

# The Influence of Asset-Liability Management on Economic Value Added in Commercial Banks of Indonesia

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## The Influence of Asset-Liability Management on Economic Value Added in Commercial Banks of Indonesia

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### ABSTRACT

The research is aimed: (1) to examine and to analyze the influence of asset management (AM) on EVA in commercial banks of Indonesia, which the questioned asset is asset portfolios in form of placement in other banks, security, referred credit, other placement, asset total growth, contingency-commitment receivable growth, and fixed asset; (2) to observe and to analyze the influence of EVA reflected in economic value added in banking firms on asset management (AM) in commercial banks of Indonesia; and (3) to investigate and to analyze the influence of liability management (LM) on EVA in commercial banks of Indonesia, which the questioned liability is liability portfolios in form of demand deposit, saving, time deposit, deposit certificate, security, loan accepted, other duty, equity, contingency-commitment payable growth, and debt to equity ratio. Method of research is based on the assessment model suggested by Dodd and Chen (1997) [1] and Dodd and Johns (1999) [2]. Research type is explanatory research. The design of research is pursuant to Kerlinger (2000) [3] and data analysis technique uses the analysis device developed by Tatham and Black (1992) [4]. Result of research indicates that: (1) the influence of AM on EVA in commercial banks of Indonesia is showing good result based on criteria evaluation because causal line that explains the causality relationship between variables is supported by the fact. Therefore, information matrix is good and the influence is positively significant by score 0.201 at  $p=0.001$ , which means that AM variables, which include the mixture of placement in other banks, security, referred credit, other placement, asset total growth, contingency-commitment receivable growth, and fixed asset, are influencing, in higher rate, the creation of value added of commercial banks of Indonesia, especially those using *economic value added* (EVA) proxy. Asset portfolios in form of credit/loan have the most dominant influence among other AM variables on EVA by score 0.997 at  $p=0.000$ , meaning that the higher credit/loan is related to the higher EVA. It is concluded that banks which allocate more funds into profitable asset portfolios and which are capable to control the risk of fund delivery are those which create banking value added with EVA proxy. (2) The influence of EVA on AM in commercial banks of Indonesia based on *goodness of fit index* is not showing good result based on criteria evaluation because the hypothesized model is *unidentified* (identification problem). It implies that causal line that explains causality relation between variables is not supported by the fact. Therefore, information matrix is failed to present and it fails also to explain causality relation between variables. (3) The influence of LM on EVA in commercial banks of Indonesia is not-significant. It is proved by the result that is scored 0.097 at  $p=0.167$ , meaning that despite the level of influence of LM variables, it is not-significantly influencing the creation of value added of banks by using *economic value added* (EVA) proxy. These results of research are not supporting the finding of Clarke et al (1991) [5] that liability management is positively influencing firm value added. It is also concluded that the management of commercial banks is not consistent to the policy of banks itself because the funds collected by the banks and presented in liability management cannot be redistributed to the communities such that the cost to obtain fund sources is very expensive. The income of banks cannot compensate for cost expense which may force the banks failed to create firm value added by using *economic value added* (EVA) proxy.

**KEYWORDS:** Indicator, Performance, Finance, Management, Asset, Liability, Economic Value Added, Bank

### INTRODUCTION

Managerial performance and achievement that are usually measured from financial ratios (Gul, 1991[6]; Prince et al, 1999[7]; and Berger, Davies and Flannery, 2000)[8] are not reliable anymore because nowadays, financial ratios begin so dependable to the accounting methods or treatments. This distorted accounting has caused the measurement of performance based on *earning per share*, *earning growth*, and *rate of return* to loss its effectiveness. The measurement based on the ratios is not reliable anymore to measure value-added created at certain period. The critics have questioned whether performance measurement based on financial ratios in showing the actual performance of banking management is valid or not (Francis & Minchington, 2000)[9]. Many books of financial

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1 management have revealed that firm value added can be increased by improving the efficiency of capital cost in liability management side while increasing the revenue in asset management side.

Recent Indonesian banking is swayed for the first time in its banking history. The banks are dysfunctional as the intermediary agency, mainly being constrained from implementing activities as exchange banks. In the globalization era, exchange banks play important role to support national economic because exchange activities always give opportunities to the business world to do their global business works. Monetary crisis from the middle of 1997 to 2000 has forced banking into dysfunctional. Financial performance of banks is declined. The ratio of mandatory minimum capital deployment or *Capital Adequacy Ratio* (CAR) deteriorates to a minus. The number of *non-performing loan* is increasing. The author attempts to deal with the question of how to increase value-added of banking firms by examining the problems of Indonesia banking through the concepts of asset management, liability management, asset-liability management, and value added created by commercial banks of Indonesia.

*Economic Value Added*, hereafter called EVA, is a relevant measure of financial performance because it is based on value added. EVA is an economic measure produced by the firm due to its managerial activity. The presence of EVA helps bank owners to give reward for value added activities (Kleinman, 1999) [10] and to dispose the activities that damage or reduce bank value. *Value added* activities are separated from *non-value added* activities based on *value added assessment* (Utomo, 1999)[11]. It is expected that bank owners will support management to take *actions* or to choose *value added* strategies because these will allow banks to operate well.

EVA also helps management in case of *internal goal setting* such that the goal has long-term rather than short-term implications. For investment, EVA provides guidance for the decision of accepting a project (*capital budgeting decision*) and evaluating regular performance of management (*performance assessment*). EVA helps the achievement of *value added* activities. EVA helps to produce proper payroll system or *incentive compensation* (Grant, 1996)[12] where management is supported to act as owner.

