Jurnal Masharif al-Syariah: Jurnal Ekonomi dan Perbankan Syariah
ISSN: 2527 - 6344 (Printed), ISSN: 2580 - 5800 (Online)
Accredited No. 30/E/KPT/2019
DOI: http://dx.doi.org/10.30651/jms.v7i4.18038
Volume 7, No. 4, 2022 (1549-1561)

EVALUATION OF ASSET AND LIABILITY MANAGEMENT STRATEGIES IN COMPANIES FROM AN ISLAMIC PERSPECTIVE

Maryam Bte Badrul Munir[1*], Norfhadzilahwati binti Rahim[2]
Universitas Negeri Surabaya[1], Universiti Sains Islam Malaysia[2]
maryammunir@unesa.ac.id[1], norfhadzilahwati@usim.edu.my[2]

Abstract

Purpose of the study effective asset and liability management analysis is essential to risk management, especially now that banks are performing better. After the 2008–2009 global financial crisis, banks began to assess the risk associated with their assets and liabilities. The banks then established ALCO, an acronym for Asset and Liability Committee. ALCO is permitted to conduct asset and liability management analyses. This theory is essential for the continuation of performance research, particularly for raising awareness of the significance of ALCO and ALM. Asset and liability management is believed to be one technique for businesses to monitor the emergence of performance-harming hazards. Before and after 2008, the bank's annual report illustrated the evolution of ALM and ALCO. This research will examine papers discussing the importance of asset and liability management for increasing a bank's performance. The method employs descriptive analysis based on document analysis technology. It employs Asset and Liability Management keywords from the Mendeley and Google Scholar databases. This study evaluates bank assets and liabilities from 2008 to 2016 using Mendeley software. 47.753.293 items were searched. This research only covered 250 banking performance papers. 25 of 250 articles from 2008 to 2016 discussed banks. Each paper contains a title, year of publication, methodological type (quantitative or qualitative), and objective

Keyword : Asset and Liability Management (ALM); Asset and Liability Committee (ALCO); bank performance, company

1. Introduction

Asset-liability management is essential for monitoring a company's progress, particularly in avoiding risk through future planning. This study focuses on the performance of ALM banks. ALCO (Asset and Liability Committee) must be administered so that ALM may be monitored. Some banks utilize the performance of

their assets and liabilities to gauge the growth of their performance. Kusy and Ziemba (1983) stated that banks must be efficient in asset and liability management in order to deal with unpredictability in their cash flows, cost of funds, and return on equity.

Banks can also link changes in asset and liability performance to economic performance in order to manage liquidity issues, maximize profitability, and allocate assets, among other things. Modern banks, according to Ubiparipovi and Durkovic (2011), are tasked with tackling issues such as process automation, higher client expectations, tough rivalry, mergers and acquisitions, new product creation, and market segmentation. Nonetheless, banks must be able to manage risks and commercial operations with expanding national and international requirements such as IAS, AML, BASEL II, etc. According to Lileikien (2008), the banking sector is a crucial indicator for entrepreneurship and economic growth in the country. To analyze market risk and determine additional capital, he utilized the example of domestic banking in Lithuania to illustrate new laws for capital sufficiency calculations. The financial crisis also had an effect on banking performance (via asset and liability performance) as a result of the decline in performance. This was created by fluctuations in interest rate risk volatility, which can increase the expense of the bank's liabilities and decrease the return on its assets. Lileikien (2008) also asserted that enhancing the performance of banks requires a balance between profit, liquidity, and risk. This study concludes that there is no difference between conventional and Islamic banking in the measurement of asset-liability management. Ismal (2010) stated that analyzing the performance and liquidity of conventional and Sharia banking is identical. Ismal (2010) stated that Islamic banks utilize the Sharia idea to assess the success of liquidity management on the liability and asset sides, in addition to preparing Islamic liquid products. However, because there are so many various formulae and ways to measure things, such as qualitative and quantitative measurements, banks are constantly developing new methods for determining their assets and liabilities.

