LUISS Guido Carli
PREMIO TESI D'ECCELLENZA

International Mergers and Acquisitions in BRICS versus Developed Markets. A Comparative Study of Different Investment Policies

Ilaria Canestri

3
2013-2014

LUISS
Academy

LUISS Guido Carli / Premio tesi d'eccellenza
Working paper n. 3/2013-2014
Publication date: May 2016
International Mergers and Acquisitions in BRICS versus Developed Markets.
A Comparative Study of Different Investment Policies

ISBN 978-88-6856-068-3

LUISS Academy is an imprint of
LUISS University Press – Pola s.r.l. a socio unico
Viale Pola 12, 00198 Roma
Tel. 06 85225485
e-mail lup@luiss.it
www.luissuniversitypress.it

International Mergers and Acquisitions in BRICS versus Developed Markets.
A Comparative Study of Different Investment Policies

Ilaria Canestri

Abstract

The primary purpose of this study is to determine the optimal Investment policy for multinational companies from a growth perspective between retaining and distributing the Realized earnings within their subsidiaries, according to the location where M&As are executed, BRICS or Developed countries. The main research question aims to understand whether a higher Retention ratio is meaningful to explain a corresponding higher growth rate. A sample of representative cross-border deals was obtained for the years 2005-2013. There is no evidence of a significant relationship between the Retention ratio and growth rate, expressed in terms of sales volume, when evaluating a general M&A context without taking into account the place where deals occur. However, a positive relationship holds between the two variables for those cross-border transactions with targets located in BRICS markets. This means that the fundamental determinant to experience an incremental growth after an M&A strategy, thanks to the retain-and-reinvest approach in earnings management, is the target's belonging or not belonging to BRICS countries.

Keywords: Realized earnings, Retention ratio, Growth rate, M&A, BRICS, Developed countries

Acknowledgements

To my beloved parents who have always given me unconditional love and constant support in all adventures of my life. New York, Lisbon, Shanghai and much more would not have been possible without them.

To my dear brother Lorenzo who makes me proud every day of being his sister, the person who probably knows me more than anyone else.

To all my family and friends who have always believed in me.

A special thanks to Professor Marino for his help in the accomplishment of this work project.

"It's so fascinating to be a woman.
It's an adventure that takes such courage,
a challenge that's never boring."
Oriana Fallaci

TABLE OF CONTENTS

1. Introduction

The globalization process and the recent financial crisis have contributed to change the landscape of international mergers and acquisitions, including variations on the motivations, pattern and deals structure. Historically, traditional mergers and acquisitions were regarded as strategic transactions whose primary objectives were achieving operational efficiencies and increasing market share. Nowadays, establishing presence in foreign markets, especially within emerging countries, allows companies to obtain strategic advantages in terms of future growth in their business development and international diversification by allocating their corporate assets around the world, to better protect investments from market risk. Within this context of instability fueled by financial turmoil, multinational companies have implemented innovative strategies to ensure the access to new geographies and have shifted the focus of M&A targets from Developed to emerging markets.

Previous M&A activity was concentrated in the US, Europe and Japan, the world's largest consumer markets. As a result of the global economic recession, the advanced economies suffered more from the financial downturn, while emerging economies were less impacted and continued to experience positive growth conditions. Among these countries Brazil, Russia, India, China and South Africa, the so-called BRICS[1], show the highest growth potential and attract the attention of numerous dealmakers, leading the global recovery. Consequently, cross-border mergers and acquisitions increased within the BRICS area, offering new opportunities in terms of innovation and vitality.

This paper is build up around the dualism between Developed and BRICS countries concerning the M&A activity, with a particular focus on the latter. The structure of the proposals is the following. Paragraph 2 is devoted to explore the research approach applied to the covered framework and the purposes that lead the investigation process. Paragraph 3 focuses on the core analytical process, by describing the final sample; formulating the underlying hypotheses; and presenting the regression model employed in the study. Finally paragraphs 4 and 5 display the empirical outcomes and provide some concluding remarks.

---

[1] Jim O'Neil, November 2001, *Building Better Global Economic BRICs*, Goldman Sachs, Global Economics Paper No. 66.

2. Research Approach

The primary purpose of the current study is to determine what Investment policy is more value-creating for the acquiring entities from a growth perspective, according to the location where deals are executed, BRICS or Developed countries. The goal is to evaluate the optimal choice for multinational companies between retaining and distributing the Realized earnings whether they perform M&A activity in BRICS or advanced markets. The focus is on the retain-and-reinvest approach as one of the principal source of value creation for international firms and so the most relevant predictor variable is assumed to be the Retention ratio. The research has been established on two different but connected levels. Firstly, it seeks to explore the main effect by defining the type of influence that flows among the independent variable, the Retention ratio, and the dependent variable, the growth rate expressed in terms of sales volume, within the context of an international strategic acquisition or merger. Simultaneously, it has been included a moderator to develop the 2-way interactions effect, represented by the place where cross-border transactions occur, BRICS or Developed countries. It aims to investigate whether the retain-and-reinvest approach is more profitable for corporations with subsidiaries in the BRICS or advanced nations. Once obtained the empirical findings, several implications can be drawn to determine which type of liquidity structure is most likely to be applied by international groups to manage Realized earnings and use them as the primary source of internal financing to fund strategic projects. It is not possible to define just from a theoretical point of view which is the most valuable model among the centralized versus decentralized treasury, because every company must select the most appropriate option according to its own organizational design, underlying business, operational functions, but most of all subsidiaries' location. Since this paper is built up around the dualism BRICS-Developed countries, the following analysis will also provide some suggestions about the most profitable cash management technique to employ by the operating units located in BRICS countries. In this case, the liquidity structure can be regarded as a fundamental vehicle to help increasing the overall group's profitability, thanks to the efficiency gains and cost savings that it implies.

After having clarified the underlying purposes that will lead the investigation process, the first step of this quantitative study consists in collecting a reasonable amount of data, in order to create a sound database. This is obtained according to some specific criteria used in selecting the experimental units to create the balanced sample. In order to verify the accuracy of the employed methodology, it is necessary to consider two complementary aspects, which are fundamental cornerstone of the scientific research: reliability and validity. Once that the data have been collected and the sample has been drawn, the next phase entails the core statistical analysis, which is undertaken by employing the multiple linear regression 2-way interactions with the fixed effects model with robust standard errors. It is performed by using the software STATA that provides the empirical findings as a result. The description of this process follows below.

