

# The Prospect of Dual Unit Banking System in Indonesian Regional Banking

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## ARTICLE INFO

## ABSTRACT

This study aims to investigate the prospect of dual unit banking system, which is Islamic banking unit in conventional banking system, on Indonesian regional banking. To find out the prospect of dual unit banking system, we use panel regression of GLS estimation method in order to discover the influence of existence of dual banking system to profitability and liquidity. The profitability is represented by return on equity (ROE) and liquidity is proxied by loan to deposit ratio (LDR). We also include the other assets and liability management (ALMA) variables as the other independent variables. This study uses 26 samples of regional banks and we use dummy method to find out the influence of existence of dual unit banking on profitability and liquidity. The result showed that dual unit banking system has a positive and significant influence on liquidity, however it has negative and significant relationship on profitability. This indicates the existence of unit banking system is needed to maintain the role of banking as intermediary institution, however the capital needed to implement dual unit banking system also needed to be improved in order to get a positive relationship between dual unit banking system and return on equity. Islamic banking unit has a good prospect for liquidity but it still needs a strong attention of assets and liability management in order to get a good prospect for profitability.

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**KEYWORDS:** *profitability, return on equity, liquidity, loan to deposits ratio, banking, Islamic banking*

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## 1. Introduction

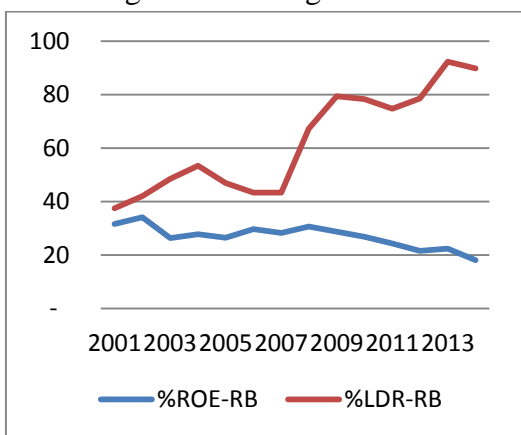
Generally, regional banks which owned by local governments have a small portion of market structure in assets market, deposits, market, and credits market. However, even though regional banks have small market structures, the financial reports showed Indonesian regional banks have a good performance based return on equity (ROE) and loan to deposits ratio (LDR). This explains the fact the small market structures does not make a low performance in Indonesian regional banking. Liquidity is the main performance of banking

industry since it is an intermediary institution between surplus unit and deficit unit in mobilizing funds. The high liquidity indicates the good performance in terms of distributing credits. Meanwhile, ROE is more focused on profit-oriented whereas bank is expected to satisfy the shareholder needs. The profitable bank will make a good performance in terms of their wealth.

Based on the graph, regional banking has a high liquidity and its trend has increased significantly during research period. This indicates regional banking has a good performance as an

intermediation institution in distributing funds from surplus unit to deficit unit. However, the increase in liquidity is not followed by ROE. Even though regional banking has a high ROE, however it is slightly down from 30% to 19%. Even though this condition is not in line with asset-liability-management (ALMA) theory which stated a bank can get a high profitability by increasing its capability of distributing funds, however this is a good performance because Indonesian regional banking has concerned more in distributing credits than focusing on profitability. The credit distributed to deficit unit does not bring more risk since ROE is still high despite it slightly declines during the period.

