

FUNDAÇÃO GETULIO VARGAS
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**ARE LONGER M&A DEALS CORRELATED WITH A LOWER ENTERPRISE
VALUE?**

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Dissertação apresentada à Escola de
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Getulio Vargas, como requisito para
obtenção do título de Mestre em Economia.

Área de Concentração: Finanças

Orientador: Prof. Dr. Joelson Oliveira
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ABSTRACT

Using data on M&A transactions in 27 emerging market economies over the period 2010-2020, this study aims to present empirical evidence on a possible negative correlation between the number of days from contract signing to closing, and the valuation multiple of the transaction. The results show that transactions with a higher number of days between signing and closing are correlated with lower valuation multiples. The results of this study, together with recent research, contradict the usual market practice of trying to conduct the signing and closing on the same day, because for professionals working from the buy-side, it is probably more beneficial to allow a reasonable period between these two events. The hypotheses for the correlation presented were developed theoretically and divided into two groups: price adjustment after contract signing; and correct price at the time of final offer submission.

KEY WORDS: Mergers and acquisitions, corporate valuation, valuation multiples, corporate finance.

RESUMO

Utilizando dados sobre transações de fusões e aquisições em 27 economias de mercados emergentes durante o período 2010-2020, este estudo tem como objetivo apresentar evidências empíricas sobre uma possível correlação negativa entre o número de dias desde a assinatura do contrato até o fechamento, e o múltiplo de avaliação da transação. Os resultados mostram que as transações com um número maior de dias entre a assinatura e o fechamento, estão correlacionadas com múltiplos de avaliação mais baixos. Os resultados deste estudo, em conjunto com pesquisas recentes, contradizem a prática usual do mercado de tentar conduzir a assinatura e o fechamento no mesmo dia, pois para os profissionais que trabalham desde o lado de compra, é provavelmente mais benéfico permitir um período razoável entre estes dois eventos. As hipóteses da correlação apresentada foram desenvolvidas teoricamente e divididas em dois grupos: ajuste de preço após a assinatura do contrato; e preço correto no momento da apresentação da oferta final.

PALAVRAS-CHAVE: Fusões e aquisições, avaliação de empresas, múltiplos de avaliação, finanças corporativas.

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1. Introduction

Mergers and acquisitions have been a business strategy that companies execute in order to grow in countries and industries where organic expansion is becoming increasingly difficult. Despite major criticisms within academia about mergers and acquisitions, regarding the value destruction they generate - this will be further explored in section 2 of this research - companies continue to execute this strategy, and over the years with increasing volume. In 2017 as an example, it was the year with the highest number of M&A transactions in history, 53,302 worldwide. Previously the record was held by 2007 with 47,455 transactions, and before that, 2000 with 39,783 transactions (Rudden, 2021).

The increase in transactions worldwide is a clear sign that companies are giving more and more importance to this growth strategy. And due to the high amounts of money involved in these transactions, the demanded professional level for the professionals involved in this area is quite high. M&A careers demand that people think strategically. It is not just about closing transactions, it is about finding the right companies at the right time in their business cycle, selling the opportunity, creating a financial structure that works for everyone and then making sure that the deal is a success even after the ink has dried on the contract (Patel, 2021).

Probably one of the biggest challenges for an M&A professional is to correctly set a price to the asset intended to be sold/bought. From the perspective of the buy side, being too conservative can result in to being left out of the process - many M&A processes are competitive and end up closing with the highest bidder- and being too aggressive can generate value destruction and high opportunity costs. On the other hand, for the companies on the sell side, underestimating the value of its asset would cause the transaction to close at a price that could have been better, while overestimating it could cause the transaction not to close and lose bids that would still be good.

Due to the importance of correctly defining the price of an asset, it is necessary to conduct a thorough analysis of financial, legal, industrial, and commercial information -and others-. This involves accessing highly confidential information, which is revealed in the due diligence of the project. This phase

allows the buyer to verify that the assumptions used to prepare its valuation are correct, and to identify possible risks and contingencies that may impact the value of the asset.

Sometimes there are issues that are not resolved at this stage, and therefore the seller decides to offer a price for the asset, but subject to conditions. These conditions do not prevent the transaction contracts from being signed, however, the transaction will only be finalized when all of them are met.

