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Does Competition Matter in The Malaysian Banking System?

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Abstract: The transition from financial repression to financial liberalization, which led to cross-border capital flows and the expansion of the financial sector, has had a significant impact on the global financial market. Competition could pass through or interact with the impact of financial liberalization on financial stability. A liberalized banking sector prompted commercial banks to intensify risk-taking activities, which ultimately could affect financial stability. This paper examines the effect of financial liberalization on financial stability and the roles of competition as the interacting variable using a panel data analysis based on a sample of 43 banks in Malaysia. Results from the Malaysian banking sector indicate that increased competition will affect the stability of the financial system. Lastly, competition needs to be set at the best possible level so that financial stability can be well preserved.

Keywords: *Competition, Financial Liberalization, Financial Stability.*

1. Introduction and Background

The switch from financial repression to financial liberalization, which prompted a rise in international capital flows and the growth of the financial industry, has had a profound effect on the world financial system. Financial repression aims to maintain the stability of the financial system by regulating the banking industry, managing interest rates, and providing lending subsidies to specific sectors. Contrary to financial repression, financial liberalization aims to make financial institutions more effective by improving the efficiency of resource transfers from the form of savings into investments. The process of escaping financial repression is linked to financial liberalization. Therefore, the financial system's stability would be impacted by the deregulation or financial reform of the domestic financial market, which signifies the transition from financial repression to financial liberalization. The theory of financial liberalization is based on the pioneering work of McKinnon and Shaw (1973), who claimed that financial repression hindered economic progress in developing nations and suggested the implementation of financial liberalization policies to encourage savings, investment, and growth. According to Mckinnon and Shaw (1973), financial liberalization can increase growth rates by raising interest rates to competitive market equilibrium while resources are dispersed effectively. The financial industry has become more liberalized as a result of the deregulation of interest rates, the removal of capital flow restrictions, and the reduction of impediments to competition among financial institutions (Allegret, Courbis, & Dulbecco, 2003). Therefore, more competition will result from financial liberalization. Competitiveness fragility and competitiveness stability are two concepts that link the two factors of competition and financial stability.

According to Keeley's (1990) competition fragility hypothesis, the pressure of a competitive environment encourages banks to take on more excessive risk. Banking institutions frequently take on more risk by funding riskier projects in exchange for a higher return. As a result, as the bank's risk rises, the firm's value, or charter value, decreases. The system will consequently become more fragile (Beck, 2008). The claim that more competition encourages stability is a refutation of the claim that less competition results in more stable financial systems. Boyd and De Nicolo (2005) claim that a more concentrated market and less competition in the lending market result in higher borrowing costs for clients of the prevailing bank. The bank will have a higher credit risk as a result of the higher interest rate. To compete in the banking industry, the bank will therefore take on an excessive amount of risk. According to Cubillas and González (2014), the empirical evidence on how financial liberalization affects financial stability is still not conclusive. Berger et al. (2009) discovered an empirical association between how financial stability is affected by financial liberalization, even though many studies claimed that financial liberalization can have a detrimental impact on stability as the competition among banks increases. Both the Competition Stability View (Boyd and De Nicolo, 2005) and the Competition Fragility View (Marcus, 1984; Keeley, 1990) concur with this point of view. Financial stability may be impacted by the level of competition, which in turn may be impacted by the degree of competition (Boyd and De Nicolo, 2005; Ghosh, 2016; Soedarmono, Machrouch, and Tarazi, 2013; Fu, Lin, and Molyneux,

2014). Due to this, it is imperative to consider at what level competition has an impact on financial stability.

As a result, the research question in this study was unified to examine the moderating role of competition in the relationship between financial liberalization and financial stability and to measure the degree (marginal effect) of competition that will affect financial stability. The arguments on the relationship between bank competition and stability are not conclusive, possibly on the different observation periods and regions considered in the study. The Impact of bank competition on the banking system is still complicated. Consequently, it has grabbed the attention of the researcher to explore further the risk and performance of the banking sector in countries with a dual banking system. Synthesizing the above issues at hand, this study aims to evaluate the degree of competition in the Malaysian dual banking system, in particular, to address the question of whether commercial banks can cope with the competition, especially when financial liberalization is introduced in the market. The remainder of the paper is divided into the following sections: the second discusses the literature review; the third thoroughly explains the data and methodology, along with the suggested model; and the fourth discusses the conclusions and analysis. The study's implications are covered in the fifth and final section.

