ASSESSING BANKS' FINANCIAL PERFORMANCE PRIOR AND POST MERGERS AND ACQUISITIONS – EVIDENCE FROM EGYPT

[1]AHMED MAHMOUD YOUSSEF, [2]NANCY YOUSSEF

Accounting Professor, Doctoral Student
Faculty of Commerce–Cairo University – Egypt,Faculty of Commerce–Cairo University – Egypt
E-mail: [1]costprof@yahoo.com, [2]nancy.youssef@foc.cu.edu.eg

Abstract - This study aims to measure the effects of mergers and acquisitions (M&A) on the banking sector's financial performance in Egypt from the acquirers' point of view, analyzing the banks' data for a 3 years period prior and post. As per prior studies the most common variables listed have been identified and analyzed by univariant analysis and t-test paired sample. The results revealed that the M&A's decision has a positive impact on Banks' profitability as an absolute number, profit share, and return on equity. It also depicted an inconsistent effect on Assets turnover, which was negative on some banks and positive on others. Overall, consolidation and acquisition have shown a positive influence on banks' financial performance and profitability. This paper's outcomes highlight the importance of M&A decisions as a means of financial restructuring, in addressing the market's rapid growth in financial operations in line with the financial inclusion concept, and for investors as well as money market traders.

Index Terms - Factor Analysis, Financial Performance, Investor Analysis, Mergers & Acquisitions

I. INTRODUCTION

The Egyptian banking sector, over the last two decades, has been undergoing several reforms targeting an increase in the sector's efficiency, soundness, and competitiveness. Among the reform programs introduced by the government are the privatization of state-owned banks, public sector shares divest in joint venture banks, and strengthening the Central Bank's regulatory authority. With the issuance of the Banking Law 88 in 2003 mandating banks to grow their capital over a three-year period by raising the minimum required paid-in capital of national banks from EGP100 million to EGP500 million, increasing the capital adequacy ratio requirement from 8% to 10% for the risk-weighted assets. Thus, a huge surge of mergers and acquisitions (M&A) occurred within the sector, where lager more profitable and efficient banks took over smaller weaker ones, resulting in the contraction of the financial players within the sector. Moreover, in a shot to access the market foreign banks took part in the acquisitions wave, particularly after the government refused to issue new banking licenses. Nevertheless, the end result of these mergers & acquisitions on the sector's overall performance as well as the Egyptian economy is yet to be determined. Since small poor performing banks could not abide by the reformed regulations they were easy targets for consolidation. Consequently, this study's main objective is to assess the financial impact of the most important M&A cases (eight cases) that took place during the period under study, which covers the period 2003-2016 that was characterized by many changes that helped strengthen the M&A data. Hence, measuring the performance of each bank and group of sample banks, boosts the confidence in the Egyptian banking system, and showcases its ability to attract foreign investments, face globalization related challenges, and standup to the huge conglomerates in the regional market.

II. LITERATURE REVIEW

Mergers and Acquisitions (M&A) decisions play a vital role in the business cycle's growth, whether it is in terms of grasping a larger market share, creating higher profits, or boosting shareholders' value. Several studies in the accounting literature have dealt with the impact of M&A on banks' financial performance and studied the bank's performance efficiency by computing the cost and return of banking operations,known asX-efficiency, which describes the Bank's ability to maximize output from its inputs. Other studies presented an alternative approach that incorporates the market variables by examining the impact of the M&A decision on stock price changes in response to the M&A decision revelation. Among the most prominent studies in this extent is Badreldin&Kalhoefere (2009), which measured the banks' performance through the period 2002-2007 using components analysis of the rate of return on equity (ROE). The results showed there is insufficient evidence of the impact of the M&A decision on banks' profitability, with minor changes in risk provision reflecting improved credit risk. Another recent study by JoashandNjangire(2015) focused on evaluating the impact of M&A's on the financial performance of 14 banks in Kenya thru the period 2000-2014.The data were acquired via a questionnaire with open and closed questions, and the results indicated that the M&A decision had a positive effect on shareholdersby increasing the shares' demand in the market, but no noteworthy influence on dividends. The study of Long (2015) examined the effect of mergers and acquisitions on the performance of the banking sector in the Czech Republic for the period 2000-2010 by calculating the financial indicators for a period of 3 years for performance before and after the merger