This study examines the evolution of measurement ALM analysis over time to determine how it differs from past research on balancing asset and liability growth to prevent risk growth. Many of this study's flaws may be attributable to restrictions identified during an article review

2. Literature Review

History of Asset-Liability Management

After this study reviewed some articles, the measurement of ALM is not supposed to be for banking first. It's a measure of other financial institutions' performance. Ryan (2013) said the development of ALM has been exploited by U.S. financial institutions such as banks, insurance companies, pension funds, and so forth. The asset/liability management (ALM) birthplace was started by insurance companies and was followed by IAIS Standard No. 13 (International Association of Insurance Supervisors, 2006). And Ryan (2013) looks to the banking system to require ALM analysis because ALM can be defined as the process that deals with interest rate risk management.

The analysis of the development of ALM's assessment of banking started by Francis (1978), who took the idea from Markowitz (1959), who assessed the asset and liability management of the average small-, medium-, and large-sized banks in the risk-return context by preceding with empirical data to consider the portfolios' assets and liabilities for evaluating the process of branching, merging, and the optimal expansion path for the banking system. Focusing on banking in that period not only considers banking competition and various economies of scale in banks but also expansion.

Liang and Ma (2015) said ALM has functioned to reduce the mismatches between assets and liabilities by controlling the investment policy following the theory of Lagrange multipliers. Liang and Ma (2015) also mentioned the importance of ALM's role for the company as a tool to control risk. Anglo-Saxon financial institutions pioneered the theory of ALM during the 1970s to study the mismatches between assets and liabilities cured by two primary methods: stochastic dynamic programming and martingale methods. The first method to resolve the ALM's problems is stochastic active programs. It was first introduced by Merton (1971) and relied on the stochastic control and theory of Hamilton-Jacobi-Bellman (HJB) equations. The second method is the martingale method developed by Cox and Huang (1989) in the complete market setting.

However, after this study reviewed several articles, the assessment of the mismatch between assets and liabilities can be found in Appendix 1. Another history of the measurement of asset-liability management disclosed by Kvifte (2008) said the development of the A-L view (Asset-Liability) assessment started by the R-E view (Revenue-Expense) assessment based on the conceptual framework and financial statements reporting in IASB and FASB. However, Kvifte (2008) said there is inconsistency in accounting standard-setting during reporting of the A-L view related to A-L definitions in the conceptual framework project from IASB and FASB. However, following the Global or Economic Crisis, the reporting of the A-L view has gained its assessment for any banking financial reporting. The financial crisis also impacted the value of assets and liabilities. Dow and Han (2015) said that the capital increase is significant with increased asset investment. The bubble crisis caused a weakness in asset value due to the deficiency of intermediaries' status, weak corporate governance, inelastic supply, different risk levels, etc. It has happened on the asset valuation of the property. But this bubble crisis can not be predicted because it depends on the changes in cash flow for the long term in the competitive market. However, the increased liabilities can give management terrible performance because it means it is taking a considerable risk, which impacts the bid up the riskier asset's price above its intrinsic value. The more difficult asset is overproduced in the economy, destroying consumer welfare. According to Novickytė and Petraitytė (2014), ALM can be attributed to the assessment of increased banking performance but is also a source of bank problems.

The changing value of ALM is followed by some economic changes, such as changes in GDP and others (Novickytė and Petraitytė (2014)). It can be concluded that the change in the assessment of ALM has been a good development, which asset and

liability assessments on the pension fund have been successful, so that it can be measured for the evaluation of asset-liability management on banking performance. Changes in the economic situation, which may have an impact on banking performance, as well as changes in assets and liabilities, cannot be ignored.