2.1 Data Collection

Collecting data represents the starting point for any quantitative research, because they constitute the ground on which building the whole analysis. For the current study, they were collected with the purpose of creating an almost balanced sample to ensure an evaluation as possible unbiased between deals occurred within BRICS countries by foreign companies and transactions undertaken in Developed countries. Seeking to obtain an equal number of each type of experimental units is essential to achieve balance, which is a guarantee of fairness in any statistical examination. The research is directed towards two distinct targets: on one hand, firms who have done international transactions exclusively within BRICS countries and at the same time do not belong to this region. On the other hand, enterprises who have planned and executed M&A activity only in Developed countries and may belong to this area. This dichotomy aims to find out which of the two different environments could employ in a more advantageous way the retain-and-reinvest policy concerning the realized profits. The investigation process observes the following criteria in collecting data.

- The acquiring companies are divided into two mutually exclusive categories: the first group is represented by those international firms, which have done mergers and acquisitions only with a target located in the BRICS without belonging to them. The second set is composed by those international enterprises, which have carried out deals only within Developed countries and may belong to one of those. This strict division enables to better identify which of the two selected locations has experienced the positive relationship between the Retention ratio and the actual change of the growth rate expressed in terms of sales volume.

- The adopted time frame refers to international deals that were executed between 2005 and 2013. It was a well-conceived choice because since 2005 lot of countries around the world embraced the adoption of the International Financial Reporting Standards (IFRS), designed to establish a common global language for business affairs, allowing to understand and compare corporate accounts across international boundaries. While on the other hand, the year 2013 was chosen as the ending point because data of 2014 are not completely available for all companies yet.

- The buying companies chosen for this study are all public corporations listed on an international stock exchange (no restriction about its location), at list during the occurrence of the deal, without considering future possible delisting. This parameter allows to take into account companies that provide a considerable amount of data due to their disclosure requirements and that follow similar standards in accounting practice recognized at an international level, even if with some local differences. Instead, the targets are not required to own a public status since the focus of the research is upon the wealth increase seen from the buyer's perspective.

- The purchasing companies have been selected from the most relevant industries in the global marketplace: nutrition, luxury, automotive, electronics, petrochemical, telecommunications, retail and textile, metallurgic, entertainment as well as aviation. It was decided to omit the banking and insurance sector, because it generally follows specific rules in accounting practice, especially for capital requirements. In addition, the selected enterprises occupy top and leading positions within the corresponding industries, according to the worldwide ranking provided by international sources.

- The acquiring firms have adopted the International Financial Reporting Standards (IFRS) or Generally Accepted Accounting Principles (GAAP) to draw up their financial statements. This parameter allows to easier understand and compare the corporate accounts of companies from different legislations that pursue an M&A activity beyond their national boundaries.

- The targets and the acquirers do not necessary belong to the same industry. This criterion enables to consider both mergers and acquisitions that take place in related or unrelated sectors, in order to include international firms that have undertaken a diversification strategy as well as enterprises that have followed a focus strategy.

Both quantitative and qualitative data are used to perform the analysis. All the collected information refers to secondary data, since they were already available and were gathered by several reliable Bureau van Dijk databases. The list of merger and acquisition activity was obtained from Aida and Osiris, which provide accounting and share price information for the covered entities. On the other hand, data concerning deals structure and features were extrapolated from Zephyr, which contains the description about the nature and type of the acquisition, the country of incorporation and the amount of transactions performed by the same firm. However, since some data were not available from the previous sources, also DataStream was employed as an additional support, especially to find out information about market share price, indices and returns.

Following this path, the process led to the creation of an almost balanced sample for a total of 310 observations. Concerning the sample there is a problem of selection bias, since it was not randomly selected but rationally composed. This choice, even if a limitation, aims to be functional with regard to the study, whose purpose is to focus the attention on evaluating where the M&A activity has realized the highest growth as a consequence of a particular Investment policy adopted, whether within BRICS or Developed countries. In addition, it is important to underline that the final sample has experienced several changes during more advanced stages in the analytical process, because of the removal of all incomplete observations that missed any accounting or share price information.

2.2 Reliability

Reliability is the ability of generating the same results by replicating the study under similar conditions and with the same methodology. Joppe[2] (2000) defines reliability as, "…the extent to which results are consistent over time". This idea implies the stability

[2] Marion Joppe, January 2000, *The Research Process*.

of the approach used to perform the analysis. A high degree of stability entails a high degree of reliability, which in turns means that the final outcomes are potentially repeatable. In order to see if the current project can be deemed reliable, it is necessary to consider two perspectives: the way through which data are collected and the way through which the methodology is applied.

The information was gathered by accurate databases such as Aida, Osiris, Zephyr and DataStream, which are commonly employed by practitioners to accomplish their empirical studies. In addition, to further verify the precision of the research, some observations were cross-checked from different sources and the achievement of the same results was a proof about their stability. Furthermore, several data come from the corporate official financial statements, which should be prepared according to well-defined accounting standards and are subject to specific disclosure requirements that ensure higher reliability.

The other point takes into account the accuracy of the analytical approach used to conduct the research. It was chosen the multivariate linear regression 2-way interactions with the fixed effects model with robust standard errors, run by the statistical software STATA that employs the OLS technique to compute the coefficients. Since this program is generally used in practice by researchers to perform quantitative analysis quickly, the corresponding outcomes can be considered reliable.

2.3 Validity

Validity along with reliability is a fundamental cornerstone of the scientific research and includes two different aspects: internal and external validity. Joppe[3] (2000) provides the following definition: “Validity determines whether the research truly measures that which it was intended to measure or how truthful the research results are”. It implies verifying that the tools used for measurement are accurate and fit the research objectives.

Internal validity refers to how well an experiment is conducted in defining the specific criteria used to select the experimental units, in collecting data and performing the analysis. With reference to the current study, it can be considered internally valid since all the information is gathered from the same databases and is analyzed following the

[3] Marion Joppe, January 2000, *The Research Process*.

same regression model. Although some observations were omitted due to the lack of accounting or share price information, the final sample remains almost balanced and quite representative to consider the study valid.

