THE EFFECT OF ACQUISITIONS ON FINANCIAL EFFICIENCY OF VIETNAMESE LISTED COMPANIES

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Abstract

The authors carried out a research project on the impact of acquisitions on the financial performance of Vietnamese listed companies. The sample includes 20 non-financial companies listed on the Hanoi Stock Exchange (HNX) and Ho Chi Minh City Stock Exchange (HSX) from 2010 to 2019. Firstly, the results have shown that acquisitions have a negative effect on profitability, particularly ROA and PM of Vietnamese non-financial companies and at the same time, raise pessimistic views to the debt-to-equity ratio. However, the age of the acquisitions show little to none effects on the aforementioned. Finally, acquisitions' impacts on the liquidity of Vietnamese non-financial firms are negligible, despite margins, leverage, and firm size all positively affect the company liquidity. Thereby suggesting that by commencing acquisitions, Vietnamese companies can afford to save cost of debt and expenses.

Keywords: *Acquisitions, financial efficiency, profitability, liquidity, leverage, Vietnam.*

1. Introduction

The world has a tendency to move towards economic globalization as a result of the impact of trade in general and particularly, free trade. Mergers and acquisitions (M&A) are one of the outstanding activities that catch up with this globalization trend, which have had high growth prospects around the world in recent years. Large and well-known deals have taken place in the banking sector (ABN Amro & Barclays PLC, 2007), the technology sector (Antel, TPG Capital & Goldman Sachs), and the marketing sector of technology companies (Salesforce & Alibaba, 2018). There have been many studies around the world regarding the topic of M&A, notable mentions are (Singh & Mogla, 2010) comparing the performance of

the company before and after the merger of the target companies in India, (Chang & Tsai, 2012) studying on the long-term performance of consolidated companies over the period of 1990 to 2007 or (Gugler, Mueller, Yurtoglu & Zulehner, 2003) contributing a large international assessment of the impact of mergers on profits from 1981 to 1998. In Vietnam, M&A activities and their impacts have also been studied by a few authors, one of the highlights is "Analysis of the impact of mergers and acquisitions activities on the performance of listed companies." by Nguyen Thanh Nhan (2019).

During the current economic crisis related to the issue of maintaining business operations, especially concerning the survival of businesses when the COVID-19 pandemic occurred and has had a great impact on the world economy. The emerging economy of Vietnam in particular, which comprises mostly small and medium-sized enterprises, will be more susceptible to the negative impacts of this threat. Therefore, M&A are considered to be able to create waves of corporate restructuring, which will contribute to the improvement of structure, openness, connection, and the ability to participate in the global supply chain individually of each company in particular and the economy in general. Especially, in the context that Vietnam is a country with developing economy aiming to join the world globalization trend. According to Quartz, the globalization situation in Vietnam is quite good, as evidenced by the fact that in 2017, Vietnam's trade-to-GDP ratio reached more than 200%. Mergers and acquisitions activities have attracted more attention since the inception of the Enterprise Law in 1999 and have become more active in recent years with a rapid growth in both quantity and scale. According to the Vietnam M&A Market Overview report in 2018, in the past 10 years, specifically from 2009 to 2018, the country had 4,353 M&A deals with a total value of 48.8 billion USD. In 2019, there were 10 outstanding M&A deals, focusing on consumer goods, retail, finance, banking, and real estate.