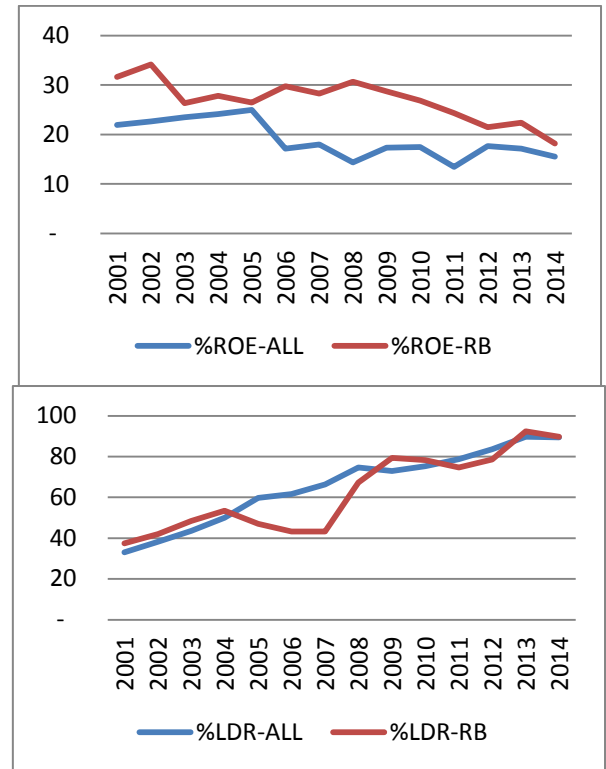
Figure 1. The Comparison of Return on Equity (ROE) and Loan to Deposit Ratio (LDR) in Indonesian Regional Banking



Source: Indonesian Banking Statistics (processed)

Meanwhile, the condition of liquidity and profitability in commercial banking are not different with regional banking. LDR increases significantly meanwhile the ROE has declined during the period. This means the growth of liquidity and profitability of regional banking are in line with the growth of liquidity and profitability in all commercial banking. Regional banking liquidity and performance might have a crucial portion in all commercial banking performance.

Figure 2. The Comparison of Return on Equity (ROE) and Loan to Deposit Ratio (LDR) in Indonesian Regional Banking and All Commercial Banking



Source: Indonesian Banking Statistics (processed)

Even though regional banking has a small market share compared to state-owned banking, the performance and liquidity percentages are higher than the performance and liquidity in commercial banking. Regional banking has an important role as a decentralization form of central bank in order to understand some markets in different regions, therefore regional banking can serve both surplus and deficit unit by creating the products that can fit the consumer needs in different areas.

Table 1. The Number of Dual Banking System Unit in Indonesian Regional Banking

Year	2001	2002	2003	2004	2005
Unit	1	1	1	6	9
Year	2006	2007	2008	2009	2010
Unit	9	14	14	14	14
Year	2011	2012	2013	2014	
Unit	14	14	14	14	

Source: Indonesian Banking Statistics

In addition, the product of Sharia banking is one of consumer needs since Islam is a majority in Indonesia. Although Indonesia already has some Islamic bank units in the industry, many commercial banks that also implemented dual banking system in order to fulfill the needs of consumer. The development of dual banking system also applied in regional banking. During fourteen years, the dual banking of Indonesian regional banking has increased from 1 unit bank to 14 unit banks which means regional banking already attempted to provide Islamic banking products to consumers.

The growth of Islamic banking unit number might have a significant effect on profitability in regional banking. Since Islam is a major religion in Indonesia, so it is expected that Indonesian consumers seek the Islamic banking system for their investment. The research that included Islamic banking were mostly done by comparing Islamic banking performance and conventional banking performance. However, this research aims to find out the impact of Islamic banking unit which is in dual banking system on profitability and liquidity. We also include market structure, assets-liability-management (ALMA), and macro-economic variables as the additional of independent variables.

## 2. Literature Review

Liquidity is the main activity of banking as the intermediation between surplus unit and deficit unit. Bank will not be able to reach a good performance if the liquidity does not perform well. The uncertainty of banking asset's quality which made the scarcity of liquidity was ever researched by Kowalik (2014). His research concluded the injection of liquidity can reduce the scarcity of liquidity. Previously, Diamond and Rajan (2001) also linked the financial assets with the lender's knowledge about the borrower to make sure the financial assets are liquid. Based on the research, it is important to include asset's quality as one of determinants of banking liquidity to show how far

liquidity can perform well because of the uncertainty which comes from external factors such as financial crisis. Muntenau (2012) also found that Z-score has a significant influence on Romania banking liquidity during crisis years. This indicates the macro-economic variables are needed to be considered as one of liquidity determinants.