2. Literature Review

The financial and banking sectors have seen significant changes, such as financial liberalization, which have impacted bank operations and bank stability. As a result, financial stability has been questioned numerous times, and one crucial factor that must be examined is bank stability. Financial stability is described as a bank's capacity to allocate resources efficiently to control financial risk (Diaconu & Oanea, 2015; Nosheen & Rashid, 2020). In both developed and developing countries, financial liberalization regimes have altered competitive circumstances in the banking sector. Competition is a key avenue via which financial liberalization influences financial stability, according to theoretical banking research (Lee & Hsieh, 2014; Abderzag & Hasnaoui, 2015). There are many opponents and proponents arguments in bank competition. Competition reallocates income from failing financial institutions to successfully run banks, according to Stiroh and Strahan's 2003 analysis. Some studies further corroborate this claim by demonstrating that competition improves effectiveness (Jayaratne and Strahan, 1998; Koetter et al., 2012). Across various income groups in emerging nations, Mirzaei and Moore (2014) looked into the factors that affect competition. The research shows that concentrated banking hinders competitiveness in developing nations. On the other hand, the study finds that competition is beneficial for the economy in less developed nations.

Financial independence and inter-industry competition, however, are extremely important for advanced banking systems (Mirzaei and Moore, 2014). It demonstrates that the banking system is dynamic, irrespective of how well a nation's economies are doing. According to De Guevara and Maudos' (2007) analysis of the dynamics of banking market power between 1986 and 2002, size, efficiency, and specialization play a key role in determining banking competition. Mohammed et al. (2016) studied the dual banking system in Malaysia and learned that structural changes have modified the market structure of the banking industry. The banking system in Malaysia operates under a monopolistic competition structure. In addition, concentration was higher during the merger period, and structural changes had made the domestic banks dominant in the market. Another study on the dual banking system is conducted by Faizulayev et al., (2021) which focuses on nine Islamic countries. According to the findings, capital adequacy does not account for the degree of banking competition in the countries under investigation. The conclusions of Molyneux and Wilson (2004) and Rakshit and Bardhan (2019) are in contrast with this finding. It's interesting to note that Faizulayev et al. (2021) also included corruption as a variable and found that while corruption hurts Islamic banking, it does not affect competition in the conventional banking sector. Islamic banks do better than regular banks in terms of competitiveness with dummy variables. On the other hand, a study for developing markets reveals another important point.

A study of banks in Bangladesh uncovered a nonlinear competition, a bell-shaped relationship between competition and stability. Efficiency and larger bank size do contribute to stability, yet the impact is moderate because of the presence of competition (Dutta & Saha, 2021). Competition only contributes to stability at a lower level. The European market is in contrast, where there is no U-shaped relationship between competition and bank risk-taking (López-Penabad et al., 2021). A recent study by Yuan et al. (2022) shows

that the US banking system has a U-shaped relationship between bank competition and stability, with an inflection point. The authors argue that it is normal to have excessive competition in the US banking system. In addition, bank competition mainly affects its stability through franchise value, borrowing cost and operating behavior. Financial liberalization, which is caused by an increase in bank competition, may have an impact on financial stability, according to theoretical studies on competition fragility and stability (Berger et al., 2009). The competitive fragility theory states that banks with lower charter values experience more fierce competition as a result of financial reform. However, according to the competition stability approach, increased bank rivalry acts as a mechanism through which liberalization contributes to greater financial stability.

3. Research Methodology

This study adopts secondary data in a quantitative approach to analyzing the financial stability in Malaysia. The secondary data is collected from the Bankscope database of Bureau van Dijk and FitchConnect. This study uses annual data from year 2012 to 2021. The sampling criterion for this study is to include all Commercial banks in Malaysia, from 2012 to 2021.

Variables: The dependent variable of this study was financial stability measured using insolvency risk and was calculated using the volatility of returns. The Z-score is a measure of insolvency risk (Hannan and Hanweck, 1988). The Z-score is the most commonly used proxy for financial stability measurement, as evidenced in the literature (Beck, Demirgüç-Kunt, Levine, 2007; Cihák and Hesse, 2010; Demirgüç-Kunt, Detragiache, and Laeven and Levine, 2009). While the interaction variable is quantified using the Herfindahl Hirschman Index (HHI). HHI was developed to determine the degree of competition in banks (Ager and Spargoli, 2012). This will result in increased market concentration. The HHI index quantifies banking concentration. The higher the HHI index value, the more concentrated the market, and thus the less competitive it is. The independent variable is a proxy for financial liberalization quantified using the financial freedom index. Meanwhile, several control variables that could influence financial stability are liquidity and asset quality. A systemic crisis in the banking industry could arise from a lack of liquidity in one bank; hence liquidity is also one of the signs. Since loans and financing to consumers generate revenue for the bank, a bank's asset quality is influenced by the quality of those products. As a result, the control variables in this study were chosen to be asset quality and liquidity. Additionally, the research took bank types into effect. The definitions and measurements of each variable used in this study are shown in Table 1.