Inheriting the research of Abdul Rashid and Nazia Naeem (2016), we carry out the study to analyze the impact of acquisition activities on the financial performance of non-financial enterprises, an ongoing activity with more popularity than mergers in Vietnam. Specifically, throught the assessment of the impact of acquisitions on important financial ratios indicating the financial performance of the companies such as *Profitability Ratios* (Return on Assets and Profit Margin), *Leverage Ratios* (Debt-to-Equity Ratio and Interest Coverage Ratio) and *Liquidity Ratios* (Current Ratio and Quick Ratio). Some related research results are worth mentioning, such as the study of Chatfield, Dalbor, Ramdeen and Harrah (2011) on the financial situation in the form of abnormal profits, from which results showed that the target audience in the restaurant has received considerably positive returns from the aggregate benefits of the acquisition; in addition, Leepsa and Mishra (2012) examined the effects on post-acquisition financial performance in manufacturing firms in India. Their results showed that the financial performance of the company after the

acquisition has improved in terms of liquidity, which is the current ratio, quick ratio and return on assets, but most of the results are not statistically significant. .

We conduct the research with the desire to give managers a clearer and more objective view of the impact of acquisitions in order to propose better business and restructuring methods and policies timely and precisely for the state of the business in the current epidemic context. At the same time, the research results can contribute to the those research documents regarding the impact of M&A on the Vietnamese market to help investors identify the market and make effective investment decisions, which is beneficial for individual investors in particular and corporate strategy managers in general.

2. Methodology

2.1. Data

The study uses data of 20 non-financial companies listed on Hanoi Stock Exchange (HNX) and Ho Chi Minh City Stock Exchange (HSX) during the period from 2010 to 2019. The data extracted from the financial statements of these companies is collected on web portals such as: https://vietstock.vn/, https://cafef.vn/, https://www.stockbiz.vn/, https://www.cophieu68.vn/. Also, we remove the companies which lack of information during the research period and financial companies from our sample since the specific characteristics of these types of companies may falsify the research results, in other words, we select non-financial listed companies for our research sample. Besides, we use 2-year pre and post-acquisition average of financial ratios in our empirical analysis so that our priorities are the companies which made the acquisitions in the period from 2012 to 2017.

2.2. Research models

The study examines the change of the following ratios capable of assessing the financial performance of the companies:

i. The Profitability Ratios include Return on Asset (ROA) and Profit Margin (PM);

ii. The Leverage Ratios include Debt-to-Equity Ratio (DE) and Interest Coverage Ratio (COV);

iii. The Liquidity Ratios include Current Ratio (CR) and Quick Ratio (QR).

In addition to the above financial ratios, we include different control variables in the models which are the firm age (Age), the firm size (Size) and dummy variable in order to ensure the robustness of the results and reduce the possibility of multicollitnearity in the same way of Abdul Rashid and Nazia Naeem (2016). The specific calculations of the variables are represented in Table 1.

Table 1. Formula for calculating variables in the research model

VARIABLE	VARIABLE'S NAME	MEASURE
ROA	Return on Assets	$ROA = \dfrac{Net\ profit}{Total\ assets}$
PM	Profit Margin	$PM = \dfrac{Rate\ of\ return}{Revenue}$
DE	Debt-to-Equity Ratio	$DE = \dfrac{Liabilities}{Equity}$
COV	Interest Coverage Ratio	$COV = \dfrac{EBIT}{Interest\ expense}$
CR	Current Ratio	$CR = \dfrac{Current\ assets}{Current\ liabilities}$
QR	Quick Ratio	$QR = \dfrac{Current\ assets\ -\ Inventory}{Current\ liabilities}$
Age	The age of the company	Age is calculated from the date that the company was listed on the HSX or HNX until it made the acquisition
Size	The size of the company	$Size = \ln(Total\ assets)$
D	Dummy variable	Dummy variable has the value 0 in the pre-acquisition period and 1 the post-acquisition period

Inheriting the research of Abdul Rashid and Nazia Naeem (2016), we use different regression models by considering profitability, leverage and liquidity ratios respectively as the dependent variables respectively and altering the independent variables (or called control variables) which are the other ratios different from the dependent variable. Also, the other control variables included in the models such as the firm age, firm size and dummy variable.

The study uses Ordinary Least Squares Method (OLS) and empirical Bayesian estimation to enrich our research. Bayesian estimation provides precise results as compared

to the traditional OLS technique because it used priors (average of data) that made the results had been more reliable as the standard deviations tend decrease due to priors.

