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ASSETS LIABILITY MANAGEMENT AT SAUDI COMMERCIAL BANKS

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ABSTRACT

Commercial banks market at Saudi Arabia is developing at a steady pace. Risk analysis is important in ensuring the banks are ready for any eventuality in the market. A macro level structure for risk management is given by Asset Liability Management (ALM). Thus, this work has looked into the issues to ensure that commercial banks in Saudi Arabia offer the best services. The ALM practices and liquidity risk of commercial bank in Saudi Arabia were analyzed. Eight banks listed on the Saudi Arabia Stock Exchange for the period of five years from 2013 to 2017 were used as samples. This work was done based on quantitative method. The variables that were analyzed are return on asset (ROA), total assets, total liability, inflation and interest rate. Based on observation of eight banks listed on the Saudi Arabia Stock Exchange in the period of 2014 to 2017, results showed that banks profitability was negatively affected by liabilities.

INTRODUCTION

Asset Liability Management (ALM) is somewhat of an instrument to address the risk faced by banks because of a mismatch among assets and liabilities either because of changes in interest rates or liquidity [1]. Asset-liability management does not only occur as a result of reducing the risks that are caused by the intersection but also occur as a process of maximizing profits, as a long-term perspective [2].

Liquidity is an establishment's ability to meet its liabilities by obtaining or changing over resources [3]. Beside liquidity, a bank can likewise have a befuddle due to the adjustments in financing costs[4]. Subsequently, proficient

administration of liquidity in the bank helps to ensure that the bank can manage the incurred finance.

A broad ALM approach framework spins around bank advantage and long haul reasonableness by focusing on the net interest rate (NIM) and Net Economic Value (NEV), and subject to necessities of monetary record [5]. Critical among these restrictions are keeping up credit quality, watching out for liquidity needs and getting sufficient capital [5].

There are three major components of ALM and these are information systems, management information system and the availability of the data [6]. For proper analysis and conclusive decision-making, risks must be identified first and their mitigation plans are established. The extent of the risks is then measured to allow effective management of the risk to prevent any catastrophic occurrence [6]. Risk policies have to be well formulated and set the levels up to which such risks can be tolerated by the commercial banks. Some of the risks that might be encountered include dealing with various currencies whose exchange rates might fluctuate causing troubles in the bank [7]. In case of changes in the interest rates levels, banks also face many risks since as the target set by the bank might not be achieved. Therefore, risk analysis is important in ensuring the banks are ready for any eventuality in the market. Regular analysis of the balance sheet and appropriate measures to combat any liquidity issues are paramount for the commercial [7].

Liquidity management has a great role in ensuring that banks are in a position to meet all their financial obligations. This liquidity is directly affected by management in asset liabilities and the decision made in the management of balance sheets in commercial banks. Therefore, ALM involve quantification of an effective balance sheet and enhancement of risk cautious decisions in risk management [8].

Operations of the company greatly depend on the commercial banks' ability to minimize risks. The best way banks can handle ALM is by utilizing Funds Transfer Pricing (FTP) [8]. FTP helps in identification of any major risks associated with interest rates and liquidity that the banks might face and help in finding possible solutions to such risks [9]. Using FTP tool, it allows the bank to have a competitive advantage by safeguarding their assets from risks and prospects for profit generation in the industry. Funding liquidity and interest rate risks are factored in when using FTP, thus capturing several elements in the bank, which include funding costs and the prepayment rights [9].

Several works has been reported with regards to the usage of ALM. Platanaki et al. [10] did a research on whether asset management liability is the main factor of profit maximization in a financial institution and found that with the application of ALM, the profit management has been maximized. Davis et al .[11] suggested that with the usage of ALM, financial investors can improve their informed status by ensuring that their wealth is invested in assets in which they have specific knowledge on. Suresh et al.[12] studied on how ALM is utilized as an apparatus for overseeing liquidity hazard utilizing gap

display in four banks, specifically, HDFC Bank, ICICI Bank, Punjab National Bank and State Bank of India, and found that all four banks have reduced its risk of loss with the usage of ALM. de Oliveira et al.[13] presented a work on asset liability management of pension funds in Brazil by utilizing multistage programming method and found that banks need to take more risk to cover its liability. Sun et al.[14] examined the determinants of net premium/overall revenues of both customary banks and Islamic banks in the Organization of Islamic Cooperation nations using assets management and found that the profit margin of the bank is influenced by the operating cost. Chiu et al.[15] examined the ideal asset liability management (ALM) of a insurer and found that ALM limits the fluctuation of the terminal monetary. Meena et al.[16] analyzed liquidity proportions and resource risk the executives practices of banks in India and found that banks in India have generally excellent momentary liquidity position and all banks are financing their transient liabilities by their long haul resources. Abou-El-Sood et al.[17] analyzed the application of ALM in Islamic banks and found that ALM has assisted banks to take decision on financial sources. Alhumaidah et al. [18] presented asset liability management for central bank in Saudi Arabia by utilizing two enhancement methods, and found that ALM improvement empowers the central bank to make ideal resource allotments.

