

Market Reaction to Mergers and Acquisitions: An Empirical Analysis on Banking Industry in the Asia Pacific Region

Mo Vaziri, Rafiqul Bhuyan^{1*} and I-Chi Yang

We examine the Asia banking acquisitions for the acquiring bank using an event-study methodology. Acquisition announcements are generally associated with a gain in value for the acquirer in the long term. The market reaction of China, Hong Kong and Taiwan are similar to the announcement of bank M&A events. They all have large cumulative abnormal returns after the announcements in the short time or long time period. Singapore is another case. It only reacts 5 to 10 days before the announcement, and there is no reaction after that. The results of Malaysia and Indonesia are different from other four countries. There is insignificant positive or negative performance of cumulative abnormal return to the announcement in Malaysia. But there is significant negative abnormal return from t-30 to t-20 before the announcement in Indonesia on average. Moreover, we also find that cross-border banking acquisitions announcements during 2002 to 2010 in Asia markets are found to be associated with negative cumulative abnormal returns for the acquirer after the announcement, especially most of cross-borders deals happened after year 2007. There are some different market returns results to before and after the sub-prime mortgage crisis of 2008. The bank M&A events do convey significant levels of new relevant information on average around the six Asian countries, and the excessive leakage to the announcements probably did occur.

JEL Classifications: G21, G34

1 Introduction

Asia-Pacific regions have experienced significant rise in the M&A activities during 2001-2009, particularly in Taiwan, Indonesia, Malaysia, China, and Singapore. With relaxed regulations for foreign entrance, many foreign institutions seek growth potential in the region's banks by either forming tie-ups with or taking a stake in

¹Corresponding Author: Professor of Finance, Department of Accounting and Finance, College of Business and Public Administration, California State University, San Bernardino, CA 92407. Tel: 909 537 5789. Fax: 909 537 7514. E-Mail: rbhuyan@csusb.edu.

Vaziri, Bhuyan & Yang

them. In China, the banking industry dominated the M&A scene, as foreign banks continued their march into the mainland. Foreign banks are positioning themselves to tap China's huge growth potential in the areas of credit cards, wealth management and insurance products. Mega mergers between Standard Chartered with Taiwan's seventh largest lender, Hsinchu International Bank (TWN: HIB), China's third largest lender, CCB, with Bank of America Corp's (NYSE: BAC) retail banking operations in Hong Kong and Macau, Citigroup (NYSE: C) with large controlling stake in Guangdong Development Bank, are few to name. Despite widespread uneasiness over the financial market situation around the world during 2007 and 2008, business confidence and optimism among Asia-Pacific countries remain high. Banking M&As in the region continues to be robust. The Asia-Pacific's emerging global champions are continuously seeking opportunities to grow into regional power through aggressive growth plans involving acquisitions. However, during the third quarter of 2008, the Asia-Pacific banking sector has shown signs of pressure particularly as conditions in the international financial markets took a significant turn for the worse. Overall, global M&A activity overall is sluggish during 2009, unlike the level of activity seen during the previous years. However, the banking sector in Asia have benefitted from the disposal of Asian assets and operations which are previously held by troubled western banks to raise cash and consolidate their global businesses to conserve capital.

The purpose of this research is to explore reaction to merger and acquisition announcement by banks in Asia Pacific regions. We investigate both short run and long impact on the stock performance following acquisition announcement from Asia Pacific countries. Mergers and acquisitions in Asia Pacific countries pose different sub-periods. Activities from 2003-2007 has been consistently on the rise and then it starts to drop in 2008-2009 during the worldwide financial crisis. However, merger and acquisition activity due to financial crisis and how and whether they create value to the shareholders either in the short run and or in the long run is an interesting question.

The rest of the paper is designed as follows. Section two offers a survey of the related literature. Section three discusses the data and the methodology used in this research. Section four explains the results of our findings. Finally, the paper ends with some concluding remarks and direction for future research in section five.

2 Literature Review

There is extant literature on the before and after market effects of acquisition announcements. We present a brief summary of selected literature. Moore (1997), shows that larger bank tends to value smaller bank higher than the smaller bank's management does to successfully complete acquisition. Hannan and Pilloff (2007) observe that less profitable banks become target for acquisition and inefficiency is positively related to the probability of acquisition. Knapp et al. (2006) and Koetter et al. (2007) show that acquisitions transfer assets from poorly managed to better managed firms. Hernando, Nieto, and Wall (2009) also suggest the similar pattern. Vergos and Christopoulos (2008) find that bank acquisitions provide a positive effect in the short run, until twenty days after the announcement, but a negative effect in the long run, until ninety days after the announcement. Soussa and Wheeler (2006) study cross border bank acquisitions in emerging markets and observe that bank acquisitions in emerging markets are not beneficial, on average, to an acquiring bank. Pilloff and Santomero (1997) find that productivity based on the acquiring bank's return on assets (ROA) and return on equity (ROE) do not provide any gain in value. Vander Vennet (1996); Berger (2000) find that bank experience improve risk to reward ratio by engaging in geographical diversification. Berger, et al (2000) observe that cross-border mergers offer the potential efficiency gains resulting from economies of scale, scope and product mix. Amihud, et al (2002) find that in cross-border mergers for the acquiring bank the impact on value tends to be negative, but the effect on risk is highly variable and increase the implicit guarantee provided by safety-net arrangements, such as deposit insurance and the lender of last resort, as authorities consider larger, more complex institutions a greater systemic risk. Chari, et al (2004) find that the value creation is positive for both the acquirer and target firm, with the affect on the target firm being approximately twice as large. Rossi and Volpin (2003) find that the volume of cross-border M&A is higher the bigger the difference in investor protection between the acquirer's and target's countries. Brealey and Kaplanis (1996), Yamori (1998), and Buch (2000) all find a positive relationship between host country per capita GDP and bank FDI, suggesting potential profits are an important driver. In a European study Altunbas, et al (1997) use a theoretical method to simulate mergers between major EU banks by combining their balance sheets. They find that the aggregate cost base is more likely to increase than decrease. BIS (2001) reports that the main finding of event studies looking at banks' stock price movements around the time of a merger is that, on average, total stockholder value (i.e. the combined value of the bidder's and the target's stock) is not affected by the

Vaziri, Bhuyan & Yang

announcement of an acquisition. Rossi and Volpin (2004) find that the volume of M&A activity is significantly larger in countries with better accounting standards and stronger shareholder protection suggesting that cross-border transactions play a governance role by improving the degree of investor protection within target firms. Chen et al (2007) find that investors are skeptical of cross-border mergers and acquisitions deals when the government is the majority owner. Andreot al (2004), suggest that Canadian acquirers significantly underperform over three-year post-event period. Choi and Harmatuck, (2006) find the synergistic gains, measured as operating cash flow returns, is not improved significantly after firm integration and that the size of firms dramatically increased after the integration of the firms, and the operating performance was slightly improved compared with that before the event. Viverita studies the effectiveness of economic policy reforms in the Indonesian banking industry. The evidence shows that merger created synergy as indicates by the statistically and significantly increasing the post-merger financial and productive efficiency performances.

This paper analyzes the above issues using a methodology similar to Soussa and Wheeler (2006) focusing on the United States and European countries' bank acquisitions to find out the results of these frequently occurring bank acquisitions and provide an insight into investor perception. We also analyze whether the size of the acquiring bank and the location of the acquiring bank's headquarters play a determining factor in creating differential value for the investors.

3 The Data and Methodology

We select six Asia Pacific strong emerging countries in our analysis, namely, Hong Kong, China, Taiwan, Singapore, Indonesia, and Malaysia. Daily index price for country's major index is considered. Daily data range from one year before and after each acquiring bank and stock indices of each market in daily basis. This paper totally used 123 major Banks M&A event in selected six Asia countries that would be discussed and analyzed in this paper. The events were chosen from the major M&A events of each bank in each area. The banks were chosen by capital. In selection country samples following criteria are followed: the corporation acquiring the bank is publicly traded corporation, the acquisition is completed, and the acquiring company's country has a stock index. The selected six Asian stock indices are Hang Sang, Taiwan Weighted, Straits Times, and SSE Composite indices, FTSE Bursa Malaysia KLCI, Jakarta Composite Index respectively. Most of the events are retrieved from Reuters, a United Kingdom-based [news service](#) and

Vaziri, Bhuyan & Yang

former financial market data provider that provides news reports from around the world to [news media](#). In Taiwan, there are 27 bank acquisition announcements occurring between year 2001 to year 2010. Out of these 27 acquisitions, we choose 9 major publicly traded firms that have met our criteria mentioned above. We select 21 major finance-related companies in China by market capital, and there are 71 bank acquisition announcements occurring between year 2003 to year 2010 of which we choose 10 major publicly traded firms based on our criteria. In Hong Kong, We select 19 major publicly traded and major M&A events during 2005 to 2010. From Singapore, we select 14 major finance-related companies from SGX Finance Sector, and there are 47 bank acquisition announcements occurring between year 2005 to 2010. We select 38 major finance-related companies from Malaysia that have 27 bank acquisition announcements occurring between 2005 to 2010. We selected 28 major finance-related companies from Indonesia that have 27 bank acquisition announcements occurring between year 2005 to year 2010.

We follow the event-study methodology of Soussa and Wheeler (2006) - an extension of Brown and Warner (1985) to test the hypothesis that there is no benefit from bank acquisition. Abnormal returns (AR) and cumulative abnormal returns (CAR) are estimated over various event windows to determine any significance created by the acquisition announcement. Before estimating AR and CAR, returns for individual bank and indices are calculated using the following equation:

$$R_{jt} = \ln(P_{jt}) - \ln(P_{jt-1}) \quad (1)$$

Where, P_{jt} is current stock price for security j, or index price for index J, and P_{jt-1} are the previous stock price or index price for security or index J. Here, in case of index, we estimate return for the acquiring bank's home stock index and the world stock index. When, we investigate on the US banks, home stock index is SPX and world index is STOXX. On the other hand, when we investigate on the Asian banks, we consider bank's home stock index and SPX as the proxy for world index. The abnormal return is estimated as the difference between the realized return and the expected return, where the expected return is calculated based on two factor model using data one year prior to the announcement and thirty days after the event window using the following model:

$$R_{jt} = \alpha_j + \beta_{nj} RB_{ht} + \varepsilon_{jt} \quad (2)$$

$$E(\varepsilon_{jt}) = 0, \quad \text{Var}(\varepsilon_{jt}) = \sigma_{\varepsilon}^2$$

Vaziri, Bhuyan & Yang

Where, the return of the stock of the acquiring bank, j , at time t (R_{jt}). In these equation subscripts h and w represent home and world, while t stands for time. RB_{wt} is the world market stock index, and RB'_{ht} is the remainder of a regression of the home banking stock index (RB'_{ht}) on RB_{wt} . This discharges the effect the world stock market could have on the home banking stock market. β_{hj} and β_{wj} coefficients display the relationship between the acquiring bank's stock index with its home banking and the world market stock indices.

