

## Factors affecting the Long-Term Post-Acquisition Performance of BRICS Firms Engaging in Cross-Border Mergers and Acquisitions

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**Abstract:** The purpose of the paper is to examine factors that affect the long-term performance of listed firms from Brazil, Russia, India, China and South Africa (BRICS) that engage in cross-border mergers and acquisitions. This paper adds to the existing literature on the performance of mergers and acquisitions from emerging economies by examining the performance of mergers and acquisitions activities on acquirers from individual BRICS countries and examining whether intra-BRICS acquisitions are more beneficial than non-BRICS acquisitions. The system generalised method of moments estimation technique was employed in order to control for unobservable heterogeneity and potential endogeneity problems using accounting data and merger deal information collected from the Bloomberg online database for the period January 2000 to December 2012. The results obtained indicate that there is persistence in the profits, suggesting that BRICS acquirers continue to profit as they engage in mergers and acquisitions, and firm size significantly impacts the profits of acquirers.

**Keywords:** leverage; profits; mergers; acquisitions; cross border

**JEL Classification:** G32

### 1. Introduction

BRIC started as a mere acronym for Brazil, Russia, India and China coined by Jim O Neil in 2001 because of the growth potential of these four countries' economies (*The Economist*, 2013). South Africa was invited to join BRIC in 2010 to form BRICS. These countries continue to develop strong partnerships to become more than a mere acronym. BRICS countries have common economic agreements such as a preferential trade agreement, improving the institutional environment and, recently, establishing a development bank.

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BRICS countries have grown in their role as sources of outward foreign direct investment (OFDI) from emerging countries to the world in the last two decades (United Nations Conference on Trade and Development, 2013). Governments in emerging countries have realised the importance of OFDI for their local firms' competitiveness in the international market and the beneficial effect of OFDI on the local economy (Sauvant, 2005). Starting from the year 2000, BRICS countries recorded a significant increase in cross-border mergers and acquisitions (CBM&As) activities compared to prior years. The increase in the number of CBM&As' activities from BRICS was motivated by the need to gain entry into the markets in developed countries (Sauvant, 2005). CBM&As have become a major mode of entry for firms from emerging countries into other countries (Bhagat et al., 2011, Lebedev et al., 2014). Home and host economies both play an important role in the success of CBM&As, yet no study has been carried out on the performance of CBM&As in countries with common agreements such as BRICS. Studies on BRICS CBM&As activities either focus on mergers and acquisitions (M&As) between two countries or M&As from BRIC (excluding South Africa) with other countries in the world (Boateng et al., 2008).

The objective of this paper is to analyse factors that affect the post-acquisition performance of firms from BRICS. This study contributes to the literature in several ways. First, this study adds to the few multi-country studies of emerging countries by focussing on the performance of mergers and acquisitions engaged in by BRICS acquirers. To the best of our knowledge, this is the first study to test the impact of the host country on the profitability of acquirers in countries with common agreements. From a methodology point of view, the study contributes to existing literature by employing the two-step system generalised method of moments (system GMM) with forward orthogonal deviations, which allows the researchers to control for possible endogeneity problems.

Our results show that there is persistence in profits of BRICS acquirers, and firm size significantly impacts the profits of acquirers. Leverage, growth, method of paying for the acquisition and the host country of the target do not have any effect on BRICS acquirers' profitability.

The rest of the paper is structured as follows; Section 2 provides an overview of factors that affect the post-acquisition performance of firms that engage in CBM&As. The data and methodology are discussed in Section 3. Estimation results and robustness tests are presented in Section 4. Section 5 concludes the study.

## 2. Literature Review And Hypothesis Development

### 2.1. Factors affecting post-M&As Performance

Firms operate in an imperfectly competitive or competitive market; therefore CBM&As will have different degrees of effects on individual acquiring firms' profitability. It is therefore important to examine the effect of CBM&As on acquirers' profitability (Kumar, 1985). Meeks (1977), Dickerson et al. (1997) and Sharma and Ho (2002) use profitability as the measure of operating performance of acquirers.

