African Review of Economics and Finance | ISSN 2042-1478 | Volume 9 | Issue 2 | December 2017

The impact of acquisitions on profitability: Comparative evidence from listed firms in Brazil and South Africa

Ralitza Dobreva and Farai Kwenda

School of Accounting, Economics and Finance, University of KwaZulu-Natal, Private Bag X54001, Durban 4000, South Africa
E-mail: Kwendaf28@gmail.com and Dobrevar@ukzn.ac.za

Abstract

This study examines the long-term effects of expansion through mergers and acquisitions in Brazil and South Africa. Firms from these emerging markets are among the most active globally in terms of utilising acquisitions as a growth strategy. We use an unbalanced panel of listed firms in Brazil and South Africa over the period 1980 to 2014, and employ the System Generalised Method of Moments estimation technique in order to control for unobservable heterogeneity and potential endogeneity problems. For both countries, the results obtained suggest there is persistence in profits and that organic growth pays off immediately – but size does not have a bearing on profits. Acquisitions are damaging in the short-term for South African firms, but have no influence on Brazilian firms. In both countries, there is no evidence of a permanent penalty for becoming an acquirer. While leverage and experience in acquisitions impact negatively on the profits of South African acquirers, they do not have any effect on the profits of Brazilian acquirers.

Keywords: Profitability; merger; acquisitions; leverage; emerging markets.

1. Introduction

Mergers and acquisitions (henceforth M&As) have been extensively researched in corporate finance (e.g. Tunyi and Ntim, 2016; Morellec and Zhdanov, 2005). However, the long-term performance of acquiring firms remains a contentious issue. M&As continue to be a dominant expansion strategy worldwide, in spite of disagreement about whether they create value or not (Petmezas, 2009; Malmendier and Tate, 2008; Rau and Vermaelen, 1998). M&As present a contemporary challenge to managers in that most acquisitions do not create meaningful shareholder value (nearly 70%), and yet building a world-class company through organic growth is almost impossible (Harding and Rovit, 2013). Studies, mainly from developed countries, show that acquisitions are not always a good way of creating shareholder value for acquirers. The prevalent understanding is that the gains from acquisitions tend to accrue to the target's shareholders (Caves, 1988; Loughran and Vijh, 1997; Ravenscraft and Scherer, 1987). Despite this empirical finding, M&A activity does not show signs of slowing down. The worldwide trend (see Appendix 1) is that the value of M&As between 1995 and 2012 was consistently above 800 billion US dollars ($) per year. According to Statista.com (2016), the approximate value of global M&A transactions grew from $1.71 trillion in 2009 to $4.28 trillion in 2015.

The lack of consensus stems from the numerous approaches used to evaluate post-M&As corporate performance. The three broad methods have been: the stock market approach (also known as the event study approach), the accounting approach, and the clinical approach. A major criticism of these methods is their focus on the short-term returns to M&As. In an attempt to overcome the weaknesses of the stock market, accounting, and clinical approaches, and to assess the long-run performance of M&As of UK-quoted companies, Dickerson, Gibson, and Tsakalotos (1997) used panel data regression analysis. This study builds on the work of Dickerson *et al*. (1997) by employing the System Generalised Method of Moments (System GMM), an estimation technique that takes into account the unobserved firm heterogeneity, potential endogeneity, and serial correlation problems. To the best of our knowledge, our paper is the first to carry out these analyses.

We use data from listed firms, both acquirers and non-acquirers, in Brazil and South Africa over the period 1980 to 2014. We use firms from Brazil and South Africa as being representative of firms in emerging markets. In addition, these two countries are part of BRICS, an economic block encompassing Brazil, Russia, India, China, and South Africa, which has accelerated its involvement in

outward M&As (Du and Boateng, 2012). In 2012, BRICS firms accounted for over 60% of M&A activities in emerging markets (TMF, 2013).

In this study, we use two countries for comparison. South Africa and Brazil have several features in common: they are upper middle-income countries at a similar stage of development, grappling with high income inequality and unemployment challenges. Both countries have well-developed financial markets, serving economies that are largely dependent on resources and manufacturing. Finally, both countries are well-integrated by trade and financial flows into their regions and the world.

This study contributes in a number of ways to the literature on the long-term operating performance of acquirers. First, we offer new evidence on the impact of M&As on the profitability of acquirers in emerging markets (South Africa and Brazil) using regression analysis. None of the existing studies provide any emerging market evidence, despite the fact that firms from emerging markets are increasingly playing a significant role as acquirers. Second, from a methodological perspective, the current work improves on previous work by using a dynamic panel data model. This approach offers several advantages. It allows us to control for the existence of unobservable heterogeneity, as firms are tracked over time. We can examine a partial adjustment model that allows us to test whether there is any persistence in the profits of emerging market firms. Finally, this study differs from previous ones, in that it employs the System GMM estimation technique in order to take care of the endogeneity problem between profit and some of the regressors, and also the problem of autocorrelation which is prevalent in dynamic panel estimations. Our results show no evidence that acquisitions have a net beneficial effect on Brazilian and South African acquirers' operating performance, as measured by profitability.

The rest of the paper is structured as follows: Section 2 presents an overview of the M&As in the Brazilian and South African corporate context. Section 3 provides the theoretical framework of M&As from finance and economics perspectives. In Section 4, we review the empirical literature, and also develop our hypotheses. The data and methodology are discussed in Section 5. Section 6 presents and discusses the estimation results, robustness checks, and limitations of the analysis. Section 7 concludes the paper.

2. M&As in the Brazilian and South African corporate contexts

Since 1990, developing country acquirers have become increasingly active in seeking to enhance their comparative advantage, often looking for opportunities

outside their home-country borders. Between 1990 and 2007, South African firms were the second most frequent acquirers, after Malaysia, in terms of the number of cross-border transactions, and the third biggest in terms of deal value after Mexico and Brazil (Chernykh, Liebenberg and Macias, 2010; Tunyi and Ntim, 2016). South Africa is number one on the list of countries in Africa, with regard not only to M&A activity and but also its greatest potential for investment, because the country is considered to be a more familiar and mature business environment. In addition, its wealth of natural resources opens South Africa to attractive proposals and investments, making South African firms the targets of acquirers. According to the Mergermarket Report (2013), South Africa was responsible for a sizeable portion of African M&As, and was the target in half of the top 10 deals of 2012. Of the 188 deals with a total value of $33 billion that took place in Africa, South Africa contributed 97 deals with a market value of $11.1 billion.

In Brazil, M&As activity has increased since the 2000s, largely driven by its economic growth, development of private equity, increasing interest from foreign buyers, and improved access to credit (PricewaterhouseCoopers, 2016). After slowing during the 2007/2008 global financial crisis, M&As activity has intensified markedly, largely driven by two main factors (Pearson, 2016). First, the 2014/2015 recession, which was Brazil's worst since 1901, heaped pressure on home-grown companies, resulting in some companies selling non-core businesses. Second, the depreciation of the Brazilian currency (the Real) made Brazilian assets more affordable to foreign investors. Furthermore, PricewaterhouseCoopers (2016) argues that Brazil's sizeable and diverse economy, the seventh largest in the world, offers unique opportunities to foreign investors, such as a vast domestic consumer market, an emerging middle class, and ample natural resources.

