Implicit and Explicit Taxes: Study of Asia Pacific Banking

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Abstract: *Reserve requirements act as an implicit tax on the banking industry that can affect their performance. Using bank-level data for 250 firm-years in the Asia Pacific region during the period 2007-2012 and panel data model through fixed effect regression with robust function, this paper analyzes how tax policy, bank characteristics, and macroeconomic environment affect the bank profitability. This study controls for the firm characteristics such as bank size, bank liquidity, and overhead, while the GDP variable to control the country characteristic. This paper confirms some of the findings in the previous studies that the implicit tax policy (reserve requirements) has a positive effect on bank profitability that is proxied with return on assets. While the explicit tax policy does not affect it. This study also gives evidence that the role of foreign bank ownership structure of both the reserve requirements and the explicit tax is higher than the foreign non-banks.*

Keywords: *bank profitability, implicit tax, explicit tax, foreign bank*

Abstrak: *Persyaratan cadangan bertindak sebagai pajak implisit pada industri perbankan yang dapat mempengaruhi kinerja mereka. Dengan menggunakan data tingkat bank selama 250 tahun perusahaan di kawasan Asia Pasifik selama periode 2007-2012 dan model data panel melalui regresi efek tetap dengan fungsi yang kuat, makalah ini menganalisis bagaimana kebijakan pajak, karakteristik bank, dan lingkungan makroekonomi mempengaruhi profitabilitas bank . Penelitian ini mengontrol untuk karakteristik perusahaan seperti ukuran bank, likuiditas bank, dan overhead, sedangkan variabel PDB untuk mengendalikan karakteristik negara. Makalah ini menegaskan beberapa temuan dalam studi sebelumnya bahwa kebijakan pajak implisit (persyaratan cadangan) memiliki efek positif pada profitabilitas bank yang diproksi dengan laba atas aset. Sementara kebijakan pajak eksplisit tidak mempengaruhinya. Penelitian ini juga memberikan bukti bahwa peran struktur kepemilikan bank asing baik dari persyaratan cadangan dan pajak eksplisit lebih tinggi dari non-bank asing.*

Kata Kunci : *profitabilitas bank, pajak implisit, pajak eksplisit, bank asing*

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1. Introduction

As a financial intermediary, banks have an essential role in the economy. Therefore, it is crucial to understand the performance of banking companies in the management interest and regulation. For management, the performance will be used as a consideration to maximize the bank value. While for the regulator, it will maintain the banking system to gain public trust. In recent years, central banks in Asia Pacific countries have used reserves requirements to pursue the goals of monetary and financial stability, especially after the global crisis and Lehman Brother' bankruptcy. The reserve requirements are also one of the economic policy tools used to resolve the policy dilemmas associated with capital inflow that will help facilitate credit growth during the expansion and contraction phases of economic and financial cycles.

Several studies examined the effectiveness of financial intermediation before the global crisis, Hanson and Rocha (1986), for example, examined the effect of the reserve requirements (an implicit tax) and the effective tax rate on the increase of banking spread. While the investigation after the crisis was done by Demirguc-Kunt and Huizinga (1999); Bashir (2003) which concluded that the implicit taxes and explicit taxes affect the profitability level. Reserve requirements are an implicit tax for banks due to the opportunity cost of reserve liabilities that tend to be higher. However, banks do not get a reasonable remuneration rate (lower than market value) on this reserve. Previous researchers used the effective tax rate as a proxy for the explicit tax to distinguish with implicit taxes. Others research use the period after the crisis in emerging markets, such as Perera *et al*. (2013) who prove that the bank profitability is positively related to the tax rate, but it is not associated with the reserve requirements.

The studies examining the effect of reserve requirements as an implicit tax for banks are still limited, so it motivates to be conducted further testing because the reserves can lead to financial system distortions that increase the credit cost reduce the role of financial intermediation. Also, in line with Basel 2 provisions to improve capital requirements, it would be interesting if this study links the Basel 2 adoption period in the Asia Pacific region. The banks in the Asia Pacific itself have successfully implemented Basel 2 since 2008 (Chalermchatvichien *et al.*, 2014). Therefore, the

purpose of this study is to examine the effect of the tax implicit (reserve requirements) and tax explicit (effective tax rate) charged to banks, especially the Asia Pacific banking that implemented Basel 2.

