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Market Power, Types of Ownership and Bank Income Diversification: Cases of Asian Countries

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Abstract

This study aims to analyze the effects of market power and type of ownership on bank's income diversification in Indonesia, Malaysia, the Philippines, Thailand, and China. Banks diversifies their source of income to stabilize profitability level. Bank's market power is a critical factor which affect its income diversification efforts. This study uses Lerner Index as a proxy for banks' market power. By using a sample of 80 banks in five countries from 2012 to 2016 and operating Fixed Effect Model and Generalized Least Square, the result shows that banks with greater market power earn more non-interest income, except in the Philippines. Also, government ownership is proven to heighten the relation between market power and income diversification, with consistent results shown in each subsamples. Foreign ownership also heighten the relation between market power and income diversification, except in Thailand.

Kekuatan Pasar, Jenis Kepemilikan dan Diversifikasi Pendapatan Bank: Kasus Negara-Negara Asia

Abstrak

Studi ini bertujuan untuk menganalisis pengaruh penguasaan pasar danjenis kepemilikan bank terhadap diversifikasi pendapatan perbankan yang ada di Indonesia, Malaysia, Filipina, Thailand, dan China. Bank mendiversifikasi sumber pendapatan mereka untuk menstabilkan tingkat keuntungan mereka. Penguasaan pasar oleh sebuah bank menjadi faktor penitng yang mempengaruhi upayanya dala mendiversifikasi pendapatannya. Studi ini menggunakan indeks Lerner sebagai proxy dari penguasaan pasar bank. Dengan menggunakan sampel yang terdiri dari 80 bank yang ada di lima negara tersebut sejak 2012 sampai 2016 dan menggunakan Fixed Effect Model and Generalized Least Square, hasil studi ini menunjukkan bahwa bank dengan penguasaan pasar yang lebih kuat cenderung memiliki pendapatan non bunga yang lebih besar secara signifikan kecuali di Filipina. Kepemilikan pemerintah terbukti memperkuat hubungan antara penguasaan pasar dan diversifikasi pendapatan pada semua sample dari lima negara yang diamati. Kepemilikan asing terbukti juga mempengaruhi keeratan hubungan antara penguasaan pasar dan diversifikasi pendapatan, kecuali di Thailand.

JEL Classification: G21; L11

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INTRODUCTION

As an intermediary financial institution, banks carry out several activities, from raising funds from society with excess liquidity (in the forms of deposits, current accounts, or savings), to channeling credits and issuing letters of credit. Pennathur et al. (2012) states that in general, banks' revenues come from two sources, traditional and non-traditional activities. Bank's traditional activities are related to a loan channeling and get interests. Because of technology advancement and fierce competition in the banking industry, banks started to expand their business out of their traditional activities. For example, many banks begin to offer services, such as cash flow management, securitization, wealth management, bancassurance and other derivatives (Nguyen et al., 2012; Hafidiyah & Trinugroho, 2016; Khan et al., 2017). These activities generate non-interest income for bank and make bank not fully rely on interest-bearing assets.

We use sample of five Asian countries which each of them have specific characteristic of their banking industry, such as competition level, number of banks, and develomment stages. On average, bank's non-interest income in the five countries of our samples, Indonesia, Malaysia, Philippines, Thailand, and China tend to rise, except in the Philippines (as seen in figure 1). This phenomenon reveals that in the last five years, the banking industry in each country faces a fierce competition; therefore each bank intensifies their efforts to run non-traditional activities to obtain more non-interest income. Bank expands its product lines and variety of services offered to their customers to gain more non-interest income and higher market share.

Meslier et al. (2014) categorizes non-interest income into four main components. First, fiduciary income, which is income generated from operational fiduciary activities, such as investment administration. Second, service charges, which is income that is directly linked to deposit accounts, such as ATM and check fees. Third, trading revenue, which is income generated from trading activities, such as trading cash instruments, off-balance contracts, and other mark-to-markets. Fourth, fees and other income, which include other fees, such as loan commitment fees, safe deposit boxes, commission, and land rent.