Table 1 explains that in period of 31 December 2009 – 31 December 2013, National Private Commercial Banks have the highest asset growth in average by score 20.39 % with profit growth of 20.37%. Foreign/Mixed Commercial Banks have asset growth in average by 19.19 % with profit growth 7.75 %. Local Development Banks have asset growth in average by 18.34 % with profit growth of 14.57%. Government Commercial Banks have asset growth in average by 15.79% with profit growth of 27.78 %.

In period of 31 December 2009 – 31 December 2013, Government Commercial Banks are ranked as the highest for its ROA in average by score 3.41 %, followed by Local Development Banks with 3.38 %, Foreign/Mixed Commercial Banks with 3.22 %, and finally, National Private Commercial Banks with 2.46%.

**TABLE 1**  
**ASSET GROWTH AND BANKING PROFIT IN INDONESIA**  
**31 December 2009 – 31 December 2013**

BANK TYPES	2009	2010	2011	2012	2013	2014
<b>GOVERNMENT COMMERCIAL BANKS</b>						
Asset Growth	-	13.94%	19.06%	15.60%	14.56%	15.79%
Profit Growth	-	29.00%	38.36%	24.46%	19.31%	27.78%
Return on Asset	2.71%	3.08%	3.60%	3.80%	3.87%	3.41%
<b>LOCAL DEVELOPMENT BANKS</b>						
Asset Growth	-	19.25%	27.12%	20.62%	6.35%	18.34%
Profit Growth	-	19.00%	8.20%	9.81%	21.26%	14.57%
Return on Asset	3.65%	3.82%	3.36%	2.90%	3.18%	3.38%
<b>NATIONAL PRIVATE COMMERCIAL BANKS</b>						
Asset Growth	-	26.38%	22.56%	17.17%	15.43%	20.39%
Profit Growth	-	32.34%	16.62%	27.01%	5.51%	20.37%
Return on Asset	2.20%	2.58%	2.46%	2.64%	2.43%	2.46%
<b>FOREIGN COMMERCIAL BANKS</b>						
Asset Growth	-	9.45%	20.74%	15.59%	30.97%	19.19%
Profit Growth	-	-14.79%	32.33%	0.27%	13.18%	7.75%
Return on Asset	3.54%	3.05%	3.55%	3.06%	2.92%	3.22%

Source: Published Financial Statement, Processed

1 Problems above have pointed that banking financial performance in Indonesia has declined. Lower banking financial performance is one indication that firm value added is not created. It is caused by less optimum financial management in controlling asset and liability. This fact becomes an attractive phenomenon to research about asset management, liability management and asset-liability management on banking economic value added. The use of various fund sources in liability management can not only change asset management, but also change asset-liability management. It is possible that asset management and liability management to create banking economic value added are different from one bank to another.

Banking value added is measured by whether there is *economic value added (EVA)* to the banking. EVA is a measurement produced by firms due to their managerial activities (Utomo 1999) [11]. This measurement is better than other measures of financial performance (Stewart, 1995) [13].

EVA is more accurate in measuring firm progress. The firm that creates a value is the firm which may be expected to survive. The goal of EVA is to understand the meaning of value and how to create, to measure, and to manage this value. Stern, Shiely and Ross have reported that profit is calculated using accounting standard method which may change economic reality of firms. Economic profit provides actual description about what is happening in the firms (Voss, 2002) [14].

Researches in banking finance field have been conducted by emphasizing on banking profitability. However, measurement on banking firm economic value added in the banks that are able or incapable to create value added is not much researched. Theoretically, good profitability is not surely creating banking value added. The use of financial management may increase value added or EVA as the yardstick whether there is economic value added in firms. Theoretical reviews have criticize some traditional measures such as ROE, ROA and EPS because this traditional measurements do not provide accurate information about financial performance that shall give economic value added to banking firms (Hilton, 1997:33-36) [15].

The decisions in relative with financial management, financial performance, and economic value added creation in banking firms will combine, complement, and develop the models made by previous researchers. The selected asset-liability management is adjusted to the condition of Indonesia banking. Previous theories and reviews are made by Brewer, Chandra and Hock (1999)[16] and Aryati (2002)[17].

Asset-liability management indicates the success of banks in combining asset and liability as reflected by variables of (1) RSA/RSL, (2) NIM, (3) Capital Asset Ratio (CAR), (4) Burden Ratio, (5) ROA, (6) Loan Accepted to Asset Total Ratio, (7) Non-Interest Income to Asset Total Ratio, and (8) LDR.

Concerning with the importance of information about banking financial performance, this research attempts to relate the measurement of banking financial performance with banking firm value added to obtain more optimum information. Problems are thus formulated such as: (1) Is asset management (AM), which comprises of asset portfolios in form of placement in other banks, security, referred credit, other placement, asset total growth, contingency-commitment receivable growth, and fixed asset, significantly influencing EVA in commercial banks of Indonesia? (2) Is EVA reflected in banking firm economic value added significantly influencing asset management in commercial banks of Indonesia? (3) Is liability management (LM), that consists of demand deposit, saving, time deposit, deposit certificate, security, loan accepted, other duty, equity, contingency-commitment payable growth, and debt to equity ratio, significantly influencing EVA in commercial banks of Indonesia?

Considering the problems above, the objectives of research are (1) to examine and to analyze the influence of asset management (AM) on EVA in commercial banks of Indonesia, which the questioned asset may include asset portfolios in form of placement in other banks, security, referred credit, other placement, asset total growth, contingency-commitment receivable growth, and fixed asset; (2) to observe and to analyze the influence of EVA reflected in economic valued added in banking firms on asset management (AM) in commercial banks of Indonesia; and (3) to investigate and to analyze the influence of liability management (LM) on EVA in commercial banks of Indonesia, which the questioned liability may include liability portfolios in form of demand deposit, saving, time deposit, deposit certificate, security, loan accepted, other duty, equity, contingency-commitment payable growth, and debt to equity ratio.

