential statistics, the multiple regression assumptions were tested. The analysis found concerns about outliers and multi-collinearity concerns. Then, data transformation was performed using M estimation introduced by Yuliana et al. (2014), who stated that M estimation helps an extension of the maximum likelihood method; it is a robust estimation, and this method is not much affected by small changes in the data. After using M estimation, Pearson's correlations, shown in Tables 6, 7 and 8 showed no concern against multiple regression assumptions. Also, VIFs in the multiple regression results were considered acceptable.

Definitions of Variables and Model Specifications

After establishing a base from previous studies and putting the data into environmental context, all variables and model specifications of the study were defined as follows (Table 1):

As clearly stated, the objective of this study was to explore whether banking fundamentals related to voluntary disclosures, newly developed by this study. The main hypothesis is: Banking fundamentals are related to voluntary disclosures of entities in the banking industry.

Based on the objective of this study, three regression models were formulated, as shown:

$$TVDIS = \alpha + \beta_1 (GOWN) + \beta_2 (FOWN) + \beta_3 (TYPE) + \beta_4 (CAR) + \beta_5 (NPL) + \beta_6 (CML) + \beta_7 (MER) + \beta_8 (ROE) + \beta_9 (LQ1) + \beta_{10} (LQ2) + \varepsilon$$

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$$EXTRA = \alpha + \beta_1 (GOWN) + \beta_2 (FOWN) + \beta_3 (TYPE) + \beta_4 (CAR) + \beta_5 (NPL) + \beta_6 (CML) + \beta_7 (MER) + \beta_8 (ROE) + \beta_9 (LQ1) + \beta_{10} (LQ2) + \varepsilon$$

$$NONEX = \alpha + \beta_1 (GOWN) + \beta_2 (FOWN) + \beta_3 (TYPE) + \beta_4 (CAR) + \beta_5 (NPL) + \beta_6 (CML) + \beta_7 (MER) + \beta_8 (ROE) + \beta_9 (LQ1) + \beta_{10} (LQ2) + \varepsilon$$

Table 1
VARIABLES AND THEIR ACRONYMS

Variables	Acronym	Measurements
Dependent variables		
Total voluntary disclosures	TVDIS	Voluntary disclosure scores developed by this study based on Thai economy and the banking business
Extra voluntary disclosures	EXTRA	
Non-extra voluntary disclosures	NONEX	
Control variables		
Government shareholders	GOWN	Percentage of government common shareholders
Foreign shareholders	FOWN	Percentage of foreign common shareholders
Types of banks	TYPE	1=listed bank, 0=unlisted otherwise
CAMEL		
Capital adequacy ratio	CAR	Capital and reserve/Total risk weight assets
Non-performing loans	NPL	Amount of non-performing loans
Cost per unit of money lent	CML	Operating cost/Total amount disbursed
Management efficiency ratio	MER	Net profit/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

RESULTS

Descriptive Statistics

The descriptive statistics of this study presented in this section provide information about voluntary disclosures in the banking industry in Thailand. Initially, the study replicated the study of Meek et al. (1995) in order to create a foundation for the study. Then, the study developed voluntary disclosure scores based on the classifications of Meek et al. (1995) including strategic voluntary disclosures, financial voluntary disclosures and non-financial voluntary disclosures. However, the study altered the classifications; the classifications used in this study were total voluntary disclosures, extra voluntary disclosures and non-extra voluntary disclosures. This was done in order to bring previous studies into alignment with the Thai economy and business practice environment. The study successfully developed a set of self-constructed and un-weighted voluntary disclosure scores, which contributes to the literature in the field. The descriptive statistics begin with the total voluntary disclosure scores of banks in Thailand shown in Table 2, while extra voluntary disclosures of the banks are shown in Table 3. The non-extra voluntary disclosure scores are presented in Table 4. Table 5 shows the descriptive statistics of all variables, while Tables 6 presents the Pearson's correlations of independent variables. Table 7 indicates the multiple regression results for the relationships between banking fundamentals and CAMEL over the three layers of voluntary disclosures.

