



Banking Industry Specific Determinants of Financial Distress: Empirical Evidence from ASEAN Countries

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ABSTRACT

The paper attempt to answer the basic question of what actually determines financial distress in banking industry among a few countries under the umbrella of association for South East Asian Nations (ASEAN) countries by employing generalized method of moments (GMM) on the data extracted from central banks of the countries for the period from 2009 to 2018. The endogenous variable is considerably the financial distress which is measured by using z score in this study whereas the exogenous variables employed in the study are operating cash flows, profitability, financial leverage, Trading activities and liquidity. The study uncovered the fact that the exogenous variables are the banking industry specific determinants of financial distress among ASEAN countries and quite clearly are giving positive association with the outcome variable. Furthermore, to ensure the smooth running of banking industry the regulatory authorities need to design policies that determine the plausibly suitable level of operating cash flows, profitability, financial leverage, Trading activities and liquidity which can make the smooth set up of controlling measures so as to bottleneck the financial distress.



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1. Introduction

Financial distress is defined as financial instability, and it has enormous impacts on the country's economic conditions (Khan & Nawaz, 2010). Different factors, like operational cash flow, profitability, financial leverage, trading activity, and liquidity, affect financial distress, especially in the banking industry. These factors are responsible for governing financial stability and instability or financial distress (Assagaf, Murwaningsari, Gunawan, & Mayangsari, 2019). The practical implementation of financial theories is critically related to all the factors

mentioned above. These factors are the indicators of the operational working of the economic sector of a country. The most critical factor is the operating cash flow. The operational cash flow is simply a ratio defined by the investors and business analysts. These professionals closely observe the operational cash flow of different companies and departments. The operational cash flow is simply the difference between starting and ending cash. The difference is calculated by considering the business, taxation, and all the related factors. It is merely the measure of overall financial business, profit, and taxation payment. The ratio when near or equal to 1.0 (Prastiwi & Dewi, 2019). Then it is considered useful or practical. The high cash flow shows that the bank is making success. The bank's success is also the success of the whole economic sector. The cash flow budget is a related and essential term, and it is the analysis of inflows and outflows over one year.

The ASEAN area offers fertile laboratories to explore the relationship between competition and financial stability, as liberalization by international banking in the early 1990s accompanied in the late 1990s by globalization, regional economic integration and enormous consolidation after the 1997-1998 Asian financial crisis banking restructuring strategies. In addition, for at least two factors, the banking industry is distinctive. Firstly, the central banks of ASEAN have been forcing commercial banks to merge to achieve financial stability (Nawaz, Hussain, Riaz, & Ahmad, 2019). Second, in 2011 the ASEAN Central Bank Governors approved the ASEAN Banking Integration System (ABIF), initially introduced between ASEAN-5 countries, namely Indonesia, Malaysia, the Philippines, Singapore, and Thailand by 2020. ABIF can increase competitiveness and increase the efficiency and economies of scale of the banking market. The resulting increased competition in the regional banking industry might, however, drive small banks to consolidate their domestic footprint further and to boost competition with regional banks. This high concentration effort will offer regional banks a high monopoly power, which is a worry for policymakers and banking regulators, since the high monopoly power creates higher interest rates on loans, which threaten easy access to credit and financial inclusion, and jeopardize the region's financial stability since of the banks' high risk-taking pattern. The collapse of one bank will then easily spill over to others in the area and can start another Asian financial crisis because of the close-knit regional banking structure (Basnet & Upadhyaya, 2015; Noman, Gee, & Isa, 2017).

Financial distress happens when the company is unable to manage its cash flow budget. Different factors like incompetent managerial staff, uneducated clerical staff, disputes in the organization, and organizational politics constraints disturb the balance of financial distress. These problems can easily be overcome by effective management and project planning. The cooperation and understanding between all the staff members are essential for the success of the country. Financial distress and bankruptcy-related matters must be understood and dealt with strictly (Mardiana, 2015; Susilowati & Fadlillah, 2019).