Meanwhile, the determinant of profitability has been researched widely in banking topic area. However, this is still important because the profitability is the performance indicator of banking. Some researchers included different variables which represented both dependent variables and independent variables. Dietrich and Wanzenried (2009) used return on assets (ROA) and return on equity (ROE) as the proxy of profitability and they concluded the important variables that affect profitability in Switzerland banking are GDP growth rate, the effective tax rate, and market concentration rate. Meanwhile, Aburime (2008) found out that capital size, credit portfolio size, and concentration of ownership affects profitability of Nigerian banking. In Greece banking, Alexiou and Sofoklis (2009) stated that inflation, private consumption, and cost efficiency have significant influence on profitability.

The research of regional banking is not really popular compared to commercial banking research. Previous researches mostly compared the performance of Islamic banking and conventional banking. There are many researches about the determinants of profitability both in Islamic banking and conventional banking. Johnes, et al. (2012) used efficiency as the proxy of performance to compare the performance of conventional and Islamic banks which conclude conventional banking is more efficient than Islamic banking. Al-Gazzar (2014) stated the performance of Islamic banking is better than conventional banks for almost all CAMEL (Capital Adequacy, Assets Quality, Management

Quality, Earning Quality, and Liquidity) indicators, even though the liquidity of Islamic banking is lower than conventional banking. Hasan and Dridi (2010) concluded that the performance of Islamic banking based on credits and assets growth is better than conventional banking, even though the management decision related to management risk in Islamic banking makes the profitability decreases. The research from Belke, et al. (2015) stated the profitability grew faster in the NUTS 2 region among all European regions.

Asset and Liability Management (ALMA) is already a common practice in managing asset and liability of banking industry in order to make an optimal profit and the minimum risk. Conventional banking already implements this management, therefore this research also find out how the management of asset and liability in Islamic banking. The Islamic banking unit is expected to make an optimal profit which is represented by return on equity and also can influence the banking liquidity.

### 3. Data and Methodology

This research used data panel which combines time series and cross-sectional data of Indonesian regional banking financial reports during 2001-2014. The population of this study is regional banking in Indonesia. We use purposive sampling method to choose the sampling research, which means the sampling taken based on the purpose of the research with certain criteria. This research uses two criteria to take the sampling, which are the bank is not merged with other bank and the bank has complete financial reports during research period. As the result, the chosen samples are 26 Indonesian regional banks.

There are two dependent variables of this research. The first dependent variable is profitability which is proxied return on equity (ROE). Meanwhile, the second variable is loan to deposit ratio (LDR) as the proxy of liquidity. The models can be formulated as stated as below:

$$ROE_{it} = duus_t + spread_{it} + nplg_{it} + TETA_{it} + FBITA_{it} + NIETA_{it} + MST A_{it} + MSLOAN_{it} + CR10LOAN_t + CR10LOAN_t + MSDEP_{it} + CR10DEP_t + e_{it}$$

$$LDR_{it} = duus_t + spread_{it} + nplg_{it} + TETA_{it} + FBITA_{it} + NIETA_{it} + MST A_{it} + MSLOAN_{it} + CR10LOAN_t + MSDEP_{it} + CR10DEP_t + e_{it}$$

whereas  $ROE_{it}$  (return on equity of bank  $i$  in period  $t$ ) and LDR is assumed to be effected by dummy of Islamic banking ( $duus_{it}$ ), the difference between lending rate and borrowing rate ( $spread_{it}$ ), capital aspect which is proxied by total equity per total assets ( $TETA_{it}$ ); expense structure which is proxied by net of interest expenset per total assets ( $NIETA_{it}$ ), market share of assets market ( $MST A_{it}$ ), market share of credits market ( $MSLOAN_{it}$ ), market concentration of credits market ( $CR10LOAN_t$ ), market share of deposits market ( $MSDEP_{it}$ ), and market concentration of deposits market ( $CR10DEP_t$ ).

