CHAPTER 4

RESULTS AND DISCUSSIONS OF MERGERS AND ACQUISITIONS (M&As) IN THE BANKING SECTORS

4.1 Introduction

This chapter presents empirical evidence on the impact of M&As in the banking sector. It analyses the impact of M&As on operational performance and bank stability of Islamic and conventional banks. This chapter shows the results and discussions that address research questions 1 & 2.

Unbalanced panel samples of 24 banks; consisting of 10 Islamic and 14 conventional banks from six countries, Qatar, Kuwait, Saudi Arabia, Bahrain, UAE, Pakistan and ranging from Q1 2004 until Q4 2020 were used in the analysis. Data are divided into pre-M&As (five year before M&As) and post-M&As (five year after M&As).

This chapter proceeds as follows: Section 4.2 presents the descriptive statistics of the key variables, followed by a brief description of the correlation matrix in Section 4.3. Results of M&As on banks reported and discussed in Section 4.4.

4.2 Descriptive Statistics

Table 4.1 shows descriptive statistics of the unbalanced panel data set of 24 banks (10 Islamic banks and 14 conventional banks). Moreover, based on the table, it is shown that how M&As impact the banking sectors while regressions results posit further support the descriptive statistics.

Table 4.1 shows descriptive statistics of the pooled, Islamic banks (IBs), and conventional banks (CBs). The results are discussed based on the mean of the pre-M&As period and the mean of the post-M&As period. For all three samples i.e., pooled, IBs, and CBs, the mean of the operational performances (i.e., ROA, ROE, and NIM) saw increasing trends. Therefore, it is noticed that M&As generate better performance for banks since the mean (ROA, ROE & NIM) of post-M&As is greater than the mean of pre-M&As. The findings are consistent with Lau, Proimos, & Wright (2008); Healy, Palepu, and Ruback (1992); and Aik, Hassan, & Mohamad (2015) who mentioned that operational performance is significantly improved in post-M&As. However, the findings are inconsistent with Yeh, & Hoshino, 2002; Papadakis, & Thanos, 2010; Gattoufi et al. (2014); Rao-Nicholson, Salaber, & Cao (2016); Kumar (2009); and Liargovas, & Repousis (2011) who found that M&As does not improve operational performance in post-M&As. Marembo (2012) found that financial institutions became more financially sound and profitable in post-M&As as the new company's market share improved tremendously. While the trend for bank stability (i.e., Z-score) reduces (see Table 4.1) in the post M&As. The finding is consistent with Muhammad, Waqas, & Migliori (2019) who found that banks become insolvent after M&As. This may be due to the indebted of banks after M&As, while it is inconsistent with Paroush (1995) who argues that merger and acquisition activity reduce the overall risk of the banking system.

While, bank's resources namely bank sizes such as total assets, total deposits, and operating income are reduced in the post-M&As period. These are reported as the findings of the study. The banks' intermediary role, namely, the financial intermediary role, was higher for conventional banks and pooled samples, but lower for Islamic banks. Likely, the

non-financial intermediary role shows a lower trend. Control variables namely liquidity and credit risk are higher in the post-M&As period while capitalization shows lower. Macro-economic variables, namely GDP, show higher mean trends while inflation is lower in the post-M&As period. Similarly, in the post-M&As period, market structures such as LHHI and CR3 indicate increasing trends, meaning that the concentration level is more than the competition. It is saying that after M&As, there is an impact on the market structure. Meaning that the level of competition would be reduced while the level of concentration increases.

Table 4.1: Descriptive Statistics among Pooled, Islamic Banks, and Conventional Banks

	Pooled		Islamic banks (IBS)		Conventional banks (CBs)	
	Pre M&A	**Post M&A**	**Pre M&A**	**Post M&A**	**Pre M&A**	**Post M&A**
Operational performance						
ROA	0.699*	0.726*	1.017	1.681*	0.483*	0.759**
ROE	4.856	6.200*	5.261*	5.723	4.582*	7.048*
NIM	1.676*	2.050**	2.155*	2.412*	1.411*	1.816***
bank stability						
Zscore	25.568*	19.450**	22.824	19.620*	27.430	19.328*
Bank size						
BSTA	8.861*	7.880	6.855*	6.587	10.223*	8.812
BSTD	8.640	7.714	6.559	6.373	10.051	8.681*
BSOI	6.987	5.858	5.161	4.565*	8.226	6.790*
Financial intermediary roles						
Escale	40.570	39.602*	38.492*	35.237	41.980	42.748*
Escope	10.186	23.574	26.118	21.342	0.228*	21.975
Non-financial intermediary roles						
NFIR	-130.100*	-106.390	-111.591*	-94.727	-142.659*	-103.486*
Control variables						
LIDY	20.412	31.173	11.490*	8.672*	41.477	43.350
CR	1.182*	1.634*	2.157**	0.793	0.383*	1.752*
CAP	13.833	12.774	15.355	13.036	12.801	12.586
Macroeconomic variables						
GDP	1.107	2.288	1.082*	2.956*	1.123*	1.800**
INF	1.316	1.109**	1.699	1.385	1.062	0.907
Market structure						
LHHI	3.341	3.348	3.521*	3.523	3.219	3.222
CR3	0.719*	0.724	0.825	0.826	0.646**	0.650
N	470	468	190	195	280	272

NOTES: *,**,*** statistical significant at 10%, 5%, and 1%. Samples consist of 24 banks including 10 Islamic banks and 14 conventional banks from 6 countries, a year from Q1 2004 to Q4 2020. Pre & post; all data set, Pre; five years before M&As deal, Post; five years after M&As deals, ROA; return on asset, ROE; return on equity, NIM; net interest margin, Z-score; bank stability, BSTA; bank size total assets, BSTD; bank size total deposits, BSOI; bank size operating income, Escale; cost to income, Escope; loan to deposit, NFIR; non-interest cost to non-interest income, LIDY; liquidity, CR; loan loss reserve to gross loan, CAP; equity to total assets, GDP; gross domestic product, INF; inflation, LHHI; the log of Herfindahl-Hirschman Index, CR3; concentration ratio of the largest 3 banks based on total assets, *, **, ***, represent significant at 1%, 5% and 10% level respectively.

4.3 Correlation Matrix

Table 4.2 shows the correlation matrix of the key variables. A correlation matrix is a table showing correlation coefficients between sets of variables. Each random variable in the table is correlated with each of the other values in the table. This allows to see which pairs have the highest / lowest correlation among the explanatory variables. The lowest correlation among the variables means that the multicollinearity problem should not be a concern. According to Chowdhury, Haque, Alhabshi, & Masih (2016), a multicollinearity problem exists when the correlation coefficient among the variables is greater than 0.85. However, in this study, no correlation coefficient exceeds or is even close to 0.85. For this reason, in this study, there is no multicollinearity problem which enhanced the reliability for regression analysis.

Table 4.2: Correlation Matrix of the Key Variables

	ROA	ROE	NIM	Zscore	BSTA	BSTD	BSOI	Escale	Escope	NFIR	LIDY	CR	CAP	GDP
ROA	1													
ROE	0.5417*	1												
NIM	0.2807*	0.3547*	1											
Zscore	-0.0384	-0.2381*	-0.2667*	1										
BSTA	-0.2324*	-0.2333*	-0.6048*	0.6391*	1									
BSTD	-0.2390*	-0.2287*	-0.6045*	0.6017*	0.9950*	1								
BSOI	-0.2030*	-0.2048*	-0.5690*	0.6345*	0.9830*	0.9777*	1							
Escale	-0.3706*	-0.2871*	-0.1976*	0.0365	0.0399	0.0383	0.0022	1						
Escope	0.0679*	0.1501*	0.2408*	-0.2937*	-0.3799*	-0.3799*	-0.3813*	0.1057*	1					
NFIR	0.1462*	0.2209*	0.0822*	-0.1502*	-0.1669*	-0.1692*	-0.1570*	-0.2623*	0.0934*	1				
LIDY	-0.0914*	-0.0842	-0.0633	0.2180*	0.3806*	0.3915*	0.3717*	0.0695	-0.1467*	-0.0534	1			
CR	0.1703*	0.2452*	0.1962*	-0.1465*	-0.2847*	-0.3006*	-0.2881*	0.0285	0.1771*	0.0685	-0.0621	1		
CAP	-0.0211	-0.1032*	-0.0789*	0.6394*	0.1612*	0.1293*	0.1449*	0.3998*	0.1445*	-0.0671*	0.0573	0.1638*	1	
GDP	0.1563*	0.2539*	0.4328*	-0.4682*	-0.6001*	-0.5899*	-0.6085*	-0.1801*	0.3238*	0.1372*	-0.2416*	0.1210*	-0.1946*	1
INF	0.0846*	0.0913*	0.3776*	-0.3588*	-0.5130*	-0.5062*	-0.4887*	0.0589	0.1669*	0.0232	-0.1470*	0.1123*	-0.1490*	0.3196*
FIN	-0.0828*	-0.1645*	-0.0615	0.1385*	0.0573	0.0606	0.0509	-0.044	-0.0714*	-0.058	0.0919*	-0.2122*	0.0712*	-0.0213
LHHI	0.0184	-0.1284*	-0.064	0.0033	-0.2065*	-0.2228*	-0.2070*	-0.1208*	0.0634	0.0621	-0.2580*	0.0418	0.0879*	0.1087*
CR3	-0.0238	-0.1060*	-0.0073	-0.0689*	-0.2350*	-0.2462*	-0.2323*	-0.0532	0.0492	0.0255	-0.3524*	-0.0053	-0.0093	0.0749*
BSL_A	0.0913*	-0.019	-0.0546	-0.0361	0.0674*	0.0613	0.0614	-0.2418*	-0.0276	0.0352	-0.2544*	-0.0942*	-0.1481*	0.1295*
BSM_A	-0.0149	0.0329	-0.1760*	-0.0252	0.0549	0.0563	0.0545	-0.0417	0.0667*	0.0217	-0.0332	0.1421*	0.0036	0.0066
BSS_A	-0.0925*	-0.0147	0.2760*	0.0720*	-0.1433*	-0.1376*	-0.1357*	0.3375*	-0.0445	-0.0672*	0.3001*	-0.0471	0.1736*	-0.1639*
BSL_OI	0.1014*	-0.0156	-0.2081*	0.0101	0.0972*	0.0859*	0.0880*	-0.1056*	0.0401	0.0563	-0.1691*	0.1445*	0.002	0.0772*
BSM_OI	-0.041	0.022	-0.0809*	-0.0684*	0.0841*	0.0924*	0.0788*	-0.1315*	-0.0338	0.04	-0.1639*	-0.1140*	-0.1397*	0.0258
BSS_OI	-0.0181	0.0404	0.3376*	0.0931*	-0.1535*	-0.1505*	-0.1347*	0.1303*	-0.0588	-0.1189*	0.3427*	-0.0411	0.045	-0.1052*
BSM_TD	0.0048	-0.0141	-0.1140*	0.0662*	0.009	-0.0028	0.0124	-0.0719*	0.0680*	-0.0036	-0.1243*	0.1247*	0.0867*	0.0249
BSS_TD	-0.0925*	-0.0147	0.2760*	0.0720*	-0.1433*	-0.1376*	-0.1357*	0.3375*	-0.0445	-0.0672*	0.3001*	-0.0471	0.1736*	-0.1639*