Profitability is positively related to the economic balance of the country. Financial stability and profitability are all inter-related terms, and they can be used interchangeably (Wanke, Barros, & Faria, 2015). Profitability is a measure of net profit gained by a business or a company. It is the ratio of net income and revenue. All the measures related to profitability simply shows the net margin. It is the necessary criteria to gauge a new venture

(Abisola & Femi, 2019). The profitability ratio more than or equal to 1 is considered acceptable, and less than one is considered low or project failure. The company's yearly audit reports are the actual indicators of the profitability and related aspects (Rao & Kumar, 2019). The new trends of business and economy are critical to analyzing the yearly profitability. If the new business venture gives enormous profits, they invest in such projects, but when the venture does not give the essential cost, they will close that project to avoid further loss (Wahyuni, Fahada, & Atmaja, 2019). The companies whose audit and finance team are competent enough to effectively calculate the profitability index are well-settled and successful in all their financial affairs. Investors and government both support such companies, and such a company's financial position is improved at a rapid pace (Wahyuni et al., 2019).

The authentic record and databases are available worldwide, and you can have a complete check on all your business transactions and Profitability related aspects. Such an authenticated digitalized system highlights scams and fraudulent activities. The losses and profits can easily be analyzed by these digitalized and easily operated systems. (Gunawan, Puntoro, & Pakolo, 2019).

Financial distress is also closely related to the enhancement of assets by utilizing the debts—an effective way to manage assets. Financial leverage is the only way to do more business. The financial leverage is critically related to borrowing money from shareholders and then invest financial aid in profitable businesses to gain more profit. This debt can be returned in the form of profit, and companies make the new assets without investing their money. The other side of this whole story is that if the business venture results in a loss, then the company suffers from financial distress in the form of more debt.

2. Literature Review

Financial distress and all the factors related to it are crucial to understanding the applicability of the financial system. The proper understanding of all the factors is necessary, and the previous literature has given complete insight into the importance and impact of all these variables for financial distress. Different researchers have provided complete solutions to eradicate financial distress effectively. The present paper is focused on all the factors which directly affects and control the financial distress, and it provides the information from the old literature as well. This paper is unique in this regard that it has summarized all the factors which can positively or negatively control financial stability and financial distress (Holmes, Kaufman, & Pink, 2017).

The banking regulators and policymakers have a significant role in formulating policies to foster financial stability in the banking sector. Bank volatility may contaminate the whole economy by lowering credit facilities and distorting the market and payment structure of interbank loans. The literature also referred to the studies which investigate the cause of financial uncertainty and scientifically and empirically found that the deregulation of the US financial industry in the 1970s and 1980s raises rivalry and allows banks vulnerable institutions. The topic is proceeding with contradictory theoretical predictions and mixed scientific outcomes. Orthodox opinions or opinions on competitiveness, also known as

hypotheses on franchise worth, believe that further competitiveness causes the banks from becoming more vulnerable. This theory describes why the strong financial competition is undermining market control, diminishing the profit margin and capital cushion, and resulting in a decreased franchise valuation that enables banks to pursue risk-taking tactics to maximize profits. Advocates of this view believe that larger banks control less competitive markets and profit better from economies of scale, reach and portfolios compared to smaller banks. In comparison, a limited number of major banks in a less dynamic environment are often easily regulated and supervised. The rentals of banks from creditor ties inefficient markets are smaller. This provides banks with little motivation to track borrowers closely, which may contribute to moral hazards and a problem of selection. Others claim that the influence of contagion on competitive economies is more significant since all the banks are prices and solvent banks do not want to help the banks' liquidity (Fahlevi & Marlinah, 2018; Setyawati & Amelia, 2018).

