A Work Project, presented as part of the requirements for the Award of a Master Degree in Finance from the NOVA – School of Business and Economics.

THE SUCCESS FACTORS OF MERGERS AND ACQUISITIONS IN EUROPE

JOÃO RIBEIRO PINTO BANDEIRA (34404)

A Project carried out on the Master in Finance Program, under the supervision of:

Associate Professor Melissa Prado

JANUARY, 2020

Abstract

This research aims to test previously discovered M&A success factors and highlight others that may be crucial for the deal's success. Targeting a general perception of these factors, I performed a macro-analysis reflecting the context of a country and a micro-analysis encompassing the deal features and the companies involved. On the one hand, macro-analysis empirically verifies that factors such as economic growth, capital market liquidity, tax incidence, vocational training, and technological investment are significant for success. On the other, micro-analysis provided a guideline for success by discovering a dynamic set of factors that varies depending on the deal's purpose.

Keywords: Mergers and Acquisitions, Performance Indicators, Success factors

Table of Contents

1. Introduction

In recent years, M&A activity has slowed down globally. In fact, in the last 12 years, the number of deals and the values have been stagnating or decreasing (except in 2015 and 2016). Given this general picture, Europe is no exception, and the market has been stagnant since the 2008 crisis, even decreasing in 2018. Thus, the first motivation of this research is based on an attempt to understand the factors that could determine the quality of a transaction. This analysis is especially necessary in times of slowdown, as the increase in successful deals could lead to a change in the market.

In addition, it is quite apparent that the USA leads in the field of M&A in terms of activity and the number of scientific studies (see Appendix 0). Thus, this analysis focuses on Europe in order to allow for a personalized explanation of the European context, encouraging further investigation and discussion among M&A researchers (narrowing the US gap).

On the other hand, this study is developed as part of a DRI in a department (M&A tax) that depends directly on M&A activity and contributes to the successful implementation of the deal. Thus, by providing quantitative and academic support, this research contributes to a better understanding of the fundamental factors to be aware at the moment of the deal.

Therefore, the purpose of this research is to not only empirically test the previously discovered factors but also highlight possible new factors that may be crucial to the success of a deal. Thus, it was elaborated a broad analysis that encompasses the context of a country, deal features, and the situation of the companies involved.

This research contains 5 main sections being the first this introduction. The second is the literature review on trying to define what means *success* in M&A and what factors are most relevant to its scope. Section 3 presents and develops the methodology of this research and, later, Section 4 presents the results. Finally, Section 5 summarizes the main findings.

2. Literature Review

The central goal of this literature review is to englobe the main studies (theoretical and quantitative) on the critical success factors in a M&A transaction. Given that identifying the elements to consider in *success* requires understanding what it means, the first step was to define *success* by investigating different theories focused on measuring M&A performance.

2.1 What is *success* in M&A?

From a conceptual point of view, the Cambridge dictionary defines *success* as "the achievement of the wanted or hoped-for results." Thus, after an extensive review of the M&A literature, I found that most authors (see Appendix 1) consider that *success* is based on value creation achievement. This shows that most of them were done from a micro perspective, i.e., they focus on the company's performance by analysing firm-level and transaction-level factors.

However, since one of this research's purpose is to be a generalized analysis of M&A success factors in Europe, a macro perspective is also necessary. In other words, we need to consider the economic, political, social, etc. aspects which characterize the situation in European countries and determine the transaction's success (country-level factors).

Therefore, in this work, *success* will be investigated from two different perspectives (macro and micro) and, consequently, their success factors will be adapted to each of these dimensions.

2.1.1 Macro perspective – deal completed

There are not many studies investigating the conditions of a country and its impact on M&A success (Andriuskevicius, 2017). Despite many types of research focusing on the country-level factors that affect transaction volume and cross-border deals (e.g. Erel et al., 2011; Garita & Marrewijk, 2007; Rossi & Volpin, 2004), there is no evidence that these factors contribute to a successful transaction.

Thereby, the literature analysis related to macro M&A studies will be carried out to identify which variables are used to draw conclusions about the economic, social, technological, and

legal/fiscal level of a country. In the second phase, these variables will be tested to determine which ones have an impact on the country's successful transactions.

Thus, first, it is necessary to define what means *success* at a macro level. While in a micro-analysis, it is possible to find several studies on this subject seeking to identify which are the best performance indicators of a transaction. At the macro level, the concept of success/performance is not yet well developed. In fact, these researches focus more on transaction volume rather than on transaction quality.

However, the number of transactions accomplished in a country can be considered intuitively as a factor indicating its quality to affect a deal. Following this reasoning, countries with better conditions (success factors) will be those that will be more business-friendly and, therefore, will have a higher volume of transactions. Relating this to the concept of *success*, we can infer that successful acquisitions will be all those that were announced and later completed (see Appendix 2). Therefore, the success factors will be all macro variables that provide favourable conditions for a country to complete the deal and, thus, increase its transaction volume.

2.1.2 Micro perspective – goal achievement

First, it is essential to note that the concept of *performance* is often used by the authors to refer to transaction *success*. Despite the similarity between the concepts, it is important to refer that they do not mean the same thing. Back to conceptual analysis, *performance* is "how well a person does an activity/work" (Cambridge dictionary, 2019), and *success* is the achievement of a goal. Thus, it is possible to verify that *performance* is a form of success assessment, but it is not *success per se*.

Thus, to know what *success* is from a micro point of view, it is necessary to know what are the company motivations that led to the transaction and, if effectively those objectives were achieved, the deal is successful. There are two main ways to ascertain these results: i) run a survey to top executives or people with a leading role in the deal, asking if the goals have been

met (Schoenberg, 2006) or ii) associate performance indicators with each motivation and, if these are favourable, the transaction is considered successful. Given the "potential managerial bias and the dependence on respondent's familiarity with the original objectives of the acquisition" (Schoenberg, 2006), this study will choose performance indicators that will evaluate the success of a transaction.

Motivated by researchers reaching inconsistent and often contradictory findings, Meglio & Risberg (2011) developed a study in which the main objective was to examine how management scholars measure M&A performance. Thereby, they investigated all relevant journal empirical studies[1] (between 1970 and 2008), that considered post-acquisition performance as an explanatory variable (the outcome is illustrated in Appendix 3). Hence, they concluded that many of these different conclusions exist, because researchers evaluate the same success factor through different performance measures.

By this way, in a perfect scenario, the most accurate idea would be identifying the motivations in every transaction and associate each one of them to the performance indicators that allow evaluating whether the motivation goal was reached[2]. However, given a broad set of limitations[3], *success* will be considered when one of the performance indicators demonstrates positive performance for the acquiring company in the post-deal. Therefore, this research will contemplate some of the indicators in Appendix 3 (which are the most used by the authors).

[1] Academy of Management Journal (AMJ), Administrative Science Quarterly (ASQ), British Journal of Management (BJM), Human Relations (HR), Journal of Management (JoM), Journal of Management Studies (JMS), Management Science (MS), Strategic Management Journal (SMJ), Organization Science (OrgSci), and Organization Studies (OrgStu).

[2] Based on Weber et al. (2013) there are 5 main motivations for a merger or acquisition: create synergies; increase market power; diversification (expand to other industries); benefits from financial and tax issues; increase valuation ratio (market value/asset value). The desired idea would be to find indicators that measure each of these motives and then check if they were positive. For example, for market power check if the market share increased or for tax benefits check if the cost of legal fees decreased.

[3] First, it is difficult to find specific indicators that quantify the performance of only one of the motives (data constraints). Second, some of the motives are related (e.g. increasing the synergies probably will increase the valuation ratio), so it is not possible to measure the achievement of the goal separately. Lastly, this methodology is more common in specific acquisition studies as they require more detailed analysis (case studies analysis) and not for a general study of hundreds of transactions (general level analysis).

2.2 What are the success factors?

2.2.1 Macro factors

The first step was to understand how the characteristics of a country can influence the business conclusion and, hence, the volume of successful transactions. In the case of cross-border transactions, i.e., where the acquirer and the target are from different countries, the literature is divided into two analysis: either focus on the target country or the difference between both. For the purposes of this study, following Hofstede Dimension's idea, it will be considered the institutional framework of the target company's country as it is the one that reflects the point of view of an investor who desires to start a business in another country (Bocanková, 2014)[4].

i) Economic factors

The economic dimension is "positively correlated with all series of inward and outward investment" because when an economy grows larger, its companies also grow by attracting investors (Dang, 2016). Indeed, the investors' behaviour towards investing through M&A in a particular country, is driven by economic features that represent growth and stability, namely, GDP per capita growth, GNI growth, and inflation. Furthermore, there are already several studies investigating the correlation between decision-making and economic environment perception (Ciobanu & Bahna, 2015; Nofsinger, 2005; Oprea & Brad, 2014).

On the other hand**,** M&A literature considers stock markets as a reliable economic indicator, existing empirical evidence for a direct correlation between capital markets size and economic growth (Andries, 2009; Dang, 2016). Additionally, Chousa et al. (2008) studied the correlation of cross-border M&A activity with capital market growth and realized that high growth results in higher M&A volume.

[4] Hofstede cultural dimensions theory is a descriptive framework of cross-cultural values and costumes inside a country in order to understand how to negotiate and make successful business in different contexts. The idea in this research, is focus not only on social/cultural features but also on the economic, political, legal/fiscal, technological factors of the country where the business will be concluded, i.e, the target's country.

The most common indicators used in previous studies for financial markets analysis focus on capital market size and liquidity. Likewise size, there is an apparent positive association between liquidity and economic growth, as the more liquid the capital market is, the more stable it will be and, consequently, encourages more investors to make long-term investments (Levine & Zervos, 1998; Lenee & Oki, 2017; Dang, 2016). Despite the evidence on economic growth and transaction volume, it is pertinent to test whether financial markets do have an impact on M&A success rates. Also, it is relevant to check if size and liquidity will have the same effect.

ii) Political factors

The political regime and the government measures have also been scrutinized in M&A researches, given that they have an impact on the activity. Thus, indicators such as government effectiveness and regulatory quality have been used in order to determine the quality of public services and the government's ability to implement policies that promote the private sector development (Rossi & Volpin, 2004; Erel et al., 2011). For example, in emerging economies where the governing party faces more opposition, the government delays in privatization are higher (Ciobanu & Bahna, 2015; Dinc & Gupta, 2011; Ciobanu, 2014b).

Ciobanu & Bahna (2015) also refer the importance of corruption, democracy, and bureaucracy as critical political factors that promote safety and stability to invest. Regarding the first, they stated that informal payments could be associated with administrative corruption, and the investors try to avoid a situation like this. Furthermore, they concluded that investors prefer democratic regimes since the higher the level of democracy, the more significant the climate of stability and investor protection. Lastly, when countries require an excessive quantity of bureaucratic procedures, the deal takes more time than desired to conclude and, hence, the likelihood to fail the transaction is higher.

Therefore, besides economic stability, it is vital to examine how the political forces operate and what is their impact on closing the deal.

iii) Legal/fiscal factors

Williamson (2000) investigates the disparity of investment protection by country and its impact on the financial development of a market. Erel et al. (2011) add that if a transaction "can increase the legal protection of the minority shareholders in target firms (…), then the value can be created through the acquisition."

Thus, some studies on M&A include indicators that measure whether the investors are protected from information disclosure and the agent's reliability on social rules, as well as its compliance (e.g. contract enforcement). For example, Rossi & Volpin (2004) concluded that M&A activity is significantly larger in countries with stronger shareholder protection because it helps acquirers to identify potential targets. Therefore, when assessing an M&A transaction, it is essential to examine whether the legal environment is "investor-friendly" and understand its corporate governance regime (Rossi & Volpin, 2004).

On the other hand, the fiscal incidence applied in each country is a crucial factor to scrutinize, given that one of the main motives in M&A is tax efficiency. As a result of this, taxes are expected to affect M&A success, especially in international transactions, since acquirers are more likely to choose targets located in countries where the corporate income tax rates and international double taxation are lower (Erel et al., 2011; Herger et al., 2013).

iv) Social Factors

Mirvis & Marks (1992) argue that HR executives must be involved in the M&A process as early as possible to understand the employees' motivation and the differences between the companies (e.g. job grading, training, salaries, etc). Furthermore, it is also essential to consider managers with top and depth management talent (Boland, 1970) as central pieces, not only for the implementation process but also for the day-to-day knowledge and the general commitment to the future organization (Drucker, 1981; Kitching, 1967; Calipha et al., 2010). They must be people capable of enabling organizational/cultural alignment by taking proactive decisive

actions to "catalyse" the change – must have *leadership* skills (Drucker, 1981; Kitching, 1967; Inkpen et al., 2000; Mohamed, 2008; Light, 2001; Hyde & Paterson, 2001; Weber et al., 2013). Therefore, countries with higher human capital standards (especially in professional training after academic education) are expected to have a better success rate comparing to others. This theory is aligned with Pritchett et al. (1997), which argues that a high percentage of acquisition failures derive from faulty management during implementation (Gomes et al., 2013).

v) Technological factors

Technology has been rising exponentially in the last decades, and its improvements are changing the processes in several industries – M&A is not an exception. In fact, "technology has been integral to M&A success for decades" (Gala, 2016 *in Deloitte's report*) by developing innovative tools and digital infrastructures that reduce costs and complexity (Asper, Dange & Holt, 2016 *in Deloitte's report*). For example, the application of rationalization programs that reduce costs by "standardizing, streamlining, and simplifying the company's portfolio after an integration" (Laad et al., 2016 *in Deloitte's report*); cloud services that allow to manage higher amounts of data and in real-time (Aviles et al., 2016 *in Deloitte's report*); and several software that optimize the due diligence processes, screen targets more efficiently, etc.

This technological impact on efficiency and, hence, on M&A success, has been studied and empirically confirmed by academics in the last years. Ciobanu & Bahna (2015) discovered a positive correlation between the number of patents registered in a country with M&A volume. On the other hand, this can also represent a smart and innovative population that is well prepared to close the deal and think in different alternatives when a problem arises (related to social factors such as training and education). Therefore, technological factors such as R&D expenses or the number of patents, are important to consider at a country-level analysis in order to understand how technological gaps between countries can affect the transaction's speed and its accomplishment.

2.2.2 Micro factors

Given the vast literature on the firm-level success factors, it was necessary to establish a method for deciding which ones to consider and then develop the research. Thus, while the studies were being analysed, it was elaborated a table with the factor's name and the respective authors that considered it crucial to achieve success (Appendix 4). After listing the main ones and grouped according to their incidence topic, the result was 8 key firm-level factors.

i) Choice of Strategic Motive and Partner

The motive must be strategic, i.e., compatible with the needs, capacities, and goals of the firm. Thus, when acquiring a firm, buyers need to translate these objectives into specific investment criteria, considering its own competitive status, strengths, weaknesses, top management's aspirations, and competences (Gomes et al., 2013; Mirvis & Marks, 1992; Kitching, 1967). Otherwise, if they are not planned as early as possible, decisions can be distorted by impulses during the negotiations (Kitching 1967; Brockhaus 1975), increasing the likelihood of inconsistent outcomes (Gomes et al., 2013).

Once the motive is determined, the next stage is to choose the partner that fits[5] with the investment requirements, strategic planning, openness, and quality of the target management team (Gomes et al., 2013; Brockhaus, 1975). Thus, this factor is crucial for success since higher fit provides higher market power and productivity (Bauer & Matzler, 2012; Cartwright, 2006).

ii) Price match

Kitching (1967) states that the price paid for the target firm is a crucial factor of success – *financial fit* (Calipha et al., 2010). M&A literature is practically consensual with the idea that paying big premiums is a major cause of failure (Gomes et al.,2013; Hayward, 2002; Weber et al., 2013). Furthermore, Seth et al. (2000) forewarn for special attention when evaluating cross-

[5] This "fit" can be subcategorized in 2 dimensions: "Strategic Fit," "Organizational Fit" (Gomes et al., 2013; Jemison & Sitkin, 1986; Schweiger & Denisi, 1991; Weber et al., 2013; Schweiger et al., 1993).

border target firms because there is greater information asymmetry than in domestic firms (Gomes et al., 2013). Thus, some authors emphasize the importance of valuation and pricing in M&A (Rappaport, 1979; Terry, 1982), suggesting the company's assets analysis in order to offer a fair price that matches the company's value (Calipha et al., 2010; Severson, 1989).

On the other hand, Kusewitt (1985) was not able to find any correlation between value creation and premium paid. Moreover, in 1997, Smith found a little positive correlation between price premiums and value creation – this suggests that price is not a sufficient and necessary condition of value creation being fundamental to consider other factors (Calipha et al., 2010).

iii) Corporate and National Cultural Differences

The concept *Cultural Fit* emerges with authors trying to explain several cases of failure in the post-acquisition phase (Gomes et al., 2013; Bauer & Matzler, 2012). According to Weber et al. (2013), management culture is a "developing system of beliefs that is shared by the managers regarding the desired way of management for the organization (…)".

M&A literature is practically consensual when considering cultural differences as critical success factors (Gomes et al., 2013; Weber et al., 2013; Calipha et al., 2010). Nevertheless, the relationships among them (corporate and national) and their impact on success are not clear, sometimes having opposite effects (Calipha et al., 2010; Schoenberg, 2006).

On the one hand, cultural differences are negatively related to shareholder gains (Chatterjee et al.,1992; Datta & Puia, 1995), increasing costs and risks associated with integration challenges (Stahl & Voight, 2004; Iankova, 2014). On the other, some theories argue that national cultural differences improve M&A performance due to access to complementary tools, namely, "routines and repertoires" (Morosini et al., 1998; Weber et al., 1992; Very et al., 1997).

iv) Size Mismatch

M&A literature points out that there is a relation between the size of the firm and its organizational fit. Therefore, the size is an essential factor to consider when choosing the right

partners (Gomes et al., 2013), as a size mismatch between acquiring and target company can suggest a lack of fit between both organizations (Calipha et al., 2010; Chatterjee et al., 1992). Even though Finkelstein & Haleblian (2002) argue that similar sizes are correlated with higher announcement returns (Gomes et al., 2013), they were not able to find enough significance for the relative size on the acquisition performance. On the other hand, some studies prove that mismatches do not affect acquisitions (Calipha et al., 2010; Bruton et al., 1994) or even have a positive effect on M&A performance. Indeed, several authors discovered that larger targets might perform better due to their higher economic impact (Moeller et al., 2004; Tuch & O'Sullivan, 2007). These studies can also be explained by the fact that the organizational structure and reporting relationships are so successful (good management) that overcome the negative effect of size mismatch (Calipha et al., 2010; Gomes et al. 2013; Kitching 1967).

v) Accumulated Experience

There is a reasonable number of studies demonstrating that companies with more experience in M&A have more probability of success than companies less experienced and without a consistent strategy for growth (Gomes et al., 2013). Thus, these two factors are connected by the simple fact that if a firm does not have a consistent strategy/plan, it will only see each transaction as a punctual fact and not as a continuous process of learning and experience acquisition (Jemison & Sitkin, 1986; Kitching, 1967; Hayward, 2002; Vermeulen & Barkema, 2001; Finkelstein & Haleblian, 1999).

Regarding experience acquisition, the empirical works diverge into different explanations and perspectives. Jemison & Stinken (1986) defend that firms with prior experience in successful acquisitions are more capable of reducing the momentum, decreasing the desire to complete the process quickly and, hence, take less premature conclusions. Moreover, firms more familiarized with the business norms are more likely to improve their integration process significantly and, thus, have better performance (Inkpen et al., 2000).

On the other hand, Hayward (2002) complements this idea arguing that experience is a necessary but not sufficient condition for the acquirer's learning as it must also be considered the nature, performance, and timing of experience. Beside all of this, this knowledge must be codified into manuals and systems for future decisions – *materialization* (Zollo & Singh, 2004).

vi) Integration strategies

Different motives, contexts, and players must be grouped in frameworks to distinguish different acquisition types and then choose the integration strategy that suits the transaction. The method provided by the Federal Trade Commission defines 3 types of acquisitions[6]: *Horizontal*, *Vertical*, and *Conglomerate*. Although the effort seeking to frame different integration approaches, the one most prominent and currently used as a reference base, is from Haspeslagh and Jemison (1991)[7] and empirically supported by Angwin & Meadows (2009).

The literature review shows a relationship between cultural differences with the level of integration and M&A performance, but the direction of this relationship is not clear. For example, some findings suggest that the level of integration is positively associated with performance (Weber et al., 2013; Larsson and Finkelstein, 1999; Weber, 1996), others that is negatively (Calori, Lubatkin & Very, 1994) whereas some of the authors did not find significance in domestic (Datta, 1991) and international M&A (Morosini et al., 1998).

Hereby, there is a trade-off between levels of integration, given that high levels of integration can be needed to achieve high levels of synergies. However, they can destroy value to the acquired firm as there is a higher turnover of the acquired top managers (Lubatkin et al., 1999) viewed as a considerable reduction in valuable resources (Hambrick & Cannella 1993; Weber et al., 2013).