The other perspective, the external validity, applies to the possibility of generalizing the empirical findings to broader groups and populations for the same time horizon taken into account. On average, the results of the study can be extended to other deals undertaken in BRICS countries for the findings relative to the former and to Developed countries for the findings concerning the latter. This is possible because all the experimental units occupy a leading or relevant role within the corresponding industries and they can be deemed representative for other players. Instead, for diverse groups of countries, even if closed to the reference areas, during different periods, the outcomes of this project cannot be generalized due to different economic, financial, political and social conditions that affected the corresponding internal environment.

3. Analysis

The analytical process is based on different steps. The first action that a researcher performs consists in defining the research question from which it is possible to draw the hypotheses that will lead the quantitative study. Once that the hypotheses are formulated, it is presented the final sample on which the study is conducted and is chosen the statistical model to adopt. Nowadays, the empirical analysis is generally run by advanced software and programs based on the preselected statistical models. For the purpose of the current dissertation, it has been applied the multiple linear regression 2-way interactions with the fixed effects model with robust standard errors and it has been used the software STATA. The choice of the model is based on the nature of the study. The regression analysis is the most appropriate tool to explain the relationship between a dependent variable and an independent variable. After the description of the model, are presented and described the final outcomes as well as the implications that they entail.

3.1 Hypotheses

The proposed dissertation is based on the following research question: *"Whether or not a higher Retention ratio is meaningful to explain a higher growth rate within the* *subsidiaries located in BRICS countries between 2005 and 2013?"*. It aims to determine what Investment policy is more value-creating for the acquiring entities from a growth perspective, according to the location where deals are executed. The research question stresses the attention on three main elements. Firstly, it identifies the presence of a relationship between the Retention ratio and the growth rate, respectively the independent and dependent variable. The nature and direction of this relationship will be found out by the empirical analysis. Besides this main effect, a key role is played by the location where deals occur, BRICS or Developed countries, which crucially affects the final outcome. This additional influence is called interaction effect. Secondly, the research question outlines a specific time frame to consider: they must be taken into account only those international transactions that took place between 2005 and 2013. This has been elected an important selection criterion in building the sample. Lastly, the previous statement reminds that the whole work should be observed with the perspective to validate the generally accepted principle by both authors and practitioners, according to which cross-border mergers and acquisitions represent a value-creating opportunity for firms.

In light of the preceding research question and after having clarified the dependent and independent variables, now it is possible to formulate the hypotheses that illustrate the main issue of the research and its direction. In this case, since there is a main effect which is influenced by an interaction effect, two different but related hypotheses must be stated.

The core: Retained Earnings reinvested by companies create value.

1. *Hypothesis*: Retention Ratio is positively related to the subsidiaries' Growth Rate.

2. *Hypothesis*: The execution of M&A deals in BRICS countries is a condition that positively moderates the relationship between the Retention Ratio and the subsidiaries' Growth Rate.

A continuing debate within the investment community concerns the investigation process about the relevance of the Realized earnings and their two basic components, retained earnings and distributed earnings, in determining the primary source of value for a Company, measured and reflected by its share price. Dividend distribution helps increasing shareholders satisfaction, since this allocation represents what stockholders actually receive from the firm as the return on their previous investments. However, Modigliani and Miller[4] (1961) argued that earnings, not dividends, represents the underlying source of value for any corporate share price. Although they developed the irrelevance dividend theory under several specific assumptions (perfect capital markets, rational behaviors and perfect certainty about future results), it continues to hold also in an uncertain environment, when removing the previous suppositions. Within this framework, the best option is to retain earnings and reinvest them in strategic projects that offer a superior internal rate of return compared to other available alternatives. The current study follows this perspective and assumes the retained earnings as the major source of a firm's growth[5] (Chasan, 2012).

Retained earnings refer to the portion of a company's profit that is internally retained in order to be invested in future strategic projects, such as mergers or acquisitions, instead of being distributed to shareholders as dividends or for share repurchase. Lazonick[6] (2014) recalls that many US corporations from the end of World War II adopted the retain-and-reinvest approach for internal funds allocation for the first time until the late 1970s, in an attempt to fuel further expansion and achieve sustainable prosperity. Following this path, other international companies recognized soon the advantages of this approach and that funding the firm's growth through retained earnings could have been a powerful strategy. It does not raise any concern on the corporate debt profile, avoiding to bear additional expenses due to principal repayment and/or periodic coupons. In addition, this conservative option allows executives to maintain the full control over the entire business, rather than involving outsider investors, such as creditors, that may extend their influence over the ongoing operations[7] (Decker). Furthermore, some authors[8] (Khan and Ali Shah, 2012) highlight how the portion of the reinvested earnings within an enterprise provides a more meaningful contribution in order to reach a stable long-term profitability and in turn results in a higher share price,

[4] Franco Modigliani and Merton Miller, October 1961, *Dividend Policy, Growth, and the Valuation of Shares*, The Journal of Business, Vol. 34, No. 4.
[5] Emily Chasan, July 2012, *Mid-Size Firms Tap Retained Earnings to Fund Growth*, The Wall Street Journal.
[6] William Lazonick, September 2014, *Profits Without Prosperity*, Harvard Business Review.
[7] Fred Decker, *Pros & Cons of Financing Expansion Through Retained Earnings*, Small Business by Demand Media.
[8] Allah Bakhsh Khan and Syed Zulfiqar Ali Shah, February 2012, *The Impact of Retained and Distributed Earnings on Future Profitability and Stock Returns in Pakistan*, International Research Journal of Finance and Economics, Issue 84.

one of the most common measure used to asses a company's value. It follows that earnings retention directly contributes to share price appreciation. It also determines the level of a firm's investment and its future growth[9] (Charles, 2010). Besides to the previous financial and economic benefits, profit retention plays a key role also in creating value for the company's shareholders. Retaining earnings creates incremental value to the overall company and to the existing stockholders, which should select as a first choice the retain-and-reinvest approach to obtain additional profits. A strong supporter of this thesis is the famous top manager Warren Buffet[10], whose most notable statement declares: "For every dollar retained by the corporation, at least one dollar of market value will be created for owners". The ability to use cash from the ongoing operations wisely as the major source of growth capital can be considered a sign of good corporate management. In order to have a substantial amount of cash surplus to reinvest within the organization, it is essential to maintain sustainable and repeatable earnings in a long-term horizon. The earnings quality depends on some external factors like macroeconomic conditions and industry environment, but it is also crucially affected by several firm-specific elements such as the underlying business model, adopted accounting standards, corporate governance and effective management to avoid misrepresentations on financial statements[11] (Campbell et al, 2013).