Operational cash flow is the term related to active business affairs of a company. This feature is necessary for the improvement of the economy. Different researchers like Boujelben and coworkers mentioned that maintenance of complete financial spending and earning record by CFO is necessary. It is imperative to have a complete check on overall business transactions, and the precise analysis of operational cash flow supports the financial stability and economic betterment of company(Ni, Huang, Chiang, & Liao, 2019). Other researchers also considered operational cash flow as an indicator of financial distress if this cash flow related activities are not critically analyzed and controlled. Profitability is the measure of a successful business. The more successful is the firm, the more profit it will generate (Kasmiati & Santosa, 2019). The profitability index is the proper record of the company's progress and success. Many researchers have focused on the Impact of profitability on the financial stability of companies. The profitability is based upon the correct balance between spending and assets. It is the direct measure of the firm's progress. The vast profits can be made easily by maintaining a proper audit history and record of the company's business transactions (Dakua, 2019). The improved profitability index can quickly eliminate financial distress or bankruptcy. Business firms are responsible for their working efficacy and profitability. Historical evidence suggested that all the successful companies have improved profitability indexes, and they also have eliminated the chances of financial distress by proper planning (Dakua, 2019).

The debt-based business is primarily related to the financial stability of a country. The progress of a business firm is mostly dependent on financial leverage. It primarily affects the profitability of the business firm. The business firms generated huge profits by financial leverage, and it eradicates the financial instability and financial distress. The previous literature reported that financial leverage has positively supported financial stability. Trading activity related evidence suggested that the financial conditions of a country are largely dependent on sales and stocks of the country (Nathaniel, 2019). The financial stability can be increased by enhanced trading capacity. Trading centers of the world are the pillars of the economy (Zhang, Fu, & Pu, 2019). The proper implementation of improved trading strategies has a positive impact on financial stability, and it inhibits financial distress (Timmer, Miroudot, & de Vries, 2019). The liquidity of assets is readily available cash is the main factor to control business activities. These activities are supportive of the economy of the country (Kollmeyer

& Peters, 2019). The recent literature evidence reported that liquidity of assets if not appropriately regulated, then it will cause financial distress (Ballesteros-Perez, Elamrousy, & González-Cruz, 2019). Properly regulated business activities are essential in maintaining the cash flow of the firm's business. So, liquidity of assets is an essential factor to support the financial stability of the country (Lin & Jia, 2019).

Trading activity and liquidity are coherent terms, and they have close links with each other. Liquidity is the conversion of assets to ready cash, and trading activity is the most effective way to perform this action. The companies manage their assets and cash related aspects by making more and more trade. It is imperative for the business community's well-being, and the enhanced trading activity generates more revenue to support the new business ventures. These ventures gain profit and support the country's economy, but if there are a loss and low trading activity, the company will surely suffer from the loss of assets. So, the decision making is critical in this regard. Proper and effective decision-making is necessary to support financial stability and the overall national economy (Arsana & Nuada, 2019). The business analysts consider the liquidity of assets to measure the company's successful and active business profile (Egginton & McBrayer, 2019; Pathak, 2019). These factors not only responsible for financial stability but also for the successful business. The active regulation of all the steps to initiate a business venture is necessary to gain financial stability. The business community agrees that all the factors mentioned above are the keys to success in achieving the progress in terms of financial stability (Facchini, Liu, Mayda, & Zhou, 2019). The financial stability is considered the most critical factor for the betterment of the economy (Sontakke & Mallya, 2019).

3. Research Methods

The ongoing research goal is to investigate the influence of operating cash flow, profitability, financial leverage, trading activities and liquidity on financial distress of the banking industry of ASEAN countries. The data have been extracted by the researchers from the central banks of ASEAN countries for the year 2009 to 2018. The variables that have been adopted by the present study include the financial distress that has been measured by Z-score and also used by the study of Laeven and Levine (2009) and Rahman (2012). In addition, the predictors such as profitability (PR) is measured as the return on assets (ROA) that is also used by the study of Yasser, Mamun, and Hook (2017), operating cash flow (OCF) is measured as the ratio of operating cash flow and total cash flow (Gupta, Wilson, Gregoriou, & Healy, 2014), liquidity is measured as the ratio of current assets and current liability (Šarlija & Harc, 2012), financial leverage is measured as the ratio of total equity and total assets (Ghosh & Jain, 2000) and trading activities have been measured as the loan given to individuals (percentage of total liabilities) (Vigenina & Kritikos, 2004). These variables, along with measurement, have been mentioned in Table 1.