In Saudi Arabia, there has been a very fast rate in growing of financial institutions (commercial banks). This has been caused by the implementation of technological development as well as government policies [18]. The growth is also caused by competitive nature of all commercial banks. Even when the rest of the world is experiencing financial disorders, Saudi Arabia financial institutions always register a positive impact on their growth [18]. Despite the positivity on the growth, the institutions have experienced some issues on assets liability management. Thus this work has looked into the issues to ensure that commercial banks in Saudi Arabia offers the best services as well as maximizing profitability to improve economic growth of the country as whole. The focus of this work was to analyze the ALM practices and liquidity risk of commercial bank in Saudi Arabia.

METHODOLOGY

Research Design

This research investigates the relationship that existed between the asset-liability management and the profitability of banks in Saudi Arabia. Panel data is used to achieve a considerable level of detailed investigation within the period. Thus, the data involved time series and cross-sectional dimension. Primary sources of data included analyzing the bankbook records. Regression analysis was utilized to understand the relationship between various components and their effects on the bank. Secondary sources included the study of the dynamics in the general banking industry over the past years.

Sample and Sampling Procedures

The sample for this work comprised of eight banks, which were Alawwal Bank, Aljazira Bank, Alrajhi Bank, Arab National Bank, Riyad Bank, Saudi

British Bank, Samba Bank, and Saudi Investment Bank. These banks were listed on the Saudi Arabia Stock Exchange for the period of five years from 2013 to 2017. The data were taken from reliable sources to ensure the reliability of the study. Secondary data were collected from various database. It included income statements, balance sheets and cash flow statements of the banks. Other data sources required for the study were also collected from the Saudi Stock Exchange fact book.

The Variable

The variables included the return on asset (ROA), total asset (TAS), total liability (TLT), annual inflation rate (INF) and interest rate (INT).

Data Analysis

Microsoft Excel application was used for data preparation. Univarate data analysis was done. Simple data analysis and preliminary analysis were carried out. Results were presented in table and figure form accordingly.

Result And Discussion

Analysis of the collected data on ALM is assessed by empirical studies to determine the relationship between the bank's profitability and its ALM. The relationship between the assets and liabilities of the banks help in the approximation of the company's profit margin.

Descriptive Statistics

The descriptive statistics of the variables in this study are presented in Table 1. Generally, the statistics indicate a wide variability exist in both the balance sheet and macroeconomic variables which are assumed to have effect on the listed bank's profitability. The ROA has a mean value of 14.83 % with standard deviation (SD) 0.29% indicating variability in the profitability of the sampled banks. The mean value of the assets of the banks is 1,401,236,379 with a SD value of 95,715,266 which also indicate the variation among the banks. The liability variable has a mean of 1,181,690,054 with SD value of 83,913,100.

The macroeconomic variables incorporated in this study were inflation and interest rate. Inflation has an average value of 16.47% for the period under study with SD value of 0.46%. Interest rate on the other hand has a mean value of 2.00 with SD value of 2.00%.

Table 1 Descriptive statistics of the variables

Statistics	Assets	Liability	Inflation	Interest Rate	ROA
Mean	1,401,236,379	1,181,690,054	16.47%	2.06%	14.83 %
SD	95,715,266	83,913,100	0.46%	2.00%	0.29%

Correlation Analysis

The assessed cross-correlation coefficients were estimated as shown in Table 2. Based on Table 2, it was discovered that all the autonomous factors were contrarily related with ROA variable. The macroeconomic factors are feebly related with both the advantage and liabilities. Based on Table 2, asset exhibited a medium correlation with ROA with correlation value of -0.508. Liability exhibited a medium correlation with ROA, with correlation value of -0.512. On the other hand, inflation and interest rate exhibited low correlation with ROA, with correlation value of -0.139 and -0.060, respectively. The other correlation values of the variables is shown in Table 2.

Table 2 Correlation Analysis

	ROA	Asset	Liability	Inflation	Interest
ROA	1				
Asset	-0.508	1			
Liability	-0.512	0.999	1		
Inflation	-0.139	0.182	0.182	1	
Interest	-0.060	0.099	0.105	0.055	1

Table 3 showed the outcome of variables analyzed in the 8 sample banks. Based on Table 3, the ROA for Alawwal bank for the 4 years was in the range of 1.01 to 1.88 %. The total assets were in the range of 96,619,218 to 108,070,334 to. The total liability was in the range of 85,877,336 and 96,043,140.

As for Aljazira Bank for the 4 years, the ROA was in the range of 0.86 to 2.03 %. The total assets were in the range of 63,264,134 to 68,287,455. The total liability was in the range of 55,850,665 to 60,395,883. Next, for Alrajhi Bank, the ROA for four years was in the range of 2.22 to 2.65 %. As for the total assets, it was in the range of 307,711,555 to 343,116,528. The total liability was from 265,815,361 to 287,764,945. As for Arab National Bank, the ROA for 4 years was in the range of 1.68 to 1.76 %. The total asset was in the range of 164,668,355 to 171,701,699. The total liability was in the range of 144,028,596 to 147,789,420.