#### 2.1.1. Lagged Profit

Persistence of profits enables firms to adapt to their environment and also enables firms to operate as going concerns into the foreseeable future (Geroski & Jacquemin, 1988). CBM&As' deals engaged in by firms are successful when post-acquisition profit is persistently above average. Persistence of profit is useful to examine the dynamics of performance because M&As may differ in their success in boom periods compared to trough periods (Dickerson et al., 1997). Profit ( $\pi$ ) is the profitability of a firm as measured by profit before interest and tax (PBIT) divided by average value of assets ( $\pi_{it-1}$  denotes lagged profit). It is hypothesised that lagged profit has a positive effect on the current profitability of BRICS acquirers.

#### 2.1.2. Growth

Growth is a very important factor for the success of a firm (Kouser et al., 2012). Growth as a key variable measures the value of growth opportunities that acquirers' possess when they engage in M&As. A firm can grow internally or through M&As (Dickerson et al., 1997; Gaughan, 2005). Growth through M&As enables the acquirer to realise returns almost immediately after the investment is made, as the target firm is already in operation. According to Gaughan (2005), M&As can be a fast way to achieve growth. However, it is not always best to pursue growth because some firms may have reached their most efficient size. Such acquisitions can cause such acquirers to be less efficient and this can impact negatively on the operational performance of such acquirers. In this study, growth, ( $G_{it}$ ), is measured as a percentage change of total net assets over the period (that is, the difference between current year total asset in the current year and prior year divided by total assets in the prior year). The study includes a distributed lag  $\theta(L)$  to allow for any delayed effects of a company's internal growth on performance. It is hypothesised that growth has a positive relationship with profits because growth is enhanced by increased profits and profitable firms grow are more likely to survive in their markets (Kouser et al., 2012).

### 2.1.3 Firm size

Post-acquisition performance can be influenced by the size of the acquirer. The size of the acquiring firm, as well as the size of the target firm, are likely to have a significant impact on M&As deals and significantly increase the post-acquisition performance of acquirers that acquire large targets (Organisation for Economic Co-operation and Development; 1974; Tuch & O'Sullivan, 2007). In this study  $SIZE_j$  are dummy variables for the size of the acquiring firm. Quintiles of total assets were calculated and acquirers were assigned to a size quintile for each period ( $j= 1 \dots 5$ ). Using relative-size dummies, allows for a non-linear relationship between size and performance and also eliminates the problem that total net assets are a nominal figure. It is hypothesised that a positive relationship exists between firm size and profits.

### 2.1.4 Leverage

Leverage ( $LEV$ ) can be defined as the employment of fixed cost capital to increase profitability (Iqbal et al., 2013). Leverage is measured as the value of total debt as a proportion of total net assets for each year end, where total debt includes both long-term and short-term debt. M&As are often externally financed because they are expensive strategies that often require additional resources beyond what is needed for normal operations (Harrison et al., 2014; Kumar, 1985). The existence of debt should improve the post-acquisition performance of acquirers in line with the free cash flow theory by Jensen (1986). However, Harrison et al. (2014) who examine the relationship between leverage for acquirers, targets and post-acquisition performance show that leverage has a negative impact on the post-acquisition performance of acquirers. The negative performance is clustered in acquiring firms that are already highly geared. M&As often lead to an increase in the debt-to-asset ratio in post-acquisition periods. High leverage as a result of M&As increases financial risks and reduces post-acquisition performance for firms with high debt levels (Harrison et al., 2014). It is hypothesised that a negative relationship exists between leverage and profit for firms engaging in CBM&As.