3.2 Sample Description

Following the selection criteria previously described, it was created an almost balanced sample for a total of 310 observations, since the same company may have undertaken more than one deal within the same year. During the course of the analysis, it has experienced several changes, especially in more advanced stages, due to the removal of all incomplete observations that missed any accounting or share price information.

Table 3.1 presents the distribution of deals over time in terms of number of M&A transactions occurred each year, from 2005 to 2013. It was not possible to consider also the corresponding deal values, because of the lack of information that affected several observations, whose values were not disclosed. As the evidence shows, the flow of

[9] S. Charles, 2010, *Explaining Persistent Cycles in a Short-run Context: Firms' Propensity to Invest and Omnipotent Shareholders*, Journal of Post Keynesian Economics, Vol. 32.
[10] Richard J. Connors, December 2009, *Warren Buffet on Business: Principles from the Sage of Omaha*, John Wiley & Sons Inc.
[11] Ilia Dichev, John Graham, Harvey Campbell and Shiva Rajgopal, December 2013, *Earnings Quality: Evidence from the Field*, Journal of Accounting and Economics, Vol. 56.

deals over time follows the sixth merger wave pattern. The years that recorded the main peaks are: 2005 (15,16% of total deals), 2006 (15,48% of total deals), 2007 (13,23% of total deals) and 2008 (13,55% of total deals). This dynamism within the international framework can be explained as the result of the sixth merger wave. It was characterized by a great potential from the buy-side perspective, due to the huge availability of liquidity and cash on corporate balance sheets. In addition, during this period another factor played an important role: shareholder activism. Specialized activist equity holders attempted to influence management's decisions in order to pursue growth strategies based on strategic acquisitions and mergers. Furthermore, the Golden Age of private equity funds (2003-2007) contributed to enhance the M&A activity. As a result, the concentration of deals over time is particularly clear in 2005 and 2006, the core phase of the sixth wave. However, the decline of this trend is especially evident in the years 2009 (10,32% of total deals) and 2010 (8,07% of total deals) due to the burst of the global financial crisis. The international economic downturn generated a credit crunch, resulting in a reduction of credit availability that halted the merger and acquisition intensity. Starting from the year 2011 (11,94% of total deals), it is possible to note a slight recovery in the M&A activity, even if it did not reach the pre-crisis levels. Instead, data collected for the year 2013 cannot be deemed representative, since most of the covered transactions are still waiting for regulatory approval and final agreement.

Table 3.1: Sample Distribution over Time

Period	Total Number	% of Total
2005	47	15,16%
2006	48	15,48%
2007	41	13,23%
2008	42	13,55%
2009	32	10,32%
2010	25	8,07%
2011	37	11,94%
2012	36	11,60%
2013	2	0,65%
Tot	**310**	**100,00%**

Source: *Zephyr*

3.3 Regression Model

The empirical analysis is performed by employing the multiple linear regression 2-way interactions with the fixed effects model with robust standard errors. An interaction occurs when the magnitude of the effect of one independent variable (X) on a dependent variable (Y) varies as a function of a second independent variable (Z), which is called the moderator[12] (Preacher et al, 2006). This is also known as the moderation effect. The adopted model aims to estimate in terms of sign and magnitude the main effect on the dependent variable of a variation occurred in the independent variable as well as simultaneously the interaction effect of the moderator; while the other control variables are held fixed. In this way, it is possible to isolate the impact of the independent variable on the dependent variable and define the relationship that exists among them. The choice of the model is based on the nature and purpose of the study. The regression analysis is the most appropriate tool to explain the relationship between a dependent variable and an independent ones. In addition, the model provides the regression of Y on X at particular values of Z. The interaction can be between two dichotomous variables, two continuous variables, or a dichotomous and a continuous variable. This dissertation takes into account the moderation effect between a continuous (X) and a dichotomous (Z) variable. In several cases, the interaction effect adds benefits to the multiple linear regression model, especially when the main effect does not result significant, because the moderator variable Z allows the regression of Y on X to move from non-significance to significance.

The multiple linear regression 2-way interactions model applies the following formula:

$$Y_i = \alpha + \beta_1 X_{1,i} + \beta_2 X_{2,i} + \beta_3 X_{3,i} + \beta_4 Z_i + \beta_5 (X_{1,i} Z_i) + \gamma_t + \varepsilon_i$$

With $i = 1, \dots, n$ and identifies the i-th observation within the sample.

Y_i: The dependent variable, represented by the growth rate of the acquirer. It is a continuous variable in the form of a ratio variable. The growth rate is expressed in terms of sales volume and is computed as the annual percentage change between the revenues of the year immediately following the deal and the revenues of the current year when

[12] Kristopher J. Preacher, Patrick J. Curran and Daniel J. Bauer, 2006, *Computational Tools for Probing Interaction Effects in Multiple Linear Regression, Multiple Modeling, and Latent Curve Analysis*, Journal of Educational and Behavioral Statistics, Vol. 31, pp. 437-448.

the deal takes place. Its main advantage is to provide an immediate overview of the M&A's impact on a firm's size and consequently on its profitability.

$$\Delta g_{sales} = \frac{sales_{(t+1)} - sales_{(t)}}{sales_{(t)}}$$

With t = the year when deal occurs

α: The intercept, which expresses the expected value of Y_i when $X_{1,i}, X_{2,i}, X_{3,i} = 0$. Graphically, it determines the point where the regression crosses the y-axis.

$\beta_1, \beta_2, \beta_3, \beta_4$: The regression coefficients or slope, which are estimated through the OLS technique. They show the relationship among the independent and dependent variables in terms of sign as well as the amount of variation in the dependent variable that would be predicted by 1 unit variation in the corresponding predictor. For instance, β_1 measures the effect on Y_i due to the marginal variation of $X_{1,i}$; keeping $X_{2,i}$ and $X_{3,i}$ fixed.

$$\beta_1 = \frac{\Delta Y_i}{\Delta X_{1,i}}$$

With $X_{2,i}$ and $X_{3,i}$ constant.