Profitability is represented by return on equity (ROE) since the main objective of financial management is to maximize shareholder's value and banking should consider how much value that they can give to shareholders (Ross, et al., 2008). Liquidity is proxied by loan to deposits ratio (LDR), which is a popular indicator to show the banking role as intermediary institution to distribute deposits to credits. Based on C (Capital) A (Assets Quality) M (Management) E (Earnings) L (Liquidity) model, profitability and liquidity are also important indicators of banking health. Therefore, those two independent variables are important to be research further.

The Islamic banking unit in regional banking is our research focus because only a few study that included the existence of Islamic banking unit as the research variable. This research will include the dummy of Islamic banking unit existence on Indonesian regional banking. Islamic banking

products are enthused by Indonesian banking consumer since Islam becomes the major religion, therefore the existence of Islamic banking unit in regional banking is expected to influence the profitability and liquidity.

Spread is linked with the banking decision in determining both borrowing rate and lending rate. A smaller spread will maintain every bank in an industry to stay competitive in getting profit and distributing deposit to loan (Irungu, 2013). Meanwhile, non-performing loan (NPLg) is a popular measure of assets quality. A high non-performing loan of banking will make the credit risk increases which impact the management should improve credits portfolio. Then, capital aspect is represented by total equity per total assets ratio (TETA) which will show the adequacy of capital in case of an uncertain condition.

Profitability and liquidity are also assumed to be influenced by structure of revenue and expense. The revenue structure is represented by fee based income per total assets (FBITA) and net interest income per total assets (NIETA). Due to the smaller market share of regional banking, fee based income is also important as interest income to become the main source of banking income. Meanwhile, the net interest expense is the primary expense which contains the banking cost that should be paid to lender. The variables are also expected to influence profitability and liquidity since the high revenue and low expense mathematically will increase profitability.

All market shares in assets market, deposits market, and credits market are also expected to influence profitability and liquidity. The same situation applies to market concentration of three markets. The large market share will make banks easier to get more profit, while bank also can get more deposits and distribute credits to consumers. Meanwhile, the more concentrated market will make banks have power in determining a high borrowing rate and a low lending rate that will make profitability increases.

The two models will be estimated by using Generalized Least Square (GLS) which is the estimator for random effect model. Kunst (2010) stated that GLS has included robust estimator in random effect model. Therefore, the model is already best linear unbiased estimator (BLUE) and feasible.

#### 4. Result and Discussion

This chapter provides the result of the relationship among Islamic banking unit existence, market structure, asset liability management, and macroeconomics variable with profitability. Table 1 presents the finding of this research based on GLS regression. It is clear than all variables have significant effect on profitability except revenue structure (FBITA) and expense structure (NIETA), while liquidity is not influenced by expense structure (NIETA) and market share of assets market (MSTA).

Table 2. Research Result of GLS Regression

Independent Variables	ROE		LDR	
	Coef.	P > z	Coef.	P > z
DUUS	-2.821	0.038	4.457	0.031
SPREAD	1.228	0.000	2.917	0.000
NPLg	-1.142	0.000	-0.603	0.062
TETA	-0.216	0.026	0.330	0.025
FBITA	-0.160	0.718	2.408	0.000
NIETA	0.015	0.935	-0.416	0.125
MSTA	16.739	0.049	-9.605	0.458
MSLOAN	-26.161	0.000	88.900	0.000
CR10LOAN	-0.844	0.011	4.263	0.000
MSDEP	13.935	0.059	-92.077	0.000
CR10DEP	1.221	0.000	-3.401	0.000
_CONS	-4.519	0.859	8.346	0.829
Prob > chi <sup>2</sup>	0.0000		0.0000	
Wald chi <sup>2</sup> (11)	119.28		569.88	
Number of Obs.	364		364	
Number of Group	26		26	
Time Period	14		14	

