Charles University

Faculty of Social Sciences
Institute of Economic Studies

MASTER'S THESIS

Corporate Governance and M&A Effectiveness

Author: **Bc. Chinara Akmatalieva**

Study program: **Economics and Finance**

Supervisor: **doc. PhDr. Martin Gregor Ph.D.**

Academic Year: **2022**

Declaration of Authorship

The author hereby declares that he compiled this thesis independently; using only the listed resources and literature, and the thesis has not been used to obtain a different or the same degree.

The author grants to Charles University permission to reproduce and to distribute copies of this thesis document in whole or in part.

Prague, August 2, 2022 Chinara Akmatalieva

Acknowledgments

I sincerely thank you to my supervisor doc. PhDr. Martin Gregor Ph.D. for the guidance, confidence and support, interest and responsiveness, parting words that gave impetus to the completion of writing the thesis.

My family deserves endless gratitude, especially my beloved mother, without whom this segment of the journey would not be easy, friends who feel when it is necessary to say the right words.

Abstract

This master thesis analyzes the transactions of merger and acquisition for three European countries as Germany, Netherlands and Austria with developed economies and how they are affected by corporate governance in the companies. In order to address, it collects 41 deals from 426 chosen transactions from the 1st of January 2010 to 31st of December 2019. Using method of event study with data from stock market it was examined the cumulative abnormal return on the shares of the acquiring company. Based on the results of the study, the optimum number of directors on the board, the board independence ratio and the length of the CEO's tenure have a positive relation to the effectiveness of mergers and acquisitions at the current level of corporate governance. In addition, guided by this research, it is possible to improve the mechanism of corporate governance in order to increase efficiency of mergers and acquisitions in Europe. Furthermore, an empirical model with cumulative abnormal return calculation tend to explain the impact of board structure, the number of independent members and the tenure of chief executive officer on mergers and acquisitions performance.

JEL Classification	C8, G3, G30, G34, M20
Keywords	corporate governance, mergers and acquisitions, event study, agency theory, board of directors, abnormal return, estimation window
Title	Corporate Governance and M&A Effectiveness

Contents

List of Tables vi

List of Figures vii

Acronyms viii

Master's Thesis Proposal ix

Introduction 1

Review of Literature 5

2.1 Mergers, Acquisitions, and M&A Deals Performance 5
2.2 Agency Theory 12
2.3 Corporate Governance in Europe 15
2.4 Corporate Governance Mechanisms and Hypotheses Development 20

Data 29

Methodology 32

4.1 Dependent Variable 32
4.2 Independent Variables 36
4.3 Control variables 39

Empirical Results 43

5.1 Descriptive statistical data 43
5.2 Regression Models 51
5.3 The Size of the Board of Directors 55
5.4 The Number of Independent Members of the Board of Directors 56
5.5 The Tenure of CEO 57
5.6 Control variables 59
5.7 Discussion 60

Conclusion 64

Bibliography 67

List of Tables

Table 3.1: Distribution of M&A transactions between 2010-2019 31

Table 5.1: Descriptive Statistics of the Cumulative Abnormal Returns to acquiring company' shareholders 44

Table 5.2: Descriptive Statistics on Independent Variables 46

Table 5.3: Descriptive Statistics of the Control Variables 47

Table 5.4: Regression results of the Control Variables 52

List of Figures

Figure 2.1: Statistical data on value of M&A deals in 2010-2021 5

Figure 2.2: Statistical data on number of M&A deals in 2010-2021 6

Figure 5.1: Average Cumulative Abnormal Returns on M&A transactions.....................45

Acronyms

CEO Chief Executive Officer

CAR Cumulative Abnormal Return

EU European Union

REIT Real Estate Investment Trust

Master's Thesis Proposal

Author:	Bc. Chinara Akmatalieva
Supervisor:	doc. PhDr. Martin Gregor Ph.D.
Defense Planned:	September 2022

Proposed Topic:
Corporate governance and M&A effectiveness

Motivation:

Mergers and acquisitions (M&A) have a positive impact on companies by creating added value for the shareholders of the joining companies or the buyer company who in their turn experience favorable long-term performance and dividends. One of the most important coordination and regulatory factors in the process of M&As are internal and external corporate governance mechanisms.

Currently, most of the works of various scholars note that the corporate governance of a company affects the effectiveness of M&A transactions significantly (Liu & Wang, 2013). One important channel is through selection. Especially when internal risk management mechanisms are weak, there is a high potential to increase in the value of the enterprise. So, the more defective the enterprise management system is, the higher is the probability of its acquisition by other companies.

At the same time, stronger corporate governance improves selection of M&A projects as it more effectively restrains CEO's empire-building incentives that motivate M&As. To support this channel, a number of studies gives arguments about the negative impact of M&A transactions on the well-being of the company's shareholders (Kinateder 2017, Blomson 2016).

Therefore, there is an interest in understanding the impact of the quality of corporate governance on one of the most important decisions of companies on M&A deals. In particular, it is important to provide an analysis of individual characteristics of corporate governance that are related to the effectiveness of M&A transactions.

The purpose of the study is to identify the impact of the quality of corporate governance on the effectiveness of M&A transactions initiated by European companies in Germany, Netherlands and Austria. These three countries are selected because Germany has the highest rate of M&A among the European countries, whereas Netherlands and Austria have a low number of M&A transactions. The thesis has potential to contribute especially to the analysis of listed countries where the impact of corporate governance on M&A transactions is insufficiently studied (Kazmierska-Jozwiak, 2014).

Hypotheses:

1. Hypothesis #1: The size of the board of directors of EU listed companies has a negative impact on the effectiveness of M&A transactions.
2. Hypothesis #2: The number of independent members of the board of directors of EU listed companies has a positive effect on the effectiveness of M&A transactions.
3. Hypothesis #3: The tenure of the CEO of the EU listed companies has a positive impact on the effectiveness of M&A transactions.

Methodology:

The most common and frequently used method for evaluating the effectiveness of M&A transactions is the cumulative abnormal returns (CAR) method, also known as "event study" for public companies (Perepeczo, 2007; Swanstrom, 2006). It will be our first step for the research methodology. The reason for the prevalence of this method is explained by the availability of the necessary information as stock quotes for the observation period. The application of the CAR method was studied by Swanstrom (2006), Hoorn and Hoorn (2011). These studies were conducted in developed capital markets, where Mark Swanstrom (2006) found a negative effect on shareholder welfare from M&A transactions after 1990, when Frans van Hoorn and Nick van Hoorn (2011) determined that the quality of corporate governance plays a significant role in the effectiveness of M&A transactions. Thus, it follows that the degree of influence is different depending on the observation window and the time period of data analysis.

Having examined many articles, the most suitable one for following will be Rani (2020) and Rani (2013). I will use the **Eikon Refinitiv**, Factiva Dow Jones, Stock exchange market as the main databases. The approximate number of transactions during 2010-2019 are 15,672 (Eikon) excluding the missing variables the number will decrease. The final sample for the analysis of corporate governance and the effectiveness of M&A transactions will be based on the following filters: only completed transactions will be taken into account, the company's affiliation to the above countries, the announcement of M&A date corresponds to the one time periods: [01/01/2010 - 31/12/2019], government related companies will be excluded, a final sample is compiled to analyze the impact of corporate governance on the effectiveness of M&A transactions. The excluded time period 2020-2021 refers to the events of the covid crisis. This time period is removed from the sample. In addition, to collect the determinants of corporate governance that affect the effectiveness of M&A transactions, I will use **BoardEx, Factiva Dow Jones** database which presents all the main data on corporate governance factors required for analysis: the size of the board of directors, the number of independent members of the board of directors, the age of the CEO, the term of the CEO's tenure.

Secondly, based on the above hypotheses, I will conduct a linear regression analysis of the impact of corporate governance on the effectiveness of M&A transactions (Rani et. al., 2020). This direction involves a series of linear regressions between CAR, firm

performance variables (ROA, ROE) and the independent corporate governance board structure (Guest, 2010; Bennedsen et. al., 2008). For this purpose, transactions will be selected in which the company is public and belongs to a few of the European countries mainly, Germany, Netherlands and Austria, based on how important or big the transaction was and convenience of data acquisition. Also, the degree of influence of the determinants of corporate governance on the CAR of M&A transactions will be analyzed. At the end, I will analyze the correctness of the selected hypotheses and give the results of the regression analysis. There are many outliers such as missing variables that may influence the relationship between the dependent and independent variable that need to be addressed in order to reduce bias. Therefore, different aspects of corporate governance (similar to those missing variables) have been introduced into the study that influence its effect over CAR of M&A transactions, based on literature and existing studies. This can easily help to identify potential biases within the relationship and reduce the bias immediately (Clarke et al., 2018). The independent variables of corporate governance will be introduced into the linear regression equation. There is no consensus among corporate governance researchers about the addition of control variables, which ones should be added to the linear equation of regression analysis. Masulis (2007) and Campbell (2008) considered that the most appropriate control variables are the variables that characterize the conduct of an M&A transaction: relative deal size, the method of payment, industry relatedness. For further regression analysis, it is necessary to check for multicollinearity of independent variables.

Expected Contribution:

I see my potential contribution in the field of corporate governance and M&A effectiveness in running classic regressions on cumulative abnormal returns using relatively more recent data from the following European countries: Germany, Netherlands and Austria. I will also analyze existing and related research on this topic.