### 2.1.5 Method of Payment

Post-acquisition performances of acquirers are also influenced by the method of financing the M&A deals (Healy et al., 1992). According to corporate finance theory, different post-merger performance results are reported because of signalling effects on the acquiring firms' stock prices (Ramaswamy & Waagelein, 2003). The signalling hypothesis rests on the assumption that managers have inside information regarding the true value of the firm. Acquirers will prefer to pay in cash if they believe their shares are undervalued, and they will choose common equity if their shares are overvalued (DeAngelo et al., 1984; Ramaswamy & Waagelein, 2003; Tuch & O'Sullivan, 2007). This theory is referred to as the method of payment hypothesis (Loughran & Vih, 1997). Acquirers use cash payment as a tool to signal

their value to the market (Fuller et al., 2002). An acquirer may not want to use cash to finance a M&A deal if the acquirer is uncertain about the value of the target firm. When the acquirer is uncertain about the value of the target firm and the target firm accepts a cash offer greater than its true value, the acquirer would have overpaid (Fuller et al., 2002).

Cash payments may signal market participants to interpret a cash offer as good news, that is, the acquiring firm's management expects an increase in firm value over the post-acquisition period, and to interpret a common stock offer as bad news (Ramaswamy & Waegelein, 2003; Tuch & O'Sullivan, 2007). M&As paid with shares will lead to an increase in the number of outstanding shares and thus cause a dilution of shares, which reduces share prices and also reduces returns to existing shareholders (Gorton et al., 2009; Sullivan et al., 1994). Sullivan et al. (1994) found that returns to acquirers are not influenced by the method of financing M&As deals. One of the objectives of this study is to determine whether method of payment influences the operating performance of acquirers from BRICS.

### **3. Methodology**

#### **3.1 Data Sources and Sample Construction**

Data on mergers and acquisitions, and financial information about BRICS acquirers was obtained from the Bloomberg online database. This study examined 1355 CBM&As made by 958 firms from the BRICS countries during the period January 2000 through to December 2012. Due to the increased number of domestic and cross-border M&As deals on the Bloomberg online database relating to BRICS, a selection criterion was introduced to reduce the number of M&As deals in target regions to form the sample size for the study. A minimum total value of each acquisition was set for regions with a large number of acquisitions, especially in developed countries, the minimum being United States dollars (US\$) 20 million. However, in regions with a small number of M&As activities, no minimum announced total value of acquisitions was set. For example, no limit was set for the target region of Latin America and the Caribbean, but a limit was set for North America due to the large number of CBM&As from BRICS in this region.

The study excluded data from South Africa in the data analysis prior to 2010, because South Africa only joined BRIC (to form BRICS) in 2010. South Africa was included in the sample from 2010. The locations of target firms are in BRICS countries and the rest of the world. The final sample has exhaustive information on the explanatory variables and consists of 958 acquirers. Among the acquirers are firms that engaged in single or multiple transactions. The financial information contains the independent and dependent variables to be used for analysis to achieve the study's objectives.

### 3.2 Descriptive Statistics

Table 1 presents the descriptive statistics of key variables. Table 1 shows that the average profit is 5.5% of average assets, while average asset growth is 18.9%. The mean leverage is 26% of total assets, suggesting that, on average, acquiring firms are not heavily reliant on external financing. The results show that acquirers from BRICS are geared at a low level, suggesting that BRICS acquirers have difficulty in accessing external finance to fund CBM&As. One reason for the difficulty in accessing external finance, supported by Bhagat et al. (2011)'s study, is that most firms from emerging countries engaging in CBM&As are small-sized firms thus limiting their ability to access external finance. Firm size is calculated as the quintiles of total assets. The mean value of non-BRICS acquisitions of 401.07 is higher than the mean<sup>1</sup> value of intra-BRICS acquisitions of 336.17.

