

# BANK DIVERSIFICATION EFFECTS ON BANK PERFORMANCE AND RISK PROFILE OF BANK IN INDONESIA

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## ABSTRACT

*We investigate the relationship of Indonesian bank diversification towards its long term performance and risk profile with the Indonesian bank data from 2009 to 2013. Non-interest income to total operating income of bank measures bank diversification level. Bank value is measured by the adjusted Tobin's Q and risk profile is broken down into total risk, idiosyncratic risk, and systematic risk. The result shows that bank noninterest income diversification has positive influence on its franchise value. There is, however, no strong evidence that diversification can lower a bank's risk profile.*

**Keywords:** *Bank Noninterest Income Diversification, Bank Performance, Risk profile of Bank.*

## I. Introduction

Banking industry around the world has experienced massive deregulation throughout the years. Baele (2007) pointed that in the United States, the 1999 Gramm-Leach-Bliley Act has permitted banks to pursue broader diversification in financial holding companies. European banking industry on the other hand has allowed banking firms to engage into non-traditional activities through its 1989 Second Banking Coordination Directive. Sawada (2013) pointed out that the Japanese banks experienced rapid deregulation since the 1990s. The Financial System Reform Law which was issued by the Japanese government in 1993, has allowed banks, trust banks and securities companies to partially enter each other's sectors through subsidiaries. The Indonesian government also has started deregulating banking industries since June 1983. Indonesian banking Industry serves as the pillar of engine for growth in the country with a population of over 240 million people. With the trend of deregulations many banks in Indonesia simultaneously have diversified their

business from the traditional banking activity to non-traditional activities such as securities and insurance issuance. In other words, Indonesian banks also are increasingly trying to diversify their source of income from non-traditional banking activities such as securities underwriting, insurance, and trading.

Previous researches, such as those mentioned above have shown mixed results regarding diversification effects on revenues (Elsas et al, 2010; Baele et al., 2007; Berger et al., 2010; Sawada, 2013). There is yet a clear answer to the question of whether diversification effort can benefit banking companies in terms of long term performance perspective (Berger et al., 2010; Elsas et al., 2010) and risk profile (Sitroh 2004, Sitroh and Rumble, 2006; Pennathur et al., 2012).

The empirical evidence also documented on banking diversification to date is primarily based on the US market and other developed countries, with much less insight and discussion on the banking industry in emerging or transitional economies (Berger et al, 2010).



Then, it is interesting, to know the benefit of diversification for banking firms in Indonesia. Then, the main question is whether there is an actual benefit for banking firms to conduct these diversification activities. More specifically this research aims to understand the effect of Indonesian listed banks' diversification effort into non-interest income based activities towards a bank's value (stock based performance) and risk level (idiosyncratic, market, and total risk) using the stock market data. Further, the research also analyze which non-interest income operations that have the most influence towards the bank's value and risk level by dividing non-interest income into three categories, namely fee income, trading income, and other non-interest income.

## II. Literature Review and Hypothesis Development

### 2.1 Bank Noninterest Income Diversification and Bank Performance

A large body of literature mentioned costs and benefits of diversification non-banking industry<sup>1</sup>. However, the empirical literature on the merits of bank diversification has largely focused on diversifying effects into non-traditional financial services (Elsas et al., 2010).

Proponents of diversification of bank focus the fact that that diversified banks can benefit from leveraging managerial skills and abilities across products and geographic regions (Iskandar-Datta and McLaughlin, 2007). On the other hand, Drucker and Puri (2010) focus on gaining economies of scope through spreading fixed costs over products and regions.

<sup>1</sup> For example, summary from V. Maksimovic and G. Phillips (2007) in *Handbook of Corporate Finance*, Vol 1. give comprehensive literature reviews that include theories and empirical evidences regarding diversification effects to the firm value.

However, we just focus on the effects of non-interest income diversification effects on the bank performance.

Stiroh and Rumble (2006) also investigate the effect of diversification on the risk-adjusted profitability of US financial holding companies for the period 1997–2002. They find revenue diversification is associated with higher risk-adjusted profits, but these gains are typically offset by the costs of increased exposure to volatile non-interest activities. Baele et al., (2007) conducted a research on the benefit of bank diversification using data from 17 European countries with a sample period from 1989 to 2004. Baele et al (2007) investigates whether functionally diversified banks have a comparative advantage in terms of long-term performance (using Tobin's Q ratio as a proxy) and risk profile compared to their competitors. They show that diversification increases a bank's franchise value and is able to decrease its idiosyncratic volatility. Elsas et al., (2010) also presents strong evidence that diversification does not reduce shareholder value but rather improves bank profitability and thereby, indirectly, value using 380 listed banks for the years 1996–2008 from 8 developed countries.