Tables 2-4 show the total voluntary disclosures, extra voluntary disclosures and non-extra voluntary disclosures of each bank. The numbers in the tables were derived from the calculation of the number of items of voluntary disclosures of each bank over the number of the total voluntary disclosures. For example, in 2016, BAAC voluntarily disclosed 141 items out of the total possible voluntary disclosures of 185 items, which equals 76.22% (141/185). The average for each bank represents the sum of voluntary disclosures over the 4-year period divided by 4.

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Table 2 shows the total voluntary disclosures of all banks. It reveals that Bank of Ayudhya (BAY), (a listed bank) achieved the highest mean total voluntary disclosure score over a period of four years, at 90.14%, followed by Krung Thai Bank (a listed bank) at 84.05%. On the other hand, Commercial Bank of China (a foreign bank) achieved the lowest mean voluntary disclosure index score at 21.89%. Overall, the aggregate average voluntary disclosure score of the 20 banking institutions stood at 59.33%. All banks were found to have a stead or increasing trend of disclosure over the period of time covered by the study.

Table 2
TOTAL VOLUNTARY DISCLOSURE SCORE (TVDIS) OF THE BANKS OVER FOUR-YEAR PERIOD

Total Voluntary Disclosure Score (%)					
	2016	**2017**	**2018**	**2019**	**Average**
1. BAAC	76.22	76.22	76.22	76.22	76.22
2. BAY	85.41	89.73	92.43	92.97	90.14
3. BBL	54.59	67.57	68.11	68.11	64.59
4. CIMBT	52.43	52.43	52.43	52.43	52.43
5. EXIM	59.46	60.00	60.00	60.00	59.86
6. GHB	54.05	54.05	54.59	54.59	54.32
7. GSB	32.43	32.43	36.22	36.22	34.32
8. IBANK	37.84	41.62	57.30	57.30	48.51
9. ICBC	21.62	21.62	22.16	22.16	21.89
10. KBANK	71.35	72.43	72.97	72.97	72.43
11. KKP	65.41	66.49	65.41	65.41	65.68
12. KTB	80.00	84.32	85.95	85.95	84.05
13. LHFG	70.27	70.27	70.27	71.50	70.58
14. SC	32.97	44.32	44.32	43.50	41.28
15. SCB	65.41	68.11	85.41	85.41	76.08
16. SME	59.46	60.54	60.54	60.54	60.27
17. TCAP	63.24	63.24	74.59	78.92	70.00
18. TISCO	51.35	51.35	51.35	51.35	51.35
19. TMB	62.70	63.24	64.86	64.86	63.92
20. UOB	28.11	28.11	29.19	29.19	28.65
Average	**56.22**	**58.41**	**61.22**	**61.48**	**59.33**

Table 3 reveals that Bank of Ayudhya (a listed bank) achieved the highest mean extra disclosure score over a period of four years at 53.91%, followed by Bank for Agriculture and Agricultural Cooperatives (a government policy bank) at 34.38%. On the other hand, Industrial and Commercial Bank of China (a foreign bank), Islamic bank of Thailand (a government policy bank), Government Housing Bank (a government policy bank a government policy bank) and Standard Chartered Bank (Thai) (an unlisted bank) achieved the lowest scores, each at 0%. Overall, the extra voluntary disclosure of the 20 banking institutions averaged 14.30%. It was noticed that the scores of the extra voluntary disclosures ranged from 0% to 53.91%, which illustrates wide variation between the banks. This means that each bank prefers to focus on different voluntary disclosures.

Table 4 reveals that Bank of Ayudhya achieved the highest mean non-extra disclosure index score over a period of four years, at 97.71%, followed by that achieved by Krung Thai Bank, at 95.59%. On the other hand, Industrial and Commercial Bank of China achieved the lowest mean non-extra voluntary disclosure score, at 26.47%. Overall, the non-extra voluntary disclosure of the 20 banking institutions averaged 68.74%. This means that each bank prefers to focus on different voluntary disclosures.