**Table 2. Descriptive Statistics of Key Variables**

Variable	Mean	Std. Dev.	Min	Max	Observations
<b>Profits</b>	0.06	0.17	-2.58	6.30	N = 10006
<b>Lev</b>	0.26	0.36	0	13.45	N = 10717
<b>Debt</b>	2861.28	16734.15	0	510803.1	N = 10720
<b>Debt to total assets</b>	26.07	36.43	0	1345.37	N = 10750
<b>Total Asset(s)</b>	14034.01	105549.1	0.002	3320200	N = 10759
<b>Asset growth</b>	0.19	7.75	-0.10	550.50	N = 10176
<b>Firm size</b>	2.99	1.41	1	5	N = 10759
<b>BRICS</b>	336.17	657.78	0.65	3500	N = 686
<b>Non-BRICS</b>	401.07	1148.322	0	17431.65	N = 1150

*Source: Author's calculation based on data obtained from Bloomberg online database (2015)*

### 3.3 Estimation Model

The focus of this study is on understanding factors that affect post-merger performance in BRICS, and it therefore employs regression analysis instead of event studies and accounting information approaches. Event studies are based on stock price changes; they measure the impact of a certain event, such as the announcement of an M&A deal. The popularity of the event study approach stems from its ability to allow researchers to avoid reliance on accounting profits, which often prove not to be good indicators of the true company performance because financial statements can be manipulated by managers. It is very unlikely that insiders (managers) can manipulate stock prices. Thus stock prices should reflect the fair value of the company, because they are assumed to reflect the discounted value of all the future cash flows and incorporate all publicly known information about the company. Post-

<sup>1</sup> The unit of measure for mean values are calculated as total of each variable (number or values) divided by total number of observations for each variable.

acquisition performance using accounting information has been used to measure the long-run impact of acquisitions on the grounds that any benefits arising from acquisitions will eventually appear in the firm's financial statements. This approach compares pre- and post-merger accounting performance measures.

The study employs regression analysis on accounting information for three reasons, pointed out by Papadakis and Thanos (2010). First, the accounting-based approach measures actual and realised performance of merged firms as reported in their annual financial statements. Second, accounting-based measures assess different aspects of M&As performance. For example, return on assets (ROA) is a measure of a firm's profitability. Leverage is a measure of the proportion of a firm's debt relative to its total assets. Thus, combining multiple accounting ratios within a single study, the study can reflect a more integrated view of the effect of M&As on post-acquisition performance of acquirers and targets (Papadakis & Thanos, 2010). Third, one motive for embarking on M&As is to explore synergies. If synergies exist in M&As, their benefits are not likely to be realised in the short run, but they are reflected in the long run when performance is measured using accounting tools (Hitt et al., 2001; Kumar, 1985; Papadakis & Thanos, 2010; Tuch & O'Sullivan, 2007).

This study follows in the footsteps of Dickerson et al. (1997) as a foundation when examining the effect of CBM&As on the long-term post-acquisition performance of BRICS acquirers as shown in Equation 1. Unlike the study by Dickerson et al. (1997), which employed fixed-effects panel regression, the study employs the GMM estimation technique.

$$\pi_{it} = \beta\pi_{it-1} + \sum_{j=1}^5 \delta_j \text{SIZE}_{jit} + \eta \text{LEV}_{it} + \theta(L)G_{it} + \alpha_i + \gamma_t + \varepsilon_{it} \dots \text{Equation 1}$$

Equation 1 is used as a basis to estimate the effects of CBM&As transactions on performance of BRICS acquirers. The variables in Equation 1 are standard and command wide support in the industrial organisation literature (Dickerson et al., 1997) and are described in detail in the literature section. The coefficient on lagged profits  $\beta$ , coefficient on size  $\delta_j$ , coefficients on growth  $\theta(L)$ , and coefficient on leverage  $\eta$ , capture the effects on the dependent variable  $\pi$ .  $\alpha_i$  and  $\gamma_t$  control for unobserved heterogeneity and time-specific effects, which influence the dependent variable.  $\varepsilon_{it}$  is the error term.