[6] *Horizontal*: when the companies are in the same market; *Vertical*: when the companies can have a buy-seller relationship; *Conglomerate*: combines different, seemingly unrelated businesses.

[7] *Absorption:* high interdependence and low organizational autonomy; *Preservation:* low interdependence and a high need for organizational autonomy; *Symbiosis*: high interdependence and high autonomy; *Holding:* low interdependence and low autonomy.

vii) Speed of Implementation

Vester (2002) considers speed as one of the 6 critical success factors in M&A (technology sector) and, indeed, there is an increasing awareness of the benefits from a fast implementation phase - less uncertainty, less distraction, and greater momentum's gains. In fact, according to Light (2001) and Inkpen et al. (2000), it is better and less costly to make a quick decision with some mistakes than one that takes too much time trying to reach perfection, because the latter loses momentum advantages (Mohamed, 2008; Fuhrer, Liem & Zwald, 2017).

Nonetheless, some authors consider speed as a negative factor in the integration process, as a slow integration helps to build a trustworthy relationship among the employees, avoiding conflicts between the parties in the process (Gomes et al., 2013; Ranft & Lord, 2002).

Therefore, these theories lead to questioning the meaning of *quick* and *slow*, and Angwin (2004) states that it is difficult to find a considerable number of studies that investigate the relation between speed and success over time in post-acquisition management. However, Inkpen et al. (2000) suggest a 100-days plan in order to create the change as quickly as possible, converging with a survey developed by PwC (Appendix 5) that reveals the "period between deal announcement and closing, as well as the first 100 days post-close, are critical to realising quick wins and preparing the combined company to maximize value over the long term".

viii) Communication

Misinterpretations due to organizational and cultural differences can result in a lack of communication among the firms and, hence, damage the acquisition process as it reduces the trust and confidence among stakeholders (Gomes et al., 2013; Weber et al., 2013).

Thus, communication is important not only to avoid uncertainty and rumours created in the pre-deal (Bastien, 1987; Weber et al., 2013) but also to transmit the purpose of acquisition and integration process clearly in the post-deal (Weber et al., 2013; Inkpen et al., 2000; Mirvis & Marks, 1992; Schweiger & Denisi, 1991). On the other hand, empirical research shows that the

relationship between communication and M&A success can have different directions since the impact of communication varies from country to country (Weber et al., 2012; Weber et al., 2013). Therefore, despite some divergences on its impact, communication seems to be a crucial factor in M&A success during the pre and post-deal.

2.2.3 Other deal-level factors

After the country and firm factors, it was also essential to examine the deal-level factors - features associated with the deal itself. Thus, M&A literature highlights 5 main indicators.

i) Payment methods

Some authors found differences in M&A performance when acquiring firms use different payment methods to acquire target companies. On the one hand, using stock in friendly deals performs better than paying with cash (Gomes et al., 2013; Howell, 1970; Inkpen et al., 2000). On the other, Tuch & O'Sullivan (2007) argue that in hostile acquisitions, paying with cash outperforms using stock. This study converges with André, Kooli & L'Her (2004) and Moeller et al. (2004), who found that M&A deals financed by stocks will have a weaker performance in the long-run and, whence, successful transactions are more likely to happen when paid by cash. In fact, market reactions are worse when the target is paid by stock rather than cash (Schoop, 2013; Servaes, 1991). Therefore, acquirers should finance with stocks when they are overestimated and with cash when underestimated, showing that there is a possible relation between payment method and target's access to information about stock price (Iankova, 2014; Loughran and Vijh, 1997).

ii) Hostile/Friendly Takeover

Previous researchers discovered that takeover's features are crucial determinants in terms of acquisition gains (Servaes, 1991). Finkelstein and Haleblian (2002) state that in hostile acquisitions, potential targets try to make acquirors less likely to succeed by adopting some methods such as *poison pill* defence or forcing an acquisition by a *white knight* (Mallette &

Fowler, 1992). Indeed, *poison pills* can materially affect the cost of an acquisition, influencing the premiums and acquisition returns (Hayward & Hambrick, 1997). Accordingly, hostile takeovers are associated with the acquirer's performance reduction (around 8%) due to the constraints imposed by the target (Servaes, 1991).

iii) Tender offer

A tender offer is a form of acquisition where the acquirer offers to buy a percentage of the outstanding shares by setting a specific price or a specific date. This is a special situation usually associated with hostile takeovers, because in general, the price is the outcome from negotiations among target and acquirors and not a fixed proposal. Hereby, Fowler & Schmidt (1988) stated 3 main factors that make this action riskier than a normal negotiation: "excessive bid premiums; the potential for a target firm to fight a tender offer; and a frequent rapid exodus of key managers from a target firm". Moreover, their investigation reached to the conclusion that, on average, investor returns significantly decrease (window of 4 years) with a tender offer. However, there are some cases where the returns also increase. As this study only considers manufacturing firms, it is crucial to test the impact of this form of acquisition in a broader range of companies and verify whether it is important to M&A success.

iv) Financial/legal advisors

Ghosh et al. (2019) concluded that "surprisingly, the reputation of bidder advisors does not influence bidder CARs", however, there is a positive correlation among the number of advisors and the acquiror's CAR (Cumulative Abnormal Return). Furthermore, in domestic deals, the presence of advisors increases the bidder's value, but in cross-border deals has no effect.

v) Access to information

Schoop (2013) highlights the importance of previous ownership on the target's equity as it provides better access to its information. Indeed, the pioneer's situation or asymmetric information can have a positive impact on acquirors performance as they can react earlier in decision-making having a better perception of target's value (Carow et al, 2004; Iankova, 2014).

3. Methodology

3.1 Data

The sample englobes all mergers and acquisitions that were announced between 1/1/1998 and 31/12/2013, as reported in SDC, a Thomson Reuters database for M&A. In order to have an accurate analysis, it was necessary to establish some constraints regarding the data gathered.

Regarding the macro-analysis, the first step was obviously to select only European countries[8], as the primary goal of this study is to evaluate the success factors in Europe. Secondly, the forms of transactions were restricted *to full-acquisitions*, *mergers*, and *acquisition of majority interest* as they are the only ones that reflect "changes in control" and "minimize the disclosure bias" of minority stakes in transactions (Alhenawi & Stilwell, 2017; Rossi & Volpin, 2004). Therefore, only 3 criteria were applied to SDC data: time, location, and form of transaction. Moreover, to extract the explanatory variables, 3 main resources were used: World Bank database, Eurostat, and Transparency International.

Besides those 3 criteria, in the micro-analysis were defined 3 more filters. Firstly, and following the literature, I only considered public firms because they are the ones that provide enough data related to stock prices. Then, I excluded regulated utility firms (4900-4999) as they are business models with specific accounting, financial reporting, etc. Lastly, the *deal status* was restricted only to the *completed deals,* because in this analysis the dependent variable is centred on the firm 's performance before and after the deal, so it would only make sense to examine the deals closed[9]. Thus, SDC database was used not only to track the transaction but also to extract the *deal-level* variables. Moreover, market-related (e.g., stock prices) and accounting-related (e.g., financial ratios) data were retrieved from Thomson Reuters and Orbis, respectively.

[8] Select European countries means to consider deals where the firms are 100% European, i.e., both the target company and the acquiror belong to a European country. Due to data constraints, from the 44 European countries, only the following 32 were considered (full list in Appendix 10).

[9] Even though this can suggest a survivorship bias, practically all the investigations like this only consider the completed deals. Thus, if all studies adopt this method, this will be the general situation and, hence, survivorship bias effect will be irrelevant for this purpose.

3.2 Variables[10]

3.2.1 Country-level variables (macro-analysis)

As explained earlier, the macro analysis literature focuses on the number of transactions rather than their quality (i.e., success). Therefore, there is a need for this study and, in turn, the creation of a new dependent variable different from the previous ones (see Appendix 6).

In this way, the dependent variable *successrate* is an adaptation of the variable *volume* used in the study developed by Rossi & Volpin (2004), but from a qualitative perspective. Thus, this ratio reflects the percentage of transactions completed compared to all announced.

On the other hand, the choice of independent variables was based on 2 criteria: i) variables included in previous studies that could "fit" in this topic or; ii) variables not mentioned in the literature, but given their impact on a particular sector was pertinent to test its significance.

Starting with the economic sector, the discovered variables allow us to have a view of 3 subcategories: economic growth, stability, and size/liquidity of financial markets. Regarding economic growth, it was selected the variable *gnipc_growth,* which enables to gauge companies' economic status in a country (expansion or recession). Moreover, the ECB's primary objective of economic stability (inflation below 2%), motivated to choose *inflation* as a stability indicator. Finally, and based on the study by Lenee & Oki (2017), the variables *mkt_pct* and *mkt_cap* reflect the size of financial markets and *stocks_traded* their liquidity.

Turning to the institutional framework that covers legal/fiscal and political factors, the variables were based on the studies by Erel et al. (2011), Ciobanu & Bahna (2015) and Rossi & Volpin (2004) regarding the volume of cross-border deals and, therefore, having relevance to be tested at the success rate level: i) *profit_tax* and *tax_ payments* measure tax incidence; ii) *rule_of_law,*

[10] Based on the bibliography, the variables were divided into 3 categories: *country-level, firm-level,* and *deal-level variables*. As it was expected, the *country-level* variables were used in the macro analysis as they reflect the framework of a country. On the other side, *firm-level* and *deal-level* factors are the explanatory variables in the micro analysis, since they evaluate the firm´s performance and characterize the deal. Again, some of these variables were used in previous researches, however, practically none of them considered Europe as the sample.

*disclosure__index, corruption_contro*l, and *cpi* represent, respectively, law's credibility, investor's protection and the transparency/honesty of the agreements; iii) *political_stability, voice_accountability, gov_effectiveness and regulatory_quality* illustrate the political situation. Finally, social and technological factors are represented by the variables *training_hours* and *rd_expenses*. The first reflects the investment that companies make to develop the skills of their workers, allowing them to perform their tasks more efficiently (increasing the success rate). The second evaluates the technological level at which a country finds itself, since the higher the financial support, the greater the development.

3.2.2 Firm-level and Deal-level variables (micro-analysis)

Based on Meglio & Risberg (2011), Schoenberg (2006), and Bauer & Matzler's (2012) findings, the most common indicators are the market-related and accounting-related. Going further, Schoenberg (2006) highlights the CAR as the key indicator. In addition, after some literature examination, I created a list with the most referenced indicators on empirical research and I got the same conclusion - CAR is the most used among authors (Appendix 7). Thus, considering these previous studies and data available, the selected dependent variables englobed 2 market-related (stock price and CAR) and 3 accounting-related (ROE, ROA, and Sales) factors. The idea was to have a detailed perception of the acquiror's performance before and after the deal, avoiding the mismeasurement errors highlighted by Meglio & Risberg (2011).

Concerning the explanatory variables, there was an attempt to quantify the 8 factors highlighted in the literature in order to test them empirically. However, as represented in Appendix 8, it was only possible to find proxy variables for 7 factors (thus, communication will not be tested). In addition, inspired by Alhenawi & Stillwell (2017), some target financial ratios were included to evaluate the relationship between the target company's financial situation and its possible impact on the deal's success. Lastly, the *deal-level* variables were also considered in order to assess which transaction features are significant for M&A success (see Appendix 8 and 9).

3.3 Macro analysis

3.3.1 Descriptive Statistics

Before looking at descriptive statistics, it is essential to explain one thing. It was selected the cross-sectional data analysis for the macro study since it is the one that provides a better comparison among the countries. Thus, depending on the available data, it was calculated the average between 1998-2013 for each indicator, to get a general idea of each country.

Total announced deals

Although the number of deals does not directly influence this research, it is appropriate to analyse the volume of deals in each country, in order to have a general idea of how the M&A market is distributed in Europe.

Appendix 10 shows all the announced deals between 1998 and 2013 grouped by each targeted country. The first thing that is possible to verify is that the UK (9593) is by far the country with more deals announced, followed by Russia (8144) and Germany (6280). Still, at the top of the table, between 2000 and 4500 deals, appear countries known for their large economic size and high levels of development (e.g. France, Spain, Italy, Sweden, and Norway). On the opposite side, it is interesting to note that the small countries have the minimum transaction values (e.g., Iceland, Luxembourg, Slovakia, and Slovenia).

Moreover, looking to Appendix 11, we can observe a huge gap among the group with higher values (almost 50% of deals are concentrated in 6 countries) and most of the countries (19 countries which range between 100 and 1000 transactions). This substantial distance between extraordinarily high and low values suggests an exaggerated dispersion on deals' volume - which indeed is demonstrated by the high coefficient of variation (around 134%)[11].

Looking at Appendix 12, it is confirmed that most countries have a low volume of deals. However, Appendix 13 shows an average (1794.875) above the median (783) and, hence, a

[11] Reasonable values round 20-30%, so 134% means a huge gap among the countries.

positive skewness (2.02). With this, it can be concluded that, although there is a large concentration of countries with few deals, the amount of the largest countries (especially the UK, Russia and Germany) is so high that it "pulls" the average values to about twice the median.

Success Ratio

After a brief introduction about M&A activity in Europe, it is time to start the statistical description of the model's dependent variable - *successrate*. Looking at Appendix 14, we can see that 84% of the announced deals were completed and only 2% withdrawn – this demonstrates a considerable number of successful transactions. Finished the analysis of success at a global level, it is necessary to investigate its evolution over time (time series) and its distribution in different countries (cross-section).

By this way, Appendix 15 shows that the success rate has been rising and falling over the years, however, always between 80% and 90%. Regarding the declines, there were 3 key moments: i) in 2002, a decrease of around 4pp; ii) in 2005, after reaching the highest success rate of these 15 years, it decreased by around 6pp; iii) since 2009, it has been decreasing, reaching the minimum value of these years. While the 2005 decline seems to stem from a natural adjustment to average values (after reaching the "peak"), the 2002 and 2009 declines may be related to events such as the shift in the exchange rate system and the subprime financial crisis. Furthermore, comparing with the total number of deals evolution, we can see that despite these ups and downs in the success rate, transaction volumes have always continued their upward trend, suggesting that there will not be a direct relationship between both.

Regarding the countries, the average success rate is around 81%, and the standard deviation is 5.34%. Thus, despite the large dispersion in the number of transactions, the same does not happen with the success rate. Quite the contrary, Appendix 16 shows that the success rate has a high concentration between 76% and 87%, being confirmed by the coefficient of variance[12].

[12] The coefficient of variance (see Appendix 17) is very low (around 6%) which explains the high concentration.

To conclude, it is appropriate to present the countries that stand out positively and negatively. Thus, France (89%) followed by Estonia, Finland, and Russia, emerge as the great destinations of successful transactions. On the other hand, Cyprus (68%) seems the least advisable, showing a 21pp gap compared to France.

Explanatory variables

Still looking at Appendix 17 and beginning with the economic aspects, economic growth is around 2% and inflation around 4%. Although the average inflation rate is higher than the value proposed by the ECB (2%), it is important to note that this study includes non-Eurozone countries that do not meet or are guided by this figure. An excellent example of this is Russia, which has high inflation values of around 20% and, consequently, contributes to the increase in the average inflation. On the other hand, it is vital to note that Switzerland has the most controlled inflation figures (0.75%).

Regarding capital markets, Switzerland is once again highlighted as the country with most traded stocks (most liquid) and also has the most substantial impact of the markets on GDP. However, it is the UK that largely leads the volume of the stock market at around 2700B (1000B more than France than the second largest).

At the institutional level, it is clearly visible the disparity between the Nordic countries and the Eastern Europe ones. All positive indicators related to political stability, democracy, and state efficiency are led either by Denmark or Finland or Norway. On the opposite side, all negative indicators are led by Russia and Ukraine (former USSR).

Finally, Germany and Belgium have, respectively, the highest values for investment in technology and vocational training, while Cyprus and Croatia stand out negatively on these points. It is also interesting to conclude that the first two countries have a success rate above average and the last two below. So, this suggests a possible positive relationship between success rate and investment in these areas.

3.3.2 Multicollinearity and Backward Stepwise Regression

After selecting the 17 variables that could have an impact on the success rate, it was adopted a backward stepwise regression[13] to find the ones that really have an impact.

Following the literature on this method, before backward stepwise regression, it is necessary to perform an intermediate step - evaluate multicollinearity. Multicollinearity occurs when there is a correlation among the explanatory variables. This investigation is essential because this problem usually leads to different interpretations and, hence, misleading conclusions. In fact, two main problems can arise: i) the coefficients become very sensitive to changes in the model and ii) decreases the model's statistical power leading to p-values that are not reliable.

The most common method to assess multicollinearity is calculating the Variance Inflation Factor (VIF) and, in general, VIF values above 10 suggest critical levels of multicollinearity. Thus, it was regressed the dependent variable (*successrate*) on the 17 possible factors and obtained Model 1 (see Appendix 18). Although the model has a decent R square (about 0.70), it is necessary to check the VIF, because there is the possibility of correlated variables that are conditioning the p-values and the coefficients (multicollinearity problem).

Appendix 18 shows the existence of highly correlated variables, so it will be necessary to remove them from the model in order to have only those variables that correctly reflect reality. Thus, the variable with higher VIF was removed and then a new model without this variable was regressed. This process was repeated successively, and 5 factors were excluded until reaching the model (Model 2) with only uncorrelated variables, i.e., VIF <10 (Appendix 19).

After reaching Model 2, it was then applied the backward stepwise regression to identify the factors that were significant to the success of a deal. It was established a significance level of

[13] Backward stepwise regression is a regression approach commonly used when there are several variables associated to a model. This approach starts with all the variables that are going to be tested and then each step eliminates progressively the variables which are not significant (their p-value exceeds the significance level). This process stops when the model only considers variables whose p-value is below the significance level.

0.2[14] , so, in each step, the variable with the highest p-value that exceeded 0.2 was removed from the model. Thereby, this procedure was repeated 7 times to reach the final model (Model 3) with 5 success factors: *gnipc_growth, stocks_traded, profit_tax*[15]*, rd_expenses* and *training_hours* (see Appendix 20). The model has 32 observations, F-stat of 5.28 (with significance level rounding 0.000), and R-squared of 0.5039. Therefore, it is possible to observe that the model is reliable: i) the number of observations is enough (above 30 observations); ii) in F-test, the null hypothesis is rejected for a significance level of 0.01 (0.0018<0.01) which demonstrates that the explanatory variables are related to the dependent variable; iii) the R-squared of 0.5039 means that around 50% of the success rate variance is predictable by these 5 factors - this is a good indicator as it is near the minimum acceptable value (0.6).

At first glance, it is possible to make two main commentaries about the relation between this model and the literature. First, it is verified that for each country's dimension (economic, political, legal/fiscal, social, and technological) there is at least one significant variable explaining the success of a transaction. This consolidates the idea that achieving success requires broad analysis of country conditions (macro-analysis). The second conclusion is drawn by analysing the independent variables' coefficient. On the one hand, the positive coefficient for *gnipc_growth, stocks_traded, rd_expenses and training_hours*, suggest that indicators of economic growth, high human capital standards, and technological development positively contribute to the success rate of a transaction. On the other hand, the tax burden strengthening can be an issue. This outcome converges with the M&A literature given that the previous studies also defend that better country's conditions affect the M&A industry positively.

[14] As the sample is small, p-values will tend to be larger. Since the purpose of this research is to uncover possible success factors rather than a rigorous analysis of their predictability, it makes sense to increase the significance level to consider factors that, although not significant to rigorous significance levels (0.01 and 0.05) are close to them and could even be significant if the sample was larger.

[15] This variable was considered in the model because, although p-value is 0.208, the difference to 0.2 is very small. Furthermore, this model does not seek a strict measure of significance but a guideline of possible success factors, so that is why *profit_tax* was also included.

3.3.3 Estimators Validation

After obtaining the 5 variables in Model 3, it is crucial to investigate the reliability of these estimators in order to check if the model is well constructed and perform accurate conclusions. Hereby, Collinearity and Heteroskedasticity tests were run to check the estimators' efficiency[16].

Multicollinearity

Regarding multicollinearity, there is not much to add about the previous sub-section, since before running the stepwise regression, all the variables subject to this problem were removed. Therefore, it was only necessary to determine the VIF for the final model (Model 3), and the result was as expected - minimal VIF values around 1.44.

Heteroskedasticity

It was essential to assess if there were signs of heteroskedasticity in order to achieve efficient estimators since this statistical phenomenon leads to 2 major problems: i) p-values smaller than they should be and, hence, to the inclusion of non-significant variables in the model; ii) it makes the coefficient estimates less precise taking to misleading conclusions.

In this way, 3 different methods were used: White's test, Breusch-Pagan test, and a scatter plot analysis between the residuals and fitted values. Given that in the first 2 tests, the p-value is higher than the significance level (0.05), we are not able to reject the null (H0: homoskedasticity), so there is no evidence of heteroskedasticity (see Appendix 21). Moreover, the scatter plot does not show any change of the residuals when the fitted values change. In fact, the values remain close to the constant horizontal line converging with the previous test's findings. Therefore, we can conclude that these are efficient estimators and, thus, are capable of reflecting the success rate of a transaction.