The abnormal return is estimated as the difference between the realized return and the expected return, where the expected return is calculated based on two factor model using equation (2). The model takes the following form:

$$AR_{jt} = R_{jt} - (\alpha_j + \beta_{hj}RB'_{ht}) \quad (3)$$

Where, AR_{jt} is the abnormal return of stock J at time t calculated using equation (2). It is the difference between the realized return, R_{jt} and model based estimated return placed in the bracket ($\alpha_j + \beta_{hj}RB'_{ht} + \beta_{wj}RB_{wt}$). Under the null hypothesis, the abnormal returns are jointly normally determined with a zero conditional mean and conditional variance which, given the large sample size, reduces to $\sigma^2(AR_{jt}) = \sigma_{\epsilon t}^2$. Finally, Cumulative abnormal return (CAR) is estimated using following equation for the entire event, and event windows:

$$CAR_j = \sum_{t=T-z}^{T+x} AR_{jt} \quad (4)$$

Our hypothesis is that if the cross-sectional average CAR is positive and statistically significant, that would portray that the acquisition does create value and that investors perceive the benefits of the acquisition to overshadow the costs. The next step in our analysis is to standardize the abnormal returns and cumulative abnormal returns. The standardized abnormal returns (SAR) are calculated as:

$$SAR_{jt} = AR_{jt} / (S_{AR}^2)^{1/2} \quad (5)$$

Where, SAR_{jt} = SAR from firm j at time t, AR_{jt} = AR for firm j at time t, $(S_{AR}^2)^{1/2}$ S_{AR} = square root of the variance of the AR for firm j at time t, i.e., the standard deviation of the AR for firm j at time t. Total SAR (TSAR) is the aggregation of SARs for each separate day.

$$TSAR_{jt} = \sum SAR_{jt} \quad (6)$$

To answer if bank M&A events convey new information to the public markets, we would test if the result of SARs is statistically significant; Z-statistic on the TSAR is given by

$$Z_t = TSAR_{jt} / (\sum ((D_j - 2) / (D_j - 4))) \quad (7)$$

Where D_j is number of observed trading day return from firm j over the estimation period. A p-value is run on the following bank acquisitions and its relevant data to see how the news of a banks acquisition convey new and relevant information to the public markets. We also estimate cumulative TSAR (CTSAR). Cumulative TSAR T_1, T_2 is to cumulative TSAR for each day in the event window:

$$CTSAR_{T_1, T_2} = \sum TSAR_t \quad (8)$$

Where, Cumulative TSAR T_1, T_2 = cumulative TSAR for each day in the event window

TSAR t = TSAR for each day in the event window, T_1 = earliest date in the event window

(-230 or -240), T_2 = later date in the event window (ranges from -240 through + 240).

To answer if excessive leakage occurs, we would test if the results of C-TARs are statistically significant. Z-statistic on the Cumulative TSAR is given by the following:

$$Z_t = (1/N^{1/2}) \{ (\sum SAR_{jt}) / ((T_2 - T_1 + 1) * (D_j - 2) / (D_j - 4))^{1/2} \} \quad (9)$$

Where, Z_t = the Cumulative TSAR Z-statistic for each day in the event window, N = number of firms in the sample, SAR_{jt} = SAR for firm j for each day in the event window, T_1 = earliest date in the event window (-230 or -240), T_2 = later date in the event window (ranges from -240 through + 240), D_j = number of observed trading day returns for firm j over the estimation period.

4 Empirical Results

Results of the effects of M&A events are presented by geographical regions in the six selected Asia markets. Figure 1-illustrates the China's average abnormal returns, or the average percent change of all bank stocks' abnormal returns from time

Vaziri, Bhuyan & Yang

period of $t - 10$ (i.e., 10 business days before) the announcement, t , which is the day of the announcement, to 10 business days after the announcement, $t + 10$. It is observed that on an average, the stocks' abnormal returns of the acquiring banks seems to decrease 10 days before the announcement, and then increase significantly 4 days before towards the announcement, which is from $T - 4$ to $T + 2$. However, the stocks' abnormal returns of the acquiring banks seem to decrease significantly at 4th days after the announcement again, and recover right away at 5th day.

In Figure 2, there is modest negative cumulative abnormal return by the tenth business day, that mean stock price seems to start to go up from 10 days before the announcement to 60 days after the announcement. We also found that the average cumulative abnormal returns (CAR) in the rest of event windows are positive, especially the sum of AR (+0) through AR(+60), the CAR is most significant positive, that mean the stock return seems to go up for 60 business days after the announcement. Moreover, we also found that the sum of AR (-30) through AR(+0) is significant positive, but the sum of AR (-10) through AR(+0) is negative. So, we could find that average stock price of acquiring bank seems to start to go up around 30 days before the event announcement, and there seems to no large abnormal return from $t - 20$ to t . In sum, in the figure 2, we can conclude that the announcement of a China bank acquisition seems to create value for the acquiring bank in the long run, and there is also possible information leak 30 days before the M&As event announcement. .

This event windows is very similar to those used by Sarina Ar-Loc Ng(2010) when they researched a similar study on bank acquisitions , but studied in the area of United States and European countries. We could see the cumulative abnormal returns by running the model over 66 different event windows. Using the event window of ($T - 230$ to $T + 30$), and using the data retrieved, the results are indicated above in tables 1. As explained below the table, the each cell shows cross-sample CAR for the event window. The cumulative abnormal returns were negative only in 2 of the 66 different event windows. The cumulative cross-sample average CAR is positive , which is 0.02172035. That is, in China, bank acquisition announcements provide significant value gains of 2.17% on average.

To further investigate our data, we test if the announcement reaches the market, which is if the market is perfectly efficient. Based the event study methodology, we see the 470 days, that is from 240 days before the announcement to 230 days after

Vaziri, Bhuyan & Yang

the announcement (-240: +230). We concluded that there are the significant TSARs which show on the fact in appendix I. The event date (day 0) is statistically significant ($P < 0.05$), so we could say that we are 95% confident that Bank M&A events convey new and relevant information to the public markets.

Furthermore, the most of the p-value are below 0.05 as we see in table 2, so the results are statistically significant. The finding is also surprising given that 28 of 31 event window days were associated with significant Cumulative -TSARs. In closing, we would say that China bank M&A events do convey significant levels of new relevant information. Moreover, based on the significant cumulative TSARs, we would conclude that excessive leakage did occur.

Hong Kong

The figure 3 illustrates the Hong Kong bank acquisitions average abnormal returns, or the average percent change of all bank stocks' abnormal returns from time period of $t - 20$ to $t + 20$. The average AR on the day of the announcement is positive, which is 0.95% (0.00956240). We also could see the variation of stocks' abnormal returns of the acquiring banks seems to increase significantly before the announcement from 15th day, which is $t - 15$, to 10th days, which is $t - 10$ above. And on the day of the announcement, the average AR is 0.956%, which is the abnormal return from day 0 to day 1. That means Hong Kong bank acquisition events seem to create good news on that day on average. The cumulative abnormal return (CAR) from the date of announcement, t , to the 20th business days ($t + 20$), that is 4.66% as figure 4. We also observe the cumulative abnormal returns by running the model over 66 different event windows from $t - 230$ to $t + 30$. The results are indicated above in tables 3. As the methodology we mentioned before, we concluded that based on the significant TSAR at the 95% confident level for day 0, that is p-value on the event date (day 0) is 0.0000 ($P < 0.05$) in table 4, so we could say that we are 95% confident that Bank M&A events convey new and relevant information to the public markets. The finding is also surprising given the 31 days, all the event window days were associated with significant cumulative -TSARs. Based on the significant cumulative TSARs, we would conclude that excessive leakage did occur.

Taiwan

The figure 5 illustrates the Taiwan average AR. We find that the AR of $t - 1$ to t is -1.006% (-0.01006285), but the AR of t day to $t + 1$ is 1.81% (0.01815073). From the Average CAR chart above, we could see the big picture through average CARs from short term to long term by several critical event windows. We found that the average CARs is positive after the event announcement. The CAR of 5 days after the

Vaziri, Bhuyan & Yang

announcement is 4.22% (0.04224649). The CAR of 20 days after that is 6.9% (0.06904846). Even 120 days after the announcement, which is 0.5 year after, the CAR is 13.39% (0.13339767). That is to say, the average stock abnormal return of Taiwan bank acquirer is negative before the announcement but is positive after the announcement, especially in the long run. From the figure 6, we could possibly conclude that the announcement of a Taiwan bank acquisition seems to create value for the acquiring bank in the long run. In the table 5, we could see the CAR of Taiwan acquirer bank stock over various event windows by running the model over 66 different event windows from t-230 to t+30. The cross-sample average CAR of each event window is positive, which is 0.03177813 on average. Based on the significant TSAR at the 95% confident level for day 0, that is p-value on the event date (day 0) is 0.0000 ($P < 0.05$) in table 6, so we could say that we are 95% confident that Bank M&A events convey new and relevant information to the public markets.

Singapore

The figure 7 illustrates the Singapore bank acquisitions average CARs. The average AR on the day of the announcement is positive, which is 0.02227 %, that is average bank AR from day 0 to day 1, but the second day of AR is negative, which is -0.95842%. There is a very large abnormal return on 5th days before the announcement, which is 5.6% (0.0564276). The average CAR(-5:0), which is the sum of AR from 5 days before the announcement to the day of the announcement, is very large. And the average CAR(0:5) , CAR (0:10), to CAR(0,60) is negative or almost 0. The sum of t to (t+120), which is CAR (0, 120) above, is significant positive.(1.28%), and is 4.59% in CAR(0:230), which is the CAR from the days of announcement to 1 years after. In the table 7, we could see the CAR of Singapore acquirer bank stock over various event windows by running the model over 66 different event windows from t-230 to t+30. The cross-sample average CAR of each event window is negative, which is -0.81% (0.008113596) on average. And over the 66 different event windows, the CARs were only one fourth of the 66 different event windows is positive. However, they only happened between (t-20) and (t+30). Especially, the largest CAR in the event windows is the sum of (t-5) to (t+30). Therefore, we could possibly say that a Singapore bank acquisition announcement appears to only affect significantly and has positive AR before the announcement on average. They seem not to create big value at the day of announcement and after the announcement. Similar P value is observed for TSAR.

Malaysia and Indonesia

Average ARs on the day of the announcement in two countries are positive, which are 0.759% and 0.751%. But they seem to be unable to create value 20 business days before and after the announcement as the figures 9, 10. From the Average CAR chart above, we could see the big picture through average CARs from short term to long term by several critical event windows. In figure 12 and 13, we see both Malaysia and Indonesia have no significant change in the average CARs in the short time period. There seem to be only significant CARs in long time period such as 120 and 240 business days after the announcement, which is half year and one year later. In the table 9, 10, we could see the CAR of the acquirer bank stock over various event windows in both countries by running the model over 66 different event windows from (t-230) to (t+30). The result of the cross-sample average CAR of each event window is similar. They all are negative, which is -5.27% and -6.4% on average in both countries. Based on the significant TSAR at the 95% confident level for day 0, that is p-value on the event date (day 0) is 0.0000 ($P < 0.05$) in table 8, so we could say that we are 95% confident that Singapore bank M&A events convey new and relevant information to the public markets. According to the results of Total-SAR test and C-TASR test, the bank M&A events do convey significant levels of new relevant information on average around the six Asian countries. Moreover, the excessive leakage to the announcements probably did occur.