Leaven and Levine (2007), however, find different evidence. Using cross country banks from 43 countries, they find that the market values of financial conglomerates that engage in multiple activities are lower than if those financial conglomerates were broken into financial intermediaries that specialize in the individual activities. They conclude that financial conglomerates that engage in multiple activities increase the agency problem and destroy value.

Berger et al., (2010) focus on the effects of focus versus diversification on bank performance using data on Chinese banks during the 1996–2006. They use a new



measure of diversification, economics of diversification. They find evidences diseconomies of diversification in the loan, deposit, asset, and geographic dimensions. Regarding the negative effects of diversification, Elsas et al., (2010) mention that banks have been investing into diverse business areas early on to acquire the skills needed to make efficient production decisions and to reap profits when a particular business area eventually turns out to flourish.

**H1: Noninterest income diversification efforts conducted by banking firms in Indonesia have a positive influence on the bank performance.**

## **2.2 Bank Noninterest Income Diversification and Risk Profile of a Bank**

Stiroh (2004) mentions the increase in non-interest income in US commercial banks can reduce the volatility of bank profits. Stiroh (2004) mention two possible reasons. First, noninterest income may be less correlated with overall business conditions than traditional interest income. Secondly, expanded product lines and cross selling opportunities associated with growing noninterest income may give traditional diversification benefits for a bank's revenue portfolio. Pennathur et al., (2012) also note that as non-interest income increases, banks may shift away from traditional intermediation, then resulting in decreases in interest income and simultaneous declines in credit and interest rate risk.

Pennathur et al., (2012) find mixed evidences. Using Indian's data, they show that fee-based income significantly reduces risk, as measured by profitability variables, for public sector banks. On the

other hand, for the private sector banks, both domestic and foreign, the pursuit of fee-based income increases risk, as measured by the volatility of ROA.

However, Stiroh (2004) assert that at the aggregate level volatility of bank revenue growth has declined in the 1990s, but this reflects not because of reduced volatility from diversification benefits but from net interest income growth. Furthermore, he finds the lines between non-interest income and interest income's correlation are growing over time. Stiroh and Rumble (2006) also note that worsening of the risk return trade-off for US banks. They state that the earnings gain from diversification caused by growth in non-interest income is outweighed by the volatility increases. Pennathur et al., (2012) also mention that literature from developed nations indicates that volatility increases as banks seek new noninterest sources.

**H2: Bank Noninterest Income diversifications and risk profile of Indonesian banks in Indonesia has positive association.**

## **III. Data and Research Methodology**

### **3.1 Research Data**

The data being used in this research consist of daily stock return and quarterly financial reports of bank companies listed in the Indonesian Stock Exchange from the period of 2009 to 2013 obtained from IDX and Yahoo! Finance website. Bank firms which data are not available in between the sample period are being excluded. The reason being is because the research relies on stock market data as a proxy of performance and risk measurement; any missing data during the sample period will distort the research result. There are in total 231 observations with 11 banks.



### 3.2 Revenue Diversification Model

We employ a panel data model for analyzing the relationship between a bank's diversification effort towards its franchise value.

$$TQ_{it} = \beta_{1i} + \beta_2 DIV_{it} + \gamma_i X_{it} + \epsilon_{it} \quad (3.1)$$

where

$TQ_{it}$  : Bank franchise value (Tobin's Q)

$DIV_{it}$  : Revenue diversification

measurement (Non-interest revenue share or Revenue diversity)

$X_{it}$  : Other control variables (equity-to-asset ratio (capital structure), cost-to-income ratio, non-performing loan ratio (bad loan ratio), loan growth rate, log of total assets (bank size), and Return on Asset (ROA))

### 3.3 Risk Profile Model

$$RP_{it} = \delta_{1i} + \delta_2 DIV_{it} + \pi_i X_{it} + \epsilon_{it} \quad (3.2)$$

where

$RP_{it}$  : Bank Risk Profile (Total Risk, Idiosyncratic Risk, and Systematic Risk)

$DIV_{it}$  : Revenue diversification measurement (Non-interest revenue share or Revenue diversity)

$X_{it}$  : Other control variables (equity-to-asset ratio (capital structure), cost-to-income ratio, non-performing loan ratio (bad loan ratio), loan growth rate, log of total assets (bank size), and Return on Asset (ROA))