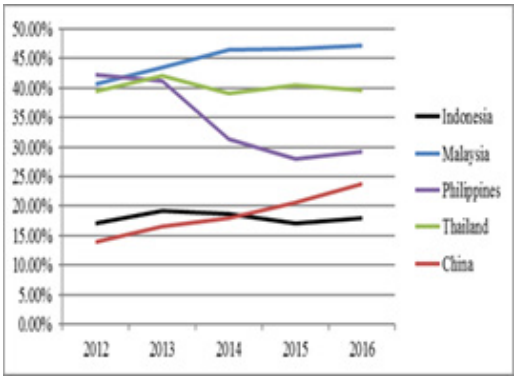

Figure 1. Growth of Bank's Non-Interest Income Proportion

Hypothesis Development

Some experts state market power is a crucial factor that stimulates a bank to identify new opportunities to develop non-traditional activities and thus will increase its non-interest income (Berger et al., 2009, Nguyen et al., 2016). These researchers find that non-traditional banking activities are significantly influenced by market power. Market power is firms' capability to launch its strategy in the market which is seriously impacted by it. Banks which have a strong market power have a wider room to achieve its target and drive banking industry to a more favorable direction according to their own interest. On the other hand, average banks' market power reflects the level of competition among banks.

There are three academic views on the relationship between market power and banks' income diversification. Firstly, "quiet life" theory proposed by Berger and Hannan (1989) that states strong market power create fewer incentives for bankers to diversify their income because their capacity to set the price above

marginal cost has already yielded high profits. In other words, strong bank market monopoly power has enabled them to relax their efforts to increase shareholders' value. In contrary, "market power paradigm" theory states that banks with weak market power but operate in concentrated markets tend to collude and can obtain higher profit margin, more diversified income and better performances (Berger et al., 2009). Collusion behavior is found when banks push down deposit interest rates and charge higher lending rates, bank fees, and commissions to clients. Third view, "competition-stability" view supports market power paradigm hypothesis with different argumentation. Intense banking competition pushes bankers to launch all possible products to be able to survive in the industry (Meslier et al., 2014). In a competitive market, banks tend to diversify their income into non-traditional activities.

H1: Market power has a negative effect on bank's income diversification.

However, some empirical research show contradicting results. Hidayat et al. (2012) and Ahamed (2017) find that banks with higher market power will earn higher interest margins, therefore will tend to deter their intentions to diversify into non-traditional activities. This study is in line with "quiet life" theory Meslier et al. (2014) and Nguyen et al. (2016) show that bank's non-interest income is not only influenced by its market power but also depends on types of ownership. Types of bank ownership are categorized into two groups; state-owned banks or private banks and foreign or domestic banks.

Meslier et al. (2014) and Samanta (2017) shows that at a certain level of market power, banks with different types of ownership have different preference and interest in diversifying their activities into non-traditional activities. For example, foreign banks tend to have more capacity to carry out activities that generate non-interest income because they have full access to technology and human resources, also the ability to diversify income risks. Moreover, state-owned banks that usually have more extensive capacity compared to private banks tend to widen their market scope to gain non-interest income by exploiting their size and their diverse and vast geographical operation advantage. However, some research shows the mixed result on this issue. Pennathur et al. (2012) and Lee (2017) show that government banks tend to do less diversification because they are relatively less efficient and less innovative to expand their operation to nontraditional bank business. Meanwhile, Carvalho et al. (2014) find that government-owned banks are not the least efficient bank among other types of bank. Instead, they tend to have greater motivation to generate commission income.

Three existing theories have different implications on the expected relationship between types of ownership and banks performance in carrying out their non-traditional activities. First, social view that states that government-owned banks have more incentives to allocate their resources into projects that are socially profitable thus will tend to diversify their sources of income into non-traditional activities (Maudos et al., 2007). Second, agency view that is also in line with social view also states that government attempts to maximize social welfare by push government-owned bank to allocate their resources into socially profitable activities. Third, a political view which states that government-owned banks have less innovations because they are forced to fund some inefficient projects but politically desirable.

H2: Government ownership weakens the relationship between market power and bank's income diversification.