5 Conclusion

This paper examines the net return of Asia banking acquisitions for the acquiring bank using an event-study methodology. It finds that acquisition announcements are generally associated with a gain in value for the acquirer in the long term. There are mixed results in the short term among the Asia markets. In the six Asia countries, the market reaction of China, Hong Kong and Taiwan are similar to the announcement of bank M&A events. They all have large cumulative abnormal returns after the announcements in the short time or long time period. That means the markets have significant positive reactions to these announcements. Singapore is another case. It only reacts 5 to 10 days before the announcement, and there is no reaction after that. The results of Malaysia and Indonesia are different from other four countries. There is insignificant positive or negative performance of cumulative abnormal return to the announcement in Malaysia. But there is significant negative abnormal return from t-30 to t-20 before the announcement in Indonesia on average. Moreover, this study also found that cross-border banking acquisitions announcements during 2002 to 2010 in Asia markets are found to be associated

Vaziri, Bhuyan & Yang

with negative cumulative abnormal returns for the acquirer after the announcement, especially most of cross-borders deals happened after year 2007 It suggested that cross-borders activities have largely concentrated in the most troubled banks of the ongoing financial crisis. It is also probably the reasons in the varies potential downside risks on cross-borders M&As such as operational risk, legal and social barriers, and political risk, are judged by markets to outweigh the potential benefits at the beginning. Furthermore, this study also focused on the timing of banks M&As announcements in Asia. There are some different market returns results to before and after the sub-prime mortgage crisis. But no matter how each stock market reacts, one thing we can conclude is the bank M&A events do convey significant levels of new relevant information on average around the six Asian countries, and the excessive leakage to the announcements probably did occur.

References

- Alexakis, P, Bank acquisitions and shareholder returns. The Greek experience, Unpublished working paper, UOA, May 2007.
- Altunbas, Y, Molyneux, P and Thornton, J 1997, 'Big mergers in Europe – an analysis of the cost implications', *Economica*, Vol. 64(3), pages 17-29.
- Amihud, Y, DeLong, G and Saunders, A 2002, 'The effects of cross-border bank mergers on bank risk and value', *Journal of International Money and Finance*, Vol. 21, pp 857-77.
- Andrade, G, Mitchell, M and Stafford, E 2001, 'New evidence and perspectives on mergers', *The Journal of Economic Perspectives*, Vol. 15(2), pages 103-20.
- Andre, P, Maher Kooli and Jean-Francois L'Her 2004, "The Long Run Performance of Mergers and Acquisitions: Evidence from the Canadian Stock Market" *Financial Management*, pp 45-67.
- Banks of Europe. Banks listed alphabetically by country. Retrieved March 20, 2010.from: <http://www.escapeartist.com/bkeu/bkeu.htm>
- Bednarski, P and Osinski, J 2002, 'Financial sector issues in Poland', in *Financial sectors in EU accession countries*, ECB.
- Baradwaj B, Dubofsky D, Fraser D 1988, *The wealth effects off interstate bank acquisitions*. Board of Governors of the Federal Reserve System, Working Paper.
- BBC News. (2009, April 3). *Timeline: Credit Crunch to Downturn*.
- Berger, A 2000, 'The big picture of bank diversification', *Proceedings, Federal Reserve Bank of Chicago*, May, pages 162-74.

Vaziri, Bhuyan & Yang

- Beckford, M. (9 October 2008) *Icelandic Bank Collapse: The History of the Cold War*, Telegraph.co.uk.
- Berger, A, DeYoung, R, Genay, H and Udell, G 2000, 'Globalisation of financial institutions: evidence from cross-border banking performance', Brookings Papers on Economic Activity, Vol. 2, pages 23-158.
- BIS 2001, *G10 consolidation report*. www.bis.org.
- Brealey, R and Kaplanis, E 1996, 'The determination of foreign banking location', Journal of International Money and Finance, Vol. 15, pages 577-97.
- Bris, A and Cabolis, C 2005, 'The value of investor protection: firm evidence from cross-border mergers', mimeo, Yale School of Management.
- Buch, C 2000, 'Why do banks go abroad – evidence from German data', Financial Markets, Institutions and Instruments, Vol. 9(1), pages 33-67.
- Brown S, Warner J 1985, *Using daily stock returns: the case of event studies*, Journal of Financial Economics, pp.3-31,
- Chari, A, Ouimet, P and Tesar, L 2004, 'Cross border mergers and acquisitions in emerging markets: the stock market valuation of corporate control', EFA 2004 Maastricht Meetings, Paper No. 3479.
- Claessens, S, Demirgüç-Kunt, A and Huizinga, H 2000, 'How does foreign entry effect the domestic banking market?', Journal of Banking and Finance, Vol. 25, pages 891-911.
- Chen, YY, M Young, 2007, "Cross-border mergers and acquisitions by Chinese listed companies: A principal–principal perspective" Asia Pacific Journal of Management, V. 27, Number 3, 523-539.
- Christopoulos, A & Vergos, A 2008 *The effects of acquisitions on the market value of the banking sector: an empirical analysis from Greece*. European Journal of Scientific Research, Vol.24 No.3 , pp.410-419.
- [Choi](#). J and Harmatuck, Donald 2006 "post-operating performance of construction mergers and acquisitions of the United States of America." Canadian Journal of Civil Engineering, pp 266–277.
- Cybo-Ottone, A and Murgia, M 2000, *Mergers and acquisitions in the European banking markets*, Mimeo, Associazione Bancaria Italiana, Working Paper.
- Dickens RN and Wansley JW 1989, *The Impact of Bank Acquisitions: A Comparison of Interstate and Intrastate Mergers*, Eastern Finance Association, Annual Meeting .
- Federal Deposit Insurance Corporation (FDIC).(2010, March 5). *Failed bank list*.
- Focarelli, D and Pozzolo, A 2000, 'Where do banks expand abroad?An empirical analysis', SSRN.

Vaziri, Bhuyan & Yang

- Guillèn, M and Tschoegl, A 1999, '*At last the internationalization of retail banking? The case of the Spanish banks in Latin America*', Wharton Financial Institutions Center Working Paper, 99-41.
- Hannan, T, Pilloff, S, 2007, Acquisition targets and motives in the banking industry. Board of Governors of the Federal Reserve System. Unpublished working paper.
- Hannan, TH, Wolken, JD 1989, *Returns to bidders and targets in the acquisition. Evidence from the banking industry*, Journal of Financial Services Research, 3, 5-16.
- Hernando, I, María J. Nieto, and Larry D. Wall 2009, "*Determinants of Domestic and Cross-Border Bank Acquisitions in the European Union*". Forthcoming, Journal of Banking and Finance.
- Hackbarth, D & Erwan Morellec 2006, "*Stock Returns in Mergers and Acquisitions*," Swiss Finance Institute Research Paper Series 06-01, Swiss Finance Institute.
- Knapp, M, Gart, A, Chaudhry, M 2006, "*The impact of mean reversion of bank profitability on post-merger performance in the banking industry*". Journal of Banking and Finance 30, 3503-3517.
- Koetter, M, Bos, JWB, Heid, F, Kolari, JW, Kool, CJM, Porath, D 2007, "*Accounting for distress in bank mergers*". Journal of Banking and Finance 31, 3200-3217.
- Lanine, G and Vander Vennet, R 2007, "*Microeconomic determinants of acquisitions of Eastern European banks by Western European banks*". Economics of Transition 15, 285-308.
- Neely W 1987, *Banking acquisitions: acquirer and target shareholders returns*, Financial Management 16, pp.66-74.
- Pilloff, S & Santomero, A 1997, *The value effects of bank mergers and acquisitions*. Wharton Working paper.
- Pasiouras, F, Tanna S, Gaganis, C 2007, "*What drives acquisitions in the EU banking industry? The role of bank regulation and supervision framework, bank specific and market specific Factors*". Coventry University, Economics, Finance and Accounting Applied Research Working Paper Series No. 2007-3
- Rossi, S and Volpin, P 2003, '*Cross-country determinants of mergers and acquisitions*', ECGI - Finance Working Paper No. 25/2003. <http://ssrn.com/abstract=395020>.
- Resti J and Siciliano, S 2000, *Do bank acquisitions increase shareholders' wealth? A comparison between market-based and accounting-based performance indicators for some Italian banks*, University of Bergamo, Ufficio Analisi Economica, Working Paper.

Vaziri, Bhuyan & Yang

- Rossi, S and Paolo Volpin 2004, "Cross-country determinants of mergers and acquisitions" *Journal of Financial Economics*, pp, 277-304.
- Soussa, F 2004, '*A note on banking FDI in emerging markets: literature review and evidence from M&A data*' Working paper..
- Soussa, F & Wheeler, T 2006, *Do announcements of bank acquisitions in emerging markets create value?* Working Paper no. 315, Bank of England.
- Tirole, J 1988, *The theory of industrial organisation*, MIT Press.
- Tschoegl, A 2003, '*Financial crises and the presence of foreign banks*', Wharton School Working Paper, 03-05.
- Vander Vennet, R 1996, '*The effect of mergers and acquisitions on efficiency and profitability of EC credit institutions*', *Journal of Banking and Finance*, Vol. 20(9), pages 1,532-58.
- Viverita, L 2008, "*The Effect of Mergers on Bank Performance: Evidence From Bank Consolidation Policy In Indonesia.*" (working paper University of Indonesia)
- Yamori, N 1998, 'A note on the location choice of multinational banks: the case of Japanese financial institutions', *Journal of Banking and Finance*, Vol. 22, pages 109-20.
- Zhang, H 1995, '*Wealth effects of US bank takeovers*', *Applied Financial Economics*, Vol. 5(5), pages 329-36.

Appendix

Figure 1-A. China Average Abnormal Returns (ARs)

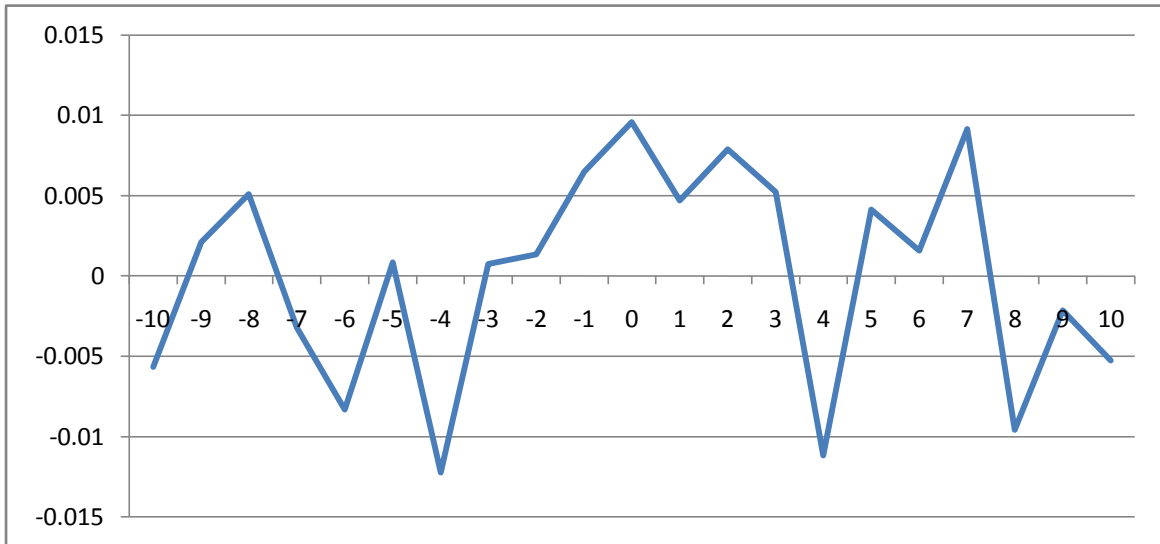


Figure 1-B. Hong Kong Average Abnormal Returns (ARs)

