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Looking at Factors Affecting Interest Margin in ASEAN-4 Banks

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1. Introduction

When looking to finance working capital or investments, banks are still the main source of funding for corporations in ASEAN countries, including Indonesia. As financial intermediaries and agents of developments, banks are expected to charge intermediation cost as low as possible. This intermediation cost, widely measured as net interest margin (NIM), is the interest income charged to debtor minus the interest cost paid to creditors. Studies have shown that low NIM can be achieved if banks operate efficiently, competitively, and develop fee-based income innovatively.

During 2006-2012, the ideal low NIM is not yet observed in Indonesian banks compared to other ASEAN-4 (Indonesia, Malaysia, Thailand and The Philippines) banks. From Table 1 we learn that Indonesian banks exhibit the highest time-series average NIM of 4.67 percent. Meanwhile, during the same 2006-2012 period Filipino banks display the lowest NIM average of only 1.10 percent. The average NIM of ASEAN-4 banks in 2012 is 3.19 percent, which is lower than its 3.65 percent average NIM in 2006. This tendency of lower NIM is also

Table 1 Average net interest margin (NIM) of ASEAN-4 Banks during 2006-2012

	Average (%)	2006 (%)	2007 (%)	2008 (%)	2009 (%)	2010 (%)	2011 (%)	2012 (%)
Indonesia	4.67	5.08	4.74	4.93	5.03	4.49	4.24	4.26
Thailand	1.89	1.72	1.52	1.71	2.20	2.39	1.92	1.74
The Philippines	1.10	0.72	0.84	1.06	1.27	1.34	1.21	1.29
Malaysia	2.32	2.24	2.60	2.60	2.36	2.32	2.22	2.19
Average		**3.65**	**3.37**	**3.64**	**3.70**	**3.41**	**3.17**	**3.19**

Table 2 Market power (measured as Lerner Index) of ASEAN-4 banks during 2006-2012

	Average	2006	2007	2008	2009	2010	2011	2012
Indonesia	0.246	0.177	0.193	0.176	0.182	0.324	0.315	0.338
Thailand	0.243	0.147	0.078	0.224	0.305	0.321	0.304	0.286
The Philippines	0.267	0.231	0.210	0.206	0.279	0.309	0.319	0.321
Malaysia	0.012	0.055	0.088	0.088	-0.047	-0.019	0.027	-0.007
Average		0.166	0.153	0.171	0.165	0.254	0.260	0.266

observed in Indonesian banks. The average NIM has dropped from 5.08 percent in 2006 to 4.26 percent in 2012.

Early theoretical model predicts that the level of net interest margin are affected by at least four factors: (1) the level of market competition, (2) interest rate risk, (3) risk aversion level of bank managers, and (3) the average transaction size of the bank (Ho & Saunders, 1981). Hence, according to this model, if the market power of banks increases (the competition level among banks decreases), then the net interest margin should also increase.

However, our data suggests otherwise. The market power of banks in ASEAN-4 countries tend to increase (except Malaysia), but the NIM tends to decrease (except for The Philippines). Table 2 presents the market power of banks in each ASEAN-4 countries measured by Lerner Index. The higher the index means the higher banks market power (the lower competition level among banks). The Lerner Index of Indonesian banks increases from 0.177 in 2006 to 0.338 in 2012. Similarly, the market power index of Thai banks and Filipino banks also increases in 2012 compared to 2006. The increase of banks market power may due to banks consolidation either through merger or acquisitions by local and foreign banks.

Based on Table 1 and 2, we learn that the prediction of (Ho & Saunders, 1981) that lower competition tend to increase NIM does not seem to be supported. This phenomenon is also observed in European banks during the 90s (Maudos & De Guevara, 2004) (Valverde & Fernandez, 2007).

However, our further investigation based on regression models reveals that market power still tends to elevate NIM in ASEAN-4 banks. The observed lower NIM are possibly driven by other factors such as revenue diversification from traditional to non-traditional products, credit portfolio diversification to many business sectors, foreign bank penetration to domestic market, and other internal factors. These factors will be elaborated further.

2. Factors Affecting NIM

Some finance and banking scholars have expanded early theoretical model of (Ho & Saunders, 1981) to explain other factors affecting NIM. Bank intermediation cost may

fluctuate due to other factors such as: (1) diversification of non-interest income (Valverde & Fernandez, 2007), (2) diversification of credit portfolio (Allen, 1988), (3) foreign banks penetration (Martinez-Peria & Mody, 2004), (4) credit risk (Angbazo, 1997), and (5) operating cost (Maudos & De Guevara, 2004).

2.1. Diversification of non-interest income products

Pressure from competition to grab traditional banking product, bank deregulation, and business development requirement, force banks to search for alternative sources of income. To maintain and grow their profitability, banks may diversify their non-interest income such as fee from cash management, e-banking income, ATM, and other fee generating services. Table 3 provides non-interest income growth of ASEAN-4 banks in 2006-2012.

