

# THE EFFECT OF CROSS-BORDER AND DOMESTIC ACQUISITIONS ON SHAREHOLDER WEALTH: EVIDENCE FROM BRICS ACQUIRERS<sup>1</sup>

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## Abstract

The topic devoted to cross-border M&A performance has received wide attention in academic literature. Most existing studies examine wealth effects of international M&As in developed countries. We contribute to existing research by examining the market reaction to the announcements of M&As initiated by companies from BRICS countries over 2000–2012. We assess the long-term performance of M&A deals along with the short-term one and provide a comparative analysis of company wealth gains in cross-border and domestic M&As. Based on the sample of 117 cross-border deals and 247 domestic M&As we find that foreign acquisitions outperform the domestic ones in the long run. We also find that main determinants of M&A performance are the acquirer's FCFF, percentage change in the acquiring country's exchange rate against the target country currency during the acquisition year, and the level of international diversification of acquirers.

**JEL: G34**

**Key words: cross-border M&As, domestic M&As, abnormal returns, emerging capital markets**

## Introduction

In recent years the number of cross-border mergers and acquisitions (M&As) has increased substantially. The volume of international M&A deals has risen more than four times over the past twenty years<sup>2</sup>. Integration of capital markets, technological developments and globalization has hastened this process and encouraged leading developed market companies to play a more significant role in cross-border M&A activities.

Such transnational deals have been motivated by a variety of factors, different from those of domestic M&As. These factors include growth by market expansion, utilization of lower raw material and labour costs, extension of technology, applying a firm's brand name or intellectual property in new markets, tax and currency arbitrage, and benefits of geographic diversification. At the same time, these deals are more complex due to additional risks connected with differences in political and economic environment, corporate culture, organization, accounting, law, and tax rules between the countries of the acquirer and the target company (Sudarsanam, 2003; Bruner, 2004; DePamphilis, 2012). At first sight, this additional complexity of transnational deals may reduce the efficiency of M&A transactions, but this will not always be so. In terms of integration of capital markets and increasing global competition the refusal of international expansion by firms may have higher risks than risks associated with the cross-border deal realization. Whether cross-border M&As create real benefits to shareholders of the acquirer and target companies has been of particular interest for researchers in developed and emerging capital markets for a long time. Unfortunately, there still appears to be no consensus as to whether cross-border M&As create value of a firm.

Four approaches are often used by researchers to measure M&A efficiency: event studies, accounting studies, surveys of executives and clinical studies (Bruner, 2004). The first one is the major research tool for examining corporate control changes in cross-border M&A deals (Sudarsanam, 2003). This approach

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<sup>2</sup> United Nations Conference on Trade and Development, World Investments Report, 2012.

is based on analyzing stock returns in the period surrounding the announcements of M&A transaction. According to this method, M&A deals create (destroy) value of a firm when the actual return is higher (lower) than normal or predicted return during the event window. The length of the event window may be from one day before and one day after the announcement of M&A to several months within the short horizon studies. Long horizon studies are generally based on event windows of 1 year or longer.

Stock market evidence strongly indicates that target shareholders gain significantly in cross-border M&A deals (Conn, Connell, 1990; Kang, 1993; Eun et al, 1996; Kiymaz, Mukherjee, 2000; Kuipers et al., 2009; Danbolt, Maciver, 2012). But returns to targets vary by country, industry, and currency rates. Returns to acquiring firms are sometimes positive, sometimes negative, or equal to zero (Conn, Connell, 1990; Kang, 1993; Eun et al, 1996; Cakici et al., 1996; Eckbo, Thorburn, 2000; Moeller, Schlingemann, 2005; Kuipers et al., 2009; Danbolt, Maciver, 2012). We summarize the results of some latest major empirical studies that examine the performance of acquirers of foreign targets in Appendix 1. The review of these studies allows us to conclude that researchers mainly based on the analysis of market reaction in the short run. It may be explained by the fact that the implementation of long-term methods is a sophisticated and not straightforward task. The statistical reliability and limitations of these methods has been a topic for debate in the academic literature for some time. As a result, many authors indicate that tests with a long horizon are highly susceptible to the joint-test problem, and have low power (Kothari, Warner, 2007).