While acquirers from developed countries have been attracted to exploiting rich resources in emerging economies, firms in emerging markets like Brazil and South Africa have also been increasingly active in both domestic and cross-border M&As. Aybar and Ficici (2009) observe that cross-border M&As activities from emerging market countries have paralleled economic reforms and their integration into the world economy. In these cross-border M&As, firms from emerging markets seek targets in developed economies to cope with increased competition, in order to gain access to foreign markets and to expand their global positions. Furthermore, cross-border M&As into developed markets offer the benefits of technology and expertise, as well as loosening the grip of institutional and domestic market constraints. Expansion through cross-border

M&As has also helped firms from emerging countries to overcome their late-comer disadvantage in the global market (Lebedev, Peng, Xie and Stevens, 2014; Somdaka, 2014).

Despite the seemingly high value and number of M&As involving firms from developing countries like Brazil and South Africa, little is known about their long-run effects (Tunyi and Ntim, 2016). The need for answers to the question of whether these transactions create value for shareholders is amplified by the increasing role of emerging market firms as acquirers (formerly mainly targets) in the global M&As landscape (Tunyi and Ntim, 2016). The few studies on the post-acquisition performance of firms over longer periods have failed to find consistent evidence of improvements in shareholder value creation (Gregory, 1997; Limmack, 1991; Sudarsanam and Mahate, 2003).

3. Theoretical framework

There are various theoretical and strategic reasons used by firms to justify embarking on acquisitions. Regardless of the motive, at the firm level there remains a lack of consensus about the impact on the acquirer's performance in terms of profitability, shareholder wealth, research and development, resource redeployment, management effectiveness, and a variety of other indicators of value creation. At a broader level, the expansion of firms through acquisitions creates welfare concerns in cases where acquirers and targets are linked vertically or horizontally, and where competition may be limited.

The discussion about the effects of acquisitions on company performance involves many perspectives, spanning the fields of economics, finance, management and human resources. This study focuses on the long-run effects of acquisitions on the acquiring firms' profits, and adopts a perspective predominantly from the realm of finance and economics. In neoclassical theory, firm growth is merely incidental to its profit maximisation and the achievement of its optimal size objective. Modern theories of firm behaviour provide a more explicit role for firm strategy (Marris, 1964; Penrose, 1959). Penrose (1959) assumes that firms seek to maximise the total size of profits in the long run, which is equated with growth maximisation through investment in all positive net present value projects. Marris (1964) argues that growth is an explicit objective of the firm's management because of the benefits it brings (e.g. empire building power, prestige, larger salaries). Management's focus on growth in physical size of their firms, at the expense profit maximisation, conflicts with the shareholder wealth maximisation goal.

Firms can grow in two ways: internal (organic) expansion and expansion through mergers and acquisitions. Each of the two options for expansion has pros and cons. Growth through internal expansion can be slower and can present its own cost. In contrast, M&As can be a fast way to achieve growth (Gaughan, 2005). Internal growth constrains firms from taking advantage of unexploited market opportunities, in contrast to quicker growth through M&As. M&As also enable firms to diversify to related markets and to leverage their current capabilities (Bhagat, Malhotra and Zhu, 2011; Gaughan, 2005). From a business perspective, M&As often remove duplication, reduce costs, and produce synergies (LaMattina, 2011).

Caves (1988) outlines three advantages and three disadvantages of growth through acquisitions. The first advantage is the ability of a firm to realise returns soon after the investment is made, as the target firm is already in operation. Second, adding an already functioning business (with a working staff complement) to the firm may relax the managerial constraint to growth. Third, acquisitions may offer the firm opportunities for internal expansion (Cable, 1977), which could enhance organic growth. A major disadvantage of growth through acquisitions is that a firm forgoes the opportunity to tailor the investment to its exact needs and desires. Further, troubled and inefficiently run firms are more likely to be acquisition targets and hence the acquirer's return may be smaller and may be achieved more slowly. The challenges of integrating the internal structures and cultures of different-functioning firms is another disadvantage of acquisitions. Dickerson *et al*. (1997:346) conclude that most firms are likely to employ both expansion strategies and use the (usual) economic equilibrium rule, that is, a firm will "acquire up to the point where discounted marginal returns from the acquisition are equal to the discounted marginal returns from investment internally". However, it is not always best to pursue growth, because some firms may have reached their most efficient size: in this case, engaging in M&As can reduce efficiency and lower profits.

Pre-acquisition, target firms tend to have low productivity and hence they experience improvements afterwards. The initial productivity of the acquiring firm and whether a main or a peripheral division is buying or selling the plants are important factors determining the extent of the improvements, but when considered together with the timing of sales and industry shocks, the pattern is consistent with improved resource allocation and profit maximisation (Maksimovic and Phillips, 2001). With regard to diversifying acquisitions, Schoar (2002) offers a more nuanced perspective by portraying these transactions

as a mechanism for transferring efficiency from the more efficient industries of acquirers to the less efficient industries of their targets. Plants of diversified firms tend to be seven times more productive than those of firms operating in a single industry. However, when firms become more diversified, they experience a fall in average productivity, which Schoar attributes to a "new toy effect": a shift in focus by management on the newly acquired businesses at the expense of existing plants. Evidence presented by Schoar (2002) supports the view taken by Caves (1988), and paints a more detailed picture of the pre-acquisitions and post-acquisition behaviour of both acquirers and targets.

4. Empirical literature review and development of hypotheses

Most evidence about the performance of acquisitions still stems from market valuations and event studies and takes a short-term view of gains, with few attempts to shift the focus to a longer-term perspective and take the economics approach, as suggested by Caves (1988). This paper attempts to bring the latter kind of enquiry into an emerging markets'context.

Several factors play a role in the direction and degree of impact of acquisitions on acquirers and targets. Tuch and O'Sullivan (2007) see the early work of Asquith (1983) and Malatesta (1983), which found that takeovers may have a negative impact on the long-run wealth of shareholders, as a motivation and departure point of recent works in this area. Long-run event studies have found that, on average, acquisitions generate insignificant or abnormal negative returns in the long run (Alexandridis, Antoniou and Zhao, 2006; Conn, Cosh, Guest and Hughes, 2005; Gregory, 1997; Limmack, 1991). However, the payment method used is likely to matter in determining any abnormal returns. Loughran and Vijh (1997) find that acquirers that embark on stock (equity)-funded transactions experience negative returns, while those using the cash-payment option benefit from positive returns. There are also differences for target firms, as holdings of acquirer stock do not result in positive excess returns for targets. Another factor in cross-border acquisitions is the acquirer's and target's home country; for example, emerging market acquirers tend to experience positive announcement returns if the target is a firm in a developed country, but the benefits accrue only to the target firm if both are emerging market firms (Chernykh *et al*., 2010).

Research on post-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 accounting records, in spite of the limitations of accounting data (such as

possible manipulation of accounting information by managers, and changes in accounting policies). The findings on post-acquisition operating performance using conventional accounting measures are somewhat mixed, although there is generally no clear evidence of improved post-acquisition performance (Tuch and O'Sullivan, 2007). Considering the largest 50 mergers between 1979 and 1984, Healy, Palepu, and Ruback (1992) conclude that acquirers experience improvements in asset productivity, leading to higher operating cash flows relative to their industry peers. Similarly, in their analysis of approximately 2000 mergers between 1973 and 1998, Andrade, Mitchell, and Stafford (2001) find that post-merger operating margins improved relative to industry benchmarks. Lu (2004), however, finds a negative adjusted industry post-bid return on assets and returns on equity for acquirers.

