The Impact of Acquisitions on the Financial Performance of Companies in the Gulf States

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Abstract

The acquisition of economic institutions has become a global trend in recent periods, either through the transfer of all or part of the properties or shares. Such operations contribute to enhanced opportunities for economic expansion and growth. The Gulf States have not been away from these rising trends, with acquisitions taking a noticeable rise. This study analyses the impact of acquisitions on the financial performance of companies in the Gulf States based on the time sequence of data analysis for the duration between 2005-2018. The Empirical Bayesian and Ordinary Least Squares regression techniques are considered to demonstrate the acquisition impact on acquired non-financial companies in the Gulf States by using these major measures profitability, liquidity, and leverage. First and foremost, the study discovered that acquisition does not affect the profitability of the firm which formed into a new firm. But looking at the impact of the acquisition on leverage, the Interest Coverage ratio (COV) is been positively impacted by acquisition but the Debt to Equity ratio (ED) is not impacted by the acquisition. Additionally, the acquisition has a negative effect on a firm's leverage. The outcomes of both OLS and the Bayesian have some variances, but the correspondence of the two results exceeds the difference. Thereby, it can be concluded that the Bayesian method is partially steady with the outcomes of OLS. The outcome of the study demonstrates that the financial performance of firms is not significantly affected by the acquisition.

Keywords: acquisition, financial performance, economic institutions, gulf states

1. Introduction

1.1 Background of the Study

In recent years, acquisitions have emerged aggressively, as the world has undergone major changes in economic, political, and other aspects. This development has been reflected in the operations of the economic institutions and their performance to cope with these changes. The global financial crisis and the desire of companies to create large and good entities to face competition, seek profit and growth, increase their sustainability, increase transnational capital flows to different countries on market liberalization in developing countries, economic reform programs, and higher returns, all of these factors led to an increase in acquisitions.

Acquisitions are becoming commonplace. The term "A" is used as synonyms in strategic and investment decisions, in a concept of a company considering A combines two or more companies into one company or a new company. They can be distinguished in the way the two companies are acquisition (Roberts et al., 2003).

1.1.1 Acquisition

The acquisition is a method through which a company or firm is bought or sold by another company. It is said that one company captured the other. Acquisitions are made either through the acquisition of individual assets (asset transactions) or the purchase of shares (the share transaction) (Steimer, 2012).

Acquisition of a company's ownership by another company is through the transfer of capital or assets. The acquirer has the opportunity to exercise its influence over the acquired company but without the acquire losing its legal personality by acquisition (Mayerhofer, 1999).

The acquisition and acquisition of the ownership of a company by another company is through the transfer of the majority of the company's assets or capital, resulting in the acquired company has the opportunity to exercise control and authority over the acquired company without losing its legal personality (Gerpott, 1993).

Acquisitions are made in a friendly or hostile manner. If the company whose shares are to be acquired has the right to approve or not, the company's representatives communicate with each other and negotiate a recommended purchase price for the shareholders. The shares of the company are acquired from a hidden company or a unilateral takeover offer is made as an attempt to "swallow" unwanted competitors by taking charge of a hostile takeover (Mayerhofer, 1999).

1.1.2 Gulf States Acquisitions

In recent times, the acquisition of economic entities is becoming a worldwide trend. It is being practiced via partial or complete transfer of properties, usufruct or shares property obligations or rights among the economic entities and companies. These kinds of practices trigger economic growth and expansion opportunities.

The Gulf Cooperation Council (GCC) countries are also playing a significant role in the acquisitions' trends. As per the statistics, North Africa and the Middle East region had seen a rise in deals growth by 105% in the 2018 third quarter making it touch up to 10 billion dollars. While, if compared with 2017, then it was $4.9 billion during the same months. But the number of transactions in the third quarter of 2018 and 2017 were almost the same, as 2018 third quarter witnessed 107 transactions and 2017 third quarter witnessed 110 transactions. The MENA region made a $7.9 billion value of transactions, which makes GCC transactions covered 79% of transactions, 73% of deals, and 78 declared acquisitions and mergers.

Other than the increase in the number of transactions, the number of high-figure transactions also saw a prominent rise. Compared to only 2 high-figure transactions in the 2017 third quarter, 8 deals in the 2018 third quarter crossed over $500 million. This surge in high-figure deals is because of the rise in participant count, and the performance of sovereign wealth funds in the gas, chemicals, and oil industry during the 2018 third quarter. Of all the 2018 third-quarter deals, the Arlaxo acquisition by Saudi Aramco for $1.6 billion had been the biggest deal.

1.2 The Problem Statement

1.2.1 The Objective of the Study

The study aims at clarifying the impact on the financial performance of companies by acquisition in the Gulf States in various sectors and examining the impact of the nature of the financial performance of companies using a number of financial ratios (leverage, liquidity, and profitability) before and after the acquisition, along with studying its dimensions and the statement of positives and negatives.

1.2.2 Research Questions

This study aims to answer the following questions:

- Does acquisition have a positive impact on profitability in Gulf States Companies?
- Does acquisition impact solvency in Gulf States Companies?
- Does acquisition have a positive impact on liquidity in Gulf States Companies?
- Does acquisition have a positive impact on Gulf States Companies?

1.3 Literature Review

Ashfaq et al. (2014) study the effect of merger and acquisition on financial performance (post-merger) for companies that are involved in Pakistan's non-financial sector. The effect is analyzed by considering both relative and absolute financial performance. The study finds that, on average, absolute performance deteriorates post-merger and acquisition. The paired sample T-test also shows that relative performance deteriorates post-merger at a significant level.

Akben-Selcuk and Altiok-Yilmaz (2011) study 62 Turkish companies' performance during the post-acquisition and post-merger period. Through weekly data accounting and analyses of the stock market, the study deduced that Turkish companies who acquired other companies are negatively affected by mergers and acquisitions. The accounting data is tested using the parametric T-test method, which shows that values of return on sales (ROS) and return on assets (ROA) are lower after acquisition. So, the accounting data through the change model justify the hypothesis, but the ROE values do not support it by the intercept model.