In recent academic papers the interest of researchers shifts towards comparing the acquiring company wealth gain in domestic acquisition with cross-border M&As. According to some empirical studies, international deals outperform domestic M&As (Lowinski et al., 2004; Goergen, Renneboog, 2004; Danbolt, Maciver, 2012; Dutta et al., 2013). However, a number of other papers state the opposite result (Eckbo, Thorburn, 2000; Campa, Hernando, 2004; Conn et al., 2005; Moeller, Schlingemann, 2005; Martynova, Renneboog, 2008). The acquiring company benefits in cross-border M&As may arise due to imperfections in factor, product and capital markets (Doukas, 1995; Doukas & Travlos, 1988) as well as the deal, acquirer and target characteristics. In order to understand the main determinants of market reaction to the announcements of cross-border M&As researchers control for different specific factors. The most common determinants of M&A efficiency are presented in Appendix 2. Scanning the column of results of Appendix 1 yields the observation that academic papers mainly analyze the effects of M&As in developed countries while the number of empirical studies that examine the returns for target and acquirer shareholders in emerging capital markets is rather limited. Nevertheless, the last years demonstrate the increase in the interest of researchers in the analysis of deals initiated by companies from emerging capital markets (Boateng et al., 2008; He et al., 2008; Ma et al., 2009; Gubbi et al., 2010; Kohli, Mann, 2012; Bhabra, Huang, 2013).

We contribute to existing literature by assessing and comparing the acquirer wealth gains in cross-border and domestic M&A deals initiated by companies from BRICS countries in the short and long terms. We also analyze the impact of foreign transactions on the acquirer's downside risk in order to understand the announcement effect and the long-run returns following acquisitions. This problem was not examined previously in emerging capital markets. In addition, we try to reveal the main determinants of the market reaction to the announcement of cross-border mergers and acquisitions.

The reminder of this paper is organized as follows: Section 2 suggests hypotheses and defines methodology. Section 3 describes the sample selection procedure. Section 4 provides the discussion of the results. Section 5 concludes this paper.

## Hypotheses and Methodology

### *Hypotheses*

The objective of this empirical paper is to examine whether cross-border and domestic M&A deals create wealth gains to acquirer shareholders and reveal key determinants of M&A performance. In the previous section we have observed mixed results about the effects of M&A deals on company value. Most of the studies, which have been done based on the data of companies that operate in emerging capital markets, indicate positive returns to acquirer shareholders in the short term. Going along with these studies we suggest the following hypothesis on the sample of BRICS countries over 2000–2012 for testing:

**H1:** Cross-border M&A deals initiated by companies from BRICS countries do not destroy value of acquiring firms in the short run ( $CAR > 0$ ).

We believe that cross-border M&A deals will show better performance than local transactions according to market imperfection theory (Kohli, Mann, 2012).

**H2:** Cross-border M&A deals initiated by companies from BRICS countries outperform the domestic M&As in the short run ( $CAR_{cross-border} > CAR_{domestic}$ ).

Long-term performance of M&A deals was mainly examined for companies from developed countries. In most cases, the researchers reveal that the market makes adjustments for M&A deals in the long run (Gregory, 1997; Dutta et al., 2013). Following them, we expect that transnational deals will negatively affect company performance in the long run.

**H3:** Cross-border M&A deals initiated by companies from BRICS countries destroy value of acquiring firms in the long run ( $BHAR > 0$ ).

**H4:** Cross-border M&A deals initiated by companies from BRICS countries outperform domestic M&As in the long run ( $BHAR_{cross-border} > BHAR_{domestic}$ ).

In this study we pay a special attention to risk analysis. Following Zhu, Jog (2012) we compare the risk of acquirers before and after the deals and expect that:

**H5:** Cross-border M&A deals initiated by companies from BRICS countries lead to an increase in downside risk of acquirers in the long run ( $\Delta DR < 0$ ).

This study also controls for several factors that could potentially influence the performance of M&A deals. These include the method of payment, the country of origin of targets (developed vs. emerging), the «relative size» effect, industry relatedness, the level of international diversification of acquirers, acquiring firms FCF, exchange rate effect, tax difference and a year dummy for acquisitions before mid-2008 and after mid-2009.