Meaning and Structure of Asset/Liability Management. This section mentioned some definitions of asset-liability management and related information about ALM from previous studies. Some opinions on the definition of asset and liability management explain it, such as

1. Oguzsoy and Guven (1997) said that asset and liability management is related to the efficiency of management and utilization of resources and funds of banking that focus on profitability, liquidity, capital adequacy, and risk factors. It is also one strategy for banks to create relationships or compete for banking and the environment. When the economy is unstable, the bank's performance will depend on the quality of its assets and liabilities.
2. Chi and Chi (2007) say that ALM is the control of interest rates, liquidity, and the pre-paid environment, as well as the balancing of risk with the items on the balance sheet that have to do with banking operations.
3. Lileikienė (2008) said asset and liability management aims to avoid unacceptable fluctuations in net interest income, capital level, or market value of the bank's share capital to increase the bank's general profit margin. Assets and liabilities must have the same value for banking to work. This is because the importance of both to the bank is closely tied to the market.
4. According to Dash (2011), asset and liability management (ALM) is the strategic management of assets and liabilities to maximize profitability, ensure liquidity, and protect the bank's performance from interest rate, exchange rate, liquidity risk, credit risk, and contingency risk.
5. Ozyildirim and Ozdincer (2011) said banks' liability structures as resources and their asset allocations as products follow the resource-based view in the strategic management literature. Ozyildirim and Ozdincer (2011) explain that assets are dominated by credits and government securities in the banking sector. The total liabilities of banks under the categories of customer deposits, third-party funds, and equity.
6. Gülpinar and Pachamanova (2013) said ALM is one of the classical risk problems in financial risk management, which involves the management of assets that aims to gain profit to maintain a comfortable surplus of assets over existing and future.
7. The successful and continuity key of banking operational activities can be seen based on appropriate liquidity and balance sheet management. It is related to the primary purpose of the ALM function to manage interest rate and liquidity risks. A trading desk still deals in assets and liabilities, which must consider the interest rate and liquidity risk. (Novickytė and Petraitytė (2014))
8. Das et al. (2015) said that asset-liability management is the art and science of banking operations for measuring and managing risk. As a result, banks use

BASEL norms in ALM measurement, which necessitate a massive capital infusion to provide a banking merger.

9. Sheela and Bastray (2015) said the ALM function's basis is the institution's process of managing the balance sheet based on the interest rate and liquidity scenarios. Institutional recognition may be extended to banking institutions or other financial institutions involved with various risks such as credit risk, interest risk, and liquidity risk. ALM also serves as one of the processes in assessing risk through risk management strategies that can affect the financial position of a financial institution. ALM is also a strategy to analyze the gap between assets and liabilities related to interest rate sensitivity to minimize interest rate risk and liquidity from gaps between assets and liabilities.

The conclusion about asset/liability management assessment for banking is closely related to banking regulation regulating changes in asset value and liabilities to avoid future risks that may disrupt operational banking activities. Helberg and Lindset (2014) said there is a relationship between banks' debt structures and debt regulations in bank capital. Helberg and Lindset (2014) said the strategies and regulators related to banking performance are aimed at optimum capital banking development. According to Novickytė and Petraitytė (2014), if the bank has an excellent function on integration performance, the strategy of ALM should be focused on all aspects of banking operational activities by optimizing the investment of assets in order to meet current goals and future liabilities to make the bank's growth consistent and profitable.

So, in some banking regulations, the bank has already set a measurement of ALM. However, the banks already classified the groups of each of the assets and liabilities in the financial statement reporting to be assessed.

Brodt (1988) classifies asset and liability analysis in banks:

Table 1: Identifying the Assets and Liabilities of Banks

No	Asset Analysis	No	Liabilities Analysis
1	Cash	1	Demand Deposits
2	Securities	2	Term Deposits
3	Loans	3	Other Liabilities
4	Other Assets	4	Capital

Source: Brodt (1988)

Sheela and Bastray (2015) stated that ALM evaluation could be measured by Basel II norms in banking regulatory activities for the purpose of efficient capital allocation, designing products with appropriate pricing strategies, and achieving profitability through price matching while ensuring liquidity by matching maturity.