Islamic banking unit existence which is proxied by dummy variable of Sharia unit (DUUS) has a negative and significant effect on ROE. However, this condition does not mean the existence of dual banking system makes the profitability decrease in Indonesian regional banking. The real earning from dual banking system has apparently increase, however this situation occurs because the increase in profit after tax is smaller than the increase in total equity. Meanwhile, Islamic banking unit significantly affects liquidity with a positive relationship. This condition shows that the existence of Islamic banking unit can increase the credits distribution level in Indonesian regional banking. Therefore, implementing dual system unit can be a positive way to increase the banking capability in mobilizing funds of surplus unit to deficit unit. However, it is important to notice that the Islamic banking unit can't increase return on equity because it needs a big equity in to implement Islamic banking unit.

Banking spread also has positive and significant influence on profitability and liquidity. This indicates Indonesian regional banking should consider about making decision about interest rate to increase profit and make functional liquidity. Regional banking is considered as small bank since it has small market share, however small bank tend to have narrow spread rather than big bank (Omole, 1999). This means the motivation of consumers in depositing their funds or borrowing funds will be higher because the difference of lending rate and borrowing rate is small. By high number of consumers who deposit their fund and borrow the funds, it will make liquidity increase and normally bank will also get more profit.

Non-performing loan (NPLg) has negative and significant influence on profitability and liquidity. This is a normal condition of banking industry since the poor quality of assets will not be able to gain profit. Therefore, a small NPL indicates the bank has a good management in credits portfolio

which can result a good quality of assets and it increase profitability and liquidity.

Capital adequacy which is represented by total equity per total assets (TETA) shows a significant and positive influence on profitability and liquidity. This is also a normal condition since the adequate capital will make bank safe from the uncertain condition, it is also can gain the trust of consumer to deposit their funds because they feel safe if there is a shook of economics condition or unexpected banking policy. By gaining more liquidity and a good assets quality, bank can get more profit.

Structure revenue which is represented by fee based income to total assets (FBITA) has negative and insignificant effect on profitability, however it has positive and significant effect on liquidity. The negative relationship between FBITA and ROE is not common because the increase in fee based income normally will make profit higher. However, this can occur under the circumstances where the overhead cost needed to get fee based income is higher than the return. Therefore, the increase in fee based income will make profit decrease. In addition, FBITA significantly influences liquidity. This indicates the consumers respond positively the high fee based income incurred by the bank, which means the high fee based income will make consumers more deposit their funds to the bank.

Meanwhile, we use net interest expense to total assets (NIETA) as the representation of structure expense. The result shows NIETA has insignificant relationship on ROE, meanwhile it has negative and significant effect on LDR. The decrease in interest expense will make consumers deposits their funds and the bank can distribute the deposit to deficit unit. A low interest expense indicates the low loan rate and it can make consumer to borrow more loans from the bank.

Market share of assets market has a positive and significant influence on profitability, meanwhile it does not significantly influence liquidity. The

more bank authorizes the market share of assets, it will positively increase ROE. A big number of assets usually becomes the indicator of a big bank. Since the bank that owns high market share in assets, it will make bank easier in getting deposits from surplus unit and distributing loan to deficit unit. This condition will make the profitability of bank higher.

Then, market share of loan has a negative and significant influence on profitability, however it has a positive and significant effect on liquidity. The negative relationship between market share of loan and profitability is not the expected result because the normal condition occurs if they have positive relationship. However, this situation can occur if overhead cost that is needed to expand the loan market share is really high. Loan market share has a positive and significant influence on liquidity which means the more bank authorizes the loan market indicates the smoothness of funds distribution to the consumers. The coefficient result is really high, this indicates the market share of loan really has a high impact on banking liquidity. Therefore, bank should maintain the loan market share to be always stable and not too high because a very high liquidity means there is a lack of funds in deposits.

