The impact of M&A experience on performance: An empirical analysis of the Brazilian case

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Abstract

This study intends to assess whether companies that experience M&A performed superiorly to those firms that did not in the same period in a emerging market. In addition, it aims to verify if the constant use of M&A is correlated with the improvement of a company's financial performance, or if at some point the excessive use of M&A could harm the firm's performance. The study analyzes M&A transactions in Brazil that took place from 1995 to 2014. In order to avoid selection bias, propensity score matching (PSM) is applied to compare the financial performance of companies that did M&A with those that did not carry out any M&A. The U-inverted relationship between performance and M&A experience was evaluated using linear regression model with a quadratic experience term. The results suggest a possible disadvantage in adopting M&A as a performance improvement tool, what may come from strategic decision-making problems within the company itself or from agency conflicts. In addition, an inverted U-shape relation was found between the performance and the number of M&A transactions accumulated in the last three years and five years, what corroborates the theory that M&A can improve financial performance at first, but the more transactions a company does, the less the ability to manage the results obtained from them.

1. Introduction

Acquiring or merging one company to another is a very mature practice, being very hard to identify the exact time when the first acquision has happened in history, but mergers are as old the XVIII century, according to the Encyclopedia Britannica, when the *East India Company* merged with a competitor, which threatened its monopoly. These transactions became globally known as M&A (*Mergers & Acquisitions*) and began to occur in great volume since 1895 (Lamoreaux, 1988).

In modern studies, there are several justifications for M&A occurrence. According to Seth (1990), the main objective of M&A transactions is to increase the value of the acquiring company, which can be achieve with gains of synergy of scale and/or of scope, risk mitigation, market diversification. It is also possible to include in the list, for example, limitation of competitors, fast access to innovation/technology in order to not lose market-timing, increase of market share. Lewellen (1971), therefore, said that the expected result of an M&A operation is that the sum of the parts must be bigger than both of these companies separately.

However, in 2000, *The Economist* magazine did a series of 6 publications questioning whether the M&A transactions did really improve the performance of the acquiring companies, given that the study used stated that half of the operations carried out until 1999 had destroyed value and a third of them had not produced significant results related to value creation. The major purpose of this study was to raise to the main causes of failure in M&A operations so that companies interested in this kind of business could acquire experience in order to improve their own future performance.

Lubatikin (1983) understands that it is possible that there is a positive correlation between the performance of an acquisition and the level of activity (experience) that the acquiring company has in M&A. Given the complexity and variety of the activities involved in an M&A operation (Zollo and Meier, 2008), it is expected that the firm's learning factor will contribute to greater success in the future based on its past learning. This would cause companies to demand more M&A activities, always aiming for better performance than previously achieved.

Historically, the volume of M&A transactions has consistently grown in Brazil, according to a PWC's public report (November, 2015).The average of annual operations measured between 2006 and 2009 shows an increase of 68% in comparison to the period from 2002 until 2005 and, after, it grew 24% between 2010 and 2014, when compared to the cycle from 2006 to 2009. Besides the quantity, the volume traded has also increased, and in 2014 the total value traded in such operations was US$ 108.3 billion, according to PWC's report (December 2014). The constant increase in volume and quantity of transactions in Brazil brings a natural growth in the interest of understanding the efficiency of obtaining positive results in these operations.

The present study has two main objectives, which are focused on bringing results that can help in decision making from the point of view of company strategy. First, to evaluate whether the performance of the companies that did M&A is higher than the performance of those that did not, validating if this is a strategic decision capable of increasing the performance of firms. In order to do that, we gathered the financial performance of companies that did M&A between 1995 and 2014 and compared with those of companies that did not carry out any merger and acquisition transaction in the period. The second objective is to analyze if there is and what would be the relationship between the M&A experience and the financial performances of the companies that carried out the transactions in that period, to evaluate whether the company should use this growth strategy continuously or if it can be harmful to itself.