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Table 3
EXTRA VOLUNTARY DISCLOSURE SCORE (EXTRA) OF THE BANKS OVER FOUR-YEAR PERIOD

Extra Voluntary Disclosure Score (%)					
Bank	**2016**	**2017**	**2018**	**2019**	**Average**
1. BAAC	34.38	34.38	34.38	34.38	34.38
2. BAY	43.75	56.25	56.25	59.38	53.91
3. BBL	3.13	12.50	15.63	15.63	11.72
4. CIMBT	12.50	12.50	12.50	12.50	12.50
5. EXIM	6.25	6.25	6.25	6.25	6.25
6. GHB	0.00	0.00	0.00	0.00	0.00
7. GSB	12.50	12.50	21.88	21.88	17.19
8. IBANK	0.00	0.00	0.00	0.00	0.00
9. ICBC	0.00	0.00	0.00	0.00	0.00
10. KBANK	9.38	12.50	12.50	12.50	11.72
11. KKP	28.13	28.13	28.13	28.13	28.13
12. KTB	21.88	25.00	34.38	34.38	28.91
13. LHFG	9.38	9.38	9.38	9.38	9.38
14. SC	0.00	0.00	0.00	0.00	0.00
15. SCB	3.13	6.25	46.88	43.75	25.00
16. SME	6.25	6.25	6.25	6.25	6.25
17. TCAP	15.63	15.63	21.88	28.13	0.31
18. TISCO	3.13	3.13	3.13	3.13	3.13
19. TMB	9.38	9.38	15.63	15.63	12.50
20. UOB	3.13	3.13	6.25	6.25	4.69
Average	**11.09**	**12.66**	**16.56**	**16.88**	**14.30**

Table 4
NON-EXTRA VOLUNTARY DISCLOSURE SCORE (NONEX) OF THE BANKS OVER FOUR-YEAR PERIOD

Non-Extra Voluntary Disclosure Score (%)					
Bank	**2016**	**2017**	**2018**	**2019**	**Average**
1. BAAC	84.97	84.97	84.97	84.97	84.97
2. BAY	94.12	96.73	100.00	100.00	97.71
3. BBL	65.36	79.08	79.08	79.08	75.65
4. CIMBT	60.78	60.78	60.78	60.78	60.78
5. EXIM	70.59	71.24	71.24	71.24	71.08
6. GHB	65.36	65.36	66.01	66.01	65.69
7. GSB	36.60	36.60	39.22	39.22	37.91
8. IBANK	45.75	50.33	69.28	69.28	58.66
9. ICBC	26.14	26.14	26.80	26.80	26.47
10. KBANK	84.31	84.97	85.62	85.62	85.13
11. KKP	73.20	74.51	73.20	73.20	73.53
12. KTB	92.16	96.73	96.73	96.73	95.59
13. LHFG	83.01	83.01	83.01	83.01	83.01
14. SC	39.87	53.59	53.59	53.59	50.16
15. SCB	78.43	81.05	93.46	94.12	86.76
16. SME	70.59	71.90	71.90	71.90	71.57
17. TCAP	73.20	73.20	85.62	89.54	80.39
18. TISCO	61.44	61.44	61.44	61.44	61.44
19. TMB	73.86	74.51	75.16	75.16	74.67
20. UOB	33.33	33.33	33.99	33.99	33.66
Average	**65.65**	**67.97**	**70.56**	**70.78**	**68.74**