[16] Autocorrelation was not tested as it is usually associated with time-series data and typically is not present in cross-section data. Moreover, endogeneity tests are not performed in the literature. Therefore, only Collinearity and Heteroskedasticity tests were considered pertinent in this specific analysis that uses cross-sectional data.

3.4 Micro analysis

3.4.1 Descriptive Statistics

Performance Indicators[17]

Starting with the short-term indicators, it was calculated the CAR for 3 windows: 5, 7, and 10 days around the deal announcement date. Appendix 22 shows that, in general, these 3 indicators vary very similarly to each other with unremarkable differences. In addition, the values do not deviate much from -3% and 6% (except the general decline between 2001 and 2002 to -10%). On the other hand, the same is not verified in long-term indicators. Firstly, they vary between much higher percentages than short-term ones (between -60% and 100%[18]), and secondly, they vary out of phase: i) the average CAR of the 3 years following the acquisition always has the highest numbers; ii) regarding ROE, its variation is practically null around 0% values (except for the fall to -50% in 2002); iii) ROA shows the most negative peaks (in 2002, 2004, 2007 and 2012). From these two graphs, I concluded that, in the long-term, the variations are greater due to the high probability of capturing other factors than those strictly related to the transaction.

Looking at Appendix 23, there is a gap between the average values of the short-term and long-term indicators (as observed in the time-series graphs). This is proven when investigating the size of the maximum and minimum values for the CAR's average in the next 3 years (around 600% and -200% respectively) and, for example, *CAR5days* (between about -40% and 40%). Since the delta stock price and sales growth were not exanimated graphically, they will be more emphasised on the descriptive statistics analysis. Thus, it is important to note that the change in stocks on average is positive, meaning that the 7 days after the announcement are reacted positively by the market. Moreover, sales grew by an average of $ 956 million, showing the transaction's impact on this indicator (especially in the case of M&A, as they are aggregated).

[17] Given the comparative mismatch of *deltasalest1* and *Deltastockprice*, and also to avoid an analysis too extensive, only the indicators measured in relative terms (%) were analysed and compared graphically.
[18] Excluding the negative peak of 200% in 2002.

Explanatory variables

Still about Appendix 23, the premium paid is, on average, $27 and reasonably dispersed. Furthermore, average buyers are 61% higher than targets, the average transaction completion time is 101 days, and consultant advisors involved (both legal and tax) are around 2.

Observing Appendix 24, the industries with the most activity are *high technology* and *industrials* - the first referring to target companies and the second to acquirers. This fact is not new considering the growing importance of technology and, consequently, the investment in companies in this area aiming to innovate the production processes. On the other hand, *Real Estate* emerges as the area with the least demand for acquisitions, which makes sense since this study considers part of the 2008 crisis period (which affected negatively the real estate market). In addition, most deals were between companies in the same country (74%), were hostile (64%), and mostly paid with either full-cash (41%) or full-stock (45%). Lastly, 40% of the acquiring companies are experienced, and only 20% had access to information (stakes) in the target firm.

3.4.2 Backward Stepwise Regression

After selecting the 19 independent variables, the process was performed in the same way as in the micro-analysis, i.e., first, multicollinearity was evaluated (through the VIF)[19] and then applied the backward stepwise regression. While macro-analysis only considered *successrate* reaching only 1 model, the micro-analysis tested the factors' impact on 8 performance indicators and, hence, obtained 8 final models (see Appendix 26).

The models' observations vary between 122 and 347, depending on the available data. For almost all the 8 models, in F-test, the null hypothesis is rejected for a significance level of 0.01[20] which demonstrates that the explanatory variables are related to the dependent variable. On the other hand, the R-squared varies from 1.6% to around 32%, meaning that only a small

[19] As it can be observed in Appendix 25, in every model, the VIF for each of the 19 initial variables was less than 10 and therefore no adjustments to multicollinearity were required.
[20] Except for *Deltastockprice* which is significant only for 0.1.

percentage of the performance indicators' variance is predictable by the significant factors. This result was expected because this model only considers significant factors for M&A success, however, beside the success factors, the performance indicators are explained by other factors that are not directly related to a transaction (so if other factors were added to the models, the R squared would rise). Since the purpose of this project is to identify the significant success factors for M&A success and not to find the ideal set of predictive variables for the performance indicators (whether related to M&A or not), the R squared, in this case, is not too relevant. In contrast, F-stat and p-value are the crucial statistics for this analysis.

In a first analysis, it is possible to notice that only *size_pct*, *tgt_assetturnover*, *tgt_eps* are not significant for any of the performance indicators and, for this reason, were excluded from the success factors analysis. On the performance side, *CAR7days* stands out as the short-term indicator with the most significant factors and, in the long-term, emerges *deltasalest1* and *deltaroe1*, followed by *Average3years*. At the factor level, those that appear most often in the models (4 times) are *tgt_opmargin*, *tgt_roe*, and *access_info*. On the other hand, *totfinadv*, *acum_expdummy, tgt_debtratio, strategic_fit, and horizontal* only appear once.

In a second analysis, it is also important to highlight the main coefficients in order to assess if the factors have a positive or negative impact on the performance indicators. Thus, 3 groups can be created with respect to the factor's coefficient regarding each performance indicator: *all positive*, *all negative*, and *mix*. The first occurs when the factors have a positive coefficient in all models that are included, the second when is negative and *mix* means both (in some models is positive and in others is negative). The variables *tgt_peps*, *tgt_roa*, *tender_offer*, *horizontal*, *culture*, *totlegadv*, and *acum_expdummy* have positive coefficients in all models that appear, meaning that regardless of the performance indicator, these factors contribute positively to success. On the opposite side, *premium_1d*, *tgt_debtratio*, *strategic_fit*, *speed*, *totfinadv*

contribute negatively to all models. Lastly, *tgt_opmargin*, *tgt_roe*, *access_info* and *cash_dummy* reflect *mixed* interpretations depending on the performance indicator.

In the next section, these factors will be further investigated, examined on a case-by-case basis, and compared with the findings found in the literature.

3.4.3 Estimators Validation

As explained above, regarding multicollinearity, no adjustments were required and, therefore, the only tests performed were related to heteroskedasticity. As exposed in Appendix 27, the White Test was individually performed on the 8 final models. Since in each of them, the statistics *Prob> F* is higher than the considered significance level (1%), the null hypothesis (H0: Homoskedasticity) cannot be rejected.

4. Results and Discussion

Macro analysis

Starting with economic indicators, both GNI growth and stocks traded are significant to a level of 1% having a positive impact on the deal's success. With this, these results converge with several studies that indicate a relationship between the economic environment and decision making (Ciobanu & Bahna, 2015; Nofsinger, 2005; Oprea & Brad, 2014). Through the variable *gnipc_growth,* it is possible to complement Dang's (2016) theory, where he argues that economic growth increases the volume of M&A. Thus, this study adds that the economic health of a country contributes not only to the volume of deals but also to its success rates (1% increase in GNI growth rates leads to a 2% increase in success rates). Furthermore, *stocks_traded* partially highlights the study by Chouse et al. (2008), as greater liquidity of capital markets influences the success of a transaction. However, it was not possible to verify a significant impact from the stock market size – represented by *mkt_pct* and *mkt_cap*.

From the fiscal perspective, although *profit_tax* is the least significant variable, the p-value is quite close to 0.2, suggesting that tax incidence could harm the success rate. This small

significance and impact on the success rate happen, probably, because most transactions observed in this sample are among companies in the same country. And, according to Erel et al. (2011) and Herger et al. (2013), taxes are expected to affect M&A success especially in international transactions. This reasoning makes sense because companies in the same country, by the date of the announced deal, will already be aware and more informed of their own tax regime being less likely to cancel the deal. On the other hand, if cross-border deals mainly composed this sample, acquirers would be more likely to announce the deal and later cancel, given the lower perception of the foreign country's regime.

The number of hours of training, not only reflects the level of job training but also contributes to the development of *soft* (e.g., leadership, communication) and *hard* skills (e.g. data and financial analysis). Hence, it is a variable that reflects the importance of HR advocated by Mirvis & Marks (1992), managers' talent (Boland, 1970) and leadership ability (Kitching, 1967; Hyde & Paterson, 2001; Weber et al., 2013; Inkpen et al., 2000; etc.). Thereby, through this study, it is possible to verify this impact of education/training on the deal's success – where 1h increase in training leads to improvements in success rate around 0.6%. Therefore, an intensive focus on employee training will have massive beneficial effects on a deal - for example, weekly courses between 10 and 15 hours will lead to an increase in the success rate by 6-10%.

Lastly, this macro-analysis also gives quantitative and empirical support to Gala's (2016) statement in Deloitte's report – "technology has been integral to M&A success." Moreover, it complements Ciobanu & Bahna's (2015) findings in two ways: discoveries significance for another technological variable beyond the number of patents and finds evidence for success rate (besides volume). Thus, although the significance is not yet very high, it is advisable to consider the technological dimension of a country during the acquisition's decision-making process.

Micro analysis

Firstly, the success factors vary depending on the performance indicator used in the success measurement. Thus, it is possible to reach the same conclusion as Meglio and Risberg (2011): authors come to different conclusions about success factors, as they usually only use one measurement variable and not a set of them. Thereby, and returning to the initial idea of success, it is necessary to understand what the author wants to measure, being aware that restricting only to one measuring instrument, the results can be conditioned only to this variable. Therefore, before attempting any test, it is necessary to define well what is going to be analysed: "generalized study or focus on a specific indicator", "long term or short term?", "Market or accounting indicators?", "Focus acquiror, target or both? ", etc.

Still regarding the dependent variables, as identified in the previous sub-section, the performance indicators' order by most success factors identified, takes the following form*: deltasalest1 (6); deltaroe1 (6); CAR7days (5); Average3years (5); deltaroa1 (4); CAR5days (3); CAR10days (3); Deltastockprice (2)*.

About the success factors, from the 19 tested, only 3 were not significant in any of the 8 models - *size_pct, tgt_assetturnover, tgt_eps*. Of these variables, the most unexpected exclusion is *size_pct*, since the others never had empirical support (were only a hypothesis inspired by another study). Thereby, focusing on *size_pct*, this result not only converges with Finkelstein & Haleblian (2002) investigation where they cannot find significance but also strengthens the theories of Bruton et al. (1994) that relative size is not preponderant in the success of a deal.

Focusing on the significant factors, Appendix 28 outlines them according to two rankings: *significance level (lowest p-value)* and *the number of models in which it appears as significant*. Thus, *access_info* and *tgt_opmargin* stand out as the factors that best match the number of models inserted and the p-value presented. On the opposite side, *strategic_fit* has the worst ratio followed by *tender_offer* and *cash_dummy*, which, although appearing in 2 models, have less

significance than *horizontal*, *acum_expdummy*, *tgt_debtratio* and *totfinadv*. In the middle[21], the following factors arise - *culture, speed, tgt_roa, totlegadv, tgt_peps, premium1d*. Finally, it is important to state that, although *tgt_roe* appears in 4 models, its significance is not that high.

After this general systematization, it is convenient to make an individual analysis of certain factors. Hereby, I made the analysis based on 2 main statistics: *p-value* to assess the impact's intensity on success and the *coefficients* to understand if the impact is negative or positive:

Access_info: Despite not being one of the most evidenced factors in the bibliography, the access to the target company's information emerges in this study with high relevance. Contrary to Schoop's (2013) results, it was possible to verify significance and a positive impact on *CAR7days* and sales variation. However, the effect on ROE and ROA ratios is negative, not allowing a uniform conclusion regarding their qualitative impact on the acquirer's performance. Thus, it can only be stated that asymmetric information can have a positive effect on short-term success, since "they can react earlier in decision-making and have a better perception on target's value" (Carow, Heron, and Saxton, 2004; Iankova, 2014).

Strategic_fit and *horizontal*: they only have significance in sales variation, with strategic fit having a negative effect and horizontal integration a positive one. Although the results seem contradictory and the significance of *strategic_fit* falls short of what is theoretically mentioned in the bibliography, the p-value of horizontal integration is nonetheless an interesting statistic for future analysis and does not rule out the possibility of empirically verifying its effect.

Tender_offer: This is a success factor for both the medium (impact on delta ROA for 1-year window) and the short term (impact on 7-day delta stock price) – contributing positively to the deal's success. Thus, this result contradicts the studies by Servaes (1991) that hostile takeovers reduce the acquirer's performance. Moreover, it gives strength to the exceptional cases referred by Fowler & Schmidt (1988) that a tender offer may result in a positive performance.

[21] i.e, variables that have reasonable levels of significance (below 10%) and that arise between 2 and 3 models.

Premium: On the other hand, premium analysis helps to realize that this behaviour is not all that linear as it is negatively associated with performance. So, the question is: "How are premiums associated with tender offers, but the latter contribute positively to performance and premiums negatively?". Once again, it is important to clarify which dependent variables are being considered. While a tender offer positively influences stock price and ROA, premium only affects CAR. Thus, one possible explanation is that the negative effects of an overpayment of the premium are outweighed by the beneficial effects of the tender offer.

Speed: Looking at the coefficients, their impact on success seems opposite to what the majority of bibliography says. However, considering the average (about 100 days) and the median (75 days) of the speed in this sample, the interpretation varies. If the sample is within the recommended times, an increase that exceeds the reasonable speed may lead to a hasty integration, jeopardizing the transaction's success (hence the negative coefficient).

Acum_expdummy: Although it is only significant in one of the models, the significance level is quite high (significant for a level of 1%). Moreover, the coefficient converges with Jemison & Stinken's (1986) findings and the idea of Inkpen et al. (2000) that more experienced firms are more likely to improve their integration process and, thus, have a better performance.

Advisors: Both legal and financial, have significance to success. However, the results of the legal are more reliable. In fact, although both have similar p-values, legal advisors appear significant in one more model, and their coefficients are more aligned with the literature (as more legal advisors contribute to deal success - positive relationship).

Culture: From the positive coefficients, it can be concluded that the findings converge with the general literature. Thus, closer proximity in culture between companies contributes to the deal's success at the sales level (possibly through the ease of business integration) as well as ROA.

Cash: it is not possible to draw linear conclusions about the impact of the payment method. If the performance measure is sales, paying with cash contributes positively to success; however,

if it is the 3-years average CAR, the relation is negative. Thus, this variable only strengthens Meglio & Risberg's (2011) thesis that different indicators lead to divergent conclusions.

Target financial indicators: As previously evidenced, the operating margin is the most relevant success factor to analyse (best ratio *number of models/significance*). The ROE and P/E are two other ratios that will be interesting to consider in the target's financials before acquiring it. On the other hand, ROA and debt ratio, despite their great significance, their analysis will only make sense in specific cases: the first with short term CAR and the second with long term CAR.

5. Conclusion and Limitations

Conclusion

With this research, were then empirically tested the success factors evidenced in the literature review. Thus, not only previously tested variables were studied, but others were created. Thereby, 2 analyses were performed, allowing to have a general notion on the deal's conditions. Regarding the constraints of a country, even before assessing the target company, it is essential to have an overview of the country in which it fits (especially in cross-border deals). Thus, through this study, it was possible to empirically verify that economic growth, capital markets liquidity, tax incidence, vocational training, and technological investment are significant for the deal's success and, consequently, will have to be scrutinized at the time of decision making.

After examining the conjecture of the country to invest, it is necessary to assess the deal's features and the target's situation – it begins the micro-analysis. While in macro-analysis, the conclusions seemed to be linear, the same cannot be said for micro-analysis. In fact, the main conclusion drawn from this analysis was that there are not fixed "success factors". Instead of that, exists a dynamic set to be considered that varies according to the primary purpose of the deal (in this case associated with the different performance indicators). Therefore, before examining the target company, the acquiror should be aware of the deal's goals and define well what performance indicator best represents it. Later, I recommend to pay attention to the

significant factors found in the micro-analysis, in particular, to the ones highlighted in the last section[22]: access to target's information, premium paid, culture, speed, legal advisors and 3 target's financial ratios (ROA, operating margin and P/E ratio).

Limitations

On the other hand, as this research belongs to a very restricted set of investigations on M&A success in Europe, it is crucial to continue studies in the field of M&A using Europe as a sample. Thereby, this work serves as a motto for other researchers to discuss these conclusions since they are the result of a specific sample, time-horizon, and methodology.

By this way, the first suggestion for future studies will be to test these same variables using another time-horizon or methodology. There is the possibility of reaching a different conclusion, especially if the method is not empirical but based on surveys. However, the most important here is to increase the number of perspectives and analyses on this subject in Europe.

The second suggestion is to discover and test new variables that may have been neglected in this study, which, due to the small amount of data, it became difficult to find a good quantitative proxy that represented the complexity of the factors mentioned qualitatively in the literature.

The third limitation is related to econometric tests. To not overextend this research, it was not developed endogeneity tests, so I recommend future researches to scrutinize this topic in both analysis (macro and micro).

Finally, the last suggestion is also more directed to the micro-level. Discovered these success factors, it is pertinent to develop a predictive model of the probability of the transaction's success, as this research merely identifies significant success factors. Thus, it would be interesting to find out how different combinations of these factors will likely affect the success of a deal. Therefore, this research encourages other work not only in economics and finance but also opens the door to new statistical models.

[22] The factors highlighted correspond to all factors from the fourth quadrant (*access_info, tgt_opmargin, tgt_peps*) and some from the third quadrant *(culture, premium1d, speed, tgt_roa, totlegadv)* in Appendix 28.

References

Alhenawi, Y., & Stilwell, M. (2017). Value creation and the probability of success in merger and acquisition transactions. *Review of Quantitative Finance and Accounting*, *49*(4), 1041-1085.

André, P., M. Kooli & J. L'Her (2004). 'The long-run performance of mergers and acquisitions: evidence from the Canadian stock market'. – *Financial Management*, Winter 2004, 27–43.

Andries, A. M. (2009) The Importance of Capital Market in Economy. *CES Working Papers* [online] 2009, Vol.1 (2), pp. 69-75. Available from http://econpapers.repec.org/article/jeswpaper/y_3a2009_3av_3a1_3ap_3a69-75.htm

Andriuskevicius, K. (2017). M&A Performance and Economic Impact: Integration and Critical Assessment of Methodological Approach. *Trends Economics and Management*, *11*(29), 9-20.

Angwin, D. (2004). Speed in M&A Integration: The First 100 Days. *European management journal*, *22*(4), 418-430.

Angwin, D. N., & Meadows, M. (2009). The choice of insider or outsider top executives in acquired companies. Long Range Planning, 42, 359–389.

Angwin, D. (2001). Mergers and acquisitions across European borders: national perspectives on pre-acquisition due diligence and the use of professional advisers. *Journal of World Business*, *36*(1), 32-57. https://doi.org/10.1016/S1090-9516(00)00053-5

Bastien, D. T. (1987). Common patterns of behavior and communication in corporate mergers and acquisitions. Human Resource Management, 26, 17–34.

Bauer, F., & Matzler, K. (2012). Antecedents of M&A success: The role of strategic complementarity, cultural fit, and degree and speed of integration. *Strategic management journal*, *35*(2), 269-291.

Berger, P. G., & Ofek, E. (1995). Diversification's effect on firm value. *Journal of financial economics*, *37*(1), 39-65.

Bertoncelj, A., & Kovač, D. (2007). An integrated approach for a higher success rate in mergers and acquisitions. *Zbornik radova Ekonomskog fakulteta u Rijeci: časopis za ekonomsku teoriju i praksu*, *25*(1), 167-188.

Birkinshaw, J., Bresman, H., & Hakanson, L. (2000). Managing the post-acquisition process: How the human integration and task integration processes interact to foster value creation. Journal of Management Studies, 37, 395–425.

Björkman, I., Stahl, G.K., & Vaara, E. (2007). Cultural differences and capability transfer in cross-border acquisitions: the mediating roles of capability complementarity, absorptive capacity, and social integration. *Journal of International Business Studies*, *38*, 658-672.

Boland, R. J. (1970). Merger planning: How much weight do personnel factors carry? Personnel, 47, 8–13.

Brockhaus, W. L. (1975). Model for success in mergers and acquisitions. *SAM AdvancedManagement Journal,40, 40–49.*

Bruton, G. D., Oviatt, B. M., & White, M. A. (1994). Performance of acquisitions of distressed firms. Academy of Management Journal, 37, 972–990.

Calipha, Rachel & Tarba, Shlomo & Brock, David. (2010). Mergers and acquisitions: A review of phases, motives, and success factors. Advances in Mergers & Acquisitions. 9. 1-24.

Calori, R., Lubatkin, M., & Very, P. (1994). Control mechanisms in cross-border acquisitions: An international comparison. Organization

Carow K., Heron R. & Saxton T. (2004). 'Do early birds get the returns? An empirical investigation of early-mover advantages in acquisitions', *Strategic Management Journal*, 25, 563–585.

Cartwright S. (2006). Mergers and acquisitions: an update and appraisal. In *International Review of Industrial and Organizational Psychology 2005* **20**: 1–38.