Market concentration of loan also has a negative and significant influence on profitability, while it has a positive and significant influence on liquidity. This indicates the more the big banks of Indonesian banking cooperate in determining loan price, it will make the profitability decrease. This condition is a good situation since market concentration is the indicator of inefficient or collusive behavior in an industry because they only depend on market power. However, this result also shows that market concentration of loan significantly influences liquidity. This means there is a little of collusive behavior in distributing loan to the consumers. The regional banks are included as small banks, therefore this is a normal

situation since small banks tend to follow the big banks' loan rates decision.

Meanwhile, market share of deposit has a significant and positive influence on profitability but it has a negative and significant influence on liquidity. This indicates there is a market power of product differentiation in deposits market which can increase profitability. However, it negatively affects liquidity which means the differentiation of deposits banking product can't gain the banking liquidity. Based on the market concentration, it can be seen that there is an indication of collusion of big banks in deposits market since market concentration influences profitability significantly. The more big banks have the market power in pricing, it will also make the regional banks get more profit. Meanwhile, the liquidity is negatively affected by market concentration of deposit which means there is over overhead cost that may be make consumers are not attracted to deposit their funds.

## 5. Conclusion

Based on the research result, we can conclude that Islamic unit in regional banking can increase the banking role as the intermediary institution that distributes funds from surplus units to deficit units. However, the existence of Islamic unit is significantly decreased return on equity (ROE) which indicates it takes a lot of equity to implement Islamic unit in regional banking. Therefore, the banking management should improve their equity in implementing Islamic banking unit in regional banking in order to make liquidity from Islamic unit also increases along with the return on equity. Islamic banking unit has a good prospect for liquidity but it still needs a strong attention of assets and liability management in order to get a good prospect for profitability.

## 6. References

1. Aburime, T. (2008). Determinants of Bank Profitability: Company-Level Evidence

- from Nigeria. Available at SSRN: <https://ssrn.com/abstract=1106825>
2. Al-Gazzar, M. M. (2014). The Financial Performance of Islamic vs. Conventional Banks: An Empirical Study on The GCC & MENA Region. *Disertation*. The British University In Egypt.
  3. Alexiou, C., & Sofoklis, V. (2009). Determinants of Bank Profitability: Evidence From The Greek Banking Sector. *Economic Annals*. Vol. LIV (182), pp 93-118
  4. Belke, A., Haskamp, A., & Setzer, R. (2015). Regional Bank Efficiency and its Effect on Regional Growth in “Normal” and “Bad” Times. *RUHR Economic Papers*.
  5. Diamond, D., & Rajan, R. (2001). Liquidity Risk, Liquidity Creation, and Financial Fragility: A Theory of Banking. *Journal of Political Economy*, 109(2), 287-327.
  6. Dietrich, A., & Wanzenried, G. (2009). What determines the profitability of commercial banks? New Evidence from Switzerland. *IFZ Working Paper Series*.
  7. Hasan, M., & Dridi, J. (2010). The Effect of Global Crisis on Islamic and Conventional Banks: A Comparative Study. *IMF Working Paper*.
  8. Irungu, P. N. (2013). The Effect fo Interest Rate Spread on Financial Performance of Commercial Banks in Kenya. *Thesis*.
  9. Kowalik, M. (2014). To Sell or Borrow? A Theory of Banking Liquidity Management. *Federal Reserve Bank of Kansas City Working Paper*. No. 14-18
  10. Johnes, J., Izzeldin M, & Pappas V. (2014). A Comparison of Performance of Islamic and Conventional Banks 2004-2009. *Journal of Economic Behavior & Organization*. Vol 103, 93-107
  11. Kunst, R. M. (2010). *Econometric Methods for Panel Data*. University of Vienna and Institute for Advanced Studies Vienna.
  12. Munteanu, I. (2012). Emerging Market Queries in Finance and Business: Bank Liquidity and its Determinants in Romania. *Procedia Economics and Finance*. Vol 3. pp 993 – 998
  13. Ross, S. A., Westerfield, R., Jordan, B. D. (2008). *Fundamentals of Corporate Finance*. McGraw-Hill Education.