2 LITERATURE REVIEW

It is not possible to find a definitive consensus among the authors about the result of the comparison between the performance of companies that did M&A and those that did not. According to Kusewitt (1985), the strategy of growth through acquisitions can result since an excellent success until a great failure. This variation would be a combination of the level of synergy obtained and the value created, this value being the combination of financial performance and market performance (stocks).

Schriber (2012) says that companies, even frequently achieving an unsatisfactory result, do M&A with the intention of growing rapidly and with fewer risks compared to other growth strategies. This is also stated by Filkestein, Heleblian and Kim (2011), who understand that companies use M&A to grow faster than others in their industry.

On the other hand, there is a study strand that finds positive performance for the acquired companies, but for the acquirers this performance would be negative or zero. Lubatkin (1983) believes that all gains go to the firm acquired, not to the acquirer, as it used to be assumed. He also says that the acquiring company does not obtain better results than it would do with other productive investments with similar levels of risk.

In general, most of the empirical studies on performance gains focused on the acquiring firm do not corroborate the theory of performance growth and indicate that the gain for the firm is zero or that there is a destruction of value. King, Dalton, Daily and Covin (2004) conclude from their meta-analysis that, on average, M&A activities do not generate positive performance, and may even destroy performance in the long term. There are few studies using data from developing countries, which have specific characteristics. Kumar and Bansal (2008) conclude that in many cases of M&As in India, the acquiring firms were able to generate synergy in long run, using account outcomes.

As the focus of this study are Brazilian transactions, we must understand that it is not possible to replicate international research and expect to achieve the same results. This is because there is practically a consensus that macroeconomic variables affect the performance of M&A operations (Choi and Jeon, 2011; Boateng and Uddin, 2011; Wang, 2008). Therefore, it is expected that Brazil will present specific results effects that may differ from those tested in international studies, simply because it is an emerging country with an economic situation more unstable than developed countries, for example. In addition to macroeconomic issues, one must consider that culture influences transaction performance. The Brazilian experience in mergers and acquisitions was analyzed and the influence of the culture in the process and the importance of the development of experience for the better planning of the operations were identified (Cançado and Tanure, 2005).

Given certain peculiarities of the country, specific studies are needed to corroborate or not international empirical studies. Camargos and Barbosa (2009) have compiled the Brazilian studies and pointed out in their results that, in Brazil, M&A creates value for the acquiring company. On the other hand, Batista and Minardi (2010) found evidence that, on average, M&A operations have destroyed value (within one year). These differences between the results are likely to have been obtained from trying to compare different variables for the same purpose (Stahl and Voigt, 2008). That is, if the strategic objective is to evaluate shareholder return, one should not try to compare results on financial performance, since they are different variables and used for different purposes (Schoenberg, 2006). Da Costa Junior (2008) made the analysis to reconcile both views and confirmed positive returns for shareholder return, but failed to confirm the same positive returns when analyzing the financial performance of domestic mergers and acquisitions, which indicates that this is possibly really the way to disambiguate the results.

Based on the lack of consensus, of both the international and Brazilian M&A literature, and in order to validate whether this can be measured in terms of financial performance, the first hypothesis to be tested is elaborated as follows:

Hypothesis 1:
Companies that did M&A in the period have performed better than those who have not done so.

While it is not possible to confirm through literature if companies that did M&A performed better than those that did not, we can find consensus regarding the repetition of this strategy. This means that companies tend to always do more M&As after having started in such a strand. Amburgey and Miner (1997) argue that organizations tend to repeat prior action, such as mergers, whether or not having had a positive result, simply because they know how to do it. Firms suffer from a kind of managerial inertia and, even though they are more likely to repeat the action if successful, will also do so in the case of poor performance. According to the authors, after engaging in an M&A operation, no matter what the reason for it, the company develops skill in that type of transaction and will probably repeat it.

Haleblian, Kim and Rajagopalan (2006) have found empirical evidence that both previous experience and performance are positively and strongly correlated with the inertia tendency of the firm to repeat the behavior of doing M&A. They define that the experience generates a behavioral routine and that, the greater the experience in it, the greater the propensity to carry out M&A operations.