Numerous ALM metrics pertain to evaluating the performance of banking growth plans. All of this, however, is detailed in Table 1, which details past research that employed ALM techniques for specific metrics. This study also introduces ALM as the qualitative technique for banks by addressing questions posed by Haffner (n.d.) regarding the successful application of ALM strategies by banks (can be seen in

Appendix 2). According to Haffner, the ALM assessment focuses primarily on three objectives: (1) assisting banks with business operations; (2) using ALM to increase profitability and fulfill banking objectives; and (3) assisting banks with customer service.

ALCO (Asset-Liability Committee) is a risk management committee chaired by the President Director that serves as the central command of liquidity risk policies for all directorates and is backed by the internal supervisor committee, according to Ismal (2010). Haffner added that the Asset/Liability Committee (ALCO) is often a role for senior-level bank executives who understand ALM and regularly report to the Board of Directors.

3. Methode

The review method is employed in this study. Lesson et al. (2011) claim that the literature review is a desk- or library-based method that involves the secondary examination of explicit knowledge. As a result, the concepts of explicit and implicit knowledge are examined in their abstract forms. A formal literature review and a systematic review are both included in the literature review. This study integrates areas of abstract knowledge that help with a better understanding of the problem using conceptual reviews (as part of a traditional literature review).

The asset and liability management evaluations included in this study make use of assets and liabilities from banks from 2008 to 2016 and Mendeley software. Thus, there have been 47.753.293 articles searched in total. However, the scope of this analysis was limited to 250 papers on banking performance. Only 25 of the 250 articles that were analyzed included information about banking from 2008 to 2016. The objective or subject of each article has been determined, along with its title and year of publication, methodology type (such as quantitative or qualitative methodology), and methodology type.

An analysis of asset and liability management conducted by Google Scholar includes information from over 41,400 articles, including literacy scores. It seems to be between 2018 and 2022. The remaining ones have keywords attached to them. For example, the search term "Banking in Indonesia" produced 18100 hits. The results were reduced to 15400 when the word "Effect Crisis" was included. The article "7650" is produced by re-adding the word "Covid". Fourth, add the word "recovery" to the modified version of 5250. Finally, 17 articles were retrieved using the phrases "halal" and "haram." A summary of 12 journals, 3 books, 1 thesis, and 2 notifications that have nothing to do with the articles can be found in the Google Scholar ALM 2018–2022 literacy collection.

4. Result and Discussion

In Surah Al-Baqoroh (282) of the Qur'an, it is stated, about the economic regulation that involves the management of assets and liabilities:

﴿ يَٰٓأَيُّهَا ٱلَّذِينَ ءَامَنُوٓاْ إِذَا تَدَايَنتُم بِدَيۡنٍ إِلَىٰٓ أَجَلٖ مُّسَمّٗى فَٱكۡتُبُوهُۚ وَلۡيَكۡتُب بَّيۡنَكُمۡ كَاتِبُۢ بِٱلۡعَدۡلِۚ
وَلَا يَأۡبَ كَاتِبٌ أَن يَكۡتُبَ كَمَا عَلَّمَهُ ٱللَّهُۚ فَلۡيَكۡتُبۡ وَلۡيُمۡلِلِ ٱلَّذِي عَلَيۡهِ ٱلۡحَقُّ وَلۡيَتَّقِ ٱللَّهَ رَبَّهُۥ وَلَا