### Research Hypotheses

By considering problems and objectives of research, some hypotheses are proposed as follows: (1) Asset management (AM), which comprises of asset portfolios in form of placement in other banks, security, referred credit, other placement, asset total growth, contingency-commitment receivable growth, and fixed asset, is positively influencing EVA in commercial banks of Indonesia.



<sup>1</sup> (2) EVA reflected in banking firm economic value added is positively influencing asset management in commercial banks of Indonesia. (3) Liability management (LM), that consists of demand deposit, saving, time deposit, deposit certificate, security, loan accepted, other duty, equity, contingency-commitment payable growth, and debt to equity ratio, is positively influencing EVA in commercial banks of Indonesia.

#### Method of Research

Method of research uses research model proposed by Dood and Chen (1997)[1] and Dodd and Johns (1999)[2]. Type of research is explanatory. Research design is based on Kerlinger (2000)[3] while data analysis employs analytic methods used by Ferdinand (2002)[18], Solimun (2003)[19], and Anderson, Tatham and Black (1992)[4].

## RESULT AND DISCUSSION

### Result

#### Description of Bank Characteristic

The object of research is banking industry in Indonesia. Financial statement of each commercial bank is made for period of 5 years, starting from 2009 to 2013. Banking characteristic is a description of the existence of banks in the research area. This research area is where commercial banks are located. These commercial banks are exchange commercial banks operated throughout Indonesia regions. The characteristic of commercial banks is described by focusing on letter N which denotes bank group and also on observed variables that include Asset Management, Liability Management and Asset-Liability Management, and the influence of these managements on the creation of Value Added represented by EVA.

#### Description of Commercial Banks Based On N-Data

N-Data are the *pooling* between *cross-section* and *time-series* from 64 commercial banks based on 5-years observation from 2009 to 2013. The collected *pooling* is 320 N-Data. Table 2 (320 N-Data) shows that the greatest quantity of data is given by National Private Commercial Banks with 180 N-Data or 56.25%, followed by Mixed Commercial Banks with 70 N-Data or 21.88 %, Foreign Commercial Banks with 50 N-Data or 15.62 %. The last one is Government Commercial Banks with 20 N-Data or 6.25 %.

**TABLE 2**  
N-Data Pooling Based Bank Group

No.	Bank Group	N-Data	Percentage
1	Government Commercial Banks	20	6.25%
2	National Private Commercial Banks	180	56.25%
3	Mixed Commercial Banks	70	21.88%
4	Foreign Commercial Banks	50	15.62%
	<b>Total</b>	320	100%

Source: Bank of Indonesia [20]

#### Description of Research Variables

Research attempts to examine the influence of asset management, liability management and asset-liability management on the creation of value added in commercial banks of Indonesia by using data observation period from 2009 to 2013. Eight (8) indicators in asset-liability management are used as independent variable, while dependent variable is the creation of banking value added (EVA).

#### Research on Asset-Liability Management Variable

Asset-liability management is the implication of the ability of banks in managing asset and liability by integrating asset and liability to prevent the imbalance from occurring because it may disturb banking operational. The indicators of asset-liability management (Koch, 2000)[21] are: (1) *Rate Sensitivity Asset to Rate Sensitivity Liability* (RSA/RSL), (2) *Net Interest Margin* (NIM), (3) *Capital Asset Ratio* (CAR), (4) *Burden Ratio*, (5) *Return on Asset* (ROA), (6) *Loan Accepted to Asset Total*, (7) *Non-Interest Income to Asset Total*, and (8) *Loan to Deposit Ratio* (LDR).

Table 3 shows the pattern of banks' ability to integrate asset and liability portfolios in Government Commercial Banks, National Private Commercial Banks, Mixed Commercial Banks, Foreign Commercial Banks and Combined Banks.

**TABLE 3**  
**THE AVERAGE RATE OF INDICATORS OF ASSET-LIABILITY MANAGEMENT IN COMMERCIAL BANKS**

Portfolios of Asset-Liability	Government	Private	Mixed	Foreign	Combined
1. RSA/RSL ( $X_{3.1}$ )	99.28%	11.72%	269.56%	136.53%	129.25%
2. NIM ( $X_{3.2}$ )	-0.18%	2.86%	5.56%	5.74%	3.49%
3. CAR ( $X_{3.3}$ )	24.49%	25.01%	42.91%	29.63%	30.51%
4. Burden Ratio ( $X_{3.4}$ )	-1.72%	-2.38%	-28.58%	-0.70%	-8.34%
5. ROA ( $X_{3.5}$ )	-12.74%	-2.55%	3.83%	0.89%	-2.64%
6. Interest Accepted to Asset Total ( $X_{3.6}$ )	11.32%	16.02%	14.15%	12.91%	13.60%
7. Non-Interest Income to Asset Total ( $X_{3.7}$ )	1.37%	1.59%	3.58%	5.63%	3.04%
8. LDR ( $X_{3.8}$ )	44.45%	41.51%	83.44%	70.58%	59.97%