Finkelstein, Haleblian and Kim (2011) have brought up another point of view regarding the constant usage of M&A for the growth of companies: despair. They have proved that this occurs in two situations: when organic growth is less than that of their competitors or of their own growth history and when companies create a dependency on M&A for their own historical growth (making it difficult to beat their growth rates once it has been accelerated by M&A previously). Despite the reasons for the recurrence of M&A operations, experience was a relevant factor for better performance, since more experienced managers tend not to pay as high prices as the inexperienced ones.

Knowing that companies tend to repeat the strategy of M&A, the relevant question in this case is whether this continuity in increasing the number of M&A deals is beneficial to firms' performance. Porrini (2004) found a significant positive correlation between experience and post-acquisition performance of American companies. Abdallah and Ismail (2013) have identified that

frequent acquirers have significant return gains and, even though these gains are lower after several acquisitions, they continue to be positive. While Hutzschenreuter, Kleindienst and Schmitt (2014) found a nonlinear relationship between the acquirer's acquisition experience and its acquisition value creation.

Thus, in addition to comparing the performance of the companies who did and did not perform M&A at the same period to determine whether the strategy is successful, the study seeks to evaluate the relationship of M&A experience of companies with their financial performance and how this relationship is set.

Christensen, Berg and Salter (1976), apud Lubatikin (1983), claim that mergers are an act of diversification. In this way, the literature on diversification, in which periods of diversification are followed by periods of non-diversification (Coad and Guenther, 2013) and that very rapid diversification results in worse results for the firm than diversification with pauses, can be extrapolated to M&A. This is in line with Penrose's (2009) theory, which asserts that if the firm expands more quickly that the organization's individuals are able to obtain the necessary experience to deal with it, its efficiency will suffer.

That is, it is possible that when the company starts doing M&A, it improves its performance through synergy gains, among others. With the accumulation of experience in such transactions, it can figure out how to optimize its knowledge to improve the firm's performance to the maximum point of achieving performance increments per operation. But it can reach a point where, in excess, the amount of M&A operations begins to be excessive for what the firm is able to handle, and instead of improving its performance, it makes it worse. It is expected, then, that there may be a combination of performance versus experience in the form of an inverted U: positive increments, peak, and then loss of performance. This shaping of the inverted U curve by compensatory forces is mapped by Haans, He and Pieters (2015) in Figure 1, which shows how the benefits of the independent variable grow linearly while their costs (or diseconomies) increase exponentially. The subtraction of these benefits costs ends up generating the inverted U-shaped curve, which, according to the authors, is increasingly being used in corporate strategy studies to analyze cost-benefit relationships.
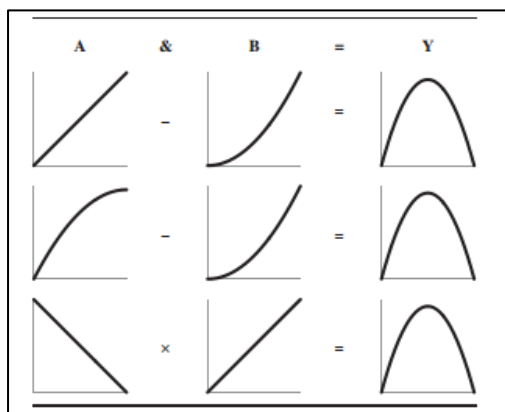

Figure 1 - Additive and multiplicative combinations of latent mechanisms resulting in an inverted U-shaped. Most common are additive benefit/cost arguments, with some form of performance as the dependent variable.
Source: Haans, R. F.; He, Z. and Pieters, C. (2015).

Some studies have already confirmed this inverted U-shape relationship when analyzing the impact of experience on performance. Haleblian, Kim, and Rajagopalan (2006) have found empirical evidence in the US banking industry that there is a quadratic U-shaped function that represents the performance gains for acquiring firms, followed by losses as experience increases. They note that companies that are inexperienced in M&A are the ones with the highest performance gains.