The second model modifies Equation 1 by adding the acquisition transition variable; ( $acq\_trans_{it}$ ).  $Acq\_trans_{it}$  is a permanent shift dummy variable that switches from 0 to 1 when a BRICS firm becomes acquirer for the first time and remains at 1 thereafter. It measures any permanent shift in the profitability trajectory of a firm after it becomes an acquirer in the period analysed.

$$\pi_{it} = \beta\pi_{it-1} + \sum_{j=1}^5 \delta_j SIZE_{jit} + \eta LEV_{it} + \theta(L)G_{it} + \gamma acq\ trans_{it} + \alpha_i + \gamma_t + \varepsilon_{it} \dots \text{Equation 2}$$

The third model modifies Equation 1 by adding the method of payment variable, *Metpay<sub>it</sub>*. *Metpay<sub>it</sub>* is an additional variable created to test the impact of the method of payment on the profitability of BRICS acquirers. The methods of payment used by BRICS acquirers in the sample to finance M&As deals were grouped into cash only, stock only, and others. “Others” method of payment includes payments such as debt only, and combinations such as cash and stock, or cash and debt, or stock and debt, or cash, stock and debt.

$$\pi_{it} = \beta\pi_{it-1} + \sum_{j=1}^5 \delta_j SIZE_{jit} + \eta LEV_{it} + \theta(L)G_{it} + \gamma Metpay_{it} + \alpha_i + \gamma_t + \varepsilon_{it} \dots \text{Equation 3}$$

The fourth model modifies Equation 1 by adding a dummy variable *Hostcountry*, which takes the form 1 (and 0 otherwise) to represent acquisitions by BRICS countries. The *Hostcountry* variable is in line with Ketelhöhn and Quintanilla (2012). The *Hostcountry* variable enables the study to test the objective whether acquiring a target in BRICS is more beneficial than acquiring in non-BRICS countries. The host country variable (BRICS and non-BRICS) are generated using the location of acquisitions.

$$\pi_{it} = \beta\pi_{it-1} + \sum_{j=1}^5 \delta_j SIZE_{jit} + \eta LEV_{it} + \theta(L)G_{it} + \gamma Hostcountry_{it} + \alpha_i + \gamma_t + \varepsilon_{it} \dots \text{Equation 4}$$

### 3.4 Econometric Issues and Estimation Techniques

There are a number of econometric challenges with estimating all the equations above. The model includes a lagged dependent variable as an explanatory variable; therefore the use of the ordinary least squares (OLS) estimation technique leads to biased and inconsistent estimates. The model in the study can be estimated using the fixed-effects model. However, in the presence of a lagged dependent variable  $\pi, \beta$  (persistent effects in profits) and  $\gamma_t$  (time specific effects) in the fixed effect model, the fixed effects estimator will produce biased estimates when T is small, but consistent estimates when N tends to infinity (Bertrand & Betschinger, 2012; Dickerson et al., 1997). The bias in the estimates falls as the time period increases (Dickerson et al., 1997; Nerlove, 1999).

The model in the study has endogeneity problems because the error term and lagged dependent variable are both present in the model. Using OLS will give biased estimates because of the endogeneity problem (Bertrand & Betschinger, 2012; Verbeek, 2008). According to Dickerson et al. (1997), the leverage and growth variables are endogenous as their values are functions of the profitability measure  $\pi$ . A more profitable company can have easier access to external borrowings. Leverage



can improve current profitability. A company can be growing and at the same time increasing its leverage.

Considering the econometric issues cited above in estimating equation 1, Arellano and Bond (1991) propose an estimator known as difference generalised method of moments (difference GMM), which uses differencing to eliminate the fixed effects bias and inconsistency in dynamic panel models. The difference GMM addresses these three econometric issues discussed above. However, the difference GMM has some drawbacks that limits its effectiveness in meeting the objectives of this study. The first drawback is the use of dummy variables can become problematic. Second, difference GMM tends to have problems with missing observations. The study therefore uses the alternative estimator developed by Arellano and Bover (1995) and Blundell and Bond (1998) known as system GMM (Bertrand & Betschinger, 2012).

System GMM is best suited for the study, as the data gathered have the characteristics of unbalanced panels; in addition, there is a large number of firms ( $n$ ), which are observed over a relatively short time period ( $T$ ) (Bertrand & Betschinger, 2012; Bond et al., 2001; Roodman, 2006). The use of the system GMM estimator will greatly reduce the bias, in particular for any omitted variables that are constant over time, and greatly improve precision.