Brouthers, van Hastenburg, and van den Ven (1998) believe that the disappointing results post-merger could be explained by the fact that most of these studies do not measure performance against the merger motives, that is, the reasons why acquisitions were undertaken. They also contend that mergers are undertaken to achieve several objectives and therefore one measure may not be adequate to capture post-merger performance. They conclude that in most cases mergers result in the overall improvement of a firm's performance, and when evaluated using multiple success measures, mergers are generally successful.

4.1. Persistence in profits

It is not in dispute that acquirers tend to be in a better financial position than targets, and that they are firms with advantages that allow them to enjoy profitability (such as market power or access to superior technology) which protect their flow of future benefits from the threat of entry through imitation and innovation. Their efforts tend to pay off, but become less effective over longer periods (Goddard and Wilson, 1999; Mueller, 1992). Geroski and Jacquemin (1988:375) encapsulate the literature on persistence in profits thus: "… whatever it is that determines profitability seems to differ across firms but is relatively stable over time. This is, in part, why predicting the future profitability of specific firms using information on their past profitability is not too difficult".

4.2. Impact of growth through M&As on profitability

Growth (whether organic or through acquisitions) is a very important factor for the success of a firm (Kouser, Bano, Azeem and Hassan, 2012). Firms have popularly adopted growth through M&As to achieve corporate growth and other corporate objectives (Thanos and Papadakis, 2012). Dickerson *et al*. (1997) suggest that each type of growth has different effects on firm profitability, pointing out that

"if a firm doubles its growth rate internally, the firm's profitability increases by almost 6.9% compared to only a 0.2% increase if it grows through acquisitions" (Dickerson *et al*., 1997:357).

4.3. Impact of leverage on profitability

The literature on capital structure suggests that in an imperfect market, the amount of debt in a firm's capital represents an important means by which value is created for shareholders (Agyei-Boapeah, 2015). Leverage is linked to M&As: these expensive strategies are sometimes externally financed because they may require additional resources beyond what is generated from normal operations (Harrison, Hart and Oler, 2014; Kumar, 1985). The existence of debt should improve the post-acquisition performance of acquirers in line with free cash-flow theory by Jensen (1986). Debt attracts interest and limits free cash flow, thus inducing managers to put to use available free cash effectively and efficiently (Harrison et al., 2014; Sharma and Ho, 2002). Hence, employing externally-raised funds leads to a more efficient use of funds and higher profitability than internal funding (Kumar, 1985). Harrison *et al*. (2014) examined the relationship between leverage for acquirers, targets and post-acquisition performance, and found that leverage has a negative impact on post-acquisition performance of acquirers. The negative performance is clustered in acquiring firms, which are already highly geared. They concluded that M&As have a significant and persistent impact on the capital structure of acquirers, causing a continuous increase in average debt-to-assets of acquirers in post-acquisition periods of up to five years.

4.4. Impact of acquisition on firm size

Post-acquisition performance can be influenced by the size of the acquirer. Empirical studies suggest that smaller firms perform better in M&As than large firms. Moeller, Schlingemann and Stulz (2004) put forward the reason that incentives for managers are more in line with shareholders of smaller firms, whereas this is not the case for larger companies. Kumar (1985) noted that beyond a certain point, an increase in a firm's growth rate may go with increased cost. This means that the more acquirers engage in acquisitions, the more the effect on subsequent performance differs systematically (Kumar, 1985). Evidence from Klimek (2014) on the financial effects of M&As on acquiring firms in Poland, shows that growth in firm size is negatively correlated with operating performance. However, Moeller *et al*. (2004) find that firm size has a positive and significant effect on profitability, in line with the findings of Dickerson *et al*. (1997).

4.5. Impact of multiple acquisitions on profitability

Analysing the performance of Russian acquirers, Bertrand and Betschinger (2012) find evidence that, on average, acquisitions reduce the return on assets (ROA). Fuller, Netter and Stegemoller (2002) studied the returns to shareholders of firms that acquired five or more public, private, or subsidiary targets, and concluded that returns to acquirers are greater when a target is a private firm, but lower when the target is a public firm. Variation in returns to acquirers is also linked to the characteristics of the target, types of targets, and the methods of financing acquisitions (Fuller *et al*., 2002). One explanation for the variation in returns between acquiring a public firm relative to a private firm, is that acquirers purchase private firms at a discount (that is, at a better price), because a private firm cannot be easily bought and sold compared to a public firm, thus making private firms less attractive (Fuller *et al*., 2002). However, this result is complicated by size effects: the greater the relative size of private target firms, the more positive the returns to acquirers; and the greater the relative size of a public target firm, the more negative the returns to acquirers.

4.6. Impact of previous M&As experience on profitability

In general, it has been found that previous M&As experience increases the likelihood of subsequent acquisitions (Haleblian, Kim and Rajagopalan, 2006; Lebedev *et al*., 2014). Empirical studies show that firms from developing countries enter developed markets incrementally, and their accumulated experience helps them to overcome the liability of foreignness (Lebedev *et al*., 2014). Experience from past M&As deals may facilitate the process for identification and integration of target firm resources, which may be required to improve post-acquisition performance of acquirers (Hitt, Ireland and Harrison, 2001; King, Dalton, Daily and Covin, 2004). For instance, previous M&As experience has a positive impact on the returns of acquirers from China (Chen and Lin, 2009). Bertrand and Betschinger (2012) show that for Russian acquirers, there is a negative cumulative impact of a greater number of acquisitions, reflecting that that even though previous domestic M&As experience has value, it seems that such experience is difficult to transfer across borders for international acquisitions. Lack of previous M&As experience and prior absence in the country of the target firm, may limit the benefits to the acquirer (Aybar and Ficici, 2009). Furthermore, a geographically and culturally proximate target does not enhance an acquirer's prospect of success (Aybar and Ficici, 2009).

4.7. Hypotheses

In light of the empirical literature and the contexts of Brazil and South Africa,

our expectations regarding the relationships shaping the performance of acquirers are:

H1: Lagged profit (π_{it-1}) has a positive effect on the current profitability of Brazilian and South African acquirers (there is persistence in the profits of acquirers).

H2: There is a negative relationship between size ($SIZE_j$) and profit (π_{it}).

H3: There is a negative relationship between leverage (LEV_{it}) and π_{it}.

H4: There is a positive relationship between internal growth (G_{it}) and π_{it}. The study includes a distributed lag $\theta(L)$ to allow for any delayed effects of a company's internal growth on performance.

H5: There is a positive relationship between the distributed lag of growth $\theta(L)G_{it}$ and π_{it}.

H6: There is a negative relationship between multiple acquisitions and π_{it}.

H7: There is a positive relationship between previous M&As experience and π_{it}.

5. Research design

The data used in the study were obtained from the Bloomberg databank and includes 321 companies listed on South Africa's Johannesburg Stock Exchange (JSE) and 353 companies listed on Brazil's São Paulo Stock Exchange, for which information was available. The data cover the period from 1980 to 2014 in the form of an unbalanced panel.

Table 1 (below) presents the construction and the descriptive statistics for the variables in this study. The data reveal that the mean operating profit margin is 2% and -3% for South African firms and Brazilian firms, respectively. These values generally indicate a low level of operating profit for firms in both countries. There are important differences between the extent of debt financing by South African firms and Brazilian firms. The mean leverage ratios show that Brazilian firms use more debt to finance their assets (47%) than South African firms (19%). The average total numbers of acquisitions for South African and Brazilian firms are three and four, respectively, indicating that there is a small difference between firms engaging in M&As. This is further confirmed by the mean total acquisitions per year, which are 0.18 and 0.17 for South African and Brazilian firms, respectively.