### Methodology

This study involves a several-step procedure. First, we analyse the effects of cross-border and domestic M&A deals on company value using the standard event study method. Second, we apply a detailed buy-and-hold abnormal return (BHAR) analysis to evaluate the long-term stock returns for the sample firms. Third, we compare the risk of the acquirer's common stock before and after M&A deals, following Zhu, Jog (2012). At the fourth step, we try to reveal the main determinants of M&A performance using the regression analysis.

### Abnormal returns around the announcement dates

In order to test for stock-price reaction to M&As announcements in the short run, we applied the standard event study method to calculate abnormal returns. Normal (predicted) returns are generated using the market model:

$$R_{jt} = \alpha_j + \beta_j R_{mt} + \varepsilon_{jt}, \quad (1)$$

where  $R_m$  is the return on a market index on day  $t$ ;  $\beta_j$  measures the sensitivity of firm  $j$  to the market;  $\alpha_j$  measures the mean return over the period that is not explained by the market;  $t \in (t_1; t_n)$  is the estimation period,  $\varepsilon_{jt}$  is the statistical error;  $E(\varepsilon_{jt}) = 0$ ,  $\text{var}(\varepsilon_{jt}) = \sigma^2$ .

The abnormal return here is  $AR_{j\tau} = R_{j\tau} - \alpha_j + \beta_j R_{m\tau}$ , where,  $R_{j\tau}$  is the actual return,  $\tau \in (T_1; T_m)$  is the event window.

We employ a 41-day event window comprised of 20 pre-event days, the event day, and 20 post-event days, and also vary it by decreasing the number of days. We take 100 trading days (from -120 to -20) prior to the event window as the estimation period to calculate the predicted return to each firm. We leave

22 days before the announcement date of an M&A to incorporate insider trading, which is typical to emerging capital markets.

The general test used for all hypotheses is the following (Weston et al, 2002; Kothari, Warner, 2007):

$$H_0 : CAR = 0$$

Test statistics are defined as follows:

$$t = \frac{CAR(T_1; T_m)}{\sqrt{m\sigma^2(t_1; t_n)}}, \text{ where } \sigma^2(t_1; t_n) = \sum_{t=t_1}^{t_n} \sigma^2(AR_t) \quad (2)$$

and  $m$  is the length of the event window.

### *Long-term stock return performance*

In order to examine the long-term performance of acquirers we apply a standard buy-and-hold abnormal return (BHAR) technique. We define BHAR as the return on a buy-and-hold investment in the sample firm less the return on a buy-and-hold investment in a portfolio with an appropriate expected return:

$$BHAR_{i,T} = \prod_{t=1}^T (1 + R_{i,t}) - \prod_{t=1}^T (1 + \hat{R}_{i,t}), \quad (3)$$

where  $R_{i,t}$  – is realized return;  $\hat{R}_{i,t}$  – is expected return.

As before, we will use daily stock returns. We choose a 1-year event window (-20; +344) and take 365 days as the estimation period (-385; -21) to calculate abnormal returns.

According to Barber and Lyon (1997), BHAR is subject to a new listing bias, skewness bias, and a rebalancing bias. Thus, in order to check for significance the adjusted t-statistics should be used (Lyon et al., 1999). In order to take also into account the cross-dependence among acquisition events in our analysis we use the correction suggested by Mitchell, Stafford (2000):

$$\frac{\delta_{BHAR}(independence)}{\delta_{BHAR}(dependence)} \approx \frac{1}{\sqrt{1 + (N-1)\bar{\rho}_{i,j}}}, \quad (4)$$

where  $N$  is the number of sample events,  $\sigma_{BHAR}$  is the cross-sectional sample standard deviations of abnormal returns for the sample of  $N$  firms and  $\bar{\rho}_{i,j}$  is average correlation of individual BHARs.