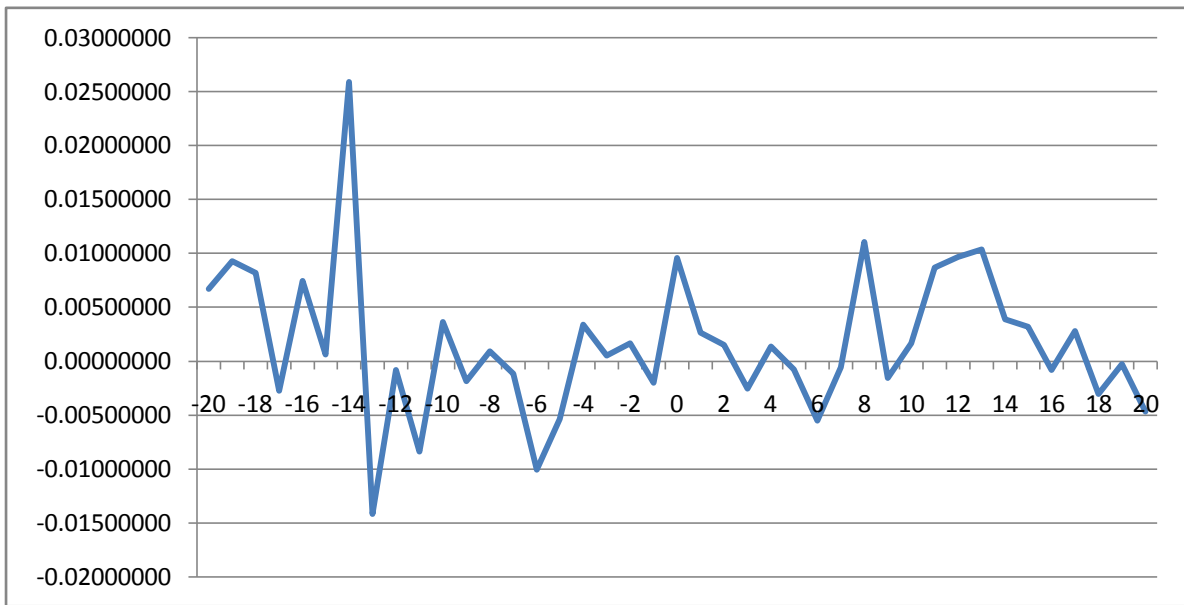


Figure 1-C. Taiwan Average Abnormal Returns (ARs)

Vaziri, Bhuyan & Yang

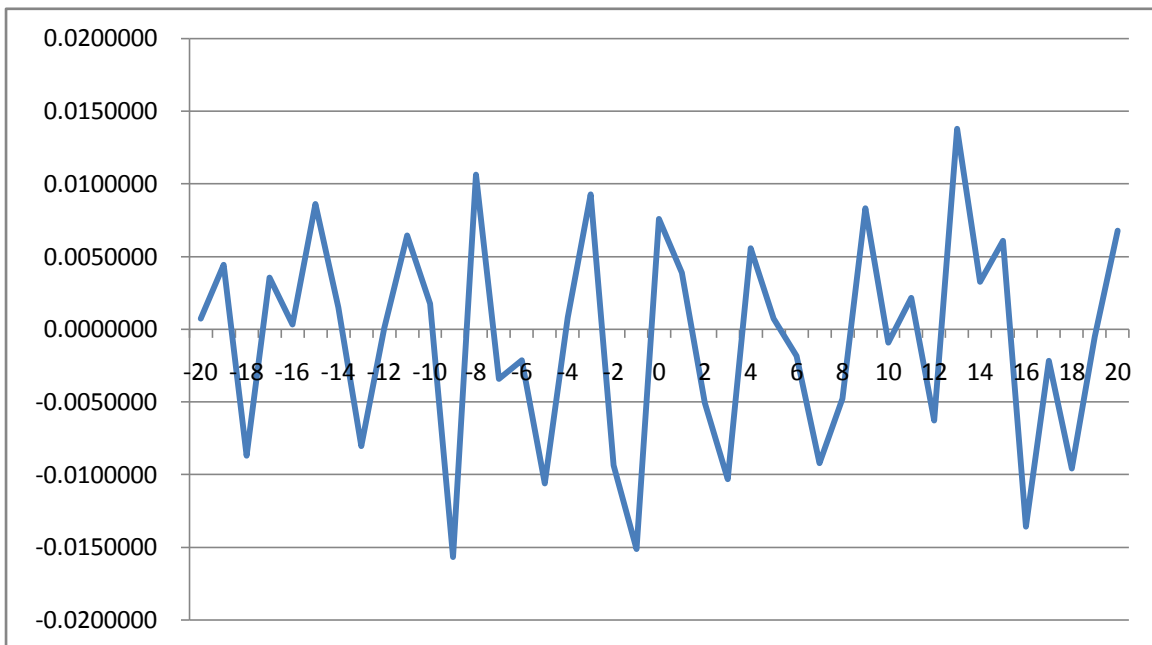
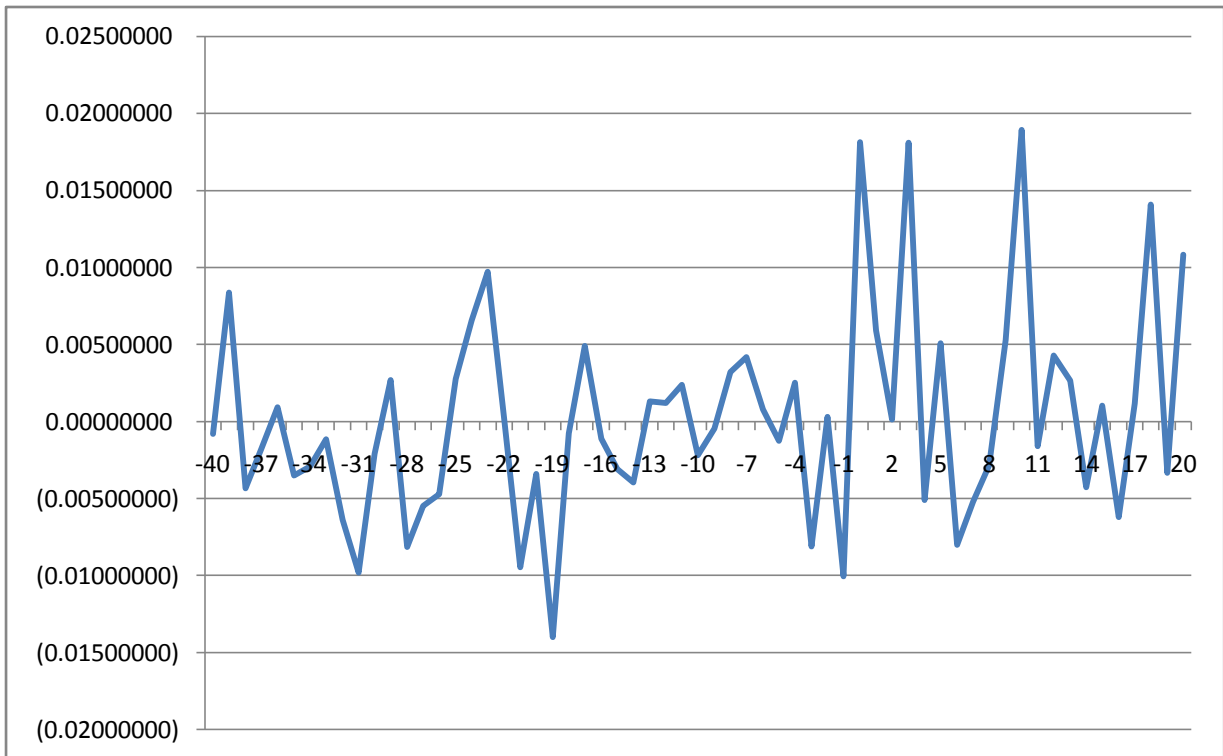


Figure 1-D. Malaysia Average Abnormal Returns

Vaziri, Bhuyan & Yang

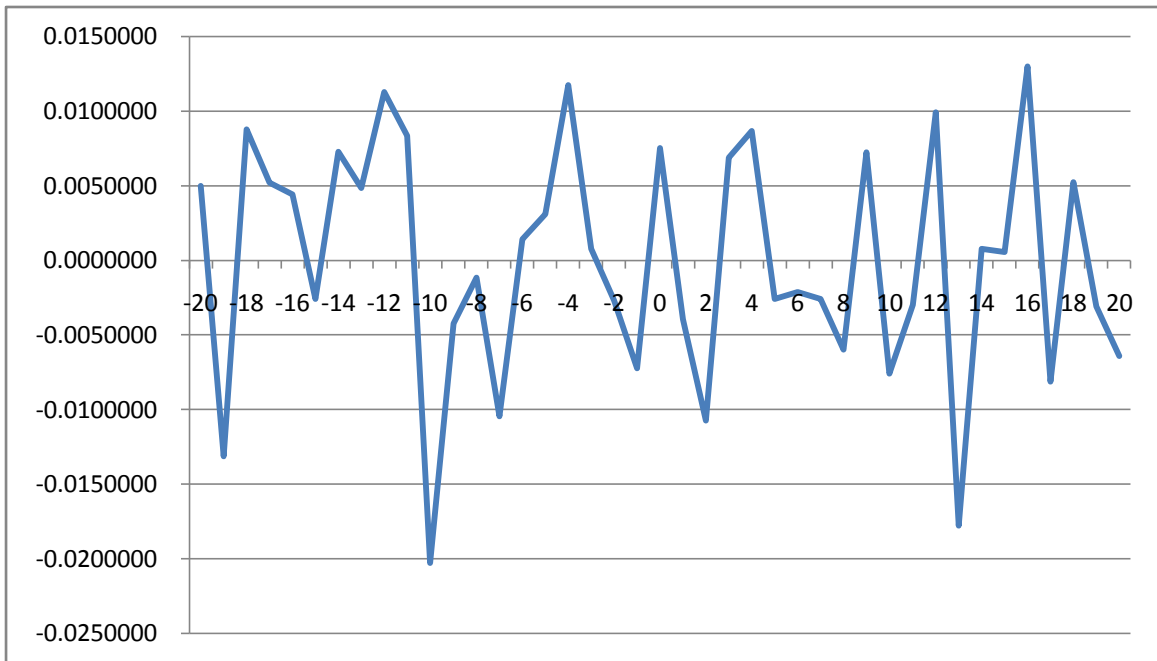


Figure 1-E. Indonesia Average Abnormal Returns

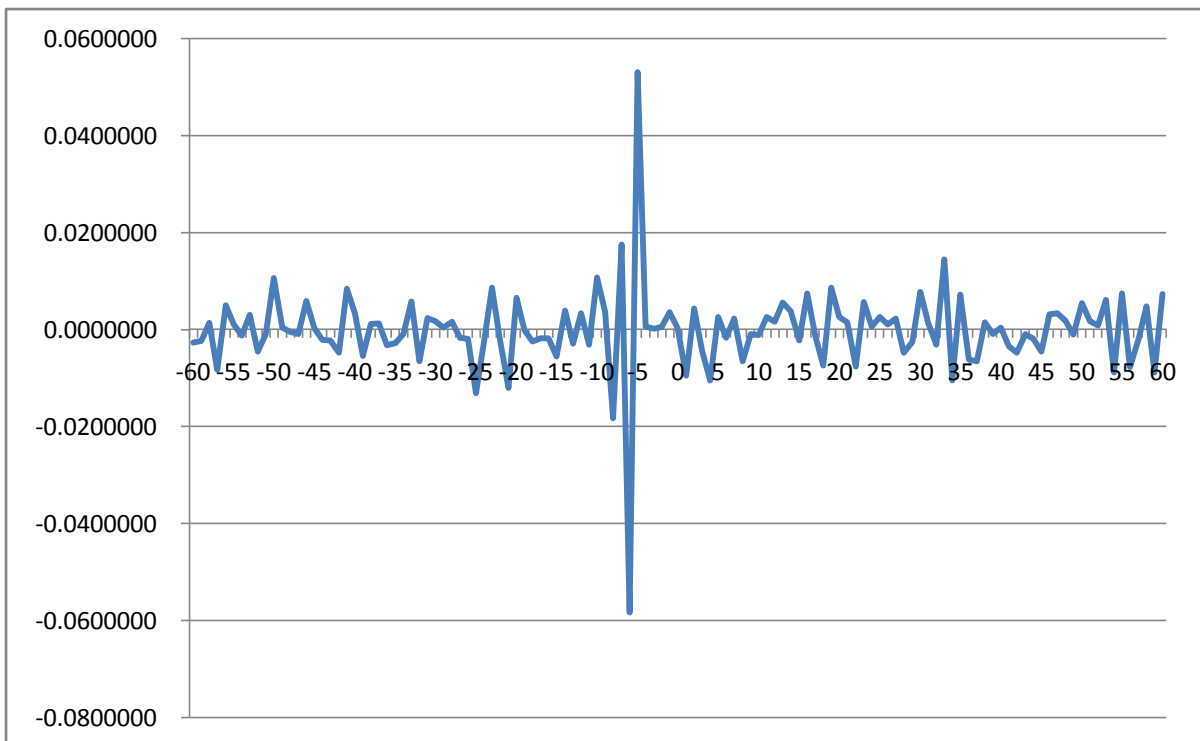


Figure 1-F. Singapore Average Abnormal Returns (ARs)