Source: Published Financial Statement of The Banks, Reprocessed

#### Rate Sensitivity Asset to Rate Sensitivity Liability (RSA / RSL)

Table 3 shows that *RSA/RSL* at Mixed Commercial Banks is the highest with 269.56%. It implies that Mixed Commercial Banks is more optimally in the management of asset and liability portfolios. The diversification of fund sources which contains effective interest payment risk has been allocated into interest-generating asset proportion (*earning asset*). The analysis over *RSA/RSL* considers GAP Concept Model as the measurement of the imbalance degree of bank's interest rate (Koch, 2000)[21], which says that if *RSA/RSL* is greater than one, it implies that the proportion of fund sources containing optimum interest payout risk is optimally allocated into the proportion of interest-generating asset. If the placement of asset portfolios into such fund disbursement is effective, it will increase *EVA*. In contrast, if *RSA/RSL* is smaller than one, it implies that it reduces *EVA*. Result of this research shows the contrast. Although the average rate of indicators of *RSA/RSL* during period from 2009 to 2013 is bigger than one, *EVA* in the group of Mixed Commercial Banks is lower. Although the average rate of the indicators of Foreign Commercial Banks is below Mixed Commercial Banks, *EVA* of Foreign Commercial Banks is higher. Empirical evidence has provide that first, although the decision to diversify asset portfolios may generate bigger incomes (*earning asset*) than to diversify liability portfolios, especially from fund source that involves interest payout risk. However, the former still obtains smaller interest income than what must be accepted, and it is possibly because there are many non-performing credits at Mixed Commercial Banks. Second evidence shows that interest cost to obtain fund source is greater than actual interest cost.

#### Net Interest Margin (NIM)

The average rate of *net interest margin* (NIM) indicator at Foreign Commercial Banks is the highest with 5.74 %. Interest total accepted from the income-generating asset is bigger than interest cost total over interest-paying liability. Mixed Commercial Banks remains as the second with 5.56 % and followed as third by National Private Commercial Banks with 2.86 %. Government Commercial Banks have negative *NIM* which indicates that the interest total accepted from income-generating asset is smaller than interest cost total from liability.

#### Capital Asset Ratio (CAR)

The average rate of *capital asset ratio* (CAR) at Mixed Commercial Banks is the highest with 42.91%. Mixed Commercial Banks has higher solvability than other banks. In second rank, there is Foreign Commercial Banks with 29.63 %, and it is followed by the third rank, National Private Commercial Banks with 25.01% and finally, Government Commercial Banks with 24.49%.

#### Burden Ratio

Burden ratio measures the efficiency of banking. All commercial banks of Indonesia have negative *burden ratio*. Foreign Commercial Banks have a rate of -0.70 % which is still smaller than other exchange commercial banks. It means that Foreign Commercial Banks are more efficient than other exchange commercial banks. Second rank is occupied by Government Commercial Banks with -1.72%, while the third is National Private Commercial Banks with -2.38%. The last position is held by Mixed Commercial Banks with -28.58%. This phenomenon indicates that the income that is obtained not from interest, as the effort to improve income from *fee-based*, is lower than income from the effort to control non-interest cost. It is then concluded that Foreign Commercial Banks are more efficient and the income not from the interest is always bigger. It means that *fee-based income* at Foreign Commercial Banks is better than other commercial banks.

#### Return on Asset (ROA)

*Return on Asset* (ROA) at Mixed Commercial Banks is better by rate of 3.83 % than other

banks. <sup>1</sup> It means that the profitability of assets used by Mixed Commercial Banks is better. Second rank of ROA is Foreign Commercial Banks with 0.89 %, while the third is National Private Commercial Banks with -2.55 %. The last position is Government Commercial Banks with -12.74 %.

#### Interest Income Accepted to Asset Total

The average rate of the ratio of interest income accepted to asset total is showing the quality of the allocation of fund into the income-generating asset, which is measured by dividing the interest income accepted with asset total (Koch, 2000)[21]. At first position, there is National Private Commercial Banks with 16.02 %, followed by Mixed Commercial Banks as the second with 14.15%, Foreign Commercial Banks as the third with 12.91%, and Government Commercial Banks as the last with 11.32%. The low level of *NIM* may not be caused by the low usage of assets, but because of the use of expensive funds by the banks.

#### Non-Interest Income to Asset Total

The average rate of the ratio of non-interest income to asset total will show what the banks to obtain from *fee-based income*. At first position, the highest *fee-based income* is obtained by Foreign Commercial Banks with 5.63%, followed by Mixed Commercial Banks as the second with 3.58 %, National Private Commercial Banks as the third with 1.59 %, and Government Commercial Banks as the last with 1.37 %.

#### Loan to Deposit Ratio (LDR)

LDR is considered as the ability of the banks to function as the intermediary agency. This ability is related to the question whether the funds collected from the community can be disbursed back to the community by the banks in the form of credit/loan. If the banks are able to manage asset portfolios in form of fund disbursement in optimum way to the community, so the banks will be able to maintain the balance of liquidity and the operational activity. The average position of LDR at National Private Commercial Banks in five-year period is only 41.51 %. It means that National Private Commercial Banks may unable to disburse the credit/loan than other exchange commercial banks. The average rate of LDR for five-year period at Government Commercial Banks is 44.45 %. It means that the ability of Government Commercial Banks to disburse credit/loan is still lower than that of National Private Commercial Banks. The average position of LDR for five-year period at Foreign Commercial Banks is 70.58 %. The average position of LDR for five-year period at Mixed Commercial Banks is 83.44 %.

Based on data of LDR average rate, the banks which remain consistent to the activity of credit/loan disbursement are Foreign Commercial Banks and Mixed Commercial Banks. It is consistent to the judgment of World Bank, which says that a bank will normally do the intermediary function, if its LDR stands minimally at 70%.