يَبۡخَسۡ مِنۡهُ شَيۡـٔٗاۚ فَإِن كَانَ ٱلَّذِي عَلَيۡهِ ٱلۡحَقُّ سَفِيهًا أَوۡ ضَعِيفًا أَوۡ لَا يَسۡتَطِيعُ أَن يُمِلَّ هُوَ فَلۡيُمۡلِلۡ
وَلِيُّهُۥ بِٱلۡعَدۡلِۚ وَٱسۡتَشۡهِدُواْ شَهِيدَيۡنِ مِن رِّجَالِكُمۡۖ فَإِن لَّمۡ يَكُونَا رَجُلَيۡنِ فَرَجُلٞ وَٱمۡرَأَتَانِ مِمَّن
تَرۡضَوۡنَ مِنَ ٱلشُّهَدَآءِ أَن تَضِلَّ إِحۡدَىٰهُمَا فَتُذَكِّرَ إِحۡدَىٰهُمَا ٱلۡأُخۡرَىٰۚ وَلَا يَأۡبَ ٱلشُّهَدَآءُ إِذَا مَا دُعُواْۚ
وَلَا تَسۡـَٔمُوٓاْ أَن تَكۡتُبُوهُ صَغِيرًا أَوۡ كَبِيرًا إِلَىٰٓ أَجَلِهِۦۚ ذَٰلِكُمۡ أَقۡسَطُ عِندَ ٱللَّهِ وَأَقۡوَمُ لِلشَّهَٰدَةِ وَأَدۡنَىٰٓ
أَلَّا تَرۡتَابُوٓاْ إِلَّآ أَن تَكُونَ تِجَٰرَةً حَاضِرَةٗ تُدِيرُونَهَا بَيۡنَكُمۡ فَلَيۡسَ عَلَيۡكُمۡ جُنَاحٌ أَلَّا تَكۡتُبُوهَاۗ وَأَشۡهِدُوٓاْ
إِذَا تَبَايَعۡتُمۡۚ وَلَا يُضَآرَّ كَاتِبٞ وَلَا شَهِيدٞۚ وَإِن تَفۡعَلُواْ فَإِنَّهُۥ فُسُوقُۢ بِكُمۡۗ وَٱتَّقُواْ ٱللَّهَۖ وَيُعَلِّمُكُمُ ٱللَّهُۗ
وَٱللَّهُ بِكُلِّ شَيۡءٍ عَلِيمٞ ﴾

(282. O you who believe! When you contract a debt for a fixed period, write it down. Let a scribe write it down in justice between you. Let not the scribe refuse to write, as Allah has taught him, so let him write. Let him (the debtor) who incurs the liability dictate, and he must have Taqwa of Allah, his Lord, and diminish not anything of what he owes. But if the debtor is of poor understanding, or weak, or is unable to dictate for himself, then let his guardian dictate in justice. And get two witnesses out of your own men. And if there are not two men (available), then a man and two women, such as you agree for witnesses, so that if one of them (two women) errs, the other can remind her. And the witnesses should not refuse when they are called (for evidence). You should not become weary to write it (your contract), whether it be small or big, for its fixed term, that is more just with Allah; more solid as evidence, and more convenient to prevent doubts among yourselves, save when it is a present trade which you carry out on the spot among yourselves, then there is no sin on you if you do not write it down. But take witnesses whenever you make a commercial contract. Let neither scribe nor witness suffer any harm, but if you do (such harm), it would be wickedness in you. So have Taqwa of Allah; and Allah teaches you. And Allah is the All-Knower of everything.) (Source: Ibn Kathir). In order to summarize the findings of the conceptual review of various articles, Table 2 can be used:

Table 2: List of Reviewed Articles

NO	Year of Publication	Total	Type of Research Methodology
1	< 2008	7	Quantitative

2	2008	2	Qualitative
3	2010	1	Qualitative
4	2011	3	2 Quantitative; 1 Qualitative
5	2013	2	1 Quantitative; 1 Qualitative
6	2014	2	Quantitative
7	2015	6	Quantitative
8	2016	1	Quantitative
9	2017	1	Quantitative
10	2018	0	None
11	2019	1	Qualitative
12	2020	0	None
13	2021	1	Qualitative
14	2022	2	2 Qualitative
	Total	**29**	

Source: Developed from This Articles

For a more detailed conceptual review, the analysis can be seen in Appendix 1.