Table 1: Summary of the Variable Definitions and Source of the Data

Variable	Measurement
Financial Stability (FS)	Insolvency risk (Zscore)
Financial Liberalization(FL)	Index of financial liberalization (FLIB)
Competition (C)	Herfindal Hirschman index (HHI)
Bank specific (BS)	Asset quality (ASQUAL= Impaired loans / Gross loans) and liquidity (LRATIO = Loan/ Total Deposit and Borrowing)
Types of banks (Type)	Dummy variable where 1 is Islamic banks and 0 is conventional banks

Model Specifications: Based on the explanation above, the estimation models of this study are as follows:

Model 1:
$$FS_{it} = \alpha + \beta_1 FL_{it} + \beta_2 C_{it} + \beta_3 BASQUAL_{it} + \beta_4 LRATIO_{it} + \beta_5 TYPE_{it} + e_{it} \quad (1)$$

Model 2:
$$FS_{it} = \alpha + \beta_1 FL_{it} + \beta_2 C_{it} + \beta_3 FL * C_{it} + \beta_4 BASQUAL_{it} + \beta_5 LRATIO_{it} + \beta_6 TYPE_{it} + e_{it} \quad (2)$$

The baseline model (Model 1) examined the direct impact of financial stability while the interaction model (Model 2) explored the interaction effect of financial liberalization and competition on financial stability after controlling bank-specific characteristics. The panel data regression method was used to examine these

models. One benefit of panel data is that it gives control over unobserved time-invariant heterogeneity, increasing the degree of freedom and enhancing the effectiveness of the estimators (Baltagi, 2008). The marginal effect analysis was included in the analysis to look at what level of competition can affect financial stability.

4. Results and Discussion

Table 2 illustrates the empirical outcomes of the study where Model 1 examined the direct relationship while Model 2 explored the interaction effect of financial liberalization and competition on financial stability based on the random effects model with cluster standard error.

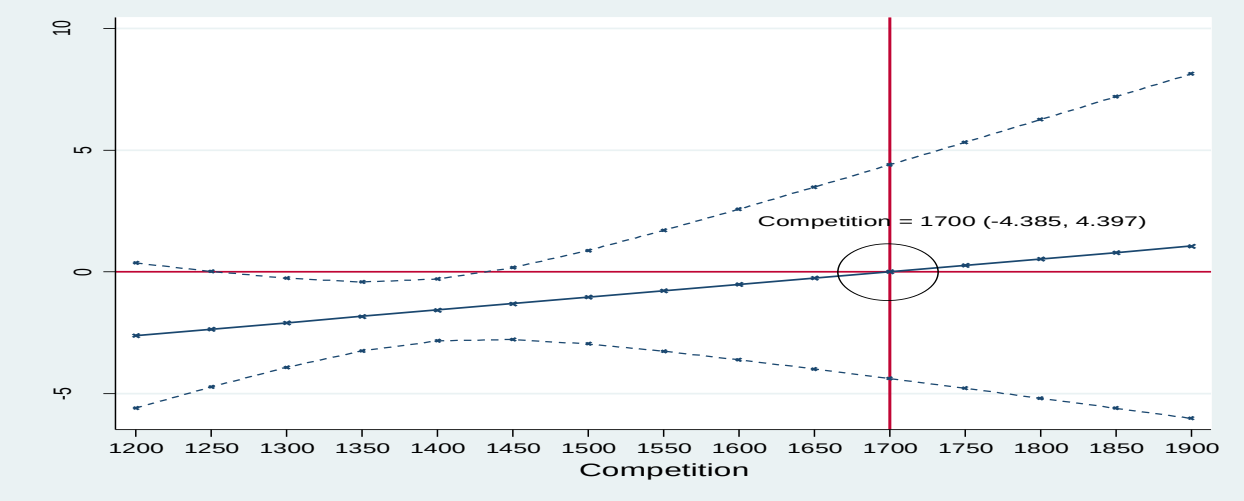
Table 2: Random Effects Model with Cluster Standard Error