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Table 5 shows the descriptive statistics for all the variables of this study. Apart from the voluntary disclosures, the attention-grabbing information relating to banks in Thailand shows some intriguing fundamental information. The Thai government has an average holding of 34.32% of common shares of the studied banking businesses (GOWN), including listed and policy banks, ranging from 0 to 100%. Foreign investors (FOWN) shareholders own, on the average of 30.99%, ranging from 0 - 100%. Commercial banks in Thailand - comprising 75% of the banks (TYPE) -- are required to be listed on the Stock Exchange of Thailand. The capital adequacy ratios (CAR) averaged 15.88%, ranging from -43.69%-52.83% showing very high protection of capital reserved. Non-performing loans (NPL) show significant amounts of potential loan losses at the average of 31,008 Million Baht, ranging from 1,008-106,370 Million Baht. Cost per unit of money lent (CML) indicates the variation of administrative cost structures among banks in Thailand, ranging from 1.08%-50.58%, with an average of 3.4%. Also, management efficiency ratios (MER) show a wide range of human resource management, with an average of 1,797 Million Baht per staff. Return on equity (ROE) points to a very high return to shareholders at the average of 7.62%. Loans to total deposits (LQ1) shows good management of loans given to customers at the average of 117.67%, ranging from 45.51%-498.90%. Lastly, liquid assets to total assets (LQ2) represents very high liquidity of banks in Thailand, with the average of 63.92%, ranging from 16.97%-114.46%.

Table 5
DESCRIPTIVE STATISTICS OF VARIABLES OF THE STUDY

Variables	MEAN	SD	MAX	MIN
TVDIS (%)	59.33	18.10	90.14	21.89
EXTRA (%)	14.30	14.78	59.91	0
NONEX (%)	68.74	19.77	97.71	26.47
GOWN (%)	34.32	44.83	100.00	0
FOWN (%)	30.99	38.47	100.00	0
TYPE	0.75	0.44	1.00	0
CAR (%)	15.88	11.17	52.83	-43.69
NPL (Million Baht)	31,008	30,215	106,370	1,008
CML (%)	3.40	5.61	50.58	1.08
MER (Million Baht per person)	1,797	12,364	104,335	- 23,324
ROE (%)	7.62	9.57	19.30	-49.66
LQ1 (%)	117.67	71.84	498.80	45.51
LQ2 (%)	63.92	20.51	114.46	16.97

Variables are defined as follows: TVDIS is the total voluntary disclosures; EXTRA is the extra voluntary disclosures; NONEX is the non-extra voluntary disclosures; GOWN 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 and reserve to total risk weight assets; NPL stands for the amount non-performing loans; CML refers to the proportion of operating cost to total amount disbursed; MER refers to net profit to total no. of staffs; ROE is net income to equity; LQ1 is loans to total deposits; and LQ2 is liquid assets to total assets.

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Table 6
PEARSON'S CORRELATIONS OF INDEPENDENT VARIABLES IN MODEL 1

	LN_MTVDIS	LN_MEXTRA	LN_MNONEX	MGOWN	MFOWN	TYPE	MCAR	MNPL	MCML	MMER	MROE	MLQ1	MLQ2
LN_MTVDIS	1	1	1										
MGOWN	0.186*	-0.082	0.171	1									
MFOWN	-0.192*	-0.027	-0.207*	-.596***	1								
TYPE	-0.725***	-0.773***	-0.710***	0.424**	-0.234*	1							
MCAR	0.001	0.024	0.036	0.441**	-0.339**	0.230*	1						
MNPL	-0.126	-0.023	-0.125	0.093	-.410***	-0.003	0.086	1					
MCML	-0.05	-0.012	-0.044	-0.163	0.057	-0.077	-0.089	-0.047	1				
MMER	0.18	-0.047	0.09	0.187	-0.098	-0.04	-0.069	-0.067	-0.036	1			
MROE	0.084	-0.05	0.116	0.262**	0.095	0.105	.473**	-0.094	-0.016	0.098	1		
MLQ1	0.287**	-0.012	0.183	0.272**	-0.196	0.142	-0.07	-.273*	-0.092	0.009	-.056	1	
MLQ2	-0.065	-0.031	-0.104	-0.049	0.169	-0.1	-0.234*	0.095	0.312**	0.266**	0.026**	-.377	1

