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A Comparative Abnormal Return Analysis of Mergers and Acquisitions in the Emerging Markets

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Abstract

Financial crisis originated in developed countries in 2008 and has affected M&A activities worldwide. This impact may have irreversible results in emerging market economies. This study aims to examine the spillover effects of 2008 economic crisis, started in developed countries, in emerging markets. In this manner, we have analyzed M&A activities from the acquirer firms' side in BRICS-T countries (namely, Brazil, Russia, India, China, South Africa, and Turkey) for banking industries in pre-and postcrisis periods so that effects of economic crisis can be captured. Significant transactions over \$100 million are included in the analysis. Event study methodology, which uses daily market index returns, daily stock returns, and M&A announcement dates to calculate abnormal returns, is employed for the analysis. The cumulative abnormal returns (CARs) are calculated for September 2003–November 2008 (precrisis period) and November 2008–December 2013 (postcrisis) periods. In conclusion there are negative mean CARs in Brazil, India, and Russia, while there are positive mean CARs in China, South Africa, and Turkey in precrisis period. In addition, there are negative mean CARs in South Africa, Brazil, and China, while there are positive mean CARs in Russia, Turkey, and India in *postcrisis* period.

Keywords: mergers and acquisitions, abnormal return analysis, financial crisis, BRICS, Turkey

1. Introduction

Economic activities both inside and outside of a country have direct effects on the firms operating in that country. Furthermore, firm-specific activities such as mergers & acquisitions (M&As), declaring loss, an important exports deal have positive or negative effect on the firms' market value according to the nature of the event.

Aim of the study is to investigate how economic crisis originated in developed countries have affected developing economies. Therefore, we examined the mergers & acquisitions activities of banking sector in BRICS-T countries. Lehman Brothers' crash in September 2008 is assumed to be the trigger of the global financial crisis [1]. With this reasoning, we analyzed cumulative abnormal returns in precrisis (January 2004–September 2008) and postcrisis (November 2008–December 2013) periods to check if there are any differences between these periods. Brazil has negative mean cumulative abnormal returns in pre crisis period as well as the post crisis period. Russia has negative mean cumulative abnormal returns in precrisis period while mean cumulative abnormal returns for Russia are positive in postcrisis period. India has negative mean cumulative abnormal returns in precrisis period, which switches to positive in postcrisis period. China, in the opposite, has positive mean cumulative abnormal returns before crisis but negative mean cumulative abnormal returns after crisis. The mean cumulative abnormal returns in South Africa are positive in the precrisis period and negative in the post crisis period. Turkey has positive mean cumulative abnormal returns in both periods.

Section 2 introduces a literature review about M&As in BRICS-T countries in three different parts. First, literature about M&As during financial crisis is mentioned. Then, literature on abnormal returns in M&As during financial crisis is examined. Finally, financial overview of BRICS-T countries is investigated and shared. In Section 3, data and methodology are mentioned as well as the empirical results. The study is concluded with Section 4.

2. Literature review

Literature reviews has three sub-parts. In first section, M&As during financial crisis, particularly recent financial crisis, are mentioned. In second section, abnormal returns in cross-border M&As during financial crisis are investigated. In final section, there is a summary of financial overview of BRICS-T countries.

2.1. Mergers and acquisitions during financial crisis

It has been argued that M&As¹ are closely related to the stock markets' welfare. [2] suggests that M&A activities are not closely related to the business cycle but the state of the economy. In other words, if economy is in a good condition, stock markets have desired conditions for the firms to raise capital and grow their profitability [3]. On the other hand, in the opposite situation, that is, if economy is in a narrow condition, firms tend to be more conservative about M&A.

M&As are assumed to be a way of foreign direct investment² (FDI) and they follow a wave path due to economic state [4]. M&A wave between 2003 and 2007 (precrisis period) indicated that cross-border M&As had increased compared to the recession periods. Especially in 2005, there had been a number of FDI flows to the developed countries, and the quantity and the

¹M&A is a way of economic growth strategies by combining or consolidating of companies.

²FDI is a company's investment to another company operating in a different country.

value of M&As were the highest since 2000 [4]. In 2006, M&A activities started to rise in emerging countries. Until the second half of 2007, M&As continued increasing but after that they started to fall and got even worse in the first half of 2008 compared to 2007 [4].