Table 4.2, continued

	INF	FIN	LHHI	CR3	BSL_A	BSM_A	BSS_A	BSL_OI	BSM_OI	BSS_OI	BSM_TD	BSS_TD
INF	1											
FIN	-0.0442	1										
LHHI	-0.0215	0.2491*	1									
CR3	0.0806*	0.1834*	0.8454*	1								
BSL_A	-0.0448	0.0483	0.1323*	0.0217	1							
BSM_A	-0.1231*	-0.0734*	0.0674*	0.1575*	-0.6349*	1						
BSS_A	0.1938*	0.0256	-0.2354*	-0.2051*	-0.4770*	-0.3762*	1					
BSL_OI	-0.0487	-0.2080*	0.1560*	-0.0102	0.7428*	-0.3981*	-0.4379*	1				
BSM_OI	-0.1939*	0.1468*	-0.0137	0.1026*	-0.2726*	0.6173*	-0.3753*	-0.5816*	1			
BSS_OI	0.2441*	0.0617	-0.1902*	-0.1256*	-0.5199*	-0.2009*	0.8520*	-0.4773*	-0.4090*	1		
BSM_TD	-0.1254*	-0.0034	0.1623*	0.2619*	-0.4682*	0.8725*	-0.4311*	-0.4053*	0.6895*	-0.2683*	1	
BSS_TD	0.1938*	0.0256	-0.2354*	-0.2051*	-0.4770*	-0.3762*	1.0000*	-0.4379*	-0.3753*	0.8520*	-0.4311*	1

NOTES: samples consist of 24 banks including 10 Islamic banks and 14 conventional banks from 6 countries, year from Q1 2009 to Q3 2018. Pre & post; all data set, Pre; five years before M&As deal, Post; five years after M&As deals, ROA; return on asset, ROE; return on equity, NIM; net interest margin, Z-score; bank stability, BSTA; bank size total assets, BSTD; bank size total deposits, BSOI; bank size operating income, BSTAL; large bank size based on total asset, BSTAM; medium bank size based on total asset, BSTAS; small bank size based on total asset, BSTDL; large bank size based on total deposits, BSTDM; medium bank size based on total deposits, BSTDS; small bank size based on total deposits, BSOIL; large bank size based on operating income, BSOIM; medium bank size based on operating income, BSOIS; small bank size based on operating income, Escale; cost to income, Escope; loan to deposit, NFIR; non-interest cost to non-interest income, LIDY; liquidity, CR; loan loss reserve to gross loan, CAP; equity to total assets, GDP; gross domestic product, INF; inflation, FIN; financing, LHHI; log of Herfindahl Index, CR3; concentration ratio of largest 3 assets size, * indicates significant at 5% level.

4.4 Significant Results of M&As of Banks

Table 4.3 to Table 4.8 report the significant results of M&As for Islamic and conventional banks while Table 4.9 to Table 4.14 show significant results of M&As for banking sectors. The results are estimated by applying POLS and panel techniques (i.e., fixed and random effects). Notably, Table 4.3 to Table 4.8 answer research question 1 while Table 4.9 to Table 4.14 answer research question 2.

Operational performance based on the measurement of return on assets (ROA) is discussed while return on equity (ROE) and net interest margin (NIM) are reported in the Appendix Table A1.10 and Table A1.11 respectively to avoid repetition of results and discussions since the effects of ROE & NIM are consistent with the results of ROA. Moreover, the robustness of the results is also checked and reported throughout Appendix Table of A1.11 to Table A1.19.

The flow of the analysis starts with the R-sq of pre-M&As and post M&As of Islamic banks and conventional banks. And then proceed the comparison with coefficient (looking at p-value) of pre-M&As of Islamic banks with the pre-M&As of conventional banks. Accordingly, comparison of post M&As of Islamic bank with the post M&As of conventional banks. Last but not least, a summary of the findings is given after each analysis.

4.4.1 Part-A Results and Discussions of Operational Performance (ROA) of Pre M&As & Post M&As for Islamic and conventional banks

Answer to the Research Question 1: Do factors (bank size, intermediary roles, and modes of financing) associated with five years pre M&As & five years post M&As of the bank have an impact on the operational performance and stability for Islamic and conventional banks?

Table 4.3 shows operational performance (ROA) of pre-M&As while Table 4.4 implies of operational performance (ROA) of post-M&As for Islamic and conventional banks. Based on the Hausman test, fixed affects is selected

Table 4.3 reports the operational performance (ROA) of pre M&As for Islamic and conventional banks. R-squared (within) of ROA of pre-M&As for Islamic and conventional banks are 0.143 and 0.512 respectively. Indicating that the variance of the operational performance (ROA) of the Islamic and conventional banks is explained by the explanatory variables. Generally, a higher R-squared implies a better fit for the model.

4.4.1.1 Effects of the Focal Variables (i.e., bank sizes, intermediary roles & modes of financing) in Pre M&As

In the pre-M&As scenario, bank size (BSTA) negatively impacts the operational performance of the Islamic banks by 0.538 units that is statistically significant at 1% level. Put simply, for each increment of 1 unit in the total assets of the Islamic banks would reduce ROA by 0.538 units. On the other hand, from at the coefficient for the same period, the BSTA shows a positive impact on the ROA of conventional banks. Specifically, for each increment of 1 unit in the BSTA of the conventional banks that would increase ROA by

0.187 units is statistically significant at 1% level. This finding is in line with the resource dependency theory, which said that resources have a significant impact on the organization's outcome. So far saying that the findings are consistence with Dickerson, Gibson, & Tsakalotos (1997), firm size is an essential determinant of profitability.

Intermediary roles (financial and non-financial) play a significant impact on the M&As of the Islamic and conventional banks. From the coefficient and p-value so far, the findings imply that the intermediary roles greatly impact the ROA of the Islamic and conventional banks. Financial intermediary roles are proxied by economics of scale (Escale) measured by the cost to income and economies of scope (Escope) measured by the loan to deposit ratio. However, the non-financial intermediary role is proxied by non-interest expenses to non-interest income.

The coefficient of Escale is negatively associated with the ROA of the Islamic and conventional banks. Indicating that for every 1-unit increase (decreases) in the Escale that would reduce (increase) ROA of the Islamic banks by 0.013 units that is statistically significant at 10% level respectively. This also has the same impact on the conventional banks. Meaning that for every 1 unit increase to Escale that reduce ROA by 0.057 units that is significant at 1% level. Escope shows negative impact on the ROA of Islamic and conventional banks which is counter-intuitive. For every 1 unit increase to the Escope that tend to reduce the ROA of the Islamic and conventional banks by 0.012 units and 0.660 units which are statistically significant at 10% and 1% respectively. The finding is the opposite of the findings of Ibrahim & Rizvi (2018) who said that economies of scope (deposit growth and financing growth) are positively associated with the bank's

performance. The main functions of banks are taking deposits and giving loans; hence, interest spread is the main source of earnings.

The non-financial intermediary role (NFIR) is positively associated with the ROA of the Islamic and conventional banks. Looking at the findings, as the NFIR is increased by 1 unit the ROA of Islamic and conventional banks is increased/decreased by 0.023 units and 0.012 units for banks that are significant at 1% and 5% level respectively. This study's' findings are in line with the efficiency theory and financial intermediary theory. Efficiency theory states that the main reason for M&As is to generate better performance, while the theory of financial intermediation implies that bank performance depends on the intermediary activities of banks.

Modes of financing (cash or stock) (FIN) is left undiscussed since there is no concern about modes of financing in pre-M&As. Though, the variable is estimated and discussed at the post M&As scenario.

4.4.1.2 Effects of the Control Variables (i.e., Bank-specific and Macroeconomic Variables) in Pre-M&As

Besides focus variables, this study uses control variables as well. This includes bank-specific variables such as credit risk (CR), capitalization (CAP), and liquidity (LIDY) and macro-economic variables namely gross domestics products (GDP) and inflation (INF). The results are reviewed and discussed accordingly.

Closer inspection of the results (see Table 4.3) shows CR and CAP significantly impact on the M&As outcomes for Islamic and conventional banks. From the coefficient and p values, the pre M&As period with regards to ROA, LIDY is not statistically

significant in explaining the changes in ROA. CR shows negative and CAP shows positive impact on the ROA of Islamic and conventional banks. As findings indicate, for every 1 unit increases to the CR that would reduce the ROA of the Islamic and conventional banks by 0.065 units and 0.117 units that is statistically significant at 1% and 5% respectively. This implies that conventional banks are more sensitive compared to Islamic banks.

In contrast, financing of the conventional banks does not have any Shariah screening process, their proportion of risk is also high. CAP shows positive impact on the ROA of Islamic and conventional banks. As the CAP increases by 1 unit, it will increase the ROA of Islamic and conventional banks by 0.067 units and 0.006 units that are statistically significant at 1% and 10% respectively. The findings are consistent with Diaconu & Oanea (2015) who stated that banks' internal determinant greatly impacts their performance.

Finally, according to the findings, macro-economic variables also significantly impact the ROA of Islamic and conventional banks. However, the coefficient of the GDP is positive for the Islamic bank that is statistically significant in explaining the changes in ROA. Since the coefficient is positive, it has a probability to positively impact the M&As of banks. Another macro-economic variable inflation (INF) indicates negative impact on the ROA of Islamic and conventional banks, this means that for every 1 unit increase to the level of inflation, that would reduce ROA of Islamic and conventional banks by 0.236 units and 0.033 units, for banks that are significant at 10% and 5% levels. The finding is consistent with Amene & Alemu (2019) who opined that inflation negatively impacts on operational performance.