A common occurrence in the M&A industry is to see both the buy side and sell side desperate to close the transaction as quickly as possible. Once the deal is announced, the buyer wants to take over management of the asset, and the seller wants to receive the agreed amount. But recent studies - this analysis is discussed in more detail in section 2 - show that a certain period between the signing of the contracts and the closing of the transaction is healthy for increasing the value of the asset in the long term. By having this period, the seller can identify risks and develop a plan to mitigate them.

If, in addition to the benefit of being able to verify certain information in this period, the seller can acquire the asset for a lower price - this hypothesis is developed in section 3 - M&A professionals working from the buy side should not be in a hurry to close transactions early.

This research finds that M&A transactions with more longer periods between signing and closing, have a negative linear correlation with the valuation multiple negotiated, which, together with the results of recent findings on the relationship between this period and the preservation of the asset's value over time, break the paradigm that the buy side should close the transaction "as soon as possible".

2. Literature review

Over the past few decades, one of the most widely accepted assumptions within corporate finance literature was that mergers and acquisitions tend to destroy value rather than create it. There are several authors who published empirical evidence supporting this statement (Mueller, 1997) (Andrade, Mitchell, & Stafford, 2001), of which stands out the findings of little or no creation of value through operational or financial synergies (Damodaran,

2005) and the absence of abnormal returns on the value of the acquired asset's share (Alexandridis, Petmezas, & Travlos, 2010). This occurs not only with the acquired assets, but also for the acquiring firms. A research finds significant negative abnormal returns in the long term for acquiring firms (Malatesta, 1983), and even in the short term a study concludes that stockholders of acquiring firms suffer a statistically significant wealth loss of approximately 10% over the first years following an M&A announcement (Agrawal, Jaffe, & Mandelker, 1992). Results vary when emerging markets are analyzed. In Argentina, it was found that statistically significant abnormal returns are experienced by acquirers when the event is announced, and in the days after the acquisition (Simões, Macedo-Soares, Van Aduard de Macedo-Soares, Klotzle, & Figueiredo Pinto, 2012). On the other hand, Brito, Batistella and Fama (2005) conclude that in Brazil there are no significant abnormal returns for acquirers at the time of the announcement. In Asia, Rani, Yadav, and Jain (2012) find that acquiring firms generate a 1.6% statistically significant abnormal return during a five-day event window after the announcement of the acquisition. In China, Chi, Sun, and Young (2011) identify significant positive abnormal returns six months before the announcement date and in the respective event windows of the acquisitions. Therefore, in addition to short-term abnormal returns in a South American country, significant evidence also exists for abnormal returns in India and China around the announcement date (Otto & Sampaio, 2017).

However, a recent investigation (Alexandridis, Antypas, & Travlos, 2017) revived the debate and questioned this premise that was accepted within the academy as truth. This research takes as its basis the results found by other authors (Gupta & Leech, 2015) (Ittner & Keusch, 2015) about the learnings that the 2008 crisis left to the corporate finance field and the control mechanisms that were established thereafter, in order to present a model that demonstrates the substantial improvement of the returns of M&A transactions in the period 2010-2015 compared to the period 1990-2009. The authors also show evidence that buyers involved in M&A transactions in the post-crisis period had better indicators of corporate governance compared to those of the pre-crisis period.

This research caused the emerge of new studies that use new variables to try to explain what the determinants of the success or failure of a transaction are. These studies, unlike conventional studies that focused on macro variables, decided to focus on micro variables such as the anticipated announcement of a transaction (Tunyi, 2021), the performance of serial acquisitions, the relationship between the buyer's and seller's industries, the intervention of shareholders in the decision process (Renneboog & Vansteenkiste, 2019), and the length of the period between the announcement of the transaction and its closing date (Thompson & Kim, 2020). It should be noted that the variables mentioned before have some theoretical relationship with the increase in corporate controls in the post-crisis period, which strengthens the arguments presented by Alexandridis et al.

There is currently no consensus in the academy on whether mergers and acquisitions create or destroy value, as new evidence indicates that the particularities of each transaction are the ones that explain the result. However, it seems increasingly clear that the success or failure of transactions depends largely on corporate controls and careful analysis by M&A executives when purchasing an asset.