A study on cross-border operations of Brazilian companies (Bortoluzzo, Garcia, Boehe and Sheng, 2014) states that there is an inverted U-relation in which the experiment first has a positive correlation with performance, and subsequently becomes negative. This is because the firm would lose the ability to manage these new acquired resources.

Thus, in order to debate on the topic, this article will assess national M&A cases in which there would be no impact on the outcome of the gain on key resources in other countries or on the

international market itself. It is intended, therefore, to obtain a perspective that validates the efficiency of domestic M&A transactions. This is relevant so that shareholders are able to know if the constant investment done in M&A makes sense for the expansion of the company or if they should spend resources on other investments.

To test whether this inverted U-shaped relation between performance and experience is consistent in national M&A operations, the second hypothesis is built:

Hypothesis 2:
The relationship between the experience obtained by companies which did M&A and their performance is non-linear, and look like an inverted U-shape.

3 METHODOLOGY

In order to test the hypotheses mentioned above, the econometric data and methodologies were used as described below:

3.1 Data

Two data samples were required, one with M&A transactions of Brazilian companies and the other with financial data of Brazilian publicly traded companies.

The first sample compiles the transactions to be analyzed and was extracted from Thomson Reuters' Mergers & Acquisitions database. The operations selected were the ones concluded in the period from January 1995 to December 2014, after the "Real Plan" was instituted, because before it the country was not considered economically stable. However, since the data requires 2-year minimum evaluation, only transactions that took place until 2014 were considered.

Since the objective is to analyze Brazilian M&A operations, both acquiring and target companies from Brazil were selected. Also, we wanted companies that withheld the purchasing control, so only transactions in which the acquirer owns more than 50% of the shares of the acquire were considered. The acquirers of the financial area were disregarded for having different objectives when doing an acquisition (it may for a short-term sale, for example). And, lastly, due to the Brazilian law, where only public companies disclose their accounting data, we had to select deals from public companies only. The final database for deals consists of 583 transactions carried out by 184 Brazilian companies.

The second database was set up with the compilation of the accounting data of companies that met the same criteria of the transaction basis, but considering all the companies listed on the Brazilian stock market (BMF&Bovespa - renamed as B3 in 2017). Therefore, it is possible to set up the study control group, which corresponds to the set of firms that did not do M&A in the period. The base used for extraction was the *Economatica* platform, which has the historical data, including companies that no longer exist or which stocks were discontinued.

3.2 Variables

As the study aims to evaluate the financial performance of the companies that performed M&A comparatively to those that did not do M&A and, afterwards, to correlate this performance in the light of the experience gained in M&A, the dependent and explanatory variables derive from these main needs. However, there are other factors that affect performance and that could interfere in the result, such as size of the company and sector in which it operates (it may have suffered specific impacts, such as subsidy, etc.), which will be considered as the control variables of the model.

Part of the literature on the subject considers for the analysis stock pricing and shareholder valuation (Thanos; Papadakis, 2010; Hutzschenreuter, Kleindienst and Schmitt, 2014), which is called value creation. However, as mentioned by Lewellen (1971), there may be speculation in market pricing, which generates a deviation in post-acquisition performance analysis. In order to avoid this type of misinterpretation, the methodology for evaluating the performance will be the balance sheet

indexes, specifically Return On Assets (ROA). ROA is the most widely used financial measure of performance in M&A literature, according to Thanos and Papadakis (2011). Moreover, financial performance is not affected by the use of Value Based metrics by the companies, as other metrics are (Knauer, Silge and Sommer, 2018).

ROA is a measure that represents the return produced by the investment made by a company with its assets. It is calculated by dividing operating profit generated from the assets by the average total assets. It is a good index of financial performance, as it focuses its analysis on the firm's operational performance (Meeks and Meeks, 1981).