Based on Table 3, the ROA for Riyad Bank for the 4 years was in the range of 1.54 to 2.00 %. The total assets were in the range of 217,398,827 to 235,242,679. The total liability was in the range of 178,486,830 and 194,882,822. As for Saudi British Bank for the 4 years, the ROA was in the range of 2.07 to 2.27 %. The total assets were in the range of 186,055,894 to 187,750,423. The total liability was in the range of 154,144,873 to 161,538,056. Next, for Samba Bank, the ROA for four years was in the range of 2.16 to 2.30 %. As for the total assets, it was in the range of 217,398,827 to 235,242,679. The total liability was from 178,486,830 to 194,882,822. As for Saudi Investment Bank, the ROA for 4 years was in the range of 1.11 to 1.53 %. The total asset was in the range of 93,626,440 to 94,361,498. The total liability was in the range of 79,517,152 to 81,774,308. Based on Table 3, the

values of inflation for all banks was in the range of -0.16 to 2.69%. On the other hand, the interest rate for all banks was 2 %

Table 3 Variable of the listed banks In Saudi Arabia

Variables	ROA (%)	T. Asset	T. Liability	Inflation (%)
Alawwal Bank				
2014	1.88	96,619,218	85,877,336	2.69
2015	1.87	108,070,334	96,043,140	2.19
2016	1.01	105,070,500	92,207,706	3.51
2017	1.33	99,869,830	86,270,134	-0.16
Aljazira Bank				
2014	0.86	66,553,929	60,395,883	2.69
2015	2.03	63,264,134	55,850,665	2.19
2016	1.31	66,319,368	58,215,842	3.51
2017	1.25	68,287,455	59,458,616	-0.16
Alrajhi Bank				
2014	2.22	307,711,555	265,815,361	2.69
2015	2.25	315,619,648	268,980,594	2.19
2016	2.39	339,711,817	287,764,945	3.51
2017	2.65	343,116,528	287,365,610	-0.16
Arab National Bank				
2014	1.74	164,668,355	144,028,596	2.69
2015	1.73	170,421,273	147,789,420	2.19
2016	1.68	170,008,722	146,084,169	3.51
2017	1.76	171,701,699	146,635,734	-0.16
Riyad Bank				
2014	2.00	217,398,827	178,486,830	2.69
2015	1.72	235,242,679	194,882,822	2.19
2016	1.54	231,488,587	182,928,927	3.51
2017	1.73	227,611,079	182,928,927	-0.16
Saudi British Bank				
2014	2.27	187,609,268	161,538,056	2.69
2015	2.07	187,750,423	159,575,886	2.19
2016	2.09	186,055,894	154,776,966	3.51
2017	2.10	187,615,344	154,144,873	-0.16
Samba Bank				
2014	2.30	217,398,827	178,486,830	2.69
2015	2.21	235,242,679	194,882,822	2.19
2016	2.16	231,488,587	188,707,572	3.51
2017	2.20	227,611,079	182,928,927	-0.16
Saudi Investment Bank				
31/12/14	1.53	93,626,440	81,774,308	2.69
31/12/15	1.41	93,633,719	81,597,257	2.19
31/12/16	1.11	94,361,498	80,818,310	3.51
31/12/17	1.50	93,796,219	79,517,152	-0.16

Overall Discussion

For this work, the overall results showed that liability management has negative effect on the banks profitability. The findings show that the liabilities are significantly costing the profitability of the banks in Saudi Arabia. This outcome is consistent with the work of Al Nimer et al.[19] and Islam et al.[20] where it was stated that the profitability of the bank is significantly influenced by the liability of the bank. Thus, a proper liability management practice would enhance the profitability of the banks. Furthermore, the macroeconomic variables incorporated in this model were the interest rate and the general rate of inflation. Interest rate had no huge impact on profitability; however, the rate of inflation negatively affected commercial banks profitability. This outcome is consisted with the work of Zarrouk et al.[21] where it was confirmed that banks profitability is influenced by inflation rate. Therefore, it is deduced that in the Saudi commercial banking market, assets management positively and liability management negatively influence the profitability.

CONCLUSION

Assets liability management involves dealing with risks in commercial banks which is majorly done in underdeveloped and developing countries. Lack of technical knowledge can prove to be costly to financial institutions as a result of the imbalance between their assets and liabilities. Good management is desirable for commercial banks to allow smooth operations and proper analysis of the bankbooks of account to establish their profitability. Technology should also be embraced to allow banks have proper bookkeeping and analysis of their assets and liabilities. Utilization of latest technology in banking operations allows the banks to spend little time while analysis and interpreting the financial records. Since the major concern of the depositors and the creditors in commercial banks is the stability of the commercial banks, it is important to ensure financial stability so as to attract customers. This study also found from the observation of eight banks listed on the Saudi Arabia Stock Exchange in the period of 2014 to 2017 that banks profitability were negatively affected by liabilities. Thus, the analysis on the banks has shown that the performances of the banks were at satisfactory level and ALM process is managed with good strategy.

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