Following this assumption, it makes sense to say that the price of a transaction will depend a lot on the level of analysis that was done at the due diligence stage by the buyer. Thompson and Kim (2020) show evidence of an inverted U-shaped relationship, between the days between the announcement of a transaction and its closing, and the long-term performance of the value of the acquired asset.

If the length of this period explains in a certain way the performance of the asset in the long term, it makes sense to hypothesize that this period also would correlate with the market relative price paid for the asset. This hypothesis will be explained below and is the basis for the development of this research.

3. Hypothesis construction

The price of a transaction goes through several stages until it is agreed between the parties. There is an initial price offered in the non-binding offer, an

adjusted price (if applicable) in the binding offer, and a final price at the close of the transaction.

The hypothesis of this investigation proposes a negative correlation between the length of the signing-closing period (days elapsed between the signing of the contract and the closing of the transaction), and the market relative price at the close of the transactions. This hypothesis would be supported by other premises explained below.

3.1. The price adjustment

Before signing an M&A contract, the buyer usually performs due diligence with the aim of analyzing the possible risks of the acquisition, and to understand the current functioning of the business. However, not all problems encountered come to be resolved at this stage, and some remain as pending conditions to close the transaction. These conditions are resolved between the signing-closing period. If the conditions were not full resolved or in the time estimated by the seller, there would be reasons to adjust the price offered in the binding offer. Also, an excessive extension of the signing-closing period can be caused by different "Post M&A issues" such as a delay by the seller to meet the conditions of the binding offer, a discovery by the buyer about the actual magnitude of the problems identified in the due diligence stage, and changes in the assumptions used in the valuation (price adjustments, costs, expenses, etc.).

On the other hand, the impact of the signing-closing length on the transaction price, can be explained not only by the appearance of the "Post M&A issues", but also by the seller's neglect of the business along the signing-closing period. There is no evidence in the literature about the neglect factor and its impacts on price or performance after the closing of the transaction, however, it is well known in the industry that sellers often neglect the performance of the asset once the transaction has been signed (Harroch, 2015).

Following the arguments set out above, the price adjustment hypothesis proposes the following:

Hypothesis 1: *If the Signing-closing period is extended due to "Post M&A issues", the seller will attempt to adjust the price at the closing of the transaction.*

Hypothesis 2: *If the seller neglects the performance of the business along the signing-closing period, the greater length of the period the greater the impact of the "neglect factor", and consequently the seller will try to adjust the price at the closing of the transaction.*

3.2. Due diligence findings

It is the due diligence stage where the buyer usually does a thorough analysis of the asset to be acquired, reviewing highly confidential information of the seller. The risks of all the areas of the business are examined in detail, and the financial valuation of the business is done using the due diligence results. If these results alert multiple risks or operational problems that can substantially impact the value of the business, the buyer will offer a lower price compared to other comparable assets with fewer problems.

As the number of problems encountered in due diligence increases, it is reasonable to assume that the number of closing conditions that the buyers define in their binding offers will increase, and it also makes sense to state that the more conditions for closing, the longer the period between signing-closing will take.

Following the arguments set out above, the due diligence findings hypothesis proposes the following:

Hypothesis 3: *As the number of problems encountered in due diligence increases, the buyers will offer lower values for the business, and also it will take longer to complete its pending analyses or conditions during the signing-closing period.*

4. Data

4.1. Sample selection

The information used for this study was extracted on April 4, 2021, from the database "Dealwatch" owned by ISI Emerging Markets Group, licensed to the online library system of the Fundação Getúlio Vargas. The sample includes 1.971 M&A transactions distributed in countries considered emerging by the "Emerging Markets Bond Index" produced by J.P. Morgan. In order to filter these number of transactions, only completed transactions with announcement and closing dates, Sales, and Enterprise Value reported, were chosen.

The following control variables were created. Transactions that do not take control of the asset because they buy a minority stock package were separated. This group was named "Minority stake" acquisitions and is controlled by a dummy variable that has a value of 1. No evidence was found in the literature about a correlation between the "Minority stake" acquisitions and the time elapsed in the signing-closing period. However, it makes sense to raise a correlation hypothesis between these variables, because unlike acquisitions that take control of the asset, "Minority stake" acquisitions are not in such a hurry to close the transaction. The other type of acquisitions has a greater incentive to close the transaction as soon as possible in order to take control of the asset.