using the univariate analysis method and t-test of the independent samples. The results of the univariate analysis showed that there is a difference in profitability after mergers and acquisitions, but the t-test showed that there was no significant impact on profitability either prior or post mergers and acquisitions. The study recommended the adoption of more severe policies to enhance the performance and financial efficiency of mergers and acquisitions. Also, the study of Kotnal (2016) examined the impact of the merger between State Bank of India Ltd (SBI) and Punjab Bank in India, in 2008.Kotnaldemonstrated the impact of profitability and financial performance before and after consolidation via five financial indicators: Gross Profit, Net Profit, Operating Profit, Return on Equity, Index of Indebtedness; comparing these rates for both banks prior and post merger. The independent t-test was used to test the statistical significance of these indicators. The results showed that there is a positive effect on banks performance related to the merger process. Nevertheless, the study of banks' mergers and acquisitions by Hong et.al (2016)in Vietnam coveringthe economic reform period of 2008-2015, used the descriptive and quantitative approach based on published data to assess the market concentration level in the banking sector and its impact on the restructuring process through mergers and acquisitions. The concentration level was measured using the total market share index to determine banks with the largest share taking into account the degree of competitiveness in the Vietnamese market. The results showed that the merger and acquisition activities have a positive but trivial effect in reducing the non-performing debt index, but that debt restructuring leads to significant positive results, where the banking market's condition changesdrastically in light of market's mergers and acquisitions concentration degree. Another recent study by Chaudhary et al., (2016) examined the effect of mergers and acquisitions on the efficiency of the Pakistani banking sector during the period from 2000-2009 in nine banks via the use of Data Envelopment Analysis method, where three models were used: income-based model, income-based model and a Loan-based model, and the intermediation approach model; all applied for the pre and post merger period. The study's results showed a decrease in the average efficiency of most banks in the study sample during the post-merger and acquisition period. This result is consistent with other studies conducted in Pakistan, including Kemal (2011). Moreover, the Ntuli(2017) paper assessed the acquisition of the South African bank, Amalgamated Bank, by Barclays Bank in 2005, based on published data for the period 2004-2015. The paper implemented the trend analysis method using return on assets (ROA), return on equity (ROE), and debt ratio (Debt to equity), return on investment. The results showed that the acquirer bank has a positive impacton the (GDP) by effectively managing the new entity's assets, as well as improving its return on equity and return on investment prior to the acquisition. Furthermore, the study of Bao (2017) measured the impact of the Merger or Demerger decision simultaneously on the bank's performance by analyzing the NBN AMRO case for the period 2007-2013 in the Netherlands. The results revealed no significant effect of the merger or demerger event on the bank's net profit, turnover of assets, return on equity, and financial leverage. An additional recent stimulating paper is Gupta's (2017) which measures the impact of consolidation or acquisition on the financial performance of the acquired enterprises in India for a 3 years period,prior and post the merger, during the period 2006-2015.The study worked on a sample of seven differentbanks and used a set of financial indicators and analyzed them using t-test. The results disclosed that there was no improvement in the financial performance of post-merger partnerships due to the deterioration of the profitability and liquidity indices of the sample after the merger or acquisition. Not to mention, Weber's (2017) study included measuring the impact of the mergers and acquisitionson the profitability of banks in the Italian banking market during the period 2008-2015. The profitability of 386 data available financial institutions was calculated and a range of efficiency indicators was used (e.g. operating and income, expenditure, total assets cost, deposits, change in number of branches, number of banks, number of foreign branches, market share, ratio of total assets). The results indicated that one of the main reasons for the low profitability of Italian banks is the relative inefficiency in their cost structure, which prompts further investigation of the M&A effect on improving banks' cost structure and growing profits. Since mergers and acquisitions are usually accompanied by a reduction in expenses and costs, which helps in realizing efficiency gains and economies of scale, and improving administrative efficiency. Accordingly, the study's conclusion is thatmergers and acquisitions have become tools of a comprehensive strategy addressing the banking sector's problems, due to the aftermath's results of improved performance and supplementary structural reforms. The Veena and Pathi (2017) study examined the impact of pre and post acquisition asset quality performance by examining the case of ING Bank, Kotak Bank in India for the period 2011-2016 using the CAMELS[1] rating,an efficient and effective tool used widely in the industry for performance assessment, that takes into account the future and relative risks and addresses five key aspects: capital adequacy, asset quality, profit management, liquidity management. The study focused on assessing the quality of pre and post merger assets by measuring the ratio of net non-performing assets to net advances,