These variables have been shown in the equation given below:

$$Zscore_{it} = \alpha_0 + \beta_1 OCF_{it} + \beta_2 PR_{it} + \beta_3 FL_{it} + \beta_4 TA_{it} + \beta_5 LQ_{it} + e_{it} \quad (1)$$

Where;
 i = Bank

t = Time Period
 Z-score = Financial Distress
 OCF = Operating Cash Flow
 PR = Profitability
 FL = Financial Leverage
 TA = Trade Activities
 LQ = Liquidity

Table 1
Measurement of Variables

Variable	Measurement	Sources
Financial Distress	$Z = (ROA + CAP)/S$ CAP = Equity capital to asset ratio S = Standard deviation of ROA	Laeven and Levine (2009) Rahman (2012);
Profitability	Return on Assets (ROA) = Net profit / Total Assets	Alhassan, Addisson, and Asamoah (2015); Yasser et al. (2017)
Operating Cash Flow	Operating cash flow divided by total cash flow	Gupta et al. (2014)
Liquidity	The ratio of current assets and current liability	Šarlija and Harc (2012)
Financial Leverage	The ratio of total equity and total assets	Ghosh and Jain (2000)
Trading Activities	The loan is given to individuals (percentage of total liabilities)	Vigenina and Kritikos (2004)

The random effect model has been used by the study that has characteristics related to "treat the intercept differently in the individual firm", and this approach supposed that construct was random and had a mean value of β_1 instead of intercept (β_{1i}). This approach recommends that banks are comprised as a sample drawing from the population that have common means "for the intercept (β_1), and the individual differences are reflected in the error term" (ϵ_i) (Gujarati & Porter, 2003). Thus, the random-effects model has been presented as follows:

$$Y_{it} = \beta_1 + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \beta_5 X_{5it} + \epsilon_i + u_{it}$$

$$Y_{it} = \beta_1 + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \beta_5 X_{5it} + w_{it} \quad (2)$$

In addition, the GMM approach has been used to check the predictors such as operating cash flow, profitability, financial leverage, trading activities and liquidity on financial distress of the banking industry of ASEAN countries. Moreover, GMM is suitable for estimating stimulating extensions of basic ignored effect model (Andrews & Lu, 2001). The purpose of employing GMM in the study because the panel data has been adopted by the study that is cross-sectional dominance.

4. Results

The results firstly include the correlation matrix that shows the association among the variables and the figures show that all the predictors such as operating cash flow, profitability, financial leverage, trading activities and liquidity have a positive association with Z-score that

means reduce the financial distress of banking industry of ASEAN countries. In addition, the correlation matrix also shows the nexus among the predictors their self. These are shown in Table 2.

Table 2
Correlation Matrix

Variables	Zscore	OCF	PR	FL	TA	LQ
Zscore	1.000					
OCF	0.167	1.000				
PR	0.005	-0.476	1.000			
FL	0.062	-0.534	-0.068	1.000		
TA	0.163	-0.038	-0.073	0.253	1.000	
LQ	0.290	-0.052	-0.132	0.140	0.859	1.000

The Hausman test has been used by the study that shows the appropriate model among the fixed and random effect models. The figures highlighted that random effect model (REM) is appropriate because the probability value is more than 0.05. These values are highlighted in Table 3.

Table 3
Hausman Test

	Coef.
Chi-square test value	3.374
P-value	0.062

The results of REM revealed that all the predictors such as operating cash flow, profitability, financial leverage, trading activities and liquidity have positive along with significant association with z-score that means it reduces the financial distress of banking industry of ASEAN countries because the beta values have a positive sign and t-values are larger than 1.64 and p-values are less than 0.05. These are shown in Table 4.