Vaziri, Bhuyan & Yang

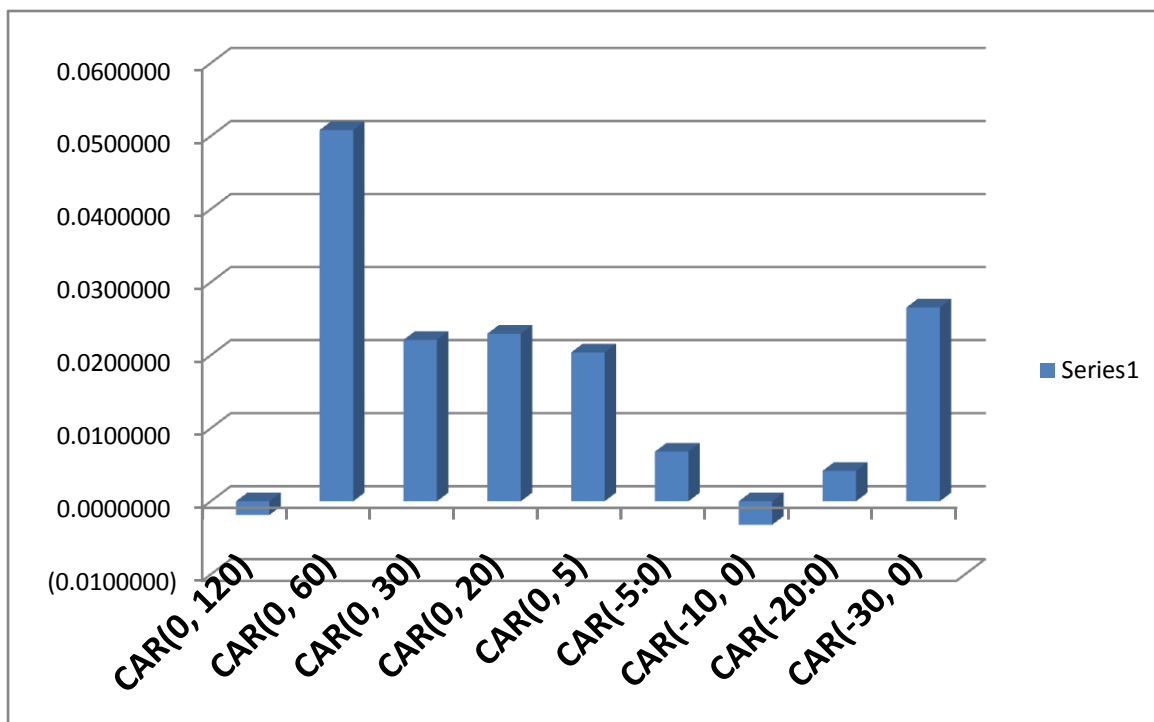


Figure 2-A, Average Cumulative Abnormal Returns (CARs) in different event window.

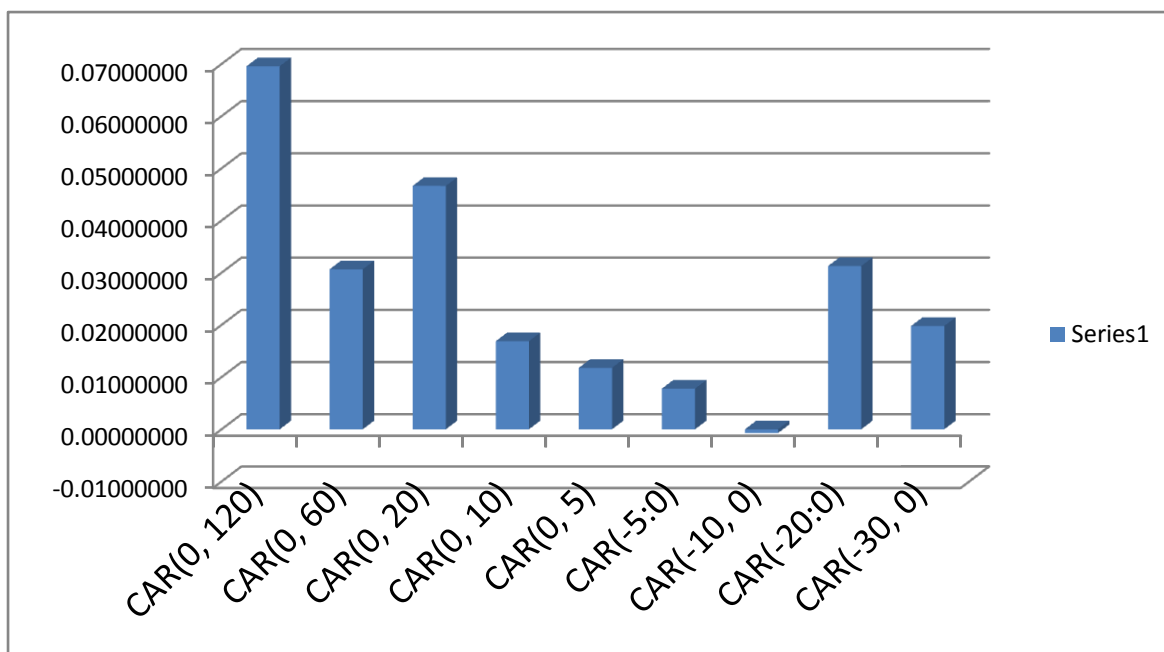


Figure2-B, Average Cumulative Abnormal Returns (CARs) in different event window.

Vaziri, Bhuyan & Yang

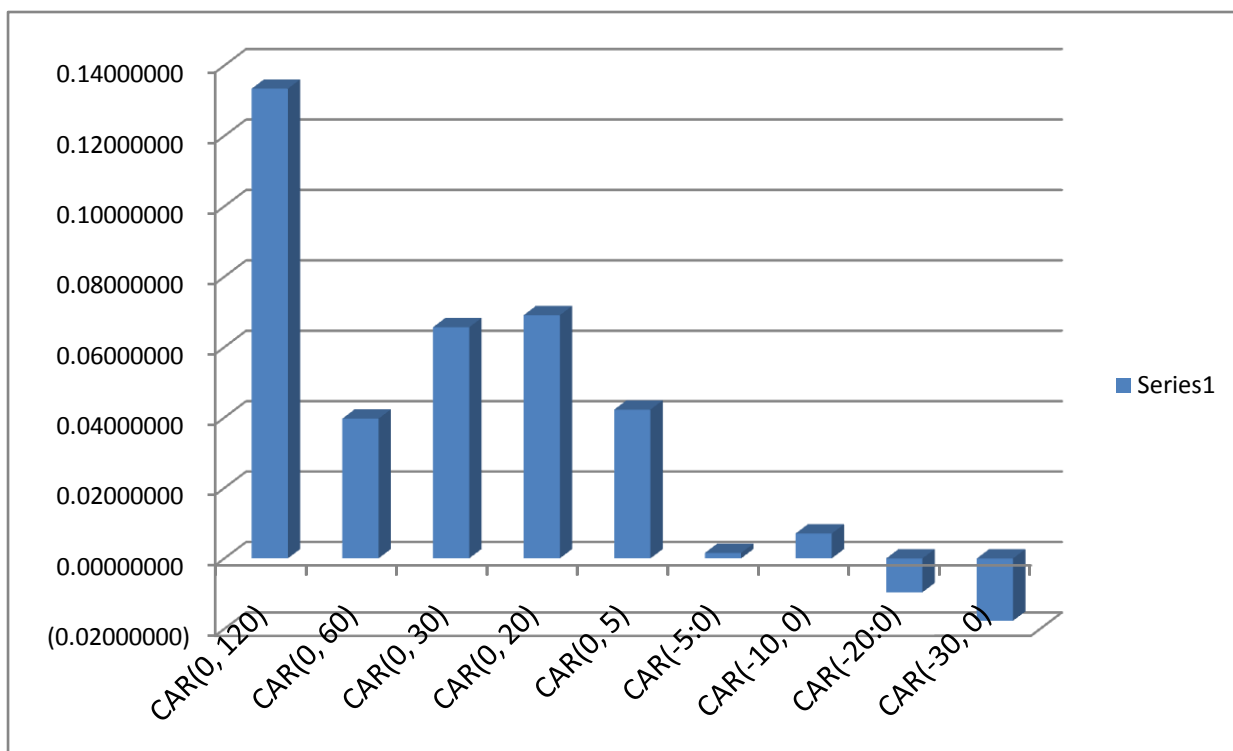


Figure2-C, Average Cumulative Abnormal Returns in different event window.

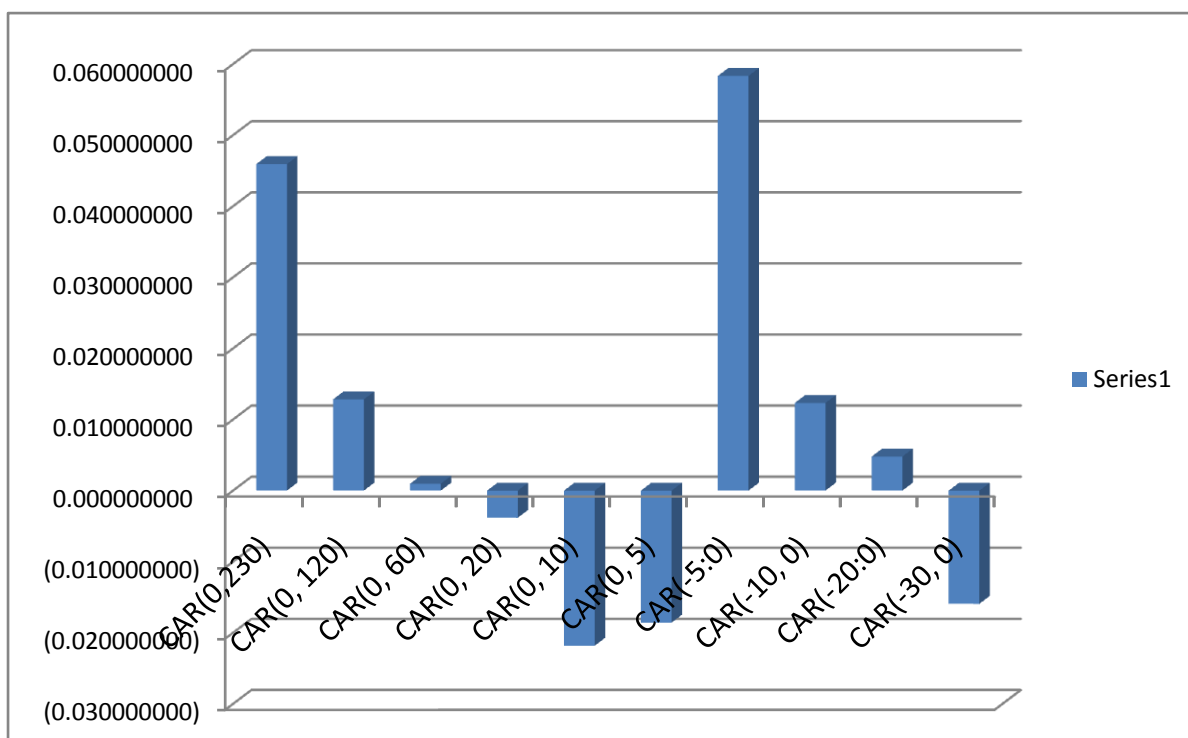


Figure2-D, Average Cumulative Abnormal Returns (CARs) in different event window.