Pazarskis et al. (2018) study the effect of mergers on the accounting performance of Greece firms involved in merger activities. The study sample comprises sixty Greek firms listed in Athens Exchange that carried out a single merger from 2005 to 2014 as buyers. The analysis is based on four basic profitability ratios from the financial reports of the sample companies. The results show negative effects of the merger on the profitability and accounting performance of firms, especially during the Greek economic crisis.

Trivedi et al. (2013) observe the effect of mergers and acquisitions on the operational performance and shareholder's capital in the Indian firms which have been acquired. The study finds that acquisitions and mergers have no immediate short-term effect on the shareholder's capital. Moreover, the acquisitions do not create the margins for the short-term firm's possession.

Malhotra and Zhu (2006) empirically examine the post-acquisition long-term performance and announcement effect from the sample size of 96 Indian - U.S firms that were engaged in biding or acquisitions of U.S Firms from 1999-2005. The study finds that at the time of the announcement of the Indian firm's acquisition, it casts a short-term impact on shareholder's capital, while the long-term impact is rather negative.

Doukas and Travlos (1998) examine the relationship between international acquisitions and the stock prices of American bidding forms. The study results highlight several differences, i.e., a significant positive impact results for companies making international acquisitions. However, American companies looking to expand overseas do not see significant growth in stock prices. Also, any foreign-owned business already set up in the U.S and looking to make further acquisitions in the U.S also does not see a significant impact on stock value.

Larasati et al. (2018) try to find the effect of merger and acquisition on the companies that are registered in the Stock Exchange of Indonesia during 2010-2014. The study finds no substantial impact on the firms with respect to merger and acquisition because the selected constructs do not seem to make a major difference on pre- and post-acquisition.

Syukur and Fitri (2016) empirically examine the different firm performances before and after the process of acquisition. The study results show that financial ratios, i.e., market value (EPS), profitability (NPM), liquidity (CR), efficiency (ATO), and leverage (DER) decrease insignificantly after the acquisition. This study concludes that retrospectively there is no substantial effect on firm financial performance by mergers and acquisitions.

Sharma and Verma (2012) identify the effect of undergone acquisitions and mergers on the TATS Group's financial performance with the collected data of four years (2004-2008) and a sample size of sixteen mergers and acquisitions. The study finds that there is no prominent impact on the TATA Group's financial performance with respect to undergone acquisitions and mergers.

Ahammad and Glaister (2013) study the relationship between the performance of overseas firms' acquisition and the firms that are being evaluated for later acquisition. The study finds that there exists a positive relationship among the performance of those overseas firms that have been acquired or that are being evaluated prior to acquisition.

Karuranga et al. (2011) examine the impact of acquisitions on the companies, both before and after acquisition in Canada with a sample size of 95 companies. The results show that there are no prominent changes in the monetary companies' performance with respect to acquisition pre- and post-period.

Rafique and Usman (2003) study the trend of merger and acquisitions on stock returns and on the financial routine of companies in the financial establishment of Pakistan after being merged or experiencing merger. The study finds that the announcement of merger and acquisition has a negative impact on share price, which casts a negative impact on shareholders' returns either for a short or long period.

Kandzija et al. (2014) analyze how successful acquisitions and mergers cast an impact on the structure of Industry in Croatia. The study finds that the success of a company's performance after a takeover is dependent on the concentration ratio. Hence, the lower the concentration rate, the more successful company would be after the acquisition.

Based on the 320 acquisitions done by the 47 US Bank holding companies in 1986-1995, Leshchinskii and Zollo (2004) tried to empirically find the long-term relationship between the performance of acquiring firm and decisions taken after the firm acquisition, while also getting knowledge from previously acquired firm experiences using financial ration and questionnaires. The findings of the study show that post-acquisition cannot improve the company's performance. However, the extent up to which the ones who acquired the firm collect and formulate their experiences, can for sure cast a long-term impact on the firm's performance.

Hanifi and Vahedi (2016) research how the performance of companies is affected by acquisition using the data from Iranian companies listed in the Stock Exchange of Tehran during 2003-2011. The study finds that the company's performance in the post-acquisition period is decline as compared to the pre-acquisition period.

1.4 Research Hypotheses

To test the objectives mentioned above, the following alternate hypotheses are formulated:

- The main hypothesis: There is an impact on the acquisition of corporate financial performance.

This hypothesis will be tested by the following hypotheses:

- Hypothesis H1: Acquisition of non-financial companies negatively influence profitability ratios.
- Hypothesis H2: Acquisition of non-financial companies positively influence liquidity ratios.
- Hypothesis H3: Acquisition of non-financial companies negatively influence the leverage ratios.

2. Method

This section highlights the methodology of the study.

2.1 Type of Study

This empirical and exploratory study of some of the financial performance determinants of a group of Gulf States companies acquired in the Gulf States in the non-financial sector traded on the Abu Dhabi Securities Market (ADX), Tadawul Exchange, Boursa Kuwait, Dubai Financial Market (DFM), Bahrain Bourse, Muscat Securities Market, and Amman Stock Exchange are based on the financial data of a set of company parameters, include the quantitative data analyzed by the estimation methods of empirical Bayesian and Ordinary Least Squares (OLS), estimation and subsequent inference on the variables' significance.

2.2 The Model

2.2.1 Ordinary Least Squares (OLS)

The study analyzed OLS regression to demonstrate the acquisitions' impact on the leverage, profitability, and liquidity of acquired non-financial companies in GCC countries during 2005-2018. Given the data of Gulf States, the study found that there were 23 cases of acquisition of the forms (acquisition, acquisition with percentage of shares) making the total sample of 46 companies. The study used the average financial ratios for four years before and after acquisition through the below-mentioned ratios:

- Profitability Ratios (Profit Margin, Return on Assets)
- Liquidity Ratio (Current Liquidity Ratio, Quick Liquidity Ratio)
- Leverage Ratios (Coverage Ratio, Debt to Equity Ratio)

The study estimated different models for the effect of the acquisition on profitability, liquidity, and leverage. The models are developed by changing the independent variables according to the research objectives and considering profitability, liquidity, and leverage as dependent variables.