$X_{1,i}$: The independent variable, represented by the Retention ratio, which is the percentage of earnings kept back in the business as retained earnings. It is a continuous variable in the form of a ratio variable. This predictor variable is manipulated in order to observe the main effect on the change in the growth rate. It is also known as plowback ratio.

$$Reten.ratio = \frac{Net\ Income - Dividends}{Net\ Income} = \frac{1 - Dividends}{Net\ Income} = 1 - Payout\ ratio$$

Z_i: The moderation variable, represented by the location where deals occur, BRICS or Developed countries. It is a dichotomous variable, since it assumes value 1 if the M&A takes place within the BRICS area, otherwise value 0 (Developed countries). Dichotomous variables, in fact, are categorical variables that imply only two categories and are designed to provide a response just about two mutually exclusive alternatives. It intends to measure the interaction effect on the final outcome and the way through which it influences the main effect.

$X_{2,i}$: The control variable, represented by the industry relatedness. It is a dichotomous variable that assumes value 1 if deals occur in related industry (either horizontal or vertical M&As), otherwise value 0 (diversification strategy). Control variables are kept constant in order to minimize and so monitor their effects on the experiment. They represent possible alternative explanations to the ones considered in the current study.

$X_{3,i}$: The control variable, represented by the majority acquisition. It is a dichotomous variable that assumes value 1 if deals entail majority acquisitions (> 50%), otherwise value 0 (= < 50%). Control variables are kept constant in order to minimize and so monitor their effects on the experiment. They represent possible alternative explanations to the ones considered in the current study.

β_5: The amount of change in the slope of the regression of Y on X when Z changes by 1 unit.

$X_{1,i}Z_i$: The product between the two independent variables, the continuous $X_{1,i}$ and the dichotomous Z_i. It represents the interaction effect.

γ_t: The company fixed effects to control for time-varying heterogeneity, with $t = 1, \dots, T$, since the dataset of the current study is represented by a panel data.

ε_i: The error term. It represents all the other additional factors that influence the dependent variable but are omitted from the equation. Statistically, it is the deviation of the observed values from the true function values. Graphically, it is the distance of an actual data point from the regression line.

Substituting for the previous variables, it is possible to obtain the following formula:

$$\Delta g_{sales} = \alpha + \beta_1 Retention\ ratio + \beta_2 Ind.relet. + \beta_3 Maj.Acquis. + \beta_4 BRICS + \beta_5 (Ret.ratio * BRICS) + \gamma_t + \varepsilon_i$$

The interpretation of the empirical findings is developed through the examination of the regression coefficient β_1, which determines to what extent the change in the growth rate can be explained by the corporate Retention ratio, and so how powerful is the retain-and-reinvest approach in an M&A context for future growth, without considering the location where the transaction takes place. On the other hand, the regression coefficient β_5 explains the interaction effect, by providing more clarifications about the meaningfulness of the retain-and-reinvest policy when deals occur in BRICS countries. The significance level of the entire analysis is expressed by the p-value of the regression coefficients. If the p-value is lower than the α-level 0,05 there will be a linear relationship between the independent variable and the dependent variable; otherwise, if the p-value is higher than 0,05 the predictor variable will not be able to explain any relationship with the dependent variable and shall be excluded from the analysis because it has no impact. The choice of an α-level equals to 0,05 follows the approach most used in practice by researchers.

4. Empirical Findings

The multiple linear regression 2-way interactions analysis, run with the fixed effects model with robust standard errors on the statistical software STATA by employing the OLS technique, produces the following results:

Table 4.1: Quantitative Results

	(1)	(2)	(3)
Intercept	0.115^{*} (0.067)	0.091 (0.102)	0.170 (0.117)
Industry Relatedness	0.012 (0.041)	0.014 (0.041)	0.015 (0.040)
Majority Acquisition	-0.012 (0.031)	-0.012 (0.031)	-0.009 (0.031)
Retention Ratio		-0.044 (0.045)	0.141^{*} (0.080)
BRICS		0.047 (0.101)	0.074 (0.120)
Retention Ratio × BRICS			0.168^{**} (0.084)
Firm Fixed Effects	**YES**	**YES**	**YES**
R-squared	**0.4151**	**0.4177**	**0.4268**

N=310; robust standard errors in parentheses; $^{*}p< 0.1$, $^{**}p< 0.05$, $^{***}p< 0.01$

The multiple linear regression for the entire sample displays a determination coefficient (R-squared) of 0,4268. This means that the variation in the growth rate, expressed in terms of sales volume, as a result of the transactions is by 42,68% explained by the independent variables included within the model. The R-squared is a statistical measure employed to assess the goodness of fit of a model towards a set of observations and it should ideally be as close as possible to 1, meaning that the model is perfectly predicted by the independent variables. Although the outcome is deemed acceptable, a solid argument to justify the absence of a perfect adherence to 1 is the existence of other possible alternative explanations to describe the actual change in a firm's growth rate after a merger or acquisition.

As the evidence shows, it is not possible to define the existence of any relationship between the Retention ratio and the growth rate, expressed in terms of sales volume, since the corresponding p-value (0,079) is greater than the preselected α-level of 0,05 (it would be significant with an α of 0,10). Therefore, the main effect cannot be considered significant. On the other hand, the interaction effect results significant, because the corresponding p-value (0,045) is lower than the chosen α-level of 0,05. It means that there is a 4,50% probability that the underlying assumption of the moderation effect does not hold. In this case, there is a positive relationship between the Retention ratio and the growth rate for those deals that take place within BRICS countries. The moderation hypothesis is verified. The interaction effect plays a key role in the current analysis, because the presence of the moderator BRICS allows the regression of the actual change in the growth rate on the Retention ratio to move from non-significance to significance. The fundamental determinant to experience an incremental growth after an M&A activity thanks to a retain-and-reinvest approach in earnings management is the belonging or not belonging to the BRICS area.