Table 1: Descriptive Statistics of JSE and São Paulo Stock Exchange-listed firms engaging in M&AS activity

		South Africa - JSE				Brazil - São Paulo Stock Exchange			
Variable	*Variable Construction*	*Mean*	*Standard deviation*	*Minimum*	*Maximum*	*Mean*	*Standard deviation*	*Minimum*	*Maximum*
Operating Profit	The 'operating income' variable measures pre-tax profit	724.88	3173.63	-7068	63 962	470.20	2642.39	-14375	50416.74
Size	Total assets is used as a proxy for size	12 606	67 998.06	0	1 503 653	10169.70	55484.72	.0007	1136007
Profit	(Operating income / average assets), where average assets = average of opening and closing value of assets for each year	0.02	2.12	-133.56	12.33	-0.0318	1.735	-55.50284	3.491339
Growth	The growth of total assets (in each year)– i.e. the difference between closing and opening values of assets as a proportion of average assets	0.1400	0.3630	-1.9999	2.0000	0.1324	0.3122	-1.9994	2.0000
Leverage	'LEV' measures leverage or debt. LEV = (ST borrowing + LT borrowing)/total assets, where the closing value of total assets for the period is used	0.1899	0.597	0	30.1115	0.4727	4.1478	0	167.6826
Total Number of Acquisitions	Total number of acquisitions over the period observed	2.893	6.1103	0	68	3.5367	9.0935	0	115

Source: Author's calculations using an unbalanced panel for the period 1980 to 2014. Data obtained from the Bloomberg databank.

Respectively, only 37% and 43% of companies listed on the JSE and São Paulo Stock Exchange, for which information was available, were non-acquirers (Table 2). On both exchanges, most of the acquirers embarked on between two and five acquisitions. However, 15 JSE-listed firms showed a greater appetite, and made between 16 and 50 acquisitions, while 32 São Paulo Stock Exchange-listed firms had the same appetite over the study period.

Table 2: Acquisitions' Activity by JSE and São Paulo Stock Exchange-listed firms

	South Africa - JSE		**Brazil - São Paulo Stock Exchange**	
Total number of acquisitions	*Number of companies*	*Per cent*	*Number of companies*	*Per cent*
0	262	37.38	243	43.39
1	139	19.83	95	16.96
2 to 5	216	30.81	133	23.75
6 to 10	49	6.99	36	6.44
11 to 15	18	2.58	15	2.67
16 to 20	6	0.85	15	2.68
21 to 30	6	0.86	11	1.97
31 to 50	3	0.42	6	1.08
51 to 90	2	0.28	4	0.72
91 to 115	-	-	2	0.36
Total (n)	701	100.00	560	100.00

Source: Author's calculations using an unbalanced panel over the period 1980 to 2014. Data obtained from the Bloomberg databank.

The paper follows the methodology proposed by Dickerson *et al.* (1997). The basic equation is given by:

$$\pi_{it} = \beta\pi_{it-1} + \sum_{i=1}^{n} \delta_j SIZE_{jit} + \eta LEV_{it} + \theta(L)G_{it} + \alpha_i + \gamma_t + \varepsilon_{it} \quad (1)$$

The dependent variable is the profitability of company *i* at time *t*, which is measured by the operating income (profit before interest and tax) divided by the average of the opening and closing values of total assets for the period (average assets). This measure of profitability reflects the gross rate of return on average total assets. The coefficient on lagged profits indicates the degree

of persistence in profits. The relative firm size (SIZE) is captured by dummy variables for the quintiles of total (net) assets. These dummies reflect the size of the firm relative to the distribution of total assets among all firms listed on the country's stock exchange in that year, and hence a firm's position may change over time. Leverage is measured by the sum of short-term and long-term borrowing as a ratio of total assets at the end of the period. The growth variable, G_{it}, is the growth of total (net) assets. Company-fixed effects are captured by α_i, which acknowledges the intrinsic differences between companies that result in unobserved heterogeneity. The time-fixed effects are captured by γ_t and include the effects of the business cycle and other time-specific events on company performance, and ε_{it} is the error term.

The estimation of the model in equation (1) and its modifications presents a number of problems. First, the time-invariant characteristics intrinsic to each company need to be incorporated. Second, if fixed effects estimators are used in a dynamic panel model, these are likely to be biased, especially for short runs of data. Fortunately, the bias falls for longer runs, i.e. when T rises the bias is proportional to 1/T (Nickell, 1981). Even though we do not use fixed effects, in keeping with our focus on the long-term effects of acquisitions, we include only companies with at least 10 years of data in the estimation. The average T for this subsample of 240 companies is 16.58 years for South Africa. For Brazil, it is 33.86 years for subsample of 335 companies. Third, the current growth and leverage variables are likely to be endogenous. Firms expand their operations in order to enhance profitability, and also profits can be used to grow a firm's asset base. Similarly, leverage facilitates improved profitability, and profits make borrowing easier. Hence, the lagged values of growth and leverage, together with further lags of profits, are used as instruments for current growth and current leverage.

Arellano and Bond (1991) propose an estimator which uses differencing to eliminate the fixed effects bias in dynamic panel models, and which exploits further moment conditions in order to instrument for the lagged dependent variable, also allowing for instrumentation of other endogenous variables. This estimator is often referred to as the Difference Generalised Method of Moments (Difference GMM). One drawback of the Difference GMM is that the use of dummy variables becomes somewhat problematic. In addition, in unbalanced panels this method is not ideal because it tends to have problems with missing observations by magnifying gaps in unbalanced panels. We therefore use the alternative estimation technique, the System GMM, suggested by Arellano and Bover (1995) and Blundell and Bond (1998). The System GMM augments the

Arellano and Bond (1991) estimator by further assuming that "first differences of instrumenting variables are uncorrelated with the fixed effects" (Roodman, 2006:1).

The basic model in equation (1) is modified in three ways, once again following the approach of Dickerson *et al*. First, Model 2 adds a shift dummy variable. The dummy variable changes from 0 to 1 when a firm completes its first acquisition and remains at 1 in all subsequent periods. The coefficient of this shift dummy is intended to measure a potential persistent change in profits when a firm becomes an acquirer. Dickerson *et al*. (1997:352) refer to this as "any permanent effect resulting from acquisition" and note that this rough definition of acquirer does not distinguish between firms that use this expansion method with varying frequency. Hence, the results are likely to be biased towards a smaller "permanent effect".

Table 3 shows that JSE-listed firms recorded up to 18 acquisitions in a given year, but most frequently the number of acquisitions was one to three per year. Like South African firms, São Paulo Stock Exchange-listed firms mainly undertook between one and three acquisitions per year. However, in the extreme, they showed greater appetite for acquisitions, recording up to 37 acquisitions in a year.

Table 3: Acquisitions per Year by JSE and São Paulo Stock Exchange-listed firms

	South Africa – JSE		**Brazil – São Paulo Stock Exchange**	
Number of acquisitions per firm per year	*Frequency*	*Per cent*	*Frequency*	*Per cent*
0	9740	89.92	11924	93.4
1	702	6.48	419	3.28
2 to 3	308	2.84	261	2.04
4 to 5	59	0.54	79	0.62
6 to 7	15	0.14	33	0.26
8 to 9	5	0.05	16	0.13
10 to 11	2	0.02	14	0.11
12 to 18	1	0.01	15	0.12
19 to 37	-	-	5	0.05
Total (N)	10832	100.00	12766	100.00

Source: Author's calculations using an unbalanced panel for the period 1991 to 2014. Data obtained from the Bloomberg databank.