Table 4.3: Significant Results of Operational Performance (ROA) of Pre-M&As

	Islamic banks (IBs)			Conventional banks (CBs)		
	POLS	**FE**	**RE**	**POLS**	**FE**	**RE**
BSTA	-0.363***	-0.538***	-0.363***	0.187**	0.187**	0.187**
	0.000	0.000	0.000	-0.016	-0.015	-0.015
Escale	-0.042*	-0.013***	-0.042*	-0.089***	-0.057***	-0.089***
	-0.101	-0.005	-0.107	0.000	0.000	0.000
Escope	-0.0568	-0.012*	-0.057	-0.440***	-0.660***	-0.440***
	-0.721	-0.074	-0.720	0.000	-0.001	0.000
NFIR	0.073***	0.023***	0.074**	-0.024	0.012**	-0.024
	-0.002	-0.009	-0.050	-0.814	-0.013	-0.814
LIDY	0.005	-0.005	0.005	0.068*	-0.029	0.019
	-0.490	-0.161	-0.488	0.097	0.500	0.287
CR	0.042**	-0.065***	0.042**	-0.084**	-0.117**	0.084**
	-0.047	-0.002	-0.044	-0.031	-0.015	-0.030
CAP	-0.038***	0.067***	-0.038***	0.048***	0.006*	0.048***
	-0.007	0.000	-0.006	0.000	-0.051	0.000
GDP	16.590***	3.580	16.59***	-0.039	-0.009	-0.039
	0.000	-0.488	0.000	-0.476	-0.474	-0.475
INF	-0.069	-0.236*	-0.068	-0.063***	-0.033**	-0.063***
	-0.655	-0.086	-0.654	-0.001	-0.020	-0.001
_cons	-13.380***	2.065	-13.380***	1.298*	0.948	1.298*
	0.000	-0.700	0.000	-0.071	-0.552	-0.070
Chow test: POLS vs FE 0.004				0.000		
LIM test: POLS vs RE 1.000				1.000		
Hausman test:FE vs RE 0.000				0.000		
R-sq	0.520			0.578		
R-sq within		0.143	0.084		0.512	0.372
R-sq between		0.037	0.499		0.195	0.798
R-sq overall		0.034	0.186		0.306	0.577
N	101	101	101	200	200	200
p-values in parentheses						
*p<0.1 ** p<0.05,***p<0.01						

NOTES: samples consist of 24 banks including 10 Islamic banks and 14 conventional banks from 6 countries, a year from Q1 2004 to Q4 2020. Islamic banks (IB), Conventional banks (CB), Pre & post; all data set, Pre; 5 years before M&As deal, Post; 5 years after M&A, bank size total assets (BSTA), cost to income (Escale), loan to deposit (Escope), non-interest cost to non-interest income (NFIR), liquidity (LIDY), loan loss reserve to gross loan (CR), equity to total assets (CAP), gross domestic product (GDP), inflation (INF), financing (cash or stock)(FIN).

4.4.1.3 Effects of Focal Variables (i.e., bank sizes, intermediary roles & modes of financing) in Post M&As

In the post-M&As scenario (see Table 4.4), the R-squared (within) of the operational performance (ROA) of Islamic banks is 0.367 which means the ROA variance that is explained by the explanatory variables. On the other hand, the ROA of conventional banks it is 0.838 and is more significantly compared to the Islamic banks. This value shows that the explanatory variables well explain ROA of conventional banks. Generally, a higher R-squared implies a better fit for the model.

Bank size (BSTA) shows significant impact on the M&As of Islamic and conventional banks. More specifically, BSTA positively associated with the ROA of the Islamic banks shows opposite impact on conventional banks, which means that 1 unit increases to BSTA that would increase the ROA of Islamic banks by 0.765 which is statistically significant at 1% level. The finding is supported by Dickerson et al. (1997) who said that post-acquisition performance can be influenced by the size of the acquirer. Furthermore, Ibrahim & Rizvi (2017) and Barth et al. (2006) who opined bigger Islamic banks are required to increase performance and enhance financial stability. Comparatively, ROA of the conventional banks is reduced by 0.519 when BSTA increase by for every 1 unit which is significant at 1% level. Noticed that, for both banks ROA is greatly impacted by the bank size compared to the pre-M&As period. Therefore, based on the findings, it is concluded that the results are in line with the resource dependency theory as the it implies that resources have a significant impact on the outcome of the organization.

Intermediary roles (financial and non-financial) significantly impact the operational performance of post-M&As. Financial intermediary role namely economies of scale

(Escale) positively impact the ROA of Islamic banks. Particularly, for every 1-unit increase (decreases) in Escale that would tend to increase (decrease) ROA of Islamic banks by 0.035 units at 1% significant level. On the other hand, for every 1 unit increase to BSTA that would tend to reduce the ROA of the conventional banks by 0.014 units at 5% significant level. The results are consistent with Vernanda & Widyarti (2016) who mentioned that economies of scale lower costs through expansion of operational activities. Similarly, Escope indicates positive impact for the ROA of Islamic banks but are not statistically significant on the conventional banks. Vernanda & Widyarti (2016) also find the same results stating that economies scope positively impacts on the performance of the banks.

Intuitively it is known that in post-M&As, Islamic banks have a better position in terms of expanding their operation through financing as its Escope (loan to deposit) shows a positive coefficient. This finding implies that for every 1 unit increase to Escope that tend to increase the ROA of Islamic banks by 0.006 units at 5% significant level. Hence, banks should consider expansion strategy to integrate potential resources, reduce duplicate operations, reduce probable operational and non-operational cost, and boost their performance. Non-financial intermediary role plays a negative role in the operational performance for both banks. 1-unit increases (decreases) to the NFIR that would tend to reduce (increase) ROA of the Islamic and conventional banks by 0.316 units and 0.003 units at 10% and 1% level, respectively. Mat Nor, & Mohd-Said (2010) showed that bank's focused on more intermediary activities to scale up their operation and minimize the cost after M&As. The results are in line with the theory of financial intermediation. Whereas the theory of financial intermediation implies, the bank works as an intermediary in

facilitating deposits and financing. At the same time, its intermediary roles (financial and non-financial) affect the organization's performance.

The Modes of financing (FIN) variable is also one of the factors used. The variables was omitted as the study uses the fixed effects static model. In the fixed-effects model dummy variable is omitted since categorical variables do not vary with time and then Stata omits dummy for fixed effects. However, in the POLS model, the results shows that FIN is positive for Islamic banks but negative in conventional banks and are statistically significant at 10% and 1% level.

From the results, it concludes that cash financing impacts the ROA of Islamic banks contrasts to stock financing. The results are consistent with (Dickerson et al., 1997) and Bertrand & Betschinger (2012) who mentioned that the financing method positively impacts performance. Inversely the ROA of conventional banks was negatively affected by 0.152 units more compared to stock financing. Kwenda, Oyetade, & Dobreva (2017) said that in post-M&As, acquirers' performance is also influenced by modes of financing. The finding is opposite of Sullivan et al. (1994) who found that returns to acquirers are not affected by the method of financing M&As deals. Accordingly, Dogru et al. (2020) said that the acquirer's performance is lower due to the higher free cash flow. Furthermore, the finding is opposite of the free cash flow hypothesis which mentioned that M&As performance lower due to the conflict between managers and shareholders in choosing M&As strategy. Lang, Stulz, & Walkling (1991) observed that the free cash flow hypothesis posits that cash flow increases the agency costs of firms with poor investment opportunities.

4.4.1.4 Effects of the Control Variables (i.e., Bank-specific and Macroeconomic Variables) in Post M&As

As mentioned earlier, this study uses several control variables as well. These include bank-specific variables; credit risk (CR), capitalization (CAP), liquidity (LIDY) and macro-economic variables; gross domestic products (GDP), and inflation (INF).

As shown in Table 4.4, the finding implies that CR and CAP significantly impact on the post M&As outcomes in Islamic and conventional banks while LIDY does not show statistically significant in explaining the changes in ROA. Since the variable is not statistically significant, we cannot explain that variable saying LIDY has effects on ROA. CR shows negative while CAP shows positive impact on the ROA of Islamic and conventional banks. As findings indicate, for every 1 unit increases to the CR that would reduce the ROA of the Islamic and conventional banks by 0.210 units and 0.032 units that is statistically significant at 5%, respectively. The findings are in line with those associated with Boloupremo & Ogege (2019) who showed that credit risk had a minimal and negative impact on performance while capitalization and liquidity are positively related to the performance. Based on the findings, it implies that conventional banks are less sensitive compared to Islamic banks. Although the impact is negative for both banks but significantly greater (0.178 units) for Islamic banks compared to conventional banks. Since financing of the Islamic banks is gone through Shariah screening and hance, they are also more sensitive to risk. CAP shows positive impact on the ROA of M&As of Islamic and conventional banks. For every 1 unit increases to the CAP that would increase the ROA of Islamic and conventional banks by 0.133 units and 0.0802 units that are statistically significant at 10% and 5%, respectively.

Finally, as the findings imply, macro-economic conditions have more significant impact on M&As activities. A positive economic environment is needed for smoothen of the operation of the banks. GDP and INF indicate statistically significant impact on the ROA of the Islamic and conventional banks. Although the coefficient of GDP is not significant in the pre-M&As period, in post M&As, it has positive impact. For every 1 unit increase in the level of GDP, that would increase the ROA of Islamic and conventional banks by 5.037 and 0.393 units at a 5% and 1% significant level, respectively. The finding is further supported by Dang (2016) and Wang (2014) who suggested that GDP has a positive and significant impact on encouraging M&As activities. Another macro-economic variable namely INF indicates negative impact on the ROA of Islamic and conventional banks. Meaning that 1 unit increase to the level of INF would reduce ROA of Islamic and conventional banks by 3.984 units and 0.376 units which is significant at 5% and 1% significant level.

The finding is consistent with Amene, & Alemu (2019) who opined that GDP positively and inflation negatively impact on operational performance. Accordingly, Choi & Jeon (2011) pointed out that the macroeconomic environment plays an important role in determining the trend of aggregate merger activity. After discussing the findings, it can be concluded that the efficiency theory supports the findings. According to the efficiency theory, M&As are planned and would be executed if there are advantaged by merging the unit. After M&As, banks generate better performance, as seen in the descriptive statistics (Table 4.1), while regression results support those results. If we look at the coefficient of each variable, most them are increased compared to pre-M&As. Therefore, it concludes

that the positive impact of M&As is supported the coefficient of each variable in post M&As.

Table 4.4: Significant Results of Operational Performance (ROA) of Post-M&As

	Islamic banks (IBs)			Conventional banks (CBs)		
	POLS	**FE**	**RE**	**POLS**	**FE**	**RE**
BSTA	0.764***	0.765***	0.764***	-0.366***	-0.519***	-0.366***
	-0.001	0.000	0.000	0.000	0.000	0.000
Escale	0.035***	0.035***	0.035***	-0.027***	-0.014**	-0.027***
	-0.001	0.000	0.000	0.000	-0.012	0.000
Escope	0.007	0.006**	0.006	-0.008**	-0.025	-0.008**
	-0.237	-0.020	-0.230	-0.014	-0.130	-0.013
NFIR	-0.315*	-0.316*	-0.315*	-0.004***	-0.003***	-0.004***
	-0.098	-0.085	-0.090	0.000	0.000	0.000
LIDY	-0.011	-0.0108	-0.011	-0.003***	0.001	-0.003***
	-0.854	-0.854	-0.853	-0.001	-0.414	-0.001
CR	0.210	-0.210**	0.210	0.074***	-0.032**	-0.074***
	-0.149	-0.006	-0.141	-0.001	-0.035	-0.001
CAP	0.132*	0.133*	0.132*	0.003	0.080**	0.003
	-0.095	-0.070	-0.087	-0.834	-0.026	-0.834
GDP	5.028***	5.037***	5.028***	0.067*	0.393*	0.067*
	0.000	0.000	0.000	-0.094	-0.076	-0.092
INF	4.016*	-3.984**	4.016*	-0.194***	-0.376***	-0.194***
	-0.062	-0.040	-0.055	-0.005	0.000	-0.004
FIN	0.658*	0.000	0.658**	-0.152*	0.000	-0.152**
	-0.057	0.000	-0.050	-0.052	(.)	-0.050
_cons	-32.97***	-32.950***	-32.970***	5.024***	6.706***	5.024***
	0.000	0.000	0.000	0.000	0.000	0.000
Chow test: POLS vs FE	0.000			0.000		
LIM test: POLS vs RE	1.000			1.000		
Hausman test: FE vs RE	0.000			0.000		
R-sq	0.803			0.856		
R-sq within		0.3673	0.0369		0.8377	0.7728
R-sq between		0.283	0.967		0.4822	0.935
R-sq overall		0.2325	0.8027		0.605	0.8535
N	52	52	52	149	149	149
p-values in parentheses (*p<0.1 ** p<0.05,***p<0.01						