Chatterjee, S., Lubatkin, M. H., Schweiger, D. M., & Weber, Y. (1992). Cultural differences and shareholder value in related mergers: Linking equity and human capital. *Strategic management journal*, *13*(5), 319-334.

Chousa, J. P., Chaitanya, K. & Tamazian, A. (2008). Does Growth & Quality of Capital Markets drive Foreign Capital? The case of Cross-border Mergers & Acquisitions from leading Emerging Economies. *William Davidson Institute Working Paper Number 911*.

Ciobanu, R. (2014b). Analysis of the Industries Usually Found in Takeover Bids in Romania, Romanian Competition Journal: 39.

Ciobanu, Radu & Bahna, Mircea. (2015). The Social, Cultural and Political Factors that Influence the Level of Mergers and Acquisitions. *International Journal of Academic Research in Accounting, Finance and Management Sciences, 5, 33-41.* 10.6007/IJARAFMS/v5-i3/1738.

Dang, Q. (2016). The Impact of Economic Conditions on Mergers & Acquisitions Activity in International Markets.

Datta, D. (1991). Organizational fit and acquisition performance: Effects of post-acquisition integration. Strategic Management Journal, 12, 281–297.

Datta, D. K., & Puia, G. (1995). Cross-border acquisitions: An examination of the influence of relatedness and cultural fit on shareholder value creation in U.S. acquiring firms. Management International Review, 35, 337–359.

Deloitte M&A IT – a mix of reports (2016). #Tech @the heart of M&A; Retrieved from: https://www2.deloitte.com/content/dam/Deloitte/us/Documents/process-and-operations/us-operations-mergers-and-acquisitions-compendium-tech-at-the-heart.pdf

DeLong, G., & DeYoung, R. (2007). Learning by observing: Information spillovers in the execution and valuation of commercial bank M&As. *The journal of Finance*, *62*(1), 181-216.

Dinc, I.S., and Gupta, N. (2011). The decision to privatize: Finance and politics. The Journal of Finance 66.1 241-269

Drucker, P. F. (1981). The fives rules of successful acquisition.Wall Street Journal, 28(October).

Erel, Isil and Liao, Rose C. and Weisbach, Michael S. (2011). Determinants of Cross-Border Mergers and Acquisitions. *Journal of Finance*, Forthcoming; Charles A. Dice Center Working Paper No. 2009-03-011; Fisher College of Business Working Paper No. 2009-03-11. Available at SSRN: https://ssrn.com/abstract=1427408

Filipovic, D., Sapunar, I., & Sapunar, G. (2011). Overview of crucial variables for M&A success. *Annals of DAAAM & Proceedings*, 807-809.

Finkelstein, S. & Haleblian, J. (1999). The influence of organizational acquisition experience on acquisition performance: A behavioral learning perspective. *Administrative Science Quarterly*, *44*(1), 29-56.

Finkelstein, S., & Haleblian, J. (2002). Understanding acquisition performance: The role of transfer effects. *Organization Science*, *13*(1), 36-47.

Fowler, K. L., & Schmidt, D. R. (1988). Tender offers, acquisitions, and subsequent performance in manufacturing firms. *Academy of Management Journal*, *31*(4), 962-974.

Fu, F., Lin, L., & Officer, M. S. (2013). Acquisitions driven by stock overvaluation: are they good deals?. *Journal of Financial Economics*, *109*(1), 24-39.

Fuhrer C., Liem R. & D. Zwald. (2017). Success factors in post-merger integration, PwC's M&A Integration Survey Report

Garita, G., & Marrewijk, C. V. (2007). Macroeconomic determinants of cross border mergers and acquisitions. *Tinbergen Institute and Erasmus University Rotterdam*.

Ghosh, C., & Petrova, M. (2019) The Effect of the Financial Advisor's Reputation in M&A Deals by European Firms.

Gomes, E., Angwin, D. N., Weber, Y., & Yedidia Tarba, S. (2013). Critical success factors through the mergers and acquisitions process: revealing pre-and post-M&A connections for improved performance. *Thunderbird international business review*, *55*(1), 13-35.

Gomes, E., Angwin, D., Peter, E., & Mellahi, K. (2012). HR issues and outcomes in domestic mergers and acquisitions: A study of the Nigerian banking sector. Special Issues: New Directions in the Management of Human Resources in Africa, International Journal of Human Resource Management, 23(14), 2874–2900.

Hambrick, D. & A. Cannella (1993). 'Relative standing: A framework for understanding departures of acquired executives'. – *Academy of Management Journal*, 36(4), 733–762.

Haspeslagh, P. C., & Jemison, D. B. (1991). Managing acquisitions: Creating value through corporate renewal. New York, NY: Free Press.

Hassan, I., Ghauri, P. N., & Mayrhofer, U. (2018). Merger and acquisition motives and outcome assessment. *Thunderbird International Business Review*, *60*(4), 709-718.

Hayward, M. L. (2002). When do firms learn from their acquisition experience? Evidence from 1990 to 1995. *Strategic management journal*, *23*(1), 21-39.

Hayward, M. L., & Hambrick, D. C. (1997). Explaining the premiums paid for large acquisitions: Evidence of CEO hubris. *Administrative science quarterly*, 103-127.

Herger, N., Kotsogiannis, C., & McCorriston, S. (2013). Multiple Taxes and Alternative Forms of FDI: Evidence from Cross-Border Acquisitions. *University of Oxford, Said Business School WP 14/01*.

Hitt, M., Harrison, J., Ireland, R. D., & Best, A. (1998). Attributes of successful and unsuccessful acquisitions of US firms. *British Journal of Management*, *9*(2), 91-114.

Hofstede, H. (1980). 'Culture's consequences: International differences in work-related values'. Sage, London.

Howell, R. (1970). Plan to integrate your acquisitions. Harvard Business Review, 48, 66–77.

Hyde, A., & Paterson, J. (2001). Leadership development as a vehicle for change during merger. *Journal of Change Management*, *2*(3), 266-271.

Iankova, Stefka, (2014), Main Factors of Success in Mergers and Acquisitions' Performance, *Yearbook of St Kliment Ohridski University of Sofia, Faculty of Economics and Business Administration*, 12, issue 1, p. 373-389,

Inkpen, A. C., Sundaram, A. K., & Rockwood, K. (2000). Cross-border acquisitions of US technology assets. *California Management Review*, *42*(3), 50-71.

Jemison, D. B., & Sitkin, S. B. (1986). Corporate acquisitions: A process perspective. *Academy of management review*, *11*(1), 145-163.

Kitching, J. (1967). Why do mergers miscarry. *Harvard Business Review*, *45*(6), 84-101.

Kroll, M., Wright, P., Toombs, L., & Leavell, H. (1997). Form of control: A critical determinant of acquisition performance and CEO rewards. *Strategic Management Journal*, *18*(2), 85-96.

Kusewitt, J. B. (1985). An exploratory study of strategic acquisition factors relating to performance. Strategic Management Journal, 6, 151–169.

Larsson, R., & Finkelstein, S. (1999). Integrating strategic, organizational, and human resource perspectives on mergers and acquisitions: A case survey of synergy realization. Organization Science, 10, 1–26.

Lenee, T. L., & Oki, J. (2017). Capital Market Development and Economic Growth: Evidence from the Mint Countries. *Journal of Economics and Sustainable Development, Vol.8, No.2*

Levine, R. and Zervos, S. (1998) Stock Markets, Banks and Economic Growth. *American Economic Review* [online] June 1998. Available from http://www.worldbank.org/html/prddr/prdhome/pdffiles/wp1690.pdf

Light, D. A. (2001). Who goes, who stays?. *Harvard Business Review*, *79*(1), 35-41.

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

Lubatkin, M., Schweiger, D., & Weber, Y. (1999). Top management turnover in related M&A's: An additional test of the theory of relative standing. *Journal of Management*, *25*(1), 55-73.

Mallette, P., K. L. Fowler. 1992. Effects of board composition and stock ownership on the adoption of poison pills. *Acad. Management J. 35* 1010-1035.

Meglio, O., & Risberg, A. (2011). The (mis) measurement of M&A performance—A systematic narrative literature review. *Scandinavian journal of management*, *27*(4), 418-433.

Mendenhall, M. E. (2005). Mergers and acquisitions: Managing culture and human resources. *Stanford University Press.*

Mirvis, Philip H., and Mitchell Lee Marks. (1992). *The Human Side of Merger Planning: Assessing and Analyzing 'Fit. Human Resource Planning 15 (3)*: 69–92.

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

Mohamed (2008). Key success factors in mergers and acquisitions; Retrieved from: http://www.azmilaw.com/archives/Article_7_Key_Success_Factors_in_MA_00078783_.pdf

Morck, R., A. Shleifer, and R. W. Vishny, 1988, Characteristics of targets of hostile and friendly takeovers, in A. J. Auerbach, ed.: Corporate Takeovers: Causes and Consequences (Univer-sity of Chicago Press, Chicago, IL).

Morosini, P., Shane, S., & Singh, H. (1998). National cultural distance and cross-border acquisition performance. *Journal of international business studies*, *29*(1), 137-158.

Nahavandi, A., & Malekzadeh, A. R. (1988). Acculturation in mergers and acquisitions. Academy of Management Review, 13, 79–91.

Nguyen, H. T., Yung, K., & Sun, Q. (2012). Motives for mergers and acquisitions: Ex-post market evidence from the US. *Journal of Business Finance & Accounting*, *39*(9-10), 1357-1375.

Nofsinger, J.R. (2005). Social mood and financial economics. The Journal of Behavioral Finance 6.3 144-160.

Oprea, D.S., Brad, L. (2014). Investor sentiment and stock returns: evidence from Romania. International Journal of Academic Research in Accounting, Finance and Management Sciences, 4(2), 23-29.

Petsa-Papanicolaou, Lena. (2007) Success factors in mergers and acquisitions : complexity theory and content analysis perspectives. *Doctoral Dissertations*. 176.

Pritchett, P., Robinson, D., & Clarkson, R. (1997). After the acquisition: The authoritative guide for integration success. London, England: McGraw Hill.

Ranft, A. L., & Lord, M. D. (2002). Acquiring new technologies and capabilities: A grounded model of acquisition implementation. Organization Science, 13, 420–441.

Rappaport, A. (1979). Strategic analysis for more profitable acquisitions. Harvard Business Review, 57, 99–110.

Rossi, S. & Volpin, P. F.(2004). Cross-country determinants of mergers and acquisitions. *Journal of Financial Economics*, *74*(2), 277-304.

Schoenberg, R. (2006). Measuring the performance of corporate acquisitions: An empirical comparison of alternative metrics. *British Journal of Management*, *17*(4), 361-370.

Schoop, M. L. (2013). Performance of mergers & acquisition.

Schweiger, D. M., & Denisi, A. S. (1991). Communication with employees following a merger: A longitudinal field experiment. *Academy of management journal*, *34*(1), 110-135.

Schweiger, D. M., Csiszar, E. N., & Napier, N. K. (1993). Implementing international mergers and acquisitions. *People and Strategy*, *16*(1), 53.

Servaes, H. (1991). Tobin's Q and the Gains from Takeovers. *The Journal of Finance*, *46*(1), 409-419.

Seth, A. (1990). Value creation in acquisitions: A re-examination of performance issues. *Strategic management journal*, *11*(2), 99-115.

Seth, A., Song, K., & Pettit, R. (2000). Synergy, managerialism or hubris? An empirical examination of motives for foreign acquisition of U.S. firms. Journal of International Business Studies, 31(3), 387–486.

Severson, M. A. (1989). The merger and acquisition game into the 1990s. Financial Managers Statement, 11(5), 6–10.

Smith, K. W. (1997). Mercer on management: Post-deal management is vital to M&A success. *Management Review*, *86*(5), S4.

Stahl, G. & A. Voigt (2004). 'Meta-analyses of the performance implications of cultural differences in mergers and acquisitions'. – *Academy of Management Best Conference Paper 2004* IM:I1.Studies, 15, 361–379.

Terry, R. (1982). Ten suggestions for acquisitions success. Managerial Planning, 31, 13–16.

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

Vermeulen, F., & Barkema, H. (2001). Learning through acquisitions. *Academy of Management journal*, *44*(3), 457-476.

Very, P., Lubatkin, M., Calori, R., & Veiga, J. (1997). Relative standing and the performance of recently acquired European firms. Strategic Management Journal, 18, 593–614

Vester, J. (2002). Lessons learned about integrating acquisitions. Research Technology Management, 45, 33–41.

Wang, L., & Zajac, E. J. (2007). Alliance or acquisition? A dyadic perspective on interfirm resource combinations. Strategic Management Journal, 28, 1291–1317.

Weber, Y. (1996). Corporate cultural fit and performance in mergers and acquisitions. Human Relations, 49, 1181–1203.

Weber, Y., & Schweiger, D. M. (1992). Top management culture conflict in mergers and acquisitions: A lesson from anthropology. International Journal of Conflict Management, 3, 1–17.

Weber, Y., & Tarba, S. Y. (2010). Human resource practices and performance of M&A in Israel. Human Resource Management Review, 20, 203–211.

Weber, Y., Rachman-Moore, D., & Tarba, S. Y. (2012). HR practices during post-merger conflict and merger performance. *International Journal of Cross Cultural Management*, *12*(1), 73-99.

Weber, Y., Tarba S., Öberg, C. (2013). *A comprehensive guide to mergers & acquisitions: Managing the critical success factors across every stage of the M&A process*. FT Press.

Weber, Y., Tarba, S. Y., & Reichel, A. (2009). International mergers and acquisitions performance revisited—The role of cultural distance and postacquisition integration approach. In C. Cooper & S. Finkelstein (Eds.), Advances in Mergers and Acquisitions (8th ed.). New York, NY: JAI.

Weber, Y., Tarba, S. Y., & Reichel, A. (2011). A model of the influence of culture on integration approaches and international mergers and acquisitions performance. *International Studies of Management & Organization*, *41*(3), 9-24.

Williamson, O. E. (2000). The new institutional economics: taking stock, looking ahead." Journal of economic literature 595-613.

Zollo, M., & Singh, H. (2004). Deliberate learning in corporate acquisitions: post-acquisition strategies and integration capability in US bank mergers. *Strategic management journal*, *25*(13), 1233-1256.

A Work Project, presented as part of the requirements for the Award of a Master Degree in Finance from the NOVA – School of Business and Economics.

SUPPLEMENTARY APPENDICES

of the Work Project

THE SUCCESS FACTORS OF MERGERS AND ACQUISITIONS IN EUROPE

JOÃO RIBEIRO PINTO BANDEIRA (34404)

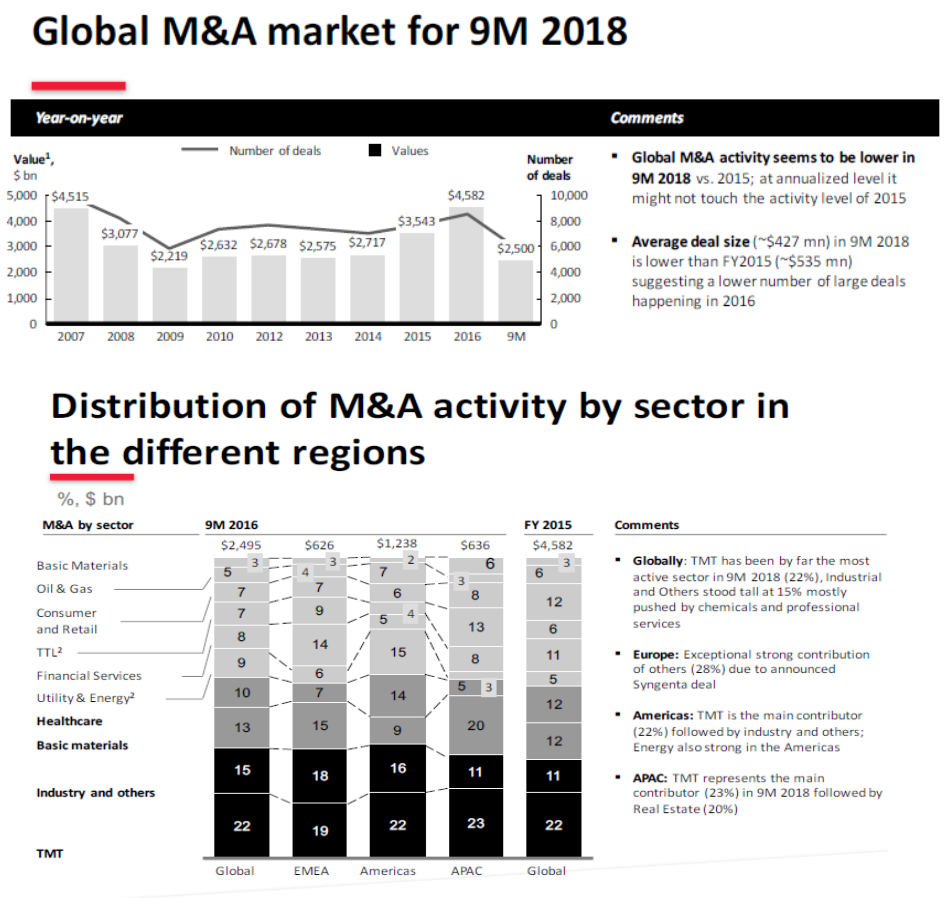
A Project carried out on the Master in Finance Program, under the supervision of:

Associate Professor Melissa Prado

JANUARY, 2020

Appendix

Appendix 0 – Supporting information for Introduction



Source: Slides from Nova SBE's M&A course

Table 3 Settings (industries and geographical areas).

	Domestic North American		Domestic Europe	Cross Border	
Miscellaneous	AMJ: 12	JM: 8	AMJ: 3	AMJ: 1	OSc: 1
	ASQ: 3	JMS: 2	BJM: 2	JM: 1	OSt: 1
	BJM: 1	SMJ: 19	JMS: 2	SMJ: 1	
	HR: 1	OSc: 1	SMJ: 3		
Manufacturing and mining	AMJ: 1		JSM: 2	SMJ: 2	
	JM: 2		SMJ: 3		
	SMJ: 6				
Services	AMJ: 2	OSc: 1	ASQ: 1		
	JMS: 1	Ost: 1	JMS: 1		
	SMJ: 2				
High tech	AMJ: 2			AMJ: 1	
	SMJ: 5			JMS: 1	
	OSc: 2				

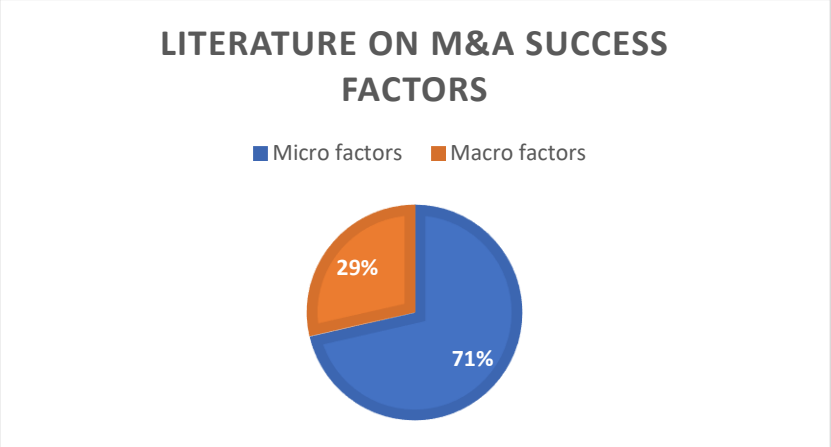
Source: Meglio & Risberg (2011)

Appendix 0: The first two images show the M&A market in the past years and the relative size between EMEA and Americas – Americas' activity is around the double (Americas is mainly composed by US, and EMEA by Europe). The third image, was developed in Meglio & Risberg's (2011) investigation where they synthetize the number of M&A's journal studies by region, giving an idea of how USA has a bigger number of researches in relation to Europe.

Appendix 1 – Literature distribution on macro and micro factors

Micro
Weber et al.(2011)
Mendenhall (2005)
Mirvis & Marks (1992)
Hayward & Hambrick (1997)
Hayward (2002)
Haspeslagh and Jemison (1991)
Finkelstein & Haleblian (2002)
Iankova (2014)
Gomes et al. (2013)
Weber et al. (2013)
Brockhaus (1975)
Hitt et al. (1998)
Mohamed (2008)
Bertoncelj & Kovac (2007)
Papanicolau (2007)

Macro
Ciobanu & Bahna (2015)
Dang (2016)
Erel et al. (2011)
Garita & Marrewijck (2007)
Lenee & Oki (2017)
Rossi & Volpin (2004)



Appendix 1: After searching for articles with key words such as "M&A success", "success factors" and "M&A performance", it was obtained around 21 articles related to M&A success or M&A performance indicators. From this 21, only 6 were related to macro variables, being the other 15 related to firm's performance and value creation for the shareholders.