### *Impact of M&As on the acquirer's downside risk*

Risk in line with return is the most important thing investors pay attention to while assessing a potential investment. There are a lot of studies that examine the performance of M&As while there are a limited number of papers that analyze and discuss long-run changes in volatility and risk of acquirers. But this may be important to understand the announcement effect and the long-run returns following mergers (Bharath, Wu, 2005). In this paper we assess the impact of M&A deals announcement on a downside risk level of the acquirers' common stock (Zhu, Jog, 2012).

Due to the significant skewness and kurtosis in emerging market stock returns (Bekaert et al., 1998), we use the measure of downside risk (Estrada 2006) by calculating the semideviation of stock returns for each acquirer:

$$DR_{i,T} = \sqrt{\frac{1}{T^- - 1} \sum_{t=1}^{T^-} ((R_{i,t} - \bar{R}_i)^-)^2}, \quad (5)$$

where  $T^-$  is the number of observations such that  $(R_{i,t} - \bar{R}_i) < 0$ .

In order to estimate a deal announcement impact on the risk level we calculated downside risk measure both for a 1-year period prior to an announcement (-385; -21) and 1-year after it (-20; +344). The difference between the two values served as a proxy for risk level improvement (reduction):

$$\Delta DR_i = -(DR_{i,1} - DR_{i,0}). \quad (6)$$

Due to high skewness of risk measures distribution we, in line with Zhu, Jog, 2012, will use logarithmic values for the estimation of statistical significance:

$$t = \frac{1/N \sum_{i=1}^N [\Delta \ln DR_i]}{\delta_{\Delta \ln(DR_i)}} \approx t_{N-1}. \quad (7)$$

### *Regression analysis*

For the purpose of estimating determinants of abnormal return and risk level change that virtually define an M&A deal performance we applied a regression analysis. In order to reveal the key determinants of M&A performance we use the following model:

$$CAR_i = \alpha_i + \beta_1 Crisis + \beta_2 Payment + \beta_3 DavTag + \beta_4 RelSize + \beta_5 Ind Relat + \beta_6 IntDiv + \beta_7 AcqFCFF + \beta_8 ExchRate + \beta_9 TaxDecrease + \varepsilon_i \quad (8)$$

We also use this model to analyze the factors that influence long-term performance and changes in risk. The detailed descriptions of all the above variables are given in Appendix 3.

### **Data and sample characteristics**

This study is based on the sample of companies from BRICS countries. We use Bloomberg and EMIS DealWatch databases in order to identify an initial sample of publicly traded deals that fit into the category of completed transactions during the period 2000–May 2012. We further require that (1) only acquirers are publicly traded firms, (2) the acquiring firm controls less than 50% of the shares of the target firm before the announcement, (3) the relative transaction size is higher than one per cent, (4) the acquirer's closed prices are available for us, (5) acquirers and targets are not financial firms.

Our requirements yield the sample of about 400 cross-border M&As. At the next step we exclude the companies for which it was impossible to gather the data for our regression analysis and also the firms that have announced several M&As at the same time. All these criteria give us a sample of 117 cross-border M&A deals. In addition, 247 domestic M&A deals were selected for the purpose of comparison of the two types of deals performance. The number of deals in the sample and the market value involved in these deals are presented in Appendix 4.

For our analysis of long-term returns performance we adjust the analysed time period due to the fact that we need longer estimation and event widows and to be sure that the sample deals do not fall into the crisis period. Thus, we examine the efficiency of M&A deals that were announced during the following periods: 2000–mid 2007 and mid 2010–May 2011. Respectively the number of M&A deals has reduced to 74 cross-border M&As and 180 domestic deals.

### **Empirical findings and results**

The results of short-term market reaction to the announcements of cross-border and domestic M&A deals are presented in Appendix 5. The results indicate that the proposed hypothesis 1 (*H1*) cannot be rejected at 5 per cent level for several, especially short-term, event windows. The appendix also shows that the acquirers that initiate cross-border M&As gain negative abnormal return compounded over event window of 40 days (-20; +20) but this result is not statistically significant. The returns for the acquirers that are engaged in domestic deals are positive and statistically significant for almost all event widows indicating that local deals create value for shareholders.