2.2.1.1 Impact Acquisition on Profitability

The study assessed four models to study the acquisition impact on profitability where the rate of Return on Assets (ROA) and Profit Margin (PM) are dependent variables, while age, size, liquidity (CR and QR), leverage (ED and COV) are independent variables. The study realized the effect of the acquisition of profitability through the dummy variable taking into account 0 before acquisition and 1 after acquisition. The dummy variable coefficient sign indicates either the company's financial performance possesses a positive or negative impact by acquisition.

$$(ROA) = \beta_1 + \beta_2 D_{it} + \beta_3 CR_{it} + \beta_4 DE_{it} + \beta_5 Size_{it} + \beta_6 Aqe_{it} + u_{it} \tag{1}$$

$$(ROA) = \beta_1 + \beta_2 D_{it} + \beta_3 QR_{it} + \beta_4 COV_{it} + \beta_5 Size_{it} + \beta_6 Aqe_{it} + u_{it} \tag{2}$$

$$(PM) = \beta_1 + \beta_2 D_{it} + \beta_3 CR_{it} + \beta_4 DE_{it} + \beta_5 Size_{it} + \beta_6 Aqe_{it} + u_{it} \tag{3}$$

$$(PM) = \beta_1 + \beta_2 D_{it} + \beta_3 QR_{it} + \beta_4 COV_{it} + \beta_5 Size_{it} + \beta_6 Aqe_{it} + u_{it} \tag{4}$$

where u_{it} is a zero-mean error variable and fix variance, while $_{it}$ denote firm and time, respectively.

2.2.1.2 Impact of Acquisition on Liquidity

The study estimated four equations to show the acquisition impact on the company's liquidity where the liquidity (CR and QR) is dependent variables while age, size, profitability (ROA and PM), and leverage (ED and COV) are independent variables.

$$Y_{it} (CR) = \beta_1 + \beta_2 D_{it} + \beta_3 COV_{it} + \beta_4 ROA_{it} + \beta_5 Size_{it} + \beta_6 Aqe_{it} + u_{it} \tag{5}$$

$$(CR) = \beta_1 + \beta_2 D_{it} + \beta_3 DE_{it} + \beta_4 PM_{it} + \beta_5 Size_{it} + \beta_6 Aqe_{it} + u_{it} \tag{6}$$

$$(QR) = \beta_1 + \beta_2 D_{it} + \beta_3 COV_{it} + \beta_4 ROA_{it} + \beta_5 Size_{it} + \beta_6 Aqe_{it} + u_{it} \tag{7}$$

$$(QR) = \beta_1 + \beta_2 D_{it} + \beta_3 DE_{it} + \beta_4 PM_{it} + \beta_5 Size_{it} + \beta_6 Aqe_{it} + u_{it} \tag{8}$$

2.2.1.3 Impact of Acquisition on Leverage

The study estimated four equations to show the acquisition impact on the company's leverage where the leverage (ED and COV) is dependent variables while age, size, liquidity (CR and QR), profitability (ROA and PM) are independent variables.

$$(ED) = \beta_1 + \beta_2 D_{it} + \beta_3 CR_{it} + \beta_4 ROA_{it} + \beta_5 Size_{it} + \beta_6 Aqe_{it} + u_{it} \tag{9}$$

$$(ED) = \beta_1 + \beta_2 D_{it} + \beta_3 QR_{it} + \beta_4 PM_{it} + \beta_5 Size_{it} + \beta_6 Aqe_{it} + u_{it} \tag{10}$$

$$(COV) = \beta_1 + \beta_2 D_{it} + \beta_3 CR_{it} + \beta_4 ROA_{it} + \beta_5 Size_{it} + \beta_6 Aqe_{it} + u_{it} \tag{11}$$

$$(COV) = \beta_1 + \beta_2 D_{it} + \beta_3 QR_{it} + \beta_4 PM_{it} + \beta_5 Size_{it} + \beta_6 Aqe_{it} + u_{it} \tag{12}$$

Where

Y_{it} = dependent variable

β_1 = constant term

D_{it} = dummy (pre-acquisition period = 0, post-acquisition period = 1)

$Zise_{it}$ = log of total assets

u_{it} = a random error

2.2.2 Modeling for Empirical Bayesian

As stated previously, a small data sample is used in the study, and the approximation by empirical Bayesian is implemented. The study preferred to use this estimation technique because this method is accurate for this data size. As compared to common OLS methods, this method gives more accurate results and the main reason is that it implements priors (data average). Besides accuracy, it also gives more reliable results because standard deviations decline due to priests.

Now to implement empirical Bayesian, from Equations 1 to 12, the study takes matrix form of Y_{it} (dependent variable). Likewise, the study takes the matrix X_{it} for every dependent variable in their corresponding equation. By calculating the average values of acquired non-financial firms' size, age, and financial ratios, priors are estimated. In order to apply the technique, the averages are taken as $\overline{Y}$ and $\overline{X}$ matrices. $\hat{\beta}$ represents the conventional Bayesian estimate and the below equation is implemented to calculate it.

$$\hat{\beta} = (X'X)^{-1} X'Y \tag{13}$$

$\hat{\beta}$ contains the assumption that it is random normal with prior mean μ and prior variance $\Omega[\hat{\beta} \sim (\mu, \Omega)]$. Whereas the estimates of empirical Bayesian are measured as shown below:

$$\hat{\beta}_{Bayes} = E\left(\beta \big/ \hat{\beta} \right) \tag{14}$$

where

$$E\left(\beta \big/ \hat{\beta} \right) = V\left(\hat{\beta}_{Bayes} \right)[\delta^2 \, (X'X)^{-1} \, \hat{\beta} + \Omega\mu] \tag{15}$$

where

$$V\left(\hat{\beta}_{Bayes} \right) = [\frac{1}{\delta^2} \, (X'X) + \, \Omega^{-1}]^{-1} \tag{16}$$

The t-statistic for Bayesian estimation has been calculated by using the following formula:

$$t_{Bayes} = \frac{\hat{\beta}_{Bayes}}{Se_{Bayes}} \tag{17}$$

where "se" is the standard error.