Outline:

1. Motivation: Identification of the impact of the quality of corporate governance on the effectiveness of M&A transactions initiated by EU listed companies.
2. Studies: Literature review on corporate governance and M&A transactions will be presented, as well as the conclusions of these studies.
3. Data: The choice of data collection listed in the exchange stock markets, database on corporate governance structures.
4. Methods: I will explain the methodology of empirical research. Formulation of hypotheses for regression analysis on M&A transaction data.
5. Results: I will present the results of the study, descriptions of the results of regression analysis and conclusions regarding the hypotheses put forward.
6. Concluding remarks: Summary of the work done, I will present the conclusions based on the results of the conducted research, a regression analysis of the impact of corporate governance on the effectiveness of M&A transactions.

Core Bibliography:

1. Bennedsen, M., Kongsted, H. C., & Nielsen, K. M. (2008). The causal effect of board size in the performance of small and medium-sized firms. *Journal of Banking & Finance*, *32*(6), 1098-1109.

2. Block, D., Gerstner, A. M. (2016). One-tier vs. two-tier board structure: A comparison between the United States and Germany. Comparative Corporate Governance and Financial Regulation. 1.

3. Blomson, D. M. (2016). Caveat Emptor: The Accountabilities and Required Actions of Directors in Securing Value When Merging or Acquiring Companies. Paper 2 of 4: Review of Governance Literature to See What Guidance This Provides Directors Involved in Transactions. University of Technology Sydney.

4. Campbell, K., & Mínguez-Vera, A. (2008). Gender diversity in the boardroom and firm financial performance. *Journal of business ethics*, *83*(3), 435-451.

5. Clarke, K. A., Kenkel, B., & Rueda, M. R. (2018). Omitted variables, countervailing effects, and the possibility of overadjustment. *Political Science Research and Methods*, *6*(2), 343-354.

6. Guest, P. M. (2009). The impact of board size on firm performance: evidence from the UK. *The European Journal of Finance*, *15*(4), 385-404.

7. Hauser, R. (2018). Busy directors and firm performance: Evidence from mergers. Journal of Financial Economics.

8. Hoorn, F., & Hoorn, N. (2011). *" Mergers & acquisitions, firm performance and corporate governance": the impact of a firm's board structure on M&A and firm performance* (Master's thesis, University of Twente).

9. Kazmierska-Jozwiak, B. (2014). Activity of Central Eastern Europe Countries on mergers and acquisitions market. *Social Sciences*, *83*(1), 72-79.

10. Kinateder, H., Fabich, M., & Wagner, N. (2017). Domestic mergers and acquisitions in BRICS countries: Acquirers and targets. *Emerging Markets Review*, *32*, 190-199.

11. Masulis, R. W., Wang, C., & Xie, F. (2007). Corporate governance and acquirer returns. *The Journal of Finance*, *62*(4), 1851-1889.

12. Liu, Y., & Wang, Y. (2013). Performance of mergers and acquisitions under corporate governance perspective. *Open Journal of Social Sciences*, *1*(07), 17.

13. Perepeczo, A. (2007). Event study in the evaluation of effects of mergers and acquisitions. *Folia Oeconomica Stetinensia*, *6*(1), 107.

14. Rani, N., Yadav, S. S., & Jain, P. K. (2013). Impact of corporate governance score on abnormal returns of mergers and acquisitions. *Procedia Economics and Finance*, *5*, 637-646.

15. Rani, P., Shauki, E. R., Darminto, D., & Prijadi, R. (2020). Motives, governance, and long-term performance of mergers and acquisitions in Asia. *Cogent Business & Management*, *7*(1), 1791445.

16. Swanstrom, M. (2006). Corporate governance and the abnormal returns to acquisition announcements. *Journal of Business Strategies*, *23*(2), 115.

Chapter 1

Introduction

Corporate governance is a set of organizational rules and procedures that ensure the management of corporations and aimed at increasing the value of the organization, including value during a merger or acquisition; it also aims at balancing interactions between shareholders and owners of the organization, its management and other financially interested persons.

In the recent years, academia and business world have continued to pay keen interest to effectiveness of mergers and acquisitions with regard to different factors influencing the success of these deals including corporate governance mechanisms. Under conditions of globalization and growing competitiveness including more dynamic business environment, companies find M&A deals as one of options of the extension strategy (Barkema and Schijven, 2008). The performance of M&A has been studied by many scholars showing positive impact of mergers and acquisitions' transactions on the value of the targeted firm (Andrade, Mitchell and Stafford, 2001; Moeller, Schlingemann and Stulz, 2004). As for shareholder value of the acquiring firm, studies have shown different outcomes ranging from slightly positive, neutral to even negative effect (Andrade, 2001; Moeller, 2004). One of the explanations of value destroying acquisitions could be an "agency problem" (Jensen and Meckling, 1976) that stems from principle-agent relationship deriving from the separation of ownership and executive decision-making.

The principle of separation of ownership and control rights in corporate governance applies to shareholders and top managers, where the former are the owners of the capital of the corporation, but the right of control and management belongs to the latter. Although shareholders are interested in maximizing a firm value (Demsetz, 1983), managers may have other goals such as maximizing salaries, increasing reinvestment in the company, growth in market share, etc. Hence, differences in interests of the principle and agents might lead to value destroying mergers and acquisitions as management could operate aiming its own interest instead of that of owners.

Since 2000s, multiple corporate governance scandals and financial crisis have led governments to re-appraise their corporate governance codes, as the corporate governance regulations could make a significant input in minimizing the agency problems and creation of mechanisms that would ensure the asymmetry of decision-making in favor of shareholders and managers. Having reliable information on a firm's performance, shareholders would better monitor the board of directors whether they do not deceive them of the investments' cost (Bushman and Smith, 2001). During the last two decades, there have been undertaken several studies on impact of the above-mentioned corporate mechanisms on a firm performance (Yermack, 1996; La Porte et al., 2002; Minton, Taillard, and Williamson, 2011; Wang, Xie, and Zhu, 2015). Yet, there has been undertaken less research on how such corporate governance mechanisms as the size of the board of directors, proportion of independent board members, and tenure of CEO influence performance of M&A deals.

Following introduction of so-called "Sarbanes Oxley Act" in US, there have been undertaken weighty and significant actions on improving the

corporate governance codes worldwide including countries in Europe. The concept of corporate governance comprises of several components including the board of directors that will be studied more precisely in the paper. Particularly size of the board, number of independent members on the board, the tenure of CEO might play an important role in balancing the interests of the shareholders and the board of directors and hence have a positive impact on performance of M&A transactions.

The study will evaluate results and how to improve the performance of M&A deals via investigating the impact of afore-mentioned components of corporate governance concept on the M&A efficiency that will be estimated on the basis of cumulative abnormal return on the stock of a firm after an M&A deal announcement. The study analyzes data including EU listed companies in Germany, Netherlands, and Austria that have acquired between 0 and 100% of shares of another EU listed company covering the time period 2010-2019. The companies have been selected from these three countries due to the availability of data. As a result of this research, we observe several ways how corporate governance mechanisms could be built up to enhance the performance of M&A trading. This will show how the efficiency of mergers and acquisitions can be improved from both an academic and a practical business point of view. The outcome could be of interest to companies in increasing and improving efficiency of M&A deals.

The thesis consists of six chapters: introduction, literature review, sample selection, empirical analysis, presentation of results, and conclusion. In chapter two, there is undertaken the overview of literature on M&A deals and performance, agency theory, corporate governance in EU and its mechanisms. The chapter three contains and describes the data collected from

the database. The chapter four will provide an analysis of data and description of the research methodology. Then, in chapter five there will be presented results of the analysis including discussion of findings. Conclusions talk through potential areas for further research and will be in the chapter six.

Chapter 2

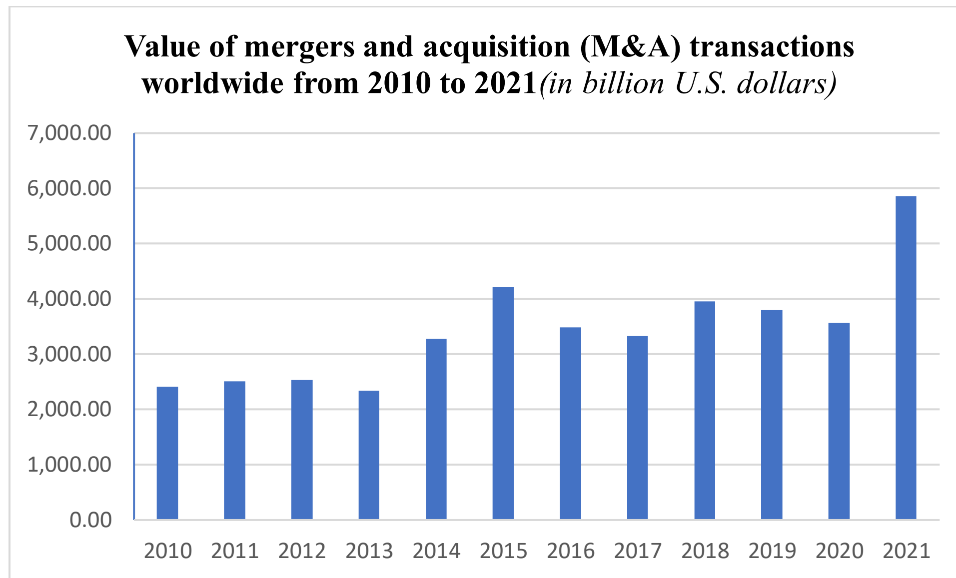
Review of Literature

The chapter will provide a literature review summarizing the study conducted to complete the research work including the Agency Theory, as the basis of Corporate Governance, the concept and different types of Corporate Governance mechanisms, performance of M&A deals.