#### The Creation of Value Added (EVA) in Commercial Banks

Value added created by commercial banks is measured by *economic value added (EVA)* proxy as calculated from financial statement made by the banks every year (Darmodaran, 1996)[22].

Table 4 shows the development of value added created by commercial banks from 2009 to 2013. *Economic value added (EVA)* is stated in rupiahs. It is calculated as the after-tax net operation profit minus weighted average capital cost, and the result is multiplied by banking investment capital (Stewart, 1997)[23].

TABLE 4  
THE AVERAGE RATE OF *ECONOMIC VALUE ADDED* IN COMMERCIAL BANKS  
Period: 2009 – 2013

Economic value added in Million Rupiahs	Government Commercial Banks	National Private Commercial Banks	Mixed Commercial Banks	Foreign Commercial Banks	<sup>1</sup> Combined Commercial Banks
Year 2009	(6,151,450)	(2,799,751)	(6,634)	210,865	(2,186,742)
Year 2010	(56,218,332)	(3,750,957)	(131,609)	(93,406)	(15,048,576)
Year 2011	(61,328,757)	(2,577,382)	(127,970)	(84,265)	(16,029,593)
Year 2012	(60,461,151)	(1,664,499)	(119,818)	(61,045)	(15,576,628)
Year 2013	(59,747,535)	(1,922,721)	(86,004)	(39,098)	(15,448,839)
EVA Average (Y)	(48,781,445)	(2,543,062)	(94,407)	(13,390)	(12,858,076)

Source: Published Bank Financial Statement, Reprocessed

1  
 The phenomenon of value creation of banking firms in Table 4 indicates that the average rate of *economic value added (EVA)* in all commercial banks is negative. It means that Government Commercial Banks, National Private Commercial Banks, Mixed Commercial Banks, and Foreign Commercial Banks, experience value decline. Government Commercial Banks have its value declined to minus Rp. 48,781,445.-. National Private Commercial Banks have its value declined to minus Rp. 2,543,062.-. Mixed Commercial Banks experience value decline to minus Rp. 94,047.-. Foreign Commercial Banks have the smallest value decline, which is minus Rp. 13,390.-. Value decline in Combined Commercial Banks is minus Rp. 12,858,076.-.

The decline or the failure of value creation in Foreign Commercial Banks is showing the smallest minus because Foreign Commercial Banks are more successful in their asset and liability managements compared to other commercial banks. The success is reflected in NIM obtained by Foreign Commercial Banks which is greater than 5.74 %, while non-interest income to asset total is 5.63%.

### DISCUSSION

The discussion aims to answer research problems, which is about the influence of financial performance indicators reflected by variables of Asset Management (AM), Liability Management (LM), and Asset-Liability Management (ALM) on the creation of firm *economic value added (EVA)* in commercial banks of Indonesia. The discussion also considers the results of analysis with *Structural Equation Modeling (SEM)* as suggested by Hair et al (1998)[24] with observation period starting from 2009 to 2013. Based on the result of this analysis combined with the theory of banking finance, and the result of previous researches on banking finance field, hereby theoretical and empirical reasoning are conducted to explain the problem determined in this research.

Structural equation model is used as the interpretative base to explain the causal relationship between variables of research, including the direct or indirect influences from the empirical facts in relative with theoretical base, and also to compare the current research with previous researches. Theoretical findings are expected to be revealed from explanation. Analysis and discussion about hypotheses will be presented to produce more realistic explanations.

#### The Influence of Independent Variable of AM on LM in Commercial Banks of Indonesia

Theoretically, it is said that the decision of fund allocation into the asset portfolios (variables of asset management) consisting of indicators of placement in other banks, security, referred credit, other placement, asset total growth, contingency-commitment receivable growth, and fixed asset, will have positive influence on the preference of liability management in commercial banks of Indonesia.

#### Hypothesis 1

Indicators of Asset Management (AM) Variable comprising of placement in other banks, security, referred credit, other placement, asset total growth, contingency-commitment receivable growth, and fixed asset, are significantly influencing the creation of banking firms' value added that uses *economic value added (EVA)* proxy. It is already verified by the analysis of *Structural Equation Model (SEM)* at period from 2009 to 2013.

The estimation result of model with certain constraints still cannot produce the distinctive solution. Pursuant to information from *Goodness of Fit Index*, the result of criteria evaluation is good because the constrained causal line is supported by the fact, and therefore, information matrix is also good. It can be said that the presented model is acceptable or the developed model is consistent to the existing fact.

Result of testing the hypothesis of the causal relationship between constructs using *Structural Model with Two-Step Approach to SEM* is exhibited in Table 5 as follows:

**TABLE 5**  
**PATH COEFFICIENTS BETWEEN VARIABLES [STANDARDIZED REGRESSION]**  
**THE INFLUENCE OF ASSET MANAGEMENT ON EVA**

Path	Coefficient of Path	Probability (P)	Description
Liability Management ⇒ EVA	0.201	0.001	Significant

Source: Pompong Budi Setiadi (2014)[25]

Result of research explains that indicators of Asset Management (AM), consisting of asset portfolios such as placement in other banks, security, referred credit, other placement, asset total



1 growth, contingency-commitment receivable growth, and fixed asset, are conditioning the selection of banking firms' value added creation that uses *economic value added (EVA)* proxy. The influence is positively significant by score 0.201 at  $p=0.001$ , meaning that hypothesis is accepted.

Result of research also shows that asset management variables are significantly influencing banking firms' value added creation that uses *economic value added (EVA)* proxy. The direction of influence is consistent to theories meaning that asset management variables are influencing to the increase of banking firms' value added creation that uses *economic value added (EVA)* proxy. It aligns with the finding of Koch (2000) [21] that higher volume of fund disbursement in asset portfolios is related to the increased value added created by the firms.