CAMELS rating system is a renowned international rating system that bank supervisory authorities use to rate financial institutions according to six factors represented b the acronym "CAMELS", which stands for capital adequacy, assets quality, management, earnings, liquidity, and sensitivity to market risks.

total unutilized assets to total advances, and net unutilized assets to total assets. Prior to the merger, the ratio of total investments to total assets declined after consolidation as opposed to prior to consolidation. Therefore, there was a significant difference in pre and post merger performance of net assets not utilized to net advances, and total investments to total assets.

III. THEORETICAL MOTIVATION

The variables used in this research were chosen based on the most frequently used variables by previous studies for assessing the banks' performance before and after mergers and acquisitions. The importance of this study is related to the changes that took place in the structure of the Egyptian banking sector after 2011 due to merger and acquisition transactions, the exit of some entities from the Egyptian market, the entry of other entities, and the placement of shares of some banks in the capital market. Hence, the importance of studying the impact of these changes on the banking sector at the country's micro economic level to determine their influence on the efficiency level of banks performance as well as the overall profitability of the banking sector.

IV. HYPOTHESES DEVELOPMENT

In order to achieve accuracy and objectivity in the research hypotheses testing, the researchers used the descriptive and analytical approach to evaluate several mergers and acquisitions (M&A) in the Egyptian Banking Sector; measuring the impact of the M&A decision on the banks' financial performance via an in-depth analysis of the eight banks that carried out the merger and acquisition during the study period, which constitute the research and study sample.

Consequently, this study aims to explore the relationship between the M&A decision and the financial performance of each bank in the banks' group sample through the following two hypotheses.

First Hypothesis

H1: There is a significant difference in financial performance pre and post merger and acquisition decision at the level of each bank.

Second Hypothesis

H2: There is a significant positive difference in financial performance pre and post merger and acquisition decision at the level of banks represented by the study sample.

V. DATA

The research'spopulation isthe Egyptian banking sector, which consists of 38 banks categorized as public, private, local and foreign, according to the Union of Arab Banks in 2016. The number of mergers and acquisitions (M&A) that have taken place within the sector are 16 cases so far. The researchers have determined the sample's size by examining only eight M&A cases due to a set of constraints that led to limiting the research to that sample. Among these limits is the study's prerequisite of financial statements availability for the three years period ofprior and post merger and acquisition;despite many acquisitions occurring between 2015 and 2016 this requirement was not met. For instance,the Arab Bank of Africa's acquisition of the Canadian Bank of Nova Scotia loan in March 2015, Commercial International Bank's (CIB) acquisition of Citibank's retail portfolio and cards businesses in 2015, and the acquisition of Piraeus Bank by the National Bank of Egypt at the end of 2016. Also, there were some cases of M&A attempts that ensued in 2005, where we could not attain including the acquisition of Bank of Alexandria by the Italian Bank of San Paolo. Finally, the availability of published and audited data was one of the main limits that affected the selection of the sample items.

Correspondingly, this study is based on secondary data collected from the annual published and audited financial statements available online on the banks' official websites. These data cover a period of time 3 years before and after the merger and acquisition, so as to analyze the impact of the M&A decision on financial efficiency of the bank through a set of variables - parameters - that will be identified and analyzed for that periodin the following section.

VI. Model and Variables

The researchers use the most important variables, "the benchmarks", mentioned in the accounting literature dealing with mergers and acquisitions in the banking sector in order to evaluate the financial performance of the banks under study more efficiently and effectively, as listed in Table1.