Note: *significant at the 0.05 level, **at the 0.01 level, and ***at the 0.001 level. Variables are defined as follows: TVDIS is the total voluntary disclosures; EXTRA is the extra voluntary disclosures; NONEX is the non-extra voluntary disclosures; GOWN 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 and reserve to total risk weight assets; NPL stands for the amount non-performing loans; CML refers to the proportion of operating cost to total amount disbursed; MER refers to net profit to total no. of staffs; ROE is net income to equity; LQ1 is loans to total deposits; and LQ2 is liquid assets to total assets.

REGRESSION ANALYSIS RESULTS

Multiple Regression Results of Model 1 - Total Voluntary Disclosures

Table 7 shows that, when analyzing banking fundamentals and CAMEL as independent variables on total voluntary disclosures, it was found that the model showed a goodness of fit, indicated by a coefficient of determination adjusted R2 with a value of 0.818. This implies that independent variables can explain 81.8% of the variations as results of the factors affecting the total voluntary disclosures. The outcomes of the multiple regression revealed that variables which are statistically significant that influenced the total voluntary disclosures included percentage of common shares held by government of banks (MGOWN) (β=2.517, p=0.001), the percentage of common shares held by foreigners of banks (MFOWN) (β=-2.358, p=0.001), type of banks (TYPE) (β=-5.256, p=0.001), capital adequacy ratio (MCAR) (β=-4.688, p=0.019), proportion of non-performing loans to total asset (MNPL) (β=-2.236, p=0.001), return on equity (MROE) (β=3.799, p=0.001), proportion of loans to total deposits (MLQ1) (β=4.615, p=0.001), 2016 Dummy (D1) (β=-1.148, p=0.009) and 2018 Dummy (D3) (β=-0.850, p=0.045). This means that banks with a higher percentage of common shares held by government shareholders are more likely to provide total voluntary disclosures, banks with more foreign shareholding and listed banks are less likely to provide total voluntary disclosures. Banks with lesser capital adequacy

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ratio and a smaller proportion of non-performing loans to total assets are more likely to provide total voluntary disclosure. In addition, banks with higher return on equity and higher proportion of loans to total deposits are more likely to provide the voluntary disclosures. Lastly, dummy years are significantly related to the total voluntary disclosures.

Multiple Regression Results of Model 2 - Extra Voluntary Disclosures

Table 7 indicates that when analyzing whether banking fundamentals and CAMEL as independent variables are related to extra voluntary disclosures, it was found that the model showed a goodness of fit as indicated by a coefficient of determination adjusted R^2 with a value of 0.654. This implies that independent variables explain 65.4% of the variations as a result of the factors affecting the extra voluntary disclosures. The outcomes of the multiple regression test indicated significant variables influencing the extra voluntary disclosures included types of banks (TYPE) (β=-2.973, p=0.001). This means that listed banks are less likely to disclose extra voluntary information.

Multiple Regression Results of Model 3 - Non-Extra Voluntary Disclosures

Lastly, Table 7 points out that when analyzing whether banking fundamentals and CAMEL as independent variables are related to non- extra voluntary disclosures, it was found that the model showed a goodness of fit as indicated by a coefficient of determination adjusted R2 with a value of 0.865. This implies that independent variables can explain 86.5% of the variations as results of the factors affecting the non-extra voluntary disclosures. The results of the multiple regression test indicate that major variables that cast influences upon voluntary disclosure includes the percentage of government-owned common stocks (MGOWN) (β=1.999, p=0.001), the percentage of common shares held by foreigners of banks (MFOWN) (β=-2.705, p=0.001), type of banks (TYPE) (β=-4.140, p=0.001), capital adequacy ratio (MCAR) (β=-6.233, p=0.005), proportion of non-performing loans to total asset (MNPL) (β=-2.563, p=0.001), return on equity (MROE) (β=4.497, p=0.001), 2016 Dummy (D1) (β=-0.997, p=0.038) and 2018 Dummy (D3) (β=-0.931, p=0.049). This means that banks with a higher percentage of common shares held by government shareholders are more likely to provide the non-extra voluntary disclosures, banks with more foreign shareholding and listed banks are less likely to provide the non-extra voluntary disclosures. Banks with lesser capital adequacy ratios and lesser proportion of non-performing loans to total assets are more likely to provide the non-extra voluntary disclosures. In addition, banks with higher return on equity are more likely to provide the non-extra voluntary disclosures. Lastly, dummy years are significantly related to the total voluntary disclosures.