The second modification of the basic model (Model 3) is the inclusion of an impulse dummy variable, which takes on the value of 1 in any period when at least one acquisition is made, and 0 otherwise. The impulse dummy is an attempt to measure the transient effects of acquisitions. It has its own limitations, because firms that are multiple acquirers are not distinguished from firms that embark on a single transaction. The impulse dummy can also be used to gauge the probability of making acquisitions in the subsequent year, given whether the firm undertook at least one acquisition in the current year. The transition probabilities are presented in Table 4 (below). Table 4 shows that given no acquisitions are made in a given year, the probability of at least one acquisition in the following year are about 6% and 4% in South Africa and Brazil, respectively. The probability of acquisitions' activity continuing in the following year, given that the company was active in the current year, is 46% in South Africa and 58% in Brazil. Hence, there are some persistence effects regarding acquisitions, perhaps supporting the waves of activity observed in developed countries, and these effects appear to be very strong for emerging markets like South Africa and Brazil.

Model 4 retains the shift dummy and adds a variable measuring the number of acquisitions per period with the aim of gauging the short-term impact of multiple transactions. Model 5 adds a variable, which measures the cumulative number of acquisitions over time, in order to assess any benefits or costs accruing to more experienced acquirers.

Table 4: Transition probabilities of making at least one acquisition in the next year

	South Africa – JSE			Brazil - São Paulo Stock Exchange		
	No acquisitions made in the next year ($A1_{t+1} = 0$)	*At least one acquisition made in the next year* ($A1_{t+1} = 1$)	*Total*	*No acquisitions made in the next year* ($A1_{t+1} = 0$)	*At least one acquisition made in the next year* ($A1_{t+1} = 1$)	*Total*
No acquisitions made in the current year ($A1_t = 0$)						
Number	10,714	197	10,911	7,600	242	7,842
Percentage	94.42	5.58	100	95.83	4.17	100
At least one acquisition made in the current year ($A1_t = 1$)	0	1,295	1295	0	2,289	2,289
Number	53.80	46.20	100	42.37	57.63	100
Percentage						
Total Number	10,714	1,492	12,206	7,600	2,531	10,131
Percentage	90.80	9.20	100	91.63	8.37	100

Source: Author's calculations using an unbalanced panel over the period 1980 to 2014. Data obtained from the Bloomberg databank.

6. Empirical results and discussion

The results from the system GMM regressions for all five models for each of the two countries are presented in Table 5 (below). The instruments used for the endogenous leverage and growth variables are lagged values of leverage, further lags of growth , together with further lags of the dependent variable, profit. We use lags 3 to 5 for South Africa and lags 2 to 5 for Brazil.

The presence of the n^{th}-order serial correlation in the instruments was tested using the m(n) test, in which the test statistic is asymptotically distributed as a standard normal variable under the null hypothesis of no second-order serial correlation of the differenced residuals. The results in Table 5 show that the null hypothesis should not be rejected as there is no serial correlation of order 2 for both Brazil and South Africa. The legitimacy of the instruments was verified using the Hansen test, which tests for over-identifying restrictions. The results

in Table 5 show that the null hypothesis that the population moment conditions are correct (as shown by the Hansen test) is not rejected for both Brazil and South Africa.

6.1. Lagged profit

Our results in Table 5 highlight several features. The coefficients on lagged profit show that there is a degree of persistence in profits, which is consistent with theoretical expectations and other empirical studies (Caves, 1988; Dickerson et al., 1997; Geroski and Jacquemin, 1988). In both Brazil and South Africa, the lagged dependent variable is positive and statistically significant at 1%. The coefficients on the lagged dependent variable are above 0.56 higher than the coefficient of 0.5 obtained by both Dickerson *et al*. (1997) and Geroski and Jacquemin (1988), but not out of line with the short-run persistence in profits value of 0.59 obtained by Goddard and Wilson (1999) for a panel of UK firms. The effect seems larger for Brazil than for South Africa, with coefficients of the lagged dependent variable being 0.64 and 0.57 for the two countries, respectively.

6.2. Leverage

Consistent with the evidence from previous studies, such as Dickerson *et al*. (1997) in a study of UK-listed firms, and Harrison *et al*. (2014), our results reflect that leverage has a large negative effect on the operating performance of South African acquirers, as hypothesised. In Brazil, leverage has a negative coefficient, as hypothesised; however, it is statistically insignificant in all five models. The finding on leverage is interesting because Brazilian firms are almost two and half times more leveraged than South African firms. This means that they financed almost half of their assets with debt and yet high debt levels do not appear to have a negative effect on their profitability.

6.3. Size

The coefficients of the size quintiles are positive and negative for Brazil and South Africa, respectively, although statistically insignificant. This suggests that in both Brazil and South Africa, size has an insignificant impact on profitability, contrary our hypothesis and the findings of Dickerson *et al*. (1997) for the UK, where size followed an inverted-U relationship with profit. The results are also not consistent with the findings of Bertrand and Betschinger (2012) for Russian acquirers, and Singh and Mogla (2008) for Indian acquirers. This probably warrants further investigation into the size of the acquiring firms in Brazil and

South Africa, compared to the sizes of non-acquirers, echoing the observation by Asquith (1983) that the relative size of the target to the acquirer has an impact on the acquirer's gains.

6.4. Growth

Growth has a positive impact on profits in both countries suggesting that high growth leads to higher profits. Dickerson *et al*. (1997) explain that firms expanding through internal processes tend to be more dynamic. While current growth has a large and significant coefficient, lagged growth is statistically insignificant in both countries. This finding suggests that internal growth pays off immediately, and does not have persistent effects. These results provide some support to agency theory, which argues that left to their own devices, managers may focus on short-term projects which boost their image in the market place; sacrificing long-term projects that maximise shareholder wealth in the process. On the other hand, negative growth also appears not to have a lasting effect on profits.

6.5. Impact of becoming an acquirer, previous M&As experience, and multiple acquisitions

In Model 2, we report the results of the shift dummy, "acquisition transition". The shift dummy switches from 0 to 1 when a firm becomes an acquirer for the first time over the observed period, and remains at 1 thereafter. The shift dummy is statistically insignificant for both countries, reporting negative and positive coefficients for Brazil and South Africa respectively. This indicates that there is no statistically significant difference in the operating performance of acquirers, compared to non-acquirers in the period after the acquirers have completed their first transaction.

Model 3 highlights the immediate effects of embarking on at least one acquisition in a given year (as reflected by the impulse dummy A1, which takes a value of 1 in the year of any acquisition(s) and a value of 0 otherwise). The impulse dummy has a significant negative effect on profits in both Brazil and South Africa, which suggests lower returns for both Brazilian and South African firms in periods when they embarked on acquisitions.