Another control variable created is the payment method. A dummy variable with a value of 1 was created for transactions that were financed with cash. Berkovitch and Narayanan (1990) have shown that cash-financed agreements are conducted faster, unlike debt-financed or shares agreements.

Another control variable is the size of the deal. Since a bigger deal could use more time in the due diligence to finalize the analysis due to the complexity of the target, it also could have a positive correlation with the price of the deal because more market power is acquired. This is also a hypothesis to be tested since we did not find evidence about it in the literature.

Finally, a control dummy variable was created for deals where the buyer has a financial advisor, and another one for deals where the buyer has a legal advisor. Golubov et al. (2012) present empirical evidence linking the existence of top-tier advisors of M&A deals, with fewer times until execution. In this study, there is no classification for top-tier advisors. The existence of financial and legal advisors gives the value of 1 for each of the corresponding dummy variables. Although no studies were found about the impact of legal advisors, it is valid to assume that these ones could help with the execution of some legal procedures faster than without advisors.

On the other hand, we have the variables of interest for this study, both independent and dependent. For the dependent variable, in order to make all M&A transactions comparable, the use of a valuation multiple is considered, which is the Enterprise Value divided for the Annual Sales (EV/Sales).

As for the independent variable, the database provides both the deal's announcement date and the deal's closing date. A variable is created that subtracts the first date from the second, resulting in the number of days elapsed between the announcement and the closing.

4.2. Sample summary and description

A summary and description of the sample is presented in Table 1. The sample consists of 1,971 deals distributed in 27 emerging countries. Initially the database had 5,041 observations, however, some filters were made due to lack of information or due to what is assumed to be human typing errors. The first filter was to remove from the database the transactions that did not have a closing date, leaving 3,430 observations for the analysis. It is worth clarifying that the absence of information regarding the closing date does not necessarily mean that the signing date is the same as the closing date. In fact, in the 1,971 observations used in this study, 787 of them have the signing and closing dates occurring on the same day.

Some of the observations presented results where the closing date was prior to the signing date. This is probably a human typing error, so it was decided to take out those observations from the analysis, leaving as a result a sample of 2.933 transactions.

Another filter was taking only the deals where the target is sold in a country part of the "Emerging Markets Bond Index". Multinational deals are not considered either because of the lack of information of relevance of each country, and the complexity of defining an allocation valuation of each country of the deal. After the filter mentioned before, 2.164 observations left.

Finally, the two statistical tails (2,5% in both ends of the sample) of the variable "EV/Sales" (filtered by industry) were removed. The reason for discarding these observations is that some deals had exorbitant valuation multiples, probably as a result of a human typing error. This last filter leaves a sample of 1.971 deals as mentioned before.

The year with the most deals is 2013 with 375 transactions, and 2020 the one with less deals, only with 14. As for geographical division, most deals occur in Asia, due to the high volume of transactions occurring in China. The next continent with the highest number of deals is America, because of the two large markets, Brazil and Mexico. A correlation matrix of the variables, and a summary of the deals by country, are presented respectively in Annex A and Annex B.

Section B of Table 1 shows that the average duration to complete a deal is 78 days. The observation with the highest number of days is 2.687 (7,36 years) and the lowest is zero days, which means that a deal is completed on the same day as the announcement. It is important to mention that this does not mean that no due diligence was made by the buyer, because it is likely that the buyer had carried out a pre-announcement analysis, as mentioned in the hypothesis construction section of this research. However, the focus of this study is to evaluate the correlation of due diligence days that occur after the announcement of the transaction, with the valuation multiple (EV/Sales).

Other variables of interest are the amount negotiated (Deal Value), with an average of \$310 million in the whole sample, the percentage of shares that were bought/sold (Deal Stake) with an average of 42,96%.