The lags of endogenous variables are used as instruments in line with Arellano and Bond (1991). The study instruments include the lagged dependent variable and the other CBM&A variables – growth, leverage and firm size (Bertrand & Betschinger, 2012).

## **4. Estimation Results and Analysis**

### **4.1 Discussion of Empirical Results**

All equations were estimated using a two-step system GMM approach with the forward orthogonal deviation correction, which addresses the problems created by missing values in an unbalanced panel, such as the data used for this study. In a study of this nature, there is a need to test the legitimacy of the instruments and whether the model is correctly specified. The Hansen test for over-identifying restrictions indicated the absence of correlation between the instruments and the error term. This shows that instruments are legitimate in all the regression analyses. The presence of the  $n^{\text{th}}$ -order serial correlation in the instruments was tested using the  $m(n)$  test, which is asymptotically distributed as a standard normal under the null of no second-order serial correlation of the differenced residuals. The consistency of the estimations was confirmed because no second-order serial correlation in first difference residuals was detected.

**Table 3. Results. Reporting two-step System GMM results with forward orthogonal deviations**

Variable	Model 1	Model 2	Model 3	Model 4
Lagged profits	0.690*** (0.057)	0.689*** (0.058)	0.660*** (0.080)	0.676*** (0.060)
Leverage	0.000 (0.053)	-0.002 (0.053)	-0.004 (0.066)	-0.001 (0.056)
Asset growth	0.002 (0.007)	0.002 (0.008)	0.001 (0.005)	0.001 (0.005)
Lagged asset growth	0.002 (0.004)	0.002 (0.004)	0.001 (0.003)	0.001 (0.003)
firm size 2	0.057*** (0.015)	0.057*** (0.015)	0.052*** (0.019)	0.059*** (0.016)
firm size 3	0.046*** (0.015)	0.046*** (0.015)	0.055*** (0.020)	0.056*** (0.018)
firm size 4	0.048*** (0.014)	0.048*** (0.014)	0.055*** (0.018)	0.055*** (0.016)
firm size 5	0.051*** (0.016)	0.051*** (0.016)	0.066*** (0.024)	0.062*** (0.021)
Acqtrans	- -	0.002 (0.004)	- -	- -
Cash	- -	- -	-0.011 (0.009)	- -
Stock	- -	- -	0.012 (0.060)	- -
Other	- -	- -	-0.021 (0.031)	- -
Host country	- -	- -	- -	0.034 (0.037)
Constant	-0.027 (0.020)	-0.014 (0.015)	-0.025 (0.022)	-0.018 (0.017)
N	8528	8528	8528	8528
AR <sub>1</sub>	0.003	0.003	0.002	0.002
AR <sub>2</sub>	0.158	0.16	0.235	0.171
p-value Hansen	0.312	0.297	0.623	0.54
No of instruments	49	50	49	49

Source: Author's calculation based on data obtained from Bloomberg online database (2015)

\*, \*\* and \*\*\* indicates significance at the 10%, 5%, and 1% level, respectively.

Note: All models contain year dummies, which are not reported for brevity. Results reported in this table have been obtained using two-system GMM estimations (using the *xtabond2* command in Stata). Standard errors are in parentheses.

In all the four models, the coefficient of the lagged dependent variable is positive and significant at the 1% level. The findings on lagged profit across the models suggest that there are persistence effects in the profitability of BRICS acquirers in line with the empirical findings of previous studies, such as Dickerson et al. (1997) and Geroski and Jacquemin (1988). The significant result shows the ability of BRICS

firms to adapt to any exogenous and endogenous changes in environment when they operate in foreign countries.