The direct influence of each indicator is shown in Table 6. Asset portfolio in form of placement in other bank is significantly influential to EVA decline by score -0.202 at  $p=0.000$ . Asset portfolio of security shows significant influence to EVA decline by score -0.399 at  $p=0.000$ . Asset portfolio of credit/loan is significantly influential to EVA increase by score 0.997 at  $p=0.000$ . Asset portfolio of other placement is influential to EVA increase by score 0.140 at  $p=0.014$ . Asset total growth is influencing not-significantly to EVA decline by score -0.037 at  $p=0.523$ . Contingency-commitment receivable growth is significantly influencing to EVA increase by score 0.142 at  $p=0.013$ . Fixed asset indicator is significantly influential to EVA decline by score -0.234 at  $p=0.000$ .

Dominant influence is shown by credit/loan which is also the indicator to increase banking firms' value added creation that uses *economic value added (EVA)* proxy.

It implies that there is a balance in asset management variables in improving banking firms' value added creation that uses *economic value added (EVA)* proxy. Banking firms' value added creation that uses *economic value added (EVA)* proxy will determine the selection of fund disbursement among asset management (AM) variables. Banks are in the position to select the type of fund disbursement. The disbursement of fund from certain asset management (AM) variables, such as credit/loan, other placement, and contingency-commitment receivable growth, is directly operational which increases banking firms' value added creation that uses *economic value added (EVA)* proxy. It can be said that fund disbursement from asset management variables is the effective option to increase banking firms' value added creation that uses *economic value added (EVA)* proxy.

**TABLE 6**  
COEFFICIENTS OF PATH BETWEEN VARIABLES [STANDARDIZED REGRESSION]  
THE INFLUENCE OF ASSET MANAGEMENT INDICATORS ON EVA

Path	Coefficient of Path	Probability (P)	Description
X <sub>1.1</sub> ⇒ EVA	-0.202	0.000	Significant
X <sub>1.2</sub> ⇒ EVA	-0.399	0.000	Significant
X <sub>1.3</sub> ⇒ EVA	0.997	0.000	Significant
X <sub>1.4</sub> ⇒ EVA	0.140	0.014	Significant
X <sub>1.5</sub> ⇒ EVA	-0.037	0.523	Not-Significant
X <sub>1.6</sub> ⇒ EVA	0.142	0.013	Significant
X <sub>1.7</sub> ⇒ EVA	-0.234	0.000	Significant

Source: Pompong Budi Setiadi (2014)[25]

### The Influence of Independent Variable EVA on AM in Commercial Banks of Indonesia

Theoretically, if banks can improve the value added creation of firms, the banks will increase fund disbursement as shown by asset management (AM) which reflects the decision toward favorable asset portfolios (Koch, 2000)[21]. It can be said that banking firms' value added creation that uses EVA proxy will give positive influence on asset management variables in commercial banks of Indonesia.

### Hypothesis 2

Banking firms' value added creation that uses *economic value added (EVA)* does not give significant influence on asset management variables in commercial banks of Indonesia. It is tested by the analysis of *Structural Equation Model (SEM)* using *Two Step Approach to SEM* or *Two Step Analysis* at period from 2009 to 2013.

The estimation result of the developed model with certain constraints cannot produce distinctive solution. Pursuant to the information from *Goodness of Fit Index*, the model is not showing good result on criteria evaluation because the hypothesized model is *unidentified* (identification problem). Solimun (2003) [19] has reported that identification problem comes up with model development. Symptoms related to identification problem, according to Ferdinand

(2002) [26], are explained as follows. Error standard of one or some very big coefficients are implying that program cannot produce information matrix that shall be presented, odd numbers are shown up, there is negative error variance, and high correlation ( $> 0.9$ ) is found between estimated result of coefficients.

Based on this explanation, it is concluded that model cannot give the expected information matrix because causal line is not supported by facts/data such that model cannot explain the causality relation between variables.

**The Influence of Independent Variable of LM on EVA in Commercial Banks of Indonesia**

As theoretically explained, the decision of fund allocation into the liability management which placement demand deposit, saving, time deposit, deposit certificate, security, loan accepted, other duty, equity, contingency-commitment payable growth, and debt to equity ratio, will be positively influencing banking firms' value added creation that uses *economic value added (EVA)* proxy of commercial banks of Indonesia.

**Hypothesis 3**

Indicators in liability management (LM) such as demand deposit, saving, time deposit, deposit certificate, security, loan accepted, other duty, equity, contingency-commitment payable growth, and debt to equity ratio, are not-significantly influential to banking firms' value added creation that uses *economic value added (EVA)* proxy of commercial banks of Indonesia. It is tested by the analysis of *Structural Equation Model (SEM)* at period from 2009 to 2013.

The estimated model with constraints is still giving solution but based on the information from *Goodness of Fit Index*, it is shown that the result of criteria evaluation is good because the constrained causal line is supported by facts such that the provided information matrix is good.

Result of hypothesis testing over the causal relationship between constructs, using *structural model* with *Two-Step Approach to SEM*, is shown in Table 7:

**TABLE 7**  
**COEFFICIENTS OF PATH BETWEEN VARIABLES [STANDARDIZED REGRESSION]**  
**THE INFLUENCE OF LIABILITY MANAGEMENT ON EVA**

Path	Coefficient of Path	Probability (P)	Description
Asset Management ⇒ EVA	0.097	0.167	Not-Significant

Source: Pompong Budi Setiadi (2014) [25]

Result of research has explained that liability management variable has signaled that there is an option for EVA. Because the influence is not-significant, hypothesis is rejected.