This study contributes to existing taxation literature and other literature to fill the research gap in several ways. First, this study uses large bank data for Asia Pacific countries in the period during and after the economic crisis (2007-2012). Second, this uses regression analysis to test the tax factor (implicit and explicit) to bank profitability. This study investigates the extent to which banking regulations and taxation on bank profitability. The study includes several control variables that are categorized as bank and country characteristics. Third, this study investigates the influence of the foreign ownership and post-crisis period and is interacted with tax variables.

2. Theoretical Framework and Hypothesis Development

2.1. Agency Theory

The agency theory explains two conflicting economic actors, namely principals and agents. An agency relationship is a contract whereby one or more person (principals) instructs another person (agent) to perform a service on behalf of the principal and authorize the agent to make the best decision for the principal (Jensen and Meckling, 1976). The agent is the company. Meanwhile, the principle can be government, shareholder, or bondholder. In the tax's context, the government acting as principal instructs the company to pay taxes following the tax legislation. The company as an agent sometimes prioritizes its importance in optimizing the company's profit to minimize the burden, including the tax burden by doing tax evasion. The company manager in charge of the company for decision-making as an agent has an interest in maximizing its earnings with the policies issued. The character of the corporate manager certainly influences the manager's decision to decide on his policy to minimize the burden including tax burden by considering various things such as sales growth or leverage.

2.2. Taxation of the Financial Sector: Reserve Requirements (Implicit Tax) and Effective Tax Rate *(Explicit Tax)*

Reserve requirements (RR) is a provision for every commercial bank to set aside a portion of third-party funds collected in the form of minimum reserve requirements in the form of the bank's current checking account at the Central Bank or better known as the minimum reserve requirements or legal reserve requirements (LRR). The provisions of LRR are differentiated into two categories of calculation, namely, compulsory liquidity in origin and foreign currencies. RR is an implicit tax for banks because commercial banks are encouraged to keep their assets in the Central Bank, which is a non-earning reserve (Ahmed, 1987). Taxes are 'implicit' because governments do not recognize as 'taxes'. As a result of this RR, banks will usually charge to depositors by giving low interest on deposited funds to the bank. Banks may also charge this 'tax' to creditors with high-interest rates on loans received from the banks. In other words, when the government imposes taxes on commercial banks, this can result in restrictions on financial transactions that reduce the growth of the financial sector. The interest rate ceiling limits the flow of resources to the private sector and diverts funds into the public sector (Fry, 1984).

An explicit tax is a tax that is directly paid to the tax authorities. The explicit taxes in this study use the effective tax rate (ETR) proxy. According to Richardson and Lanis (2007), ETR is often used by policymakers explaining the corporate tax system, tax incentives, and tax rate changes. Explicit taxes include corporate taxes, taxes on loans, interest income, and taxes on assets that are a vital source of government revenue.

2.3. Bank Profitability

Profitability is the company's ability to generate profits (Gibson, 2012). While the profitability ratio shows the combined effect of liquidity, asset, and debt management on operational results. Bashir (2003) uses Return on Assets (ROA) as a proxy for the measurement of bank profitability. Implicit and explicit taxes imposed on banking companies may affect their operating results (profitability). If implicit taxes, including

reserves and liquidity requirements, paid lower than market rates, it would reduce net interest margin (NIM) and profitability, especially in developing countries. This is because the opportunity cost to hold reserves tend to be higher and lower remuneration rate (Demirguc-Kunt and Huizinga, 1999).

This study uses ROA as a proxy to calculate profitability. ROA works to measure the effectiveness of the company in generating profits through the operation of assets owned. The higher the ROA owned by a company, the more efficient the use of assets, so that will enlarge profit. Furthermore, large profits will be attractive to investors because the company has a return rate is expected to be higher.

2.3. Previous Research and Hypothesis Development

Banks are subject to direct taxes through the corporate income tax, and they are subject to indirect taxes through reserve requirements or RR. The tax system for the banking industry as an alternative to prudential or provisions for non-income taxes (Chaudhry *et al.*, 2014). The following explanation of the effect of implicit and explicit taxes on bank profitability proxied by return on assets (ROA).

2.3.1. Reserve Requirements and Bank Profitability

The implicit tax paid less than the market rate imposed on the banking industry can affect the performance of their operations (Demirguc-Kunt and Huizinga, 1999). Reserves reduce interest margins and profits, especially in developing countries, because of the opportunity cost of holding reserves that tend to be higher and lower levels of remuneration. This tax regulation has disrupted the credit practice and policy to allocate bank funds as the primary revenue, so that decrease their profitability. The changes in the RR ratio can also decrease the stock price of the banking industry because it reduces the bank' cash flow (Slovin *et al.*, 1993; Binici and Koksal, 2013).