NOTES: samples consist of 24 banks including 10 Islamic banks and 14 conventional banks from 6 countries, a year from Q1 2004 to Q4 2020. Islamic banks (IB), Conventional banks (CB), Pre & post; all data set, Pre; 5 years before M&As deal, Post; 5 years after M&A, bank size total assets (BSTA), cost to income (Scale), loan to deposit (Escope), non-interest cost to non-interest income (NFIR), liquidity (LIDY), loan loss reserve to gross loan (CR), equity to total assets (CAP), gross domestic product (GDP), inflation (INF), financing (cash or stock) (FIN)

4.4.1.5 Summary of The Findings

Table 4.5 shows a summary of the findings of operational performance (ROA) of pre and post M&As. In pre-M&As scenario, there is no significant differences between Islamic and conventional banks since sign of the coefficient is similar. On the other hand, in post M&As scenario, the findings show there is a significant difference of operational performance for Islamic and conventional banks. More Specially, bank size implies significant impact on the M&As of Islamic and conventional banks. Bank size (BSTA) shows statistically significant and negative impact on the operational performance during pre-M&As of Islamic banks. In contrast, for the same period, the operational performance of conventional banks is positively impacted by bank size. The results are opposite to the post M&As. Bank size shows positive impact for Islamic banks and negative impact for conventional banks. Therefore, the results support the research hypothesis 1; there is a significant impact of bank size on operational performance for Islamic and conventional banks.

Intermediary roles (financial and non-financial) also show significant impact on the M&As. Financial intermediary role economies of scale and scope implies negative impact on the operational performance except post M&As of Islamic banks. Accordingly, non-financial intermediary roles show the positive impact on the operational performance of pre-M&As of Islamic and conventional banks. In contrast, in post M&As it shows a negative impact for both Islamic and conventional banks. The results of the study are further support the research hypothesis 2, whereby; there is a significant impact of the intermediary role of the bank (financial and non-financial intermediary role) on operational performance for Islamic and conventional banks.

Modes of financing (cash) show comparatively better impact on operational performance than stock financing for Islamic and conventional banks. Therefore, the result support research hypothesis 3; there is a significant impact of modes of financing on operational performance and stability for Islamic and conventional banks.

Control variables, namely bank-specific variables (liquidity, credit risk and capitalization) states significantly impact the operational performance of Islamic and conventional banks. Specifically, liquidity states negatively impact the operational performance except post M&As of conventional banks. accordingly, credit risk implies positive impact while capitalization implies negative impact on the operational performance of Islamic and conventional banks. And so, it concludes and supports research hypothesis 4; there is a significant impact of bank-specific variables (i.e., credit risk, capitalization, and liquidity) on operational performance for Islamic and conventional banks.

Macro-economic variables (GDP & inflation) had inflicted significantly impact the stability of Islamic and conventional banks. GDP shows positive while inflation imply negative impact on the bank stability. Therefore, it supports research hypothesis 5; there is significant impact of macro-economic variables (GDP & inflation) on operational performance for Islamic and conventional banks.

Table 4.5: Summary of Findings of Operational Performance (ROA) In Pre And Post M&As For Islamic And Conventional Banks

Variables	Theory	Islamic banks (IBs)				Conventional banks (CBs)			
		Pre M&As		Post M&As		Pre M&As		Post M&As	
		Relationship	Significant	Relationship	Significant	Relationship	Significant	Relationship	Significant
BSTA	Resource dependency theory	negative	significant	positive	significant	positive	significant	negative	significant
Escale	Efficiency theory and the role of financial intermediation	negative	significant	positive	significant	negative	significant	negative	significant
Escope	Efficiency theory and the role of financial intermediation	negative	significant	positive	significant	negative	significant	negative	significant
NFIR	Efficiency theory and the role of financial intermediation	positive	significant	negative	significant	positive	significant	negative	significant
FIN	Free cash flow hypothesis	-	-	positive	significant	-	- not	negative	significant not
LIDY		positive	significant	negative	significant	negative	significant	positive	significant
CR		negative	significant	negative	significant	negative	significant	positive	significant
CAP		positive	significant	positive	significant	positive	significant	negative	significant
GDP		positive	significant not	positive	significant	positive	significant	positive	significant
INF		negative	significant	positive	significant	positive	significant	negative	significant

4.4.2 Part-B Results and Discussions of Stability (Zscore) of Pre-M&As & Post M&As for Islamic and conventional banks

Table 4.6 displays stability results of pre-M&As. In pre-M&As, R-squared (within) of the stability (Zscore) of Islamic and conventional banks are 0.829 and 0.988, respectively, this implies that the explanatory variables explain the variance of the bank stability. Generally, a higher R-squared implies a better fit for the model.

4.4.2.1 Effects of Focal Variables (i.e., bank sizes, intermediary roles, & modes of financing) in Pre M&As

In the pre-M&As scenario (see Table 4.6), bank size (BSTA) shows a significant and positive impact on the relationship between M&As and the stability of Islamic and conventional banks. The bigger in bank size would promotes bank stability, and higher stability shows the lower probability of insolvency. As shown, 1 unit increases to BSTA that would increase Zscore of Islamic and conventional banks by 4.517 units and 0.386 units that are statistically significant at 1% and 5% level respectively. The findings are in line with the findings of Paroush (1995) who stated that M&As lead to diversifications which increase the bank stability. Furthermore, Tan, & Hooy (2004) said that mergers bring stability for banks.

Intermediary roles (financial and non-financial) show significant impact on the stability of the Islamic and conventional banks. Financial intermediary roles, namely economies of scale (Escale)and economies of scope (Escope), negatively impact the stability of Islamic and conventional banks. 1-unit increases (decreases) to Escale that would tend to reduce Zscore of the Islamic and conventional banks by 0.138 units and 0.012

units that is statistically significant at 1% level. Similarly, Escope show the negative impact on the Zscore for both banks. 1 unit increases to the Escope that would tend to reduce Zscore of Islamic and conventional banks by 0.020 units and 1.363 units which is statistically significant at 5% and 1% levels. The non-financial intermediary role (NFIR) does not significantly impact the Zscore of Islamic banks, while the Zscore of the conventional banks tends to increase. Meaning that 1 unit increases to NFIR that would increase the Zscore of the conventional banks by 0.025 units that is significant at 5% level.

4.4.2.2 Effects of the Control Variables (Bank-specific and Macroeconomic Variables) in Pre M&As

Based on the findings, it is shown that bank-specific variables significantly impact the stability of Islamic and conventional banks. Specifically, liquidity (LIDY) implies a significant effect on the Zscore of Islamic banks, while the Zscore of conventional banks does not show any effect. For every 1 unit increases to the LIDY that would tend to increase the Zscore of Islamic bank by 0.024 units which is significant at 1% level. The findings of Ibrahim & Rizvi (2018) implied that higher diversification, higher liquidity and lower risk lead to better financial growth and solvency. While CR does not show any impact on the Zscore of Islamic banks, whereas 0.242 units impact on the Zscore of conventional banks at 5% significant level. CAP shows positive implications for both banks. Implying that 1 unit increase to CAP would increase the Zscore of the Islamic and conventional banks by 0.905 units and 2.053 units that is statistically significant at 1% level. The findings are consistent with Marembo (2012), who said that adequate capitals help lessen the chance that banks will become insolvent if sudden shocks occur, ensuring financial sector stability.

Furthermore, bank internal determinants have significant impact on the bank stability (Diaconu, & Oanea, 2015). According to the findings, it is observed that macro-economic variables; GDP and inflation (INF) show negative impact on the stability of the Islamic and conventional banks. 1 unit increase at GDP that tends to reduce the Zscore of Islamic banks by 12.31 units at the significant level of 10%. The finding is inconsistent with Diaconu, & Oanea (2014) who implied that GDP positively associated with the M&A. Accordingly, INF inflicts an impact on the Zscore of both banks by 1.816 units and 0.068 units which are significant at 1% and 5% levels. Therefore, it shows that the economic condition negatively impacts pre-M&As. These findings are consistent with (Criste, & Lupu, 2014) who stated that there is a trade-off between inflation and financial stability. While Karim et al. (2016) implied that bank stability is not affected by the macroeconomic variables.

Table 4.6: Significant Results of Bank Stability (Z-score) of Pre-M&As

	Islamic banks (IBs)			Conventional banks (CBs)		
	POLS	**FE**	**RE**	**POLS**	**FE**	**RE**
BSTA	4.517***	4.517***	4.517***	0.386**	0.386**	0.386**
	0.000	0.000	0.000	-0.016	-0.015	-0.015
Escale	-0.138***	-0.138***	-0.138***	-0.02***	-0.010***	-0.020***
	0.000	0.000	0.000	0.000	0.000	0.000
Escope	-0.020**	-0.020**	-0.020	-0.910***	-1.360***	-0.91***
	-0.025	-0.023	-0.123	0.000	-0.001	0.000
NFIR	-0.092	-0.092	-0.092	-0.049	0.025**	-0.049
	-0.491	-0.490	-0.490	-0.814	-0.013	-0.814
LIDY	0.024***	0.024***	0.024***	0.009	-0.044	-0.089
	-0.005	-0.005	-0.005	0.527	0.220	0.950
CR	0.137	-0.137	0.137	0.174**	-0.242**	0.174**
	-0.413	-0.411	-0.411	-0.031	-0.015	-0.030
CAP	0.905***	0.905***	0.905***	2.163***	2.053***	2.163***
	0.000	0.000	0.000	0.000	0.000	0.000
GDP	-12.310*	-12.310*	-12.310*	-0.081	-0.0185	-0.0815
	-0.101	-0.098	-0.098	-0.476	-0.474	-0.475
INF	-1.816**	-1.816***	-1.816***	-0.13***	-0.068**	-0.130***
	-0.031	-0.009	-0.009	-0.001	-0.020	-0.001
_cons	-0.830	-0.830	-0.830	2.681*	1.957	2.681*
	-0.920	-0.920	-0.920	-0.071	-0.552	-0.070
Chow test: POLS vs FE 0.000				0.000		
LIM test: POLS vs RE 1.000				1.000		
Hausman test: FE vs RE 0.000						0.000
R-sq	0.787			0.995		
R-sq within		0.829	0.795		0.988	0.986
R-sq between		0.233	0.822		0.990	0.997
R-sq overall		0.426	0.787		0.994	0.990
N	136	136	136	200	200	200
p-values in parentheses						
*p<0.1 ** p<0.05, ***p<0.01						

NOTES: samples consist of 24 banks including 10 Islamic banks and 14 conventional banks from 6 countries, a year from Q1 2004 to Q4 2020. Islamic banks (IB), Conventional banks (CB), Pre & post; all data set, Pre; 5 years before M&As deal, Post; 5 years after M&A, bank size total assets (BSTA), cost to income (Escale), loan to deposit (Escope), non-interest cost to non-interest income (NFIR), liquidity (LIDY), loan loss reserve to gross loan (CR), equity to total assets (CAP), gross domestic product (GDP), inflation (INF)

4.4.2.3 Effects of Focal Variables (i.e., bank sizes, intermediary roles & modes of financing) in Post M&As

In the post-M&As scenario (see Table 4.7), the R-squared (within) of Islamic and conventional banks' stability (Zscore) are 0.817 and 0.957, respectively. Meaning that the explanatory variables explain the variance of bank stability. Generally, a higher R-squared implies a better fit for the model.