Result also shows that there is no influence from liability management variable on banking firms' value added creation that uses *economic value added (EVA)* proxy. The direction of influence is consistent to theory that liability management has positive influence to firm value. It contrast with Clarke et al (1991)[5] whose finding shows that the lower fund interest cost in acquiring fund sources to finance fund disbursement may increase banking firms' value added creation.

Liability management (LM) represents the reflection of decision to select fund sources of banks. The banks that are able to select cheaper funding combination will have small/low weighted average costs such that smaller/lower weighted average costs, higher value added creation of firms (Darmodaran, 1997)[27].

Emery (1990)[28] also says that indicators of liability management (LM) are positively influencing firm value added. However, current research is not supporting this opinion. The not-significant influence can be explained in Table 8 by examining the influence of each indicator of LM on banking firms' value added. The acquisition of third party funding in form of saving does not influence significantly EVA decline by score -0.020 at  $p=0.734$ . Security is influential not-significantly to EVA increase by score 0.041 at  $p=0.478$ . Other duty is not-significantly influencing to EVA decline by score -0.017 at  $p=0.769$ . Contingency-commitment payable growth is influential not-significantly to EVA increase by score 0.004 at  $p=0.942$ . Debt to equity ratio is also not-significantly influential to EVA increase by score 0.067 at  $p=0.240$ .

**1**  
**TABLE 8**  
**COEFFICIENTS OF PATH BETWEEN VARIABLES [STANDARDIZED REGRESSION]**  
**THE INFLUENCE OF LIABILITY MANAGEMENT ON ASSET MANAGEMENT**

Path	Coefficient of Path	Probability (P)	Description
X <sub>2.1</sub> ⇒ EVA	-0.302	0.000	Significant
X <sub>2.7</sub> ⇒ EVA	-0.020	0.734	Not-Significant
X <sub>2.3</sub> ⇒ EVA	0.997	0.000	Significant
X <sub>2.4</sub> ⇒ EVA	0.249	0.000	Significant
X <sub>2.5</sub> ⇒ EVA	0.041	0.478	Not-Significant
X <sub>2.6</sub> ⇒ EVA	-0.400	0.000	Significant
X <sub>2.8</sub> ⇒ EVA	-0.017	0.769	Not-Significant
X <sub>2.8</sub> ⇒ EVA	-0.329	0.000	Significant
X <sub>2.9</sub> ⇒ EVA	0.004	0.942	Not-Significant
X <sub>2.10</sub> ⇒ EVA	0.067	0.240	Not-Significant

Source: Pompong Budi Setiadi (2014)[25]

These indicators are all forms of fund acquisition used to measure liability management. However, these indicators are not-significantly influential to banking firms' value added creation. In this condition, liability management (LM) is dominated by debt to equity ratio because almost all commercial banks of Indonesia are experiencing fund difficulty. The use of too high debt to equity ratio as shown in processed financial statement, where acquisition average rate reaches 359.10 %, may decrease financial performance because fund acquisition cost is quite expensive.

Value is a measure that gives the management an indication of what the investors think about the past performance and what they plan for future prospect of banking firms. Lower financial performance will be shown by ROA as the measuring indicator of performance. Future prospect of banking firms shows the absence of growth opportunity because many commercial banks are frozen from their business. It causes the decline of banking firms' value added, and thus, there is no measuring indicator of value.

This result is not supporting Modigliani and Miller who state that optimum liability management (LM) will increase firm value. It means that the management of commercial banks is not consistent to the policy made based on indicators, mainly debt, where fund acquisition from debt will cause expensive cost. Therefore, debt indicator cannot create banking firms' value added that uses *economic value added (EVA)* proxy.

Other indicator such as fund acquisition in form of demand deposit is significantly influential to EVA decline by score -0.302 at p=0.000. Time deposit is significantly influential to EVA increase by score 0.997 at p=0.000. Fund acquisition in form of deposit certificate is significantly influential to EVA increase by score 0.249 at p=0.000. For the indicator of fund acquisition in form of loan accepted, it is significantly influential to EVA decline by score 0.400 at p=0.000. Equity indicator is significantly influential to EVA decline by score -0.329 at p=0.000.

It implies that liability management does not influence banking firms' value added creation that uses *economic value added (EVA)* proxy of commercial banks of Indonesia. Banking firms' value added does not determine the selection of fund source management in liability management because banks are not in the position to select the type of fund source management. The policy of fund source management from liability management is related to the form of time deposit and deposit certificate. Both forms are directly operational to increase banking firms' value added. It can be said that fund source management in liability management is not effective to increase banking firms' value added creation that uses *economic value added (EVA)* proxy of commercial banks of Indonesia.

### Theoretical Perspective

In essence, the maximization of firm value explained in various financial management books is involving three financial decisions that combine asset and liability of balance sheet to maximize added value created by firms. These decisions are (1) investment decision (I), (2) funding decision (F), and (3) capital and retained earning decision (D) (Rapaport, 1986 [28] and Damodaran, 1997) [27].

Banking financial management paradigm explains about management against banking financial functions. Financial functions of the bank are reflecting the management of fund acquisition (*raising of fund*) and the management of fund disbursement (*allocation of fund*). In relative with fund raising management, Jensen (1989)[29] asserts that fund source from debt is contributing to efficient operation of firms such that it helps creating value added to firms. Related to fund allocation management, Syakir (2001)[30] indicates that fund allocation into asset portfolios



1 is significantly influential to *economic value added (EVA)* of Indonesia banking. The decision of management in asset and liability entries of balance sheet must be integrated to maximize the income (Siamat, 2003)[31].