Performance should be assessed before and after the measurement takes place (Mari and Micheli, 2014), therefore what will be evaluated is not simply the ROA, but its variation in pre- and post-acquisition period where the M&A transaction occurred (t = 0), with variations of 1 and 2 fiscal years (Ravenscraft and Scherer, 1987). That is

$$\Delta ROA = ROA_{t+1} - ROA_{t-1}$$
$$\Delta ROA_2 = ROA_{t+2} - ROA_{t-1}$$

Performance after the first year is used to measure the short-term effect and the 2-year fiscal period to measure the final outcome of the acquisition. Although it may seem little to measure acquisition success, t + 2 was considered assertive by executives who participated in a survey to confirm if this time period used in the literature was adequate to measure M&A performance (Thanos and Papadakis, 2010).

Explanatory variables

M&A: dummy variable, which has the value 1 if the company did M&A in the period (treatment group) and 0 if the company did not do M&A in the period (control group).

Deal/Year: variable that measures the amount of domestic transactions made in the year prior to M&A for each company. This variable is essential to analyze the second hypothesis, since it is a proxy of the M&A experience for short-term memory. We choose, also, the amount of M&A done in the 3 years, considering a medium-term memory, and the amount of M&A done in the 5 years, considering a long-term memory.

Control variables

The variables that could have had an impact on company performance were considered in order to segregate their impact on the difference in performance among the groups. In order to have better adequacy of the performance measurement, it is important to set up a system with indicators that truly represent the organization (Mari and Micheli, 2014).

Log Market Cap: larger companies are expected to perform better in M&A operations.

Relative Size: Kusewitt (1985) cites that an acquisition of a company of very large relative size may undermine the performance of the acquiring company because it is "biting off more than you can chew." This variable is calculated by the total amount of the operation that was disclosed divided by the total size of the acquiring company's assets in the accounting year prior to the acquisition year.

Expenditure Growth: one of the possible objectives of an M&A transaction is to gain synergy through the combination of resources, what would have a positive influence on the firm's performance gain.

Revenue Growth (sales): the lack of present revenue may indicate a worse future performance of the company (Gugler, Mueller, Yurtoglu and Zuhlener, 2003).

Industry: it is possible that the behavior and performance of a firm are affected by the industry in which it operates (Corrar and Pohlmann, 2006). The categories are defined according to the classification of Economatica and organized according to three sectors: industry, services and others.

Year: dummy variables used to control the macroeconomic scenario of the analyzed period. They were divided into three groups: from 1995 to 2006, from 2007 to 2008 and from 2009 to 2014, according to the volume traded (Figure 2). The volume indicates whether the market is warm or cold and, as found by Batista and Minardi (2010), when the market is on the rise it overestimates the value of the companies and, when the market is going down, it underestimates the same. If market warming influences the performance of pricing, it is likely to be influencing the performance of publicly traded companies as well.
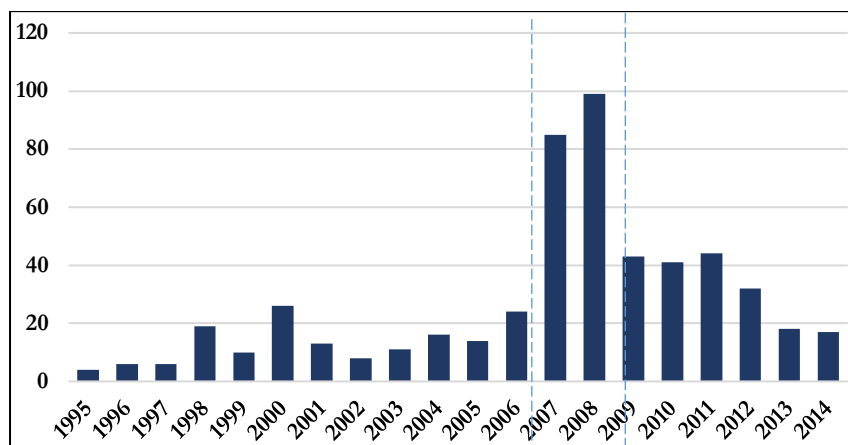

Figure 2 - Amount of national (Brazilian) M&A per year between 1995 e 2014.

3.3 Model

The methodology used to verify H1 and H2 is Multiple Linear Regression (RLM), according to the following model:

$$Y = \beta_0 + \beta_1 X + \gamma Z + \varepsilon,$$

where Z represents the control variables and ε represents the random error.