Model of the impact of acquisitions on profitability

To examine the impact of acquisition deals on profitability in terms of return on assets (ROA) and profit margin (PM), we estimate the following equations:

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

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

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

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

Inside:

Subscripts i and t represent the i-th company and the t-order time respectively.

u_{it}: Error without mean and constant variance.

Modeling the impact of acquisitions on leverage

To examine the impact of acquisition deals on leverage through debt-to-equity ratio (DE) and interest coverage ratio (COV), we estimate the following equations:

$$Y_{it}(DE) = \beta_1 + \beta_2 D_{it} + \beta_3 CR_{it} + \beta_4 ROA_{it} + \beta_5 Size_{it} + \beta_6 Age_{it} + u_{it} \quad (5)$$

$$Y_{it}(DE) = \beta_1 + \beta_2 D_{it} + \beta_3 QR_{it} + \beta_4 PM_{it} + \beta_5 Size_{it} + \beta_6 Age_{it} + u_{it} \quad (6)$$

$$Y_{it}(COV) = \beta_1 + \beta_2 D_{it} + \beta_3 CR_{it} + \beta_4 ROA_{it} + \beta_5 Size_{it} + \beta_6 Age_{it} + u_{it} \quad (7)$$

$$Y_{it}(COV) = \beta_1 + \beta_2 D_{it} + \beta_3 QR_{it} + \beta_4 PM_{it} + \beta_5 Size_{it} + \beta_6 Age_{it} + u_{it} \quad (8)$$

Model of the impact of acquisitions on liquidity

To examine the impact of acquisition deals on liquidity through the current ratio (CR) and quick ratio (QR), we estimate the following equations:

$$Y_{it}(CR) = \beta_1 + \beta_2 D_{it} + \beta_3 COV_{it} + \beta_4 ROA_{it} + \beta_5 Size_{it} + \beta_6 Age_{it} + u_{it} \quad (9)$$

$$Y_{it}(CR) = \beta_1 + \beta_2 D_{it} + \beta_3 DE_{it} + \beta_4 PM_{it} + \beta_5 Size_{it} + \beta_6 Age_{it} + u_{it} \quad (10)$$

$$Y_{it}(QR) = \beta_1 + \beta_2 D_{it} + \beta_3 COV_{it} + \beta_4 ROA_{it} + \beta_5 Size_{it} + \beta_6 Age_{it} + u_{it} \quad (11)$$

$$Y_{it}(QR) = \beta_1 + \beta_2 D_{it} + \beta_3 DE_{it} + \beta_4 PM_{it} + \beta_5 Size_{it} + \beta_6 Age_{it} + u_{it} \quad (12)$$

Modeling for empirical Bayesian

In order to apply the empirical Bayesian estimation, from equations (1) to (12), we take the dependent variable Y_{it} in the form of a matrix and all of the control variables in their respective equations are considered X_{it} matrix. Priors are estimated by taking the average

values of the financial ratios, age and size of the firms in our sample. These average values are considered as $\overline{Y}$ and $\overline{X}$ matrices to apply the empirical Bayesian estimation.

3. Results

3.1. Descriptive statistics

The result of the descriptive statistics shows that the return on asset (ROA) of these companies makes up an average of 6.87%. The DE ratio has the mean value (1.1949) very close to the minimum value (0.0626), which shows that most of the Vietnamese listed non-financial companies are financing their main business with shareholders' equity. In general, companies have less solvency because the mean value of CR variable (2.3260) is close to the minimum value (0.3986). The firm age (Age) has a huge disparity among the companies in the sample. Firm sizes are quite similar when the mean size (28) is moderately different from the maximum and the minimum value of variable.