The coefficient on leverage is negative and statistically insignificant, contrary to the results of Dickerson et al. (1997). The negative coefficients are in line with Harrison et al. (2014), Iqbal et al. (2013) and other empirical studies. The statistically insignificant impact of leverage on profit can possibly be as a result of most firms from emerging countries being constrained when trying to access funds for financing CBM&As. The borrowing ability of acquirers reduces when they lack previous CBM&As experience (Agyei-Boapeah, 2015). To support Agyei-Boapeah (2015), our data on BRICS acquirers show that over 70% of acquirers from BRICS engage in single acquisitions.

Consistent with Kelly (1968), asset growth has an insignificant impact on profit. Furthermore, the coefficient on lagged growth is statistically insignificant in all the results, which probably suggests the short-termism of BRICS M&As acquisitions; that is some BRICS acquirers may acquire target firms that pay off immediately.

Firm size is an important determinant of profitability (Dickerson et al., 1997). The coefficient of firm size is positive and statistically significant at 1% in all the four models. The results in the models are consistent with the results found by Dickerson et al. (1997) for United Kingdom acquirers, and by Bertrand and Betschinger (2012) for Russian acquirers. Firm size for all the five quintiles improved the profitability of BRICS acquirers in all the four models, suggesting that there is a significant positive relationship between firm size and profitability. The impact of a BRICS firm becoming an acquirer was tested in Model 2 by adding a shift dummy (*acqtrans*, which is an acquisition transition dummy). The coefficient on the shift dummy *acqtrans* is statistically insignificant, which means that there is no evidence that for BRICS firms, becoming an acquirer has any influence on operating performance. This result is in contrast to Dickerson et al. (1997) who find that becoming an acquirer has a negative effect on the profitability of firms.

The impact of the method of financing acquisitions on profits was examined in Model 3. The results show that the methods used to finance M&A transactions have no significant impact on the profits of acquirers from BRICS.

Model 4 examined the host country effect on profitability to ascertain whether intra-BRICS acquisitions are more beneficial than non-BRICS acquisitions. The coefficient of the host country variable is positive and statistically insignificant. Results on host country effects show that the host country has no impact on acquirers' profitability. This means acquirers get no additional benefit from engaging in intra-BRICS transactions. It is worth noting here that only a small proportion of acquisitions were intra-BRICS. Hence, this may change as the cooperation between BRICS countries develops and becomes more formally entrenched through official

arrangements such as the development bank and potentially through trade agreements.

Time dummies are included in all the models to account for unobserved heterogeneity and external shocks that can influence the performance of all firms in a particular year, in line with Dickerson et al. (1997) and Bertrand and Betschinger (2012). The year dummies were included in all regressions but are not reported in Table 2 for brevity.

#### **4.2 Robustness of Results**

Several tests were done to check the robustness of the findings of the study. Robustness test results are not reported for brevity. Estimations were conducted using alternative profitability measures, such as return on equity (ROE) (as measured by profit after interest and tax, divided by total shareholders' equity) and net profit margin (as measured by net profit after tax divided by sales). The findings obtained using these alternative measures were either similar to our main models or there were no significant changes to the signs of the explanatory variables as a result of changing one variable. In addition, the test for auto-correlation, and the test for the validity of instruments did not show any problem as a result of changes in the proxies.

#### **5. Conclusion**

This is the first study to examine the factors that influence the long-term performance of M&As activities from BRICS countries with the main focus on BRICS firms acquiring within and outside BRICS countries, using unbalanced panels of public firms that engaged in CBM&A activities during the period 2000 and 2012, with financial data between the period of 2000 and 2014. This study found that BRICS acquirers earn persistent profits in the post-acquisition period. Firm sizes affect the post-acquisition performance of BRICS acquirers. Other factors such as leverage, asset growth, acquirer transition and host country effects do not affect post-acquisition performance of BRICS acquirers. The study concluded that acquirers continue to make profits as they engage in CBM&As. However, they should pay less attention to the host country of the target as it has no influence on the profitability of the acquirers. Future research can consider comparisons between performances of intra-BRICS acquirers and non-BRICS acquirers that engage in CBM&As within BRICS countries.

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