Meslier et al. (2014) and Williams (2016) show relationship between non-interest income and market power is significantly influenced by the market condition. In developing countries, foreign banks record higher profits than domestic bank, whereas foreign banks in developed countries instead show lower profits. This

condition tends to drive different foreign bank behavior to diversify their income.

In regards to foreign ownership on the relationship between market power and income diversification, there are two theories; 'global advantage' view and 'home field advantage' view (Berger et al., 2009). First, 'global advantage' view states that foreign banks with more superior managerial skills can handle cross-territory problems and can operate more efficiently than domestic banks. Moreover, foreign banks may have easier access to advanced technology and have more skillful human resources, so they can introduce product innovations in consumer banking, services that generate commission fees and various innovative new services more easily compared to domestic banks. Second, 'home field advantage' view on the contrary states that foreign banks are less efficient in running both traditional and non-traditional activities compared to domestic banks whose better information about economic condition, language, legal, and politics of their countries (Berger et al., 2009). Nguyen et al. (2016) show that institutional distance between home- and host-country will result in higher informational, agency, and operational fees for foreign banks, and therefore will diminish their ability to diversify into non-traditional activities.

H3: Foreign ownership strengthens the relationship between market power and bank's income diversification.

Based on five Asian banking industries, this research test all hypothesis about bank income determinants, such as bank market power and type of ownership. With broader banking data, this research has a more generalized result and give deeper understandings on this issue. To get a robust empirical model, we also include seven control variable such as bank size, bank efficiency, industry concentration, and bank credit risk. The relationship of these control variable with bank income diversification gives us an opportunity to make a more robust conclusion (as seen in Figure 2)

METHOD

Data

This study uses these following criteria to determine the samples:

Bank samples are commercial banks in Indonesia, Malaysia, Philippines, Thailand, and China, with all types of ownership (government-owned, private, foreign, or domestic). We analyze China's banks as a benchmark; Bank operated during the period of study, which is from 2012 to 2016; Bank has complete annual financial reports.

This study makes use of secondary data from Datastream Reuters Eikon as well as individual banks' annual reports from 2012 to 2016. Moreover, macroeconomic data are obtained from World Bank's official website. From all existing banks, we find those that have necessary information are 80 banks, 34 banks are Indonesian, 9 banks are Malaysian banks, 13 banks are from the Philippines, 11 banks are from Thailand, and 13 banks are from China.

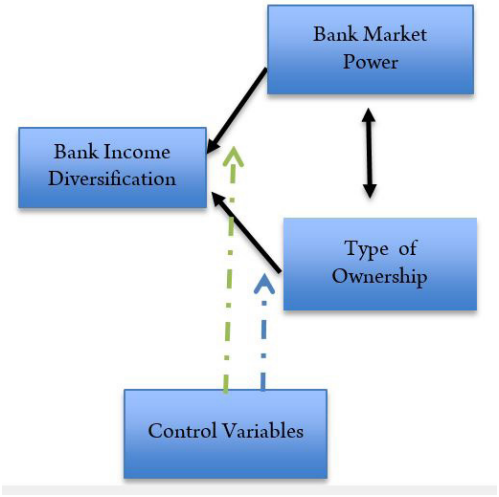

Figure 2. Conceptual Framework

We use Lerner Index as bank's market power measure which is widely accepted among academicians and banking industry regulators also (Maudos & Guevara, 2007; Brissimis & Dellis, 2011). Lerner Index is considered to be able to capture the impacts of market concentration and demand elasticity, so it reflects