In Model 4, we test the impact of the shift dummy and the number of acquisitions undertaken in a given year on profits. The number of acquisitions reduces profits in South Africa, which is consistent with the findings of Bertrand and Betschinger (2012). In Brazil, the coefficient on the number of acquisitions is negative, but statistically insignificant. We reported earlier in Table 2 that both

Brazilian and South African firms mainly undertook one to three acquisitions per year, although some Brazilian firms showed more appetite for acquisitions, recording up to 37 acquisitions in a year, compared to South African firms' maximum of 18. This result is interesting because the number of acquisitions has no effect on the Brazilian firms, which showed a greater appetite for multiple transactions in a given year than their South African counterparts, but has a negative impact on South African firms. Possible explanations for this finding may have to do with the nature of acquisitions undertaken in these two countries; for example, or it may be of importance whether the acquisition was of a target in an unrelated industry, or in a horizontally- or vertically-related industry. In addition, the poor performance of acquirers can be caused by lack of previous M&As experience, particularly in foreign acquisitions (Bertrand and Betschinger, 2012; Klimek, 2014).

TABLE 5: TWO STEP-SYSTEM GMM ESTIMATION RESULTS DEPENDENT VARIABLE: PROFIT (Π_{it})

	South Africa – JSE				
	Model 1	*Model 2*	*Model 3*	*Model 4*	*Model 5*
Lagged profit	0.566*** (0.044)	0.567 *** (0.044)	0.566 *** (0.045)	0.569***(0.04)	0.567***(0.044)
Leverage	-9.784***(0.64)	-9.783 *** (0.64)	-9.7813 ***(0.66)	-9.763***(0.65)	-9.783 ***(0.64)
Growth	2.0122***(0.4852)	2.0130 ***(0.4861)	1.9931*** (0.5748)	2.0640***(0.4990)	2.0517***(0.4958)
Lagged growth	1.1789 (1.016)	1.1803 (1.0120)	1.1466 (0.9456)	1.1951 (1.0123)	1.2206 (0.9928)
Size quintile 2	0.2416 (0.8710)	0.2589 (0.8647)	0.2135 (0.8538)	0.2541 (0.8606)	0.2304 (0.8711)
Size quintile 3	0.5006 (0.5770)	0.5085 (0.5775)	0.5375 (0.5698)	0.5436 (0.5751)	0.4717 (0.5758)
Size quintile 4	0.5225 (0.6748)	0.5295 (0.6806)	0.4819 (0.6726)	0.5203 (0.6772)	0.4935 (0.6813)
Size quintile 5	0.7024 (0.7054)	0.6948 (0.7387)	0.6864 (0.7205)	0.7353 (0.7353)	0.7214 (0.7454)
Acquisition transition	-	0.0939 (0.2196)	0.2637 (0.2237)	0.2009 (0.2182)	0.2008 (0.2093)
A1	-	-	-0.5257 *** (0.16)	-	-
Number of acquisitions	-	-	-	-0.218***(0.08)	-
Cumulative no. of acquisitions	-	-	-		-0.0295 *(0.0169))
Intercept	0.2649 (0.642)	0.4664 (0.6298)	0.4891 (0.6091)	0.2274 (0.6520)	0.2638 (0.6505)
m2	0.591	0.593	0.626	0.716	0.615
Hansen	23.63 (0.130)	23.88 (12.3)	23.73 (0.127)	22.89 (0.153)	22.46 (0.168)
df	17	17	17	17	17
N	3553	3553	3553	3553	3553

*, ** and ***denote significance at the 10%, 5% and 1% levels, respectively. Time dummy variables are not reported, to promote brevity.

Source: Author's calculations using an unbalanced panel for the period 1980 to 2014. Data obtained from the Bloomberg databank.

TABLE 5: TWO STEP-SYSTEM GMM ESTIMATION RESULTS DEPENDENT VARIABLE: PROFIT (Π_{it}) (CONT.)

Brazil - São Paulo Stock Exchange				
Model 1	*Model 2*	*Model 3*	*Model 4*	*Model 5*
0.636***(0.16)	0.636***(0.154)	0.637***(0.160)	0.637***(0.163)	0.641***(0.149)
-0.015(0.017)	-0.017(0.017)	-0.016(0.017)	-0.015(0.017)	-0.017(0.017)
7.136*(4.129)	7.077*(4.128)	7.592*(4.236)	7.549*(4.215)	7.022*(4.118)
2.322(2.222)	2.217(2.173)	2.352(2.200)	2.505(2.270)	2.083(2.101)
-3.021(2.650)	-2.967(2.674)	-3.077(2.650)	-2.926(2.552)	-2.865(2.623)
-2.764(2.360)	-2.726(2.399)	-2.834(2.379)	-2.741(2.317)	-2.674(2.377)
-2.798(2.369)	-2.720(2.397)	-2.693(2.301)	-2.722(2.304)	-2.678(2.382)
-2.528(2.239)	-2.461(2.291)	-2.618(2.300)	-2.494(2.230)	-2.447(2.286)
	-0.298(0.230)	0.373(0.335)	0.067(0.224)	-0.132(0.192)
-	-	-1.637*(0.985)		
-	-	-	-0.439(0.277)	-
-	-	-		-0.032(0.025)
1.331(1.415)	1.538(1.506)	1.591(1.558)	1.556(1.508)	1.693(1.603)
0.946	0.913	0.947	0.995	0.866
32.26 (0.223)	32.33 (0.224)	30.35 (0.298)	28.33 (0.394)	32.31 (0.221)
27	27	27	27	27
3729	3729	3729	3729	3729

In Model 5, we test the impact of the cumulative number of acquisitions on profit. It is reasonable to suppose that firms gain experience from embarking

on multiple acquisitions over time, and this lessens any negative effects. Our model tries to capture these effects by using the cumulative number of acquisitions as a proxy for experience in M&As. Contrary to expectations, we find that the coefficient on the cumulative number of acquisitions was negative and statistically significant for South Africa, and negative but statistically insignificant for Brazil.These results point towards the empire-building theory which suggests that managers may be concerned with expanding the business units (through M&As) under their control, rather than optimally allocating resources (engaging in value-enhancing M&As).

6.6. Additional tests[1] and robustness checks

Additional tests were conducted on both countries. The payment method did not appear to have an impact: for example, the coefficient on the number of stock acquisitions was statistically insignificant with a positive coefficient in South Africa and a negative coefficient in Brazil. We further tested the impact of cumulative horizontal acquisitions[2] (cumulative number of acquisitions in the same sector) on profit, and found this variable was negative and statistically insignificant in both countries. Robustness checks were conducted by using value-reporting models (using Tobin's Q and the price-to-book ratio) and alternative profitability measures (operating profit margin and return on capital employed). No significant changes were reported on the coefficients of explanatory variables.

6.7. Limitations and areas for further research

The use of accounting data for estimation is likely to present some well-known impediments, which include the potential for "creative accounting" by firms to reduce their tax bills, and also possible inconsistencies in the timing and methods of reflecting acquired assets in the companies' books. Second, any out-of-period acquisitions are not captured. Thus, making the distinction between acquirers and non-acquirers is only based on the available observations. These limitations offer a broad scope for further research. Third, a clearer picture may emerge if more features of the acquisitions are added – whether they are local or cross-border, whether the target is in an emerging or developed market, and whether the merger is a horizontal, vertical or diversifying transaction in terms

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[1] We do not report these results in order to promote brevity. These results are available on request.

[2] These tests were conducted for firms where data were available about the nature of the merger.

of industry. Also, divergence of acquisitions' returns between various industries is likely, and hence it warrants attention. Fourth, a different picture on post-acquisition performance may emerge if the motive for the acquisition is added to the analysis; that is, whether the motives for the acquisition were economic, personal, or strategic.