Vaziri, Bhuyan & Yang

Malaysia

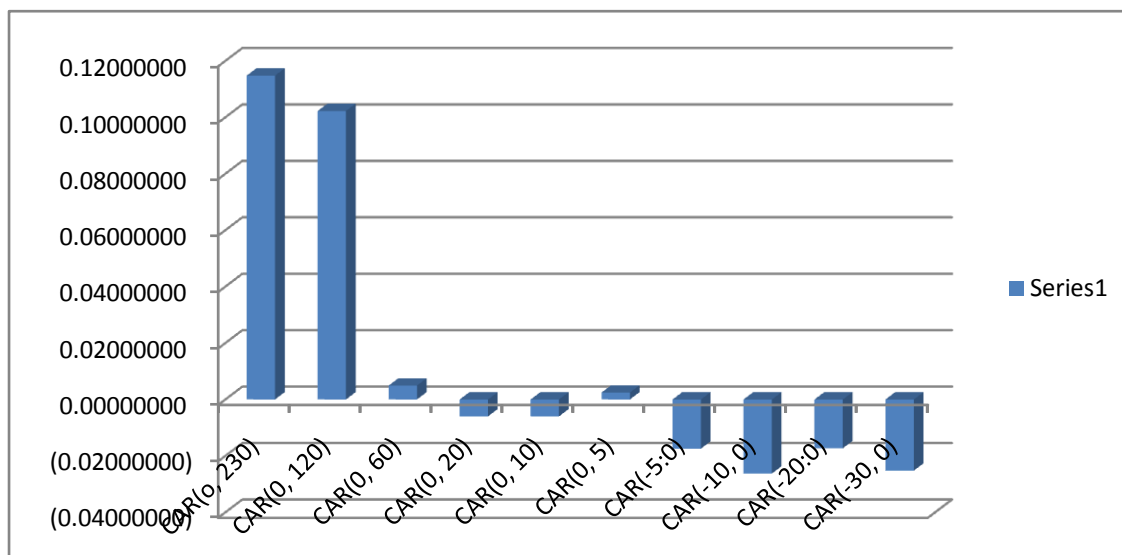


Figure2-E, Average Cumulative Abnormal Returns(CARs)in different event window.

Indonesia

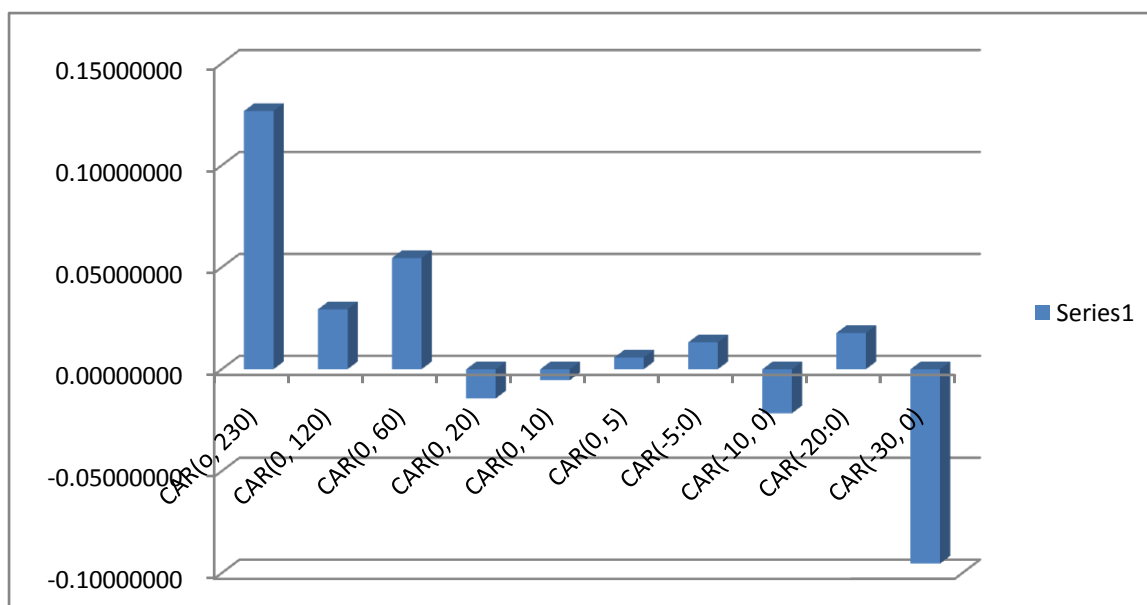


Figure2-F, Average Cumulative Abnormal Returns(CARs)in different event window.

Vaziri, Bhuyan & Yang

Table 1-A China Acquisition Cumulative Abnormal Returns Over Various Event Windows

	T+5	T+10	T+15	T+20	T+25	T+30
T-5	0.01758646	0.02276831	0.01987049	0.02822316	0.03106748	0.02060497
T-10	0.02266803	0.00135736	0.02946393	0.04478414	0.04066092	0.03716595
T-15	0.02270423	0.03239795	0.01244149	0.04482034	0.04069712	0.03720215
T-20	0.00844067	0.01813439	0.01523657	0.02974788	0.02643356	0.02293859
T-25	0.00966351	0.01935723	0.01645941	0.03177962	0.01818959	0.02416143
T-30	(0.00902832)	0.00066539	(0.00223242)	0.01308779	0.00896456	0.03906980
T-40	(0.00547934)	0.00421437	0.00131656	0.01663677	0.01251355	0.00901858
T-50	0.00103866	0.01073238	0.00783456	0.02315477	0.01903155	0.01553658
T-100	0.04424758	0.05394129	0.05104348	0.06636369	0.02788349	0.05874550
T-200	0.00031661	0.01001032	0.00711251	0.02243272	0.01830950	0.01481453
T-230	0.01235373	0.02204745	0.01914963	0.03446984	0.03034662	0.02685165

T=0 represents the day of the acquisition announcement. The each cell indicates the coefficient (sample average CARs).

Table 1-B Hong Kong Acquisition Cumulative Abnormal Returns Over Various Event Windows

	T+5	T+10	T+15	T+20	T+25	T+30
T-5	0.009999	0.015101	0.050909	0.044859	0.056298	0.069703
T-10	0.001513	0.006614	0.042422	0.036373	0.047811	0.061216
T-15	0.004646	0.009748	0.045556	0.039507	0.050945	0.064350
T-20	0.018132	0.038588	0.074396	0.068347	0.079785	0.093190
T-25	0.017965	0.023067	0.058875	0.052825	0.064264	0.077669
T-30	0.022005	0.027106	0.062914	0.056865	0.068303	0.081708
T-40	0.028082	0.033184	0.068991	0.062942	0.074380	0.087786

Vaziri, Bhuyan & Yang

T-50	0.030466	0.035568	0.071376	0.065326	0.076764	0.090170
T-100	0.012644	0.017746	0.053553	0.047504	0.058942	0.072348
T-200	(0.085314)	(0.080213)	(0.044405)	(0.050454)	(0.039016)	(0.025611)
T-230	(0.095988)	(0.090886)	(0.055078)	(0.061127)	(0.049689)	(0.036284)

T=0 represents the day of the acquisition announcement. The each cell indicates the coefficient (sample average CARs).

Table 1-Singapore Acquisition Cumulative Abnormal Returns Over Various Event Windows

	T+5	T+10	T+15	T+20	T+25	T+30
T-5	0.039839	0.036581906	0.048891156	0.054584525	0.060912106	0.063847434
T-10	-0.00616654	-0.009423634	0.002885615	0.008578985	0.014906565	0.017841893
T-15	-0.012049653	-0.015306747	-0.002997497	0.002695872	0.009023452	0.01195878
T-20	0.00288828	-0.016957391	-0.004648142	0.001045227	0.007372808	0.010308136
T-25	-0.032570863	-0.035827957	-0.023518707	-0.017825338	-0.011497758	-0.008562429
T-30	-0.034401778	-0.037658872	-0.025349622	-0.019656253	-0.013328672	-0.010393344
T-40	-0.040166523	-0.043423617	-0.031114367	-0.025420998	-0.019093418	-0.016158089
T-50	-0.024715731	-0.027972825	-0.015663576	-0.009970206	-0.003642626	-0.000707298
T-100	-0.022143504	-0.025400598	-0.013091349	-0.007397979	-0.001070399	0.001864929
T-200	-0.026402738	-0.029659831	-0.017350582	-0.011657213	-0.005329632	-0.002394304
T-230	-0.039842919	-0.043100013	-0.030790763	-0.025097394	-0.018769813	-0.015834485

T=0 represents the day of the acquisition announcement. The each cell indicates the coefficient (sample average CARs).

Vaziri, Bhuyan & Yang

Table 1-D Malaysia Acquisition Cumulative Abnormal Returns Over Various Event Windows

	T+5	T+10	T+15	T+20	T+25	T+30
T-5	-0.02256957	-0.030988324	-0.011926944	-0.030974778	-0.021683921	-0.031977739
T-10	-0.031398478	-0.039817232	-0.020755852	-0.039803686	-0.030512829	-0.040806647
T-15	-0.022802882	-0.031221636	-0.012160256	-0.03120809	-0.021917233	-0.032211051
T-20	-0.010457575	-0.03084101	-0.011779629	-0.030827464	-0.021536607	-0.031830425
T-25	-0.030912672	-0.039331426	-0.020270046	-0.03931788	-0.030027023	-0.040320841
T-30	-0.030372268	-0.038791022	-0.019729642	-0.038777476	-0.029486619	-0.039780437
T-40	-0.031093407	-0.039512161	-0.02045078	-0.039498615	-0.030207758	-0.040501576
T-50	-0.021940839	-0.030359593	-0.011298213	-0.030346047	-0.02105519	-0.031349009
T-100	-0.075224179	-0.083642932	-0.064581552	-0.083629386	-0.074338529	-0.084632348
T-200	-0.149239145	-0.157657899	-0.138596519	-0.157644353	-0.148353496	-0.158647315
T-230	-0.117507621	-0.125926375	-0.106864995	-0.125912829	-0.116621972	-0.12691579

T=0 represents the day of the acquisition announcement. The each cell indicates the coefficient (sample average CARs).