### 3.4 Main Variables

**Tobin's Q (Bank's Performance).** We use Tobin's Q ratio as a proxy for a bank's performance or franchise value. One disadvantages of the Tobin's q ratio is that the ratio itself depends on the accuracy of valuing the replacement cost of the firm's asset. However, the market value of a

certain firm can be accurately measured using the available information such as stocks and bonds. On the other hand, it is difficult to obtain an estimate of a replacement cost of a firm's asset, unless markets for used equipment exist. By definition, Tobin's Q ratio is the market value of an asset divided by its replacement cost. For the research paper, the Tobin's Q ratio is the sum of market value of equity and the book value of liabilities divided by the book value of assets, consistent with the previous literature (Sawada 2013).

**Total risk, Systematic risk, and Idiosyncratic risk (Risk Profile of the Bank).** Using single index model we decompose total risk into two factors, that is market (systematic) risk and firm specific (idiosyncratic) risk (Sitroh, 2004; Sawada, 2013). The following market model is being used as a measurement of risk:

To get the systematic and unsystematic risk we use market model as follows:

$$R_{it} - R_f = \alpha_i + \beta_i(R_m - R_f) + \mu_{it} \quad (3.3)$$

where

$R_{it}$  : Daily return of bank i at period t

$R_m$  : Daily market return of the Indonesian's IHSG

$R_f$  : Yield to Maturity of the 10yr Indonesian government obligation (SUN)

Then total risk is derived from the standard deviation of a bank's daily stock return. Market risk is derived from the coefficient of the market return variable. Firm specific (idiosyncratic risk) is derived from the standard deviation of the residuals of the market model.

**Diversification Measures.** To measure for diversification, bank's revenue is decomposed into two categories, namely



net interest income and non-interest income. The non-interest income share is assumed to capture the non-traditional banking business. Non-interest income to total operating income ratio is used as a proxy for bank's revenue diversification measurement (Elsas et al., 2010, Sawada, 2013).

Another complementary measurement for diversification from previous studies (Baele et al. 2007; Laeven and Levine 2007; Elsas et al. 2010; Sawada 2011) is also being used in this research. The diversification measurement goes as follows:

$$\text{Revenue Diversity} = 1 - \frac{|\text{Interest income} - \text{Noninterest income}|}{\text{Total operating income}} \quad (3.4)$$

Revenue diversity takes on a maximum value of "1" when non-interest income share is 0,5 and a minimum value of "0" when non-interest income share is zero or one.

Other control variables are measured as follows;

**Equity to Asset Ratio.** The equity-to-asset ratio measures bank capital structure. Capital structure affect bank value and risk level in several ways, including agency cost, financial leverage, or a buffer to negative shocks (Sawada, 2013). The equity to asset ratio is derived from book value of equity divided by book value of asset.

**Cost to income ratio.** The cost to income ratio serves as a proxy for a bank's cost efficiency. The cost to income ratio is derived from total operational expense divided by the total operational revenue. Operational revenue includes both interest and non-interest revenue.

**Non-performing loan.** The non-performing loan ratio variable serves as a proxy for the quality of loans that a bank distributes (Sawada, 2013). If a bank has

big portion of non-performing loan their profitability will be decreased and riskiness of the bank itself will increase. Then we expect the non-performing loan ratio to be negatively associated with bank value and positively associated with risk measures.

**Loan growth rate.** Loan growth rate has positive effect to bank value because increase of loan growth can bring increase of profitability of the bank. Loan growth rate also may have positive effects on the risk level because rapid asset growth may increase the bank's portfolio risk (Shim, 2013). Then we expect loan growth rate to have a positive association with bank value and with risk level of a bank. The loan growth rate measures the growth of loans being issued by banks.

**Log (Assets)** Large banks are likely to hold relatively lower risk since larger banks tend to be more diversified and have easier access to the capital markets than smaller banks. However, the moral hazard issue also is likely to occur for larger banks due to a government's safety net through implicit "too big to fail" policies. Thus, larger banks may involve in riskier lending activities (Shim, 2013). The log (assets) used as proxy for the size a bank.

**ROA.** The return on asset is being used as a proxy for a bank's profitability. Profitability has positive association with a bank value but has negative association with risk profile of the bank. ROA is measured by net income divided by book value of assets.