Unlike the previous research argument, this study estimates that there is a positive effect of the reserve requirements on bank profitability. The increase in the RR will basically increase the bank's resilience to the financial crisis. Thus, it can make the national banking stronger and healthier. Ultimately, this will enhance bank growth and

profitability. According to the agency theory (Jensen and Meckling, 1976) that shareholders incur certain agency costs to make sure that the interests of the firm's managers are aligned to shareholders' interests.

Previous research also showed a positive association between reserve requirements and ROA or profitability. They suggest that RR is increased, it acts as a tax on bank deposits. As financial intermediation becomes costlier, spreads between lending and deposit rates rises. If the central bank stabilizes the interbank rate, we expect lending rates to increase and deposit rates to fall, as the stable interbank rate typically lies between deposit and lending rates. Changes in the lending and deposit rate affect the bank's spreads and therefore its profitability (Husnah, 2006; Glocker and Towbin, 2015). Besides, some arguments from academics and policymakers make it clear that this tax burden is not always the responsibility of the bank, but it can be charged to depositors or other customers (Carvalho and Azevedo, 2008); or creditor (Fama, 1985; James, 1987). Thus, the first hypothesis of this study provides a positive direction from the above argument.

H1: The average reserve requirements have a positive effect on the bank ROA

2.3.2. Effective Tax Rate and Bank Profitability

Effective tax rate (ETR) is the amount of tax imposed on each company based on the tax rate determined by the government on its taxable income. Corporate tax planning is traditionally viewed as a tax-reducing device that transfers interest from the government to shareholders to maximize shareholders' value, although an expanding body of work on agency theory emphasize that tax avoidance is closely related to corporate governance because of the agency cost implications. Perera *et al.* (2013) found that the tax rate decreased bank profitability in South Asia. This is evidence of a tax burden not charged to their customers. In contrast to their opinion, this study estimates that ETR has a positive impact on bank profitability. The argument assumes that ETR will be charged to customers and some findings from previous research. The findings of Kunt & Huizinga (1998), for example, suggest a significant positive relationship between explicit tax and profitability. This is due to

the corporate income tax can affect bank behavior by providing more aggressive lending (Albertazzi and Gambacosrta, 2009). This expansion as a primary source of revenue for banks has the potential to generate higher revenue and margin. Based on the above description, then the second hypothesis as follows:

H2: The average effective tax rate has a positive effect on bank ROA

2.3.3. Ownership Structure, Implicit and Explicit Taxes, Bank Profitability

The ownership structure of foreign-owned companies allows the practice of tax payment obligations will be relatively lower than non-foreign-owned companies. This is due to the efforts of foreign parties to make a shift of the bank's profit (tax shifting) aimed at affecting their income statement (Rego, 2003; Taylor and Richardson, 2013). Moreover, the agency theory should be one of the relevant analytical bases to improve the understanding of the interactions between foreign shareholders and all taxes concerning bank profitability. Alternatively, tax shifting benefits can be used as proxies for tax planning. Tax planning represents a firm's deliberate efforts to reduce its tax liabilities through either legal or illegal means or strategies. Therefore, foreign ownership can weaken the positive effect of implicit and explicit taxes on bank profitability. The third hypothesis of this study are:

H3a: The foreign ownership weakens the positive effect of the average reserve requirements on ROA.

H3b: The foreign ownership weakens the positive effect of the average effective tax rate on ROA.

3. Research Method

3.1. Data

This study uses data from 2007-2012 with the aim to investigate the effect of several variables. The year 2007 as the beginning of the research year because Basel Accord 2 started to be implemented by several countries in the Asia Pacific. Banking companies are considered as research objects related to the reserve requirements as implicit taxes. The criteria for sampling using a purposive sampling method with

several criteria as follows: (1) five large Commercial Bank category banks listed in each Asia Pacific market. Banks are matched by total assets from data streams and are categorized as 100 major banks in the world derived from SNL financial, (2) banks publish Financial Reports for the period 2007-2012 with complete data, (3) RR data of each country is available on IFS (International Financial Statistics), and (4) banks with ETR = 0 - 1.