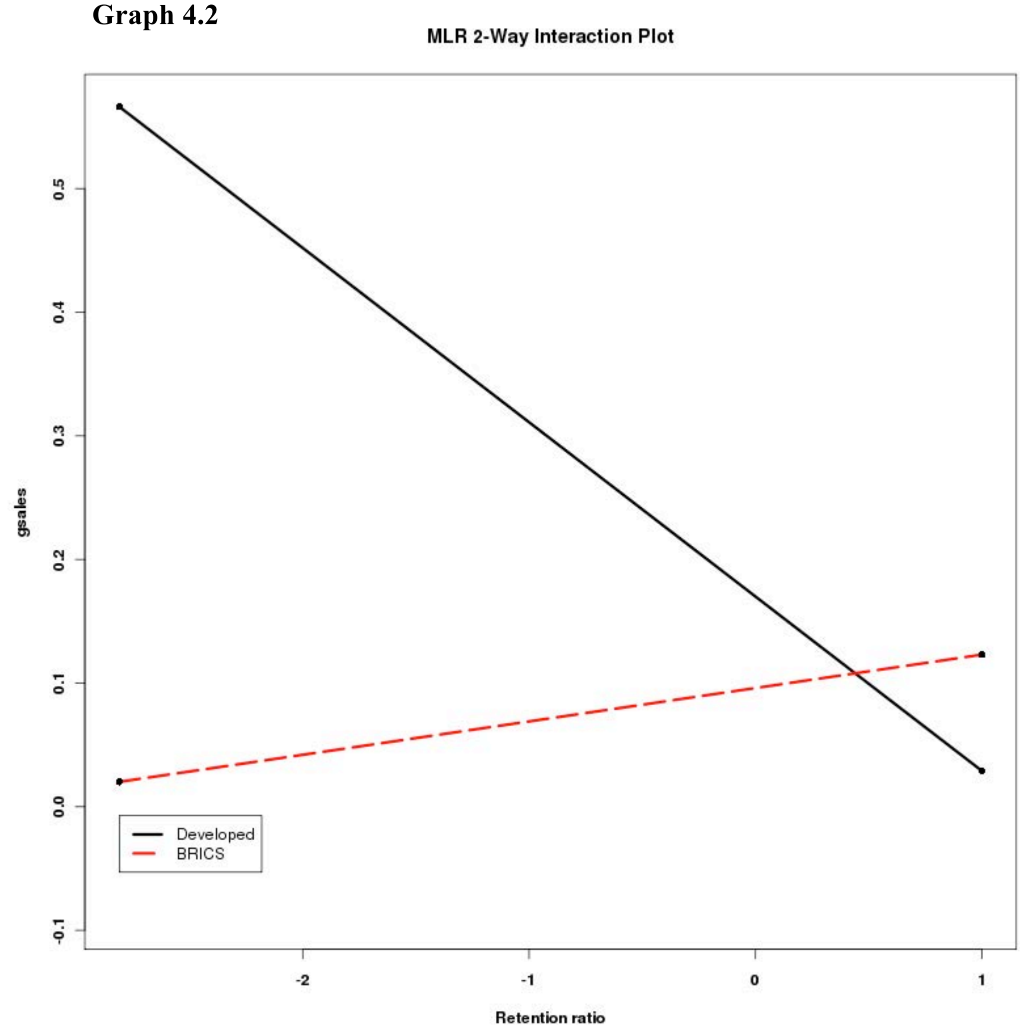
Graph 4.2 better depicts the empirical findings and displays an interesting trade-off. From a theoretical point of view the strategy adopted by international groups to locate their subsidiaries within emerging markets can produce several benefits to the corporate headquarter. The objective is to exploit the investment opportunities available in this region, which deliver expected returns above the average, by employing the operating units in the BRICS as the group's cash cows to realize higher profits, which will fuel the core business of the holding and the other subsidiaries located in the advanced nations.

The realized earnings within the subsidiaries in the BRICS are then centralized at the company's headquarter and used to reward the existing shareholders through the dividend distribution, in order to enhance and maintain their satisfaction and avoid agency problems. This "hit-and-run" strategy may seem perfect to be applied in developing markets, where the accessibility is quite easy due to lower entry and exit barriers. However, the evidence reveals the opposite extreme. The mechanism to realize profits through the subsidiaries and then build up the Investment policy around the earnings distribution to stockholders works better when targets are located in Developed countries. The empirical findings demonstrate that for those multinational corporations, which have operating units in the BRICS as a result of an M&A activity, there is a positive relationship between the Retention ratio and the growth rate. By increasing the percentage of earnings retained and reinvested as the major source of capital to finance corporate or local projects, the company's growth profile and volume will increase as well. In this case, the retain-and-reinvest approach results to be the best option, due to several reasons.

Firstly, in BRICS countries the retained earnings are usually considered the primary source of financing to fund new projects undertaken by international firms, due to several financial constraints. Historically, capital markets in this area have played a secondary role in providing access to multiple financial sources to foreign companies, because of the inadequate availability and reliability of the local financial means[13] (Borodina and Shyrkov, 2010). Sometimes, the lack of structured regulations frustrated lot of cross-border deals. By contrast, enterprises, which have a more dominant presence in Developed countries, can better rely on multiple external financing sources on both equity and debt markets and as a consequence, they show a tendency to devote a greater portion of the Realized earnings to the distribution as dividends or share repurchase rather than retention. Following this path, the different Investment policies chosen by the two groups of firms can be explained by the diverse reliance on external financial supply available in the market. Furthermore, it is important to remember that the retain-and-reinvest approach can be more profitable when choosing to invest in the BRICS, whose projected GDP growths are higher than any other country, rather than in Developed nations, since local projects offer above average expected returns to compensate risk-prone investors for the greater riskiness.

[13] Svetlana Borodina and Oleg Shvyrkov, February 2010, *Investing in BRIC Countries*, McGraw-Hill

Graph 4.2



4.1 Implications

The empirical findings show that companies, which execute deals and open operating units in BRICS countries, should adopt an Investment policy based on the retain-and-reinvest approach for the earnings realized through these subsidiaries, in order to achieve higher growth in terms of sales volume. From the previous results, it follows that the optimal liquidity structure for these kinds of international groups is the decentralized treasury management established through regional treasury centers located in key areas. Preferred locations have business-friendly government and commercial policies with a network of investment protection agreements and tax treaties based on the OECD model; strategic proximity to crucial markets where the access is easier thanks to technological, physical and financial facilities. Critical mass of local knowledge and expertise about the surrounding environment, competitors and regulations as well as ability to manage cross-border transactions represents other favorable conditions. BRICS countries have gained lot of momentum behind these factors and have emerged as the dominant locations for building up local treasury and investment centers that periodically interact with the central office. Although with some variations from region to region, these high-growth nations offer relatively favorable cost structures, high technological systems, vibrant financial markets as well as appealing economic growth rates that capture the attention of international groups. Within the next years, countries like China, India and Brazil, where substantial advantages from both cost and strategic perspectives can be achieved, are intended to become the major international logistic hubs for those multinational companies that will be willing to expand their operations overseas. In this case, the liquidity structure can be considered a fundamental vehicle to help increasing the overall group's profitability, thanks to the efficiency gains and cost savings that it implies.