In order to test H1, a propensity score matching was made to reduce the selection bias in the comparison of the groups (Heckman, 1979) and in order to compare among themselves only the companies that had the same probability of carrying out M&A, that is, companies with similar characteristics in relation to control variables. For the matching, the probability of each company doing M&A using the control variables, which may influence the performance of the companies: year, industry, revenue growth, expenditure growth and market cap were calculated. Pairing one by one, linking a company that did M&A in a certain period with a company that did not do M&A in the same period.

In order to test H2, the quadratic function of the experience was placed in the model, and there were used three proxies for the experience: Deal/Year, Deal/3years and Deal/5Years. The purpose of using explanatory variables with accumulated deals is to capture the effect of M&A experience over time.

For each model, the residuals were analyzed to ensure assumptions were met. The Jarque-Bera test did not detect normality of the errors; however, it is possible to admit that the results found are robust due to the large sample size (Wooldridge, 2013). Regarding heteroscedasticity, in each model, White's correction was used to guarantee robust standard errors.

4 RESULTS

One must not compare the companies that have done M&A with all the ones that did not do M&A, because a selection bias would occur. Therefore, the analysis were done only after matching between companies that did M&A (treatment group) with those that did not perform this type of business in the period (control group), in order to be able to validate the characteristic samples with

similar control variables. According to what was suggested by Heckman, Ichimura and Todd (1998) and Zhao (2004), the model used in the pairing was Logit, with a response of 1 if the company did

M&A and 0 otherwise, with the usage of control variables to explain the propensity of companies of doing M&A. 280 pairs were made from a total of 560 observations.

The descriptive analysis of the data and the t-test are detailed in Table 1. The comparison between the control groups and the treatment group allows us to identify that, on average, for all the financial performance variables chosen for the analysis, the companies that performed M&A have had a worse performance in the period than the companies that did not do M&A. Thus, the H1 was rejected. In addition, we conclude that both groups are similar in terms of the control variables, what allows we test H1 using a one-tailed t-test.

Variável	Group	N	Average	Std Deviation	Min.	Max.	t-test
ΔROA	Did M&A	273	-1.78	8.29	-55.5	15.4	0.0787*
	Didn't do M&A	273	-0.77	8.38	-61	33.2	**H1**
ΔROA2	Did M&A	253	-3.18	13.95	-128.7	19.2	0.0359**
	Didn't do M&A	253	-1.16	11.06	-118.7	28.9	**H1**
LOG Market Cap	Did M&A	280	6.44	0.75	4.53	8.58	0.2076
	Didn't do M&A	280	6.39	0.7	4.58	7.75	
ΔRevenue (In thousands of BRL)	Did M&A	280	1614.9	2828.19	-22044.4	34728.4	0.1552
	Didn't do M&A	280	1226.73	4611.3	-1122.25	13372.6	
ΔExpenses (In thousands of BRL)	Did M&A	280	122.3	1046.28	-14546.8	5240.31	0.3864
	Didn't do M&A	280	146.24	909.64	-5495.01	5755.58	

Note: one-tailed t-test in order to test H1 and two-tailed t-test for other variables.

It is possible to compare the result of the descriptive analysis with the one regarding a study of the First Great Wave of mergers in the United States, which occurred between 1895 and 1904, made by Lamoreaux (1988). The results found in that study were, that on average, the performance of companies that did M&A were worse than those of companies that did not do M&A. The justification found was that, in doing many mergers, as in the case of this wave (which until today is considered one of the largest in volume of transactions in history), the acquiring company would lose the ability to manage so many changes in production in the short term, even when being a company from the same sector, and instead of reducing costs, it would increase them, which would result in the loss of financial profit proportionately.

The result found shows that M&A investment in Brazil is not the best for financial returns compared to companies that have opted for other strategies. This effect is contrary to the conclusions of Camargos and Barbosa (2009), which had found significant post-M&A value gains. This may have occurred due to the period of transactions analyzed, since their study considers the period from 1996 to 2004 and the largest amount of deals in Brazil was from 2007 onwards. On the other hand, it is consistent with the meta-analysis of King *et al.* (2003) which states the M&A activity does not lead to a superior performance of the acquiring firms and with the valuation research of Batista and Minardi (2010), that found value destruction for Brazilian M&A operations from 1993 to 2007.