2.1 Mergers, Acquisitions, and M&A Deals Performance

The businesses tend to maximize their value (Jensen and Meckling, 1976) organically by firm growth and radically through various type of mergers and acquisitions (Barkema and Schijven, 2008). Within 2010-2021, the number as well as the value of M&A deals has grown globally and has a tendency to reflect generally on the state of the world economy.

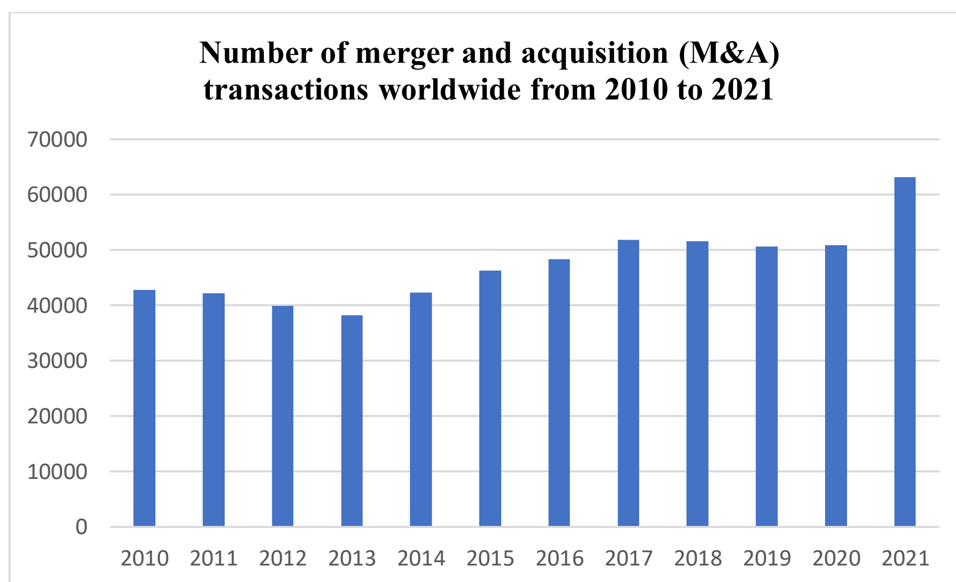
Figure 2.1: Statistical data on value of M&A deals in 2010-2021



Source: Statista Research Department, Jan 26, 2022.

If in 2010, the value of global M&A transactions amounted to 2,410.64 trillion U.S. dollars then in 2021, it has grown significantly reaching to 5,857.38 trillion U.S. dollars.

Figure 2.2: Statistical data on number of M&A deals in 2010-2021



Source: Statista Research Department, Jan 26, 2022

As the previous studies reveal, there are several reasons explaining this growth strategy. The main motive is that acquiring firms strive higher performance (Sirower, 1997; Bergh, 2001). Next to gaining access to external resources (Hoffmann and Schaper-Rinkel, 2001), to specific knowledge (Gupta and Ross, 2001), to new foreign markets (Anand and Singh, 1997), the access to technological knowledge is one of the principal goals for mergers and acquisitions (Hussinger, 2012). Moreover, achieved synergies generate a combined value that excels the value of both particular firms (Hayward and Hambrick, 1997). Thus, mergers and acquisitions provide an option of a strategic alliance to fortify market position of a firm (Fornalczyk, 2012).

The decision of merger or acquiring is taken not solely because of knowledge acquisition or improving technological aspects (Hamel, 1991). It provides an opportunity to expand the market share or other market-structure related motives, for instance such as the entrance to a new market aiming at expansion of the company's product line geographically (Cloodt et al., 2006). Usually, companies with poor performance become subjects of hostile acquisitions (Weitzel and McCarthy, 2011) when the acquirer's intentions are based mainly on information considering the inefficient management that is not able to effectively use the company's assets (Matsusaka, 1993). In certain cases, acquisitions might happen just simply according to "thing to do" principle (Huyghebaert and Luypaert, 2010). There are might be many other factors motivating companies to acquire a certain business, such as the

characteristics of bidder and target, price of the target, its business portfolio, possessed knowledge, etc.

Activity in mergers and acquisitions has a tendency to grow after certain changes introduced in regulations concerning M&A deals and during economic expansions (Andrade, Mitchell, & Stafford, 2001; Berk & DeMarzo, 2014). The integration of national markets towards a single European market was one of the major goals established at various economic forums taken place during the last decade promoting cross-border activities and M&A activity on a whole (Campa & Hernando, 2004).

Jones (2009) has identified three types of M&A transactions: a horizontal merger with alliance of firms in the same group of business; a vertical merger with engagement of firms that are on different stages of production; and diversification merger involving two firms that are not in the same industry and supply chain, and are not competitors.

Furthermore, although a merger and acquisition is the fastest way to maximize the value enhancing growth of a company and its capabilities, there should be undertaken cautious actions and steps in approaching it. Moreover, the company should possess a sound strategy to perform it duly. There could be defined several steps in achieving success and gain in M&A deals performance (Jones, 2009). First of all, it is important to specify precise goals and objectives including priorities for all parties involved and ensure that the potential target corresponds to company's M&A strategy. Once a merger or acquisition is announced, there should be worked out the plan in details and formed core teams to execute the plan that is of great importance for CEO and members of management. The management team should be also ready for any changes in the set plan. The purpose of M&A deal and the transaction

should be explained to main stakeholders: investors, employees, and on a whole the public.

The team involved in mergers and acquisitions should also maintain necessary speed during pre- and post-M&A situations. For example, there might be cases when competitors could bid up the price or an acquirer might use certain actions to block the deal. Thus, a company has to act fast in order not to lose the invested resources.

The crucial point in achieving the success in a merger is formation of strong pre- and post-integration merger teams focused on the strategy and integration of the two companies and systems.

The next issue is developing a plan on mergers so it will be easy to monitor the achievements against set plan and see the efficiency of M&A. In doing so a company will be aware whether things are doing well or bad as a result of merger or acquisition (Bourgeois, 2009)

The challenging aspect in the merging process is culture that at the same time is considered a valuable asset that is hardly transferred or adopted. In both international and domestic mergers and acquisitions there are certain concerns regarding integration within culture of an acquiring and target companies. This could be solved with conducting special training programs for employees of both companies on the merging culture and the importance of merging into a single team.

According to Zollo and Singh (2004), M&A performance process comprises of three main stages: due diligence, bargaining, and consolidation. The most crucial phase is due diligence process when the acquiring firm inspects the target firm, as it will be unfeasible to achieve the anticipated value of a certain deal without this procedure (Perry and Herd, 2004).

The level of success of M&A deals could be assessed using various methods one of that is a so-called 'event study' where an abnormal stock market reaction surrounding the M&A announcement is measured. Since 1970s the 'event study' has been widely applied in M&A research (Martynova and Renneboog, 2008). Central to this methodology is the measurement of ARs. The method is based on the assumption of the efficiency of capital markets, according to which current prices should reflect all the information available to the markets. In this case, the share price of public companies should reflect the economic benefits received as a result of the merger and acquisition transaction. A significant place in the framework of this method is occupied by the measurement of excess returns. Excess return is the difference between the daily actual and normal yield in the event window. This is the part of profitability that is not forecasted, but reflects the reaction of the stock price and the value of the company to a certain event. This value is usually calculated as the sum of daily, monthly, annual excess revenues in the event window for several days, months, and years before and after the event related to the merger or acquisition transaction.

Studies based on the method of cumulative abnormal returns in most cases show that companies that have been the object of a takeover benefit from the results of the transaction; at the same time, it is very problematic for companies that are the initiators of the transaction to unambiguously interpret the results. Thus, the values of cumulative abnormal returns (CAR) for target companies are almost always positive and do not depend on the sample (Asquith et. al, 1983; Jensen and Ruback 1983; Bruner, 2004) and there are not clear returns for acquiring firms. Thus, the negative or positive abnormal returns from the stock market could be seen as an indicator of M&A

performance. Whereas, in a meta-analysis of empirical studies, post-takeover deal performance is influenced by such essential determining factors as serial acquisitions, CEO overconfidence, acquirer-target relatedness, and shareholder intervention in the form of voting or activism (Renneboog et al.,2019). There have to be considered certain risk factors as well that might influence survival post-M&A including the time taken until deal completion that might be a very important source of information for investors, risk managers, and regulators. During the negotiation stage, information is usually not available for the public under market conditions. The time passed from the announcement date of a deal and its successful completion or its ceasing can provide information on the ex-ante probability on whether it would succeed or fail, thereby suggesting the necessity to pay attention to the time it takes until a deal conclusion (Caiazza et al., 2016).

There are different explanations in the academic literature for negative result on M&A deals, and one of them is an agency problem taken place within the firms. Principle-agent issues emerging from the separation of ownership and control might give negative value effects for the acquiring firm. An effective Corporate Governance policy and mechanisms would contribute to overcome and prevent these problems, as the quality of corporate governance plays a significant role in the effectiveness of M&A transactions (Chen et al., 2007). In the next paragraph, we will review literature and discuss the concept of the ‘Agency Theory’.