Source: Author

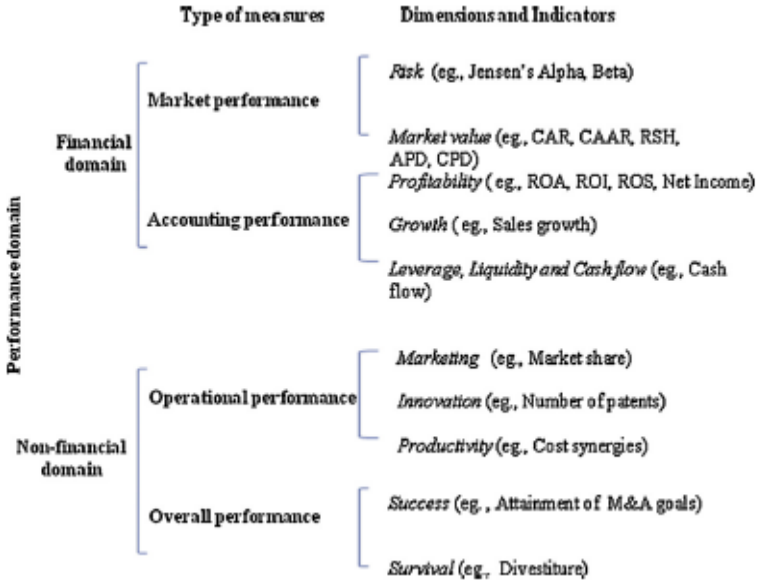
Appendix 2 – deals status

In SDC database there are 12 status of a transaction after a deal announcement:

Completed: closed transaction.
Intended: the acquirer has announced that they propose or expect to make an acquisition.
Pending Due to Regulatory Reasons (only for UK deals): status during the period where the transaction is under regulatory review by the MMC.
Status Unknown: (feature currently under construction). This status will allow the user to select or exclude transactions for which no definitive, conclusive evidence of the outcome of the deal was available after extensive research.
Pending: the transaction has been announced but it has not been completed or withdrawn.
Partially Completed (only for U.S. tender offers): the tender offer has been completed, however, the merger of both has not yet taken place.
Seeking Buyer: the target firm has announced plans to seek out a buyer or buyers for its assets or the company itself.
Rumor: reports about a likely transaction have been published in the media, but no formal announcement has been made by either the target or acquiror.
Discontinued Rumor: a target company has formally denied the rumor of an acquisition or merger.
Unconditional: (only for UK, Australian, and New Zealand deals): the initial conditions for the transaction set forth by the acquiror have been met, but the deal is still not completed (unconditional deals are considered completed for Thomson Reuters Ranking purposes).
Withdrawn: the target or acquirer in the deal has terminated its agreement, letter of intent, or plans for the deal.
Seeking Buyer Withdrawn: the target in the transaction has finished its plans to seek out a buyer or buyers for its assets, stock, or the company itself.

Source: 1993 - 2019, The Wharton School, University of Pennsylvania *for* TF - Thomson ONE. https://deals.ib.thomsonone.com/DealsWeb/help/def.htm

Appendix 3 - M&A performance measures



Appendix 3: classificatory scheme on M&A performance measures which illustrates the main findings from Meglio & Risberg's (2011) research. The scheme starts with a separation between 2 domains of performance: financial and non-financial. Despite being important to have an analysis focusing on a broad range of indicators, the ones related to the non-financial domain are not going be explored in this research for a simple reason: as this is an empirical research, it will require quantitative indicators and the indicators associated to the non-financial domain are not contemplated in the databases or the information is limited and, hence, the research's accuracy could be misleading.

Source: Meglio & Risberg (2011)

Appendix 4 – Micro success factors (overview)

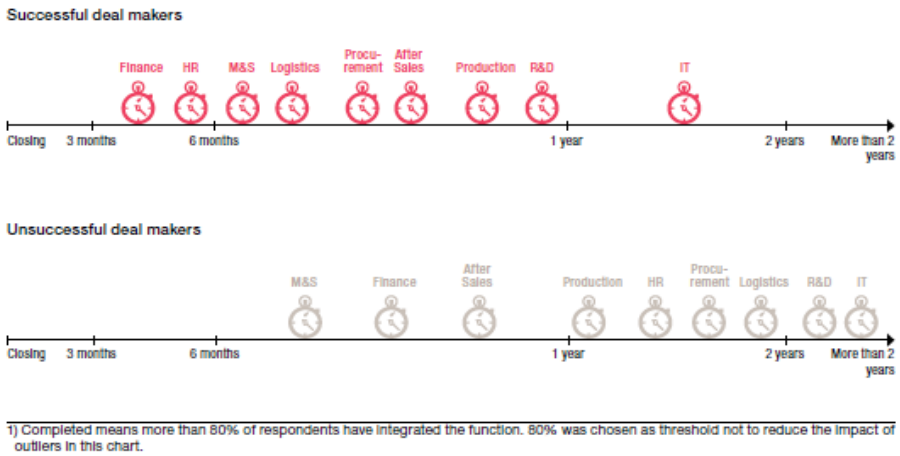
Relatedness/Strategic Motive and Partner (19)	Gomes et al. (2013); Mirvis & Marks (1992); Kitching (1967); Brockhaus (1975); Jemison & Sitkin (1986); Schweiger & Denisi (1991); Weber et al. (2013); Schweiger et al. (1993); Rappaport (1979); Cartwright (2006); Bertoncelj & Kovac (2007); Mohamed (2008); Bauer & Matzler (2012); Iankova (2014); Finkelstein & Haleblian (1999); Finkelstein & Haleblian (2002); Hayward (2002); Hayward & Hambrick (1997); Calipha et al. (2010)
Price (15)	Gomes et al. (2013); Kitching (1967); Calipha et al (2010); Hayward (2002); Weber et al. (2013); Seth et al. (2000); Rappaport (1979); Terry (1982); Severson (1989); Inkpen et al. (2000); Kusewitt (1985); Smith (1997); Finkelstein & Haleblian (1999); Finkelstein & Haleblian (2002); Hayward & Hambrick (1997)
Culture (12)	Weber et al. (2011); Gomes et al. (2013); Filipovic et al. (2011); Petsa-Papanicolaou (2007); Mirvis & Marks (1992); Bertoncelj & Kovac (2007); Hayward (2002); Bauer & Matzler (2012); Brockhaus (1975); Iankova (2014); Calipha et al (2010); Fuhrer, Liem & Zwald (2017)
Size (11)	Gomes et al. (2013); Hayward (2002); Calipha et al. (2010); Chatterjee et al. (1992); Kitching (1967); Bruton et al. (1994); Moeller et al. (2004); Tuch & O'Sullivan (2007); Finkelstein & Haleblian (1999); Finkelstein & Haleblian (2002); Hayward & Hambrick (1997)
Accumulated Experience (11)	Gomes et al. (2013); Kitching (1967); Jemison & Sitkin (1986); Hayward (2002); Vermeulen & Barkema (2001); Inkpen et al. (2000); Zollo and Singh (2004); Bertoncelj & Kovac (2007); Iankova (2014); Finkelstein & Haleblian (1999); Finkelstein & Haleblian (2002)
Leadership/Management team (11)	Gomes et al. (2013); Petsa-Papanicolaou (2007); Boland (1979); Kitching (1967); Inkpen et al. (2000); Mohamed (2008); Light (2001); Hyde & Paterson (2001); Brockhaus (1975); Iankova (2014); Calipha et al. (2010)

Integration Strategies (10)	Haspeslagh & Jemison (1991); Weber et al. (2011); Gomes et al. (2013); Petsa-Papanicolaou (2007); Mirvis & Marks (1992); Bertoncelj & Kovac (2007); Brockhaus (1975); Iankova (2014); Calipha et al. (2010); Bauer & Matzler (2012)
Speed of Implementation (8)	Gomes et al. (2013); Petsa-Papanicolaou (2007); Mirvis & Marks (1992); Vester (2002); Light (2001); Mohamed (2008); Bauer & Matzler (2012); Fuhrer, Liem & Zwald (2017)
Human Resources (5)	Mirvis & Marks (1992); Drucker (1981); Filipovic et al. (2011); Iankova (2014); Calipha et al. (2010)
Communication (4)	Gomes et al. (2013); Petsa-Papanicolaou (2007); Bertoncelj & Kovac (2007); Mohamed (2008)
Deal Team (4)	Petsa-Papanicolaou (2007); Gomes et al. (2013); Mirvis & Marks (1992); Bertoncelj & Kovac (2007)
Management Control Systems (3)	Mirvis & Marks (1992); Brockhaus (1975); Calipha et al. (2010)
Due diligence (3)	Bertoncelj & Kovac (2007); Petsa-Papanicolaou (2007); Bertoncelj & Kovac (2007)
Synergies (3)	Bertoncelj & Kovac (2007); Iankova (2014); Hayward & Haambrick (1997)
Others (2 or fewer references)	Courtship; Future Compensation Policy; Financial Resources; Portfolio Diversification; Corporate governance; Early positioning/asymmetric information; comprehensive examination of all stakeholders; analysis if future capital need; ambiguity

Appendix 4: After searching for financial reviews, empirical studies and all types of investigation that directly or indirectly study the factors of success, the main factors were listed in this Appendix, assuming that the convergence in these factors would continue to be verified in the remaining literature.Thus, the most referenced were chosen for a further examination: **Strategic Motive and Partner**; **Price**; **Culture**; **Size; Accumulated experience**; Leadership/Management team; **Integration Strategies**; **Speed of implementation**; Human Resources; Deal Team and **Communication**.

In order to facilitate future analysis (when choosing the proxy variables) and given their association from a more general point of view, the factors: Leadership / management team, Human Resources and Deal team were grouped in a more generalized factor called Human Capital. Furthermore, as Human Capital is considered a macro and micro factor, this factor was studied at the macro level given the impossibility of finding company-level data to quantify it. Therefore, Human Capital was included in the social factors that affect a country's success and reflects the capabilities that professionals in each country have which can influence the success of transactions.

Appendix 5 – Speed of implementation (Pwc study)



Source: PwC Survey Report (2017)

Project experience proves that successful integration must happen quickly. The period between deal announcement and closing, as well as the first 100 days post-close, are critical to realising quick wins and preparing the combined company to maximise value over the long term. Between six months and one year after deal closing, companies often lose integration momentum.

Appendix 5: survey developed by PwC to over 50 firms' representatives involved in around 260 deals which reveals that the first 100 days after the announcement are crucial. Also, the first business functions to be integrated must be finance, HR and customer-related functions (e.g. marketing & sales, logistics, etc) followed by production and R&D still during the first year desirably (given that 6 months to 1 year after the close deal announcement, the integration momentum is lost).

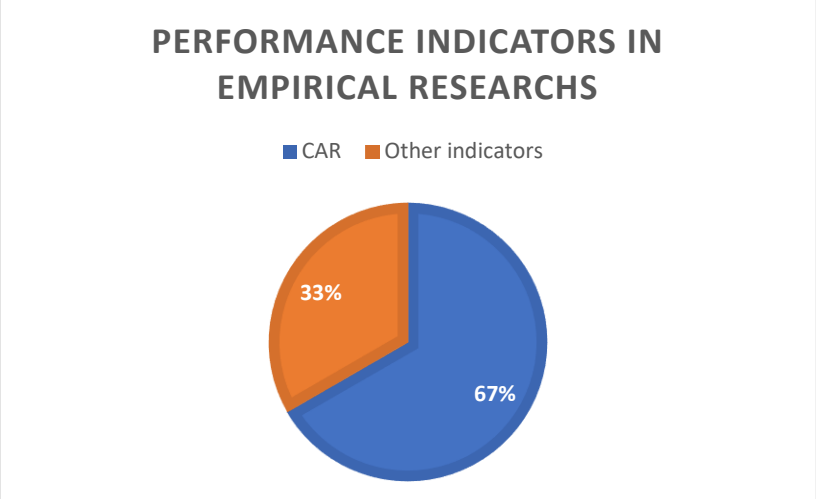
Appendix 6 – Macro-analysis variables

Country – level variables	Description
successrate	Ratio where the numerator is the number of completed deals in the target country and the denominator is the number of total deals announced in the same country. $successrate = \frac{completed\ deals\ in\ country\ i}{total\ deals\ announced\ in\ country\ i}$ Source: Author
gnipc_growth	Annual percentage growth rate of Gross National Income per capita is based on constant local currency and aggregates are based on constant 2010 U.S. dollars. – average between 1998 and 2013 Source: World Bank
inflation	Inflation, Consumer Prices (Annual %) - average between 1998 and 2013 Source: World Bank
mkt_pct	Market Capitalization of Domestic Companies (% Of GDP): the share price times the number of shares outstanding (including their several classes) for listed domestic companies – average between 1998 and 2013 Source: World Bank
mkt_cap	Market Capitalization of Domestic Companies (Current US$): the share price times the number of shares outstanding (including their several classes) for listed domestic companies – average between 1998 and 2013 Source: World Bank
stocks_traded	Stocks Traded, Total Value (Current US$): The value of shares traded is the total number of shares traded, both domestic and foreign, multiplied by their respective matching prices. – average between 1998 and 2013 Source: World Bank
profit_tax	Profit Tax (% Of Commercial Profits): Profit tax is the amount of taxes on profits paid by the business. – average between 2005 and 2013 Source: World Bank
tax_payments	Payments (Number Per Year): The tax payments capture the total number of taxes and contributions paid - average between 2005 and 2013 Source: World Bank
rule_of_law	Rule Of Law (Estimate): measures the extent to which agents have confidence in and abide by the rules of society, especially the quality of contract enforcement, the courts, and the police, as well as the possibility of crime and violence. - average between 1998 and 2013 Source: World Bank
disclosure__index	Business Extent Of Disclosure Index (scale: 0=Less Disclosure to 10=More Disclosure): measures the extent to which investors are protected, considering the disclosure of ownership and financial information. The index ranges from 0 to 10, where higher values indicate more disclosure. – average between 2005 and 2013 Source: World Bank
corruption_control	Control of Corruption (Estimate): measures the extent to which public supremacy is exercised in favour of private gain (contains "petty" and grand forms of corruption) as well as "capture" of the state by elites and private interests. - average between 1998 and 2013 Source: World Bank

cpi	Corruption Perception Index: published annually by Transparency International since 1995 which ranks countries "by their perceived levels of public sector corruption, as determined by expert assessments and opinion surveys." – average between 1998 and 2013 Source: Transparency International
political_stability	Political Stability and Absence of Terrorism/Violence (Estimate): measures perceptions of the likelihood of political instability and/or politically motivated violence (e.g. terrorism). Estimate represents the country's score on the aggregate indicator, in units of a standard normal distribution, i.e., ranging from around -2.5 to 2.5. – average between 1998 and 2013 Source: World Bank
voice_accountability	Voice & Accountability (Estimate): measures the extent to which a country's inhabitants are allowed to participate in choosing their government and to enjoy the freedom of expression and association, and a free media. – average between 1998 and 2013 Source: World Bank
gov_effectiveness	Government Effectiveness (Estimate): captures insights of the quality of public services, the civil service and the degree of its autonomy from political pressures, the quality of policy construction and implementation, the credibility of the government's commitment to such policies. The Estimate reflects the country's score on the aggregate indicator in units of a standard normal distribution, i.e., ranging from around -2.5 to 2.5. – average between 1998 and 2013 Source: World Bank
regulatory_quality	Regulatory Quality (Estimate): measures the ability of the government to formulate and implement policies and regulations that enable and promote private sector development.- average between 1998 and 2013 Source: World Bank
training_hours	Hours spent in CVT courses by size class - hours per 1000 hours worked in all enterprise - average of years 2005 and 2010 Source: Eurostat
rd_expenses	Business expenditure on R&D (million euros) – average between 2008 and 2013 Source: Eurostat

Appendix 7 – CAR analysis

CAR
Schoenberg (2006)
Datta and Puia (1995)
Hayward (2002)
Chatterjee (1992)
Delong & Deyoung (2007)
Fu, Lin & Officer (2013)
Alhenawi & Stilwell (2017)
Gosh et al. (2019)
Finkelstein & Haleblian (1999)
Hayward & Haambrick (1997)
Kroll et al. (1997)
Moeller et al. (2004)
Servaes (1991)
Seth (1990)
Other indicators
Synergies score
Tobin Q
Excess Value total assets
Excess Value sales
Return on common equity
Return to shareholders
ROA



Appendix 7: After searching for empirical studies using a performance indicator as dependent variable, it was obtained around 14 studies using CAR and 7 using other variables.

Source: Author

Appendix 8 – Matching the success factors to the respective variables name

Factors	Variable name
Choice of strategic motive and partner	*strategic_fit*
Price match	*premium1d*
Corporate and National Cultural Differences	*culture*
Size mismatch	*size_pct*
Integration Strategy	*horizontal*
Accumulated experience	*acum_expdummy*
Speed of implementation	*speed*
Communication	No available data
Target Return on Assets (ROA)	*tgt_roa*
Target Return on Equity (ROE)	*tgt_roe*
Target Operating margin ratio	*tgt_opmargin*
Target Asset Turnover Ratio	*tgt_assetturnover*
Target Debt ratio	*tgt_debtratio*
Target Earnings per Share (EPS)	*tgt_eps*
Target Price to EPS ratio	*tgt_peps*
Payment method	*cash_dummy*
Total legal advisors	*totlegadv*
Tender offer; Hostile takeover[23]	*tender_offer*
Total financial advisors	*totfinadv*
Access to information	*access_info*

Appendix 8: This Appendix matches the success factors highlighted in the literature review with the variable name used in this research. It agglomerates 7 out of the 8 main success factors (no data available for *communication*), 7 target's financial indicators and 5 deal-level variables.

[23] In order to not exceed the reasonable number of variables and due to high relationship between hostile takeovers and tender offers, these two factors were agglomerated in the same variable *tender_offer*.

Appendix 9 – Micro-analysis variables

Firm-level variables[24]	Description
CAR5days	The Cumulative Abnormal Return is the Abnormal Return (the difference between observed and expected return) for a specific window in time. The window chosen was [-5;5][25] which means the CAR was calculated adding the abnormal returns[26] from 5 weekdays before and after the announcement date[27]; Source: Thomson Reuters
CAR7days	Same as *CAR5days* but for a window of 7 weekdays
CAR10days	Same as *CAR5days* but for a window of 10 weekdays
Average3years	CAR for the average three next years after the deal announcement in relation to the year before
deltasalest1	Sales variation regarding the year after the deal the announcement in relation to the year before; Source: Orbis
deltaroe1	ROE variation regarding the year after the deal the announcement in relation to the year before; Source: Orbis
deltaroa1	ROA variation regarding the year after the deal the announcement in relation to the year before; Source: Orbis
Deltastockprice	The difference between the stock price 7 weekdays after the deal announcement date and the stock price 7 weekdays before; Source: Thomson Reuters
strategic_fit	Dummy variable that equals one if the 2 firms (target and acquirer) are from the same macro industry and zero otherwise[28]; Source: SDC
premium1d	Offer Price to Target Stock Price Premium - 1 Day Prior to Announcement; Source: SDC
size_pct	It reflects the acquiror's relative size following the formula: $Size = \frac{Acquiror\ Market\ Value\ 4\ Weeks\ Prior\ to\ Announcement\ (\$millions)}{Target\ \ Market\ Value\ 4\ Weeks\ Prior\ to\ Announcement\ (\$mil)}$; Source: SDC
acum_expdummy	Dummy variable that equals one if the acquirer firm had already done transactions before the deal announcement date; Source: SDC
speed	The difference between the effective date[29] and the announcement date; Source: SDC
culture	Dummy variable that equals one if the acquirer and target firm are from the same country; Source: SDC
horizontal	Dummy variable that equals one if the 2 firms (target and acquirer) are from the same mid industry and zero otherwise[30]; Source: SDC
Communication	No available data
tgt_roa	Calculated using the formula: $ROA = \frac{Net\ income}{Total\ assets}$; Source: SDC
tgt_roe	Calculated using the formula: $ROE = \frac{Net\ income}{Equity\ Value}$ where Equity Value is the actual number of target shares outstanding from its most recent balance sheet multiplied by the offer price per share plus the cost to acquire convertible securities; Source: SDC
tgt_opmargin	Calculated using the formula: Operating margin= $\frac{EBIT}{Sales}$; Source: SDC

[24] The financial indicators: Net income, Total assets, EBIT, Sales, Total liabilities and EPS - were retrieved in million dollars and are values from the target firm's previous 12 months before the announcement date.

[25] In M&A literature, the main windows for CAR are [-5;5]; [-7;7] and [-10;10]. So, I created variables for these 3 time-horizon to have a broader idea on how the success factors react to the different windows (avoiding mismeasurement errors).

[26] To calculate the observed returns for each firm, it was retrieved from Thomson Reuters the stock prices from 30-12-1997 to 31-12-2013 and applied the formula: $return1 = \frac{P1}{P0}$ -1, where P1 is the stock price for the year desired and P0 reflects the stock price for the year before. On the other hand, the expected return was calculated using CAPM formula: $E(r) = rf + \beta(rm - rf)$, where E(r) is the expected return; *rf* is the German 10y year bond (risk-free asset); *rm* is the Euro Stoxx 50 daily returns and β was calculated as the slope between *E(r)* and *(rm-rf)*.