Table 2. Descriptive statistics

Variable	n	Mean	S.D.	Min	0.25	Mdn	0.75	Max
ROA	200	0.0687	0.0653	-0.1266	0.0251	0.0537	0.1167	0.2670
PM	200	0.0772	0.0749	-0.1060	0.0217	0.0570	0.1211	0.3583
DE	200	1.1949	1.2240	0.0626	0.3653	0.7703	1.6343	7.4650
COV	200	128.8517	998.8131	-1.2e+02	0.9394	3.1401	10.5173	1.3e+04
CR	200	2.3260	1.5220	0.3986	1.2510	1.9052	2.8963	8.9030
QR	200	1.6363	1.4359	0.0754	0.6282	1.1992	2.2875	8.8592
Age	200	24.5500	12.9163	5.0000	13.5000	23.5000	34.0000	60.0000
Size	200	28.0060	1.4723	24.9354	27.1326	27.9371	28.6851	31.7680

Source: Stata 16 software results

3.2. Regression results according to Ordinary Least Squares Method (OLS)

Impact of acquisitions on profitability (ROA and PM)

Table 3 shows that acquisitions are at 1% statistically significant and have a negative impact on ROA. The acquisitions have a negative impact on the profit margin (PM) of the acquired companies, which is represented by a coefficient value of negative 0.0406015. Also, financial leverage as debt-to-equity ratio (DE) has a negative effect on PM. As we can see that, after the acquisitions, the profitability has been decreased due to the coefficient value of the dummy variable is negative. Quick ratio (QR) and size of the company have a significant positive effect on profit margin with coefficient values of 0.0225229 and 0.0100218 respectively.

Table 3. Impact of acquisitions on profitability (ROA, PM) represented in equations (1), (2), (3), (4) according to OLS Method

P>|t|	t	Std. Err.	Coef.	PM / ROA	Coef.	Std. Err.	t	P>|t|
0.000	-4.52	0.008992	-0.0406015	D	-0.038417	0.0078252	-4.91	0.000
0.001	3.36	0.003161	0.0106345	CR	0.0082317	0.0027508	2.99	0.003
0.000	-6.01	0.003834	-0.0230251	DE	-0.024254	0.0033362	-7.27	0.000
0.000	4.53	0.003051	0.0138212	Size	0.013243	0.0026546	4.99	0.000
0.011	2.55	0.000342	0.000872	Age	-0.000239	0.0002973	-0.8	0.423
0.000	-3.60	0.08488	-0.3055274	_cons	-0.264756	0.0738627	-3.58	0.000
0.000	-3.96	0.009654	-0.0382603	D	-0.03575	0.008888	-4.02	0.000
0.000	6.45	0.00349	0.0225229	QR	0.017936	0.003213	5.58	0.000
0.170	-1.38	4.58E-06	-6.30E-06	COV	1.17E-06	4.21E-06	0.28	0.781
0.003	3.04	0.003297	0.0100218	Size	0.010484	0.003036	3.45	0.001
0.126	1.54	0.000387	0.0005947	Age	-0.00034	0.000357	-0.94	0.346
0.012	-2.53	0.09193	-0.2324552	_cons	-0.22591	0.084637	-2.67	0.008

Impact of acquisitions on leverage (DE and COV)

Table 4 provides evidence that acquisitions have a significant negative impact on debt-to-equity ratio (DE) because the coefficient of the dummy variable is negative 0.377453 with p-value of 0.016. The PM and the firm age have a significant negative relationship with the debt-to-equity ratio. The relationship between the firm age as well as the firm size with interest coverage ratio (COV) is negative.