2.3 Data Collection Method

The study analyses the regression methods of empirical Bayesian estimation and OLS by examining the impact on non-financial companies' financial performance in different sectors due to acquisition during 2005 to 2018 in the Gulf States. The study analysis the profitability, liquidity, and financial leverage ratios by relying on the

financial statements of different companies that are published on the Abu Dhabi Securities Market (ADX), Tadawul Exchange, Boursa Kuwait, Dubai Financial Market (DFM), Bahrain Bourse, Muscat Securities Market, and Amman Stock Exchange, which include the pre-acquisition and post-acquisition years.

2.4 Statistical Analysis Technique

In this study, the ordinary least squares (OLS) method is used that aims at estimating the regression line, which reduces the errors or the total of the major deviations in the points observed in the regression line, thus minimized the summation of squares of differences among calculated value with actual values (Doukas & Travlos, 1988).

The techniques of Empirical Bayes are basically statistical inference methods where the data is used to estimate prior distribution. But the typical Bayesian technique is different, as in that technique before any data observation, the prior distribution is kept fixed. So, the correspondence between the Bayesian technique and Empirical Bayes can be of approximate one, where the latter act as an estimate hierarchical model in which the values of hierarchy highest level are the estimated one rather than being properly calculated (Carlin & Louis, 2010).

The design of the adapted study is evocative and the main benefit of it will be in the testing of hypotheses. To make the study simplify, the quantitative method is implemented by including an adequate amount of sample size that is supported by this method. The preliminary assortment of data of this study is collected from different firms' annual reports and secondary sources of its books and references. Thus, 23 acquisitions of 46 companies in GCC countries are taken as a sample of this study via targeted sampling. While viewing data access and reliability, firms audited annual reports are considered as the main source for gathering all data so that the data is completely reliable. The EViews software is used to analyze aggregate data through OLS and Bayesian regression analysis.

3. Results

3.1 Data Description

The sample used 46 companies for 23 acquisition cases distributed over the Gulf countries for the period 2005-2018 for four years before and after the acquisition is selected based on available data for companies.

3.1.1 Descriptive Statistics of Variables

Table 1. Descriptive statistics

	AGE	COV	CR	ED	PM	QR	ROA	SIZE
Mean	19.90217	2.830147	1.986546	1.508624	0.319359	1.162105	0.063049	2.395212
Median	16.00000	1.854500	1.384600	1.152600	0.185481	1.231900	0.060959	2.236861
Maximum	48.00000	35.45700	37.14430	26.62260	16.27090	37.14430	0.254492	4.465300
Minimum	0.000000	1.037600	0.036200	0.024800	-1.751100	-39.08500	-0.306959	0.837872
Std. Dev.	13.12700	3.003015	2.897581	2.227480	1.271663	4.581462	0.075818	0.856075
Skewness	0.447568	7.314731	9.832756	8.098201	10.90774	-1.576791	-0.686147	0.462322
Kurtosis	1.857127	77.12318	119.1810	89.44645	136.4408	55.50164	5.624163	2.527903
Jarque-Bera	16.15694	43763.38	106449.9	59304.06	140164.8	21208.82	67.23222	8.263458
Probability	0.000310	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.016055
Sum	3662.000	520.7470	365.5244	277.5868	58.76208	213.8273	11.60100	440.7190
Sum Sq. Dev.	31534.24	1650.313	1536.463	907.9848	295.9341	3841.132	1.051964	134.1143

Table 1 column 1 summarizes the variables' descriptive statistics used and displays every variable mean value. The value of age is 19.90, Interest Coverage ratio (COV) and Debt to Equity (ED) have an average of 2.83 and 1.50 respectively. The Return on Assets (ROA) and Profit Margin (PM) variables have the mean of 0.06 and 0.31 respectively. The mean value of the Current ratio (CR) and Quick ratio (QR) stood at 1.98 and 1.16 respectively. Lastly, on the average, size of the firm has an average of 2.39. The maximum and minimum show the highest and lowest figures in the variables, while the median shows the middle values of the variables after sorting the observation. The measures of central tendency starting with Standard deviation show the deviation of each of the variables from the mean. Age has the largest deviation from the mean value with 13.2, followed by Quick ratio (QR) with the value of 4.5. As regarding the skewness, the normal skewness value is 0. Age and size data are close to being normally skewed. Kurtosis calculates the series distribution peak or planeness and the value of 3

implies the distribution is mesokurtic. However, all the variables are leptokurtic (which means there are higher values than the sample mean for the variables) as their kurtosis value exceeds 3 except for the Age and Size, meaning they are platykurtic. The statistics of Jarque-Bera calculate the difference between series kurtosis and skewness with normal distribution. Jaeque-Bera's null hypothesis is that the distribution is normally distributed, but with all the variables having a p-value < 0.05, the study concludes that the variables are not normally distributed.