Furthermore, looking at the preceding empirical outcomes the reader can identify those corporations who have performed M&A activities in BRICS as growth companies and those firms who have adopted an expansion strategy within Developed countries as value companies. Growth companies share the tendency to have very profitable investment opportunities for their own retained earnings. They typically pay little amount of dividends to shareholders, preferring to retain most of the realized profits and reinvest them to expand the business. Growth enterprises base their Investment policy on the Retention ratio. On the other hand, value companies tend to show higher percentages of realized earnings distributed to the corporate stockholders in the form of dividends or for share repurchase, since they prefer to rely on external financing sources rather than internal ones to fund new projects. They focus the Investment policy on the Payout ratio, as opposite to the Retention ratio.

5. Limitations

Although this study can be deemed reliable and valid under different perspectives, it presents several limitations. Firstly, concerning the sample there is a problem of selection bias, since it was not randomly selected but rationally composed, according to the specific selection criteria previously mentioned. This choice, even if a limitation, aims to be functional with regard to the study, whose purpose is to focus the attention on evaluating where the M&A activity has realized the highest growth as a consequence of a specific adopted Investment policy, whether within BRICS or Developed countries. Secondly, the sample includes international companies with leading and dominant positions in their industries, but does not contain all the existing multinational corporations. In addition, the results of the study can be extended for the predefined time horizon to other deals undertaken in BRICS countries for the findings relative to the former and to Developed countries for the findings concerning the latter. Instead, for other groups of countries, even if closed to the reference areas, during different periods the outcomes of this study cannot be generalized due to different economic, financial, political and social conditions that affect the corresponding internal environment. Among emerging and developing nations, this work project just regards and considers the BRICS.

In conclusion, another limitation concerns the way through which it has been selected the dependent variable, the growth rate expressed in terms of sales volume. It has been chosen to establish a comparison between the year when deals have occurred and the following one. Typically, in order to see the M&A's impact on the future corporate performance it would be advisable to take into account longer time frame, usually three years. The shorter horizon does not allow to understand if the retained earnings have been invested in external or internal (e.g. R&D) projects. However, this choice is functional to the nature of the study, whose purpose is just to identify the overall impact of the available cash internally retained and ready to be employed in order to fund new investments, without considering its effective use and destination.

BIBLIOGRAPHY

AGF Investments, 2013, *MSCI Emerging Markets Index Overview*

Aiken L.S. and West S.G., 1991, *Multiple Regression: Testing and Interpreting Interactions*, Thousand Oaks: Sage

Andrade G., Mitchell M.L. and Stafford E., 2001, *New Evidence and Perspectives on Mergers*, Journal of Economic Perspectives, Vol. 15, No. 2, pp. 103-120

Asquith P., Bruner R. and Mullins D.W., 1983, *The Gains to Bidding Firms from Mergers*, Journal of Financial Economics, Vol. 11, pp. 121-139

Asquith P., Bruner R. and Mullins D.W., 1987, *Merger Returns and the Form of Financing*, Proceedings of the Seminar on the Analysis of Security Prices, Vol. 34, pp. 115-146

Baird S., 2007, *Five Trends Transforming Global Treasury*, Treasuries Strategies Inc.

Baker & McKenzie, 2013, *Opportunities Across High Growth Markets: Trends in Cross-border M&A*

Bauer D.J. and Curran P.J., 2005, *Probing Interactions in Fixed and Multilevel Regression: Inferential and Graphical Techniques*, Multivariate Behavioral Research, Vol. 40

Berk J. and DeMarzo P., 2010, *Corporate Finance: the Core*, Pearson Education Limited, chapter 7

Borodina S. and Shvyrkov O., 2010, *Investing in BRIC Countries*, McGraw Hill

Bower J.L., 2001, *Not All M&As are Alike-and That Matters*, Harvard Business Review

Bris A. and Cabolis C., 2004, *Adopting Better Corporate Governance: Evidence from Cross-border Mergers*, Yale University Working Paper

Bruner R.F., 2004, *Applied Mergers and Acquisitions*, Wiley Finance, chapter 3

Calvani T. and Alderman K., 2010, *BRIC in the International Merger. Review Edifice*, Cornell International Law Journal, Vol. 43,

Caves R.E., 1982, *Multinational Enterprise and Economic Analysis*, Cambridge University Press

Chakrabarti R., Gupta-Mukherjee S. and Jayaraman N., 2009, *Mars-Venus Marriages: Culture and Cross-border M&A*, Journal of International Business Studies, Vol. 40, pp. 216-236

Chan K.C, Karolyi G.A. and Stulz R.M., 1992, *Global Financial Markets and the Risk Premium on US Equity*, Journal of Financial Economics, Vol. 32, pp.137-167

Charles S., 2010, *Explaining Persistent Cycles in a Short-run Context: Firms' Propensity to Invest and Omnipotent Shareholders*, Journal of Post Keynesian Economics, Vol. 32

Chasan E., 2012, *Mid-Size Firms Tap Retained Earnings to Fund Growth*, The Wall Street Journal

Cohen J., Cohen P., West S.G. and Aiken L.S., 2003, *Applied Multiple Regression/Correlation Analysis for the Behavioral Sciences*, 3rd Edition Hillsdale: Erlbaum

Connors R.J., 2009, *Warren Buffet on Business: Principles from the Sage of Omaha*, John Wiley & Sons Inc.