Table 1-E Indonesia Acquisition Cumulative Abnormal Returns Over Various Event Windows

	T+5	T+10	T+15	T+20	T+25	T+30
T-5	0.011417758	0.000363458	-0.009195927	-0.008610623	0.013151255	0.00772233
T-10	-0.023346181	-0.034400482	-0.043959866	-0.043374562	-0.021612684	-0.027041609
T-15	0.005793369	-0.005260932	-0.014820317	-0.014235012	0.007526866	0.002097941
T-20	0.007671622	0.004944707	-0.004614678	-0.004029374	0.017732504	0.012303579
T-25	0.009037215	-0.002017085	-0.01157647	-0.010991166	0.010770712	0.005341788
T-30	-0.09707647	-0.108130771	-0.117690156	-0.117104851	-0.095342973	-0.100771898
T-40	-0.080827777	-0.091882077	-0.101441462	-0.100856158	-0.07909428	-0.084523205

Vaziri, Bhuyan & Yang

T-50	-0.082447885	-0.093502186	-0.103061571	-0.102476266	-0.080714388	-0.086143313
T-100	-0.130221523	-0.141275824	-0.150835209	-0.150249904	-0.128488027	-0.133916951
T-200	-0.116168536	-0.127222837	-0.136782222	-0.136196917	-0.11443504	-0.119863964
T-230	-0.118860933	-0.129915233	-0.139474618	-0.138889314	-0.117127436	-0.12255636

T=0 represents the day of the acquisition announcement. The each cell indicates the coefficient (sample average CARs).

Table 1-F Taiwan Acquisition Cumulative Abnormal Returns Over Various Event Windows

	T+5	T+10	T+15	T+20	T+25	T+30
T-5	0.020935	0.033794	0.035896	0.052431	0.062804	0.049010
T-10	0.031127	0.033691	0.041394	0.057929	0.068302	0.054508
T-15	0.028931	0.037096	0.033363	0.055733	0.066106	0.052312
T-20	0.014486	0.022652	0.024754	0.033616	0.051661	0.037868
T-25	0.024162	0.032327	0.034429	0.050964	0.052512	0.047543
T-30	0.006397	0.014562	0.016664	0.033199	0.043572	0.022486
T-40	(0.015020)	(0.006855)	(0.004753)	0.011782	0.022155	0.008361
T-50	(0.012878)	(0.004713)	(0.002611)	0.013924	0.024297	0.010503
T-100	(0.005441)	0.002724	0.004826	0.021361	0.031734	0.017940
T-200	0.037368	0.045533	0.047635	0.064170	0.074543	0.060749
T-230	0.027502	0.035668	0.037770	0.054304	0.064678	0.050884

T=0 represents the day of the acquisition announcement. The each cell indicates the coefficient (sample average CARs).

Vaziri, Bhuyan & Yang

Table 2 TSAR, TSAR Z-statistics, and P-value

	Total SAR	T SAR		Cumulative TSAR	Cumulative TSAR	Cumulative TSAR
	TSAR	Z-test	P-value		Z-test	P-value
-15	(47.92325)	(15.11271)	0.00000	(47.92325)	(15.12378)	0.00000
-14	8.78384	2.77000	0.00561	(39.13941)	(8.74444)	0.00000
-13	(77.14933)	(24.32923)	0.00000	(116.28875)	(21.19025)	0.00000
-12	90.12578	28.42138	0.00000	(26.16296)	(4.12761)	0.00004
-11	91.62148	28.89305	0.00000	65.45852	9.23924	0.00000
-10	(162.46695)	(51.23434)	0.00000	(97.00844)	(12.49581)	0.00000
-9	68.76369	21.68479	0.00000	(28.24475)	(3.37084)	0.00075
-8	23.03583	7.26440	0.00000	(5.20892)	(0.58566)	0.55810
-7	(33.37855)	(10.52600)	0.00000	(38.58747)	(4.06353)	0.00005
-6	(57.80879)	(18.23014)	0.00000	(96.39626)	(9.62249)	0.00000
-5	72.41792	22.83716	0.00000	(23.97834)	(2.29101)	0.02196
-4	(165.68120)	(52.24796)	0.00000	(189.65953)	(17.29257)	0.00000
-3	(229.42452)	(72.34957)	0.00000	(419.08405)	(36.70213)	0.00000
-2	178.20784	56.19827	0.00000	(240.87621)	(20.33995)	0.00000
-1	234.11392	73.82838	0.00000	(6.76229)	(0.57203)	0.56730
0	(69.92639)	(22.05145)	0.00000	(76.68868)	(6.06773)	0.00000
1	273.32842	86.19477	0.00000	196.63973	15.03103	0.00000
2	337.09703	106.30436	0.00000	533.73677	39.67972	0.00000
3	(7.73904)	(2.44052)	0.01467	525.99773	38.06095	0.00000
4	(351.84847)	(110.95626)	0.00000	174.14926	12.26992	0.00000
5	(21.13369)	(6.66456)	0.00000	153.01558	10.52078	0.00000
6	72.28448	22.79508	0.00000	225.30006	15.14362	0.00000
7	188.53810	59.45594	0.00000	413.83817	27.21920	0.00000
8	(315.27425)	(99.42249)	0.00000	98.56391	6.33594	0.00000
9	35.49259	11.19267	0.00000	134.05650	8.44836	0.00000
10	278.51278	87.82967	0.00000	412.56928	25.51378	0.00000
11	66.45307	20.95613	0.00000	479.02235	29.07381	0.00000
12	20.73548	6.53898	0.00000	499.75783	29.78765	0.00000
13	104.31183	32.89499	0.00000	604.06966	35.38335	0.00000
14	(11.10054)	(3.50058)	0.00046	592.96912	34.14475	0.00000
15	256.06513	80.75075	0.00000	849.03425	48.10101	0.00000

T=0 represent the day of the acquisition announcement. The first three column represent the Z-test of statistic significant of TSAR (total standardized abnormal return) and its p-value. The last three columns represent the Z-test of statistic significant of Cumulative-TSAR and its p-value

Vaziri, Bhuyan & Yang

Table 4 TSAR, TSAR Z-statistics, and P-value

				Cumulative	Cumulative	Cumulative
	Total SAR	T SAR		TSAR	TSAR	TSAR
	TSAR	Z-test	P-value		Z-test	P-value
-15	177.79772	39.67634	0.00000	177.79772	39.67746	0.00000
-14	153.90375	34.34429	0.00000	331.70147	52.34112	0.00000
-13	(152.21924)	(33.96839)	0.00000	179.48223	23.12406	0.00000
-12	(25.75853)	(5.74813)	0.00000	153.72370	17.15137	0.00000
-11	(114.95328)	(25.65233)	0.00000	38.77042	3.86892	0.00011
-10	(107.65636)	(24.02399)	0.00000	(68.88594)	(6.27567)	0.00000
-9	(139.07546)	(31.03530)	0.00000	(207.96140)	(17.54073)	0.00000
-8	162.71456	36.31047	0.00000	(45.24684)	(3.57028)	0.00036
-7	73.21910	16.33916	0.00000	27.97227	2.08053	0.03748
-6	(342.72155)	(76.47981)	0.00000	(314.74928)	(22.21127)	0.00000
-5	(175.33413)	(39.12658)	0.00000	(490.08342)	(32.97518)	0.00000
-4	271.72364	60.63632	0.00000	(218.35977)	(14.06732)	0.00000
-3	158.34820	35.33609	0.00000	(60.01157)	(3.71483)	0.00020
-2	25.24023	5.63247	0.00000	(34.77134)	(2.07444)	0.03804
-1	0.06063	0.01353	0.98920	(34.71071)	(2.00060)	0.04544
0	406.47008	90.70558	0.00000	371.75938	20.73916	0.00000
1	(26.74128)	(5.96743)	0.00000	345.01810	18.67255	0.00000
2	128.65798	28.71059	0.00000	473.67608	24.91370	0.00000
3	(89.16501)	(19.89756)	0.00000	384.51107	19.68435	0.00000
4	(223.40908)	(49.85471)	0.00000	161.10199	8.03797	0.00000
5	139.50054	31.13016	0.00000	300.60253	14.63736	0.00000
6	(156.89392)	(35.01156)	0.00000	143.70861	6.83612	0.00000
7	35.34687	7.88781	0.00000	179.05548	8.33086	0.00000
8	380.74516	84.96495	0.00000	559.80064	25.49919	0.00000
9	46.86339	10.45777	0.00000	606.66403	27.07575	0.00000
10	19.60369	4.37465	0.00001	626.26773	27.40786	0.00000
11	261.84065	58.43088	0.00000	888.10837	38.14051	0.00000
12	(21.02975)	(4.69288)	0.00000	867.07862	36.56614	0.00000
13	284.52291	63.49253	0.00000	1151.60153	47.72018	0.00000
14	(15.83511)	(3.53367)	0.00041	1135.76642	46.27289	0.00000
15	(26.67178)	(5.95192)	0.00000	1109.09464	44.45140	0.00000

T=0 represent the day of the acquisition announcement. The first three column represent the Z-test of statistic significant of TSAR (total standardized abnormal return) and its p-value. The last three columns represent the Z-test of statistic significant of Cumulative-TSAR and its p-value

Vaziri, Bhuyan & Yang

Table 6 TSAR, TSAR Z-statistics, and P-value

	Total SAR	T SAR		Cumulative TSAR	Cumulative TSAR	Cumulative TSAR
	TSAR	Z-test	P-value		Z-test	P-value
-15	(124.76147279)	(44.01981892)	0.00000000	(124.76147279)	-41.52617514	0.00000000
-14	(132.20233950)	(46.64519355)	0.00000000	(256.96381228)	-60.45050778	0.00000000
-13	47.68715894	16.82554762	0.00000000	(209.27665334)	-40.19436871	0.00000000
-12	(9.72593572)	(3.43161971)	0.00059999	(219.00258906)	-36.46203208	0.00000000
-11	48.06480799	16.95879422	0.00000000	(170.93778107)	-25.45438454	0.00000000
-10	(28.97065389)	(10.22176887)	0.00000000	(199.90843497)	-27.17255241	0.00000000
-9	29.67653490	10.47082616	0.00000000	(170.23190007)	-21.43948645	0.00000000
-8	26.31289125	9.28402561	0.00000000	(143.91900882)	-16.94184772	0.00000000
-7	67.02730961	23.64936840	0.00000000	(76.89169921)	-8.539837776	0.00000000
-6	(29.35477251)	(10.35729814)	0.00000000	(106.24647172)	-11.1860589	0.00000000
-5	(9.83422670)	(3.46982822)	0.00052079	(116.08069842)	-11.66714361	0.00000000
-4	80.09369913	28.25960654	0.00000000	(35.98699929)	-3.503014792	0.00046002
-3	(153.21847472)	(54.06035503)	0.00000000	(189.20547402)	-17.50097169	0.00000000
-2	138.34701687	48.81323132	0.00000000	(50.85845715)	-4.581220109	0.00000462
-1	(116.85980448)	(41.23185882)	0.00000000	(167.71826163)	-14.49845949	0.00000000
0	417.84006715	147.42727609	0.00000000	250.12180552	20.71078361	0.00000000
1	74.59899678	26.32090065	0.00000000	324.72080229	26.11095398	0.00000000
2	92.86973595	32.76739901	0.00000000	417.59053824	32.65706438	0.00000000
3	184.62061395	65.14002932	0.00000000	602.21115220	45.8755385	0.00000000
4	(121.47193092)	(42.85916384)	0.00000000	480.73922128	35.6784901	0.00000000
5	(92.67041856)	(32.69707349)	0.00000000	388.06880272	28.09164359	0.00000000
6	(152.98251369)	(53.97710047)	0.00000000	235.08628902	16.59610949	0.00000000
7	(60.22341233)	(21.24873686)	0.00000000	174.86287669	12.05419583	0.00000000
8	(125.29783762)	(44.20906551)	0.00000000	49.56503907	3.2922862	0.00099376
9	72.66108934	25.63714522	0.00000000	122.22612841	8.05982256	0.00000000
10	253.03910804	89.28025189	0.00000000	375.26523645	24.41120799	0.00000000
11	(49.74329994)	(17.55101962)	0.00000000	325.52193650	20.7702767	0.00000000
12	34.56588271	12.19594370	0.00000000	360.08781921	22.56899445	0.00000000
13	(13.76985568)	(4.85844340)	0.00000118	346.31796353	21.32583114	0.00000000
14	(43.79035590)	(15.45063147)	0.00000000	302.52760763	18.30786946	0.00000000
15	27.58616834	9.73327829	0.00000000	330.11377597	19.65820428	0.00000000

T=0 represent the day of the acquisition announcement. The first three column represent the Z-test of statistic significant of TSAR (total standardized abnormal return) and its p-value. The last three columns represent the Z-test of statistic significant of Cumulative-TSAR and its p-value.