Bank size (BSTA) implies shows significant impact on the relationship between M&As and Zscore. Although the coefficient (0.051) of bank size for Islamic banks is positive but not statistically significant in explaining the changes in Zscore. Whereas BSTA positively impacts the Zscore of the conventional banks, which is statistically significant. Meaning that 1 unit increase to BSTA would increase bank Zscore by 3.494 units at a significant 5% level. Higher bank stability leads to lower probability of bank insolvency.

Intermediary role (financial) also shows significant impact on the stability of the Islamic and conventional banks. Based on the findings, 1 unit increase to Escope would reduce the strength of Islamic and conventional banks by 0.050 units and 0.090 units, respectively, which is significant at 1% level. Comparatively, the impact is more by 0.04 units in conventional banks. Escale and NFIR are not statistically significant in explaining the changes in stability.

Other factors namely modes of financing (FIN) are also used as the factors. The variables are omitted since the study select fixed effects static model. In the fixed effects model dummy variable is omitted since categorical variables do not vary with time and then Stata omits dummy for fixed effects. However, results from the POLS model, show that FIN are positive and statistically significant at 10% level. The results conclude that

cash financing impacts the Zscore of Islamic banks compared to stock financing. Inversely the stability of conventional banks was positively impacted by 1.699 units more compared to stock financing.

4.4.2.4 Effects of the Control Variables (i.e., Bank-specific and Macroeconomic Variables) in Post M&As

Looking at the findings, 1 unit increase to liquidity (LIDY) would increase the Zscore of Islamic and conventional banks by 0.057 units and 0.009 units which is statistically significant at 5% and 10% levels. Likely, 1 unit increases to the CAP that would increase the Zscore of both banks by 0.044 units and 1.937 units which is significant at 5% and 1% level. Significantly the impact is more for the conventional banks. Having mergers and acquisitions, banks can integrate capital which shows positive and statistically significant impact on the bank stability. The findings are consistent with Marembo (2012), who said that adequate capitals help lessen the chance that banks becoming insolvent if sudden shocks occur, ensuring financial sector stability. Lastly, CR does not show statistically significance in explaining the changes in stability. Macroeconomic variable (GDP) indicates positive impact on Zscore. It is implying that a good and favourable economy is fundamental and crying need for business development. The findings show that 1 unit increase to the GDP would tend to increase the Zscore of the Islamic and conventional banks by 0.051 units and 2.196 units respectively, which is significant at 10% and 1% levels. Simultaneously, INF does not show any significant impact on the Zscore of both banks.

Table 4.7: Significant Results of Bank Stability (Z-score) of Post-M&As

	Islamic banks (IBs)			Conventional banks (CBs)		
	POLS	**FE**	**RE**	**POLS**	**FE**	**RE**
BSTA	-0.072**	0.051	-0.072**	2.806***	3.494**	2.853***
	-0.034	-0.126	-0.029	0.000	-0.015	0.000
Escale	0.013	-0.012	0.013	0.005	0.005	0.004
	-0.411	-0.318	-0.407	-0.900	-0.943	-0.895
Escope	0.067	-0.05***	0.067	-0.109***	-0.090***	-0.108***
	-0.938	-0.002	-0.938	0.000	0.000	0.000
NFIR	0.155***	0.0575	0.155***	0.0157	0.009	0.015
	0.000	-0.150	0.000	-0.110	-0.531	-0.109
LIDY	0.034	0.057**	0.032	0.036***	0.009*	0.0365***
	-0.971	-0.043	-0.971	0.000	-0.078	0.000
CR	0.085***	-0.006	0.085***	-0.081	0.033	-0.064
	0.000	-0.648	0.000	-0.678	-0.875	-0.739
CAP	0.032**	0.044**	0.032***	1.157***	1.937***	1.146***
	-0.013	-0.047	-0.010	0.000	-0.001	0.000
GDP	0.559***	0.051***	0.559***	-0.531	2.196***	-0.540
	0.000	0.000	0.000	-0.123	-0.002	-0.115
INF	0.226	0.246	0.226	1.095*	1.789	1.095*
	-0.509	-0.109	-0.506	-0.061	-0.196	-0.059
FIN	0.324***	0.000	0.324***	2.023***	0.000	2.004***
	0.000	(.)	0.000	-0.003	(.)	-0.003
_cons	-2.228***	0.999	-2.228***	-19.030***	-33.460**	-19.510***
	-0.009	-0.569	-0.007	0.000	-0.036	0.000
Chow test: POLS vs FE 0.000	0.000			0.000		
LIM test: POLS vs RE 1.000	1.000			1.000		
Hausman test: FE vs RE 0.000		0.000			0.000	
R-sq	0.904			0.95		
R-sq within		0.8168	0.5306		0.9571	0.9402
R-sq between		0.166	0.8893		0.803	0.947
R-sq overall		0.1356	0.9		0.8965	0.9483
N	64	64	64	149	149	149
p-values in parentheses, *p<0.1 ** p<0.05, ***p<0.01						

NOTES: samples consist of 24 banks including 10 Islamic banks and 14 conventional banks from 6 countries, a year from Q1 2004 to Q4 2020. Islamic banks (IB), Conventional banks (CB), Pre & post; all data set, Pre; 5 years before M&As deal, Post; 5 years after M&A, bank size total assets (BSTA), cost to income (Scale), loan to deposit (Escope), non-interest cost to non-interest income (NFIR), liquidity (LIDY), loan loss reserve to gross loan (CR), equity to total assets (CAP), gross domestic product (GDP), inflation (INF), financing (cash or stock) (FIN)

4.4.2.5 Summary of The Findings

Table 4.8 shows the summary of findings for stability (Zscore) of pre and post M&As. There is no significant difference of stability in pre and post M&As for Islamic and conventional banks as the sign of the coefficient is same for Islamic and conventional banks. Generally, bank size (total assets) posits positive impact on the stability of Islamic and conventional banks in both pre-M&As and post M&As scenarios supporting research hypothesis 1; there is a significant impact of bank size on stability for Islamic and conventional banks.

Financial intermediary roles (economies of scale & scope) negatively impact the stability of Islamic and conventional banks in pre-M&As and post M&As, respectively. While the non-financial intermediary role implies a positive impact. Therefore, supporting research hypothesis 2; there is a significant impact of the intermediary role of the bank (financial and non-financial intermediary role) on operational stability for Islamic and conventional banks

Modes of financing (cash) show a comparatively greater effect on bank stability in pre-M&As and post M&As scenario compared to stock financing. Hence this supports hypothesis 3; there is a significant impact of modes of financing on stability for Islamic and conventional banks.

Control variables such as bank-specific variables (liquidity, credit risk and capitalization) and macro-economic variables imply statistically significant impact on bank stability.

Liquidity, credit risk and capitalization state positive impact on the operational performance of Islamic and conventional banks. The results are in line with research

hypothesis 4; there is a significant impact of bank-specific variables (i.e., credit risk, capitalization, and liquidity) on stability for Islamic and conventional banks.

Macroeconomic variables (GDP & inflation) imply significantly impact the stability of Islamic and conventional banks. GDP shows positive while inflation imply negative impact on the bank stability. Therefore, it supports research hypothesis 5; there is significant impact of macro-economic variables (GDP & inflation) on stability for Islamic and conventional banks.

Table 4.8: Summary of Findings for Stability (Zscore) In Pre And Post M&As For Islamic And Conventional Banks

Variables	Theory	Islamic Banks (IBs)				Conventional Banks (CBs)			
		Pre M&As		Post M&As		Pre M&As		Post M&As	
		Relationship	Significant	Relationship	Significant	Relationship	Significant	Relationship	Significant
BSTA	Resource dependency theory	positive	significant	positive	not significant	positive	significant	positive	significant
Escale	Efficiency theory and the role of financial intermediation	negative	significant	negative	not significant	negative	significant	positive	not significant
Escope	Efficiency theory and the role of financial intermediation	negative	significant	negative	significant	negative	significant	negative	significant
NFIR	Efficiency theory and the role of financial intermediation	negative	not significant	positive	not significant	positive	significant	positive	not significant
FIN	Free cash flow hypothesis	-	-	positive	significant	-	-	positive	significant
LIDY		positive	significant	positive	significant	negative	not significant	positive	significant
CR		positive	not significant	negative	not significant	positive	significant	positive	not significant
CAP		positive	not significant	positive	significant	positive	significant	positive	significant
GDP		negative	significant	positive	significant	negative	not significant	negative	significant
INF		negative	significant	positive	not significant	negative	significant	positive	not significant

4.4.3 Part-C Results and Discussions of the Operational Performance (ROA) of Pre-M&As & Post M&As in Banking Sectors

Answer to Research Question 2: Does the level of bank sizes have an impact on the operational performance and stability of M&As in the banking sectors?

Table 4.9 shows the operational performance (ROA) of a pre-M&As. Notably, the other two measurements of operational performance (ROE & NIM) are reported in Appendix Table A1.20 & A1.21 (pre and post-M&As of ROE) while Table A1.22 to A1.23 (pre and post-M&As of NIM), this is to avoid repetition of the discussions. Several, several robustness of the results is reported in the Appendix Table A1.24 to Table A1.31. Based on the tests done, fixed effects is selected.

4.4.3.1 Effects of Focal variables (i.e., bank sizes, intermediary roles & modes of financing) in Pre M&As

In the pre-M&As scenario, Table 4.9 posits operational performance (ROA). R-squared is 0.13, which means that ROA is variance explained by the explanatory variables (Model-3). Firm size is an important determinant of profitability (Dickerson et al., 1997). Throughout the findings, it can be seen that the level of bank sizes (large, medium and small) based on total assets show comparative impact on the ROA. The results show that large banks (BSTA_L) show 0.723 units less impact on the ROA as compared to the reference groups (BSTA_L & BSTA_S) that are statistically significant at 10% level of significance (Model 1). Even though, BSTA_M also show the same impact but it is not statistically significant (Model 2). Finally, BSTA_S show 0.507 units impact on ROA compared to the reference group (BSTA_L & BSTA_M) which is statistically significant

at 10% level (Model 3). Therefore, it concludes that BSTA_S show a better impact on ROA than reference groups (BSTA_L & BSTA_M). The finding is consistent with Muhammad, Waqas, & Migliori (2019), who found that small organizations are more likely to bear fruitful results of M&As in comparison to the larger organizations, as they later may pose greater challenges for management. Furthermore, the findings are supported by the resource dependency theory, which said that resources can significantly impact the organization's outcome.