3.2. Variable Operationalization

3.2.1. Dependent Variable: Return on Assets (ROA)

ROA has been used in most studies related to bank performance. For banking companies, ROA is dependent on bank policy decisions as an uncontrollable factor related to economic and government regulations. Many regulators believe the asset recovery is the best measure of bank efficiency. Here is the formula used:

ROA (before tax profit/TA) =   net interest margin + non-interest income /TA - overhead/TA - loan loss provisioning/TA

$$(1)$$

3.2.2. Independent variable: Taxation Factor

Implicit tax: Reserve Requirements (RR)

RR is the minimum percentage of deposits that must be maintained by the bank as a reserve that will be deposited with the central bank (Glocker and Towbin, 2015). This study uses the RR measures used by Demirguc-Kunt and Huizinga (1999) because detailed information on RR in all countries is not available. The RR variable is calculated from the aggregate reserve of the banking system/deposit ratios such as data available on the IFS (International Financial Statistics) and the short-term funding ratio of total assets for each bank is contained in the DataStream.

$$Reserve = \frac{\text{Reserves of the banking system funding}}{\text{Deposits of the banking system}} \quad X \frac{\text{Customer \& short-term}}{\text{Total assets}}$$

$$(2)$$

Explicit taxes: Effective Tax Rate (ETR)

We use ETR values ranging from 0 to 1, so out of this range is not considered in the analysis. This is done to avoid distortions in ETR and problems in the research model. Explicit tax formulas with variable tax rates, as measured by bank tax bills divided by pre-tax profits.

$$Tax\ rate = \frac{Tax\ Expense}{Before\ tax\ profits}$$

$$(3)$$

The above formula is an ETR measure based on GAAP ETR which considers current and deferred taxes. This study does not use other ETR measurements (such as Cash ETR) due to the data available on the limited DataStream (unavailability of cash tax payment data contained in the Bank's Cash Flow Statement).

3.2.3. Moderating Variable: Foreign Ownership Structure (FOWN)

Claessens *et al*. (2001) proved that foreign ownership weakened the effect of the tax rate on profitability. The measurement of foreign ownership in this study uses dummy variables that 1 for banks having the most significant percentage of ownership is foreign and 0 others.

3.2.4. Control Variables: Bank and Country Characteristics

This study controls for the bank characteristics, namely bank size, bank liquidity, and overhead cost. While a gross domestic product (GDP) is to control for the country characteristic. LnTA is used to control for the bank size. The higher the size, the greater capabilities having the economic scale and scope to generate the revenue and profit. However, it may also have a negative effect, if increased diversification leads to higher risk and lower yields. The bank liquidity uses the proxy of the loan to deposit ratio (LDR) by dividing the total loans granted with total deposits. LDR is the bank's ability to meet or provide a payment tool for the obligations held by banks that are due shortly (less than one year). The higher LDR indicates the potential for banks to

generate the profit (assuming the bank can channel credit effectively, so the number of bad loans will be small). The ratio of overhead to total assets (OVRHD) is used to provide information about variations in operating costs throughout the banking system. This reflects the number of wages and salaries and the cost of running branch office facilities. Finally, GDP explains the economic growth that can encourage an increase in investment credit (greater share), thus increasing bank revenues and profitability.

3.3. Research Model

To examine the relationship between implicit tax and explicit tax on bank performance, this study uses the following model:

$$ROA_{ijt} = \beta_0 + \beta_1 RR_{ijt} + \beta_2 ETR_{ijt} + \beta_3 FOWN_{ijt} + \beta_4 RR_{ijt}*FOWN_{ijt} + \beta_5 ETR_{ijt}*FOWN_{ijt} + \beta_6 LnTA_{ijt} + \beta_7 LDR_{ijt} + \beta_8 OVHRD_{ijt} + \beta_9 LnGDP_{ijt} + \varepsilon i$$

Where

ROA   = return on assets

RR   = reserve requirements

ETR   = effective tax rate

FOWN   = foreign owner, measured by a dummy variable, 1 = foreign individual or institution as the largest shareholder, and 0 = other

LnTA   = natural logarithm of total assets, given year in US dollar value.

LDR   = total loan divided by total deposit

OVHRD = overhead load divided by total assets

The total population divides LnGDP = natural logarithm of gross domestic product.

ε = error, i = bank, j = country, t = time

This research uses a panel data model through fixed effects regression with robust functionality.