7. Summary and conclusion

The aim of this paper was to investigate the effect of acquisitions on the profitability of South African and Brazilian acquirers using unbalanced panels of JSE-listed and São Paulo Stock Exchange-listed companies over the period 1980-2014. The results obtained using the system GMM estimation technique are broadly consistent with the findings of Dickerson *et al*. (1997) for the United Kingdom. Our results show that there is persistence in the profits of listed firms, and that growth seems to pay off immediately in both South Africa and Brazil. Firms in both countries experience a short-term negative shock to profits when embarking on at least one acquisition in a given year. The two countries differ with regard to the impact of leverage and experience in M&As. Leverage and experience in M&As impact the profitability of South African firms negatively, but do not have any effect on Brazilian firms' performance. In both countries, we do not find evidence that size and method of payment have any effect on the acquirer's profitability. We suggest that further research in this area be conducted by incorporating more details about the nature of each transaction in order to understand the driving forces behind the impact of M&As on the operating performance of acquirers.

Biographical Notes

Ralitza Dobreva is a Lecturer in Economics at the University of KwaZulu-Natal, South Africa. She holds a Master's degree in Economics from the University of Witwatersrand, and is currently enrolled for a PhD in Economics at the University of the Witwatersrand, South Africa. Her research interests are in health economics, industrial organisation, and competition policy.

Farai Kwenda is a Senior Lecturer in the School of Accounting, Economics and Finance at University of KwaZulu-Natal, South Africa. He holds a PhD in Finance from the University of KwaZulu-Natal. His research interests are focused on corporate finance, microfinance and financial literacy.

Acknowledgments

We are indebted to 2013 ESSA and 2014 IFABS conference participants who provided excellent comments and suggestions on previous drafts of the article. We are also grateful to Professor Collins Ntim, Assistant Editor of the journal, for sharing our enthusiasm for this article.

References

Agyei-Boapeah, H. (2015). Cross-border acquisitions and financial leverage of UK acquirers. *Accounting Forum*, 39(2), 97-108.

Alexandridis, G., Antoniou, A., & Zhao, H. (2006). Valuation effects of short sale constraints: The case of corporate takeovers. *European Financial Management*, 12(5), 747-762.

Andrade, G.M.M., Mitchell, M., & Stafford, E. (2001). New evidence and perspectives on mergers, Harvard Business School Working Paper No. 01-070.

Arellano, M., & Bond, S. (1991). Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *The Review of Economic Studies*, 58(2), 277-297.

Arellano, M., & Bover, O. (1995). Another look at the instrumental variable estimation of error-components models. *Journal of Econometrics*, 68(1), 29-51.

Asquith, P. (1983). Merger bids, uncertainty, and stockholder returns. *Journal of Financial Economics*, 11(1-4), 51-83.

Aybar, B., & Ficici, A. (2009). Cross-border acquisitions and firm value: An analysis of emerging-market multinationals. *Journal of International Business Studies*, 40(8), 1317-1338.

Bertrand, O., & Betschinger, M.-A. (2012). Performance of domestic and cross-border acquisitions: Empirical evidence from Russian acquirers. *Journal of Comparative Economics*, 40(3), 413-437.

Bhagat, S., Malhotra, S., & Zhu, P. (2011). Emerging country cross-border acquisitions: Characteristics, acquirer returns and cross-sectional determinants. *Emerging Markets Review*, 12(3), 250-271.

Blundell, R., & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics*, 87(1), 115-143.

Brouthers, K.D., van Hastenburg, P., & van den Ven, J. (1998). If most mergers fail why are they so popular? *Long Range Planning*, 31(3), 347-353.

Cable, J. (1977). A search theory of diversifying merger. *Recherches Économiques de Louvain/Louvain Economic Review*, 43(3) 225-243.

Caves, R.E. (1988). *Effects of mergers and acquisitions on the economy: An industrial organization perspective*. Division of Research, Harvard Business School.

Chen, Y., & Lin, C. (2009). *Performance of cross-border mergers and acquisitions (M&A's) by Chinese firms*. Retrieved from https://pdfs.semanticscholar.org/644f/a163de820ce75401d788b4ded63bc8028e1a.pdf

Chernykh, L., Liebenberg, I., & Macias, A. (2010). *Changing direction: Cross border acquisitions by emerging market firms*. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1540260

Conn, R. L., Cosh, A., Guest, P.M., & Hughes, A. (2005). The impact on UK acquirers of domestic, cross-border, public and private acquisitions. *Journal of Business Finance & Accounting*, 32(5-6), 815-870.

Dickerson, A.P., Gibson, H.D., & Tsakalotos, E. (1997). The impact of acquisitions on company performance: Evidence from a large panel of UK firms. *Oxford Economic Papers*, 49(3), 344-361.

Du, M., & Boateng, A. (2012). Cross-border mergers and acquisitions by emerging market firms: A review and future direction. *ACRN Journal of Entrepreneurship Perspectives*, 1(12), 24-54.

Fuller, K., Netter, J., & Stegemoller, M. (2002). What do returns to acquiring firms tell us? Evidence from firms that make many acquisitions. *The Journal of Finance*, 57(4), 1763-1793.

Gaughan, P. A. (2005). *Mergers: What can go wrong and how to prevent it* (Vol. 4). Hoboken, NJ: John Wiley & Sons.

Geroski, P.A., & Jacquemin, A. (1988). The persistence of profits: A European comparison. *The Economic Journal*, 98(391), 375-389.

Goddard, J.A., & Wilson, J.O. (1999). The persistence of profit: A new empirical interpretation. *International Journal of Industrial Organization*, 17(5), 663-687.

Gregory, A. (1997). An examination of the long run performance of UK acquiring firms. *Journal of Business Finance & Accounting*, 24(7-8), 971-1002.

Haleblian, J.J., Kim, J.-y.J., & Rajagopalan, N. (2006). The influence of acquisition experience and performance on acquisition behavior: Evidence from the US commercial banking industry. *Academy of Management Journal*, 49(2), 357-370.

Harding, D., & Rovit, S. (2013). *Mastering the merger: Four critical decisions that make or break the deal*. Cambridge, MA: Harvard Business Press.

Harrison, J.S., Hart, M., & Oler, D.K. (2014). Leverage and acquisition performance. *Review of Quantitative Finance and Accounting*, 43(3), 571-603.

Healy, P.M., Palepu, K.G., & Ruback, R.S. (1992). Does corporate performance improve after mergers? *Journal of Financial Economics*, 31(2), 135-175.

Hitt, M.A., Ireland, R.D., & Harrison, J.S. (2001). Mergers and acquisitions: A value creating or value destroying strategy. In M. A. Hitt, J. S. Freeman, & J. S. Harrions (Eds), *The Blackwell handbook of strategic management* (pp. 384-408). Oxford: Blackwell Publishers.

King, D.R., Dalton, D.R., Daily, C.M., & Covin, J.G. (2004). Meta-analyses of post-acquisition performance: Indications of unidentified moderators. *Strategic Management Journal*, 25(2), 187-200.

Klimek, A. (2014). Results of cross-border mergers and acquisitions by multinational corporations from emerging countries: The case of Poland. *Eastern European Economics*, 52(4), 92-104.

Kouser, R., Bano, T., Azeem, M., & Hassan, M. (2012). Inter-relationship between profitability, growth and size: A case of non-financial companies from Pakistan. *Pakistan Journal of Commerce & Social Sciences*, 6(2), 405-419.

Kumar, M.S. (1985). Growth, acquisition activity and firm size: Evidence from the United Kingdom. *The Journal of Industrial Economics*, 33(3), 327-338.