The inclusion of this ALM article is intended to encourage the growth of researchers' interest in assessing asset liabilities through literature review and to act as a fundamental resource for the general public or researchers involved in assessing asset liabilities. Furthermore, when considering asset and liability management, there are few traditional concerns and Islamic perspectives. Table 3 shows that Islamic asset liability management references are less generally known.

Table 3: Article List for Islamic Perspective

No	Name and Year	Methodology	Focused on

1	Badolati (2019)	Qualitative Method (Thesis)	Islamic securities could be used to support medium-sized non-Islamic businesses and protect assets during times of financial turmoil. According to this viewpoint, Islamic finance could experience significant expansion in the future since it is associated with sustainable development and can draw in international investment. Western businesses looking at Islamic financing would expand their pool of potential financiers to include Muslim investors who refrain from using traditional investments due to their own religions. Because it encourages sustainable development and draws international investment, islamic finance will expand. A financial contract could serve as a new assurance for the investor and lender because it depends on the success of the project and its implementation.
2	Siregar et al (2021)	Qualitative Method (Article)	In the first quarter of 2021, Indonesia's economic recession eased and COVID-19 handling improved, with 13% of the targeted population vaccinated by the third week of June. External sectors drove the economic recovery, but the rate of recovery varied greatly. This research looks at the balance sheets of corporations and banks during the epidemic. Government involvement may be required to prevent business liquidity issues from escalating into solvency issues. While bank capital remains adequate, loan quality degradation is greater than appears. Recent bank stress tests have confirmed potential flaws. This article examines how the government may prepare Indonesia in the next two years for life after the pandemic.

3	Tagoranao et al (2022)	Qualitative Method (Article)	In a capitalist economy, Islamic financial institutions like zakat, waqf, sadaqah, the halal sector, and Islamic microfinance are thriving. This research finds that poor people were able to avoid the worst effects of poverty thanks to Islamic social financial institutions and Islamic micro-finance, which helped them access quality healthcare, education, and start-up funding.
4	Wartoyo, et al (2022)	Qualitative Method (Article)	This study demonstrates that mosque-based sharia cooperatives provided affordable financing through the qardhul hasan contract, refinanced and rescheduled loans, distributed basic food packages through zakat money and cross-subsidies, and offered social services and health education. The results demonstrate that sharia cooperatives established in mosques boost communal livelihoods. This study also demonstrates that when sharia cooperatives and mosques collaborate, the entire community benefits.

Source: Developed from This Articles

4. Conclussion

Banks are constantly developing new methods for determining their assets and liabilities. Modern banks must be able to manage risks and commercial operations with expanding national and international requirements. There is no difference between conventional and Islamic banking in the measurement of asset-liability management, according to Ismal (2010). Many of this study's flaws may be attributable to restrictions identified during an article review. The measurement of asset/liability management (ALM) is not supposed to be for banking first. Understanding ALM is one strategy for banking to improve profitability and maintain liquidity to avoid risk.

ALM has functioned to reduce the mismatches between assets and liabilities by controlling the investment policy. The value of ALM can be attributed to the assessment of increased banking performance but is also a source of bank problems. Dow and Han (2015) said that the capital increase is significant with increased asset investment. The more difficult asset is overproduced in the economy, destroying consumer welfare. When the economy is unstable, the bank's performance will depend on the quality of its assets and liabilities.

Assets are dominated by credits and government securities in the banking sector. Balance sheet management is related to the ALM function to manage interest rate and liquidity risks. Banks use BASEL norms in ALM measurement, which necessitate a massive capital infusion to provide a banking merger. ALM is also a strategy to analyze the gap between assets and liabilities related to interest rate sensitivity. The conclusion about asset/liability management assessment for banking is closely related to banking regulation regulating changes in asset value and liabilities.

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