Table 1 Variables List

X1	Net profit as absolute number (NP)
X2	Rate of Return on Assets (ROA)
X3	Return on Equity (ROE)
X4	Earnings Per Share (EPS)
X5	Asset turnover rate (TAT)
X6	Net interest income (NI) difference between interest income and interest expense
X7	Capital Employee or User (CM)

X8	Total debt / total assets (LTA)
X9	Net Profit / Net Interest Income (N / NI)
X10	Total Loans (TL)
X11	Total deposits (TD)
X12	Change in profit from year to year (PC)
X13	Equity Multiplier (EM) is the ratio of total assets to total equity

This table shows the most important variablesmentioned in the accounting literature dealing with mergers and acquisitions in the banking sector.

The researchers used the Factor Analysis method, whereSPSSX is used as a method to reduce the number of variables that can be analyzed and to interpret the results. The Eigen Value-rule method, where variables with a latent root value of one or more integers are retained,and the total variance isinterpreted by the variable.Hence, Table 2 shows the number of variables to which this rule applies and will later be subjected to statistical analysis, where the variables whose underlying root value is less than the correct one were excluded.

Table 2 Summary Statistics

Variables	Initial Eigen Value		
	Total	Variance %	Cumulative %
X1 (NP)	9.561	50.319	50.319
X2 (ROA)	2.830	14.896	65.215
X3 (ROE)	2.821	10.703	75.918
X4 (EPS)	2.034	5.554	81.472
X5 (TAT)	1.055	1.523	82.995

This table shows that these five variables explain approximately 83% of the variables covered in the analysis - thirteen variables - and will then be used in the following stages of research to explain the effect of mergers and acquisitions on the financial performance of the banks under study.

VII. DISCUSSION OF FINDINGS

The objective of this applied study is to show the statistical significance of the variables that assess the financial performance of the study sample's banks and to highlight the variables that are more explanatory for such performance, both at the level of each bank or at the level of the total sample banks.

VII.I. Testing the validity of the first hypothesis

The first assumption states "there is a significant positive difference in financial performance before and after the merger and acquisition decision at each bank level." In order to test the suitability of this hypothesis, the statistical description of the set of variables identified in the previous step at each bank level was performed using the Univariate Analysis. Tables 3 (a) and (b) show the statistical description of these variables that measure the financial performance of the banks studied before and after the acquisition.The variable X4 representing the share of the profit, and the variable X3 representing ROE, illustrate that there is a positive change in the variables' values after the merger and acquisition versus those of before merger and acquisition (M&A) for all sample banks.

The other two variables, X2, representing ROA and X5(asset turnover), had a mixed effect on financial performance. The return on assets (X2) had a positive impact on the value of this variable in five banks and a negative impact on three of them. The asset turnover rate (X5) had a negative impact on the acquisition of this variable in five banks and a positive impact on three of them. These results demonstrate that the M&A decision has a positive impact on the Bank's profitability, earnings per share and ROE, and has a mixed impact on both ROA and asset turnover. These findings indicate that the first assumption is incorrect. The effect of the M&A decision on the banks' financial performance is not always absolute positive, but its effect is positive in some aspects and negative in others.

Table 3 (a) Summary Statistics

Banks	M&A	Mean				
		X1	X2	X3	X4	X5
Misr Bank	Prior	1.32333.3	.0014	.0433	.0747	.0098
	Post	158024.6	.0111	.0997	.226	.0023
Qatar National Bank	Prior	1141686620	.0254	.143	1.963	.0446
	Post	3144301996	.0225	.4821	4.040	.0292
Baraka Bank	Prior	41403012	.0034	.0630	.560	.0214
	Post	133842803	.0080	.136	1.063	.0133

National United	Prior	109087.3	.0287	.1917	1.9	.254
	Post	139096	.0228	.166	2.3167	.024
United Bank	Prior	6163029.6	.0030	.0359	.395	.0008
	Post	57717987	.0161	.1059	.6833	.0174
UAE Dubai	Prior	285588	.0160	.1397	1.174	.0091
	Post	718864	.0214	.268	3.87	.0074
Abu Dhabi Islamic	Prior	-69609.3	-.0318	-.713	-2.186	.0219
	Post	275976	.011	.2267	1.376	.0509
Kuwait National	Prior	126563345	.0116	.1277	2.2500	.0161
	Post	320609511	.0215	.8009	3.206	.0211

This table shows the statistical description of the mean of the variables that measure the financial performance of the banks studied before and after the acquisition.