Table 1. Summary and descriptive statistics.
Section A. Deals summary by year and continent

Year of completion	Frequency	Percent	Continent	Frequency	Percent
2010	67	3,40	Americas	585	29,68
2011	152	7,71	Europe	308	15,63
2012	325	16,49	Asia	1021	51,80
2013	375	19,03	Africa	57	2,89
2014	346	17,55	Total	1971	100,00
2015	181	9,18			
2016	132	6,70			
2017	161	8,17			
2018	99	5,02			
2019	119	6,04			
2020	14	0,71			
Total	1971	100,00			

Section B. Descriptive statistics

Variable	N	Mean	Standard Deviation	Minimum	Maximum
Signing-closing period	1971	77,80	135,29	0,00	2687,00
Deal Stake %	1968	42,96	36,31	0,01	100,00
Deal Value USD (mn)	1968	310,91	1173,58	0,06	27730,00
EV/Sales	1971	2,38	2,34	0,01	21,28

5. Methodology

The methodology used to evaluate a possible correlation between the period of days elapsed since the signing until the closing of a M&A transaction, and the business valuation multiple, is a cross section model. It is important to mention that the dependent variable has been converted to his natural logarithm, in order to analyze the percentual correlation with the independent variable. Therefore, regressions about to be presented in

this study are Log-Linear models. As a result, this study will try to find the following interpretation: *for each additional day in the signing-closing period, by how much does the price multiple change in percentage terms?*

The controls variables that have been mentioned in the previous section, will be incorporated one by one, in order to compare all the outputs and choose the model with the best statistical results. Furthermore, the following dummy controls will also be used: country, year, and industry of the deal. Table 2a and 2b, show the results of the model that have the valuation multiple "Enterprise Value / Sales" as the dependent variable.

Regressions (7), (8), and (9), find the same result for the variable in question, but only model (9) has a p-value under 0.01. The equation for this last model follows below:

$$SM_i = \alpha + \beta_1 * SCD_i + \gamma_1 * MS + \gamma_2 * DV_i + \gamma_3 * C_i + \gamma_4 * FA_i + \gamma_5 * LA_i + \mu_i + \varepsilon_i$$

Where SM is the logarithm of the sales multiple -enterprise value divided for sales- of each transaction, SCD is the number of days of the signing-closing period, MS a dummy variable for deals that cover less than 50% of shares, DV the deal value in USD millions, C a dummy variable for deals financed entirely with cash, FA and LA are dummy variables for deals where the buyer has a financial advisor and a legal advisor respectively, μ_i are dummy variables used to control for time-invariant heterogeneity among firms, and ε is the error term. SCD and DV were divided by 100 for better availability of decimal digits.

It is important to mention that the database does not have information regarding the existence of earnout clauses¹ or escrow accounts² for each transaction. This is relevant because the existence of these concepts could adjust the Enterprise Value of the asset in the future. However, this study is focused on the Enterprise Value agreed at the closing of the transaction.

¹ Earnout clauses: An earnout is a contractual provision stating that the seller of a business is to obtain additional compensation in the future if the business achieves certain financial goals, which are usually stated as a percentage of gross sales or earnings.

² Escrow accounts: Escrow is a legal concept describing a financial instrument whereby an asset or escrow money is held by a third party on behalf of two other parties that are in the process of completing a transaction.

It is also worth mentioning that in many cases, it is not the parties involved in the transaction that decide whether there should be a period between signing and closing, but regulatory authorities. A good example is transactions that, because of their size, require approval from the antitrust authorities. The database does not have information about these kinds of restrictions. However, this does not prevent the buyer side to continue performing its due diligence analysis between the signing-closing period.

6. Results

After including all the control variables mentioned in the data description section, as well as the dummy controls, a 99% statistically significant negative correlation was found between the valuation multiple, and the number of days elapsed in the signing-closing period. This study finds that for each additional day that elapses from signing to closing, there is a correlation that decreases the valuation multiple by 0.04%. This result presents evidence that strengthens hypotheses 1, 2 and 3 that were stated at the beginning of this research.

Table 2a. "Enterprise Value/Sales" as the dependent variable

- Dependent variable in all nine regressions: Natural logarithm of "Enterprise Value/Sales" multiple.
- Variable of interest: "Signing-closing days".
- Control variables: "Minority Stake"; "Deal value (USD mn)"; "Cash"; "Financial Advisor"; "Legal Advisor".
- P-values: *** p < 0.01, ** p < 0.05, * p < 0.1.
- Fixed effects: "Country FE"; "Year FE"; "Industry FE".
- Regression number (9) does not reject the null hypothesis of Breusch-Pagan / Cook-Weisberg test, therefore there is no heteroskedasticity.
- "Signing-closing days" and "Deal Value (USD mn)" were divided by 100 in order to have visibility of more decimal digits.