Collapse of Lehman Brothers is assumed to be the trigger of financial crisis in September 2008 [1]. Hence, economic crisis caused a drastic fall in M&As.

On the other hand, according to [5], financial crisis originated in developed countries in 2008 did not have the same large impact on emerging economies. The crisis emerged in United States, spread immediately to Europe but it only affected the specific regions and countries so harsh.

While some banks utilized M&A as an expansion strategy, some banks used it into their advantage during crisis. Banks in emerging economies such as China, Brazil and Russia acquired undervalued banks in developed countries as their prices in the stock markets fell [3]. Banks that are in healthy conditions in terms of capital and liquidity took the advantage of increasing their market share through M&As [6].

2.2. Abnormal returns of cross-border M&As during financial crisis

There is a broad literature about generating abnormal returns³ through M&As. However, there are not many studies in investigating the abnormal returns during 2007–2008 crisis. In addition, the results of the studies are mixed.

The research that does not include 2008 crisis is as follows. [7] examined 507 cross-border M&As between 1985 and 1998. They found negative and significant abnormal returns. In another study, [8] investigated cross-border M&A activities of 15 international banks between 1982 and 1987. They concluded that there had been negative and significant abnormal returns. In a single country study, [9] investigated M&As in U.S. between 1989 and 1999. He found that U.S. targets earn significantly positive abnormal returns while U.S. bidders' wealth gains are insignificant. In another research conducted in the U.S., [10] used the data for bank-holding companies in United States between 1980 and 1990 in order to determine abnormal returns. Results revealed significantly negative abnormal returns. On the other hand, [11] found that there had been significant positive returns using 216 large publicly traded U.S. bank M&As between 1987 and 1999. In a cross-border study, [12] employed 73 cross-border banks M&As (from advanced economies to emerging economies) between 1998 and 2005. They found significant and positive abnormal returns. In Europe, [13] achieved the existence of positive abnormal returns for the shareholders of target banks cross-border M&As between 1989 and 1996. In another study in Europe, [14] found positive abnormal returns using the data from European banks between 1988 and 1997. [15] gathered the data for 98 large M&As in Europe between 1985 and 2000. They found that domestic M&As created positive returns. [16] suggested that value created would be larger if the target firm was in advanced economy using 425 cross-border M&As in India between 2000 and 2007.

³ Abnormal return is the return on a security that is different from the expected return.

In order to investigate the effects of Asian crisis, [17] used a data of nine emerging countries namely Argentina, Brazil, Chile, Indonesia, Philippines, South Korea, and Thailand between 1988 and 2002. They concluded that acquirer firms show no significant difference in abnormal returns pre and postcrisis periods. On the other hand, [18] studied the M&As in eight East Asian countries between 1997 and 2003 in order to determine market reaction to M&As during Asian crisis. Their results showed that market reaction was negative in Indonesia, Malaysia, the Philippines, South Korea, and Thailand where the bank structure was less well settled.

The results of the studies that investigate the effects of 2008 crisis are mixed. [19] utilized the M&A data in Europe between 2007 and 2010 to evaluate whether M&A differed in crisis period. They concluded that there were insignificant abnormal returns on the event date. On the other hand, abnormal returns were generated positively at the completions. However, [20] used 80 M&As in UK, USA, Canada, Germany, Japan, and France between 1999 and 2009 to determine stock returns of bidder firms. Abnormal returns precrisis and postcrisis period was not significantly different from zero. In another research, [3] examined 883 cross-border M&A deals in banking sector between 2004 and 2012. They concluded that only in M&As from emerging countries targeting developed countries, returns of the shareholders were significantly positive after the crisis. Finally, [21] gathered the M&A data for 20 emerging countries namely BRICS-T countries and Chile, Colombia, Czech Republic, Egypt, Hungary, Indonesia, Malaysia, Mexico, Morocco, Peru, Philippines, Poland, Taiwan and Thailand between 1997 and 2013. They concluded that M&As created positive abnormal returns. In addition, they found out that abnormal returns had increased after crisis for target firm's stock.

In conclusion, results of the studies are mixed and they change according to the period.