Vaziri, Bhuyan & Yang

Table 8 Singapore TSAR, TSAR Z-statistics, and P-value

	Total SAR	T SAR		Cumulative TSAR	Cumulative TSAR	Cumulative TSAR
	TSAR	Z-test	P-value		Z-test	P-value
-15	(553.04701)	(82.27368)	0.00000	(553.04701)	(82.27970)	0.00000
-14	(88.06692)	(13.10122)	0.00000	(641.11394)	(67.44836)	0.00000
-13	234.43639	34.87578	0.00000	(406.67754)	(34.92976)	0.00000
-12	624.07798	92.84056	0.00000	217.40043	16.17369	0.00000
-11	203.75130	30.31093	0.00000	421.15173	28.04024	0.00000
-10	113.24425	16.84671	0.00000	534.39599	32.45233	0.00000
-9	113.41057	16.87145	0.00000	647.80656	36.42734	0.00000
-8	(187.72330)	(27.92654)	0.00000	460.08326	24.20071	0.00000
-7	951.62778	141.56829	0.00000	1411.71104	69.95332	0.00000
-6	(652.10809)	(97.01044)	0.00000	759.60295	35.70824	0.00000
-5	830.75005	123.58600	0.00000	1590.35300	71.31896	0.00000
-4	192.53230	28.64194	0.00000	1782.88530	76.53847	0.00000
-3	545.99724	81.22493	0.00000	2328.88254	96.07576	0.00000
-2	(1075.45290)	(159.98906)	0.00000	1253.42964	49.82208	0.00000
-1	873.47582	129.94207	0.00000	2126.90546	81.68357	0.00000
0	186.35291	27.72267	0.00000	2313.25837	86.01131	0.00000
1	(558.94774)	(83.15150)	0.00000	1754.31064	63.28204	0.00000
2	685.36836	101.95838	0.00000	2439.67900	85.53144	0.00000
3	(207.90840)	(30.92936)	0.00000	2231.77060	76.17109	0.00000
4	(1523.08690)	(226.58104)	0.00000	708.68370	23.56333	0.00000
5	6.67527	0.99304	0.32069	715.35896	23.22094	0.00000
6	(140.06659)	(20.83692)	0.00000	575.29238	18.24564	0.00000
7	576.59014	85.77606	0.00000	1151.88251	35.73014	0.00000
8	(1166.83494)	(173.58345)	0.00000	(14.95242)	(0.45689)	0.64775
9	(258.45266)	(38.44854)	0.00000	(273.40508)	(8.13657)	0.00000
10	286.09113	42.56016	0.00000	12.68605	0.38195	0.70250
11	(82.31993)	(12.24627)	0.00000	(69.63388)	(1.98292)	0.04738
12	353.33760	52.56404	0.00000	283.70373	7.98678	0.00000
13	312.11228	46.43118	0.00000	595.81600	16.46830	0.00000
14	(258.72593)	(38.48920)	0.00000	337.09008	9.19355	0.00000
15	95.83492	14.25682	0.00000	432.92499	11.60635	0.00000

T=0 represent the day of the acquisition announcement. The first three column represent the Z-test of statistic significant of TSAR (total standardized abnormal return) and its p-value. The last three columns represent the Z-test of statistic significant of Cumulative-TSAR and its p-value

Vaziri, Bhuyan & Yang

Table 11 Malaysia TSAR, TSAR Z-statistics, and P-value

	Total SAR	T SAR		Cumulative TSAR	Cumulative TSAR	Cumulative TSAR
	TSAR	Z-test	P-value		Z-test	P-value
-15	348.70699	64.62144	0.00000	348.70699	80.63483	0.00000
-14	(81.35479)	(15.07645)	0.00000	267.35220	43.25409	0.00000
-13	31.17755	5.77774	0.00000	298.52975	38.75053	0.00000
-12	(68.92241)	(12.77252)	0.00000	229.60734	25.08856	0.00000
-11	(243.32878)	(45.09304)	0.00000	(13.72145)	3.26377	0.00110
-10	(146.63730)	(27.17443)	0.00000	(160.35875)	(0.99492)	0.31978
-9	(417.03122)	(77.28310)	0.00000	(577.38997)	(39.75164)	0.00000
-8	144.35098	26.75073	0.00000	(433.03899)	(24.37404)	0.00000
-7	(204.96073)	(37.98277)	0.00000	(637.99973)	(34.50690)	0.00000
-6	54.44116	10.08889	0.00000	(583.55857)	(30.52004)	0.00000
-5	(353.33001)	(65.47817)	0.00000	(936.88858)	(53.82815)	0.00000
-4	381.43773	70.68702	0.00000	(555.45085)	(31.62490)	0.00000
-3	(2.10921)	(0.39087)	0.69589	(557.56005)	(29.92461)	0.00000
-2	(621.05319)	(115.09191)	0.00000	(1178.61324)	(64.07969)	0.00000
-1	(403.63938)	(74.80136)	0.00000	(1582.25262)	(86.12076)	0.00000
0	506.78686	93.91638	0.00000	(1075.46575)	(61.40600)	0.00000
1	(351.55627)	(65.14946)	0.00000	(1427.02202)	(73.29035)	0.00000
2	(365.40707)	(67.71626)	0.00000	(1792.42909)	(89.92790)	0.00000
3	77.24436	14.31472	0.00000	(1715.18473)	(87.23816)	0.00000
4	198.71712	36.82572	0.00000	(1516.46761)	(73.20125)	0.00000
5	(490.73958)	(90.94254)	0.00000	(2007.20720)	(92.27391)	0.00000
6	(91.55739)	(16.96717)	0.00000	(2098.76459)	(93.02455)	0.00000
7	87.59926	16.23366	0.00000	(2011.16533)	(85.23067)	0.00000
8	(173.93837)	(32.23379)	0.00000	(2185.10370)	(91.26834)	0.00000
9	181.62947	33.65908	0.00000	(2003.47423)	(82.90884)	0.00000
10	(5.74080)	(1.06387)	0.28739	(2009.21503)	(82.15603)	0.00000
11	22.92582	4.24855	0.00002	(1986.28921)	(83.02626)	0.00000
12	(0.19205)	(0.03559)	0.97161	(1986.48127)	(71.07386)	0.00000
13	504.55178	93.50218	0.00000	(1481.92948)	(55.11551)	0.00000
14	359.48740	66.61924	0.00000	(1122.44208)	(48.21910)	0.00000
15	16.70389	3.09552	0.00196	(1105.73819)	(43.08775)	0.00000

T=0 represent the day of the acquisition announcement. The first three column represent the Z-test of statistic significant of TSAR (total standardized abnormal return) and its p-value. The last three columns represent the Z-test of statistic significant of Cumulative-TSAR and its p-value.

Vaziri, Bhuyan & Yang

Table 12 Indonesia TSAR, TSAR Z-statistics, and P-value

				Cumulative	Cumulative	Cumulative
	Total SAR	T SAR		TSAR	TSAR	TSAR
	TSAR	Z-test	P-value		Z-test	P-value
-15	(13. 73797)	(4. 33464)	0. 00001	(13.73797)	(4.32749)	0.00002
-14	37. 99188	11. 98730	0. 00000	24.25392	5.43526	0.00000
-13	(67. 81229)	(21. 39632)	0. 00000	(43.55837)	(7.91839)	0.00000
-12	111. 42277	35. 15641	0. 00000	67.86440	10.73066	0.00000
-11	132. 82400	41. 90898	0. 00000	200.68840	28.34195	0.00000
-10	(198. 93775)	(62. 76937)	0. 00000	1.75065	0.23920	0.81095
-9	(120. 83918)	(38. 12750)	0. 00000	(119.08853)	(14.18600)	0.00000
-8	(74. 34239)	(23. 45671)	0. 00000	(193.43092)	(21.55789)	0.00000
-7	(143. 36228)	(45. 23405)	0. 00000	(336.79320)	(35.39960)	0.00000
-6	(36. 10063)	(11. 39057)	0. 00000	(372.89384)	(37.18507)	0.00000
-5	50. 67131	15. 98795	0. 00000	(322.22252)	(30.63723)	0.00000
-4	144. 20220	45. 49906	0. 00000	(178.02032)	(16.19294)	0.00000
-3	(110. 58936)	(34. 89345)	0. 00000	(288.60969)	(25.22082)	0.00000
-2	(33. 54855)	(10. 58533)	0. 00000	(322.15823)	(27.13133)	0.00000
-1	(63. 08910)	(19. 90604)	0. 00000	(385.24733)	(31.35708)	0.00000
0	78. 75020	24. 84747	0. 00000	(306.49713)	(24.14749)	0.00000
1	(84. 78593)	(26. 75188)	0. 00000	(391.28306)	(29.91797)	0.00000
2	(82. 38927)	(25. 99568)	0. 00000	(473.67233)	(35.20418)	0.00000
3	51. 87329	16. 36720	0. 00000	(421.79903)	(30.51437)	0.00000
4	219. 31618	69. 19923	0. 00000	(202.48285)	(14.26298)	0.00000
5	(43. 20707)	(13. 63281)	0. 00000	(245.68992)	(16.89339)	0.00000
6	(50. 40586)	(15. 90419)	0. 00000	(296.09578)	(19.89492)	0.00000
7	(70. 50077)	(22. 24459)	0. 00000	(366.59655)	(24.09359)	0.00000
8	(139. 56955)	(44. 03736)	0. 00000	(506.16610)	(32.57381)	0.00000
9	132. 69268	41. 86755	0. 00000	(373.47342)	(23.54438)	0.00000
10	(108. 33990)	(34. 18370)	0. 00000	(481.81332)	(29.79450)	0.00000
11	(144. 71698)	(45. 66149)	0. 00000	(626.53030)	(38.02052)	0.00000
12	110. 69655	34. 92727	0. 00000	(515.83375)	(30.73362)	0.00000
13	(144. 36920)	(45. 55176)	0. 00000	(660.20295)	(38.66012)	0.00000
14	38. 28172	12. 07875	0. 00000	(621.92122)	(35.80144)	0.00000
15	10. 27828	3. 24303	0. 00118	(611.64295)	(34.63931)	0.00000

T=0 represent the day of the acquisition announcement. The first three column represent the Z-test of statistic significant of TSAR (total standardized abnormal return) and its p-value. The last three columns represent the Z-test of statistic significant of Cumulative-TSAR and its p-value