## IV. Empirical Results

### 4.1 Descriptive Statistics

Table 4.1 shows that the average franchise value (Tobin's Q) ratio of the 11 sample banks from first quarter 2009 to fourth quarter 2013 is 1.11934 with a standard



deviation of 0.13081. In other word, the banks performance estimated with Tobin's Q is not different among the bank in Indonesia. On the other hand, as shown the average total volatility 2013 is 0.02562 with a standard deviation of 0.01212, each bank's risk level is much more diverse than performance. The average market beta is 0.94498 with the lowest market beta of -0.25694 and the highest market beta of 2.48119. The average idiosyncratic volatility is 0.02174 with a standard deviation of 0.01253.

The average diversification measurement using non-interest income to total operating income (DIV1) is 0.67693 with the lowest diversification ratio of 0.19572 and the highest diversification ratio of 0.99907. It means, therefore quite reasonable to have a diversification ratio of 0.99907 considering that there is a possibility on a certain quarter, a bank might have a bloated amount of non-

interest operational income. The average complementary diversification measurement (DIV2) is 0.31749.

The capital structure measurement has an average value of 0.44392 with the lowest ratio being 0.08234 and the highest ratio being 0.86605. The average banks' cost structure, measured by cost to operating income ratio is 0.54054. The lowest cost to income ratio is 0.13273 and the highest cost to income ratio is 0.86605. The average non-performing loan ratio is 0.02467 with the lowest non-performing loan ratio being 0.00006 and the highest non-performing loan ratio is 0.06350. The average loan growth rate is 5,60% 0.05604 with the slowest growth being -20,60% or -0.20607 and the highest growth being 25,89% or 0.25896. The average return on assets is 1,29% or 0,01299 with the lowest return on asset being 0,02% or 0.00201 and the highest return on asset being 3,40% or 0.03408.

**Table 4.1 Descriptive Statistics of Main Variables**

Variable	Mean	Std. Dev.	Min	Max
TobinsQ	1.41934	0.13081	0.90955	1.49737
TV	0.02562	0.01212	0.00953	0.13056
MrktBeta	0.94498	0.47048	-0.25694	2.48119
IV	0.02174	0.01253	0.00845	0.12479
DIV1	0.67693	0.20155	0.19572	0.99907
DIV2	0.31749	0.19765	0.03399	0.86314
EquitytoAsset	0.44392	0.23444	0.08234	0.86605
CosttoIncome	0.54054	0.12636	0.13273	0.86605
NPLratio	0.02467	0.01241	0.00006	0.06350
LoanGrowth	0.05604	0.05683	-0.20607	0.25896
LogAsset	18.3259	1.51263	14.4908	20.4127
ROA	0.01299	0.00729	0.00201	0.03408

TobinsQ variable is the proxy for franchise value / future performance measured by the sum of market value of equity and book value of liabilities divided by book value of assets. TV is the variable for total volatility measured by the standard deviation of daily stock returns. IV is the variable for idiosyncratic volatility measured by the standard deviation of the two-indexed market model residuals. MrktBeta is the variable for market volatility measured by the coefficient of the market variable from the two indexed market model. DIV1 is the variable for diversification measurement, proxied by the non-interest income to total operating income ratio. DIV2 is the variable for the complementary variable. EquitytoAsset ratio is the variable for capital structure measured by the ratio of book value of equity to book value of assets. CosttoIncome is the variable for cost structure measured by the operational expense divided by gross operating revenue. NPLratio is the variable for loan quality measured by the non-performing loan ratio. LoanGrowth is the variable for loan growth rates of banks. LogAsset is the variable that captures the size effect of banks. ROA is the variable for profitability measured by net income divided by book value of assets.



## 4.2 Effects of Revenue Diversifications to the Bank Performance

The main variable of interest in regression [1] and [2] in the Table 4.2 is DIV1, which is the measurement of diversification using the ratio of non-interest income to total operating income as a proxy. DIV1 yields a positive coefficient of 0.11982. DIV1 is also significant at the 1% level which indicates that diversification effort by banking firms is a significant factor

that influences the bank's franchise value and is consistent with the result obtained by Sawada (2011) in which he finds a positive and significant relationship between diversification and franchise value. The result is reasonable considering that investors view diversification effort beneficial and serves as a hedge for a bank's source of income from interest rate risk.