2.2 Agency Theory

The agency theory, entrenched in finance and economics, is a theory based on the separation of ownership and management functions (Berle and Means, 1932; Jensen and Meckling, 1976) causing divergence of interests between the principle (investors) and the agent (the managers). Here, both parties may have self-interest utility maximization (Alchain and Demsetz, 1972) where owners are interested in increasing a firm value and the primary purpose of managers might be to enlarge the size of the company (Seal, 2006) enjoying many benefits including consolidated positions, more strengthened own power, higher status and wages, and provision of more opportunities for their subordinates. Therefore, the agency problems are associated with contradictions in the interests of different parties (the owner, top managers), in which decisions made by managers do not always meet the interests of the owner causing a conflict (Hauser, 2018).

Therefore, in the course of studying corporate governance and performance of M&A deals, it is important to pay attention not only to the effectiveness of transactions, but also to agency problems within companies. Within the agency issues, the main features that generate conflicts are the asymmetry of information and incompleteness of contracts. Most often, distribution of information between the participants of the parties takes place asymmetrically when managers of the enterprise are aware of the current affairs of a firm better than the owners are, and might misuse this advantage to gain their personal interests (Akerlof, 1970; Williamson, 1984).

The agency issue, i.e., the principle-agent problem is also an essential part of the “incomplete contracts” (Fama and Jensen, 1983; Hart, 1995). In

separation of ownership and management functions, the owners intend to sign a full contract for the management of invested capital to align thoroughly the interests and objectives of managers. Nonetheless, complete contracts are unfeasible as it is impossible to describe or predict all possible scenarios and future contingencies meaning that owners and managers will have to distinguish the remaining control rights for decision-making in unforeseen situations and those not covered by the contract. Moreover, the costs of monitoring compliance with full contracts are usually too high so it is more profitable to monitor partially their execution. Therefore, it is more popular to apply incomplete contracts regulating the main points of the relationship between owners and managers.

The afore-mentioned agency conflicts have a direct impact on both the decision taking on M&A affairs and their effectiveness. Therefore, shareholders look for possible options to prevent the managers from maximizing their utility (Jensen, 1994), to reduce agency costs aligning the interests of managers with the stockholders. There is suggested a number of measures:

1. The principle undertakes an active monitoring of the agent preventing directors from acting solely in their interests (Alchian and Demsetz, 1972);
2. To increase number of independent directors to monitor the performance of the CEO and other managers (Baysinger et.al, 1991).
3. separating CEO and chairman due to conflict of interest when CEO represents both shareholders and management (Rechner & Dalton, 1991);

4. setting up a proper remuneration scheme for CEO to tie the personal wealth of CEO to that of a firm (Jensen & Meckling, 1976);
5. aligning the interests of shareholders and executives through an appropriate corporate governance structure (Sheilfler and Vishny, 1997).

Agency theory assumes that companies with superior corporate governance standards have better efficiency because of high monitoring of the company's activities and a low agency problem (Fama, 1980). Thus, appropriate corporate governance structure is considered as one of the most important ways to solve the agency problem.

An important circumstance of the agency problem is the significant control over the distribution of funds of investors, shareholders by the company's managers. In addition, expropriation of shareholders' funds is possible, which takes different forms. The expropriation of shareholder benefits as the consumption of additional income by company managers. Another form of expropriation of shareholders' funds is the activity of managers aimed at consolidating their positions. The expropriation of shareholders' funds as an agency problem leads to a deterioration of the situation for both shareholders and managers of the company.

Shareholders of companies have a variety of risk preferences for investment projects and M&A transactions. At the same time, due to risk diversification, the problem of lack of investment in high-risk and profitable projects or M&A transactions may arise.

In addition, it is necessary to focus on agency conflicts on the part of major and minority shareholders in making decisions on M&A transactions.

Recently, interest in the agency conflict between major shareholders and minority shareholders has caused a lot of discussion. As mentioned earlier, agency conflicts directly affect both the decision-making on M&A transactions and their effectiveness.

2.3 Corporate Governance in Europe

Following introduction of the Sarbanes-Oxley Act in US, there have been taken actions towards improvement and enhancement of corporate governance regimes in EU that succeeded in achieving considerable convergence, adjustment, and unification in corporate governance systems among European countries (Ivashenko and Brooks, 2008). During the last two decades, the European Commission has focused on improving and enhancing better practices in corporate governance among member countries. The undertaken actions and many other international factors emerged tangible changes in the corporate governance mechanisms making Europe one of the fastest growing and changing corporate governance environments in the world.

The European Union has identified the main course for future actions on corporate governance in 2003 and 2012 Action Plans published by the European Commission. In addition to them there have been developed and issued five more regulatory papers in the form of proposals and directives including:

- Europe 2020, initiated in 2010, a 10-year growth and jobs strategy;
- Proposal for the revision of the Shareholder Rights Directive (April 2014). The published revisions (European Commission 2014) were aimed

at solving certain corporate governance issues, focusing on the behavior of companies and their boards, shareholders (institutional investors and asset managers), and intermediaries and proxy advisors (firms providing services to shareholders, notably voting advice).

- Recommendation on corporate governance reporting (April 2014) had a purpose to improve corporate governance reporting by listed companies.
- Proposal for a directive on single-member private limited liability companies (April 2014) had an objective to promote the creation of companies with a single shareholder across the EU. It should simplify and hence facilitate establishing subsidiaries for businesses in other member states, as most affiliated companies used to have only one shareholder, a parent company.
- Directive on Disclosure of Non-Financial and Diversity Information (April 2014), adopted by the European Parliament, relates to disclosure of nonfinancial and diversity information by certain large companies and groups. According to the regulation, companies should disclose information on policies, risks, and outcomes concerning environmental, social and employee-related aspects, respect for human rights, anti-corruption and bribery issues, and maintaining diversity in their board of directors (CG Practices in EU Guide, IFC report, 2015).

The above-mentioned regulations apply to large companies with more than 500 employees that are required particularly to disclose specific nonfinancial information in their management report. The list of entities includes also such unlisted companies as banks, insurance companies, and others defined as such because of their activities, size, or number of

employees. There is approximately more than 6,000 large companies and groups across the EU.

The taken measures and introduced reforms had a focus mainly on-board models and the improvement of internal controls. The corporate governance codes are applied only to listed companies, i.e., those defined as listed on a stock exchange or on a multilateral trading facility (Wymeersch, 2013).

In 2006, European Commission introduced the EC Directive 2006/46 requiring all listed companies to provide a corporate governance statement in the annual report to shareholders. Europe 2020 and EU Action Plan (2012) are lately published long-term plans aimed at developing corporate governance practices, enhancing competitiveness, and securing sustainability among European companies (CG Practices in EU Guide, IFC report, 2015).

Following introduced regulations, European Commission has provided the recommendations on a number of fields where the present status of applying corporate governance principles could be improved. The recommendations are addressed to the national entities responsible for developing, adopting and applying corporate governance principles and codes and to the companies that apply these codes.

1. Corporate governance codes are helpful and valuable instruments to deal with governance issues. Their persuasiveness will depend on the effective application of the codes.

2. 'Comply or explain' is a prudent approach to corporate governance issues: 'comply' means that companies are obliged to explain extensively their governance structure and related mechanisms. Whereas 'explain' is understood as providing proper, clear and informative explanations, particularly in cases of non-compliance.

3. Companies should maintain their contacts with investors on a more frequent and intensive basis than solely at the annual general meetings.

4. Institutional investors and asset managers should strive and be able more actively engage with investing companies, avoiding restrictions in present regulations. Formation of a separate governance subsidiary with its own funding could bring useful input to achieve this objective.

5. Regulations on coordinated actions and on insider trading should not stand in the way of properly organized engagement efforts.

6. Companies should actively monitor their governance mechanism internally.

7. Appropriate corporate governance bodies should be established nation-wide to ensure follow-up actions on developing and monitoring the application of the codes. Whereas senior and experienced business persons should carry our external monitoring.

8. It is necessary to enhance cross-border contacts, including monitoring on a cross-border basis, that could be powerful tool for building a common benchmark on certain governance subjects.

9. Corporate governance bodies should be welcomed to engage in an active dialogue with companies, encouraging them to identify best practices, including with respect to the implementation of the codes

10. National corporate governance bodies should be designated to publish the names of companies with imperfect corporate governance practices; there should be provided due protection against liability, libel, and false information.

European countries have a variety of board structures and board compositions having the one-tire or unitary (Spain, Malta, UK, Greece), two-

tire (Germany, Poland, Austria, Estonia), and Nordic type of boards (Sweden, Finland).

The one-tier board has both managerial and supervisory functions in one unified board of directors that is traditionally shared between the Chief Executive Officer and Executives directors; a Chairman or Lead Director and Independent Directors. The unitary type has such advantages as improved flow of information, faster decision making, and favorable opportunities for board members to better integrate into a company's business affairs (Block et al., 2016). Its structure and size allow to have superior flow of information when a board has a great number of meetings with presence of all members and has constant contact with the management of the company enhancing better understanding of the business. Moreover, due to the structure the decisions are taken and executed faster. There are also few disadvantages of the one-tire board including neutrality of a board member and joint CEO/chairman positions.

Within two-tire structure, there is a management board where the executive directors make decisions on the company's objectives and supervisory board with non-executive members monitoring these decisions (Carsten, 2006). The total number of board members can range from 3 to 21 depending on the amount of share capital, the impact of codetermination and the bylaws of a company. The supervisory board influences the executive board through rendering mentoring, advice, and giving consents. The efficiency of supervision depends on level of independence from the management and access and availability of information (Block et al., 2016). There might take place a conflict of interest when the management board influences the selection process of supervisory board members. At the same

time, the supervisory board with less involvement in and distancing from the management could be lacking insider business information. However, a supervisor depending on management as a source of information might emerge the information asymmetry (Hooghiemstra, 2004). Nevertheless, the primary responsibility of the board is to monitor, control, and remove ineffective management teams, to ensure that managers pursue the interests of shareholders.