3.1.2 Correlation Analysis of Variables

Table 2. Correlation matrix

Correlation Probability	ROA	SIZE	QR	PM	ED	CR	COV	AGE
ROA	1.000000							

SIZE	0.052314	1.000000						
	0.4806	-----						
QR	0.305316	0.022220	1.000000					
	0.0000	0.7646	-----					
PM	-0.078417	-0.068915	0.144746	1.000000				
	0.2900	0.3526	0.0500	-----				
ED	-0.304410	0.011456	-0.116776	-0.045459	1.000000			
	0.0000	0.8773	0.1144	0.5400	-----			
CR	0.281608	-0.130765	0.663869	0.132394	-0.103320	1.000000		
	0.0001	0.0768	0.0000	0.0732	0.1628	-----		
COV	0.430015	-0.272254	0.580646	0.075490	-0.268724	0.873514	1.000000	
	0.0000	0.0002	0.0000	0.3085	0.0002	0.0000	-----	
AGE	0.048005	-0.071246	0.288920	0.173093	-0.208484	0.295967	0.218823	1.000000
	0.5176	0.3365	0.0001	0.0188	0.0045	0.0000	0.0028	-----

Table 2 provides the variables correlation analysis. When there exists a high correlation between two independent variables, the problem of multicollinearity makes the variable insignificant by increasing its standard error. The analysis suggested both positive and negative relationships exist among each of the variables.

3.2 Regression Estimation and Inferencing

3.2.1 Impact of Acquisition on Financial Performance: OLS Used for Regression Analysis

In getting the leverage, profitability, and liquidity impact by acquisition captured by ED and COV, PM and ROA, and CR and QR respectively is estimated using OLS regression analysis. In line with the work of Mogla and Singh (2010) and some slight modifications, the study projected leverage, profitability, and liquidity as two models each. To analyze the strength of our results, the study approximated different conditions in the model.

3.2.1.1 Impact of Acquisition on Profitability (ROA and PM)

Table 3. OLS result for impact of acquisitions on profitability: ROA

S/N	Variables	Coefficient	t-values	p-values
1	Constant	-0.004837	-0.221116	0.8253
2	Dummy (pre = 0, post =1)	-0.013064	-1.292363	0.1979
3	Liquidity: CR	-0.014059	-3.469466	0.0007
4	Liquidity: QR	0.002474	1.723201	0.0866
5	Leverage: ED	-0.003784	-1.534542	0.1267
6	Leverage: COV	0.021578	5.469995	0.0000
7	Size	0.019328	3.104358	0.0022
8	Age	-0.000110	-0.269206	0.7881
R-squared = 0.308			F-Test = 11.240 (p-value = 0.0000)	

In analyzing the acquisitions' impact on the profitability of acquired firms, two variables, i.e., Returns on Asset

(ROA) and Profit Margin (PM) are used to proxy profitability. Table 3 shows the OLS result with the dependent variable as ROA. The dummy variable comes out with a coefficient of -0.013 and a p-value of 0.197, which means that the acquisition has a negative impact on ROA, however, it is statistically insignificant. CR which is the first yardstick to evaluate liquidity shows a negative relationship with the coefficient – 0.0140 and it is statistically significant. This implies that when the ratio of the current asset to current liabilities of the acquired companies increases by one unit, the profitability of the firm will reduce by 14%.   ED which is the first proxy of leverage is also negative but not significant, as the p-value > 5%. QR and COV are both positive with the coefficient 0.002 and 0.026 respectively, but the latter is statistically insignificant and the former was significant. This implies that QR has a large impact on ROA. The firm size impact of ROA was also positive and significant with a p-value of less than 5%. With ROA as the dependent variable age presents a negative link, but it's insignificant. The R-square also describes that the model captured 30% of the explained variable. The F-statistics and its statistically substantial probability value show that the model is a better fit and conforms to the OLS assumption.

Table 4. OLS result for impact of acquisitions on profitability: PM

S/N	Variables	Coefficient	t-values	p-values
1	Constant	0.609916	1.423903	0.1562
2	Dummy (pre = 0, post =1)	0.143695	0.726033	0.4688
3	Liquidity: CR	0.115025	1.449785	0.1489
4	Liquidity: QR	0.030553	1.086973	0.2785
5	Leverage: ED	-0.038815	-0.803833	0.4226
6	Leverage: COV	-0.124315	-1.609505	0.1093
7	Size	-0.169007	-1.386427	0.1674
8	Age	0.009486	1.189506	0.2358
R-squared = 0.058		F-Test = 1.55 (p-value = 0.1514)		

Similarly, the study estimated the same equation by making Profit Margin (PM) as the dependent variable and the result of the regression is shown in Table 4. The result obtained from the PM equations also shows that the dummy variable which is used to capture the impact of the acquisition has a positive and insignificant p-value. Having the dummy variable p-value for the two proxies of profitability coming out negative, positive, and all insignificant, the study can conclude that the profitability of the acquired firms is not affected by the acquisition of the firms. Liquidity with respect to CR and QR comes out positive with the co-efficient values of 0.115 and 0.030 respectively, but their impact is statistically insignificant. More from the result, the proxies of Leverage, ED, and COV show a negative relationship with PM, but just like the Liquidity proxies, their values are not substantial based on statistics. The firm's size has a negative relation with PM, while age shows a positive relationship and their coefficient values are -0.169 and 0.009 respectively. This outcome is matching to the calculations of Kumar et al. (2008) who did not find a substantial alteration in the organization's performance.

Overall, the firm's profitability does not have a substantial impact on acquisition in terms of ROA and PM.

3.2.1.2 Impact of Acquisition on Liquidity (CR and QR)

To study the acquisitions' impact on the liquidity status of acquired firms, two regressions are run with CR and QR as the dependent variable of each equation. The result is described in Table 5 and Table 6.