Log-Linear model	(1)	(2)	(3)	(4)	(5)
Signing-closing days	-0.0211	-0.0099	-0.0138	-0.0136	-0.0221
Minority Stake	-	***0.2024	***0.2118	***0.2091	***0.2733
Deal value (USD mn)	-	-	***0.0056	***0.0056	**0.0042
Cash	-	-	-	0,0377	0.0800
Financial Advisor	-	-	-	-	***0.2482
Legal Advisor	-	-	-	-	-
Country FE	NO	NO	NO	NO	NO
Year FE	NO	NO	NO	NO	NO
Industry FE	NO	NO	NO	NO	NO
Constant	***0.4632	***0.3361	***0.3156	***0.2877	***0.1692
Observations	1971	1971	1968	1968	1968
R-squared	0,0009	0,0112	0,0159	0,0161	0,0258

Table 2b. "Enterprise Value/Sales" as the dependent variable

Log-Linear model	(6)	(7)	(8)	(9)
Signing-closing days	-0.0228	** -0.0404	** -0.0401	*** -0.0423
Minority Stake	***0.2877	***0.2141	***0.2052	***0.1841
Deal value (USD mn)	**0.0041	***0.0050	***0.0049	***0.0035
Cash	0.0829	0.0831	0.0780	0.0745
Financial Advisor	***0.2236	**0.1349	**0.1382	***0.1483
Legal Advisor	0.0630	0.0636	0.0648	*0.0913
Country FE	NO	YES	YES	YES
Year FE	NO	NO	YES	YES
Industry FE	NO	NO	NO	YES
Constant	**0.1449	**0.7174	*0.6472	-0.4584
Observations	1968	1968	1968	1968
R-squared	0,0264	0,1001	0,1034	0,2552

Country, industry, and year dummy controls were introduced because of the disparity of the data. For example, as is seen in Table 1, some years have a substantially higher number of transactions than others.

Country dummy control have an important role in the construction of this model, since when introducing it in model (7) the study variable acquires statistical significance with a p-value less than 0.05. Industry controls have a similar relevance, because when introduced in the model, our study variable changes its p-value to less than 0.01.

7. Conclusions

The findings of this study have several interesting implications. First, it opens the door for future research to try to find the causality of the impact of the number of days in the signing-closing period on the valuation multiple, which could be either by hypotheses 1 and 2 that assume a price adjustment after the binding offer due to pending due diligence analyses or missing conditions for closing, or by hypothesis 3 that assumes that the price decrease is affected at the time of sending the binding offer. Finding this causation could give a clear and strong message to M&A professionals.

If the causality comes from hypotheses 1 and 2, the professionals working from the buy side can be a little more reassured about the open issues that could not be resolved in the due diligence, because there would be evidence that the buyer manages to adjust the price at the time of closing. In other words, the buyer has high bargaining power even after signing. However, if the causality is given through hypothesis 3, professionals working from the buy side should perform more thorough analysis during due diligence and not leave for the signing-closing stage important points that may substantially impact the valuation of the asset, since this causality would imply that the buyer's bargaining power at the time of closing is limited, and that in fact sellers tend to accept lower multiples at signing. To carry out this causality analysis, it is necessary to have a database with

the price that was offered at signing, and the price that was offered at closing. This research did not have access to such data.

Secondly, whether causality is given by hypotheses 1 and 2, or by hypothesis 3, the evidence presented in this study regarding the creation / destruction of value in M&A transactions -probably currently the most important discussion of the corporate finance literature- is interesting given that the data shows that an important part of this concept does not necessarily come from the individual characteristics of the asset to be sold, but from the analysis and the time that M&A professionals take to carry out an optimal due diligence. This reinforces the results presented by Alexandridis et al. (2017), which appear to be linked with profound improvements in the quality of corporate governance among acquiring firms in the aftermath of the 2008 financial crisis.