Table 4. Impact of acquisitions on leverage (DE, COV) represented in equations (5), (6), (7), (8) according to OLS Method

P>|t|	t	Std. Err.	Coef.	COV / DE	Coef.	Std. Err.	t	P>|t|
0.457	-0.75	157.7967	-117.5812	D	-0.377453	0.1559534	-2.42	0.016
0.662	0.44	1228.612	537.5458	ROA	-8.827487	1.21426	-7.27	0.000
0.560	0.58	52.54179	30.69293	CR	-0.189303	0.051928	-3.65	0.000
0.020	-2.35	52.9868	-124.2566	Size	0.171435	0.0523678	3.27	0.001
0.569	-0.57	5.714224	-3.262071	Age	-0.008511	0.0056475	-1.51	0.133
0.014	2.49	1464.044	3646.969	_cons	-2.137098	1.446942	-1.48	0.141
0.236	-1.19	156.0972	-185.4539	D	-0.336007	0.1647647	-2.04	0.043
0.170	-1.38	1115.175	-1534.301	PM	-7.393779	1.177097	-6.28	0.000
0.093	1.69	59.601	100.5188	QR	-0.143017	0.0629104	-2.27	0.024
0.045	-2.02	52.13062	-105.2463	Size	0.171913	0.0550252	3.12	0.002
0.491	-0.69	6.075412	-4.196761	Age	-0.000409	0.0064128	-0.06	0.949
0.026	2.25	1439.655	3238.229	_cons	-2.614683	1.519593	-1.72	0.087

Impact of acquisitions on liquidity (CR and QR)

The result presented in Table 5 shows that all the independent variables, ROA, COV and Age have a significant positive impact on the current ratio (CR) of the acquiring firms but the firm size. The results of the control variables show that COV is positive related to QR, which is not significant while the return on asset and age of the firm have a positive and statistically significant impact on liquidity position (QR) of the acquired companies.

Table 5. Impact of acquisitions on liquidity (CR, QR) represented in equations (9), (10), (11), (12) according to OLS Method

P>|t|	t	Std. Err.	Coef.	QR CR	Coef.	Std. Err.	t	P>|t|
0.787	0.270	0.191842	0.0519346	D	0.147852	0.2154789	0.69	0.4930
0.000	5.580	1.382213	7.715362	ROA	8.875207	1.552514	5.72	0.0000
0.305	1.030	8.72E-05	0.0000897	COV	0.0000572	0.0000979	0.58	0.5600
0.549	-0.600	0.064809	-0.0388769	Size	-0.126571	0.0727934	-1.74	0.0840
0.000	6.860	0.006651	0.0456183	Age	0.0316039	0.0074709	4.23	0.0000
0.563	0.580	1.785817	1.034024	_cons	4.394068	2.005846	2.19	0.0300
0.992	-0.01	0.187559	-0.0019872	D	0.0113251	0.2086965	0.05	0.957
0.000	4.47	1.384691	6.195902	PM	5.183264	1.540744	3.36	0.001
0.024	-2.27	0.07981	-0.1814355	DE	-0.3439331	0.0888046	-3.87	0.000
0.732	-0.34	0.063498	-0.021815	Size	-0.0679676	0.0706537	-0.96	0.337
0.000	5.23	0.006763	0.0353421	Age	0.0204809	0.0075248	2.72	0.007
0.517	0.65	1.722709	1.11895	_cons	3.730955	1.916857	1.95	0.053

3.3. Regression results according to Empirical Bayesian Estimation (EM)

In Bayesian statistics, drawing conclusions does not depend on the size of the data (Baldwin & Fellingham, 2013; Depaoli & van de Schoot, 2016; Doron & Gaudreau, 2014) and solutions for drawbacks of frequency statistics when population parameters are assumed to be constant but unknown. Therefore, the authors use Bayesian estimation method and Gibbs sampling algorithm to understand the impact of acquisitions on firm performance.

Impact of acquisitions on profitability (ROA and PM)

Table 6 illustrates that acquisitions reduce the profitability of the acquiring company based on the negative coefficient of the dummy variable. The current ratio has a positive effect on the return on assets ratio (ROA). On the other hand, the debt to equity ratio (DE) has a statistically significant and negative impact on ROA. In addition, firm size and age do

not have a significant impact on profitability. The findings confirm the results of the OLS estimation and these results are in agreement with Loderer & Waelchli (2010).