Table 5. OLS result for impact of acquisitions on liquidity: CR

S/N	Variables	Coefficient	t-values	p-values
1	Constant	-2.437222	-6.833175	0.0000
2	Dummy (pre = 0, post =1)	-0.573538	-3.120176	0.0021
3	Profitability: ROA	-4.004644	-2.912421	0.0041
4	Profitability: PM	0.109936	1.531462	0.1275
5	Leverage: ED	0.217678	4.982569	0.0000
6	Leverage: COV	0.948978	26.11746	0.0000
7	Size	0.546943	4.906760	0.0000
8	Age	0.030335	4.197134	0.0000
R-squared = 0.84		F-Test = 133.16 (p-value = 0.0000)		

The result shows that the acquisition for the firms has a statistically substantial impact on the firm's liquidity (CR) as the dummy variable comes with a p-value of 0.002 and it is a negative one with the coefficient value of -0.573. This implies that the acquisition has an adverse effect on the CR of the acquired firms. The profitability indicator in terms of ROA shows a negative but statistically significant relationship with the dependent variable CR. While profitability in terms of profit margin shows a positive relationship with the liquidity of the firm but it is not prominent based on statistics as the p-value > 5%. ED and COV have a very high statistical significance on liquidity with a coefficient of 0.217 and 0.948 respectively. Similarly, leverage, size, and age also show a high statistical significance on the acquired firms' liquidity. The coefficient of the variables also shows a positive relationship between age, size, and liquidity in terms of CR of the acquired firms. The model with an R-square of 0.84 shows that the independent variables explained 84% of the dependent variable and it has a good fit, as the F-test is statistically significant.

Table 6. OLS result for impact of acquisitions on liquidity: QR

S/N	Variables	Coefficient	t-values	p-values
1	Constant	-5.649061	-5.479964	0.0000
2	Dummy (pre = 0, post =1)	-1.486857	-2.798726	0.0057
3	Profitability: ROA	3.711722	0.933985	0.3516
4	Profitability: PM	0.342403	1.650360	0.1007
5	Leverage: ED	0.257205	2.037006	0.0431
6	Leverage: COV	0.934070	8.894631	0.0000
7	Size	1.166632	3.621268	0.0004
8	Age	0.069606	3.332212	0.0011
R-squared = 0.44		F-Test = 20.01 (p-value = 0.0000)		

QR is used as the dependent variable in which ROA, PM, ED, COV, size, and age serve as the independent variable with the dummy used for capturing the impact of pre-acquisition and post-acquisition on the firms.

The result as presented in Table 6 shows the coefficient of the dummy with a value of -1.486 and a p-value of 0.005 will be substantial based on statistics. This means that the acquisition has a negative effect on the liquidity in terms of QR and the impact is significant on the firms. Profitability captured by ROA and PM both shows a positive effect on QR, but they are statistically insignificant. Leverage in terms of ED and COV both shows a positive and substantial impact on the QR. Furthermore, the impact of acquired firms' liquidity in terms of age and size as independent variables also has a positive and substantial impact based on statistics. It is depicted that model is a better fit because the model's determinant coefficient shows that 44% of the dependent variables show F-statistics with a coefficient of 20.01 and a p-value of 0.0000.

3.2.1.3 Impact of Acquisition on Leverage (ED and COV)

Under this section, the study investigates the acquired firms' financial performance regarding leverage status, which is proxy by Debt to Equity ratio (ED) and Coverage (COV). Table 7 shows the OLS regression result when ED is the dependent variable.

Table 7. OLS result for impact of acquisitions on leverage: ED

S/N	Variables	Coefficient	t-values	p-values
1	Constant	2.521596	4.415593	0.0000
2	Dummy (pre = 0, post =1)	0.512149	1.615931	0.1079
3	Profitability: ROA	-9.173544	-4.190759	0.0000
4	Profitability: PM	-0.077710	-0.617916	0.5374
5	Liquidity: CR	0.020033	0.268117	0.7889
6	Liquidity: QR	0.017649	0.372295	0.7101
7	Size	0.006500	0.034767	0.9723
8	Age	-0.037268	-2.924111	0.0039
R-squared = 0.146		F-Test = 4.323 (p-value = 0.00019)		

From the result presented in Table 7, the dummy variable which shows the impact of the acquisition on the firms comes with a positive coefficient of 0.5121 and a p-value of 0.107. This shows that the firm's leverage status

does not have a prominent impact on the acquisition even though its effect is positive. Profitability with respect to ROA and PM shows a negative relationship with leverage. ROA has a coefficient of -9.173 and the p-value < 5% meaning ROA has a prominent effect on the acquired firms, while on the contrary, PM is not statistically significant. CR and QR representing liquidity have a positive but statistically insignificant relationship with the dependent variable. Age has a negative effect on the Debt to Equity (ED) of the acquired firms and its impact is significant with the p-value of 0.003. The overall model appears as a good fit with the probability value of the F-test which is also substantial based on statistics.

Table 8. OLS result for impact of acquisitions on leverage: COV

S/N	Variables	Coefficient	t-values	p-values
1	Constant	2.258837	6.800632	0.0000
2	Dummy (pre = 0, post =1)	0.537646	2.916577	0.0040
3	Profitability: ROA	8.558990	6.722467	0.0000
4	Profitability: PM	-0.051623	-0.705751	0.4813
5	Liquidity: CR	0.819193	18.85006	0.0000
6	Liquidity: QR	0.010899	0.395298	0.6931
7	Size	-0.676932	-6.225681	0.0000
8	Age	-0.012024	-1.621958	0.1066
R-squared = 0.84		F-Test = 133.16 (p-value = 0.0000)		

Looking at the other variable COV, which is used to proxy the acquired firms' leverage status, the outcome of the OLS estimate is presented in Table 8 with ROA, PM, CR, QR, size, and age as the dependent variable with the dummy used for capturing the impact of before and after acquisitions on the firms. The dummy variable has a coefficient of 0.537 and a p-value of 0.004 which is lesser than 5%. This shows that the acquisition of the firms actually has a positive and prominent effect on the leverage status in correspondence to the COV. It is also detected that profitability with respect to ROA is positive and has a substantial impact on the explained variable. But in terms of PM, profitability has a negative effect that is not substantial. Liquidity has a positive relationship with leverage position in terms of COV in both CR and QR, but the former is statistically significant while the latter is not having a significant impact. In this model, size is statistically significant and has a negative relationship, while age is having a negative relationship but is not statistically significant. A high proportion of the dependent variable is described by the model as the R-square is 0.84 and a good fit with the F-statistic having a significant p-value.