4. Results

4.1. Description of Samples and Variables

This study only includes countries where there are at least three banks in the country for each year to ensure fair coverage for each country. The sample countries which are the countries in the Asia Pacific and implement Basel 2 based on the information issued by Deloitte (2005) and Basel International Settlements (BIS, 2013), namely China, Hongkong, India, Japan, South Korea, Malaysia, Singapore, Thailand, and Indonesia. The study removes the sample of Australian and Taiwanese banks due to incomplete data. The following table describes the population and sample numbers of this study:

Table 4.1
Total Population and Sample

Sample Criteria	Obs. firm	Obs.firm years
All Banks are listed in 11 Asia Pacific Exchanges (2007-2012)	249	1.494
Less: non-commercial banks and not the category of 5 large-scale banks for each country	(196)	(1.176)
Less: incomplete data	(10)	(60)
Less: negative data (earnings, ROA) and outliers	-	(12)
Total observation	43	250

Source: DataStream, IFS, Bank Site, processed

Results from sample selection consist of 43 firms (2007-2012) are shown in Table 4.1. The result of the sample includes 250 firms-years observations by omitting some unavailable, incomplete, and potentially biased data.

Table 4.2 shows that the average bank in the Asia Pacific did not experience significant RR changes. The Average RR of China banks is large enough or 10%

higher than other banks in the Asia Pacific, and this may be due to transitional countries that require substantial reserves.

Table 4.2
Descriptive Statistics of Reserve Requirements by Year (in%)

Variable	2007	2008	2009	2010	2011	2012
China	16	17	15	16	18	17
Hongkong	1	2	4	2	2	3
India	7	5	5	5	5	4
Indonesia	12	8	9	17	19	16
Japan	1	1	1	1	2	3
Republic of Korea	1	2	2	1	1	2
Malaysia	2	2	1	1	2	2
Singapura	2	3	3	3	3	3
Thailand	1	1	1	2	1	1

Sources: IFS, processed

Table 4.3
Descriptive Statistics of ETR
(Average of 6 years)

Country	ETR	Country	ETR
China	24%	Republic of Korea	25%
Hongkong	26%	Malaysia	26%
India	31%	Singapura	16%
Indonesia	28%	Thailand	25%
Japan	32%		

Sources: DataStream, processed

Table 4.3 describes the ETR calculations by averaging during the observation period indicating the presence of inter-state variations is not too large.

Table 4.4
Descriptive Statistics of Research Variables

Variable	Mean	Maximum	Minimum	Standard Deviation
ROA	0,015	0,043	0,001	0,007
RR	0,054	0,202	0,002	0,059
ETR	0,252	0,579	0,001	0,082
TA (in million USD)	380	2.785	8.6	621
LDR	0,951	2,670	0,480	0,281
OVHRD	0,021	0,061	0,008	0,011
GDP/cap (USD)	16.605	53.442	989	16.31

Table 4.4 describes the descriptive statistics of each variable. The mean ROA of all samples is 0.015 with a standard deviation of 0.007. This shows the average return of large banking assets in the Asia Pacific is 1.45%. The average RR shows a value of 0.054, which means the average banks reserve their funds in the central bank at 5%. ETR in all samples of 0.252, with a standard deviation of 0.082. This figure shows the average effective tax rate is quite high in the Asia Pacific that is 25%. The mean of the total assets of all banks is USD 380 million. While the mean LDR shows 0.95, in other words, the average LDR of 95% is high enough to indicate aggressive bank management. The overhead load variable has an average of 0.021 or 2.1% of its total assets. This figure shows not too high which means that banking in the Asia Pacific is quite efficient, especially for labor cost which may have been replaced with high technology usage. The average GDP of all samples is USD 16,596 per capita that the highest GDP per capita is owned by Singapore with USD 53,442 in 2012, while India has USD 989.

Table 4.5
Spearman Rank Correlation

Corr t-Stat	ROA	RR	ETR	FOWN	TA	LDR	OVHRD
RR	0.442***						
ETR	0.071	0.025					
FOWN	-0.022	-0.209**	-0.145***				
TA	-0.338**	0.221**	-0.030	-0.147**			
LDR	-0.121	-0.354***	0.029	0.009	-0.296**		
OVHRD	0.413***	0.058	0.246**	0.303***	-0.336***	0.118	
GDP	-0.534***	-0.437***	-0.340***	0.076	0.274**	-0.052	-0.449***

Notes:
RR is a reserve divided by the deposit multiplied by the total deposit divided by total assets. ETR is a tax expense divided by the profit before tax. FOWN is a dummy variable, with a value of 1 if the bank sample is owned mostly by foreigners and the value 0 for the other. LnTA is a total natural logarithm of each bank asset in a given year in US dollar value. LDR is a total loan divided by total deposits. OVHRD is an overhead cost divided by total assets. LnGDP is a gross domestic product divided by the total population of a country.