	-1	-2	-3	-4	-5	-6	-7	-8
DROA (1)	1							
DROA$_2$ (2)	0.46	1						
Deal/Year (3)	0.09	0.11	1					
Deal/3Year (4)	0.12	0.08	0.63	1				
Deal/5Year (5)	0.12	0.06	0.54	0.92	1			
Log Market Cap (6)	0.1	0.16	-0.01	0.12	0.18	1		
Relative Size (7)	0.08	0.04	0.12	0.03	0.02	-0.15	1	
Expenditure Growth (8)	0.01	0.01	0.02	0.05	0.03	0.12	-0.01	1
Revenue Growth (9)	0.04	0.03	-0.03	0.01	0.01	0.45	-0.06	0.31

Table 2: Correlation matrix among numeric variables for the group that did M&A in the period.

The correlation matrix of the variables is in Table 2, where it is possible to see that the degree of multicollinearity is not high. In addition, there is a positive correlation between performance and experience at 1, 3 and 5 years, although the correlation intensity is considered weak.

To test H2, a linear regression was done with the variables considering separately a model with year-to-year experience and other models with experience accumulated in the last 3 and the last 5 years (Table 3).

In the results for Experience^2 showed relevance in two models, which are the ones that relate ΔROA with experience accumulated in 3 and 5 years. That is, since there is correlation between the short-term financial performance and the accumulated experience in the medium and long term, it is possible to confirm H2 and the existence of the inverted U-shaped curve for ΔROA was confirmed. Table 4 shows the results found in the regression that analyzes the relationship between Experience and the variables of the study's financial performance.

This result is in accordance with the study by Finkelstein and Haleblian (1999), which also found an inverted U-shaped curve when analyzing the relationship between performance and experience of all acquirers. They focused the analysis on the behavioral theory and verified that, being inexperienced in M&A, companies take less risk and tend to invest in the same industry in which they are familiar with and know how to analyze with more discretion and take advantage of synergy. They also found evidence that companies can replicate their previous M&A experience positively only when they continue to invest in the same industry they already perform. According to the authors, by becoming confident with past positive results and attempting to replicate the M&A experience with firms in industries other than the one they already have experience, firms lose performance in transactions.

Variables	ΔROA			ΔROA$_2$		
	Deal/Year	Deal/3Years	Deal/5years	Deal/Year	Deal/3years	Deal/5years
Intercept	-7.9	-5.48	-4.18	-24.22***	-24.38**	-27.74**
	-5.43	-4.96	-5.29	-8.49	-9.97	-11.51
Experience	0.81	0.80**	0.7**	1.01	0.7	0.4
	-0.65	-0.31	-0.29	-1.44	-0.88	-0.9
Experience^2	-0.05	-0.04**	-0.03***	-0.04	-0.04	-0.02
	-0.05	-0.02	-0.01	-0.11	-0.04	-0.04
Log Market Cap	1.19	0.7	0.5	3.30***	3.29**	3.86**
	-0.85	-0.78	-0.83	-1.22	-1.43	-1.66
Relative Size	3.52	4.62	11.58***	2.64	4.25	10.93
	-4.53	-4.5	-4.41	-8.87	-8.54	-11.97
Dummy Service	-1.32	-0.83	0.72	-0.11	-0.07	-0.32
	-1.11	-1.08	-1.1	-1.85	-1.7	-2.02
Dummy Industry	-3.85***	-3.26**	-3.12**	-3.58	-3.61	-4.34
	-1.4	-1.38	-1.43	-2.29	-2.23	-2.69
Expenditure Growth	5.90E-08	-9.46E-08	-1.21E-07	-7.99E-07	-7.45E-07	-8.25E-07
	-2.90E-07	-2.76E-07	-2.73E-07	-5.90E-07	-5.67E-07	-5.70E-07
Revenue Growth	1.12E-07	1.21E-07	1.28E-07	2.81E-08	1.39E-08	6.73E-09
	-1.06E-07	9.81E-08	-1.00E-07	-1.02E-07	-1.00E-07	-1.03E-07
2007-2008	-1.46	-1.6	-2.03	1.65	1.97	2.48
	-1.48	-1.44	-1.47	-2.15	-2.26	-2.46
2009-2015	-1.45	-1.73	-2.19*	-1.66	-1.79	-1.27
	-1.2	-1.15	-1.16	-1.96	-1.94	-2.13
n	272	267	258	252	247	238
R-squared	0.063	0.071	0.083	0.063	0.062	0.069