Table 6. Impact of acquisitions on profitability (ROA, PM) according to Empirical Bayesian method

Median	MCSE	Std.Dev.	Mean	PM ROA	Mean	Std.Dev.	MCSE	Median
-0.04109	0.000624	0.00857	-0.04116	D	-0.0371917	0.008304	0.000791	-0.03731
0.010775	0.000284	0.003079	0.010786	CR	0.0081057	0.002658	0.000128	0.008038
-0.02316	0.000159	0.003766	-0.02324	DE	-0.0241379	0.003286	0.000155	-0.0242
0.013651	0.000124	0.002979	0.013726	Size	0.0133648	0.002799	0.000164	0.013403
0.000882	0.000023	0.000333	0.000877	Age	-0.0002046	0.000297	0.000013	-0.00021
-0.3012	0.003418	0.083115	-0.30248	_cons	-0.2700682	0.077948	0.004589	-0.27112
0.003553	7.90E-06	0.000365	0.003582	Sigma2	0.0027475	0.000282	6.10E-06	0.002725
-0.04021	0.000371	0.009746	-0.04016	D	-0.03699	0.008904	0.00044	-0.03743
0.022661	0.000237	0.003609	0.022745	QR	0.017607	0.003314	0.000181	0.017653
-5.43E-06	2.40E-07	4.46E-06	-5.50E-06	COV	1.78E-06	4.23E-06	2.10E-07	1.70E-06
0.01188	0.000268	0.000965	0.011699	Size	0.012312	0.001668	0.000487	0.012566
0.000617	0.000022	0.000404	0.000624	Age	-0.00026	0.000361	0.000017	-0.00026
-0.28478	0.0073	0.024393	-0.27935	_cons	-0.27785	0.04508	0.013547	-0.28463
0.004038	9.30E-06	0.000413	0.004075	Sigma2	0.003466	0.000353	8.10E-06	0.003442

Impact of acquisitions on leverage (DE and COV)

In Table 7, the results related to control variables such as ROA, CR are similar to the results of OLS. The acquisition reduces the leverage of the debt to equity (DE) ratio. Firm age and profit margin have a negative but almost insignificant effect on the debt to equity ratio of the acquiring company. Firm size has almost no effect on leverage, however, we surprisingly find the impact of quick ratio on debt to equity ratio to be negligible.

Table 7. Impact of acquisitions on leverage (DE, COV) according to Empirical Bayesian method

Median	MCSE	Std.Dev.	Mean	COV DE	Mean	Std.Dev.	MCSE	Median
-85.6269	5.80341	87.64488	-85.0768	D	-0.38167	0.155307	0.00755	-0.39085
2.491845	7.43379	102.2585	0.284038	ROA	-8.87520	1.207331	0.067572	-8.91846
43.28534	1.83179	42.09648	43.58529	CR	-0.18966	0.053678	0.002587	-0.19091
2.842055	0.423402	6.805333	2.740549	Size	0.174793	0.051885	0.002371	0.175174
-1.42274	0.307969	5.715118	-1.20553	Age	-0.00811	0.005595	0.000272	-0.00808

Median	MCSE	Std.Dev.	Mean	COV DE	Mean	Std.Dev.	MCSE	Median
11.28935	4.3325	98.46849	14.34781	_cons	-2.23184	1.428715	0.070435	-2.24234
1001142	2216.5	102747.8	1005975	Sigma2	0.958515	0.09816	0.002232	0.952645
-83.8702	5.34672	83.69683	-83.4722	D	-0.33871	0.162105	0.00664	-0.34132
-10.7746	4.03865	98.75644	-11.9929	PM	-7.37098	1.160827	0.059066	-7.43568
51.87961	2.43983	50.30097	53.61055	QR	-0.14293	0.063413	0.004992	-0.14352
3.552624	0.487491	6.979184	3.544836	Size	0.175194	0.053627	0.003483	0.175757
-1.51718	0.450323	5.874784	-1.61651	Age	-0.00025	0.006407	0.000445	-0.00032
25.88365	6.58212	107.2028	22.6277	_cons	-2.71282	1.482196	0.094379	-2.71497
998753.6	2238.04	103996.6	1006294	Sigma2	1.078899	0.110697	0.002749	1.074256