Decker F., *Pros and Cons of Financing Expansion through Retained Earnings*, Small Business by Demand Media

DePamphilis D.M., 2007, *Mergers, Acquisitions and Other Restructuring Activities*, Academic Press, 4th Edition, chapter 16

Dichev I., Graham J., Campbell H. and Rajgopal S., 2013, *Earnings Quality: Evidence from the Field*, Journal of Accounting and Economics, Vol. 56

Dunning J.H., 1988, *The Eclectic Paradigm of International Production: a Restatement and some Possible Extensions*, Journal of International Business Studies, Vol. 19, pp. 1-31

Epstein M.J., 2004, *The Drivers of Success in Post-merger Integration*, Organizational Dynamics, Vol. 33, No.2, pp. 174-189

Grave K., Vardiabasis D. and Yavas B., 2012, *The Global Financial Crisis and M&A*, International Journal of Business and Management, Vol. 7, No.11

Herrick J. and Gallanis M., 2010, *The Pros and Cons of Treasury Centralization*, Treasuries Strategies

Hesler T., Laczkowski K. and Roche P., 2011, *Five Steps to a more Effective Global Treasury*, McKinsey & Company

Hillman S., 2010, *Notional vs. Physical Cash Pooling Revisited*, International Treasurer

Holley D. and Franzt D., 2011, *Investing in the BRICS*, Infoamericas

HSBC Global Asset Management, 2014, *The Treasurer's Global Guide to Investing Cash 2014*

Hughes M., 2013, *M&A: The Rise of the Cross-border Transaction*, Grant Thornton International Business Report

International Monetary Fund, 2014, *World Economic Outlook Database*, online, available www.imf.org/external/pubs/ft/weo/2014/02/weodata/index.aspx

J.P. Morgan, 2014, *International Cash Management*

Joppe M., 2000, *The Research Process*, online, available www.ryerson.ca/~mjoppe/rp.htm

Kengelbach J., Klemmer D. and Roos A., 2013, *BRICs versus Mortar? Winning at M&A in Emerging Markets*, The Boston Consulting Group

Khan A.B. and Ali Shah S.Z., 2012, *The Impact of Retained and Distributed Earnings on Future Profitability and Stock Returns in Pakistan*, International Research Journal of Finance and Economics, Issue No.84

Khanna T. and Palepu K.G., 2006, *Emerging Giants: Building World-Class Companies in Developing Countries*, Harvard Business Review

Khanna T., Palepu K.G. and Sinha J., 2005, *Strategies that Fit Emerging Markets*, Harvard Business Review

KPMG, 2012, *Commodity Trading Companies. Centralizing trade as a critical success factor*

Kumar N., May 2009, *How Emerging Giants are rewriting the Rules of M&A*, Harvard Business Review

Lazonick W., 2014, *Profits Without Prosperity*, Harvard Business Review

Leung M., 2003, *How to make your mark on China*, The Treasurer

Lipton M., 2006, *Merger Waves in the 19th, 20th and 21st Centuries*, The Davies Lecture, Osgoode Hall Law School, York University

Ma H. and Zhang W., 2010, *Brief Analysis of the Issue of Cross Border Merger and Acquisition in BRICs*, Research in World Economy, Vol. 1, No.1

Mitchell M.L. and Mulherin H.J., 1996, *The Impact of Industry shocks on takeover and restructuring activity*, Journal of Financial Economics, Vol. 41, pp. 193-229

Modigliani F. and Miller M., 1961, *Dividend Policy, Growth, and the Valuation of Shares*, The Journal of Business, Vol. 34, No.4

O'Neill J., 2001, *Building Better Global Economic BRICs*, Goldman Sachs, Global Economics Paper No.66

O'Neill J., Wilson D., Purushothaman R. and Stupnytska A., 2005, *How Solid are the BRICs?*, Goldman Sachs, Global Economics Paper No.134

Owen S., 2006, *The History and Mystery of Merger Waves: A UK and US perspective*, School of Banking and Finance, University of New South Wales, Working Paper number 2006-02

Polak P. and Klusacek I., 2010, *Centralization of Treasury Management*, Business Perspectives

Polak P. and Roslan R., 2009, *Location Criteria for Establishing Treasury Centers in South-East Asia*, Journal of Corporate Treasury Management, Vol. 2

Polak P., 2010, *Centralization of Treasury Management in a Globalized World*, International Research Journal of Finance and Economics, No.6

Preacher K.J., Curran P.J. and Bauer D.J., 2006, *Computational Tools for Probing Interaction Effects in Multiple Linear Regression, Multiple Modeling, and Latent Curve Analysis, Journal of Educational and Behavioral Statistics*, Vol. 31, pp. 437-448

PwC, 2013, *World in 2050. The BRICs and beyond: Prospects, Challenges and Opportunities*

PwC, 2014, *M&A Communications. Communicating to engage and motivate people throughout the deal*

Rumelt R.P., 1974, *Strategy, Structure, and Economic Performance*, Division of Research, Harvard Business School

Schwab K., 2013, *The Global Competitiveness Report 2013-2014*, World Economic Forum

Seth A., Song K.P. and Pettit R., 2000, *Synergy, Managerialism or Hubris? An Empirical Examination of Motives for Foreign Acquisitions of US Firms*, Journal of International Business Studies, Vol. 31, pp. 387-405

Shleifer A. and Vishny R.W., 1991, *Takeovers in the' 60s and the '80s: Evidence and Implications*, Strategic Management Journal, Vol. 12, pp. 51-59

Terjesen S., *Mergers and Acquisitions: Patterns, Motives and Strategic Fit*, QFinance, online available www.financepractitioner.com/mergers-and-acquisitions-best-practice/mergers-and-acquisitions-patterns-motives-and-strategic-fit?page=2

Thomson Reuters, 2012, *Mergers and Acquisitions Review*

Transparency International, 2013, *Corruption Perceptions Index 2013*

Truitt W.B., 2006, *The Corporation*, Greenwood Press, pp. 139-159

UNCTAD, 2013, *The Rise of BRICS FDI and Africa*

US Department of Justice, 2008, *Opinion Procedure Release No.08-01*, Foreign Corrupt Practice Act Review

Weber Y., Oberg C. and Tarba S., 2014, *The M&A Paradox: Factors of Success and Failure in Mergers and Acquisitions*, Financial Times Press

WilmerHale, 2012, *2012 M&A Report*

Wilson D. and Purushothaman R., 2003, *Dreaming with BRICs: The Path to 2050*, Goldman Sachs, Global Economics Paper No.99

Wong P., 2007, *The Reinvention of the New Asia*, included in HSBC's Guide to Cash and Treasury Management in Asia Pacific 2007

World Bank, 2013, *Worldwide Governance Indicators*, online, available www.info.worldbank.org/governance/wgi/index.aspx#home

Yamakawa T., Ahmed S. and Kelston A., 2009, *BRICs Lead the Global recovery*, Goldman Sachs, Issue No.09/05

Yazdanpanahi J., 2013, *Security, Liquidity and Yield: the Case for Cash Management*, State Street Corporation

Zink W.J. and Griffiths S.H., 1995, *US and Foreign Tax Implications of International Treasury Centers*, Corporate Cash Flow Magazine, Vol. 16, No.4