Compared to other countries' banks, Indonesian and Filipino banks exhibit the highest growth in non-interest income in the period of 2006-2012. The proportion of non-interest income in Indonesian banks grows from 15.20 percent in 2006 to 24.29 percent in 2012. Respectively, the proportion of non-interest income in Filipino banks also grows from 22.71 percent in 2006 to 29.87 percent in 2012. Thai banks are the only one with decreasing proportion of non-interest income of around 0.8 percent in 2012 compared to 2006.

Our study reveals that non-interest income tends to reduce NIM. We deduce that non-traditional products subsidize lower income instigated by lower NIM from traditional products (Bustaman, Ekaputra, Prijadi, & Husodo, 2015). Banks cross subsidy strategy to lower credit interest rate is intended to attract new customers and also to retain existing customers. On the other hand, banks will charge other fees through their non-traditional products and services, which are usually integrated with credit facility or other non-credit products. This cross subsidy strategy is also observed in European banks (Lepetit, Nys, Rous & Tarazi, 2008) and Mexican banks (Maudos & Solis, 2009).

Table 3 Proportions of non-interest income to total income (%) of ASEAN-4 banks during 2006-2012

	Average (%)	2006 (%)	2007 (%)	2008 (%)	2009 (%)	2010 (%)	2011 (%)	2012 (%)
Indonesia	19.10	15.20	16.57	18.70	17.77	22.06	19.14	24.29
Thailand	21.52	18.37	17.49	20.84	25.03	27.40	23.93	17.57
The Philippines	24.97	22.71	24.09	21.48	23.18	27.02	26.46	29.87
Malaysia	19.03	17.27	19.20	18.59	18.47	20.22	20.38	19.06
Average		18.39	19.34	19.90	21.11	24.18	22.48	22.70

Source: Bankscope

2.2. Diversification of credit portfolio

NIM can be reduced through manipulation of demand across products. Interest rate manipulation of one segment may increase demand for credit in that particular segment (Allen, 1988). If banks offer lower rate for one product, the product will be highly in demand. With enough volume, bank may then reduce its margin for that segment. However, (Mc Shane & Sharpe, 1985) empirical study shows that the shift from corporate credit market to individual credit market tends to increase banks' interest margin. This is in line with the traditional theory stating that banks should diversify as much as possible to earn credibility as institutions that are able to select and monitor debtors well. Henceforth, this theory predicts that increase diversifications of credits should also increase NIM (Diamond, 1984).

Our study reveals that ASEAN-4 banks strategy to diversify credit portfolio tend to reduce interest margin. However, banks tend to focus on sectors that they understand best as their core businesses. Hence, banks can charge higher interest to debtors due to their knowledge advantage over other competitors. This notion is in line with lending relationship hypothesis where banks may charge higher interest to loyal borrowers due to their long standing relationships, and higher costs to establish new relations with other banks (Petersen & Rajan, 1994).

Our results are also aligned with other study that finds credit diversifications in many business sectors or industries are not profitable and uneconomical to maintain (Acharya, Hasan, & Saunders, 2006). Furthermore, credit diversification into new sectors may increase banks costs due to lack of credit analysis skills and monitoring capabilities in the new sectors.

Hence our study does not support the traditional theory of credit diversification (Diamond, 1984), but corroborates agency problem theory (Berger & Ofek, 1995) (Denis, Denis, & Sarin, 1997). The agency problem theory states that banks should focus on business sectors that they understand well, to maximize their credit management expertise and to reduce agency problems between owners and depositors.

2.3 Foreign banks penetration

Some studies reveal that foreign banks entrance to host country in general shall improve local banks through increase competition and efficiency (Lensink & Hermes, 2004) (Claessens, Demirguc-Kunt, & Huizinga, 2001), which will eventually improve banks profitability (Xu, 2011) (Unite & Sulivan, 2003).

The entrance of foreign banks in developing countries in Asia and Latin America has provided positive spill-over effect to local banks in host countries (Jeon, Olivero, & Wu, 2011). However, this positive effect will only be observed if the foreign banks possess better efficiency and lower risks compared to local banks. Foreign banks entering Latin America are able to charge lower interest margin when they establish their own entity in host countries. Lower margins are not observed when foreign banks enter the host through mergers and acquisitions (Martinez-Peria & Mody, 2004).