[27] "The date one or more parties involved in the transaction makes the first public disclosure of common or unilateral intent to pursue the transaction (no formal agreement is required)" (SDC glossary)

[28] Based on Finkelstein & Haleblian (1999) where they consider two firms related if they are from the same macro industry (2 SIC codes digit in common) and horizontal integration if they are from the same mid industry (4 SIC codes digit in common).

[29] "Date when the entire transaction is completed and effective." (SDC glossary)

[30] Based on Finkelstein & Haleblian (1999) where they consider two firms related if they are from the same macro industry (2 SIC codes digit in common) and horizontal integration if they are from the same mid industry (4 SIC codes digit in common).

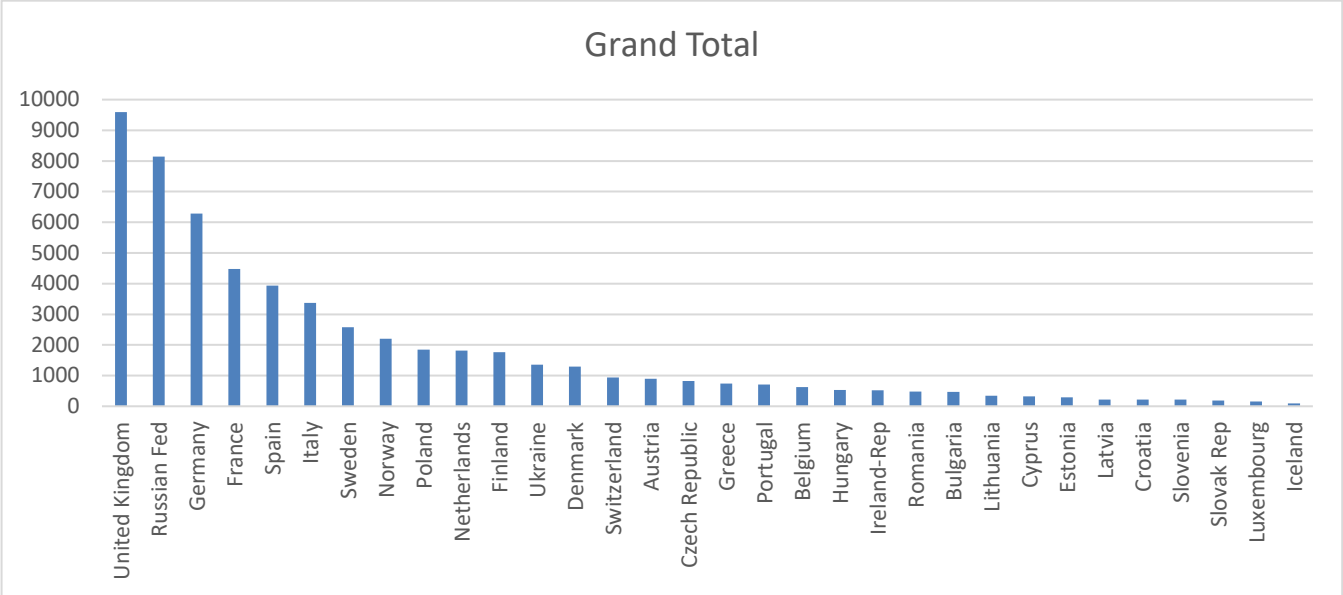
tgt_assetturnover	Calculated using the formula: Asset turnover= $\frac{Sales}{Total\ assets}$; Source: SDC
tgt_debtratio	Calculated using the formula: Debt ratio= $\frac{Liabilities}{Total\ assets}$; Source: SDC
tgt_eps	Indicator Target Earnings per share retrieved from SDC
tgt_peps	Indicator Target Ratio of Offer Price to Earnings Per Share (EPS) retrieved from SDC

Deal-level variables	**Description**
cash_dummy	Dummy variable that equals one if the acquisition is entirely paid with cash and zero otherwise; Source: SDC
totlegadv	Number of legal advisors (from both acquiror and target); Source: SDC
tender_offer	Dummy variable that equals one if it is a tender offer and zero otherwise; Source: SDC
totfinadv	Number of financial advisors (from both acquiror and target); Source: SDC
access_info	Dummy variable that equals one if the acquiror firm already owned shares in the target firm before announcement date and zero otherwise; Source: SDC

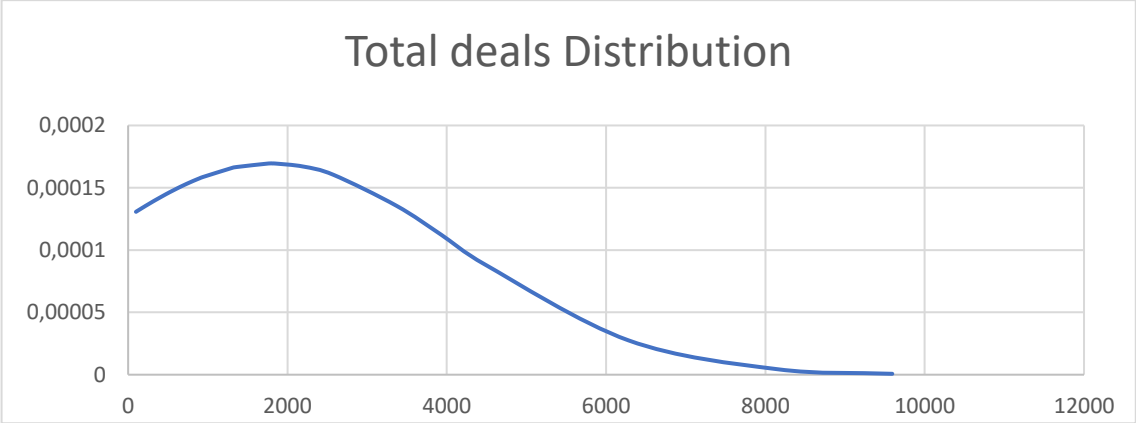
Appendix 10 – Total deals by country

Country	Grand Total	Success rate
United Kingdom	9593	83,6%
Russian Fed	8144	87,2%
Germany	6280	84,7%
France	4481	89,0%
Spain	3934	85,0%
Italy	3369	82,6%
Sweden	2578	83,6%
Norway	2197	77,4%
Poland	1845	73,3%
Netherlands	1814	83,0%
Finland	1762	87,9%
Ukraine	1359	83,2%
Denmark	1292	84,0%
Switzerland	934	85,0%
Austria	899	76,4%
Czech Republic	822	85,2%
Greece	744	73,0%
Portugal	704	83,2%
Belgium	621	85,2%
Hungary	535	84,5%
Ireland-Rep	518	79,3%
Romania	476	78,6%
Bulgaria	470	83,8%
Lithuania	346	83,8%
Cyprus	325	68,0%
Estonia	294	88,1%
Latvia	223	83,4%
Croatia	217	73,3%
Slovenia	215	71,2%
Slovak Rep	191	83,8%
Luxembourg	156	76,9%
Iceland	98	76,5%

Appendix 11 – Total deals by country (graphic)



Appendix 12 – Total deals distribution



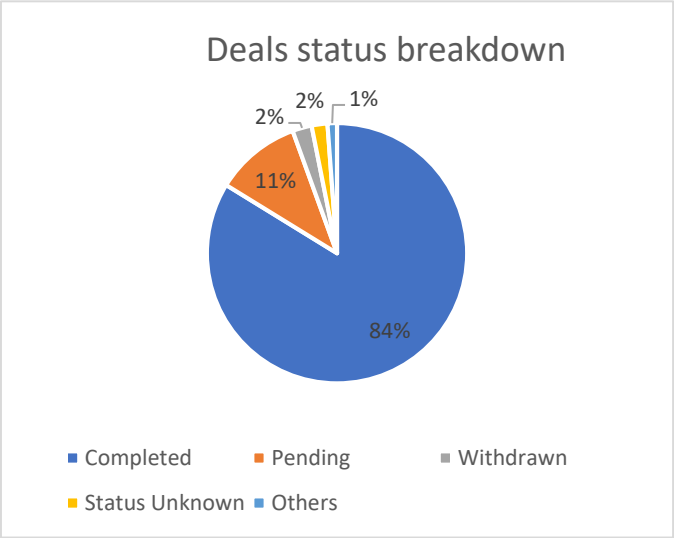
Appendix 13 – Total deals statistics

totaldeals

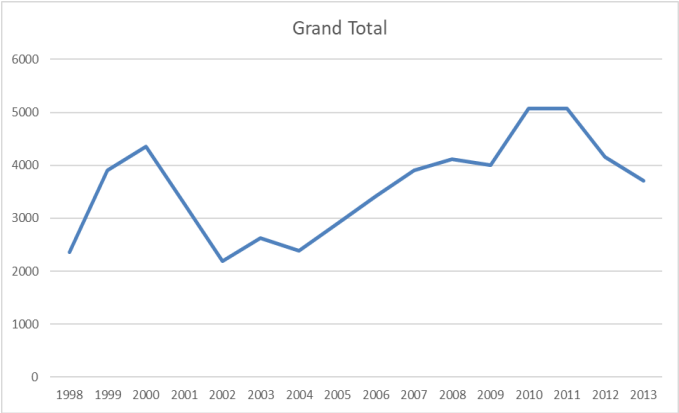
	Percentiles	Smallest		
1%	98	98		
5%	156	156		
10%	215	191	Obs	32
25%	335.5	215	Sum of Wgt.	32
50%	783		Mean	1794.875
		Largest	Std. Dev.	2353.521
75%	2021	4481		
90%	4481	6280	Variance	5539059
95%	8144	8144	Skewness	2.021214
99%	9593	9593	Kurtosis	6.38161

Appendix 14 – Total deals status breakdown

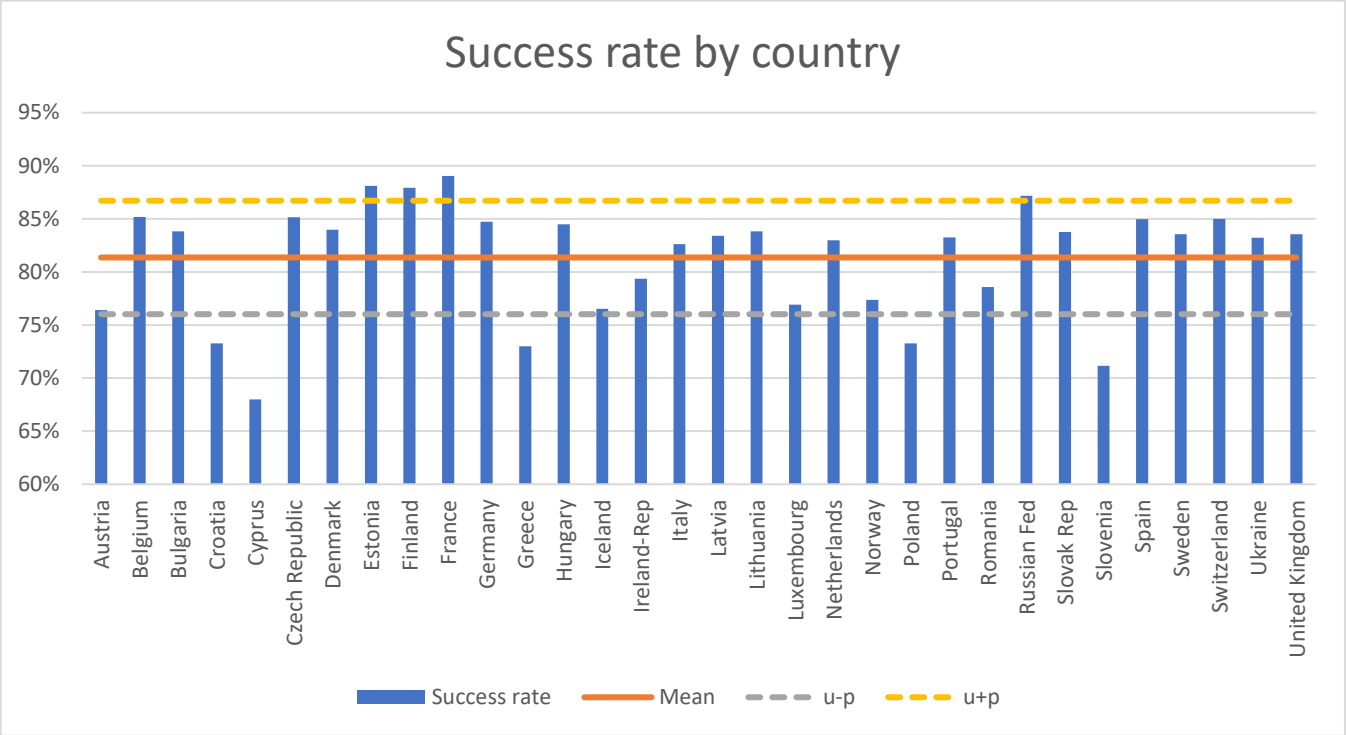
Countries	Completed	Pending	Withdrawn	Status Unknown	Others	Grand Total
Austria	687	159	20	19	14	899
Belgium	529	52	10	25	5	621
Bulgaria	394	52	10	14	0	470
Croatia	159	43	9	5	1	217
Cyprus	221	84	7	4	9	325
Czech Republic	700	92	13	14	3	822
Denmark	1085	139	33	30	5	1292
Estonia	259	19	10	6	0	294
Finland	1549	132	23	44	14	1762
France	3990	315	65	69	42	4481
Germany	5320	628	132	135	65	6280
Greece	543	162	19	15	5	744
Hungary	452	55	11	12	5	535
Iceland	75	19	2	1	1	98
Ireland-Rep	411	53	27	15	12	518
Italy	2783	410	63	72	41	3369
Latvia	186	25	5	5	2	223
Lithuania	290	35	9	7	5	346
Luxembourg	120	27	5	2	2	156
Netherlands	1505	188	71	36	14	1814
Norway	1700	350	80	47	20	2197
Poland	1352	335	89	46	23	1845
Portugal	586	82	20	13	3	704
Romania	374	72	19	7	4	476
Russian Fed	7098	816	57	137	36	8144
Slovak Rep	160	24	3	2	2	191
Slovenia	153	41	6	7	8	215
Spain	3343	393	102	70	26	3934
Sweden	2154	269	60	69	26	2578
Switzerland	794	84	24	28	4	934
Ukraine	1131	181	11	22	14	1359
United Kingdom	8015	803	364	146	265	9593
Grand Total	48118	6139	1379	1124	676	57436



Appendix 15 – Time series: success rate vs total deals



Appendix 16 – Success rate by country



Appendix 16: defines a lower and higher bound based on the mean and the associated standard deviation. It shows that only 5 countries are below the lower bond (Croatia, Cyprus, Greece, Poland and Slovenia) and 4 above the higher bond (Estonia, Finland, France and Russia).

Appendix 17 – Macro analysis (descriptive statistics)[31]

DESCRIPTIVE STATISTICS

Variable	mean	std dev	CV(sd/mean)	max	min	max_country	min_country
completed	1503,69	2011,23	1,338	8015,000	75,000	United Kingdom	Iceland
totaldeals	1794,88	2353,52	1,311	9593,000	98,000	United Kingdom	Iceland
successrate (%)	81,36	5,34	0,066	89,043	68,000	France	Cyprus
gnipc_growth	2,02	1,58	0,781	5,391	-0,617	Latvia	Luxembourg
inflation	4,38	4,79	1,095	19,771	0,740	Russian Fed	Switzerland
stocks_traded	35,36	39,16	1,108	143,073	0,817	Switzerland	Romania
market_pct	52,96	51,54	0,973	217,155	4,241	Switzerland	Slovak Rep
mkt_capbil	357,64	605,89	1,694	2693,733	3,213	United Kingdom	Slovak Rep
disclosure_index	5,57	2,57	0,462	10,000	2,000	Bulgaria	Czech Republic
profit_tax	12,71	6,67	0,525	26,089	4,263	Italy	Luxembourg
tax_payments	20,54	24,14	1,176	117,889	4,000	Ukraine	Norway
corruption_control	1,03	0,97	0,939	2,391	-0,983	Denmark	Ukraine
gov_effectiveness	1,12	0,77	0,691	2,154	-0,683	Finland	Ukraine
political_stability	0,76	0,54	0,705	1,525	-1,010	Finland	Russian Fed
regulatory_quality	1,12	0,58	0,514	1,812	-0,554	Denmark	Ukraine
rule_of_law	1,05	0,79	0,753	1,959	-0,878	Finland	Russian Fed
voice_accountability	1,07	0,53	0,496	1,590	-0,738	Norway	Russian Fed
cpi	62,77	21,59	0,344	94,289	23,641	Finland	Ukraine
r&d_expenses	5672,19	10141,23	1,788	49451,750	15,447	Germany	Cyprus
training_hours	5,09	3,12	0,613	10,550	1,500	Belgium	Croatia

[31] Only for this specific analysis of the descriptive statistics, I created the variable *mkt_capbil* which represents the same as mkt_cap but in billions (the reason was to simplify the interpretations).

Appendix 18 - Initial regression (Model 1)

regress *successrate gnipc_growth inflation stocks_traded market_pct mkt_cap disclosure_index profit_tax tax_payments corruption_control gov_effectiveness political_stability regulatory_quality rule_of_law voice_accountability cpi rd_expenses training_hours*

Source	SS	df	MS	Number of obs	=	32
				F(17, 14)	=	2.33
Model	654.576623	17	38.5045072	Prob > F	=	0.0578
Residual	231.012919	14	16.5009228	R-squared	=	0.7391
				Adj R-squared	=	0.4224
Total	885.589541	31	28.5674046	Root MSE	=	4.0621

successrate	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
gnipc_growth	1.292861	.8170793	1.58	0.136	-.4595998	3.045322
inflation	.486133	.4848469	1.00	0.333	-.5537603	1.526026
stocks_traded	.0692721	.0579318	1.20	0.252	-.0549792	.1935235
market_pct	-.0157584	.0328894	-0.48	0.639	-.0862991	.0547823
mkt_cap	3.91e-13	2.90e-12	0.13	0.895	-5.82e-12	6.60e-12
disclosure_index	-.1304609	.4756661	-0.27	0.788	-1.150663	.8897413
profit_tax	-.1302695	.1819132	-0.72	0.486	-.5204345	.2598955
tax_payments	-.0408588	.0520462	-0.79	0.446	-.1524868	.0707692
corruption_control	-48.42074	17.62328	-2.75	0.016	-86.21891	-10.62256
gov_effectiveness	8.971578	10.71314	0.84	0.416	-14.00583	31.94899
political_stability	.5037021	4.767908	0.11	0.917	-9.722444	10.72985
regulatory_quality	3.919583	6.117603	0.64	0.532	-9.20137	17.04054
rule_of_law	-3.287713	9.524394	-0.35	0.735	-23.71551	17.14008
voice_accountability	15.35893	13.31334	1.15	0.268	-13.19536	43.91321
cpi	1.539365	.5449909	2.82	0.014	.3704755	2.708254
rd_expenses	.0002457	.0001411	1.74	0.104	-.0000569	.0005483
training_hours	.5187093	.4318359	1.20	0.250	-.4074867	1.444905
_cons	-.3939579	26.84607	-0.01	0.988	-57.97306	57.18514

Variable	VIF	1/VIF
corruption~l	545.04	0.001835
cpi	260.13	0.003844
gov_effect~s	128.12	0.007805
rule_of_law	107.65	0.009289
voice_acco~y	93.18	0.010732
regulatory~y	23.33	0.042865
political_~y	12.37	0.080812
inflation	10.15	0.098545
stocks_tra~d	9.67	0.103407
mkt_cap	5.79	0.172849
market_pct	5.40	0.185236
rd_expenses	3.85	0.260017
training_h~s	3.42	0.292437
gnipc_growth	3.14	0.318752
tax_payments	2.97	0.337171
disclosure~x	2.81	0.355557
profit_tax	2.76	0.361748
Mean VIF	71.75	

Appendix 19 - Multicollinearity adjustments

Step 1

Source	SS	df	MS	Number of obs	=	32
				F(16, 15)	=	1.40
Model	530.011171	16	33.1256982	Prob > F	=	0.2612
Residual	355.57837	15	23.7052246	R-squared	=	0.5985
				Adj R-squared	=	0.1702
Total	885.589541	31	28.5674046	Root MSE	=	4.8688

successrate	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
gnipc_growth	1.350136	.9790181	1.38	0.188	-.7365915	3.436864
inflation	.1957781	.5671572	0.35	0.735	-1.013089	1.404645
stocks_traded	.1132889	.0667282	1.70	0.110	-.0289389	.2555168
market_pct	-.0307511	.0388743	-0.79	0.441	-.1136096	.0521075
mkt_cap	2.29e-12	3.37e-12	0.68	0.507	-4.89e-12	9.48e-12
disclosure_index	-.1281917	.5701241	-0.22	0.825	-1.343382	1.086999
profit_tax	-.2929423	.2061666	-1.42	0.176	-.732376	.1464913
tax_payments	-.0530533	.0621544	-0.85	0.407	-.1855323	.0794257
gov_effectiveness	-7.525615	10.63429	-0.71	0.490	-30.19208	15.14085
political_stability	3.701978	5.5418	0.67	0.514	-8.110089	15.51404
regulatory_quality	4.114032	7.331961	0.56	0.583	-11.51367	19.74174
rule_of_law	-2.893713	11.41448	-0.25	0.803	-27.2231	21.43567
voice_accountability	-2.419924	13.94553	-0.17	0.865	-32.14412	27.30427
cpi	.1962748	.2888	0.68	0.507	-.4192877	.8118374
rd_expenses	.0000757	.000152	0.50	0.626	-.0002482	.0003997
training_hours	.8891023	.491724	1.81	0.091	-.1589827	1.937187
_cons	69.40627	10.40204	6.67	0.000	47.23484	91.5777