**Table 4.2 Revenue Diversification to the Bank Value**

	Tobin's Q		
	[1]	[2]	[3]
Revenue Diversification			
Non-interest revenue share (DIV1)	0.11982***	0.11692***	
Revenue Diversity (DIV2)			0.01717
(Control Variables)			
Capital Structure (EquitytoAsset)	-0.22543***	-0.21065***	-0.12293
Cost Structure (CosttoIncome)	0.28018***	0.26466***	0.13473
Bad loans (NPLratio)	-0.21518***	-0.01382*	-0.12494
Loan growth rate (LoanGrowth)	0.01005	0.06396	0.11750
Bank Size (LogAsset)	0.03447***	0.03018***	0.03579**
Profitability (ROA)		3.48762**	3.62146*
Constant	0.40589	0.42019	0.319535
Number of observation	220	220	220
R_sq (Within)	0.4925	0.5263	0.5419
Number of groups	11	11	11

Significance at 1%, 5% and 10% level are denoted by \*\*\*, \*\*, and\*.

The figures in parentheses indicate the standard errors. Tobin's Q defined by as ratio of the sum of market value of equity and the book value of liabilities divided by the book value of assets. DIV1 as noninterest income to total operating income. DIV2 is defined by 1-(interest income – noninterest income)/ total operating profits. Equity to Asset as the book value of assets divided by book value of assets, Cost to Income is used by total operational expenses divided by total operational revenue. Non performing loan as the percentage of loans to total loans, Loan Growth as the percentage of increase of loan compare to previous quarter. Log Asset as logarithm of total assets of the bank, and ROA as net income divided by the book value of asset

NPL ratio, the variable which serves as a proxy for a bank's bad loan position yields a negative and significant coefficient of -0.21518. Log (Asset) variable, which is a proxy for the size of banks also have a positive and significant influence at the 1% level towards franchise value with a value of 0.03447. This result is also reasonable considering the bigger the value of a bank's asset, the higher its franchise value will be.

Cost to Income variable, which serves as a proxy for a bank's cost structure, yields a significant 1% relationship towards

franchise value, which is puzzling because clearly higher cost translates to lower earnings, and ultimately lower franchise value.

Regression [2] adds an additional control variable, ROA, which is a proxy for a bank's profitability. Even after adding an additional control variable, ROA, the diversification measurement, DIV1 still yields a significant effect at the 1 % level with a coefficient of 0.11692.

In regression [3], the diversification measurement uses a complementary method which is consistent with previous



studies conducted by Baele et al (2007) and Sawada (2011). The complementary diversification measurement, DIV2, yields an insignificant positive coefficient of 0.01717. The result is different from the previous studies (Baele 2007, Sawada 2011) in which they find a positive and significant relationship between the diversification measurement with a bank's franchise value. Using the complementary diversification measurement, the EquitytoAsset variable, a proxy for capital structure becomes insignificant towards the franchise value. The CosttoIncome variable, which is a proxy for cost structure become insignificant. The size effect and profitability measurement, however, still yields a significant value at the 1% and 5% level consecutively.

#### **4.3 Revenue Diversification Effects on Risk Profile of the Bank**

Regression [4] in Table 4.3 measures the relationship between total volatility, measured by the daily standard deviation of stock returns, with the control variables. The diversification measurement, DIV1, yields a negative but insignificant result. This shows that diversification effort being conducted by banking firms in Indonesia cannot help reduce total volatility. This finding is consistent from Sitroh (2004), Pennatur et al., (2012) and Sawada (2013) in which he does not find any strong evidence bank diversification can reduce total volatility.

LogAsset variable, on the other and, does have a negative and significant value of -0.00209 at the 1% level which shows that the larger the size of the bank, the smaller its total volatility will be.

Regression [5] in Table 4.3 uses a complementary diversification measurement as the variable of interest in relation to total volatility. The complementary diversification measurement, DIV2, also yields a negative insignificant relationship. The result is

consistent with the findings of Sawada 2011, in which he finds a negative but insignificant relationship between the complementary diversification measure with total volatility. Again, LogAsset variable, which is a proxy for the size of a bank has a negative and significant relationship with total volatility indicating that the size of bank can help reduce its total volatility.

The variable, Cost to Income ratio, which captures the cost structure effect of banks yields a positive and significant 5% coefficient value of 0.01752. The result suggests that inefficient banks in terms of cost management will have a higher volatility. Regression [6] uses idiosyncratic volatility as the dependent variable. The main variable of interest, DIV1, yields a positive but insignificant relationship with idiosyncratic volatility. This result is consistent with the findings of Sawada 2011 in which he finds no significant relationship between the ratio of non-interest income to total operating income with a bank's idiosyncratic volatility.