Table 4
Random Effect Model

Zscore	Beta	S.D.	t-value	p-value	L.L.	U.L.	S i g
OCF	.555	.196	2.83	.005	.938	1.171	***
PR	.755	.244	3.09	.009	.624	1.115	***
FL	.397	.065	6.11	.002	.113	1.319	***
TA	.555	.081	6.85	.012	.214	2.103	***
LQ	.108	.007	15.43	.000	.405	1.021	***
Constant	6.674	1.786	3.74	.000	3.174	10.17	***
Overall r-squared		0.515	Number of obs				98.000
Chi-square		16.045	Prob > chi2				0.007

*** $p < .01$, ** $p < .05$, * $p < .1$

The outcomes of the GMM model also revealed that operating cash flow, profitability, financial leverage, trading activities and liquidity have a positive association with z-score that means reduce the financial distress of banking industry of ASEAN countries. These values are highlighted in Table 5.

Table 5
Generalized Method of Moment (GMM)

Zscore	Beta	S.D.	t-value	p-value	L.L	U.L.	Sig
OCF	.517	.213	2.42	.018	.941	1.093	**
PR	1.159	.086	13.48	.004	.562	2.244	***
FL	1.32	.649	2.03	.045	.029	1.611	**
TA	.113	.025	4.52	.018	.322	1.097	***
LQ	.112	.048	2.33	.029	.905	2.029	***
Mean dependent var		1.730	SD dependent var			0.386	
Number of obs		88.000	F-test			4.367	

*** $p < .01$, ** $p < .05$, * $p < .1$

4.1. Discussions and Implications

The results have revealed that the operational cash flow has a negative association with financial distress. These results are in line with the previous studies Setyawati and Amelia (2018), which also prove that the efficient operational cash flow minimizes the financial distress in the business organizations. The results have indicated that there is a negative relationship between the profitability of the organizations and financial distress they may have to face. These results match with the studies Finishtya (2019) where it has been shown that the high rate of profitability of the organizations overcomes the financial distress. Moreover, the results have revealed that financial leverage has a negative relationship with financial distress. These results agree with the past studies Abubakar (2015) have thrown light on the point that the leverage of financial resources reduces financial distress. The results have proved that trading activity has a negative link with financial distress. These results are approved by the past studies Restianti and Agustina (2018), which also indicates that the stimulation in the trading activities helps to reduce financial distress. Besides, the results have revealed that there is a negative association between the liquidity rate and financial distress. These results match with the past studies Chiaramonte and Casu (2017).

The study has both theoretical and empirical implications. From a theoretical point of view, our study is a considerable contribution to the literature on business management. The study describes the negative effects of five organizational factors like operational cash flow, profitability, financial leverage, trading activity, and liquidity on the financial distress found in the business environment. On the other hand, the study also has empirical implication as it proves to be a guideline to the financial management as to how to cope up with the financial distress and related problems with efficient operational cash flow, high profitability, the favorable financial leverage, stimulate trading activity, and better liquidity rate.

5. Conclusion and Limitations

In short, the study proposes that the fluent and smooth operational cash flow helps the organization to overcome financial distress. The study examines that if the company has a high rate of profitability, it will have to face comparatively less financial distress. Furthermore, favorable and efficient financial leverage puts negative influences on financial distress and thus results in more economical performance. Besides, the paper sheds light on the fact that stable and stimulated trading activity enables the business organization to minimize financial distress. Finally, the study proves that the liquidity in organizations has a negative association with financial distress as the high rate of liquidity lessens the financial distress.

The study has described the five economic factors like operational cash flow, high profitability, financial leverage, trading activity, and liquidity concerning with ability of management to reduce financial distress. Yet many other factors are also helpful in reducing financial distress which should be addressed by the future scholars in their articles. Only a single source has been used by this paper for the collection of data while there are multiple sources to collect data that should be used by future scholars in future literature.

Conflict of Interests/Disclosures

The authors declared no potential conflicts of interest w.r.t the research, authorship and/or publication of this article.

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