Based on the results, it shows that intermediary bank roles (financial and non-financial) have a significant impact on the pre-M&As of the banking sectors. The findings show that (Model 3), financial and non-financial intermediary role show negative and statistically significant impacts on operational performance. Pointing to the results, for every 1-unit increases (decreases) Escale and Escope tend to decrease (increase) ROA by 0.011 units and 0.005 units, respectively which is statistically significant at 1% level. The finding is inconsistent with Brown (2014) who found that the cost to income ratio (economies of scale) had significant and negative ROA. Likewise, the non-financial intermediary role (NFIR) is negatively associated with ROA. Looking at the findings, 1-unit increases (decreases) to NFIR that would tend to decrease (increase) ROA by 0.065 units that is significant at 5% level. The findings are supported by efficiency theory and the theory of financial intermediation. Efficiency theory states that the main purpose of M&As is to generate better performance, while the theory of financial intermediation implies that bank performance depends on the intermediary activities of banks.

4.4.3.2 Effects of the Control Variables (Bank-specific and Macroeconomic Variables) in Pre M&As

Liquidity (LIDY) and capitalization (CAP) show positive impact on ROA. Meaning that 1 unit increase to LIDY and CAP would increase ROA by 0.085 units and 0.009 units which is statistically significant at 5% and 1% level, respectively. The finding of liquidity is inconstant with Brown (2014), who found that liquidity does not significantly impact ROA. While although the coefficient of credit risk is negative but not statistically significant. On the other hand, macro-economic variables also show significant and positive impact on operational performance. Diaconu & Oanea (2015) stated that banks' internal determinant greatly impacts bank stability, which means that 1 unit increase in the GDP and inflation (INF) would increase ROA by 3.076 units and 0.090 units, which is statistically significant at 10% and 1% level respectively.

Table 4.9: Significant Results of Operational Performance (ROA) of Pre-M&As

	POLS (1)	POLS (2)	POLS (3)	FE (1)	FE (2)	FE (3)	RE (1)	RE (2)	RE (3)
BSTA_L	-0.425			-0.723*			-0.836		
	(0.397)			(0.093)			(0.170)		
BSTA_M		-0.417			-0.330			-0.179	
		(0.160)			(0.192)			(0.621)	
BSTA_S			0.584*			0.507*			0.507**
			(0.052)			(0.076)			(0.056)
Escale	-0.011***	-0.013***	-0.013***	-0.013***	-0.013***	-0.011***	-0.011***	-0.012***	-0.011***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)
Escope	-0.004*	-0.004**	-0.005**	-0.004*	-0.004**	-0.005***	-0.004**	-0.005**	-0.005***
	(0.076)	(0.043)	(0.027)	(0.066)	(0.047)	(0.007)	(0.014)	(0.015)	(0.007)
NFIR	0.045	0.059	-0.018	-0.025**	-0.043	-0.065**	-0.033	-0.050	-0.065**
	(0.812)	(0.976)	(0.992)	(0.005)	(0.205)	(0.019)	(0.856)	(0.783)	(0.019)
LIDY	-0.099	0.056	0.074	0.049	0.058*	0.085**	0.027	0.056	0.085
	(0.963)	(0.799)	(0.733)	(0.152)	(0.098)	(0.043)	(0.914)	(0.828)	(0.743)
CR	0.0146	0.0124	0.0104	-0.0118**	-0.009**	-0.006	-0.008	-0.008	-0.006**
	(0.571)	(0.630)	(0.684)	(0.022)	(0.029)	(0.813)	(0.747)	(0.782)	(0.013)
CAP	-0.002	0.008	0.009	-0.0145	-0.009	0.009***	-0.002	0.002	0.009
	(0.913)	(0.565)	(0.547)	(0.467)	(0.589)	(0.007)	(0.925)	(0.905)	(0.607)
GDP	1.638**	1.568**	1.588**	18.880	21.510**	3.076*	2.817	2.904	3.076
	(0.037)	(0.045)	(0.041)	(0.284)	(0.017)	(0.067)	(0.198)	(0.185)	(0.167)
INF	0.149	0.123	0.0640	0.052***	0.058	0.090***	0.104	0.129	0.090***
	(0.202)	(0.299)	(0.610)	(0.000)	(0.629)	(0.005)	(0.437)	(0.334)	(0.005)
_cons	-0.547	-0.362	-0.759	-18.070	-20.820	-2.290	-1.532	-1.715	-2.290
	(0.552)	(0.697)	(0.406)	(0.316)	(0.294)	(0.346)	(0.517)	(0.467)	(0.346)
Chow test: POLS vs FE	0.000	0.000	0.000						
LIM test: POLS vs RE	1.000	1.000	1.000						
Hausman test: FE vs RE	0.000	0.000	0.000						
R-sq	0.201	0.206	0.213						
R-sq within				0.121	0.118	0.127	0.102	0.093	0.100
R-sq between				0.11	0.094	0.082	0.427	0.428	0.437
R-sq overall				0.0676	0.0597	0.057	0.188	0.188	0.195
N	207	207	207	207	207	207	207	207	207

p-values in parentheses, * p<0.1, **p<0.05, ***p<0.01

NOTES: samples consist of 24 banks including 10 Islamic banks and 14 conventional banks from 6 countries, year from Q1 2004 to Q4 2020. Large bank size; highest 8 banks, Medium; middle 8 banks, small; lowest 8 banks, bank size total assets (BSTA), bank size total deposits (BSTD), bank size operating income (BSOI), cost to income (Escale), loan to deposit (Escope), non-interest cost to non-interest income (NFIR), liquidity (LIDY), loan loss reserve to gross loan (CR), equity to total assets (CAP), gross domestic product (GDP), and inflation (INF).

4.4.3.3 Effects of Focal Variables (i.e., level of banks sizes, intermediary roles, & modes of financing) in Post M&As

In the post M&As scenario, Table 4.10 shows significant results of operational performance (ROA) for banking sectors. R-squared (within) is 0.751which means that ROA is the variance explained by the explanatory variables. Post-acquisition performance can be influenced by size (Dickerson et al., 1997). The level of bank sizes (large, medium and small) can significantly impact operational performance (ROA). The coefficient of large banks is not statistically significant. Based on the analysis of Tan, & Hooy (2004) who said that mergers bring stability for banks.

In contrast, medium sized banks are significant at 1% level of significance, which means that medium-sized banks impact 2.355 units less on the operational performance than reference groups (large and small). Similarly, small-sized banks show positive impact on operational performance. Meaning that the operational performance of the banking sectors is 1.475 units more compared to reference groups (large and medium) that is significant at 1% level of significance. Larger banks are the more stable (Ibrahim & Rizvi, 2018).

Interestingly the impact is 0.968 units more compared to pre-M&As. Aladwan (2015) noted that performance deteriorated with increased size, performance becomes unsatisfactory when bank size increase. Kosmidou, Pasiouras, Doumpos, & Zopounidis (2006) observed that small banks performed better than larger banks. Al-Sharkas, Hassan & Lawrence (2008) suggested that small banks merger recorded greater cost efficiency improvement than large banks mergers.

Intermediary role (financial and non-financial) shows significant impact as well. When 1 unit increase (decrease) to the financial intermediary role (economies of scale) reduces operational performance by 0.019 units which is significant at 10% level. The finding is consistent with Jaouad & Lahsen (2018) and Brown (2014), who showed that cost to income ratio had a negative and significant impact on performance. Compared to the pre-M&As, the effect is 0.01 units more in post-M&As. This result is consistent with Nguyen et al. (2012), who indicated that larger banks are the possibility of minimizing costs and benefiting from economies of scale. While 1 unit increase to economies of scope would tend to increase operational performance by 0.014 units, which is statistically significant at 1% level. The impact is 0.013 units more compared to pre-M&As. The findings of Ibrahim & Rizvi (2018) implied that after merger banks become prone to have economies of scale and scope meanwhile bank becomes financially sound and stable.

On the contrary, the non-financial intermediary role is found to be negatively associated with operational performance. 1 unit increase to the non-financial intermediary role would increase operational performance by 0.076, significant at 5% level of significance. The impact is 0.011 units more compared to pre-M&As.

Modes of financing show significant impact on M&As. Looking at that, M&As financing by cash impacts operational by 0.023 units more than stock financing. Kwenda, Oyetade, & Dobreva (2017) said that in post-M&As, acquirers' performance is also influenced by modes of financing. The results are consistent with Bertrand & Betschinger (2012), who mentioned that the financing method positively impacts performance. Whereas it is opposite of Sullivan et al. (1994) who found that returns to acquirers are not influenced by the method of financing M&As deals. Accordingly, Dogru et al., 2020) said that the

acquirer's performance is lower due to the higher free cash flow. Furthermore, the finding is opposite of the free cash flow hypothesis, which mentioned that M&As performance lower due to the conflict between managers and shareholders choosing the most suitable M&As strategy. Lang, Stulz, & Walkling (1991) observed that the free cash flow hypothesis posits that cash flow increases the agency costs of firms with poor investment opportunities.

4.4.3.4 Effects of the Control Variables (Bank-specific and Macroeconomic Variables) in Post M&As

As mentioned earlier, a number of control variables are used in the present study. For example, bank-specific variables namely liquidity, credit risk and capitalization, while macroeconomic variables, namely GDP and inflation. CR and CAP show the positive impact on operational performance. Meaning that 1 unit increase to CR and CAP would increase operational performance by 0.041 units and 0.042 units which is statistically significant at 5% and 1% level of significance respectively. The coefficient of liquidity is not statistically significant in explaining the changes in ROA, hence, and then the results are left undiscussed. The result is inconsistent with Brown (2014) who found that liquidity significantly impacts ROA. On the other hand, macro-economic variables also show significant and positive impact on operational performance. Meaning that 1 unit decrease to inflation would decrease operational performance by 0.176 units, which is significant at a 5% level of significance. While GDP does not show any significant impact on explaining the relationship between M&As and operational performance. The findings are in line with the Karim et al. (2016) who stated that bank stability is not affected by the macroeconomic

variables. Whereas, Criste, & Lupu (2014) stated that there is a trade-off between inflation and financial stability.