Table 1. Variable Definition and Measurement

Variable	Proxy	Definition and Measurement
Dependent Variable		
NITR	Income Diversification	Ratio of non-interest income to total revenue $NITR_{i,j,t} = \frac{Non - Interest\ Income_{i,j,t}}{Total\ Revenue_{i,j,t}}$
Independent Variables		
LERNER	Lerner Index	Proxy of market power, obtained from dividing the value of the difference of asset price and marginal cost to asset $LERNER = \frac{P_{TA_{i,j,t}} - MC_{TA_{i,j,t}}}{P_{TA_{i,j,t}}}$
LERNER_GOV	Interaction between *market power* and government ownership	Multiplication between Lerner Index and government ownership 1 : Banks with government ownership ≥ 50,01% 0 : others
LERNER_FOR	Interaction between market power and foreign ownership	Multiplication between Lerner Index and foreign ownership 1 : Banks with foreign ownership ≥ 50,01% 0 : others
Control Variables		
SIZE	Bank Size	Log natural of banks total assets $SIZE_{i,j,t} = \ln(Total\ Assets)_{i,j,t}$
EFFI	Bank Efficiency	Ratio of total cost to total revenue $EFFI_{i,j,t} = \frac{Total\ Cost_{i,j,t}}{Total\ Revenue_{i,j,t}}$
EQUITY	Bank Capital ratio	Ratio of total equity to total assets $EQUITY_{i,j,t} = \frac{Total\ Equity_{i,j,t}}{Total\ Assets_{i,j,t}}$
NIM	Bank Interest Margin	Ratio of net interest income to total earning assets $NIM_{i,j,t} = \frac{Net\ Interest\ Income_{i,j,t}}{Total\ Earning\ Assets_{i,j,t}}$
CREDIT	Bank Credit Risk	Ratio of total equity to total loans
CONCEN	Industry Concentration	Sum of three largest banks in each country
ECONOMY	Country Economic Condition	Annual real GDP growth rate

individual bank's position in the industry and bank's power to compete within industry dynamics (Pennathur et al., 2012). Lerner Index is defined as difference between product price and production marginal cost as monopoly power essence (Lerner, 1934). Thus, higher Lerner index indicates higher individual bank's power to set price up according to its specific interest. The calculation for Lerner Index is as follows:

$$\text{LERNER}=\frac{P_{TA_{i.j.t}}-MC_{TA_{i.j.t}}}{P_{TA_{i.j.t}}}$$

LERNER = Value of Lerner Index.
PTA = Total assets (quotient of total revenue and total assets).
MCTA = Marginal cost of total assets and derived from translog cost function which derived from model developed by Berger er al (2009) as shown below.

$$\begin{aligned}\text{Log (Cost)} = {} & \alpha + \beta_1 \log(TA) + \frac{1}{2}\beta_2 (\log(TA))^2 + \\ & \beta_3 \log(W_1) + \beta_4 \log(W_2) + \beta_5 \log(W_3) + \\ & \beta_6 \log(W_1) \times \log(W_1) + \beta_7 \log(W_2) \times \\ & \log(W_2) + \beta_8 \log(W_3) \times \log(W_3) + \\ & \beta_9 \log(W_1) \times \log(W_2) + \beta_{10} \log(W_1) \times \\ & \log(W_3) + \beta_{11} \log(W_2) \times \log(W_3) + \\ & \beta_{12} \log(TA) \times \log(W_1) + \beta_{13} \log(TA) \times \\ & \log(W_2) + \beta_{14} \log(TA) \times \log(W_3) + \varepsilon\end{aligned}$$

Cost = Banks' total costs
TA = Bank outputs or banks' total assets
W1 = Personnel expenses to total assets
W2 = Interest expense to total deposits
W3 = Other expense to total assets)

Bank's marginal cost (MCTA) is a first derivation of total cost function (2) obtained from the calculation above, so we get:

$$\begin{aligned}MC_{TA} = \frac{Cost}{TA}[\beta_1 + \beta_2 \log(TA) + \beta_{12} \log(W_1) + \\ \beta_{13} \log(W_2) + \beta_{14} \log(W_3)]\end{aligned}$$

To test the first hypothesis, we estimate model 1:

$$\begin{aligned}\text{NITR}_{i,j,t} = {} & \alpha + \beta_1\text{LAGNITR}_{i,j,t} + \beta_2\text{LERNER}_{i,j,t} + \\ & \beta_3\text{SIZE}_{i,j,t} + \beta_4\text{EFFI}_{i,j,t} + \beta_5\text{EQUITY}_{i,j,t} + \\ & \beta_6\text{NIM}_{i,j,t} + \beta_7\text{CREDIT}_{i,j,t} + \beta_8\text{CONCEN}_{i,j,t} \\ & + \beta_9\text{ECONOMY}_{i,j,t} + e_{i,j,t}\end{aligned}$$