Table 4.5 describes the correlation matrix for this research variable that RR is positively correlated with ROA. This correlation shows the more significant the RR will encourage greater ROA. Meanwhile, ETR is positively correlated with ROA indicating no relationship between ETR and ROA. The table also shows the value of coefficient between independent variables is low (under the rule of thumb 0.7). Following the opinion of Gujarati and Porter (2012), that multicollinearity will not occur if the correlation between variables is less than 0.9 ($r < 0.9$).

4.2 Hypothesis Testing and Discussion

This section presents the results of regression analysis using panel data estimation methods and classical assumption test which shows no problem with autocorrelation, heteroscedasticity, and multicollinearity.

Table 4.6
Estimation Result of Regression Analysis

Variable	Prediction	Model 1	Model 2	Model 3	Model 4
RR	Hyp1: +	0.027***	0.038***	0.031***	0.034***
ETR	Hyp2: +	-0.002	0.003	-0.001	0.004
FOWN	-		0.015***		0.011***
RR*FOWN	Hyp3: -		-0.066*		-0.075*
ETR*FOWN	Hyp3: -		-0.043***		-0.035***
LnTA	+/-			-0.001***	-0.001***
LDR	+/-			0.001	0.001
OVHRD	+/-			0.152***	0.164***
LnGDP	+			0.002**	0.016**
Observation numbers		250	250	250	250
Adjusted R^2		90.67%	90.38%	89.62%	89.24%
F statistic		46.74***	42.41***	38.25***	34.68***

Sources: E-views output

Notes:

RR is a reserve divided by the deposit multiplied by the total deposit divided by total assets. ETR is a tax expense divided by the profit before tax. FOWN is a dummy variable, with a value of 1 if the bank sample is owned mostly by foreigners and the value 0 for the other. LnTA is a total natural logarithm of each bank asset in a given year in US dollar value. LDR is a total loan divided by total deposits. OVHRD is an overhead cost divided by total assets. LnGDP is a gross domestic product divided by the total population of a country.

Table 4.6 indicates F-value for all models is significant with $\alpha = 1\%$. The value of the Adjusted R2 of 4 models is about 90% so that they can explain very highly dependent variables. Whereas, other factors explain the remaining of about 10% outside the equation, such as macro variables, other corporate and country

characteristic variables. Overall, almost all the variables in the model are consistent and significant, for example, ROA is influenced by RR, the interaction between RR and foreign ownership, total assets, overhead cost, and GDP. While ROA is not affected by ETR and LDR variables.

The testing results of H1 indicate that RR has a significant and positive effect on ROA coefficients for all models. This result has several arguments. First, the impact of implicit tax (RR) in the Asia Pacific does not reduce profitability because the banks have prepared some of their capital to be reserved for the central bank to maintain liquidity and encourage the stability of the banking system by implementing Basel 2. Second, banks charge the opportunity cost of reserve requirements to their customers by using higher interest margin on the products they offer, so they do not feel disadvantaged by the existence of RR. Third, short-term fund flows can be managed by banks with more caution. If there is a large withdrawal by the customer, banks can remain liquid making healthier and stronger. By their enormous growth potential, banking business and stocks will be more attractive and eventually increase bank profitability. These results support research conducted by Husnah (2006). However, it is not in line with the research of Demirguc-Kunt and Huizinga (1999) who found that RR lowered interest margin and profitability.

The regression result of H2 indicates that the effect of the explicit tax on banks profitability is insignificant for all models. It means the tax rate does not affect the level of bank profitability in the Asia Pacific. The result is consistent with the Agency theory notion that not all management strategies tend towards the achievement of wealth maximization objectives. This study also consistent with the finding of Kawor & Kportorgbi (2014) that tax savings enhanced firm's after taxes earnings but does not reflect in the firm's value. Otherwise, this results also do not support the research of which indicates the effect of ETR on bank profitability is positive (Demirguc-Kunt and Huizinga, 1999) or negative (Alper and Anbar, 2011; Perera *et al.*, 2013).