Table 4.10: Significant Results of Operational Performance (ROA) of Post-M&As

	POLS (1)	POLS (2)	POLS (3)	FE (1)	FE (2)	FE (3)	RE (1)	RE (2)	RE (3)
BSTA_L	-0.127			1.926			-0.234		
	(0.307)			(0.235)			(0.266)		
BSTA_M		-0.0575			-2.355***			-0.533***	
		(0.681)			(0.000)			(0.005)	
BSTA_S			0.875***			1.475***			1.475***
			(0.002)			(0.000)			(0.000)
Escale	-0.075**	-0.076***	-0.077***	0.073**	-0.079**	-0.019*	0.039	0.034	-0.019
	(0.010)	(0.010)	(0.007)	(0.030)	(0.027)	(0.068)	(0.248)	(0.322)	(0.568)
Escope	0.012***	0.012***	0.010***	-0.039***	-0.012***	0.014***	0.0412*	0.051**	0.014
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.003)	(0.055)	(0.013)	(0.483)
NFIR	0.018*	0.019*	-0.001	0.006***	-0.094	-0.076**	0.004***	0.024**	-0.076
	(0.067)	(0.052)	(0.392)	(0.000)	(0.353)	(0.024)	(0.000)	(0.023)	(0.524)
LIDY	-0.013	-0.040	-0.045	0.055	0.024	0.057	-0.069	0.078	0.057
	(0.343)	(0.777)	(0.711)	(0.816)	(0.153)	(0.651)	(0.610)	(0.563)	(0.651)
CR	0.076***	0.077***	0.055*	0.078***	0.021	0.041**	0.074***	0.075***	0.041
	(0.006)	(0.006)	(0.052)	(0.009)	(0.424)	(0.019)	(0.007)	(0.005)	(0.119)
CAP	0.020*	0.017	0.029***	0.010***	-0.0279	0.042***	0.031**	0.025	0.042***
	(0.058)	(0.101)	(0.006)	(0.007)	(0.464)	(0.005)	(0.043)	(0.108)	(0.005)
GDP	-0.145***	-0.149***	-0.166***	0.792*	0.843***	-0.043	0.005	0.084	-0.043
	(0.000)	(0.000)	(0.000)	(0.060)	(0.000)	(0.399)	(0.913)	(0.112)	(0.399)
INF	0.0910	0.133*	0.034	-0.036***	-0.231**	-0.176**	-0.0636	-0.0360	-0.176**
	(0.242)	(0.075)	(0.650)	(0.005)	(0.048)	(0.020)	(0.428)	(0.636)	(0.020)
FIN	0.043***	0.055***	0.046*	0	0	0.023***	0.074**	0.092**	0.023***
	(0.002)	(0.007)	(0.067)	(.)	(.)	(0.004)	(0.046)	(0.017)	(0.004)
_cons	0.853***	0.813***	0.250	-1.838	0.0416	-0.215	0.440	0.130	-0.215
	(0.000)	(0.000)	(0.370)	(0.399)	(0.931)	(0.468)	(0.184)	(0.667)	(0.468)
Chow test:POLS vs FE	0.000	0.000	0.000						
LIM test:POLS vs RE	1.000	1.000	1.000						
Hausman: FE vs RE	0.000	0.000	0.000						
R-sq	0.658	0.655	0.672						
R-sq within				0.645	0.752	0.751	0.611	0.635	0.678
R-sq between				0.014	0.002	0.012	0.669	0.554	0.570
R-sq overall				0.066	0.023	0.043	0.599	0.518	0.587
N	213	213	213	213	213	213	213	213	213

p-values in parentheses, * p<0.1, **p<0.05, ***p<0.01

Notes: samples consist of 24 banks including 10 Islamic banks and 14 conventional banks from 6 countries, year from Q1 2004 to Q4 2020. cost to income (Escale), loan to deposit (Escope), non-interest cost to non-interest income (NFIR), liquidity (LIDY), loan loss reserve to gross loan (CR), equity to total assets (CAP), gross domestic product (GDP), inflation (INF), financing (cash or stock) (FIN), bank size large based on total deposits (BSTD_L), bank size medium based on total deposits (BSTD_M,bank size small based on total deposits (BSTD_S)

4.4.3.5 Summary of The Findings

Table 4.11 posits summary of findings for operational performance of pre and post M&As. The level of bank sizes (large, medium & small) implies a significant impact on the operational performance (ROA) for banking sectors. For instance, large and medium-sized banks show a comparatively negative effect on operational performance compared to reference groups (small sized banks). While small-sized banks show positive effects on the operational performance compared to reference groups (large & medium). Intermediary roles (financial & non-financial) positively affect the operational performance in both scenario pre-M&As and post M&As. Accordingly, modes of financing (cash) show comparatively more impact on operational performance than stock financing.

Controlled variables, namely bank-specific variables (liquidity, credit risk and capitalization) and macroeconomic variables (GDP & inflation), significantly impact operational performance. The results support research hypothesis 6; there is a significant impact of the level of bank sizes (large, medium and small) on operational performance for banking sectors.

Table 4.11: Summary of Findings For Operational Performance (ROA) in Pre and Post M&As for Banking Sectors

Variables	Theory	Pre M&As		Post M&As	
		Relationship	Significant	Relationship	Significant
BSTA_L	Resource dependency theory	negative	significant	negative	significant
BSTA_M		negative	significant	negative	significant
BSTA_S		positive	significant	positive	significant
Escale	Efficiency theory and the role of financial intermediation	negative	significant	negative	significant
Escope	Efficiency theory and the role of financial intermediation	negative	significant	positive	significant
NFIR	Efficiency theory and the role of financial intermediation	negative	significant	negative	significant
FIN	Free cash flow hypothesis	-	-	positive	significant
LIDY		positive	significant	positive	not significant
CR		negative	not significant	positive	significant
CAP		positive	significant	positive	significant
GDP		positive	significant	negative	not significant
INF		positive	significant	negative	significant

4.4.4 Part-D Results and Discussions of Bank Stability (Zscore) of Pre-M&As & Post-M&As in Banking Sectors

Table 4.12 displays bank stability of pre-M&As. Based on the tests, the study uses fixed effects model and discusses them accordingly. R-squared (within) is 0.752, meaning variance of bank stability is explained by the explanatory variables (Model 2).

4.4.4.1 Effects of Focal Variables (i.e., level of bank sizes, intermediary roels & modes of financing) in Pre M&As

The bank sizes, namely large, medium and small, significantly impact bank stability. Referring to these, the coefficient of large-sized banks (BSTA_L) is positive but not statistically significant. Although the coefficient is not statistically significant, it seems that there is the probability that BSTA_L positively impact on the Zscore. Accordingly, BSTA_M imply 1.15 units more impact on bank stability than reference groups (BSTA_L and BSTA_S), which is statistically significant at a 5% level. The findings are supported by the Ibrahim & Rizvi (2018) who said that larger banks are the more stable. Whereas BSTA_S show 2.34 units lower impact on Zscore comparted to the reference group (BSTA_L & BSTA_M), which is statistically significant at 1% level. Therefore, it is concluded that the large and medium-sized banks give a greater impact towards bank stability as compared to small-sized banks. According to the study of Čihák & Hesse (2010) who said that bank sizes have significant influences on the bank stability.

In addition, intermediary roles (financial and non-financial) show significant impact on the bank stability as well. 1 unit increase Escope that would tend to reduce Zscore by 0.041 units statistically significant at 1% level of significance. However, proxy for financial

intermediary (Escale) does not show any statistically significant in explaining the changes in Zscore. On the contrary, the non-financial intermediary role (NFIR) positively associated with Zscore. Meaning that 1 unit increase to NFIR that tend to increase Zscore by 0.007, is significant at 1% level of significance.

4.4.4.2 Effects of the Control Variables (i.e., Bank-specific and Macroeconomic Variables) in Pre M&As

Liquidity (LIDY) and capitalization (CAP) show positive impact on stability (Zscore). Meaning that 1 unit increase to LIDY and CAP would increase Zscore by 0.082 units and 1.107 units which is statistically significant at 10% and 5% level, respectively. The findings are consistent with Marembo (2012), who said that adequate capitals help lessen the chance that banks will become insolvent if sudden shocks occur, ensuring financial sector stability. While credit risk (CR) does not show any statistically significant impact on stability. On the other hand, macroeconomic variables also show significant and positive impact on Zscore. Meaning that 1 unit increase to the GDP would tend to increase Zscore by 1.5 units that is statistically significant at 1% level. At the same time, inflation (INF) does not impact Zscore since the coefficient is not statistically significant. Therefore, it concludes that favourable economic conditions are fundamental for the strong solvency of banking sectors. The higher the value of the bank stability the less fragile the banking sectors become. While the findings of Karim et al. (2016) stated that bank stability is not affected by the macroeconomic variables.

Table 4.12: Significant Results of Bank Stability (Z-Score) of Pre-M&As

	POLS (1)	POLS (2)	POLS (3)	FE (1)	FE (2)	FE (3)	RE (1)	RE (2)	RE (3)
BSTA_L	3.213			4.833			4.392		
	(0.479)			(0.229)			(0.339)		
BSTA_M		1.680***			1.15**			2.35***	
		(0.000)			(0.029)			(0.000)	
BSTA_S			-2.44***			-2.34***			-2.34***
			(0.000)			(0.000)			(0.000)
Escale	-0.121***	-0.062***	-0.078***	0.013	0.002	-0.025	-0.026	-0.042**	-0.025
	(0.000)	(0.006)	(0.000)	(0.522)	(0.955)	(0.203)	(0.302)	(0.042)	(0.203)
Escope	-0.093***	-0.063***	-0.056***	-0.059***	-0.041***	-0.037***	-0.071***	-0.047***	-0.037***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.006)	(0.001)	(0.000)	(0.000)	(0.001)
NFIR	-0.005***	-0.004**	-0.004***	-0.007	0.007***	-0.048	-0.003	-0.002	-0.048
	(0.002)	(0.011)	(0.008)	(0.282)	(0.007)	(0.645)	(0.154)	(0.263)	(0.645)
LIDY	0.050**	0.022	0.022	0.128*	0.082*	0.018	0.041**	0.018	0.018
	(0.010)	(0.194)	(0.191)	(0.100)	(0.073)	(0.234)	(0.027)	(0.230)	(0.234)
CR	-0.010	0.110	0.150	0.236***	0.114	0.058	0.154	0.054	0.058
	(0.964)	(0.588)	(0.448)	(0.000)	(0.252)	(0.705)	(0.453)	(0.762)	(0.705)
CAP	1.289***	0.919***	0.994***	1.472**	1.107**	0.981***	1.489***	0.952***	0.981***
	(0.000)	(0.000)	(0.000)	(0.023)	(0.049)	(0.000)	(0.000)	(0.000)	(0.000)
GDP	-23.780***	-21.64***	-22.75***	25.200	13.500*	-22.180*	-15.970	-27.73***	-22.180*
	(0.001)	(0.001)	(0.000)	(0.142)	(0.108)	(0.099)	(0.311)	(0.002)	(0.099)
INF	-2.278**	-0.081	1.456	-3.818	-3.048	-1.009	-3.120***	-1.604*	-1.009
	(0.032)	(0.930)	(0.134)	(0.198)	(0.171)	(0.195)	(0.002)	(0.061)	(0.195)
_cons	36.220***	25.570***	41.870***	-230.500	-138.800	44.910***	19.950	31.370***	44.910***
	(0.000)	(0.001)	(0.000)	(0.131)	(0.155)	(0.002)	(0.243)	(0.002)	(0.002)
Chow test: POLS vs FE	0.000	0.000	0.000						
LIM test: POLS vs RE	1.000	1.000	1.000						
Hausman test: FE vs RE	0.000	0.000	0.000						
R-sq	0.451	0.585	0.606						
R-sq within				0.668	0.752	0.785	0.609	0.712	0.763
R-sq between				0.072	0.143	0.107	0.252	0.538	0.444
R-sq overall				0.026	0.110	0.092	0.339	0.565	0.552
N	207	207	207	207	207	207	207	207	207

p-values in parentheses, * p<0.1, **p<0.05, ***p<0.01

NOTES: samples consist of 24 banks including 10 Islamic banks and 14 conventional banks from 6 countries, year from Q1 2004 to Q4 2020. Large bank size; highest 8 banks, Medium; middle 8 banks, small; lowest 8 banks, bank size total assets (BSTA), bank size total deposits (BSTD), bank size operating income (BSOI), cost to income (Escale), loan to deposit (Escope), non-interest cost to non-interest income (NFIR), liquidity (LIDY), loan loss reserve to gross loan (CR), equity to total assets (CAP), gross domestic product (GDP), inflation (INF) and financing (cash or stock) (FIN). cost to non-interest income (NFIR), liquidity (LIDY), loan loss reserve to gross loan (CR), equity to total assets (CAP), gross domestic product (GDP), inflation (INF) and financing (FIN).