The goal of management for fund source and fund allocation is to increase firm value by applying value added concept created in Indonesia banking by using *economic value added (EVA)* proxy. According to Widayanto (1993)[32], steps to calculate EVA is by calculating (1) debt capital cost, (2) stock capital cost, (3) capital structure, (4) weighted-capital cost, and (5) EVA.

Syakir (2001)[30] determines that conceptually, EVA calculation is subtracting capital cost from profit. It involves several steps. *First*, debt capital cost is assessed. Capital consists of two components, respectively debt capital and stock capital. Firms have duty for interest expense and debt. *Second*, stock capital cost is assessed. The assessment is using an approach, which is the rate of return expected by stockholders such that stock capital cost is adjusted to current market value. *Third*, capital structure is counted. Capital structure comprises of debt composition and stock capital composition. Debt composition is a ratio between debt and capital, while stock capital composition is counted by 1-debt composition. *Fourth*, weighted average capital cost (WACC) is calculated. It is equaled to debt composition multiplied by debt capital cost plus stock capital composition timed by stock capital cost. *Fifth* is the calculation of EVA. After weighted average capital cost is known, EVA is obtained from before-tax net operational income minus tax duty and WACC. Briefly, EVA is formulated as follows:

$$EVA = \text{Net Operation Income} - \text{Tax Duty} - \text{Capital Cost}$$

If :

$EVA > 0 \rightarrow$  Value increase is given to the firms.

$EVA = 0 \rightarrow$  Firms are "break even".

$EVA < 0 \rightarrow$  No value added is given to the firms.

Above illustration concludes that banks are influenced by management of balance-sheet structure when banks attempt to optimize financial health rate and to maximize profit at certain limits. Financial structure at balance-sheet and reflected in asset management gives growth opportunity to fund disbursement that may take place in the forms of placement in other banks, security, referred credit, other placement, asset total growth, contingency-commitment receivable growth, and fixed asset. These forms give obvious influence on the increase of value added creation of banks as measured by EVA. It can be said that higher volume of fund disbursement by banks, higher value added created by banks by using *economic value added (EVA)* proxy.

Fund sources in liability management are the mixtures of demand deposit, saving, time deposit, deposit certificate, security, loan accepted, other duty, equity, contingency-commitment payable growth, and debt to equity ratio. These mixtures are obviously not giving significant influence on banks' value added as measured by EVA. Commercial banks are not consistent to the policy made based on indicators. Fund sources in liability management may cause fund disbursement cost to be costly because the acquired fund sources cannot be optimized into fund disbursement. In such, portfolio of fund sources in liability management will not influence banks' value added creation that uses EVA proxy.

The integration between fund disbursement through asset management and fund sources through liability management, and which the integration is reflected by asset-liability management, is giving implication to financial performance as shown by operational income of the banks. Maximum operational income depends on the cost that shall be expended. It can be measured using weighted average capital cost of the capital structure. Financial performance that measures the success of banks as shown by asset-liability management is the decision of management of asset and liability sides in integrative way to achieve maximum income in terms of RSA/RSL, NIM, CAR, Burden Ratio, ROA, Loan Accepted to Asset Total, and LDR. These terms are significantly influential to the increase of value added creation of banks based on *economic value added (EVA)* proxy. If banks' financial performance is good, then stock price will increase to reflect value added created by commercial banks of Indonesia.

## CONCLUSION

Result of analytical review after testing the variables of asset management (AM), liability management (LM) and asset-liability management (ALM) that have significant influence on banking firms' value added creation that uses *economic value added (EVA)* proxy of commercial banks of Indonesia, can be concluded as follows. (1) The influence of AM on EVA in commercial banks of Indonesia is showing good result based on criteria evaluation because causal line that explains the causality relationship between variables is supported by the fact. Therefore,



1 information matrix is good and the influence is positively significant by score 0.201 at  $p=0.001$ , which means that AM variables, which include the mixture of placement in other banks, security, referred credit, other placement, asset total growth, contingency-commitment receivable growth, and fixed asset, are influencing, in higher rate, the creation of value added of commercial banks of Indonesia, especially those using *economic value added* (EVA) proxy. Asset portfolios in form of credit/loan have the most dominant influence among other AM variables on EVA by score 0.997 at  $p=0.000$ , meaning that the higher credit/loan is related to the higher EVA. It is concluded that banks which allocate more funds into profitable asset portfolios and which are capable to control the risk of fund delivery are those which create banking value added with EVA proxy. (2) The influence of EVA on AM in commercial banks of Indonesia based on *goodness of fit index* is not showing good result based on criteria evaluation because the hypothesized model is *unidentified* (identification problem). It implies that causal line that explains causality relation between variables is not supported by the fact. Therefore, information matrix is failed to present and it fails also to explain causality relation between variables. (3) The influence of LM on EVA in commercial banks of Indonesia is not-significant. It is proved by the result that is scored 0.097 at  $p=0.167$ , meaning that despite the level of influence of LM variables, it is not-significantly influencing the creation of value added of banks by using *economic value added* (EVA) proxy. These results of research are not supporting the finding of Clarke et al (1991)[5] that liability management is positively influencing firm value added. It is also concluded that the management of commercial banks is not consistent to the policy of banks itself because the funds collected by the banks and presented in liability management cannot be redistributed to the communities such that the cost to obtain fund sources is very expensive. The income of banks cannot compensate for cost expense which may force the banks failed to create firm value added by using *economic value added* (EVA) proxy.

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