Table 3 (b) Summary Statistics

Banks	M&A	Standard Deviation				
		X1	X2	X3	X4	X5
Misr Bank	Prior	7505.5	.0009	.0452	.01422	.00205
	Post	6214.6	.0006	.1172	.07119	.00418
Qatar National Bank	Prior	864058914	.00227	.1053	1.6629	.01024
	Post	859018791	.0010	.4489	.7158	.02242
Baraka Bank	Prior	56783533	.00405	.07104	.5367	.00413
	Post	32824848	.00121	.01803	.1078	.01589
National United	Prior	12290.3	.00442	.03355	.0621	.0121
	Post	19166.7	.0032	.01513	. 3177	.00143
United Bank	Prior	5791151.6	.00291	.0338	.06364	. 0026
	Post	4069158	.00492	.0379	.3402	.0038
UAE Dubai	Prior	84044.4	.00265	.0279	.1054	.0159
	Post	232035.9	.00263	.07158	.123	.0055
Abu Dhabi Islamic	Prior	723630.4	.0327	.7319	2.448	.0095
	Post	79490.8	.00245	.0568	.3980	.0053
Kuwait National	Prior	85323295	.00566	.04829	.2721	.0189
	Post	26700632	.00136	.00507	.2650	. 119

This table shows the statistical description of the standard deviation of the variables that measure the financial performance of the banks studied before and after the acquisition.

VII.II. Testing the validity of the second hypothesis

The second provision states "there is a significant positive difference in financial performance before and after the merger and acquisition decisionat the level of sample banks."The validity of this hypothesis was tested using Paired sample t-statistic test, where the relative change in the values of the five variables was measured.

The results show the financial performance of the sample's banks prior and post the merger and acquisition (M&A), where Table (4) demonstrates the sample's banks mean, standard deviation, t-value, and significance level of each variable both pre and post M&A.

Table 4 T-statistic (Two - Tail) & variables

Variables	M&A	Mean	Standard Deviation	T-value	Sig P-value
X1 (NP)	Prior	164909176	458068763.7	1.227	.028
	Post	457220542	1073276981		
X2 (ROA)	Prior	.0072	.02059	1.845	.053
	Post	.0155	.00795		
X3 (ROE)	Prior	.0039	.3575	2.52	.180
	Post	.2107	.18365		
X4 (EPS)	Prior	185.79	563.030	.902	.051
	Post	486.19	1358.78		
X5 (TAT)	Prior	.0188	.01345	.418	.162
	Post	.0207	.01708		

This table demonstrates the sample's banks mean, standard deviation, t-value, and significance level of each variable both pre and post M&A.

Reviewing the results of Table (4) confirms that there is a positive increase in the mean values of all the variables after the merger, but the degree of significance (sig) is different from the required level of 5%, where the variable of the profitability interval X1 (sig .028) The rate of return on assets X2 (sig. = .053) and the share in earnings x4 (sig. = .051). The sig level indicates that the profitability of the bank after the merger was higher and has a significant impact on the performance of these banks compared to prior merger and acquisition.

The other two variables, the ROE (X3) and the asset turnover rate X5 (sig. = .162) reflect that despite the positive change in their respective values after the acquisition, their sig level was greater than 5%, and they have no significant effect on performance after consolidation and acquisition.

CONCLUSION

Thisresearch examined the statistical significance of a set of variables – by accounting measurements – to assess the extent to which the financial performance of a group of Acquiring Banks in the Egyptian market was affected by the acquisition decision for a period of 3 years prior and post the acquisition using both the univariate-analysis and t-test paired sample samples.