Table 4.13 shows bank stability of the post-M&As. Based on the Hausman tests, the study uses fixed affect models and discusses accordingly. R-squared (within) is 0.944 which implies that bank stability variance is explained by the explanatory variables (Model 3).

4.4.4.3 Effects of Focal Variables (i.e., level of bank sizes, intermediary roles & modes of financing) in Post M&As

In the post M&As scenario, the level of bank sizes, namely large (BSTA_L), medium (BSTA_M) and small (BSTA_S), based on total assets, significantly impact bank stability. Referring to these, the coefficients of BSTA_L and BSTA_M are positive and statistically significant. The BSTA_L has more impact, meaning Zscore compared BSTA_M and BSTA_S. BATS_M also show the same impact as BSTA_L. On the other hand, BSTA_S show 1.980 units less impact on bank Zscore than BSTA_L and BSTA_M. Therefore, it is concluded that the BSTA_L and BSTA_M more impact bank Zscore compared to BSTA_S. The findings are consistent with Ibrahim & Rizvi (2018), who implied that larger banks are more stable. However, these findings are inconsistent with Čihák, & Hesse (2010) found that small banks are more stable, whereas Al-Sharkas, Hassan & Lawrence (2008) stated that small and larger banks are more profitable. Ibrahim & Rizvi (2018) and Demirgüç-Kunt, & Merrouche (2010) suggested that bigger is better for bank stability. Increasing bank size would reduce earnings volatility and make the bank less fragile (Moutsianas & Kosmidou, 2016**).** However**,** this is the opposite of Čihák & Hesse (2010), who opined that small banks are more stable.

Intermediary roles (financial and non-financial) show significant impact on bank stability. Looking at the findings, 1 unit increase to Escale and Escope would tend to reduce

Zscore by 0.083 units and 0.073 units, respectively, which is statistically significant at 1% level of significance. On the contrary, the non-financial intermediary role (NFIR) is positively associated with stability. Meaning that 1 unit increase to NFIR that tends to increase stability by 0.096 units is significant at 1% level of significance.

Modes of financing (FIN) also showed a significant and positive impact on stability (Zscore). Meaning that 1.506 units increase bank stability when M&As are financed by cash compared to the stock financing that is significant at 1% level.

4.4.4.4 Effects of the Control Variables (i.e., Bank-specific and Macroeconomic Variables) in Post M&As

Liquidity (LIDY) and capitalization (CAP) show positive impact on stability (Zscore). Meaning that 1 unit increase in LIDY and CAP would increase Zscore by 0.033 units and 0.832 units respectively which is statistically significant at 1% level of significance. While credit risk (CR) shows negative impact on Zscore. I unit increase (decrease) to CR that would reduce Zscore by 0.008 units significant at 10% level of significance. On the other hand, macro-economic variables, namely GDP and inflation (INF) do not show a statistically significant impact on the bank stability of post-M&As.

Table 4.13: Significant Results of Bank Stability (Z-Score) of Post-M&As

	POLS (1)	POLS (2)	POLS (3)	FE (1)	FE (2)	FE (3)	RE (1)	RE (2)	RE (3)
BSTA_L	5.060***			4.830***			0.738		
	(0.000)			(0.000)			(0.674)		
BSTA_M		-1.671			2.070***			8.960***	
		(0.108)			(0.000)			(0.000)	
BSTA_S			-1.18***			-1.980***			-1.98***
			(0.000)			(0.000)			(0.000)
Escale	-0.107***	-0.107***	-0.102***	-0.163***	-0.006	-0.083***	-0.132***	-0.095***	-0.083***
	(0.000)	(0.000)	(0.000)	(0.002)	(0.855)	(0.000)	(0.000)	(0.000)	(0.000)
Escope	-0.094***	-0.107***	-0.070***	-0.063*	0.027	-0.073***	-0.091***	-0.092***	-0.073***
	(0.000)	(0.000)	(0.000)	(0.103)	(0.831)	(0.000)	(0.000)	(0.000)	(0.000)
NFIR	-0.049***	-0.062***	0.095	-0.053***	0.028	0.096***	-0.044***	-0.015**	0.096
	(0.000)	(0.000)	(0.259)	(0.000)	(0.250)	(0.000)	(0.000)	(0.020)	(0.232)
LIDY	0.064***	0.049***	0.035***	0.081	0.072	0.033***	0.034***	0.019**	0.033***
	(0.000)	(0.000)	(0.000)	(0.642)	(0.545)	(0.000)	(0.000)	(0.017)	(0.000)
CR	-0.657***	-0.772***	-0.268	-0.682**	-0.055	-0.008*	-0.535***	-0.425***	-0.278
	(0.001)	(0.000)	(0.118)	(0.037)	(0.768)	(0.101)	(0.003)	(0.007)	(0.101)
CAP	0.970***	1.051***	0.822***	0.909***	1.373***	0.832***	1.057***	1.053***	0.832***
	(0.000)	(0.000)	(0.000)	(0.005)	(0.003)	(0.000)	(0.000)	(0.000)	(0.000)
GDP	-0.759***	-0.708**	-0.293	-15.85***	-7.859***	-0.394	-1.831***	-3.129***	-0.394
	(0.005)	(0.014)	(0.204)	(0.000)	(0.000)	(0.113)	(0.000)	(0.000)	(0.113)
INF	-0.781	-1.689***	-0.127	-1.880	0.861	0.0611	-0.543	-0.414	0.0611
	(0.151)	(0.003)	(0.785)	(0.141)	(0.480)	(0.896)	(0.308)	(0.362)	(0.896)
FIN	1.271**	1.082*	1.160**	0	0	1.506***	1.670	2.009	1.506***
	(0.028)	(0.078)	(0.019)	(.)	(.)	(0.010)	(0.261)	(0.224)	(0.010)
_cons	5.291***	7.858***	19.150***	64.680***	13.960**	17.430***	9.086***	12.030***	17.430***
	(0.001)	(0.000)	(0.000)	(0.000)	(0.010)	(0.000)	(0.001)	(0.000)	(0.000)
Chow test:POLS vs FE	0.000	0.000	0.000						
LIM test:POLS vs RE	1.000	1.000	1.000						
Hausman test:FE vsRE	0.000	0.000	0.000						
R-sq	0.925	0.915	0.945						
R-sq within				0.9345	0.9623	0.9434	0.8964	0.932	0.9163
R-sq between				0.272	0.497	0.666	0.883	0.748	0.958
R-sq overall				0.319	0.548	0.755	0.9013	0.809	0.942
N	213	213	213	213	213	213	213	213	213
p-values in parentheses, * p<0.1, **p<0.05, ***p<0.01									

Notes: samples consist of 24 banks including 10 Islamic banks and 14 conventional banks from 6 countries, from Q1 2004 to Q4 2020. bank size large based on total assets (BSTA_L), bank size medium based on total assets (BSTA_M), bank size small based on total assets (BSTA_S)cost to income (Escale), loan to deposit (Escope), non-interest cost to non-interest income (NFIR), liquidity (LIDY), loan loss reserve to gross loan (CR), equity to total assets (CAP), gross domestic product (GDP), inflation (INF), financing (cash or stock)(FIN).

4.4.4.5 Summary of The Findings

Table 4.14 implies summary of findings for bank stability in pre and post M&As. The level of bank sizes (large, medium and small) significantly impacts bank stability. As findings show, large and medium-sized banks are better for bank stability compared to small-sized banks in both scenarios of pre-M&As and post-M&As. Intermediary role (financial; economies of scope) implies a significant impact on the bank stability in the pre-M&As while the rest of the variables (economies scale & non-financial intermediary role) do not show any significant effect. On the other hand, in post-M&As, both financial and non-financial intermediary roles significantly affect bank stability.

Controlled variables, namely bank-specific variables (liquidity, credit risk and capitalization) and macroeconomic variables (GDP & inflation), significantly impact bank stability. These results support research hypothesis 6; there is a significant impact of the level of bank sizes (large, medium and small) on stability for banking sectors. Although some findings are not in line with the theory but these are not new. Previous studies also found that the results and findings are not support theory.

Table 4.14: Summary of Findings for Stability (Zscore) for Pre and Post M&As in The Banking Sectors

Variables	Theory	Pre M&As		Post M&As	
		Relationship	Significant	Relationship	Significant
BSTA_L	Resource dependency theory	positive	significant	positive	significant
BSTA_M		positive	significant	positive	significant
BSTA_S		negative	significant	negative	significant
Escale	Efficiency theory and the role of financial intermediation	negative	not significant	negative	significant
Escope	Efficiency theory and the role of financial intermediation	negative	significant	negative	significant
NFIR	Efficiency theory and the role of financial intermediation	negative	not significant	positive	significant
FIN	Free cash flow hypothesis	-	-	positive	significant
LIDY		positive	not significant	positive	significant
CR		positive	not significant	negative	significant
CAP		positive	significant	positive	significant
GDP		negative	significant	negative	not significant
INF		negative	not significant	positive	not significant

4.5 Conclusion

This chapter discusses the results of M&As of banks and answers research questions 1 & 2. Table 4.3 to Table 4.8 show supportive results and discussions for research question 1 while Table 4.9 to Table 4.14 imply supportive results and discussions for research questions 2. To be more specific, Table 4.3 and Table 4.4 imply significant results of operational performance for Islamic and conventional banks in pre and post M&As. Table 4.5 indicates the summary of findings between pre-M&As and Post M&As. Table 4.6 and Table 4.7 imply stability of pre and post M&As for Islamic and conventional banks while Table 4.8 summaries the findings of bank stability between pre and post M&As. Accordingly, Table 4.9 and Table 4.10 states operational performance (ROA) for banking sectors in pre and post M&As while Table 4.11 summaries the findings of operational performance between pre and post M&As. Finally, Table 4.12 and Table 4.13 imply stability of banking sectors in pre and post M&As while Table 4.14 summaries the findings of bank stability.