2.3. Financial overview of BRICS-T countries in precrisis and postcrisis periods

In previous sections, it has been mentioned that there exists M&A waves. According to [22], there had been six M&A waves before the 2008 crisis, which are 1887–1907, 1919–1933, 1955–1975, 1980–1989, 1992–2002, and finally 2003–2007.

Table 1 shows the quantity and transaction value of cross-border M&As in BRICS-T countries between 2002 and 2016 [23]. In Brazil, cross-border M&As have value of \$17 billion in 2003. It increased by 65% in 2004 and reached to \$26 billion. In 2005, there is a decrease by 58% and the value is \$15 billion. Then in 2006, there is a jump in the value and it has reached to \$74 billion. In 2007, there is a fall by 72% in value. M&As have the peak value in 2008 during the precrisis period. There is a drastic fall in value in 2009 due to crisis. In 2010, M&As have the peak value in postcrisis period. It started declining afterwards. In Russia, the value of cross-border M&As is \$35 billion in 2003, and in 2004, the value has declined by 72%. In 2005, the value has jumped to \$63 billion and during the precrisis period, M&As have the peak value in 2007. In 2008, the value has decreased by 52% and in 2009 the decrease is 43%. Then, the value has been tripled in 2010. Cross-border M&As have their peak value in 2012 in postcrisis period. In India and China, cross-border M&As have the peak value in 2007 in precrisis period and in 2010 in postcrisis period. In India, there is a jump in cross-border M&A value in 2005 (4.5 times higher than 2004), and in China, there is a high increase in 2005 as well (6.25 times higher than 2004).

	Brazil		Russia		India		China		South Africa		Turkey	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
1992–2002	2627	213	1942	35	n/a	n/a	410	9	3541	140	587	11
1999–2002					2578	29						
2003	209	17	488	35	706	6	53	2	260	11	82	1
2004	269	26	398	25	762	8	101	4	241	27	64	3
2005	269	15	468	63	1251	36	96	25	244	16	120	31
2006	373	74	654	52	1446	34	117	14	338	28	167	21
2007	857	53	966	159	1504	56	210	40	289	34	238	23
2008	932	105	1718	82	1400	49	204	21	436	26	267	19
2009	497	71	3285	36	1293	41	245	48	369	33	183	7
2010	689	160	3684	109	1328	60	288	53	370	27	245	23
2011	816	93	3211	88	1042	35	266	46	356	21	269	13
2012	801	69	2532	115	1070	37	261	38	382	16	321	24
2013	612	69	2021	67	955	32	264	48	333	11	364	19
2014	559	56	1915	18	1084	31	302	44	402	20	363	16
2015	669	50	1819	32	1241	51	475	68	448	45	345	18
2016	613	45	1819	40	1271	49	671	132	418	22	226	7

Table 1. Quantity and Transaction Value of Cross-border M&As in BRICS-T Countries between 1992 and 2016 (value in billion dollars).

In South Africa, values of M&As follow an increasing pattern until 2007. M&As have their peak value in 2007 in precrisis period and in 2009 in postcrisis period. Finally, in Turkey, M&As have their peak value in 2005 in precrisis period and 2012 in postcrisis period.

3. Empirical study

In this part, first, data, methodology, and the hypothesis are explained. Then empirical results are represented.

3.1. Data, methodology, and hypothesis

Our study uses daily market index returns, daily stock returns, and M&A announcement dates (event date) between January 2003–September 2008 and November 2008 and December 2013. We utilize the data from Bloomberg database for cross-border bank M&A activities in Brazil, Russia, India, China, South Africa, and Turkey. Our data consists of cross-border M&As with a transaction value over \$100 million.

Event study is employed for the analysis. Event studies aim to determine whether there are abnormal returns around the date an event is announced to the market. Abnormal returns are the returns that are less or more than normal returns when the related event is announced. These returns are usually related with the performance of the market index returns [24, 25]. The event is the M&A announcement date. There could be different event windows, which include the announcement date. In this study, we investigate abnormal returns for different event window lengths:

- Two days before and two days after the event date $(-2, +2)$
- A day before and a day after the event date $(-1, +1)$
- The event day and a day after the event date $(0, +1)$

We choose market model in order to estimate market α^4 and β^5 over a prediction period, which is 128 days prior to and 9 days prior to event date, that is, $(-128, -9)$. The market model is as follows:

$$R_{it} = \alpha_i + \beta_i R_{mt} + e_{it} \quad (1)$$

R_{it} stands for the return of the i^{th} security at time t and R_{mt} denotes the return of the market at time t .