Impact of acquisitions on liquidity (CR and QR)

Ultimately, the results from Table 8 provide evidences that the impact of acquisitions is positive but not considerable, a finding which is consistent with the OLS estimation results that the authors presented earlier. In particular, it can be observed that the coefficient of the dummy variable is negative, however, it is not statistically significant.

Table 8: Impact of acquisitions on liquidity (CR, QR) according to Empirical Bayesian method

Median	MCSE	Std.Dev.	Mean	QR CR	Mean	Std.Dev.	MCSE	Median
0.023653	0.031237	0.137961	0.029912	D	0.172103	0.187729	0.009154	0.169633
7.148932	0.147837	0.647432	7.085411	ROA	9.23923	0.366795	0.057723	9.237204
7.99E-05	3.40E-06	8.29E-05	7.91E-05	COV	4.69E-05	9.51E-05	3.90E-06	4.37E-05
-0.05702	0.004186	0.016347	-0.05829	Size	-0.13965	0.024275	0.006529	-0.13916
0.045815	0.000206	0.006635	0.045961	Age	0.031619	0.006905	0.000223	0.031635
1.59881	0.136335	0.480758	1.622833	_cons	4.723178	0.686018	0.179974	4.709003
1.429939	0.003495	0.147113	1.440262	Sigma2	1.810287	0.184882	0.00433	1.795468
-0.00558	0.014201	0.193428	-0.00157	D	-0.0115	0.222199	0.015388	-0.00946
6.17549	0.074832	1.420199	6.167458	PM	4.997528	1.547903	0.080411	5.031069
-0.18252	0.003581	0.081343	-0.18238	DE	-0.34305	0.091115	0.003632	-0.34143
-0.02215	0.003159	0.063189	-0.02154	Size	-0.05599	0.078304	0.007702	-0.0565
0.036194	0.000453	0.007016	0.035866	Age	0.020747	0.007908	0.000489	0.020451
1.108815	0.08634	1.727342	1.090366	_cons	3.428449	2.119639	0.202372	3.413143
1.363246	0.003158	0.139507	1.369757	Sigma2	1.698946	0.175554	0.004222	1.684869

4. Discussion and Conclusion

The results of the study on the impact of acquisitions on the profitability of companies are consistent with the study (Pawaskar, 2001), showing that acquisitions do not lead to profit growth. Although the acquisition of a less-growing company helps to increase market share, it also increases costs in the early stages, especially agency costs in the acquired company due to changes in the company's organizational structure... However, quick ratio (QR) and firm size have a statistically significant and positive effect on ROA. At the same time, similar to Loderer & Waelchli (2010) and Singh & Mogla (2008, 2010) studies, the results of traditional OLS methods and Bayesian empirical estimation both prove that acquisitions reduce profit. The study's findings suggest that firms with more liquidity are likely to have higher profit margin, while firms with high debt to equity ratios are likely to have lower profit margin.

From the results of studying the impact of acquisitions on leverage, we conclude that acquisitions have no statistically significant effect on leveraged positions, as measured by COV of acquired companies in Vietnam. But the evidences obtained from the two methods also show that acquisitions have a considerably negative impact on debt to equity (DE) ratio.

Finally, for the liquidity ratio of the sample firms, the acquisitions, although have a positive impact, do not affect substantially to the current ratio and do not have any statistical significance to the quick ratio of the acquired company.

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