Furthermore, the main peculiarity of corporate governance structures in continental Europe that most of firms have a dominant shareholder (an individual or a family) controlling the majority of votes, i.e., at least 20 percent of them (Enriques and Volpin, 2007). In addition, usually these dominant owners undertake control via pyramidal ownership, shareholder agreements, and dual classes of shares (La Porta R. et al., 1999) brining to such consequences when interests of controlling and minority shareholders are not balanced (Morck et al., 2005). So, the reforms have to be continued to address the issue related to the power of dominant shareholders (Enriques and Volpin, 2007).

In the research, there will be studied companies with two-tier boards in Germany, Netherlands, and Austria as we could face more challenges in comparing data between different types of board models.

2.4 Corporate Governance Mechanisms and Hypotheses Development

By corporate governance mechanisms, we understand both internal and external processes including corporate rules, practices, and processes and

mechanisms leading to interests′ alignment via that firms and large corporations are controlled and directed by shareholders, various stakeholders (employees, investors, suppliers etc.), and public as well (Adams, Hermalin, and Weisbach, 2010). If the external mechanisms include the legislation and the so-called ‘market for corporate control’ (Fama, 1980), then the internal ones are aimed at balancing interests of the directors and shareholders (Walsh and Seward, 1990). The prior studies provide evidence that companies with enhanced corporate governance mechanisms enjoy positive abnormal returns in the short term; have better financial performance and higher post-M&A outcome. Whereas companies with poorer corporate governance performance have lower financial performance and lower post-M&A results (Rani et al., 2013). The results are consistent with La Porta et al. (2002) that firms with better corporate governance enjoy higher valuation. Further, we will be studying more precisely such internal mechanisms as a board size, number of independent directors on the board, and the tenure of CEO. The reason of choosing them is that they are comparably easy to study and at the same time they play an essential role in corporate governance policy. In the following parts, we will summarize all the findings relevant to the above-listed mechanisms and formulate a hypothesis.

The Size of the Board of Directors

The size of the Board of Directors, defined by a number of directors, is the first component of the corporate governance mechanisms to study. We will focus on countries such as Germany, Netherlands, and Austria where firms have a mandatory or predominantly two-tier boards, the basis of that is separation of executive management and non-executive control functions into

a management board and a supervisory board (Hopt, 1998). Board sizes differ considerably among EU member states. Thus, Netherlands has an average number of directors per board at 8.6; Austria – 11.8; and Germany has the highest at 17.0 due to representation of workers on its boards (Heidrick & Struggles, 2014).

Since 2007, there was evidence in EU that poorly performing companies made decision to decrease number of directors on their boards. During 2000-2010, in a stable sample of existing firms board size decreased from an average of 10.1 members in 2003 to 9.7 directors in 2010 (Ferreira and Kirchmaier, 2013). Boards' sizes mostly depend on a company size and relatedness to certain industry. Ultimately, there are no significant differences in average board sizes between one-tire American and two-tire European boards despite distinctions in regulations.

During last decades, researchers and business professionals have continuously debated the issues related to ideal size and composition of a corporate board as its size and structure have noticeable impact on board members' incentives and play an important role in board effectiveness (Raheja, 2005) and hence in a firm performance. The optimal size of the board with the correct proportion of executive and external directors and presence of independent directors is very important in determining the most effective composition of the board of directors (Guest, 2009). According to Peni (2014), increase in number of board directors leads to a deterioration in the quality of the company's management. As soon as the composition of the board of directors increases, there is a problem of communication between the members of the board of directors and, as a result, the quality of decision-making deteriorates (Eisenberg et al., 1998; Guest, 2009). Such moments

undoubtedly have a negative impact on the effectiveness of mergers and acquisitions, and lead to a reduction in profitability, destabilization of the company's position.

An acceptable number of members in the council reduces communication obstacles, also improves management and interaction between participants. However, the optimal number of members of the board of directors varies depending on the scope of the company's activities and may change over time as the business develops (Cheng et. al., 2008). The coordination issues could emerge in larger boards but at the same time, the decision-making with larger boards might be less risky (Cheng et. al., 2008) and less extreme. In addition, one of the positive sides of boards with large size is possession of greater collective information that consequently led to higher performance (Dalton et al., 1999, 2005).

Eventually, most of studies have shown that an optimum board size has positive effect on a firm performance varying with firm characteristics. So, one might expect a general negative dependence of the larger boards' size on performance of an M&A deals. To conduct a linear regression analysis, it is necessary to introduce hypotheses confirming or refuting the impact of a board size on the effectiveness of M&A transactions. Based on the previous studies and theoretical description of corporate governance and M&A, the following hypothesis has been formulated:

Hypothesis 1. *The size of the board of directors of EU listed companies has a negative impact on the effectiveness of M&A transactions.*

The Number of Independent Members of the Board of Directors

The second component of corporate governance mechanism to be studied is a number of independent members on the board of directors. An independent or an outside member is one who is independent in his decisions from shareholders, top managers, employees and other interested parties (Akpan and Amran, 2014). Independent members play a key role in the entire corporate governance system and act in the interests of the entire company as a whole, and not in the interests of any individual groups of influence. According to Fama (1980), the presence of independent members in a board makes it possible to monitor the actions and decisions of all members of the board. The position of outside directors differs from other members of the board because they provide an independent and unbiased judgment on strategic issues of the company's activities and take an active part in resolving conflicts of interest (Naciti, 2019).

Efficiency of independent directors depends on the cost of acquiring information about a firm: low costs lead to performance increase, and high costs worsens it thus supporting studies on information asymmetry (Duchin, Matsusaka, and Ozbas, 2010). Scholars identify two major roles of boards: monitoring and advising. At the same time, efficiency of independent members in successful implementation of both roles depends on the information environment and access to information (Raheja, 2005; Adams and Ferreira, 2007; Harris and Raviv, 2008). In particular, outside members of the board become less productive and effective in monitoring and advising with higher cost of acquiring information about the company. Moreover, increase in the number of independent directors in the board does not bring noticeable negative or positive results to performance on average. At the same

time, presence of more outside directors on the board considerably improves company's performance taking into consideration low cost of information, and vice versa has a negative impact on performance when cost of information gets high (Duchin, Matsusaka, and Ozbas, 2010).

Moreover, it is advisable to invite an experienced specialist in a certain field as possessing an extensive professional expertise improves ability of independent directors to perform their monitoring function (Wang, Xie, and Zhu, 2015). Outside directors having sound expertise in the industry, in which a company operates, are likely to be more effective in monitoring and providing advice due to their experience in related industry. Their extensive knowledge and experience of industry affairs would enable them in understanding better the company's unique issues and opportunities, assessing any information concerning the company's operation and financial state, and finally providing unbiased evaluation to the management decision making. Thus, being a highly qualified specialist, an outsider director could participate in the discussion of all significant issues, expressing an impartial judgment based on an independent assessment of the difficulties under consideration (Reguera-Alvarado and Bravo, 2017).

In Europe, independence is based on the definition specified by the European Commission guidelines of 2005. It has a peculiarity of favoring stakeholders over independent members of the board. As an example, in 2000-2010, supervisory boards in Germany consist of employees (49%), other non-independent executive (24%), and truly independent members of the board (29%) favoring professional experience of management and stakeholder contribution over independent members (Block et al., 2016). However, board independence has been growing since 2000, but the

developments are not very impressive where the proportion of outside members on the board has increased from 29 percent in 2000 to 34 percent in 2010 (Ferreira and Kirchmaier, 2013). A common standard of independence is difficult to outline due to labor participation. Representatives from workers' groups could be classified as independent due to lack of any direct business relationship but they are linked to the interests of the workers, i.e., the employees of the company. (Ferreira and Kirchmaier, 2013). Overall, size and performance of a firm are positively linked to board independence in European countries.

Today, the presence of independent members on the board of directors are considered as an important sign of the level of development of the company's corporate governance having a positive influence on a firm performance. Therefore, one might assume that a similar impact could be on M&A performance hence the following hypothesis has been developed:

Hypothesis 2. *The number of independent members of the board of directors of EU listed companies has a positive effect on the effectiveness of M&A transactions.*

The Tenure of the CEO

The third and the last component to be studied is CEO's tenure that plays an important role in the company's efficiency and its performance as well. There are continuous discussions taken place within academia and practitioners arguing over optimum period of CEOs stay in office. Empirical studies provide evidence that such corporate outcomes as management of income

(Ali and Zhang, 2015), relationship between company and customers and between employees and company (Luo et al., 2014), net investments (Pan et al., 2016), and business profitability (Henderson et al., 2006) tend to vary depending on CEO tenure.

The advantages and disadvantages of the tenure of the CEO have been widely discussed over the past few years and the mature age of the chief manager can be ascribed more to the positive sides than vice versa (Reguera-Alvarado and Bravo, 2017). Over the years, the CEO has accumulated a lot of professional and life experience, a wealth of skills and abilities necessary for management, thereby helping to understand the possible problems that the company may face as a result of M&A.

It is assumed that with the help of experience being on the board, the director of the company gives an established interaction with the board of directors, undoubtedly improving the efficiency of the company's activities and allows accelerated adoption of important decisions (Casares Field and Mkrtchyan, 2016; Im and Cao, 2017). However, other studies (Hambrick and Fukutomi, 1991, Henderson et al., 2006; Brochet et al., 2021) show opposite results and suggest that the long tenure of the CEO leads to a weakening of motivation, stagnation in the development of the company and to negative consequences from M&A transactions. This usually led to a decrease in their decision-making skills, which could lead to poor performance in the future.