Then, abnormal return (AR) is calculated using predicted α_i and β_i :

$$AR_{it} = R_{it} - \hat{\alpha}_i - \hat{\beta}_i R_{mt} \quad (2)$$

AR_{it} represents abnormal return for the i^{th} bank at time t and R_{it} is the actual return on bank i .

Later, average aggregate abnormal return (AAR) is calculated:

$$AAR_t = \frac{1}{N} \sum_{i=1}^N AR_{it} \quad (3)$$

After that, by adding daily abnormal returns up, cumulative abnormal returns are obtained:

$$CAR_{i(T_1-T_2)} = \sum_{t=T_1}^{T_2} AR_{it} \quad (4)$$

Here, CAR_i is the cumulative abnormal return for bank i over the event window T_1 and T_2 .

Finally, average aggregate cumulative abnormal return is calculated (AACAR):

$$AACAR(T_1, T_2) = \frac{1}{N} \sum_{i=1}^N CAR_{i(T_1, T_2)} \quad (5)$$

and (T_1, T_2) are $(0, +1)$, $(-1, +1)$, and $(-2, +2)$.

⁴Return on security when the expected return on market is zero.

⁵Responsiveness of a security to the market return.

3.2. Empirical results

This section introduces the empirical results. First, abnormal returns for the entire period are shown without separating the before/after crisis periods in Section 3.2.1. Then, abnormal returns for pre / post crisis periods are given in Sections 3.2.2 and 3.2.3, respectively.

3.2.1. Aggregate daily abnormal returns

This part introduces the aggregate results, which means that abnormal returns of the M&A activities are included to the analysis without considering pre- and post-crisis periods. A total of 36 banks with M&A transaction values over \$100 million are taken into consideration.

Table 2 shows average aggregate daily abnormal returns two days before after the event date. The AARs before and on the announcement date are negative and significant at 5% while AARs are positive and significant at 5% significance level. The AARs increase through the event window. In other words, the AAR two days before the event day is -0.043 , it is -0.040 on the day before the event day, and it is larger but still negative on the event day. One day after the event day, the AAR reaches to the largest value. There are excess returns on the M&As. On the second day, AAR decreases again.

Table 3 shows aggregate CARs for the related event window. In 5-day event window $(-2, +2)$, CAR is -0.042 , and it is statistically significant at 5%. Then, in 3-day event window $(-1, +1)$, CAR increases to -0.018 , and this value is statistically significant at 5%. Finally, in 2-day event window, CAR increases to -0.007 , and it is statistically significant at 5%.

Event day ¹	Average abnormal returns (%) (AAR)
-2	-0.043
-1	-0.040
0	-0.029
1	0.022
2	0.001

¹M&A announcement day.

Table 2. AARs for the Related Event Associated with M&A Activities.

Event window ¹	Average CAR (%)
$-2, +2$	-0.042
$-1, +1$	-0.018
$0, +1$	-0.007

¹Time period that includes several days prior and after the event.

Table 3. CARs for the Related Event Windows Associated with M&A Activities.

Table 4 shows the distribution of 5-day CARs. The results show that there are negative abnormal returns in Brazil and Russia, while there are positive cumulative abnormal returns in China, India, South Africa, and Turkey. The results are significant at 5% significance level. In terms of 5-day CARs, Brazil has the lowest CAR among other countries, and it is followed by Russia. Although, there is positive CAR in India, South Africa, Turkey, and China have more CAR than India. CARs in South Africa and Turkey are very close. China has the largest CAR among these countries in 5-day event window.

Table 5 shows the distribution of 3-day CARs. Brazil, Russia, and India have negative CARs while China, South Africa, and Turkey have positive CARs. The results are significant at 5% significance level. In 3-day event window, Brazil has the least CAR among other countries and it is followed by India and Russia. While India has slightly positive CAR in 5-day event window, it has negative CAR in 3-day event window. South Africa and Turkey have positive CAR in 3-day event window as well as the 5-day event window. Turkey has the largest CAR among other countries in 3-day event window.