The results of the interaction study between the ownership structure and reserve requirements have a statistically significant and negative influence on the bank profitability. These results support the hypothesis that the existence of profit shifting

actions conducted by foreign companies thus weakening the positive effect of RR and ETR on bank ROA. ETR, in this case, can be regarded as tax planning, is associated with the low performance of foreign banks. According to Ogundajo and Onakoya (2016), to achieve the goal of maximizing corporate wealth through many ways to improve profitability, such as tax shifts, exacerbates the company's ability to pay high taxes leading to a reduction of its tax liabilities. They further state that tax planning has a negative effect on the economy because the government cannot collect taxes. These negative effects can exacerbate the country's economy which is then followed by a decline in the company's financial performance. A study conducted by Dharmapala and Desai (2006) also shows that a set of agency costs arose due to a conflict of interest between shareholders and managers. This view holds that a self-interested manager prefers to take advantage of the manager' tax avoidance actions.

The total asset variable (LnTA) as a proxy of firm size shows a very significant negative effect ($\alpha < 1\%$) with ROA. This means the higher bank assets can encourage the diversification that has the potential to pose risks, which in turn will lower the bank's profitability. Regression results also show a significant positive effect of the overhead variable on bank profitability. These can be interpreted that the Asia-Pacific banking market, with the personnel burden influenced by low productivity and capacity excesses, enables efficient management Perera *et al.* (2013). GDP per capita is a common index of economic development, reflecting differences in banking technology. Although the coefficient of LnGDP is low (0.0016), the economy growth can encourage investment credit (greater share), thus increasing the bank revenue and profitability.

5. Conclusion, Implication and Limitation

This study investigated the effect of the reserve requirements (RR), as an implicit tax, and the effective tax rate (ETR), as an explicit tax, on the increase of banking profitability (ROA). The study found a result that confirm some of the previous findings and hypothesis that the RR policy has a positive effect on ROA. The implication of this finding is RR can decrease the issue of moral hazard by creating

guaranteed deposits. The problem of information asymmetry between bank management and customers can also be lowered which will ultimately lead to improved good governance. For banking practitioners, the movement of the RR can be taken into consideration in managing the short-term cash flow with more caution.

Otherwise, the ETR did not affect bank ROA. This study suggests that ETR, as one of the tax planning measures, has not been fully utilized by Asia Pacific banks. Therefore, we recommend that banking companies can make the tax planning as part of the company's financial planning strategy and use the taxes experts effectively in order to affect financial performance positively. This research also proved the role of foreign shareholders affecting the relationship between these taxes and bank profitability. Foreign ownership has driven a profit shifting that redistributes the corporate tax bases between countries. This results in a loss of overall tax revenue as profit is taxed at a lower rate (or is not taxed at all) in the destination country. Ultimately the effect of this is that the bank's ROA becomes lower.

This research has several weaknesses, so there is a need for suggestions for subsequent research to anticipate these limitations. First, the sample used only 5 major banks based on total assets for each sample country in the Asia Pacific, so the research results cannot be generalized. Subsequent research may use a larger sample size that includes all commercial bank data listed on the Asia Pacific stock exchange. Second, the measurement of ETR uses only one measurement of GAAP ETR, which has a weakness because it contains a deferred tax. Therefore, a deeper ETR test uses other proxies such as cash ETR, long run cash ETR, ETR differential (see Hanlon and Heitzman, 2010). Third, this study uses a single performance proxy. Subsequent studies need to re-test using other profitability proxies such as net interest margin (NIM) or return on equity (ROE). Fourth, based on the IFS data which is then processed by the author, several the Asian countries experienced an economic slowdown as indicated by the decline in GDP during 2007-2009, for example, Malaysia, China, and Hongkong. Thus, it is better to examine the crisis impact that may affect the performance of the real sector, such as exporters. This crisis can potentially encourage the credit risks to banks and reduce revenues, thereby lowering

the income tax. Prediction of the global crisis impact on bank profitability is made by the interaction of GDP with RR and ETR. Fifth, the endogenous variable in the research model can occur if the independent variables (RR and ETR) become the dependent variable. This argument is based on the behavior of corporate managers to lower taxable income through tax aggressiveness (Frank *et al.*, 2009). Tax aggressiveness is a tax planning activity to avoid paying taxes or making low tax burdens that companies have to pay.

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