There are distinguished five phases in a CEO's tenure known as 'response to mandate', 'experimentation', 'selection of enduring theme', 'convergence', and 'dysfunction' (Hambrick and Fukutomi, 1991). At the initial stage of taking office, the new CEO must quickly understand how

everything works and what drives the company that brings positive results. After a while, this effectiveness reaches its maximum and he enters a period of constancy. Working in this position for several years, they gradually lose their enthusiasm and continue to work with an outdated topic. With longer tenure of CEO, the company's performance might decline as the chief manager might become more powerful, less able to learn, less engaged and hence less efficient (Hambrick and Fukutomi, 1991). During the first ten years of a CEO's stay in the office, the relation between CEO tenure and company value is increasing and starts to decline after about 14 years. Therefore, longevity might bring to dullness and strategic decisiveness might weaken with length of service. In dynamic industries, value of a firm tends to go down after fewer years of CEO tenure taking into account two factors: CEO having less adaptability to changes and labor market having greater frictions (Brochet et al., 2021). Moreover, the performance might deteriorate when CEOs also chair the board of directors. It could cause a decrease in a company's value with more years of CEO in office in cases when they are less adaptable to the dynamic business environment.

Based on the findings the following hypothesis has been outlined:

Hypothesis 3. *The tenure of the CEO of the EU listed companies has a positive impact on the effectiveness of M&A transactions.*

After setting up all the hypotheses of this study, it is necessary to determine the relevant methods for their evaluation. The next section will present the data collected for the study, as well as the methodology for the analysis.

Chapter 3

Data

To begin with, we need to check the impact of corporate governance on the efficiency of mergers and acquisitions. Refinitiv Eikon database was used as the main informational source to find cases of mergers and acquisitions within countries such as Germany, Netherlands, and Austria. Annual reports that are available on official web pages and some of inaccessible are obtained via Factiva Dow Jones database which performs board structure and director information. The selection of companies for the study was carried out according to the following criteria:

1. The deal/transaction must be completed. Lots of companies announce a deal and only part of the announced M&A deals are finally completed because of different reasons.
2. The announcement of M&A date corresponds to the time period: [01/01/2010 – 31/12/2019]. The excluded time period 2020-2021 refers to the events of the Covid-19 crisis. This time period is removed from the sample.
3. Both acquiring and target companies must be located in Germany, Netherlands or Austria. First of all, it is required to have only domestic deals because the selected companies act in compliance with local corporate legislature and regulations. As the prior research has shown cross-border and domestic deals distinguish from each other (Caiazza et.al, 2014).

4. Information about the company's activities and financial results should be publicly available i.e., both acquiring and target companies must be publicly listed. Most of available information on corporate governance could be found from public information sources and the publicly listed companies are obliged to provide certain data and share certain information.
5. Government related companies will be excluded.

The initial sample, downloaded from the Eikon Refiniv database, included 15,672 M&A transactions for the period from 2010 to 2019. After applying the above filters, in the final sample M&A transactions were presented for 426 M&A transactions in the selected three European countries. The historical data on share prices was available on 41 deals from 426 listed M&A transactions. The largest number of transactions have taken place in Germany with the number 36, Netherlands - 4, Austria – 1. The main data on the sample are given in the Table 3.1. The companies belong to the following 10 industries: software industry, automotive industry, real estate, financials, high technology, materials, consumer staples, media and entertainment, recreation & leisure, and textiles & apparel.

Table 3.1: Distribution of M&A transactions between 2010-2019

Announcement of the deal/Market	Germany	Netherlands	Austria	Total
2010	7	0	0	7
2011	4	0	0	4
2012	4	0	0	4
2013	2	0	0	2
2014	2	0	0	2
2015	2	0	0	2
2016	1	2	1	4
2017	7	1	0	8
2018	3	1	0	4
2019	4	0	0	4
Total	36	4	1	41
% acquier	87.8	9.8	2.4	

The Table 3.1 shows that the largest number of M&A transactions were conducted in 2017, and the smallest number was in 2013-2015. During the period from 2010 to 2012, 36% of the total number of M&A transactions were carried out and 40% respectively between 2017 to 2019. It should be noted that this trend is caused by the presence of both financial indicators of companies involved in M&A transactions and the possibility of determining the determinants of corporate governance, since corporate governance is actively developed in Europe as a whole. In 2013-2016, the smallest number 25% of M&A transactions of the total volume were carried out.

Chapter 4

Methodology

The next part of the work will describe the research methodology. The most common method of measuring the effect of an event, which has an impact on the returns that shareholders receive, is the event study developed by Fama et.al (1969) and broadly used in different research studies. There is applied methodology adapted by MacKinlay (1997) that analyzes the market reaction to M&A deal announcements.

4.1 Dependent Variable

The main dependent variable is 'M&A deal Performance' measured by the cumulative abnormal returns on the shares of the acquiring company. According to prior research, this cumulative abnormal return will be a good indicator of evaluating performance of mergers and acquisitions' deals (Hayward and Hambrick, 1997). The positive result of abnormal return on the deal is defined as being good whereas the negative market reaction can be identified as bad (Jensen, 2001). There will be used an 'event study' method to generate this main dependent variable. The event study measures the market reaction on the basis of a specific event that is M&A deal announcement in the current research work. The method has been invented by Fama et al. in 1969 and has been re-assessed and modified by scholars (Warner, 1985; Perepeczo, 2007) and extensively used in different kinds of research work.

An event study, also named as event-history analysis, applies statistical methods, using timeframe as the dependent variable and then searching for variables that justify the duration of a certain event or the time until an event happens.

The study is frequently defined as the abnormal returns methodology and is primarily used in measuring the change of stock prices of listed companies with regard to certain events or event announcements. It is considered as an empirical analysis method that evaluates the impact of occurrence of certain significant events or unforeseen event on the value of a security, such as company stock. Based on the market information, it could be observed that shareholders of merging companies benefit from the deal as the price of their shares rises and hence the return increases as a consequence of the rise in the market price of those shares.

Thus, the primary objective of the event study is to determine additional profits or losses of shareholders in relation to the event in which they are engaged. The level of growth in post-acquisition shareholder value defined is measures directly in the form of the abnormal return.

Event analysis is undertaken in certain time intervals in relation to a reference day, i.e., event occurrence date. Therefore, first it is important to identify the event day as a reference for assessing the value growth to measure abnormal returns. The reference date is determined as the day when there is made public bid announcement of the day when the bid is put up. The reference day is then used to identify the observation period that might be in days or months that is defined as the event period or “event window” in literature. According to longevity of the observation period, there could be distinguished analysis of short- and long-term abnormal returns. The short-

term method surrounds less than 100 days prior to and following the bid announcement. Time span with less than 60 days before and after bid announcement (-60, 60) is the widely used analysis. The long-term method encompasses a much longer period of analysis of abnormal returns including up to 2, 3 or 5 years after bid announcement or its execution (Perepeczo, 2007).

During the study, we will focus on the announcement date of M&A deal as the announcement day would reflect the market reaction more accurately based on the semi-strong form of the Efficient Market Hypothesis (Bodie et al., 2009). According to Fama (1980), this hypothesis has three forms, a weak, a semi-strong, and a strong form of information efficiency. The weak form means that all past publicly available information is transferred into the stock price. In the semi-strong form, the past publicly information is transferred into the stock price that will change instantly to reflect new public information. Finally, the strong form allows to immediately transferring all available information including insider information into the stock price.

While measuring the value of an abnormal return considering its essence, firstly, it is necessary to estimate the actual return, and afterwards the expected return should be calculated. It is comparatively easy to make calculation of the actual return than the expected one that might cause certain problems. Calculation of the latter indicator assumes returning to normal period for shareholders meaning in other words, the stage when the event did not occur with the provided return (Perepeczo, 2007). On this stage, there could be used several options. Thus, Sudarsanam (2004) has defined seven models where expected returns are estimated. The first two models are so-

called single-index or constant-average return models whereas the other three ones are market models and the last two – portfolio models.

The first step in the methodology is setting up an estimation period on that the expected average return could be generated. A period of 80 days is taken as the estimation window as it is not too large taking into account low liquidity of the European market. The following formula will be used to calculate expected average returns for this period:

$$E(R_{i,t}) = \alpha_i + \beta_i R_{m,t} + \varepsilon_{i,t}$$

where:

$E(R_{i,t})$ is the expected regular return on security i at time t,

α_i is the security's average return in a period with 0 market return,

$\beta_i R_{m,t}$ is the co-movement with the market, and

$\varepsilon_{i,t}$ is an error term of company i (considered to be 0 on average).

The further step in developing of dependent variable is setting a certain 'event window' that is defined as the number of days before and past a specific event where the abnormal return should be determined. As prior research provides evidence, the window begins before the announcement date because there will be some predictions and gossip before M&A deal announcement (Malkiel, 2005; Brar et al., 2009). Taking into consideration the previous findings and research done on event studies on M&A deals, we will choose an 'event window' of (-5;15), i.e. the range of days prior and past the event. Having the required specifications, we could calculate all the abnormal returns within the event window using the next formula:

$$AR_{i,t} = R_{i,t} - E(R_{i,t})$$

Eventually, the last step in the process of getting the dependent variable is to calculate the cumulative abnormal returns. According to research (Bodie et al, 2009) on abnormal returns, the cumulative returns would ensure a better analysis of market response comparing to single abnormal returns because the reactions might change within the set event window.