The event study outcomes allow us to reject the proposed Hypothesis 2 (*H2*) that cross-border M&As initiated by companies from BRICS countries outperform the domestic deals. On the contrary, our figures prove the statistical significance of the opposite result that the shareholders of the acquiring companies have earned higher (by 2%) wealth gains on the announcement of domestic acquisitions as compared to those of the cross-border acquisitions. These findings are consistent with Campa, Hernando (2004), Moeller, Schlingemann, (2005) and Conn et al., (2005).

The CAR dynamics over a 59-day event window (Appendix 6) demonstrates that acquirers earn positive abnormal return over a few days before and after the announcement day (from  $t=-10$  to  $t=5$ ), but then

the correction period follows and investors revise their expectations on the efficiency of deals, causing further share price fluctuations.

Long-term abnormal returns were estimated with BHAR measure. The results are presented below in Appendix 7. Despite the average BHAR of cross-border acquirers of -7.2%, the value of adjusted t-statistics is small enough and Hypothesis 3 (*H3*) is rejected at the 1% level. At the same time BHAR for the acquirers that initiated cross-border deals is higher than the long-term returns for domestic deals hence the proposed Hypothesis 4 (*H4*) is not rejected at the 10% level.

The results that we obtain from our analysis of the acquirer’s downside risk are presented in Table 1.

Table 1

**Change of acquirers’ stock downside risk caused by cross-border M&As announcements**

$\Delta(\ln DR)$	Comment	t-statistic
-0,0205**	Risk level increase	-2,17

\*\*\* 1% significance level \*\* 5% significance level \* 1% significance level

Source: authors’ calculations

According to the results from Table 1, the cross-border M&A deals increase the downside risk level of acquirers. Thus, the proposed Hypothesis 5 (*H5*) is not rejected at the 5% level.

In order to reveal the key determinants of market reaction to the announcements of mergers and acquisitions and change in the acquirer’s downside risk level we use the regression model presented above (8). Appendix 8 shows regression coefficient estimates and test statistics. The results indicate that the level of the acquirer’s FCFF, changes in exchange rates, and level of international diversification of acquirers have significant impact on short- and long-term performance of M&A deals.

The percentage change in the acquiring country’s exchange rate against the target country currency during the acquisition year is negatively correlated with short- and long-term abnormal returns. This indicates that appreciation of domestic currency may lead to reduction in cash flows that acquirers would receive from acquired targets. Statistical significance of exchange rate volatility was also confirmed when we analyse the determinants of change in the acquirer’s downside risk level (Appendix 9). The coefficient for variable AcqFCFF is also negative pointing that high levels of free cash flows do not limit managerial discretion and stimulate them to make value-destroying acquisitions. The level of international diversification of acquirers is negatively correlated with CARs and positively with BHARs indicating that in the long run diversified acquirers make better M&As.

We also find that there are two additional factors that have significant (at the 5 per cent level) impact on the long-term market reaction to the announcements of cross-border M&As. These are relative deal size and business relatedness (Appendix 8).

## Conclusion

The objective of this article is to assess and compare the acquirer wealth gains in cross-border and domestic M&A deals initiated by companies from leading emerging capital markets in short- and long run and to reveal the sources of value creation in cross-border M&A deals.

In contrast to other studies in emerging capital markets we examine the long-term market reaction to the announcements of cross-border and domestic acquisitions and also analyze the impact of foreign transactions on the acquirer’s downside risk.

Based on the of cross-border and domestic M&A deals initiated by companies from BRICS countries during 2000 – May2012 we find that the stock market reacts favorably and statistically significant to the announcements of domestic deals in the short run. Returns to foreign acquirer shareholders are also positive and statistically significant but only for short event windows. Comparing the effects of M&As on firm value in the short term for foreign and domestic acquisitions we reveal that the latter outperform the cross-border M&As.

Our analysis based on the buy-and-hold abnormal return method shows the opposite results: returns for shareholders in domestic and foreign M&As are negative but statistically insignificant and cross-border deals are more efficient than domestic ones (the result is significant at the 10% level). We also find that the cross-border M&A deals increase the downside risk level of acquirers in the long term. According to our analysis, the key determinants of short- and long-term performance of M&A deals are the acquirer's FCFF, changes in exchange rates, and the level of international diversification of acquirers.