Following the concept of value creation/destruction, if the results presented by Thompson and Kim (2020) were showing a negative correlation between the length of the due diligence period and the performance of the stock after the acquisition, the results of the present study would not have any relevance given that the entire benefit of creation of value by obtaining a better deal price as the days pass after the contracts are signed, would be offset by the increasingly worse performance of the asset. However, given that Thompson's results suggest that there is an optimal point for signing-closing periods, in which the first days of it are correlated with a better performance of the stock in M&A transactions, the results of the present study pass to be relevant to the current discussions in academia regarding the creation / destruction of value in M&A transactions.

Third, another relevant implication of the findings of this study is the fact that it presents more evidence that -contrary to what many M&A professionals think- a reasonable period between signing and closing does favor the buy side. If we add to the study by Thompson and Kim (2020), - which found evidence that the performance of the stock of the asset

purchased one month after closing reaches its optimal point when the signing-closing period is 455 days- that the buyer will be able to pay on average 18.2% less according to the results of this study, it is more than evident that M&A professionals working from the buy side should try to always have a period between signing and closing.

The curious thing is that contrary to the previous conclusion, the reality is otherwise. Most of the time, both the buy side and the sell side try to avoid any period between signing and closing, and usually carry out both events on the same day (40% of the deals in the database used for this research have zero days of signing-closing period). It is important to notice that there are times when it is impossible to avoid a signing-closing period, such as when the transaction requires antitrust approval. But given that the results of this research suggest that the existence of an optimal signing-closing period could bring a lower deal price multiple, probably M&A professionals should rethink their strategy on trying to avoid the signing-closing period, especially those on the buy side.

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ANNEX A – Correlation Matrix

	Signing-closing period	Minority Stake Dummy	Deal Value USD (mn)	Cash Dummy	Financial Advisor Dummy	Legal Advisor Dummy
Signing-closing period	1.0000					
Minority Stake Dummy	-0.1520	1.0000				
Deal Value USD (mn)	0.0853	-0.0689	1.0000			
Cash Dummy	-0.0326	0.0867	-0.0705	1.0000		
Financial Advisor Dummy	0.1730	-0.3401	0.2020	-0.2089	1.0000	
Legal Advisor Dummy	0.1324	-0.3713	0.1365	-0.1397	0.4599	1.0000

ANNEX B – Summary of deals by country

Target Nation	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total
Chile	7	4	7	4	7	7	5	3	3	7	0	54
Brazil	5	22	62	70	70	24	22	32	27	28	3	365
Poland	0	26	24	18	13	16	14	5	3	21	4	144
India	4	8	16	36	30	21	15	37	14	17	0	198
Mexico	3	5	5	6	6	3	2	6	3	1	1	41
Colombia	8	5	15	6	6	6	4	2	3	7	1	63
Hungary	0	1	5	4	2	6	1	9	3	2	1	34
Thailand	0	0	1	3	3	2	2	3	2	1	0	17
Ukraine	0	0	6	9	2	0	2	2	1	6	2	30
Russia	1	6	41	38	23	17	14	20	17	12	1	190
Nigeria	0	0	0	1	0	1	0	1	0	1	0	4
Turkey	2	19	18	18	8	9	0	5	2	2	0	83
Peru	4	3	2	2	3	5	5	1	3	2	0	30
South Africa	0	3	7	7	6	4	6	11	0	2	0	46
China	0	8	83	106	116	40	14	5	6	3	1	382
Czech Republic	1	8	6	1	5	0	4	0	3	1	0	29
Philippines	0	1	1	12	1	3	2	1	2	2	0	25
Argentina	4	4	4	5	3	1	6	2	2	1	0	32
Malaysia	1	7	11	18	28	8	3	4	1	3	0	84
Egypt	0	0	1	0	1	2	0	0	2	0	0	6
United Arab Emirates	0	0	1	1	1	2	0	1	1	0	0	7
Indonesia	1	13	4	5	4	0	1	1	0	0	0	29
Romania	26	9	4	3	6	4	9	9	1	0	0	71
Israel	0	0	0	0	0	0	0	1	0	0	0	1
Pakistan	0	0	1	0	0	0	1	0	0	0	0	2
Morocco	0	0	0	0	1	0	0	0	0	0	0	1
Taiwan	0	0	0	2	1	0	0	0	0	0	0	3
Total	67	152	325	375	346	181	132	161	99	119	14	1971