The cumulative abnormal returns are calculated summing up the single abnormal returns of each day in the chosen event window:

$$CAR_i = \sum AR_{i,t}$$

where:

CAR_i is the cumulative abnormal return of company i at time t, and

AR is the abnormal return of each day.

Once all the above steps are fulfilled, we will get the dependent variable of the research – the cumulative abnormal returns on the shares of the acquiring company enclosing an M&A deal announcement.

4.2 Independent Variables

The next step will be carrying out a regression analysis to determine the impact of corporate governance on the effectiveness of M&A transactions, and a linear dependence of CAR on the quality of corporate governance will be presented. In the research, there will be applied the model that has been used by Frans van Hoorn and Nick van Hoorn (2011) in studying the impact of corporate governance on the effectiveness of M&A transactions in

developed capital markets. It was adapted taking into consideration the variables used in the current study.

$$CAR_i = \beta_1\, board_s + \beta_2\, board_i + \beta_3\, t_ceo + \beta_4\, industry + \beta_5\, payment + \alpha + \varepsilon_i$$

where:

CAR_i is the cumulative abnormal returns on the shares of the company in each transaction;

board_s is the size of the board of directors;

board_i is the number of independent directors in the Board;

t_ceo is the duration of the CEO's tenure;

industry is belonging of the company to the same industry;

payment is a payment method in M&A transactions.

The adjusted model gives possibility to assess the correctness of the formulated hypotheses. Using the regression equation, there will be defined the extent of impact of corporate governance factors on the effectiveness of M&A transactions.

The subjects studied as independent variables are number of directors, board independence ratio, age, and tenure of CEO.

Independent variable 1: Number of Directors on the Board.

The first independent variable to study is board size, i.e., number of members in the board of directors at the moment of M&A deal announcement. The variable has been created in accordance with prior

research undertaken in using it (Berger et al., 1997). The data to calculate the variable was taken from annual reports of companies.

According to the literature review, boards with fewer directors might be more efficient and productive in terms of business monitoring and overseeing the management leading to improved performance of a company. Hence, there could be made an assumption that smaller boards would have positive influence on M&A deal performance.

Independent variable 2: Number of independent directors on the Board.

As stated in the review of literature, boards with fewer members appear to be more effective in the board monitoring that might lead to better performance and hence to have a positive impact on M&A deal. As for impact of independent proportion of the board, the results are controversial. There could be defined four categories for this variable:

Category 1. Ratio of independent directors in the board within 51-60%

Category 2. Ratio of independent directors in the board within 61-70%

Category 3. Ratio of independent directors in the board within 71-80%

Category 4. Ratio of independent directors in the board more than 80%

Independent variable 3: CEO tenure

Finally, the last independent variable is CEO tenure. As it was addressed in the literature review, CEO with relatively longer stay in its position would have sound experience, knowledge, and good interaction with the board that might lead to efficient M&A deals. Therefore, this study will investigate how CEO tenure would influence M&A deal performance.

4.3 Control variables

There are different opinions among corporate governance researchers regarding control variables that should be added to the linear equation of regression analysis. The most appropriate include those characterizing the conduct of the M&A transaction that are the size of M&A transactions, the payment method of the transaction, relatedness of companies as well as industry trends. Swanstrom (2006) highlights that control variables defining the financial performance of the acquiring companies should be also included into the linear equation of regression analysis.
However, majority of researchers presume that it is not necessary to include a large number of control variables in the regression equation. Thus, there is taken a few numbers of control variables that represents both the financial performance of the purchasing companies and the variables characterizing M&A transactions.

Industry – the affiliation of the acquired company and the target company to a specific industry. This variable is a dummy variable in a linear regression analysis equation. If the buyer company and the target company belong to the same industry, the dummy variable takes the value 1, otherwise - 0. Payment – payment method in M&A transactions. This variable is a dummy variable in a linear regression analysis equation. If the M&A transaction was fully funded with cash, the dummy control variable takes the value 1. Otherwise, when financing a transaction with debt financing, either by issuing shares, or in a mixed manner, the dummy control variable takes the value 0.

Control variable 1: M&A payment method

The payment method is the first control variable used in the study. M&A deals can be finances using cash, stock, or a mix of the two. Purchases made by stock are the most widespread form of acquisition. However, if a company's management has firm confidence in the acquisition, more likely, that they will be paying for stocks in cash. Making acquisitions by cash payments, management considers that the shares will eventually cost more in post-merger period after synergies are completed.

According to prior studies on forms of payments, cash acquisitions produce higher return comparing to cases when the acquisitions are made solely by stock (Andrade et al., 2001; Moeller, 2004). The method of financing has noticeable effect on abnormal returns in short and long term. Based on research of payment methods, companies acquiring with all-stock bid, in short run have an abnormal return of (-) 24.2% whereas acquisitions made fully by cash enjoys 18.5% of abnormal returns within the same period of time. The same result is shown with long-term effect of M&A deals purchased by all-cash or all-stock bids' method (Sudarsanam, 2003). Based on the prior studies there is defined separately M&A deals undertaken solely by cash or other forms of financing. The value is 1 in case of all-cash bid, and 0 – other payment methods.

Control variable 2: Relatedness of firms

The next control variable in the study is industry relatedness of both acquiring and target companies that seems to be a crucial factor influencing M&A deal performance (Ellwanger et. al, 2012). With regard to industry relatedness, a purchasing company selects the target taking into consideration such

characteristics as shared technological experiences, knowledge bases, and similarity in products and markets (Knoben et al., 2006). According to studies, M&A deals when both acquiring and target companies are related to the same market, product, or technology, would have better results and abnormal returns comparing to those that operate in different industries (Krishnan, Miller, & Judge, 1997; Moeller et al., 2005). Therefore, targets in the same industry with the same market or products seem to be more advantageous and capable to add value for a business (Capron et. al, 2007; Martin et al., 2003). Hence, there was included a control variable for evaluating impact of industry relatedness on M&A deals performance. The data has been retrieved from Refinitive Eikon database. Variable with value '1' is for case when both companies related to the same industry, and '0' is vice versa when it is not the case.

Control variable 3: Industry trends.

The next dummy variable is operation of companies in different industries. There might be higher abnormal returns in certain industries. For example, M&A deals performance might be better in real estate business or high technology industry. So, it is worth to study whether industry trends also has relation to abnormal returns on M&A deals. In case when an acquiring company operates in the particular business then the value will be '1', in other cases it will be '0'.

Control variable 4: Years effects.

Years of effect is the last dummy control variable that is taken to measure the influence of years the M&A deal taken place for its performance. If the

transaction is taken place in the selected year, then the variable takes the value 1 otherwise 0.

Chapter 5

Empirical Results

The following charter will present the main results of the research. It contains descriptions of the regression analysis, the conclusions of the hypotheses put forward, as well as the impact of corporate governance on the effectiveness of M&A transactions. Regression analysis of the remaining transactions where the company belongs to three European countries will reveal the impact of corporate governance on M&A effectiveness by calculating cumulative abnormal returns over a certain time period. The selected hypotheses will be analyzed.

5.1 Descriptive statistical data

There has been used 'event studies" method to determine the dependent variable – the cumulative abnormal returns on the stock price of a company involved in an M&A deal announcement. The estimation window is 100 days prior to an announcement, and abnormal returns with market-adjusted returns have been calculated for period between -100 and -20 days. And the event window is taken as -5 to 15 days. Due to lack of availability of data on certain companies there have been used data on 41 M&A deals from 36 Germany, 4 Netherlands, and 1 Austria for 2010-2019 years.

Descriptive statistics on the dependent variable is provided in Table 5.1.

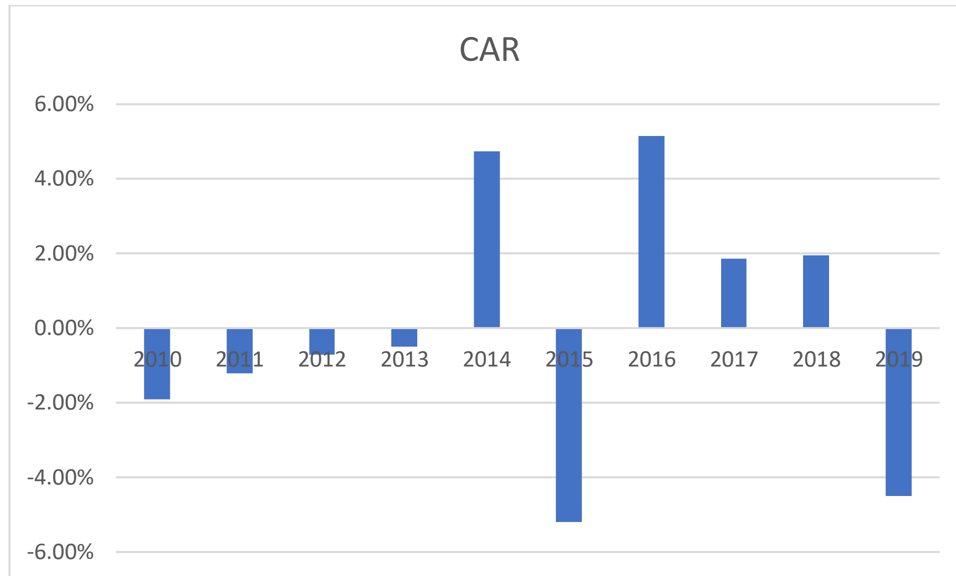
Table 5.1: Descriptive Statistics of the Cumulative Abnormal Returns to acquiring company' shareholders

Event window	Mean	Std.Dev.	Min	Max	N
-5 to 15	0,041%	0,08319	-0,63%	0,91%	41

According to the Table 5.1, the average cumulative abnormal return on M&A deals is positive despite of that prior research has demonstrated negative impact of M&A transactions on shares of a purchasing company (Duggal et al., 1999). There is an intense reaction of the market to M&A deals taking into account difference between minimum and the maximum data.