Variable	VIF	1/VIF
rule_of_law	107.63	0.009291
gov_effect~s	87.88	0.011380
voice_acco~y	71.17	0.014052
cpi	50.85	0.019666
regulatory~y	23.33	0.042870
political_~y	11.64	0.085934
inflation	9.67	0.103461
stocks_tra~d	8.93	0.111970
mkt_cap	5.46	0.183316
market_pct	5.25	0.190479
gnipc_growth	3.14	0.318960
rd_expenses	3.11	0.321882
training_h~s	3.09	0.324013
tax_payments	2.94	0.339640
disclosure~x	2.81	0.355558
profit_tax	2.47	0.404608
Mean VIF	24.96	

Step 2

Source	SS	df	MS	Number of obs	=	32
				F(15, 16)	=	1.58
Model	528.48767	15	35.2325113	Prob > F	=	0.1873
Residual	357.101871	16	22.318867	R-squared	=	0.5968
				Adj R-squared	=	0.2187
Total	885.589541	31	28.5674046	Root MSE	=	4.7243

successrate	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
gnipc_growth	1.351206	.94995	1.42	0.174	-.6625979	3.36501
inflation	.1260358	.4812475	0.26	0.797	-.8941633	1.146235
stocks_traded	.1203609	.0588182	2.05	0.058	-.0043281	.2450499
market_pct	-.0323095	.0372458	-0.87	0.399	-.1112671	.0466481
mkt_cap	2.21e-12	3.26e-12	0.68	0.507	-4.69e-12	9.11e-12
disclosure_index	-.0859889	.5290935	-0.16	0.873	-1.207617	1.035639
profit_tax	-.3056902	.1940055	-1.58	0.135	-.7169636	.1055832
tax_payments	-.0483888	.0576065	-0.84	0.413	-.1705091	.0737314
gov_effectiveness	-8.935809	8.794393	-1.02	0.325	-27.57909	9.707472
political_stability	3.917863	5.313442	0.74	0.472	-7.346131	15.18186
regulatory_quality	3.811381	7.019391	0.54	0.595	-11.06906	18.69183
voice_accountability	-4.753838	10.1639	-0.47	0.646	-26.30035	16.79267
cpi	.1835241	.2759453	0.67	0.515	-.4014539	.768502
rd_expenses	.0000671	.0001437	0.47	0.647	-.0002376	.0003717
training_hours	.9377321	.4393259	2.13	0.049	.0064028	1.869061
_cons	71.18599	7.448032	9.56	0.000	55.39687	86.97511

Variable	VIF	1/VIF
gov_effect~s	63.83	0.015666
cpi	49.31	0.020282
voice_acco~y	40.15	0.024906
regulatory~y	22.71	0.044038
political_~y	11.36	0.088012
inflation	7.39	0.135292
stocks_tra~d	7.37	0.135683
mkt_cap	5.40	0.185090
market_pct	5.12	0.195364
gnipc_growth	3.14	0.318966
rd_expenses	2.95	0.338997
tax_payments	2.69	0.372262
training_h~s	2.62	0.382173
disclosure~x	2.57	0.388698
profit_tax	2.32	0.430200
Mean VIF	15.26	

Step 3

Source	SS	df	MS	Number of obs	=	32
				F(14, 17)	=	1.61
Model	505.445247	14	36.1032319	Prob > F	=	0.1729
Residual	380.144294	17	22.3614291	R-squared	=	0.5707
				Adj R-squared	=	0.2172
Total	885.589541	31	28.5674046	Root MSE	=	4.7288

successrate	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
gnipc_growth	1.443684	.9464811	1.53	0.146	-.5532169	3.440584
inflation	.3249349	.4400558	0.74	0.470	-.6035016	1.253371
stocks_traded	.1212393	.0588679	2.06	0.055	-.0029611	.2454396
market_pct	-.0266397	.0368605	-0.72	0.480	-.1044086	.0511293
mkt_cap	1.90e-12	3.24e-12	0.58	0.566	-4.95e-12	8.74e-12
disclosure_index	.1273781	.4861005	0.26	0.796	-.8982044	1.152961
profit_tax	-.2285921	.1787218	-1.28	0.218	-.6056622	.148478
tax_payments	-.0391195	.0569338	-0.69	0.501	-.1592393	.0810002
political_stability	4.892066	5.231203	0.94	0.363	-6.144807	15.92894
regulatory_quality	1.718847	6.716884	0.26	0.801	-12.45254	15.89023
voice_accountability	-4.918196	10.1723	-0.48	0.635	-26.37987	16.54348
cpi	-.0632346	.1311516	-0.48	0.636	-.3399403	.2134711
rd_expenses	.0000758	.0001436	0.53	0.605	-.0002272	.0003787
training_hours	.7783975	.4107774	1.89	0.075	-.0882671	1.645062
_cons	75.61171	6.047381	12.50	0.000	62.85285	88.37057

Variable	VIF	1/VIF
voice_acco~y	40.14	0.024912
regulatory~y	20.75	0.048185
cpi	11.12	0.089956
political_~y	10.99	0.090974
stocks_tra~d	7.37	0.135713
inflation	6.17	0.162115
mkt_cap	5.35	0.186752
market_pct	5.00	0.199850
gnipc_growth	3.11	0.321921
rd_expenses	2.94	0.340206
tax_payments	2.62	0.381838
training_h~s	2.28	0.437974
disclosure~x	2.17	0.461373
profit_tax	1.97	0.507892
Mean VIF	8.71	

Step 4

Source	SS	df	MS	Number of obs	=	32
				F(13, 18)	=	1.80
Model	500.218001	13	38.4783078	Prob > F	=	0.1234
Residual	385.37154	18	21.40953	R-squared	=	0.5648
				Adj R-squared	=	0.2506
Total	885.589541	31	28.5674046	Root MSE	=	4.627

successrate	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
gnipc_growth	1.675827	.7981034	2.10	0.050	-.0009257	3.35258
inflation	.4328432	.3710982	1.17	0.259	-.3468051	1.212492
stocks_traded	.1086611	.0516712	2.10	0.050	.0001039	.2172183
market_pct	-.018796	.0323864	-0.58	0.569	-.0868372	.0492452
mkt_cap	1.92e-12	3.17e-12	0.60	0.553	-4.75e-12	8.59e-12
disclosure_index	.0499039	.4490559	0.11	0.913	-.8935276	.9933354
profit_tax	-.2331762	.1746302	-1.34	0.198	-.6000607	.1337082
tax_payments	-.0504125	.0508048	-0.99	0.334	-.1571495	.0563245
political_stability	3.451918	4.207833	0.82	0.423	-5.388411	12.29225
regulatory_quality	-.4273492	4.932572	-0.09	0.932	-10.7903	9.9356
cpi	-.0661089	.1281979	-0.52	0.612	-.3354426	.2032248
rd_expenses	.0000831	.0001397	0.59	0.559	-.0002104	.0003766
training_hours	.73291	.3912551	1.87	0.077	-.0890864	1.554906
_cons	74.04963	5.001994	14.80	0.000	63.54083	84.55842

Variable	VIF	1/VIF
regulatory~y	11.69	0.085549
cpi	11.09	0.090141
political_~y	7.43	0.134621
stocks_tra~d	5.93	0.168650
mkt_cap	5.35	0.186793
inflation	4.58	0.218257
market_pct	4.03	0.247862
rd_expenses	2.91	0.344052
gnipc_growth	2.31	0.433474
tax_payments	2.18	0.459109
training_h~s	2.16	0.462220
profit_tax	1.96	0.509325
disclosure~x	1.93	0.517620
Mean VIF	4.89	

Step 5 – Model 2 (no collinearity)

Source	SS	df	MS	Number of obs	=	32
				F(12, 19)	=	2.05
Model	500.057297	12	41.6714415	Prob > F	=	0.0778
Residual	385.532244	19	20.2911707	R-squared	=	0.5647
				Adj R-squared	=	0.2897
Total	885.589541	31	28.5674046	Root MSE	=	4.5046

successrate	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
gnipc_growth	1.657549	.7493406	2.21	0.039	.0891611	3.225937
inflation	.4456718	.3312712	1.35	0.194	-.2476867	1.13903
stocks_traded	.1089219	.0502181	2.17	0.043	.0038141	.2140296
market_pct	-.0189198	.0314985	-0.60	0.555	-.0848468	.0470073
mkt_cap	1.86e-12	3.01e-12	0.62	0.545	-4.45e-12	8.16e-12
disclosure_index	.0439888	.4320878	0.10	0.920	-.8603814	.948359
profit_tax	-.2340861	.1697003	-1.38	0.184	-.5892729	.1211007
tax_payments	-.0492494	.0477019	-1.03	0.315	-.1490906	.0505919
political_stability	3.337216	3.888415	0.86	0.401	-4.80133	11.47576
cpi	-.0721418	.1047887	-0.69	0.499	-.291467	.1471834
rd_expenses	.0000853	.0001338	0.64	0.531	-.0001947	.0003653
training_hours	.7302256	.3797029	1.92	0.070	-.0645017	1.524953
_cons	74.05865	4.868541	15.21	0.000	63.86868	84.24863

Variable	VIF	1/VIF
cpi	7.82	0.127866
political_~y	6.69	0.149411
stocks_tra~d	5.91	0.169225
mkt_cap	5.09	0.196576
market_pct	4.03	0.248345
inflation	3.85	0.259584
rd_expenses	2.81	0.355583
training_h~s	2.15	0.465137
gnipc_growth	2.15	0.466039
tax_payments	2.03	0.493576
profit_tax	1.96	0.511174
disclosure~x	1.89	0.529869
Mean VIF	3.86	

Appendix 20 - Stepwise Regression (Model 3)[32]

regress successrate gnipc_growth inflation stocks_traded market_pct mkt_cap disclosure_index profit_tax tax_payments political_stability cpi rd_expenses training_hours

regress successrate gnipc_growth inflation stocks_traded market_pct mkt_cap profit_tax tax_payments political_stability cpi rd_expenses training_hours

regress successrate gnipc_growth inflation stocks_traded market_pct profit_tax tax_payments political_stability cpi rd_expenses training_hours

regress successrate gnipc_growth inflation stocks_traded profit_tax tax_payments political_stability cpi rd_expenses training_hours

regress successrate gnipc_growth inflation stocks_traded profit_tax tax_payments cpi rd_expenses training_hours

regress successrate gnipc_growth inflation stocks_traded profit_tax tax_payments rd_expenses training_hours

regress successrate gnipc_growth inflation stocks_traded profit_tax rd_expenses training_hours

regress successrate gnipc_growth stocks_traded profit_tax rd_expenses training_hours

Source	SS	df	MS	Number of obs	=	32
				F(5, 26)	=	5.28
Model	446.248063	5	89.2496126	Prob > F	=	0.0018
Residual	439.341478	26	16.8977492	R-squared	=	0.5039
				Adj R-squared	=	0.4085
Total	885.589541	31	28.5674046	Root MSE	=	4.1107

successrate	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
gnipc_growth	2.124798	.5624292	3.78	0.001	.9687083	3.280888
stocks_traded	.0811328	.024268	3.34	0.003	.0312492	.1310165
profit_tax	-.1730278	.133864	-1.29	0.208	-.4481891	.1021336
rd_expenses	.0001285	.0000831	1.55	0.134	-.0000422	.0002993
training_hours	.5820932	.2724114	2.14	0.042	.0221435	1.142043
_cons	72.6951	2.749754	26.44	0.000	67.0429	78.3473

Variable	VIF	1/VIF
stocks_tra~d	1.66	0.603445
profit_tax	1.46	0.684114
gnipc_growth	1.45	0.688917
training_h~s	1.33	0.752558
rd_expenses	1.30	0.768135
Mean VIF	1.44	

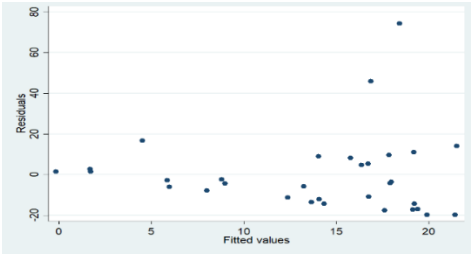
Appendix 21 – Heteroskedasticity tests (model 3)

```
. regress uhat2 gnipc_growth stocks_traded profit_tax rd_expenses training_hours
```

Source	SS	df	MS	Number of obs	=	32
				F(5, 26)	=	0.54
Model	1179.9212	5	235.98424	Prob > F	=	0.7448
Residual	11380.9336	26	437.728215	R-squared	=	0.0939
				Adj R-squared	=	-0.0803
Total	12560.8548	31	405.188864	Root MSE	=	20.922

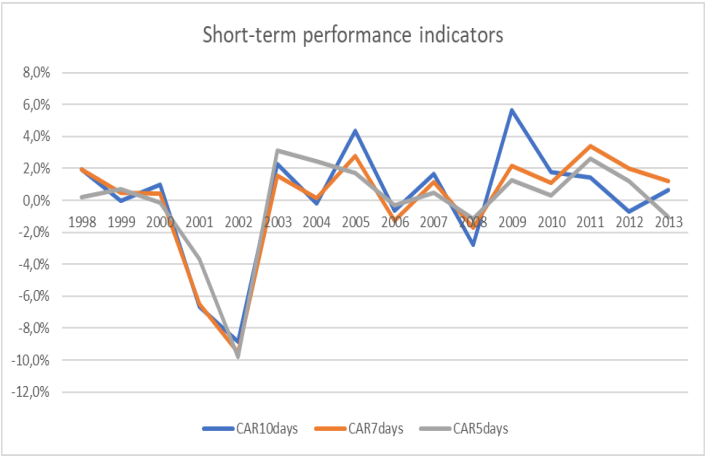
uhat2	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
gnipc_growth	-1.910822	2.862567	-0.67	0.510	-7.794913	3.973269
stocks_traded	-.141928	.1235157	-1.15	0.261	-.3958182	.1119622
profit_tax	.377398	.6813206	0.55	0.584	-1.023077	1.777873
rd_expenses	-.0002878	.0004228	-0.68	0.502	-.0011568	.0005813
training_hours	-.3897691	1.386478	-0.28	0.781	-3.239716	2.460178
_cons	21.43742	13.99528	1.53	0.138	-7.330294	50.20513

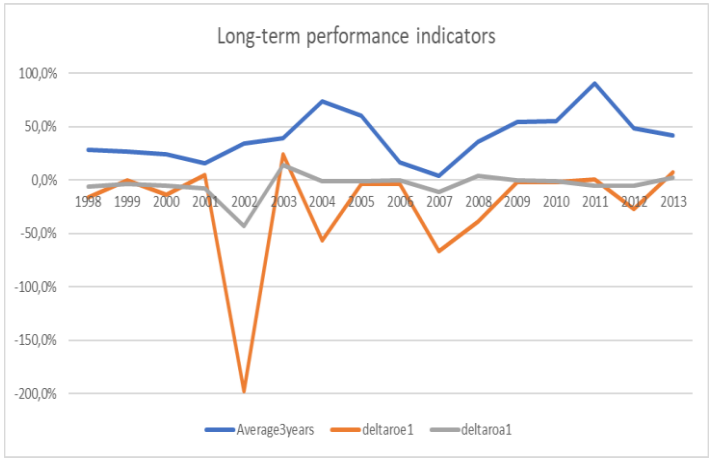
```
. estat hettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
         Ho: Constant variance
         Variables: fitted values of successrate

         chi2(1)      =     2.57
         Prob > chi2  =   0.1086
```



[32] In order to avoid an extensive report, the tables for each step were not exposed. Instead, the variables removed at each step were marked in yellow.

Appendix 22 – Short and Long-term performance indicators (time-horizon analysis)

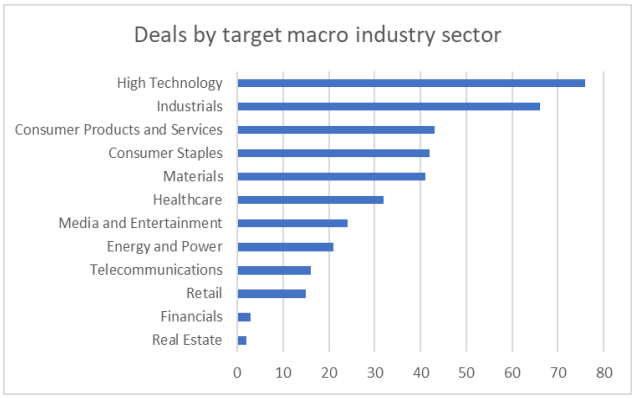


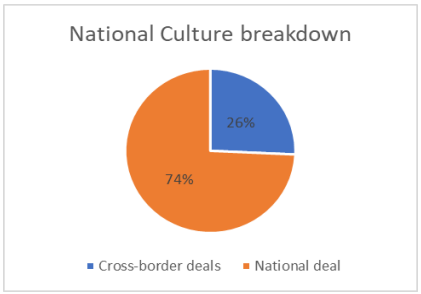


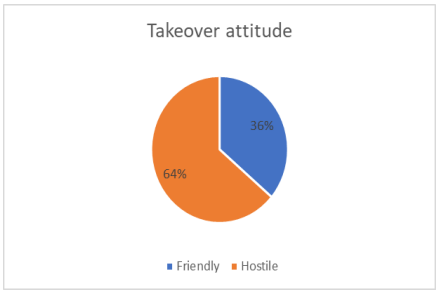
Appendix 23 - Micro analysis (descriptive statistics)

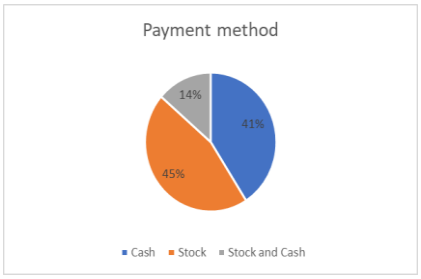
DESCRIPTIVE STATISTICS							
Variable	N	mean	median	std dev	CV	max	min
acum_exp	381	1,254593	0	2,595697	2,068955	21	0
premium1d	297	27,4429	26,38	29,98824	1,092751	138,39	-99,87
size_pct	330	61,4815	1,391724	279,7244	4,549732	2686,613	0
speed	381	101,3937	75	102,9148	1,015002	924	0
totfinadv	381	2,060367	2	1,339296	0,650028	12	0
totlegadv	381	1,811024	2	1,858405	1,026163	11	0
tgt_roa	359	-0,01752	0,032922	0,268366	-15,3148	0,65	-3,40909
tgt_roe	348	0,394255	0,029855	10,47108	26,55917	192,1053	-33,0632
tgt_opmargin	357	-0,60931	0,04135	6,271627	-10,293	5,599073	-96,2452
tgt_assetturnover	359	1,337931	1,181175	1,011716	0,75618	8,571563	0
tgt_debtratio	359	0,900724	0,991398	0,806103	0,894951	1,95	-12,6733
tgt_peps	336	-2649,08	13,2	4096,441	-1,54637	516,6	-8888
tgt_eps	381	-0,03165	0,1051	11,75841	-371,54	100,5739	-167,198
CAR10days	375	0,0029	0	0,126383	43,57819	0,507023	-0,63686
CAR7days	375	0,000467	0	0,109595	234,6989	0,430422	-0,42703
CAR5days	375	0,000494	0	0,094225	190,5992	0,413876	-0,38835
Average3years	375	0,365488	0,310482	0,74706	2,044006	6,864542	-2,07559
deltasalest1	134	956,8762	69,02526	7372,799	7,705071	84597,71	-3874,29
deltaroe1	134	-0,15975	-0,02835	0,747854	-4,6814	1,7133	-6,0773
deltaroa1	134	-0,03284	-0,01815	0,188605	-5,74375	1,016	-0,8984
Deltastockprice	370	0,097608	0	38,31929	392,5844	264,8609	-400

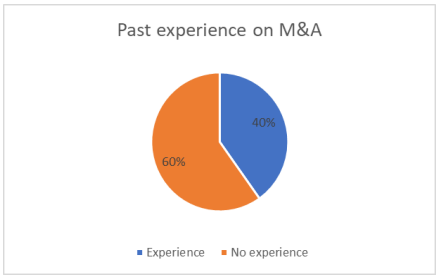
Appendix 24 – Explanatory variables (dummies) analysis