Conclusively under the examination of leverage impact by acquisitions of the acquired firms, it can be said that the possibility for acquisitions to have an effect is simple on the leverage position, as the p-value of both variables used to proxy leverage are not statistically significant.

3.2.2 Impact of Acquisition on Financial Performance: Regression Analysis Using Empirical Bayesian (EB) Estimation Results

When the sample size of a study is small, the result of OLS may not be so much precise and reliable. Therefore, the study carried out empirical Bayesian that can provide us a more reliable and precise result than the OLS estimate. The sample size used includes 23 non-financial merged firms. Using the 6 equations described in the methodology chapter which are used for OLS regression, the study applies the method of Bayesian estimation.

3.2.2.1 Impact of Acquisition on Profitability (ROA and PM)

Table 9. Bayesian result for impact of acquisitions on profitability: ROA

S/N	Variables	Coefficient	t-values	p-values
1	Constant	-0.044655	-1.917019	0.0571
2	Dummy (pre = 0, post =1)	-0.000594	-0.057787	0.9540
3	Liquidity: CR	0.005363	0.985239	0.3261
4	Liquidity: QR	0.002167	1.577492	0.1167
5	Leverage: ED	-0.001259	-0.525866	0.5997
6	Leverage: COV	0.024634	5.782583	0.0000
7	Size	0.020553	3.213791	0.0016
8	Age	-0.000884	-2.051350	0.0419
R-squared = 0.37		F-Test = 13.1(p-value = 0.0000)		

To analyze the acquisition impact on the profitability of the acquired firms, Bayesian linear regression is used to estimate ROA and PM as dependent variables. Table 9 presents the Bayesian linear regression result with ROA as the dependent variable. The dummy variable comes out with a negative coefficient but is not statistically significant, which means that the acquisition does not have a prominent impact on ROA. Liquidity has a positive impact on profitability, but it is not prominent. Also, leverage position shows positive and negative impact with ED which is the first proxy of leverage having a negative effect on ROA but not significant (as the p-value > 5%). COV shows a statistically significant positive impact on profitability. The firm size impact of ROA is also positive and statistically significant with the p-value < 5%. With ROA as the dependent variable, age exhibit a negative link with it, but this relation is insignificant. The R-square reveals that the model explained 37% of the dependent variable. Comparing this result with that of the OLS estimate of ROA as the dependent variable, it is seen that the result possesses similarities in direction and impact.

Table 10. Bayesian result for impact of acquisitions on profitability: PM

S/N	Variables	Coefficient	t-values	p-values
1	Constant	0.719324	1.464453	0.1451
2	Dummy (pre = 0, post =1)	0.117724	0.521431	0.6028
3	Liquidity: CR	0.127374	1.447249	0.1499
4	Liquidity: QR	0.027547	0.908299	0.3651
5	Leverage: ED	-0.044605	-0.854180	0.3943
6	Leverage: COV	-0.133357	-1.556392	0.1217
7	Size	-0.198546	-1.403655	0.1624
8	Age	0.009728	1.072286	0.2853
R-squared = 0.049			F-Test = 1.14 (p-value = 0.3351)	

Furthermore, on profitability, the study estimated the same equation by making PM the dependent variable. Table 10 shows the Bayesian linear regression result with liquidity (CR and QR), Leverage (ED and COV), size, and age as the independent variable. The result obtained from the PM equations also shows that the dummy variable which is used to capture the impact of the acquisition has an insignificant p-value and the study can conclude that acquisition has no impact on profitability. Liquidity which is proxy by CR and QR has a positive impact but statistically insignificant impact on profitability. Leverage which is captured by ED and COV shows a negative relationship with profitability and is not statistically significant. The size of the firms has a negative relation with PM while age shows a positive relation, and their coefficient values are -0.198 and 0.009 respectively. This result like the ROA is consistent with the OLS regression result.

Overall, there is no substantial acquisitions impact on the profitability of the firms with respect to ROA and PM.

3.2.2.2 Impact of Acquisition on Liquidity (CR and QR)

In examining the acquisitions' impact on liquidity status of acquired firms, two Bayesian regression is estimated with CR and QR as the dependent variable of each equation. The outcomes are shown in Table 11 and Table 12 for every variable.

Table 11. Bayesian result for impact of acquisitions on liquidity: CR

S/N	Variables	Coefficient	t-values	p-values
1	Constant	-2.598559	-6.683709	0.0000
2	Dummy (pre = 0, post =1)	-0.456049	-2.256525	0.0255
3	Profitability: ROA	-4.390285	-2.897950	0.0043
4	Profitability: PM	0.103093	1.393247	0.1656
5	Leverage: ED	0.208160	4.576487	0.0000
6	Leverage: COV	0.951653	25.55423	0.0000
7	Size	0.605091	4.944971	0.0000
8	Age	0.028727	3.624178	0.0004
R-squared = 0.79			F-Test = 117.5 (p-value = 0.0000)	

Table 11 shows the result in which acquisition for the firms has a substantial impact on liquidity based on statistics in terms of CR of the firm, as the dummy variable is statistically significant though the impact is a

negative one with the coefficient value of -0.456. This implies that the acquisition has an adverse effect on the Current ratio (CR) of the acquired firms. The profitability indicator in terms of ROA is statistically significant with the dependent variable CR and has a positive effect. Profitability as a proxy by Profit Margin (PM) shows a positive but ineffective link with the liquidity of the firm, as the p-value > 5%. Leverage has a very high statistical significance on liquidity and its impact on the dependent variable is positive. Similarly, leverage, size, and age also show a high statistical significance on the acquired firms' liquidity. The coefficient of the variables also shows a positive relationship between age, size, and liquidity in terms of CR of the acquired firms. The result matches with OLS regression with a slight difference in sign and size of the independent variables.