Note: *p<0.10; **p <0.05; *** p<0.01. Robust standard errors in parentheses.

5 CONCLUSIONS

According to the results, national companies that merged with and/or acquired other national companies between 1994 and 2014 had a lower average financial performance than the similar ones that did not do M&A. This suggests a possible disadvantage in adopting M&A as a performance improvement tool, what may come from strategic decision-making problems within the company itself or from agency conflicts. Malmendier and Tate (2008) found evidence in their studies that self-reliant CEOs tend to make lower-quality acquisitions, not for self-interest, but for excess of available resources and for believing in their ability of doing good business.

Moeller, Schlingemann, and Stultz (2004) have identified that managers of larger firms tend to pay more for a company proportionately acquired than smaller firms do. That is, at the time of the transaction the acquiring company would be paying more than it should for the investment made through M&A, which may affect its future performance. Finkelstein, Haleblian and Kim(2011) argue that the need for continued M&A could benefit only the company's managers, since their bonuses would depend on accelerated growth, obtained more quickly through M&A than organically. This could also be a justification for inferior performance, since the reason for the adoption of investment in M&A would not be directly linked to the firm's performance. However, regardless of the source of the lower performance, another type of investment is recommended if the firm's objective is to strategically improve its financial performance.

When analyzing the relationship between the M&A experience and the financial performance, an inverted U-shape relation was found with the number of transactions accumulated in the last 3 years and in the last 5 years. This corroborates the theory that M&A can improve performance at first, but the more transactions a company does, the less the ability to manage the results obtained from them. Finally, the study does not conclude that M&A is not a good strategy to gain performance, but that it is necessary for the firm to evaluate, after carrying out an M&A, what was the result obtained by it and if it has the ability to manage a new operation of the same type without impairing its possible performance gain.

Kusewitt (1985) has identified guidelines for how the company must coordinate its M&A operations to gain performance, and among them is that the firm must find its optimal pace of acquisition, which cannot be too large nor too fast, and must be related to the acquiring company's ability to coordinate with the acquired company. The study did not determine an optimal amount for how many deals the firm can co-ordinate before losing performance because of the study's own limitations.

The database does not have the deals of privately held companies, which in itself may change the result. This is because public companies tend to be larger companies and the size of the company interferes with the M&A result (Gugler, Mueller, Yurtoglu e Zuhlener, 2003). In addition, the Brazilian M&A market may be considered new when compared with the American one, for example, which could indicate that we do not yet have enough deals for definitive conclusions. The number of transactions analyzed may explain why the performance curve compared to the amount of accrued deals being so close to the vertical axis of symmetry for the maximum number of transactions. Possibly, with greater accumulation of transactions, the design of the inverted U-shaped curve is more pronounced. Another possible limitation caused by the lack of privately held company data is the fact that the accounting data of the company acquired at the time before the purchase was not analyzed (since they are often a privately held company with no balance sheet disclosed). It is possible that the acquirer's financial performance has an impact (positive or negative) on the acquirer's post-transaction result.

For future studies, it is recommended grouping a larger number of transactions and considering a greater period of time (in order to obtain a greater amount of transactions accumulated by the acquiring company) and, if possible, collecting data from both private acquiring and acquired companies and making the joint analysis of the financial performance, as well as increasing the detailing of the sector of each company.

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