The results of the study's Hypothesis-1 validity test demonstrate that the M&A decision has a positive impact on the Bank's profitability, earnings per share and ROE, and has a mixed impact on both ROA and asset turnover. The effect of the M&A decision on the banks' financial performance is not always absolute positive, but its effect is positive in some aspects andnegative in others. However, the outcomes of the study's Hypothesis-2 validity test indicate that the profitability of the bank after the merger was higher and has a significant impact on the performance of these banks compared to prior merger and acquisition. While the impact of the M&A decision on both ROE and asset turnover was mixed-positive in some banks and negative in others. The results of the analysis of the group of banks represented by the sample showed that all the variables were positively affected after the acquisition.It may be important to undertake further studies to address some of the aspects in greater depth and analysis, which have set some limits on the current study, including:

First, the current research should be limited to the financial variables derived from the published financial statements, and should not take into account other variables that have an impact on the profitability and performance of banks, including inflation, and the effect of exchange rate liberalization as in 2016. It may be appropriate to study the impact of these factors on mergers and acquisitions which were completed in 2016, 2017.

Second, the lack of data and financial information related to some cases of acquisitions in the banking sector led to the determination of the size of the sample where it could have been larger if these data were available, thus, could be generalized on the banking sector.

Third, the period of study included most of the acquisitions from 2006 to 2013. This period was characterized by exceptional circumstances, including the financial crisis in 2008, the political situation in the Arab Republic of Egypt after 2011, which had an impact on the economic stability.

Finally, the structural reforms approved by The Central Bank of Egypt on the banking sector, and the failure to grant licenses for establishing new banks, all led to the increasing cases of acquisition, which had a vital impact on the performance of banks in general and financial performance in particular.

REFERENCES

[1] Badreldin, and C. Kalhoefer, "The Effect of Mergers and acquisitions on Bank Performance in Egypt," Journal of Management Technology, pp. 1-15, 2009.

[2] H. Bao, "Evaluation of pre and post Demerger-Merger Performance: using ABN AMRO Bank as an Example," International Journal of Economics and Finance, vol. 9, pp. 196-204, 2017.

[3] G. Chaudhary, "Impact of mergers & Acquisitions upon Banking Efficiency in Pakistan, Data Envelopment Analysis Approach," Journal of Business Studies Quarterly, vol. 8, pp. 46-54, 2016.

[4] Gupta, and P. Banerjee, "Impact of merger and acquisitions of financial performance, Evidence from selected companies in India," International Journal of Commerce and Management Research, pp. 14-19, 2017.

[5] H. Hang, V. Phan, and B. Jay, "Mergers, Acquisitions and Market concentration in the Banking sector: The Case of Vietnam," Asian online Journal publishing Group, pp. 49-58, 2016.

[6] G. Joash, and M. Njangiru, 2015, "The effect of Mergers and Acquisitions on Financial Performance of Banks (A Survey of Commercial Banks in Kenya)," International Journal of Innovative research & Development, vol. 4, pp. 101-112, 2015.

[7] J. Kotnal, "The economic impact of merger and acquisition on profitability of SBI," International Journal of Applied Research, vol. 2, pp. 810-818, 2016.

[8] M. U. Kemal, "Post-Merger Profitability: A Case Royal Bank of Scotland (RBS)," International Journal of Business and Social Science, vol. 2, pp. 157-162, 2011.

[9] P. Long, "Merger and Acquisitions in the Czech Banking Sector-Impact of Bank Mergers on the efficiency of Banks," Journal of Advanced Management Science, vol. 3, pp. 86-91, 2015.

[10] M. Ntuil, "An Evaluation of bank acquisition using an accounting based measures: A Case of Amalgamate Bank of South Africa and Barclays Bank PLC," Banks and bank systems, vol. 12, pp. 160-164, 2017.

[11] P. Veena, and S. Pathi, "Pre and Post Merger Performance on Assets quality of banking sector: A Case Study of ING Vysya Bank and kotakMahindr Bank," Journal of Humanities and Social Science, vol. 22, pp. 34-41, 2017.

[12] Weber, "Bank Consolidation, Efficiency, and Profitability in Italy," International Monetary Fund, "working paper", pp. 1-22, 2017.

★★★