To test the second hypothesis, we estimate model 2:

$$\begin{aligned}\text{NITR}_{i,j,t} = {} & \alpha + \beta_1\text{LAGNITR}_{i,j,t} + \beta_2\text{LERNER}_{i,j,t} + \\ & \beta_3\text{LERNER}_{i,j,t}*\text{GOV}_{i,j,t} + \beta_4\text{SIZE}_{i,j,t} + \\ & \beta_5\text{EFFI}_{i,j,t} + \beta_6\text{EQUITY}_{i,j,t} + \beta_7\text{NIM}_{i,j,t} \\ & + \beta_8\text{CREDIT}_{i,j,t} + \beta_9\text{CONCEN}_{i,j,t} + \\ & \beta_{10}\text{ECONOMY}_{i,j,t} + e_{i,j,t}\end{aligned}$$

To test the third hypothesis, we estimate model 3:

$$\begin{aligned}\text{NITR}_{i,j,t} = {} & \alpha + \beta_1\text{LAGNITR}_{i,j,t} + \beta_2\text{LERNER}_{i,j,t} + \\ & \beta_3\text{LERNER}_{i,j,t}*\text{FOR}_{i,j,t} + \beta_4\text{SIZE}_{i,j,t} + \\ & \beta_5\text{EFFI}_{i,j,t} + \beta_6\text{EQUITY}_{i,j,t} + \beta_7\text{NIM}_{i,j,t} \\ & + \beta_8\text{CREDIT}_{i,j,t} + \beta_9\text{CONCEN}_{i,j,t} + \\ & \beta_{10}\text{ECONOMY}_{i,j,t} + e_{i,j,t}\end{aligned}$$

RESULT AND DISCUSSION

Table 2. Descriptive Statistics of Samples

Variables	Mean	Max.	Min.	Obs.
NITR	0,2682	0,6629	0,0283	400
LAGNITR	0,2677	0,6629	0,0283	320
LERNER	-0,2303	0,7088	-3,0128	400
LERNER_GOV	0,0016	0,6189	-0,8068	400
LERNER_FOR	-0,0561	0,7088	-1,9062	400
SIZE	16,0400	21,6841	10,8795	400
EFFICIENCY	1,2341	4,0452	0,2789	400
EQUITY	0,1131	0,4124	0,0425	400
NIM	0,0425	0,1455	0,0139	400
CREDIT	0,1984	0,8941	0,0597	400
CONCENTRATION	0,6251	0,8650	0,5316	400
ECONOMY	0,0550	0,0790	0,0080	400

Table 2 show the descriptive statistics of our all bank sample. We find that China banks are banks with largest asset size, and Indonesia banks are the smallest bank among our sample of bank. But, banks with non-interest income portion are Malaysia banks.

This is probably due to the fact that most of Malaysian banks run sharia-based activities, in which non-traditional activities play a big role in their businesses. Meanwhile, Indonesia is found to be the country sample with the smallest non-interest income portion in banks. Finally, the Philippines banks are banks which have the highest average level of market power, on the other hand, Indonesia bank have lowest market power on average.

Table 3 shows descriptive statistic for each sample country.

Table 3. Descriptive Statistics Within Each Country

	INDONESIA			MALAYSIA		
	Mean	**Max**	**Min**	**Mean**	**Max.**	**Min.**
NITR	0.1799	0.5165	0.0283	0.4489	0.5727	0.2561
LERNER	-0.5991	0.5529	-3.0128	0.0082	0.6189	-0.3256
SIZE	14.3576	18.1608	10.8795	17.6003	19.0261	16.3788
EFFICIENCY	1.6050	4.0452	0.4036	1.0001	1.5039	0.5043
EQUITY	0.1409	0.4124	0.0706	0.0851	0.1260	0.0474
NIM	0.0553	0.1455	0.0141	0.0204	0.0289	0.0139
CREDIT	0.2217	0.8941	0.0954	0.1358	0.1985	0.0849
CONCENTRATION	0.5897	0.6111	0.5735	0.6624	0.6681	0.6562
ECONOMY	0.0526	0.0600	0.0480	0.0510	0.0600	0.0430