In this paper, we try to reveal only the factors that influence cross-border M&A performance and do not provide the comparative analysis of sources of value in domestic and foreign deals. This shortcoming opens space for further investigation.

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## Abnormal returns to acquirer shareholders in cross-border M&amp;As

Study	Sample period, sample size, acquirer country and (target country)	Event window	Abnormal return (%)
Conn, Connell, 1990	1971-1980; 73, US, UK – (US, UK)	(-1...0)	-0,0787 ** UK acquirers -0,025 US acquirers
Kang, 1993	1975-1988; 119; 102 Japanese, US – (US)	(-1...0)	0,0059 Japanese acquirers -0,029 US acquirers Difference is significant at 5%
Eun, Kolodny, Scheraga, 1996	1979–1990; 117 Different developed countries – (US)	(-5...0)	-0,012 all observations 0,0362 Japanese acquirers 0,0318 Canadian acquirers -0,0428 UK acquirers -0,0046 all other acquirers
Cakici et al., 1996	1983–1992; 195; Different developed countries – (US)	(-1...0)	0,0046** foreign acquirer 0,00 US acquirer
Eckbo, Thorburn, 2000	1964–1983; 1261, 345; Canada, US – (US)	(-40...0)	0,0171** Canadian acquirers -0,003 US acquirers
Campa and Hernando, 2004	1998–2000; 262 EU M&A	(-1...1)	domestic > cross-border*
Lowinski et al., 2004	1990–2001; 114; Switzerland – (different countries)	(-1...1)	cross-border > domestic*
Conn et al., 2005	1984–1998; 4 344; UK – (UK, different countries)	(-1...1)	domestic > cross-border*
Moeller, Schlingemann, 2005	1985–1995; 4047 cross-border 383 domestic US – (Canada, UK, France, Germany)	(-1...1)	0,00307 cross-border M&As 0,01173 domestic M&As domestic > cross-border***
Kuipers et al., 2009	1982–1991; 181; Different countries – (US)	(-1...0)	-0,0092***for acquirers 0,0299*** for portfolio
Danbolt, Maciver 2012	1980–2008; 146; Different countries, UK – (UK, different countries)	(-1...1)	-0,0028 cross-border -0,0178*** domestic cross-border > domestic**
Dutta et al., 2013	1993–2002; 755 domestic, 545 cross-border; Canada – (Canada, different countries)	(-1...1)	0,013*** total sample 0,0086*** domestic 0,0188** cross-border cross-border > domestic** cross-border <sub>stock</sub> > cross-border <sub>cash</sub> ***
Gregory, O'Donohoe, 2014	1990–2005; 169 domestic, 119 cross-border; different countries, UK – (UK)	(-2...2)	1,07** total sample; -1,3** domestic acquirers; -0,75 foreign acquirers
Boateng et al., 2008	2000–2004; 27; China – (different countries)	(0...1)	1,32 cross-border
Ma et al., 2009	2000-2005; 1 477; Asian countries – (different countries)	(-1...1)	0,0128***
Gubbi et al., 2010	2000–2007; 425; India – (different countries)	(-5...5)	2,58** cross-border

Bhagat et al., 2011	1991–2008; 698, BRICS, Malaysia, Mexico, Philippines – (different countries)	(-1...1)	0,0172*** cross-border
Kohli, Mann, 2012	1997 – March2008; 66 domestic, 202 cross-border; India – (India, Different countries)	(-1...1)	1,19 domestic 2,32*** cross-border cross-border > domestic
Deshpande et al., 2012	1984–2008; 16 435, global M&As	(-1...1)	0,05** developed-developed 0,032 developing-developing 0,005 developed-developing 0,002 developing-developed
Bhabra, Huang, 2013	1997–2007; 135; India – (India, different countries)	(-1...1)	1,23*** domestic -0,26 cross-border

\*\*\*Significant at the 1% level \*\*Significant at the 5% level \*Significant at the 10% level