Table 12. Bayesian result for impact of acquisitions on liquidity: QR

S/N	Variables	Coefficient	t-values	p-values
1	Constant	-5.918338	-5.100898	0.0000
2	Dummy (pre = 0, post =1)	-1.466650	-2.431740	0.0162
3	Profitability: ROA	4.240419	0.937927	0.3498
4	Profitability: PM	0.319921	1.448781	0.1494
5	Leverage: ED	0.241837	1.781637	0.0768
6	Leverage: COV	0.930026	8.368378	0.0000
7	Size	1.264077	3.461613	0.0007
8	Age	0.074049	3.130385	0.0021
R-squared = 0.32		F-Test = 17.5 (p-value = 0.0000)		

In the other equation of liquidity, the quick ratio (QR) is used as the dependent variable in which ROA, PM, ED, COV, size, and age serve as the explanatory variables. The result as presented in Table 12 shows the coefficient of the dummy to be negative and statistically significant with a p-value of 0.016. This means that the acquisition has a negative effect on the liquidity in terms of QR and the impact is significant on the liquidity of firms. ROA and PM used to capture profitability both show a positive effect on QR, but they are statistically insignificant. Leverage in terms of ED and COV both show positive but present an ineffective effect on the liquidity with respect to QR. Furthermore, age and size as independent variables also show a positive but prominent effect on the liquidity of the acquired firms. The model's determinant coefficient demonstrates that 32% of the variables that are dependent, which are described by the independent variables, and the result confirms the consistency between the regression methods.

3.2.2.3 Impact of Acquisition on Leverage (ED and COV)

The study examines the financial performance of acquired firms with respect to leverage position which is proxy by ED and COV. Table 13 and 14 describes the Bayesian regression result with ED and COV as the dependent variable respectively.

Table 13. Bayesian result for impact of acquisitions on leverage: ED

S/N	Variables	Coefficient	t-values	p-values
1	Constant	2.689691	4.172385	0.0001
2	Dummy (pre = 0, post =1)	0.558535	1.553377	0.1224
3	Profitability: ROA	-10.13586	-4.099462	0.0001
4	Profitability: PM	0.101354	-0.762091	0.4472
5	Liquidity: CR	0.026980	0.341236	0.7334
6	Liquidity: QR	0.015636	0.310425	0.7567
7	Size	-0.021310	-0.100494	0.9201
8	Age	-0.042682	-2.987299	0.0033
R-squared = 0.15		F-Test = 6.3 (p-value = 0.00042)		

From the result presented in Table 13, acquisition of the firms does not have a noteworthy impact on the leverage status of the firms, as the dummy variable which shows the impact of the acquisition on the firms comes with a p-value > 5% and a positive coefficient of 0.55. Profitability proxy by ROA and PM shows a positive and negative relationship with leverage respectively, however, only ROA is statistically significant. The Current and Quick ratios representing liquidity have a positive but statistically insignificant relationship with the dependent variable. So, the size of the firm is not statistically insignificant on leverage. Age has a negative effect on the ED of the merged firms and its impact is statistically significant with the p-value < 5%.

Table 14. Bayesian result for impact of acquisitions on leverage: COV

S/N	Variables	Coefficient	t-values	p-values
1	Constant	2.346675	6.417130	0.0000
2	Dummy (pre = 0, post =1)	0.411169	2.015823	0.0456
3	Profitability: ROA	8.964943	6.391748	0.0000
4	Profitability: PM	-0.042288	-0.560511	0.5760
5	Liquidity: CR	0.831910	18.54799	0.0000
6	Liquidity: QR	0.011391	0.398656	0.6907
7	Size	-0.710777	-5.908767	0.0000
8	Age	-0.009977	-1.230929	0.2202
R-squared = 0.75		F-Test = 124.3 (p-value = 0.0000)		

In Table 14, COV that is implemented to proxy the leverage status of the acquired firms alongside ED, the outcomes of Bayesian estimate are presented with ROA, PM, CR, QR, size, and age as dependent variables with the dummy used for capturing the acquisitions' impact on the firms. The dummy variable has a coefficient of 0.41 and a significant p-value which shows that the acquisition of the firms actually has a positive and prominent effect on the leverage status of the firm in correspondence to the COV. Along with that, profitability in terms of ROA is positive and has a prominent effect on the explained variable but in terms of PM, profitability has a negative insignificant effect. Liquidity has a positive relationship with leverage position in correspondence to COV in both CR and QR with CR to be significant and QR is insignificant based on statistics. The result obtained also shows that size is statistically significant while age is having a negative relationship also but not statistically significant. This result is also consistent but partly as some of the signs in the result are different.

4. Discussion

This study work analyzed the impact of acquisitions on the financial performance of companies in the Arab Gulf States. The study uses 8 years' data of 23 acquired firms from the deals carried out during 2005-2018 is taken as analysis data. OLS regression and Bayesian linear regression techniques are used to examine the effect of the acquisition on the liquidity, profitability, and leverage of the firms.

From the result gathered in this study, the opinion that acquisitions do not affect the profitability of the firm is formed which matches the opinion of Mogla and Singh (2010). Looking at the impact of the acquisition on leverage, the Interest Coverage ratio (COV) is been positively impacted by the acquisition but the Debt to Equity ratio (ED) is not impacted by the acquisition. Furthermore, the acquisition has a negative impact on the firm leverage. The findings of both OLS and the Bayesian have some differences, but the similarity of the two results exceeds the difference. Therefore, it can be concluded that the Bayesian method is partially consistent with the OLS results. In general, it can be narrated that acquisition does not significantly affect the financial performance of companies.

Considering the benefits attached to the acquisition, the firms have the possibility to increase capital, increase business potentials, have more advantage over their competitors, increase sales performance, and many others. Based on the findings of this study work, it is recommended that decision-makers have a close follow-up of personnel in their various assignments to accomplish the objective of acquisition. Also, special attention should be given to the liquidity and leverage position of a firm when preparing for an acquisition, as the variables respond to the stimulus of acquisition.

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