To summarize, all three models composed of banking fundamentals and CAMEL confirmed the main hypothesis, but with different statistical significant results. More precisely, the total voluntary disclosures are positively related to the percentage of common shares held by the Thai Government, return on equity and loans to total deposits, but negatively related to percentage of common shares held by foreigners, listed banks, capital adequacy ratio and non-performing loans. This result is very similar to the non-extra voluntary disclosures, except for loans to total deposits, which were found to have no significant relationship. In addition, the extra voluntary disclosures were found to be negatively related only to listed banks; however, the high adjusted R^2 was signposted. In sum, the results indicate that banking fundamentals are significantly related to voluntary disclosures, although at different levels.

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Table 7
MULTIPLE REGRESSION RESULTS OF THE FACTORS INFLUENCING TOTAL VOLUNTARY DISCLOSURES, EXTRA VOLUNTARY DISCLOSURES AND NON-EXTRA VOLUNTARY DISCLOSURES

Variables	Model 1			Model 2			Model 3		
	Total voluntary disclosure			Extra voluntary disclosure			Non-Extra voluntary disclosure		
	β	t-stat	p-value	β	t-stat	p-value	β	t-stat	p-value
MGOWN	2.517**	6.975	0.001	0.820	1.522	0.133	1.990**	4.996	0.001
MFOWN	-2.358**	-5.713	0.001	-0.847	-1.376	0.173	-2.705**	-5.939	0.001
TYPE	-5.256**	-13.987	0.001	-2.973**	-5.302	0.001	-4.140**	-9.981	0.001
MCAR	-4.688*	-2.402	0.019	-0.354	-.550	0.584	-6.233**	-2.893	0.005
MNPL	-2.236**	-5.183	0.001	1.103	0.809	0.422	-2.563**	-5.383	0.001
MCML	-0.663	-0.531	0.597	-0.332	-0.266	0.791	-0.189	-0.137	0.891
MMER	0.674	0.522	0.603	-2.055	-0.706	0.483	-2.412	-1.693	0.095
MROE	3.799**	4.154	0.001	-1.155	-0.621	0.537	4.497**	4.455	0.001
MLQ1	4.615**	5.507	0.001	-2.609	-1.355	0.180	0.576	0.622	0.536
MLQ2	-0.541	-0.561	0.577	-0.886	-0.616	0.540	-1.982	-1.862	0.067
D1	-1.148**	-2.698	0.009	-0.775	-1.220	0.227	-0.997*	-2.122	0.038
D2	-0.795	-1.859	0.067	-0.980	-1.535	0.129	-0.795	-1.684	0.097
D3	-0.860*	-2.043	0.045	-0.551	-0.876	0.384	-0.931*	-2.004	0.049
F-stat, F-stat Sig	89.417**, 0.001			12.625**, 0.001			65.197**, 0.001		
Durbin Watsan	0.973			0.706			0.899		
Adj R^2	0.818			0.654			0.865		
N	80			80			80		
VIF	1.34-2.47			0-1.00			1.26-2.41		

Note: *significance at .05 level **significance at.01 level. GOWN 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 and reserve to total risk weight assets; NPL stands for the amount non-performing loans; CML refers to the proportion of operating cost to total amount disbursed; MER refers to net profit to total no. of staffs; ROE is net income to equity; LQ1 is loans to total deposits; and LQ2 is liquid assets to total assets.; D1 is 2016 dummy: D2 is 2017 dummy and D3 is 2018 dummy.