	(1) Basic	(2) Interaction
Financial Liberalization	-1.618**	-8.92
	(.666)	(9.855)
Competition	-.031*	-.422
	(.016)	(.518)
Liquidity	-.028	-.018
	(.146)	(.152)
Asset Quality	-.163***	-.16***
	(.043)	(.044)
Type	27.51**	28.589**
	(11.918)	(11.407)
Financial Liberalization*Competition		.005
		(.007)
Constant	208.501***	751.334
	(48.608)	(721.188)
Observations	233	233
Wald chi2	21.73***	29.07***
R-squared Within	0.1395	0.1438
R-squared Between	0.0945	0.0922
R-squared Overall	0.1353	0.1343

Standard errors are in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

The estimation results of Model 1 showed that all of the variables have a significant impact on financial stability except for liquidity. As for financial liberalization, the result is negatively significant and this is in line with the empirical works done by Daniel and Jones (2007) and Ghosh (2016). This suggests that Bank regulation is required to avoid the adverse effect of financial stability. While the effect of competition on financial stability is negatively significant. This means that if the market is entirely consolidated or less competitive, the level of financial stability is higher. As a result, banks are better off in more consolidated markets. Meaning when the market is less competitive (highly concentrated) it is more stable. Therefore, the competition fragility view is supported. As for the control variables, only asset quality is negatively significant. Asset quality measured by impaired loan. Therefore, the higher the ratio i.e. impaired loan is less stable. Hence, a key method through which banks can boost their stability is by improving asset quality. Banks may increase their monitoring efforts in particular, which will boost the return on their loan portfolio (Allen et al., 2011; Wagner, 2010). Lastly based on the type of banks, Islamic banks play a significant role in the financial stability in Malaysia. The result for model 2 when it is interacted by competition only asset quality and type of banks have a significant effect. When the competition interacts with financial liberalization the relationship is not significant, therefore we extend the analysis to marginal effect to look at the level that competition affects financial stability.

Figure 1: Marginal Effect of Competition Level



Based on the Figure 1 marginal effect graph, it can be shown that the beta coefficient is positive when competition is at 1700 and the marginal impact on the link between financial liberalization and financial stability is positive. It means that the marginal impact of financial liberalization and financial stability is favorable when the market is fully concentrated. This suggests that financial stability is stronger when the market is concentrated. The marginal effect is less and the association has a negative beta coefficient when competition is at 1450, though. To protect financial stability, the government must step in when the market is less concentrated or when competition is greater. Financial liberalization and financial stability are inversely correlated for banks, which can be explained by the presence of competition in the market. This is because when there is competition, banks must lower their interest rates to remain competitive, which leads to an imbalance between their assets and liabilities. Additionally, it is apparent that operating expenses have increased, which lowers return. It is therefore possible to conclude that the effect of competition will produce a negative link between financial liberalization and financial stability at the level of the HHI index 1450 and below.

5. Conclusion and Discussion

According to Crockett's (1997) financial stability theory, economic events and competition have a compounding effect on the instability of financial institutions, which is their root cause. Financial stability is impacted by the market structure, which the HHI index measures, which influences behavior. As a result, this study examined the financial liberalization event and how it may interact with competition, which has an impact on financial stability. The financial liberalization theory, the competition fragility and stability viewpoint, and other approaches have been employed in previous research in developed economies, which have surroundings and characteristics that are more varied than those of developing nations. With regard to financial stability for a developing nation like Malaysia, this study has improved understanding of the applicability of these ideas. When compared to model 1 and model 2, the empirical results on the interaction between financial liberalization and financial stability for banks show distinct results. In contrast, the association between financial liberalization and financial stability is negligible when competition acts as a mediator. The marginal effect analysis was therefore included in this analysis. As a result, it may be able to capture the marginal impact of how competition affects financial liberalization and stability. The outcome suggests that financial stability is stronger when the market is concentrated with less government intervention through financial liberalization.

Conclusion: The result shows that the knowledge of competitive issues is crucial so that policymakers may formulate new policies for the banking industry that suit the current market structure. This state serves as a signal to policymakers and bank executives to continuously check the services offered for the market to portray a good market signal to clients, ensuring their banks' survival in an increasingly competitive market. Increased competition is detrimental because it increases the likelihood that banks may collapse. This is

because banks will take on riskier activities and be more inclined to deal with clients who may be insolvent and at risk of default, endangering the stability of the bank. As a result, equal policies for increasing stability should be developed for both types of banking systems to guarantee financial stability when there is a competitive element. The type of bank also plays a significant role in this dual banking system in Malaysia. Therefore, it is crucial to set the level of competition at the highest feasible level to protect the financial stability of Sharia-compliant Islamic banks. Hence, the summarization of the paper is: (1) For financial stability and economic growth, further liberalization is crucial (2) The level of competition needs to be monitored by the central bank so that financial stability can be safeguarded.

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