Table 4 Proportions of foreign owned banks in ASEAN-4 banks during 2006-2012

	Average	2006	2007	2008	2009	2010	2011	2012
Indonesia	0.202	0.108	0.117	0.175	0.215	0.236	0.291	0.271
Thailand	0.292	0.300	0.306	0.317	0.286	0.268	0.276	0.293
The Philippines	0.341	0.391	0.410	0.393	0.387	0.251	0.220	0.337
Malaysia	0.221	na	0.357	0.357	0.322	0.322	0.113	0.082
Average		0.189	0.185	0.260	0.269	0.259	0.244	0.246

Notes:

1. Foreign owned banks are banks with foreign ownerships of more than 50 percent.
2. na = not available

Not only positive impact, foreign banks presence may generate costs trade off that must be borne by local banks (Stiglitz, Jaim Jaramillo, & Park, 1993). Local banks must compete with internationally known foreign banks who offer better rates, products, and services. Local businesses may experience lack of credit supply since foreign banks shall concentrate on big multi-national corporations, creditworthy local businesses, and companies from their own country. Foreign banks will *cream-skim* high quality debtors, leaving local banks with higher risks debtors (Detragiache, Tressel, & Gupta, 2008)

Table 4 provides the proportion of foreign banks in ASEAN-4 countries in 2006-2012 periods. On average the penetration of foreign banks in ASEAN-4 countries tends to increase over time. The proportion of foreign banks increases to 24.6 percent in 2012 from only 18.9 percent in 2006. However, if we look into each country data, the significant increase is experienced by Indonesia. Foreign banks presence increases from 10.8 percent in 2006 to 27.1 percent in 2012. Each country regulates foreign banks differently. Malaysia is the most stringent, while The Philippines and Thailand are the most liberal allowing up to 100 percent foreign ownerships. Henceforth, we observe the lowest foreign banks presence in Malaysia.

Our study shows that foreign banks penetration in ASEAN-4 tends to reduce NIM. We deduce that foreign banks expand aggressively while offering better and more efficient fee base income products and services. The presence of foreign banks drives local banks to compete, resulting in overall lower interest margins in the host country (Martinez-Peria & Mody, 2004).

2.4 Bank-specific internal factors

Based on our observations, we construe that some internal factors may impact interest margin variations: (1) asset size, (2) credit risks, (3) capital level, and (4) operating costs. We observe that big banks tend to offer traditional products with lower interest margins, which are probably due to their economies of scale. Banks with higher credit risks will have to charge risk premium their debtors which then will result in higher NIM. Well

capitalized banks may earn better customers trusts, which then will translate to higher NIM because of lower cost of funds and higher credit rate. The causality will be stronger if banks utilize expensive source of capitals. Similarly, banks with high operating costs, e.g. banks with aggressive branch expansions, tend to charge higher costs to debtors resulting in higher NIM. Previous studies have documented this phenomenon in Europe (Valverde & Fernandez, 2007) (Maudos & De Guevara, 2004) and Latin America (Brock & Suarez, 2000) (Martinez-Peria & Mody, 2004).

3. Concluding Remarks

Low intermediation costs will positively impact the economy and society as a whole. Low costs funds will drive economic growth, lower unemployment, increase social welfare. Traditional theory explains that net interest margins are driven by competition level, interest rate risk, transaction value, and capital level.

Our study in ASEAN-4 banks reveals at least three factors that may reduce intermediation costs. Firstly, banks that sell non-traditional products generating non-interest income may cross-subsidize lower interest margins from traditional products. Secondly, the presence of foreign banks who offer more variety of fee-based income also may drive down NIM through increased competition in host countries. Finally, big well-capitalized banks may also reduce NIM due to their economies of scale, non-traditional products, and desire to increase market share.

However, the reduction of intermediation costs may be undermined by some factors. Firstly, ASEAN-4 banks tend to exhibit higher market power over time. If not regulated properly the increase market power may result in higher intermediation costs. Secondly, banks accumulate knowledge and experiences in certain business sectors over time. If banks are highly segmented, then they are able to charge higher rates to customers due to lack of competition. Finally, some internal factors may increase NIM: high operating costs, increase credit risks, and the use of expensive capital.

Regulators should encourage banks to sell more non-traditional, fee generating products to diversify banks source of income. However, regulators should also be mindful of the increase risk that may arise from the diversification since banks may engage in products and services that they are not yet fully knowledgeable. Finally, regulators should pay attention to the increasing market power of banks in ASEAN-4 countries, especially Indonesia.

QUOTATION

In an increasingly volatile world, we must do more. Our efforts should not be just about coping with short-term fluctuations, but also about laying long-term foundation for Indonesia's future. That requires a forward-looking plan of action by all stakeholders. Bank Indonesia, for our part, will continue to ensure a stable financial and economic environment, so that businesses can continue to thrive and individuals can enjoy better standards of living on a sustainable basis.

Agus D.W. Martowardojo
Governor of Bank Indonesia

Indonesia has too many banks at the moment for the IFSA to manage effectively irrespective of their improved supervisory skills, quality and competence. The data speaks for itself that there are many banks that do not economically contribute to the development of the nation economy and they are the most vulnerable banks during the downturn time. A new strategic direction is a necessity to have a better level of playing field for Indonesia banking industry.

Soebowo Musa
CEO PT Kiran Resources Indonesia

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