Table 6 shows the distribution of 2-day CARs. Brazil, Russia, and India have negative CARs while China, South Africa, and Turkey have positive CARs. The results are significant at 5% significance level. In 2-day event window, Brazil has the least CAR and it is followed by Russia and India. Turkey has the largest CAR among other countries in 2-day event window as well as 2-day event window.

Table 7 shows the distribution of mean CARs. On an average, Brazil, India, and Russia have negative cumulative abnormal returns and China, South Africa, and Turkey have positive

Name of the country	CAR (-2, +2) (%)
Brazil	-0.287
China	0.017
India	0.001
Russia	-0.006
South Africa	0.013
Turkey	0.014

Table 4. Distribution of 5-day CARs (-2, +2) in BRICS-T countries.

Name of the country	CAR (-1, +1) (%)
Brazil	-0.129
China	0.007
India	-0.012
Russia	-0.011
South Africa	0.012
Turkey	0.026

Table 5. Distribution of 3-day CARs (-1, +1) in BRICS-T countries.

cumulative abnormal returns between 2003 and 2013 for banking industry. The results are significant at 5% significance level.

3.2.2. Daily abnormal returns in precrisis period

This section introduces the abnormal return analysis results of M&As in banking sector during the pre-crisis period, that is, between September 2003 and November 2008. In this manner, 22 banks M&As with a M&A transaction value more than \$100 million have been investigated.

Table 8 shows AARs for pre-crisis period. There are negative AARs before and on the event date. However, there are positive abnormal returns after the announcement date. The results

Name of the country	CAR (0, +1) (%)
Brazil	-0.071
China	0.011
India	-0.009
Russia	-0.015
South Africa	0.014
Turkey	0.026

Table 6. Distribution of 2-day CARs (0, +1) in BRICS-T countries.

Name of the country	Mean CAR (%)
Brazil	-0.162
China	0.012
India	-0.007
Russia	-0.011
South Africa	0.013
Turkey	0.022

Table 7. Distribution of mean CARs in BRICS-T countries.

Event day	Average abnormal returns (%)
-2	-0.057
-1	-0.051
0	-0.037
1	0.032
2	0.004

Table 8. AARs for the Related Event Windows Related to M&A Activities Before Crisis (2003-2008/9).

are significant at 5% significance level. Two days before the announcement day AAR is -0.057 and 1 day before the event day it increases to -0.051 . On the announcement day, AAR increases to -0.037 and 1 day after the event day, it turns to positive and has its peak value. In other words, the AARs follow an increasing path until 1 day after the announcement day. Two days after the announcement date, it decreases but it is still positive. This figure is very similar to the aggregate case in Section 3.2.1.

Table 9 shows CARs for 5-day, 3-day, and 2-day event windows. There are negative cumulative abnormal returns in precrisis period. The values tend to increase as the event window gets narrower to the event date. The results are significant at 5% significance level.

Table 10 shows 5-day CARs in BRICS-T countries. In Brazil, India, and Russia, CARs are negative and significant at 5% level. In China, South Africa, and Turkey, CARs are positive and significant at 5% level. Brazil has the least CAR and it is followed by India and Russia in 5-day event window. China has the largest CAR in 5-day event window in precrisis period and it is followed by South Africa and Turkey. Note that Turkey had the largest CAR in the aggregate case.

Table 11 shows the distribution of 3-day cumulative abnormal returns in BRICS-T countries in precrisis period. In Brazil, India, and Russia, CARs are negative and significant at 5% level. In China, South Africa, and Turkey, cumulative abnormal returns are positive and significant at 5% level. Brazil has the least CAR in 3-day event window during the precrisis period. However, the CAR value has increased with respect to 5-day event window. Russia and India follow Brazil and their CAR values have decreased compared to 5-day event window. China still has the largest CAR but the values have decreased in 3-day event window. CARs in South Africa and Turkey have increased in 3-day event window

Event window	Average CAR (%)
-2, +2	-0.053
-1, +1	-0.019
0, +1	-0.006

Table 9. CARs for the Related Event Windows in Response to M&A Activities Before Crisis (2003-2008/9).