Source: authors' calculations

## Appendix 2

### Variable description

Variables	Description
Crisis	<i>Crisis 2008-2009.</i> 1 for acquisitions after mid-2009, 0 for acquisitions before mid-2008
Payment	<i>Method of payment.</i> 1 when acquirer pays with cash for public target or pays with stock for private targets, 0 otherwise
DevTarg	<i>Country of origin of targets.</i> 1 for targets from developed countries (according to IMF classification), 0 otherwise
RelSize	<i>Relative deal size.</i> Deal value to acquirer's market capitalization ratio
IndRelat	<i>Industry relatedness.</i> 1 for related acquisitions (according to Bloomberg classification), 0 for unrelated
IntDiv	<i>Level of international diversification of acquirers.</i> Acquirer Export Revenue to Acquirer Total Revenue ratio
AcqFCFF	<i>FCFF of acquiring firms.</i> Acquirer FCFF to Acquirer Market Capitalization ratio
ExchRate	<i>Changes in exchange rates.</i> The percentage change in the acquiring country's exchange rate against the target country currency during the acquisition year
ExchABS	<i>Proxy for exchange rate volatility.</i> Calculated as a module of ExchRate. We use it for our analysis of determinants of $\Delta DR$
TaxDecrease	<i>Tax difference.</i> The difference of the corporate tax rate between the acquiring country and the target country at the date of announcement

Source: authors' calculations

## Appendix 3

### Number and volume of deals initiated by companies from BRICS countries during 2000-May 2012

Country	Cross-border M&As		Domestic M&As		Total	
	Number of deals	Volume (in mln \$)	Number of deals	Volume (in mln \$)	Number of deals	Volume (in mln \$)
Brazil	21	24 518	53	28 717	74	53 235
Russia	18	11 536	31	31 738	49	43 274
India	32	8 522	22	6 555	54	15 077

China	23	37 227	111	17 941	134	55 168
South Africa	23	6 743	30	5 784	53	12 527
Total	117	88 546	247	90 736	364	179 282

Source: authors' calculations

## Appendix 4

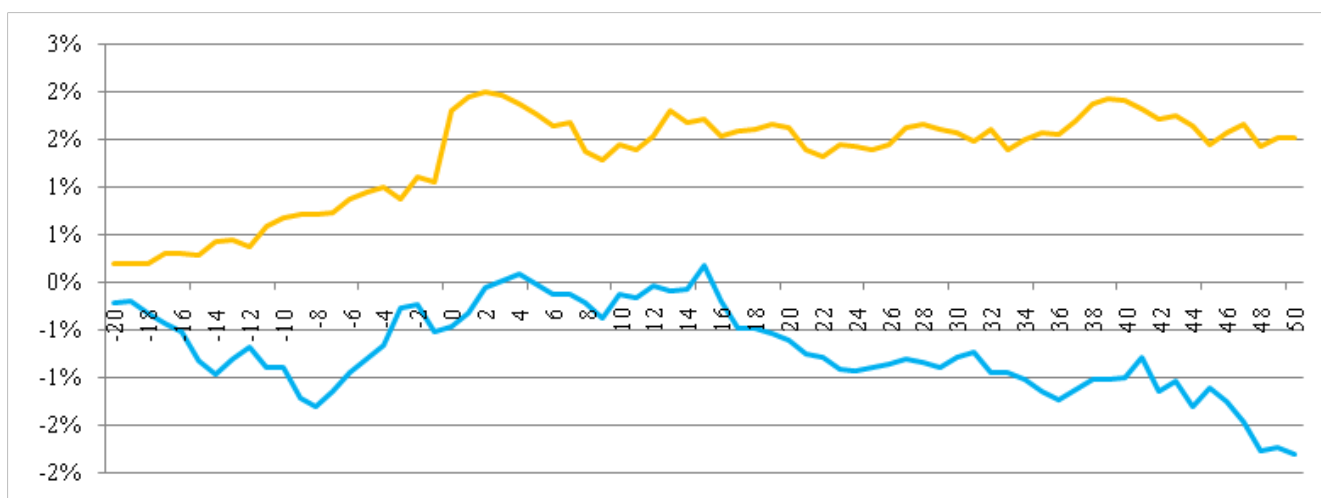
### Short-term cumulative abnormal returns of acquirers from BRICS countries