LaMattina, J.L. (2011). The impact of mergers on pharmaceutical R&D. *Nature Reviews Drug Discovery*, 10(8), 559-560.

Lebedev, S., Peng, M.W., Xie, E., & Stevens, C.E. (2014). Mergers and acquisitions in and out of emerging economies. *Journal of World Business*, 50(4), 651-662.

Limmack, R.J. (1991). Corporate mergers and shareholder wealth effects: 1977-1986. *Accounting and Business Research*, 21(83), 239-252.

Loughran, T., & Vijh, A.M. (1997). Do long-term shareholders benefit from corporate acquisitions? *The Journal of Finance*, 52(5), 1765-1790.

Lu, Q. (2004). *Do mergers destroy value? Evidence from failed bids*. Working Paper, Kellogg School of Management, Northwestern University.

Maksimovic, V., & Phillips, G. (2001). The market for corporate assets: Who engages in mergers and asset sales and are there efficiency gains? *The Journal of Finance*, 56(6), 2019-2065.

Malatesta, P.H. (1983). The wealth effect of merger activity and the objective functions of merging firms. *Journal of Financial Economics*, 11(1-4), 155-181.

Malmendier, U., & Tate, G. (2008). Who makes acquisitions? CEO overconfidence and the market's reaction. *Journal of Financial Economics*, 89(1), 20-43.

Marris, R. (1964). *The economic theory of managerial capitalism* (Vol. 258). London: Macmillan.

Mergermarket Report, M. (2013). *Mergermarket M&A Trend Report: 2013*. Retrieved from http://www.pwc.es/es/servicios/transacciones/assets/mergermarket-mergers-and-acquisitions-trend-report-2013.pdf

Moeller, S.B., Schlingemann, F.P., & Stulz, R.M. (2004). Firm size and the gains from acquisitions. *Journal of Financial Economics*, 73(2), 201-228.

Morellec, E., & Zhdanov, A. (2005). The dynamics of mergers and acquisitions. *Journal of Financial Economics*, 77(3), 649-672.

Mueller, D.C. (1992). The persistence of profits, in: *Profits, deficits and instability* (pp. 82-102): Springer.

Nickell, S. (1981). Biases in dynamic models with fixed effects. Econometrica: *Journal of the Econometric Society*, 49 (6), 1417-1426.

Pearson, S. (2016). Brazil's recession creates boon for M&A bankers. *Financial Times* (16 February 2016). Retrieved from: https://www.ft.com/content/70e6ee72-d3fa-11e5-969e-9d801cf5e15b

Penrose, E.T. (1959). *The theory of the growth of the firm*. Oxford: Oxford University Press.

Petmezas, D. (2009). What drives acquisitions?: Market valuations and bidder performance. *Journal of Multinational Financial Management*, 19(1), 54-74.

PricewaterhouseCoopers. (2016). *Brazil M&A trends*. Retrieved from: Brazil: https://www.pwc.fr/fr/assets/files/pdf/2016/03/pwc_brazil-France-manda-trends2015.pdf

Rau, P.R., & Vermaelen, T. (1998). Glamour, value and the post-acquisition performance of acquiring firms. *Journal of Financial Economics*, 49(2), 223-253.

Ravenscraft, D.J., & Scherer, F.M. (1987). *Mergers, sell-offs, and economic efficiency*. Washington, DC: Brookings Institution Press.

Roodman, D. (2006). How to do xtabond2: An introduction to difference and system GMM in Stata. Center for Global Development working paper (103).

Schoar, A. (2002). Effects of corporate diversification on productivity. *The Journal of Finance*, 57(6), 2379-2403.

Sharma, D.S., & Ho, J. (2002). The impact of acquisitions on operating performance: Some Australian evidence. *Journal of Business Finance & Accounting*, 29(1-2), 155-200.

Somdaka, M.M. (2014). *Motivating factors behind mergers and acquisitions in emerging markets: Analysis of activities in Brazil, South Africa and Russia.* University of Cape Town. Retrieved from: https://open.uct.ac.za/handle/11427/8566

Statista.com. (2016). Retrieved from: https://www.statista.com/statistics/293308/value-of-global-merger-and-acquisition-deals/

Sudarsanam, S., & Mahate, A.A. (2003). Glamour acquirers, method of payment and post-acquisition performance: The UK evidence. *Journal of Business Finance & Accounting*, 30(1-2), 299-342.

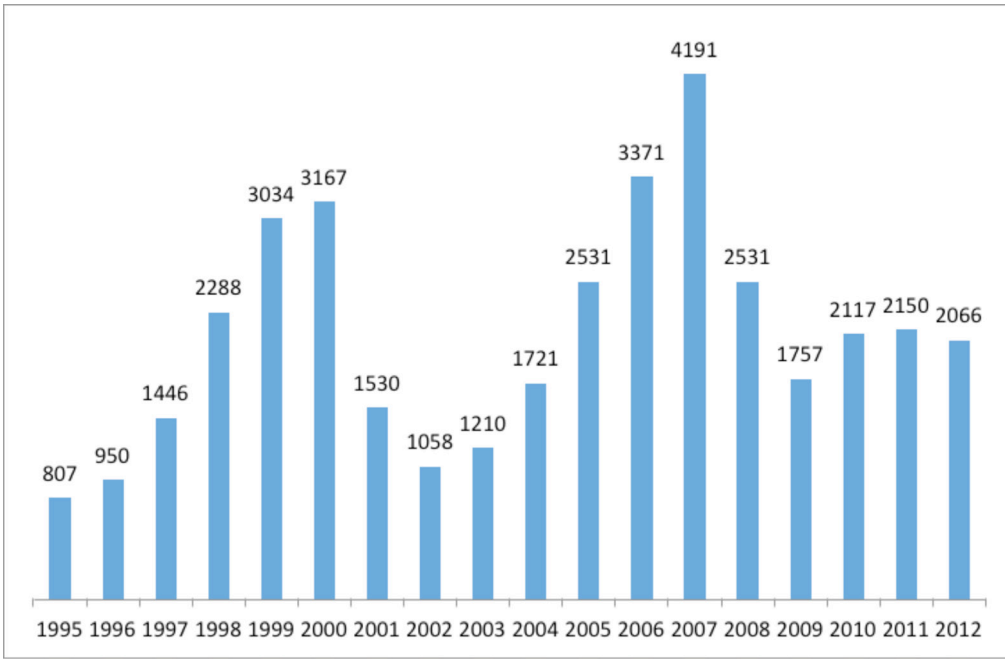
Thanos, I.C., & Papadakis, V.M. (2012). The use of accounting-based measures in measuring M&A performance:A review of five decades of research. In: C. L. Cooper & S. Finkelstein (Eds), *Advances in mergers and acquisitions* (pp. 103-120). Bingley: Emerald Group Publishing Limited.

TMF. (2013). BRIC Countries 'deal-making hotspots'. Retrieved from: http://www.tmf-group.com/en/media-centre/news-and-insights/September-2013/bric-countries-dealmaking-hotspots.

Tuch, C., & O'Sullivan, N. (2007). The impact of acquisitions on firm performance: A review of the evidence. *International Journal of Management Reviews*, 9(2), 141-170.

Tunyi, A.A. and Ntim, C.G. (2016). Location advantages, governance quality, stock market development and firm characteristics as antecedents of African M&As. *Journal of International Management,* 22(2), 147-167.

Appendix 1: Volume of worldwide mergers and acquisitions from 1995 to 2012 (in billions of $US)



Source: http://www.statista.com