Name of the country	CAR (-2, +2) (%)
Brazil	-0.368
China	0.064
India	-0.025
Russia	-0.039
South Africa	0.041
Turkey	0,009

Table 10. Distribution of 5-day CARs (-2, +2) in BRICS-T countries before crises (2003-2008/2009).

Table 12 shows the distribution of CARs in two-day event window. Brazil, India, and Russia have negative abnormal returns while China, South Africa, and Turkey have positive abnormal returns. The results are significant at 5% significance level. Brazil has the least CAR in 2-day event window. This value of CAR in 2-day event window is larger than the value of CAR in 3-day event window. CAR for Russia in 2-day event window is less than CAR in 3-day event window and CAR for India in 3-day event window is larger than CAR in 2-day event window. China still has the largest CAR in 2-day event window and the value has increased compared to the 3-day event window. CAR in South Africa has increased while CAR in Turkey has decreased in 2-day event window with respect to 3-day event window.

Table 13 shows the distribution of mean CARs in BRICS-T countries for precrisis period. Accordingly, Brazil, India, and Russia generates negative and statistically significant abnormal

Name of the country	CAR (-1, +1) (%)
Brazil	-0.157
China	0.057
India	-0.035
Russia	-0.044
South Africa	0.047
Turkey	0.018

Table 11. Distribution of 3-day CARs (-1, +1) in BRICS-T countries before crises (2003–2008/2009).

Name of the country	CAR (0, +1) (%)
Brazil	-0.077
China	0.067
India	-0.026
Russia	-0.061
South Africa	0.051
Turkey	0.013

Table 12. Distribution of 2-day CARs (0, +1) in BRICS-T countries before crises (2003–2008/2009).

Name of the country	Mean CAR (%)
Brazil	-0.201
China	0.062
India	-0.029
Russia	-0.048
South Africa	0.046
Turkey	0.014

Table 13. Distribution of mean CARs in BRICS-T countries before crises (2003–2008/2009).

returns while China, South Africa, and Turkey obtains positive cumulative abnormal returns between September 2003 and September 2008 for banking industry for M&A transactions with a value more than \$100 million. Brazil has the least mean CAR and it is followed by Russia and India while China has the largest mean CAR and South Africa and Turkey follow it.

3.2.3. Daily abnormal returns in postcrisis period

This section introduces abnormal returns in M&As in the banking industry during the postcrisis period, that is, between November 2008 and December 2013. In this manner, 14 bank M&As with a M&A transaction value more than \$100 million have been investigated.

Table 14 shows the AARs for the related event window in postcrisis period. Two days before the announcement date, AAR is positive; 1 day before the announcement date AARs is negative; and on the event date, AAR is positive. One-day and 2-day after the event date, AARs are slightly negative. The results are significant at 5% significance level.

Table 15 shows CARs for the related event windows in postcrisis period. In 5-day event window, CAR is positive and in 3-day and 2-day event windows cumulative abnormal returns are negative. Average CAR has the largest value in 5-day event window, the least value in 3-day event window. The results are significant at 5% significance level.

Table 16 shows distribution of the 5-day CARs in BRICS-T countries in postcrisis period. Brazil has the least CAR among other countries. South Africa and China follow Brazil. Note that South Africa had positive CAR in precrisis period. Russia has the largest CAR and it is followed by

Event day	Average abnormal returns (%)
-2	0.002
-1	-0.002
0	0.001
1	-0.001
2	-0.001

Table 14. AAR for the Related Event Windows in Response to M&A Activities After Crisis (2008/11-2013).

Event window	Average CAR (%)
-2, +2	0.002
-1, +1	-0.004
0, +1	-0.001

Table 15. CARs for the Related Event Windows in Response to M&A Activities After Crisis (2008/11-2013).

India and Turkey. Another remarkable points are that India had negative CAR in precrisis period and China had the largest positive CAR in precrisis period

Table 17 shows the distribution of 3-day CARs in BRICS-T countries in postcrisis period. South Africa now has the least CAR among other countries in 3-day event window. CAR value in Brazil does not change compared to the 5-day CAR but the CAR value in South Africa has decreased. CAR values in China and India have also decreased while CAR in Turkey has increased. Russia has the largest CAR among other countries and the value has increased.

Table 18 shows the 2-day CARs in BRICS-T countries during postcrisis period. The figure is similar to the 3-day CAR case. South Africa has the least CAR and its value has not changed.