LogAsset variable yields a negative and significant relationship with idiosyncratic volatility which shows that the larger the bank is, the lower its idiosyncratic volatility will be. Cost to Income variable, again, yields a positive and significant value at the 10% level of 0.01751. Regression [7] uses the complementary diversification measurement as the variable of interest with regards to idiosyncratic volatility.

The complementary diversification measurement, DIV2 has a negative and insignificant. This result indicates that diversification effort by banking firms in Indonesia cannot reduce idiosyncratic volatility. This result is again consistent with the findings of Sawada (2013) in which he finds no significant relationship between the complementary variable with idiosyncratic volatility. However this



result is not consistent with Sitroh (2004), Sitroh and Rumble (2006), and Pennathur et al., (2012) find that no-interest income has positive effects on the risk profile of a bank. Cost to Income variable, which is the proxy for cost structure yields a

significant and positive value at the 5% level of 0.01900. This is reasonable considering that the higher the cost to income ratio of a bank (less cost effective) the higher it will influence the bank's specific risks

**Table 4.3 Revenue Diversification Effects on Risk Profile of the Bank**

	Total Risk [4]	Total Risk [5]	Idiosyncratic [6]	Idiosyncratic [7]	Beta [8]	Beta [9]
Revenue Diversification						
Non-interest revenue share	-0.00182		-0.00083		0.05420	
Revenue Diversity		-0.00422		0.00191		-0.14200
(Control Variables)						
Equity-to-asset	-0.00126	-0.00524	-0.00973	-0.00222	0.26749	-0.29438
Cost-to-income	0.01369	0.01752**	0.01751*	0.01900**	0.15336	0.15633
Bad loan ratio	-0.00012	0.00010	-0.00033	-0.00024	0.01612	0.01746
Loan growth rate	-0.0055499	-0.00782	-0.00613	-0.00663	-0.33312	-0.29562
Bank Size (Log Asset)	-0.00209***	-0.00212***	-0.00342***	-0.00340***	0.13453***	0.14231***
ROA	-0.10865	-0.11731	-0.13670	-0.19935	-1.35966	-2.07565
Constant	0.06151	0.06045	0.07946	0.07898	-1.53355	-1.97128
Number of observation	220	220	220	220	220	220
R_sq (Within)	0.1145	0.1160	0.2675	0.2690	0.2580	0.2568
Number of groups	11	11	11	11	11	11

Significance at 1%, 5% and 10% level are denoted by \*\*\*, \*\*, and \*. The figures in parentheses indicate the standard errors.

Total risk estimated standard deviation of the stock return, Idiosyncratic risk as standard deviation of residuals of market model, beta as systematic risk from market model. DIV1 as noninterest income to total operating income. DIV2 is defined by 1-(interest income – noninterest income)/ total operating profits. Equity to Asset as the book value of assets divided by book value of assets, Cost to Income is used by total operational expenses divided by total operational revenue. Non performing loan as the percentage of loans to total loans, Loan Growth as the percentage of increase of loan compare to previous quarter. Log Asset as logarithm of total assets of the bank, and ROA as net income divided by the book value of assets.

Regression [8] uses market beta as the dependent variable and DIV1 diversification measurement as the variable of interest. The diversification measurement variable, DIV1 is positive but insignificant. This result suggests that diversification effort conducted by banking firms in Indonesia cannot help reduce its market risk. The result is consistent with Sawada (2013) findings in which he finds no significant relationship between non-interest income to total operating income ratio with regards to market beta. The last regression uses complementary diversification measurement as the variable of interest. The complementary diversification measurement, DIV2, yields a negative and insignificant value. The result is consistent with the findings of Sawada (2013), where he also finds insignificant relationship between the complementary

diversification measurement and market beta.

## V. Conclusions

We empirically investigate the benefit of Indonesian bank's engagement in non-traditional banking activities. A traditional banking activity involves mainly deposit acceptance and lending activity by which a bank earns a source of income that is the net interest profit. A bank is considered to be drifting away from the traditional banking activity when its share of non-interest income to total operating income increases. Non-interest income share is considered to be a sign that banks are engaging in non-traditional banking activities such as securities and insurance issuance, fees and commissions, and other non-interest earning activities.

The result of this research paper shows that bank diversification can influence its



franchise value. This result is consistent with Sitroh (2004), Sitroh and Rumble (2006), and Sawada (2013). The result shows, however, that there is no strong evidence that bank diversification can help

reduce risk level. Even if this result is consistent with Japanese bank case (Sawada, 2013), but different with other countries results (Sitroh and Rumble, 2006; Pennathur, 2012)

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