	PHILIPPINES			THAILAND		
	Mean	**Max**	**Min**	**Mean**	**Max.**	**Min.**
NITR	0.3441	0.5903	0.1036	0.4012	0.6373	0.1568
LERNER	0.2353	0.5415	-0.1927	0.0538	0.3692	-0.6382
SIZE	15.9806	17.6638	13.6014	17.0430	18.2555	15.2022
EFFICIENCY	0.7915	1.3599	0.4802	0.9463	1.5550	0.6448
EQUITY	0.1203	0.2021	0.0651	0.0989	0.1724	0.0425
NIM	0.0415	0.0807	0.0236	0.0323	0.0525	0.0178
CREDIT	0.2581	0.6625	0.1489	0.1465	0.2437	0.0597
CONCENTRATION	0.5606	0.5713	0.5458	0.5464	0.5618	0.5316
ECONOMY	0.0646	0.0710	0.0590	0.0334	0.0720	0.0080

CHINA	**Mean**	**Max.**	**Min.**
NITR	0.1857	0.6629	0.0286
LERNER	-0.1366	0.7088	-0.7173
SIZE	18.5705	21.6841	16.6077
EFFICIENCY	1.1122	1.6909	0.2789
EQUITY	0.0649	0.0914	0.0455
NIM	0.0343	0.0823	0.0175
CREDIT	0.1650	0.3201	0.0996
CONCENTRATION	0.8232	0.8650	0.7763
ECONOMY	0.0730	0.0790	0.0660

Table 4. Result of First Hypothesis Test

Variable	Coefficient	Prob.
C	0,436602**	0,0450
LAGNITR	0,254698***	0,0000
LERNER	0,437578***	0,0061
SIZE	-0,019257**	0,0291
EFFI	0,368944**	0,0187
EQUITY	-0,294802*	0,0752
NIM	-2,851341***	0,0000
CREDIT	0,084943	0,2704
CONCEN	-0,269765***	0,0019
ECONOMY	0,4886**	0,0460
R^2		0,9880
Adjusted R^2		0,9835
Prob (F-stat)		0,0000
DW-stat		2,2564

Table 4 show the result of our first hypothesis testing that market power has a significant positive effect on bank's income diversification (at 99% confidence level). In other words, as market power of a bank increases, its effort to diversify income become intensified. We find similar result when we analyze each country data, except for the Philippines. We conjecture that specific condition of the Philippines banking industry which was dominated by few banks which have a high market power and highly concentrated banking structure made different relationship between market power and bank's income diversification.

Our findings are in line with Nguyen and Nghiem (2016), who also find positive relationship between market power and income diversification. Banks with higher market power have higher capability to identify opportunities to grow in non-traditional activities and execute the opportunities successfully, therefore it can earn more non-interest income.

The result supports "market power paradigm" theory which states banks in concentrated markets tend to collude and gain higher level of market power, therefore they may obtain higher profits (Berger & Hannan, 1989). This type of collusion behavior can be found when banks set a lower deposit rate, and then charge a higher interest rate, fees, and commission to their clients.

This study also supports the "competition-stability" view. This view states that if bank has low market power in loan market, they will protect their overall franchise value by diversifying their income and enter to non-traditional activities. Compared to interest income which is considerably very sensitive to volatile interest rates and economic cycles, fee-based and commission-based income provides diversification opportunities and stabilize bank profitability (Wibowo, 2016; Lin, 2017; Ozili & Uadile, 2017).