Event window, days	Cross-Border M&A (117 deals)			Domestic M&A (247 deals)			Cross-border effect		
	CAR	t-stat		CAR	t-stat		CAR	t-stat	
-1; 1	-0.09%	-0.38		0.84%	4.39	***	-0.92%	-3.06	***
-2; 2	0.21%	0.73		1.12%	4.56	***	-0.90%	-2.32	***
-3; 3	0.68%	1.94	**	0.97%	3.36	***	-0.30%	-0.64	
-4; 4	0.88%	2.23	**	0.94%	2.84	***	-0.05%	-0.10	
-5; 5	0.92%	2.09	**	0.53%	2.43	**	0.03%	0.05	
-8; 8	0.99%	1.81	*	0.64%	1.42		0.34%	0.48	
-10; 10	0.76%	1.25		0.86%	1.71	*	-0.10%	-0.13	
-15; 15	0.69%	0.94		1.41%	2.31	**	-0.72%	-0.74	
-20; 20	-0.61%	-0.73		1.62%	2.30	**	-2.23%	-2.00	*

\*\*\* 1% significance level \*\* 5% significance level \* 10% significance level

Source: authors' calculations

## Appendix 5



— domestic M&As; — cross-border M&As

Plot of CARs for M&As initiated by companies from BRICS countries

Source: authors' calculations

## Appendix 6

### Long-term buy-and-hold abnormal return of acquirers from BRICS countries

Event window, months	Cross-border M&A (74 deals)		Domestic M&A (180 deals)		Cross-border effect		
	BHAR	adjusted t-stat	BHAR	adjusted t-stat	BHAR	t-stat	
1 M	0.15%	0.09	-0.16%	-0.07	0.31%	0.30	
2 M	-0.09%	-0.04	-0.31%	-0.11	0.22%	0.16	
3 M	0.11%	0.04	-1.02%	-0.32	1.12%	0.72	
4 M	-0.82%	-0.25	-2.51%	-0.67	1.69%	0.91	
5 M	0.18%	0.05	-4.27%	-0.98	4.45%	1.976	**

6 M	-0.60%	-0.12	-6.20%	-1.23	5.50%	2.14	**
7 M	-1.40%	-0.30	-7.80%	-1.24	6.40%	2.14	**
8 M	-3.88%	-0.75	-10.31%	-1.55	6.43%	2.03	**
9 M	-5.14%	-0.91	-10.66%	-1.43	5.51%	1.68	*
10 M	-5.70%	-0.87	-11.90%	-1.33	6.30%	1.50	
11 M	-6.31%	-0.86	-12.95%	-1.26	6.65%	1.74	*
12 M	-7.19%	-0.893	-11.91%	-0.91	4.72%	0.42	*

Source: authors' calculations

## Appendix 7

### Determinants of market reaction to the announcements of cross-border M&As

Variable	CAR (-20; +20)				BHAR (-20; +344)			
	Initial model		Final model		Initial model		Final model	
Const	0.0132		0.0293		0.0396		-0.0235	
Crisis	-0.00570				0.0228			
Payment	0.0105				-0.0386			
DevTarg	-0.0363		-0.0197		-0.174			
RelSize	0.1302				0.982	***	0.438	**
IndRelat	-0.00560				-0.322	***	-0.198	**
Int Div	-0.0756		-0.0922	*	0.256		0.367	*
AcqFCFF	-0.0902		-0.128	**	-0.361		-0.351	***
ExchRate	-0.0676	***	-0.0691	***	-0.451		-0.256	**
TaxDecrease	-0.0650				-1.293			
Model characteristic:								
Number of observations	117		117		74		74	
R <sup>2</sup>	0.47		0.16		0.63		0.86	

Source: authors' calculations

## Appendix 8

### Determinants of change in acquirers' downside risk level

Variable	ΔDR (downside risk reduction) determinants			
	Initial model		Final model	
const	-0.0465		-0.00639	
DevTarg	0.159	**	0.0971	
IndRelat	-0.00433			
AcqInternExposu	0.000264			
ExchABS	-0.297	***	-0.326	***
Crisis	-0.0879		-0.0897	
Model characteristic:				
Number of observations	74		74	
R <sup>2</sup>	0.67		0.599	

Source: authors' calculations