Name of the country	CAR (-2, +2) (%)
Brazil	-0.045
China	-0.007
India	0.026
Russia	0.050
South Africa	-0.044
Turkey	0.019

Table 16. Distribution of 5-day CARs (-2, +2) in BRICS-T countries after crises (2008/2011–2013).

Name of the country	CAR (-1, +1) (%)
Brazil	-0.045
China	-0.018
India	0.010
Russia	0.055
South Africa	-0.059
Turkey	0.036

Table 17. Distribution of three-day CARs (-1, +1) in BRICS-T countries after crises (2008/2011–2013).

Name of the country	CAR (0, +1) (%)
Brazil	-0.052
China	-0.017
India	0.008
Russia	0.076
South Africa	-0.059
Turkey	0.042

Table 18. Distribution of 2-day CARs (0, +1) in BRICS-T countries after crises (2008/2011–2013).

Name of the country	Mean CAR (%)
Brazil	-0.047
China	-0.014
India	0.015
Russia	0.063
South Africa	-0.054
Turkey	0.032

Table 19. Distribution of mean CARs in BRICS-T countries after crises (2008/2011–2013).

The CAR value in China has increased slightly. CARs in India have decreased while the CARs in Russia and Turkey have increased.

Table 19 shows the distribution of mean CARs in BRICS-T countries in postcrisis period for M&A transactions with a value more than \$100 million. Brazil, China, and South Africa have negative and statistically significant mean CARs while India, Russia, and Turkey have positive and statistically significant mean CARs. South Africa has the least mean CAR and Brazil and China follow it. Russia has the largest CAR and Turkey and India follow Russia.

4. Conclusion

Economic activities have direct impact on firms operating in a country and M&A activities have a close relationship with the economic welfare. If stock markets have desired conditions, there are more M&A activities. When there is an economic recession, firms are more conservative about M&A activities.

Although many researchers have worked on the abnormal returns during M&As, there are only a few studies on capturing abnormal returns of M&As during financial crisis. In this manner, we investigate M&A activities with a transaction value more than \$100 million in banking industry in BRICS-T countries before and after the financial crisis in 2008. Studies have shown that positive abnormal returns are generated after 2008 crisis in the emerging markets [3, 21].

According to our results, in precrisis period, Brazil has the least mean CAR with a value -0.201 among BRICS-T countries. Russia and India follow Brazil with CAR values -0.048 and -0.029 , respectively. China has the largest mean CAR value, that is, 0.062 . South Africa and Turkey follow Russia with mean CARs 0.046 and 0.014 , respectively. In postcrisis period, now, South Africa has the least mean CAR among BRICS-T countries. Note that mean CAR in South Africa is positive before crisis and it is negative after crisis. Brazil still has negative mean CAR in postcrisis period with an increased value compared to precrisis period. China has negative mean CAR value, which is -0.014 in post crisis period. Mean CAR in China is positive in precrisis period and it is negative in postcrisis period and this figure is similar to South Africa case. Russia has the largest and positive mean CAR in postcrisis period. The value of mean CAR in Russia is negative in precrisis period and it is positive in postcrisis period with

a value 0.063. India has positive mean CAR in postcrisis period with a value 0.015, while it is negative in precrisis period. Mean CAR in Turkey remains positive mean in postcrisis period and the value is increased to 0.032. In conclusion, Russia has negative mean CAR in precrisis period while mean CAR for Russia is positive in postcrisis period. This result is compatible with [3, 21]. India has negative mean CAR in precrisis period, which switches to positive in postcrisis period, which is compatible with previous research [21]. China, in the opposite, has positive mean CAR in precrisis period but negative mean CAR in postcrisis period. The mean CAR in South Africa is positive in the precrisis period and negative in the post crisis period. These results are in line with the previous research. This is due to the sample and the period differences. Turkey has positive mean cumulative abnormal returns in both pre- and postcrisis periods. Mean CARs are higher in the postcrisis period. This result supports the previous research [21].

In further, we might conclude that 2008 crisis had a significant effect on M&As (over \$100 million) in BRICS-T countries. Consequently, abnormal return analysis would give precious results for investigating M&As in the emerging financial markets.

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