Table 5. Result of Second Hypothesis Test

Variable	Coefficient	Prob.
C	0,275883	0,2196
LAGNITR	0,260372***	0,0000
LERNER	0,485721***	0,0022
LERNER_GOV	0,026998**	0,0040
SIZE	-0,014556	0,1081
EFFI	0,422586***	0,0068
EQUITY	-0,209264	0,2096
NIM	-2,600366***	0,0000
CREDIT	0,071414	0,3429
CONCEN	-0,248015***	0,0047
ECONOMY	0,431924*	0,0787
	R^2	0,9869
	Adjusted R^2	0,9818
	Prob (F-stat)	0,0000
	DW-stat	2,3362

Table 5 show the result of our second hypothesis where we can conclude that government ownership has a significant effect on the relationship between market power and income diversification. We find consistent results in each observed country sample.

This result is in line with Carvalho (2014) who find that government-owned banks have larger capacity to run non-traditional activities compared to private banks because government-owned banks are considered to have larger asset sizes, and wider product scopes and geographical location. Significant effect of government ownership, supports social view, which states that government-owned banks, as an agent of development, tend to have more incentives to allocate their resources to socially profitable projects, so they tend to diversify more into non-traditional activities.

Moreover, this study also supports agency view, which states that government tries to maximize social welfare by allocating their resources to socially profitable projects. However, private bank managers focus on business targets and allocate those resources to their shareholders' value.

Table 6. Result of Third Hypothesis Test

Variable	Coefficient	Prob.
C	0,454854**	0,0302
LAGNITR	0,245696***	0,0000
LERNER	0,42847***	0,0069
LERNER_FOR	0,017543*	0,0707
SIZE	-0,020413**	0,0141
EFFI	0,374409**	0,0167
EQUITY	-0,293223*	0,0706
NIM	-2,689364***	0,0000
CREDIT	0,093423	0,2197
CONCEN	-0,293488***	0,0007
ECONOMY	0,504366**	0,0392
	R^2	0,9890
	Adjusted R^2	0,9847
	Prob (F-stat)	0,0000
	DW-stat	2,2210

Table 6 show the result of our second hypothesis where we can conclude that government ownership has a significant effect on the relationship between market power and income diversification. We find consistent results in each observed country sample, except for Thailand. In other words, foreign ownership in banks strengthens the relationship between market power and income diversification.

This result is in line with which find foreign banks have higher profitability compared to their domestic counterparts, especially in developing countries. Pennathur et al. (2012) also find foreign banks get higher income, because foreign banks have relatively more advanced technology, better financial networks, and better access to obtain fund with low interest rates from their parent companies, as well as being superior in terms of experience in running international banking activities.

This study is also in line with Nguyen et al. (2016), which finds that foreign ownership in banks is proven to strengthen the relationship between market power and income diversification. One of the reasons is probably because differences in language, culture, currency, regulatory and supervisory system in host-countries and home-countries may create difficulties for foreign banks in getting a strong foothold in traditional activities; therefore they choose to focus more on non-traditional businesses. Besides, foreign banks are believed to have wider access to more advanced technology, human resources, as well as superior managerial skills.

Moreover, this study also supports "global advantage" theory, which states that foreign banks whose superior managerial skills and more experienced can cope with cross-country challenges and operate more efficiently than domestic banks. Furthermore, foreign banks may also have an easier access to advanced technology and have more highly-educated-human resources, therefore they are able to introduce new product innovations, launch various new services that yield more commission fees compared to their domestic competitors.

CONCLUSION AND RECOMMENDATION

This study results three main findings. First, banks with higher level of market power tend to diversify their income itensively. Due to

their high market power, large and dominant banks are more capable to identify and execute opportunities of non-traditional banking activities.

Second, at a certain level of market power, banks owned by government obtain higher non-interest income compared to private banks. Government-owned banks are considered to have better capacity to run non-traditional businesses than private banks, since government-owned banks usually are larger in size, spread in relatively vast area of the country, and have wider product scopes. Government-owned bank also play as an agent of development which they are ordered by the government to launch new product and services to complete and to strengthen role of banking industry to support economic development and financial system stability.

Finally, at a certain level of market, banks owned by foreign entities obtain higher non-interest income portion compared to domestic banks. Because of longer experience in delivering more complete banking services, more advanced technology, better financial networks, and greater access to low-cost fund from their parent companies, foreign banks tend to diversify their source of income and offer more complete services.

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