DISCUSSION

The descriptive and inferential analysis pointed out significant findings. Based on fundamentals of banks in Thailand, they can be considered stable, prosperous and sustainable. This is because, since the Tom Yun Kung financial crisis in 1997, the Bank of Thailand (BOT) and Securities Exchange Commission (Thai SEC) have been systematically regulating Thai banks, especially capital reserves, provisions for possible loan losses, and balance status of foreign exchange positions. Also, the BOT has required all banks to set up financial indicators (i.e. CAMEL) and other mandatory disclosures to signal financial stability and make timely and habitual reports to the BOT (Phothong et al., 2015 & Risal & Panta (2019)). Also, evidently, foreign investors, especially from Singapore, have been strongly attracted to Thai Banks. Therefore, monitoring systems together with foreign investors attractive, Thai banks should be considered as stable, prosperous and sustainable. In addition, the findings of the study confirm the main research hypothesis and empirical findings of relationships between banking fundamentals and voluntary disclosures. However, the relationships between banking fundamentals and voluntary disclosures were found to have both positive and negative correlations. As expected, the results of this study support previous studies as follows: A relationship was identified with the

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percentage of common shares held by Thai Government (Lan et al., 2013). Return on equity (Lan et al., 2013) and loans to total deposits (Zelenyuk et al., 2020; Susanti & Pratiwi, 2014) were found to be positively related to voluntary disclosures and negatively related to non-performing loans (Spiegel & Yamori (2003). These factors reflect management efficiency and shareholder monitoring. These findings support the idea that good banks are more likely to voluntarily disclose information. Surprisingly, voluntary disclosures are negatively related to percentage of common shares held by foreigners, listed banks, and capital adequacy ratio. The interpretation of these negative findings should be as follows.

Typically, previous studies found that foreign investors are more likely to invest in companies which voluntarily disclosed (Tsang et al., 2018). However, the findings in this study were the opposite. This may be because foreign investors have no concern about voluntary disclosures, and that high returns are preferable. It was evident that some foreign banks like ABN AMRO and ING Bank had agreements with the Thai Government and Bank of Thailand to invest in Thai banks, which needed capital injection, with the requirement of a minimum guaranteed rate of return (ING Bank, 2007). Therefore, such voluntary disclosures may not be the first priority.

Listed banks are required to mandatorily disclose all information required by regulators like central banks and security exchange commissions, while unlisted banks are not required to disclose information to the same standard. However, in Thailand, many banks were founded by the Thai Government and considered to be equivalent to government policy banks; therefore, those banks are required to make disclosures not only by Bank of Thailand and Securities Exchange Commission, but also by many parties like the Fiscal Policy Office, Ministry of Finance, Ministry of Agriculture, and Cooperatives. Therefore, high levels of voluntary disclosures have been found among more than just listed banks.

Normally, banks with higher capital adequacy ratios provide a higher level of voluntary disclosures (Estrella, 2004). However, the result of this study showed that banks with less capital adequacy ratio were more likely to voluntarily disclose. This may be because those banks intended to disclose all important information related to improving their businesses like future strategies, existing research and development plans in order to demonstrate plans for improvement in futures capabilities.

CONCLUSION

The results of this study can benefit the banking sector, considering that voluntary disclosures are correlated to banking fundamentals. These findings can be used by managers who intend to show the capability of banks by disclosing financial and non-financial information provided in annual reports and other social communication in order that investors are able to make wise economic decisions. It also enables stakeholders to evaluate the bank activities and risk management practices. In addition, in order to reduce asymmetry, regulatory authorities should undertake to improve both qualitative and quantitative disclosures in bank reports in a way that better enables various stakeholders to assess management performance and risks in order to build customer confidence and more profitable customer relationships.

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