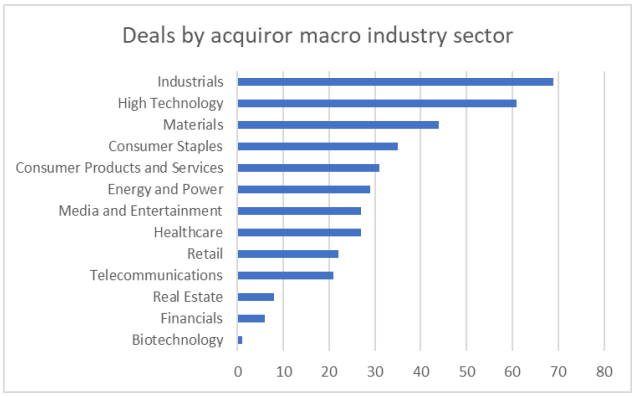


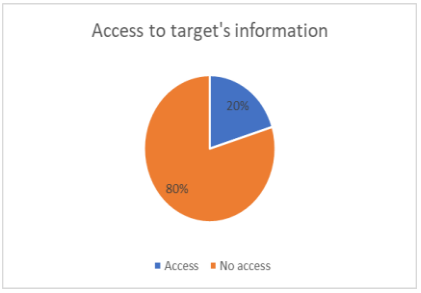












Appendix 25 – Explanatory variables VIF

. vif

Variable	VIF	1/VIF
tgt_roe	5.42	0.184475
tgt_debtra~o	5.42	0.184484
horizontal	2.16	0.463386
strategic_~t	2.06	0.484841
totlegadv	1.56	0.639981
tgt_peps	1.55	0.645998
totfinadv	1.47	0.681328
tgt_roa	1.30	0.769392
acum_expdu~y	1.21	0.827674
tgt_eps	1.19	0.837356
access_info	1.18	0.848273
tender_offer	1.17	0.852225
tgt_assett~r	1.17	0.857373
premiumld	1.15	0.865875
cash_dummy	1.15	0.870891
speed	1.12	0.892513
tgt_opmargin	1.12	0.895342
size_pct	1.10	0.907081
culture	1.08	0.921791
Mean VIF	1.77	

Avg3years, CAR10days, CAR7days

. vif

Variable	VIF	1/VIF
tgt_roe	5.48	0.182420
tgt_debtra~o	5.48	0.182470
horizontal	2.20	0.454990
strategic_~t	2.09	0.478299
totlegadv	1.56	0.640583
tgt_peps	1.54	0.650804
totfinadv	1.47	0.680716
tgt_roa	1.30	0.766406
acum_expdu~y	1.21	0.827528
tgt_eps	1.19	0.838504
access_info	1.18	0.849033
tender_offer	1.17	0.857299
tgt_assett~r	1.16	0.860536
premiumld	1.15	0.867012
cash_dummy	1.15	0.872036
speed	1.12	0.892747
tgt_opmargin	1.12	0.893786
size_pct	1.10	0.905750
culture	1.08	0.922936
Mean VIF	1.78	

Deltastockprice

. vif

Variable	VIF	1/VIF
tgt_roe	2.51	0.397709
tgt_roa	2.31	0.432529
strategic_~t	2.31	0.433650
horizontal	2.26	0.442143
totlegadv	1.79	0.559530
tgt_peps	1.50	0.665238
totfinadv	1.48	0.675700
tgt_debtra~o	1.47	0.680323
culture	1.47	0.681272
tender_offer	1.40	0.716226
tgt_assett~r	1.39	0.717230
tgt_eps	1.30	0.770220
speed	1.29	0.776186
acum_expdu~y	1.28	0.783759
premiumld	1.27	0.789654
access_info	1.25	0.797717
cash_dummy	1.25	0.801775
tgt_opmargin	1.25	0.802248
size_pct	1.20	0.835498
Mean VIF	1.58	

Deltaroa1, deltaroe1

. vif

Variable	VIF	1/VIF
tgt_roe	2.51	0.397713
tgt_roa	2.31	0.432588
horizontal	2.26	0.442644
strategic_~t	2.26	0.442702
totlegadv	1.75	0.572894
tgt_peps	1.50	0.665287
culture	1.47	0.681329
totfinadv	1.46	0.682907
tgt_debtra~o	1.45	0.688578
tgt_assett~r	1.39	0.719392
tender_offer	1.37	0.729608
speed	1.29	0.776207
tgt_eps	1.29	0.776712
acum_expdu~y	1.28	0.783771
premiumld	1.25	0.797414
access_info	1.25	0.797908
cash_dummy	1.24	0.803367
tgt_opmargin	1.24	0.803736
Mean VIF	1.59	

Deltasalest1

. vif

Variable	VIF	1/VIF
tgt_debtra~o	5.42	0.184624
tgt_roe	5.42	0.184666
horizontal	2.14	0.466662
strategic_~t	2.06	0.484294
totlegadv	1.55	0.643219
tgt_peps	1.51	0.660529
totfinadv	1.47	0.682444
tgt_roa	1.30	0.769318
acum_expdu~y	1.20	0.832053
tgt_eps	1.19	0.837609
tgt_assett~r	1.17	0.858243
access_info	1.16	0.859040
tender_offer	1.15	0.868314
cash_dummy	1.14	0.875562
premiumld	1.14	0.877076
speed	1.12	0.893017
tgt_opmargin	1.12	0.896722
culture	1.09	0.921566
Mean VIF	1.80	

CAR5days

Appendix 26 – 8 final models (after backward stepwise regression)[33]

	(1) CAR5days	(2) CAR7days	(3) CAR10days	(4) Average3years	(5) Deltastockprice	(6) deltasalest1	(7) deltaroe1	(8) deltaroa1
premium1d	-0.000293**			-0.00469****				
	(0.113)			(0.002)				
tgt_opmargin	0.00154***	0.00198****	0.00206****		-1.306538**			
	(0.050)	(0.021)	(0.036)		(0.122)			
tgt_peps	0.00000325****	0.00000257**		0.0000172**				
	(0.023)	(0.111)		(0.129)				
tgt_roa		0.0492****	0.0648****					
		(0.041)	(0.009)					
tgt_roe		-0.000811**	-0.000744	-0.0170****			15.94****	
		(0.115)	(0.219)	(0.035)			(0.045)	
access_info		0.0203*				4.34017e+09****	-84.64****	-17.57****
		(0.152)				(0.006)	(0.000)	(0.000)
tgt_debtratio				-1.019****				
				(0.009)				
cash_dummy				-0.139**		1.83157e+09**		
				(0.123)		(0.114)		
totlegadv						2.32838e+09****	10.84****	
						(0.000)	(0.015)	
tender_offer					20.59799***			4.094*
					(0.067)			(0.200)
strategic_fit						-2.41209e+09*		
						(0.180)		
horizontal						2.95332e+09***		
						(0.086)		
culture						2.27891e+09***	34.94****	
						(0.100)	(0.026)	
speed							-0.181****	-0.0403****
							(0.025)	(0.044)
totfinadv							-17.97****	
							(0.003)	
acum_expdummy								9.008****
								(0.008)
_cons	0.0137***	0.000543	0.00150	1.587****	-19.06296****	-5.90646e+09****	3.414	-2.307
	(0.095)	(0.941)	(0.817)	(0.000)	(0.036)	(0.000)	(0.871)	(0.456)
N	281	321	322	288	347	134	122	134
F	4.447	5.185	4.428	4.026	2.73	9.767	7.000	5.284
Prob>F	0.0045	0.0001	0.0046	0.0015	0.0667	0.0000	0.0000	0.0000
r2	0.0460	0.0760	0.0401	0.0666	0.0156	0.316	0.268	0.141
df_m	3	5	3	5	2	6	6	4
df_r	277	315	318	282	344	127	115	129

p-values in parentheses
* p<0.2 ** p<0.15 *** p<0.1 **** p<0.05

Appendix 26: After running the backward stepwise regression for each performance indicators, these were the 8 final models. The number associated to the explanatory variable is the *regression coefficient*; the value in brackets is the *p-value*; N refers to number of observations; r2 is the R squared and Prob>F is the statistic for the F test.

[33]In order to simplicity and not overextend the Appendix, it was only considered the 8 final models and key statistics for each of them.

Appendix 27 – Heteroskedasticity tests (White test)

CAR5dayss - homoscedasticity

```
. predict uhat, residual
(100 missing values generated)

. generate uhat2=uhat^2
(100 missing values generated)

. regress uhat2 premium1d tgt_opmargin tgt_peps
```

Source	SS	df	MS	Number of obs	=	281
				F(3, 277)	=	1.84
Model	.001695443	3	.000565148	Prob > F	=	0.1395
Residual	.084926753	277	.000306595	R-squared	=	0.0196
				Adj R-squared	=	0.0090
Total	.086622196	280	.000309365	Root MSE	=	.01751

uhat2	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
premium1d	-.0000641	.0000358	-1.79	0.074	-.0001346	6.32e-06
tgt_opmargin	-.000191	.0001519	-1.26	0.210	-.0004901	.0001081
tgt_peps	-9.52e-08	2.76e-07	-0.35	0.730	-6.38e-07	4.48e-07
_cons	.0094505	.0015903	5.94	0.000	.0063199	.0125811

CAR7days - homoscedasticity

```
. regress uhat2 tgt_roa tgt_roe tgt_opmargin tgt_peps access_info
```

Source	SS	df	MS	Number of obs	=	281
				F(5, 275)	=	0.80
Model	.001240438	5	.000248088	Prob > F	=	0.5511
Residual	.085381758	275	.000310479	R-squared	=	0.0143
				Adj R-squared	=	-0.0036
Total	.086622196	280	.000309365	Root MSE	=	.01762

uhat2	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
tgt_roa	-.00169	.0045062	-0.38	0.708	-.010561	.007181
tgt_roe	-.0000136	.000092	-0.15	0.882	-.0001947	.0001674
tgt_opmargin	-.0001964	.000153	-1.28	0.200	-.0004976	.0001048
tgt_peps	-1.08e-07	3.13e-07	-0.34	0.731	-7.25e-07	5.09e-07
access_info	.0032438	.0026589	1.22	0.224	-.0019906	.0084783
_cons	.0069834	.0014029	4.98	0.000	.0042215	.0097453

CAR10days - homoscedasticity

```
. regress tgt_roa tgt_roe tgt_opmargin
```

Source	SS	df	MS	Number of obs	=	327
				F(2, 324)	=	1.05
Model	.156137717	2	.078068859	Prob > F	=	0.3527
Residual	24.1966256	324	.074680943	R-squared	=	0.0064
				Adj R-squared	=	0.0003
Total	24.3527633	326	.074701728	Root MSE	=	.27328

tgt_roa	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
tgt_roe	.0012661	.0014223	0.89	0.374	-.001532	.0040643
tgt_opmargin	.0026165	.0023105	1.13	0.258	-.0019291	.0071621
_cons	-.0092244	.0152091	-0.61	0.545	-.0391456	.0206967

Average3years - homoscedasticity

```
. regress uhat2 premium1d tgt_roe tgt_debtratio tgt_peps cash_dummy
```

Source	SS	df	MS	Number of obs	=	281
				F(5, 275)	=	1.21
Model	.001859076	5	.000371815	Prob > F	=	0.3063
Residual	.08476312	275	.00030823	R-squared	=	0.0215
				Adj R-squared	=	0.0037
Total	.086622196	280	.000309365	Root MSE	=	.01756

uhat2	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
premium1d	-.0000559	.0000366	-1.53	0.127	-.0001279	.0000161
tgt_roe	.0001355	.0002039	0.66	0.507	-.0002659	.0005368
tgt_debtratio	.0083715	.0096611	0.87	0.387	-.0106477	.0273906
tgt_peps	-1.77e-07	2.74e-07	-0.65	0.519	-7.16e-07	3.63e-07
cash_dummy	-.0023877	.0021476	-1.11	0.267	-.0066155	.0018401
_cons	.002195	.0097233	0.23	0.822	-.0169467	.0213366

Deltaroa1- homoscedasticity

```
. regress uhat2 speed acum_expdummy access_info tender_offer
```

Source	SS	df	MS	Number of obs	=	281
				F(4, 276)	=	1.36
Model	.001672356	4	.000418089	Prob > F	=	0.2487
Residual	.08494984	276	.000307789	R-squared	=	0.0193
				Adj R-squared	=	0.0051
Total	.086622196	280	.000309365	Root MSE	=	.01754

uhat2	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
speed	-7.43e-06	9.87e-06	-0.75	0.452	-.0000269	.000012
acum_expdummy	-.0039924	.0022064	-1.81	0.071	-.0083359	.000351
access_info	.0047659	.002753	1.73	0.085	-.0006537	.0101855
tender_offer	-.0006406	.0024017	-0.27	0.790	-.0053686	.0040874
_cons	.0100427	.0025033	4.01	0.000	.0051146	.0149707

Deltaroe1- homoscedasticity

```
. regress uhat2 speed totfinadv totlegadv tgt_roe culture access_info
```

Source	SS	df	MS	Number of obs	=	281
				F(6, 274)	=	0.54
Model	.001018433	6	.000169739	Prob > F	=	0.7750
Residual	.085603763	274	.000312422	R-squared	=	0.0118
				Adj R-squared	=	-0.0099
Total	.086622196	280	.000309365	Root MSE	=	.01768

uhat2	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
speed	-7.19e-06	.0000101	-0.71	0.479	-.0000272	.0000128
totfinadv	-.0000455	.0010282	-0.04	0.965	-.0020697	.0019787
totlegadv	.0000997	.0006875	0.15	0.885	-.0012538	.0014533
tgt_roe	-.0000245	.0000926	-0.26	0.792	-.0002067	.0001578
culture	.0026531	.0024596	1.08	0.282	-.0021891	.0074952
access_info	.0036531	.0026798	1.36	0.174	-.0016226	.0089287
_cons	.0059864	.0032297	1.85	0.065	-.0003718	.0123445

Deltastockprice - homoscedasticity

```
. regress uhat2 tgt_opmargin tender_offer
```

Source	SS	df	MS	Number of obs	=	347
				F(2, 344)	=	0.98
Model	4.6659e+10	2	2.3329e+10	Prob > F	=	0.3750
Residual	8.1591e+12	344	2.3718e+10	R-squared	=	0.0057
				Adj R-squared	=	-0.0001
Total	8.2058e+12	346	2.3716e+10	Root MSE	=	1.5e+05

uhat2	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
tgt_opmargin	68.81831	1303.949	0.05	0.958	-2495.897	2633.534
tender_offer	-24323.56	17346.25	-1.40	0.162	-58441.62	9794.504
_cons	25639.04	14021.79	1.83	0.068	-1940.198	53218.28

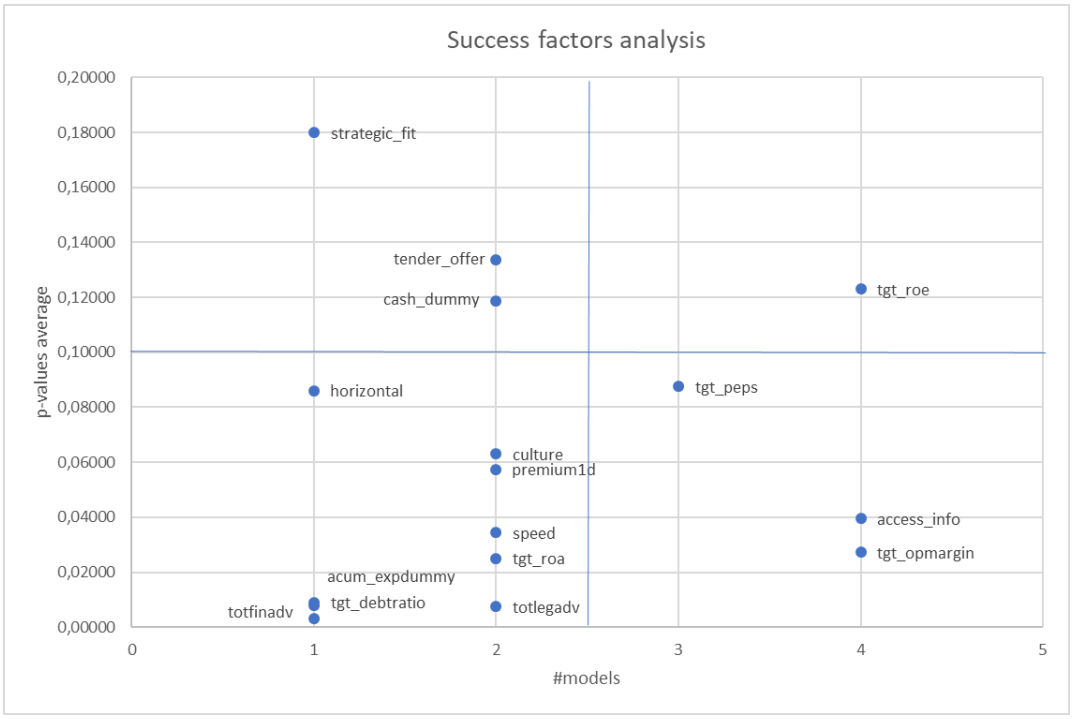
Deltasalest1 - homoscedasticity

```
. regress uhat2 totlegadv strategic_fit horizontal culture access_info cash_dummy
```

Source	SS	df	MS	Number of obs	=	281
				F(6, 274)	=	1.00
Model	.001860377	6	.000310063	Prob > F	=	0.4241
Residual	.084761819	274	.00030935	R-squared	=	0.0215
				Adj R-squared	=	0.0000
Total	.086622196	280	.000309365	Root MSE	=	.01759

uhat2	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
totlegadv	-.0000871	.0005766	-0.15	0.880	-.0012223	.001048
strategic_fit	-.003026	.0030843	-0.98	0.327	-.009098	.0030459
horizontal	.0018141	.002991	0.61	0.545	-.0040743	.0077024
culture	.0024568	.0024523	1.00	0.317	-.002371	.0072846
access_info	.0036507	.0026535	1.38	0.170	-.0015732	.0088746
cash_dummy	-.0032021	.0021286	-1.50	0.134	-.0073926	.0009883
_cons	.0081842	.0032494	2.52	0.012	.0017872	.0145811

Appendix 28 – Success factors analysis (micro-analysis)



Appendix 29 – Glossary

Breusch Pagan test: is used to test for linear forms of heteroskedasticity and has the same null as White's test (H0: homoskedasticity) and the same significance level (0.05).

Coefficient of variation (CV) is a statistical measure of dispersion around the mean (equal to standard deviation divided by the mean) and reasonable values round the 20-30%.

ECB: European Central Bank.

Heteroskedasticity: is a statistical phenomenon that occurs when the residuals change their variance with the explanatory variables.

Hostile takeover: occurs when the target firm's management does not want to reach a deal with a specific acquirer, so the latter addresses directly the shareholders to get the deal approved. Servaes (1991) considers the target management's initial reaction to offer as critical to understand whether the takeover is Friendly or Hostile. On the other hand, Morck, Shleifer, and Vishny (1988) only classify as *hostile* if there is an explicit statement about the hostile reaction.

Organizational fit: "match between administrative practices, cultural practices, and personnel characteristics of the target and parent firms". Focuses on human factors (Gomes et al., 2013) such as CEO operating styles, employee motivation, productivity, and management control systems (Kitching 1967; Jemison & Sitkin,1986).

Poison pill: "A poison pill is a form of defence tactic utilized by a target company to prevent or discourage attempts of a takeover by an acquirer. Poison pills significantly raise the cost of acquisitions and create big disincentives to deter such attempts completely." (Adam Hayes *in Investopedia*, 2019).

Regression coefficients: "estimates of the unknown population parameters and describe the relationship between a predictor variable and the response. The sign of each coefficient indicates the direction of the relationship between a predictor variable and the response variable." (retrieved from https://statisticsbyjim.com/glossary/regression-coefficient/).

Strategic fit: ''the degree to which the target firm augments or complements the parent's strategy and thus makes identifiable contributions to the financial and nonfinancial goals of the parent'' (Jemison & Sitkin, 1986). Focuses on the firm's level and concerned with how general aspects such as industry, market, or technology-related issues (Rappaport 1979; Jemison & Sitkin, 1986) can create the synergies and competitive advantages (Weber et al., 2013).

VIF (Variance Inflation Factor): "Variance inflation factor measures how much the behaviour (variance) of an independent variable is influenced, or inflated, by its interaction/correlation with the other independent variables" (Jim Chappelow, 2018 *in Investopedia)*.

White knight: "White knight is a hostile takeover defense whereby a 'friendly' individual or company that acquires a corporation at fair consideration that is on the verge of being taken over by an 'unfriendly' bidder or acquirer, who is known as the black knight." (Adam Hayes *in Investopedia*, 2019).

White's test is a statistical test that measures if the variance of the errors is constant. So, regresses the model's residuals on the explanatory variables and test the null hypothesis – H0: homoskedasticity for a significance level of 0.05.