In the Figure 5.1, there is given a general overview of the cumulative abnormal returns by years within the chosen window range according to that a negative cumulative return is observed in most of years. The 2015 data shows the lowest rate of cumulative abnormal returns whereas 2016 has the highest positive response of the market.

Figure 5.1: Average Cumulative Abnormal Returns on M&A transactions per calendar year



The descriptive statistics on independent variables is given in the Table 5.2 with mean, standard of deviation, minimum and maximum values. According to the results, average number of directors is 5.46 with minimum number of 3 and maximum 22 (Volkswagen AG) members on the Board. In addition, independence ratio averages to 1.25 meaning that on average independence of boards differs between 51% and 60%.

Table 5.2: Descriptive Statistics on Independent Variables

Independent variables based on estimation window of 80 trading days

Variable	Definition	Mean	Std.Dev.	Min	Max	N
Number of directors on the Board	Number of members in the Board of a company	5,46	3,82	3	22	41
Independence ratio of the Board	Percentage of independent directors Category 1 – 51-60% Category 2 – 61-70% Category 3 – 71-80% Category 4 – 81 – 100%	0,56	1,25	1	4	41
Tenure of CEO	Number of years CEO has been in his/her position in a company	7,41	5,48	0.5	17	41

The descriptive statistics of control variables most of that that are dummy variables is presented in Table 5.3. The first control variable is related to method of payment. In case if a payment was done in cash, then the value is '1' otherwise the value is '0'. According to the analysis, about 66% of M&A transactions was paid in cash. As the prior research has presented those acquisitions fully paid in cash have higher returns compared to stock ones (Moeller et al., 2004).

The next variable is industry similarity between the target and purchasing companies. The analysis resulted in 66% of M&A deals when the acquiring company was in the same industry as the target one. With regard to industry relatedness, prior research has emphasized that M&A deals taken place within the same industry would have better performance (Krishman,

1997; Moeller et al., 2005) hence enhance M&A deal performance as well. It is worth to study year effects in M&A deals performance. Results on years range from 0.5 in 2013-2015 to 0.20 in 2017 with maximum number of deals taken place. The final control variable is the industry of the purchasing company. The results show that most of M&A deals have taken place in financial industries.

Table 5.3: Descriptive Statistics of the Control Variables

Control variables based on estimation window of 80 trading days

Variable	Definition	Mean	Std.Dev.	Min	Max	N
100% cash payment	Type of acquisition: 1 - cash; 0- non-cash	0,66	0,48	0	1	41
Same industry	Dummy variable, when companies operate in the same industry	0,66	0,48	0	1	41
Year 2010	Dummy variable, when the transaction took place in 2010	0,17	0,38	0	1	41
Year 2011	Dummy variable, when the transaction took place in 2011	0,10	0,30	0	1	41
Year 2012	Dummy variable, when the transaction took place in 2012	0,10	0,30	0	1	41
Year 2013	Dummy variable, when the transaction took place in 2013	0,05	0,22	0	1	41
Year 2014	Dummy variable, when the transaction took place in 2014	0,05	0,22	0	1	41
Year 2015	Dummy variable, when the transaction	0,05	0,22	0	1	41

	took place in 2015					
Year 2016	Dummy variable, when the transaction took place in 2016	0,10	0,30	0	1	41
Year 2017	Dummy variable, when the transaction took place in 2017	0,20	0,40	0	1	41
Year 2018	Dummy variable, when the transaction took place in 2018	0,10	0,30	0	1	41
Year 2019	Dummy variable, when the transaction took place in 2019	0,10	0,30	0	1	41
Acquirer Group 1	Dummy variable, when the transaction took place within Software Industry	0,05	0,22	0	1	41
Acquirer Group 2	Dummy variable, when the transaction took place within Automotive Industry	0,10	0,30	0	1	41
Acquirer Group 3	Dummy variable, when the transaction	0,29	0,46	0	1	41

	took place within Real Estate					
Acquirer Group 4	Dummy variable, when the transaction took place within Financials	0,34	0,48	0	1	41
Acquirer Group 5	Dummy variable, when the transaction took place within High Technology	0,03	0,17	0	1	41
Acquirer Group 6	Dummy variable, when the transaction took place within Materials	0,03	0,17	0	1	41
Acquirer Group 7	Dummy variable, when the transaction took place within Consumer Staples	0,06	0,24	0	1	41
Acquirer Group 8	Dummy variable, when the transaction took place within Media and Entertainment	0,03	0,17	0	1	41
Acquirer Group 9	Dummy variable, when the transaction took place	0,03	0,17	0	1	41

	within Recreation & Leisure					
Acquirer Group 10	Dummy variable, when the transaction took place within Textiles & Apparel	0,03	0,17	0	1	41

5.2 Regression Models

The Table 5.4 has results of analysis on regression models to justify the formulated hypotheses. There have been used five models: a model of control variable (column 1), a model on board of directors (column 2), a model on the Board independence ratio (column 3), a model on CEO tenure (column 4), and a model having all variables in it (column 5). The research made on hypotheses will be based mainly on two models: column 1, 2, 3 and column 4. Event window from five days prior up to fifteen days past an M&A announcement and the estimation period of 80 trading days were taken as a basis for models.

Table 5.4: Regression results of the Control Variables

Event window (-5 until +15)

	(1)	(2)	(3)	(4)	(5)
Constant	0.1325 (0.0544)	0.1475 (0.0557)	0.3558 (0.0961)	0.3758 (0.0799)	0.4855 (0.0827)
Number of directors on the Board					0.1717 (0.0109)
CEO Tenure				0.0581^{*} (0.0024)	0.0342^{**} (0.0027)
Board Independence Ratio			0.9517 (0.1672)		0.6906 (0.1552)
Category 1 (51-60%)		-0.0102 (0.0023)			
Category 2 (61-70%)		0.3402 (0.1097)			
Category 3 (71-80%)		0.1222 (0.1908)			
Category 4 (81-100%)		-0.0034 (0.02671)			

100% cash payment	0.7190 (0.0369)	0.7391 (0.0387)	0.7542 (0.0411)	0.9646 (0.0324)	0.7950 (0.0342)
Same industry	0.0090*** (0.0221)	0.0184** (0.0236)	0.0109** (0.0227)	0.0069*** (0.0294)	0.0254** (0.0315)
Year 2010	0.3067 (0.0309)	0.3047 (0.0334)	0.5628 (0.0502)	0.3425 (0.0405)	0.7135 (0.0456)
Year 2011	0.8603 (0.0604)	0.8672 (0.0633)	0.8719 (0.0608)	0.9613 (0.0502)	0.7943 (0.0456)
Year 2012	0.9176 (0.0794)	0.9462 (0.0803)	0.9160 (0.1008)	0.7378 (0.0854)	0.6049 (0.0949)
Year 2013	0.7334 (0.0556)	0.6983 (0.0629)	0.7425 (0.0591)	0.5660 (0.0684)	0.7339 (0.0835)
Year 2014	0.5260 (0.0428)	0.5626 (0.0452)	0.6135 (0.0515)	0.9862 (0.0636)	0.8683 (0.0780)
Year 2015	0.8308 (0.0757)	0.8954 (0.0764)	0.8347 (0.0907)	0.5089 (0.0636)	0.3694 (0.0765)
Year 2016	0.0069*** (0.0298)	0.0072*** (0.0301)	0.1916 (0.0637)	0.0263** (0.0387)	0.2891 (0.0670)
Year 2017	0.2143 (0.0486)	0.1913 (0.0484)	0.2718 (0.0543)	0.6063 (0.0645)	0.6415 (0.0657)
Year 2018	0.9030 (0.0504)	0.7959 (0.0473)	0.8887 (0.0729)	0.6673 (0.0733)	0.2126 (0.0828)
Year 2019	0.5557 (0.0747)	0.3630 (0.0449)	0.4522 (0.0566)	0.3031 (0.0506)	0.4775 (0.0670)

Acquirer Group 1	0.2448 (0.1375)	0.2306 (0.1359)	0.2574 (0.1413)	0.0893* 0.1194	0.0750* (0.1191)
Acquirer Group 2	0.0197** (0.0549)	0.0229** (0.0630)	0.0752* (0.0729)	0.0890* (0.0766)	0.0282** (0.0758)
Acquirer Group 3	0.0193** (0.0754)	0.0132** (0.0732)	0.0989* (0.1086)	0.0309** (0.0819)	0.0515* (0.0863)
Acquirer Group 4	0.0094*** (0.0587)	0.0065*** (0.0565)	0.0243** (0.0684)	0.0144** (0.0666)	0.0005*** (0.0450)
Acquirer Group 5	0.7208 (0.1111)	0.6644 (0.1087)	0.7932 (0.1403)	0.6762 (0.1108)	0.7187 (0.1153)
Acquirer Group 6	0.0130** (0.0593)	0.0094*** (0.0574)	0.0155** (0.0608)	0.0054*** (0.0880)	0.0016*** (0.0865)
Acquirer Group 7	0.0898* (0.0793)	0.0521* (0.0759)	0.0939* 0.0804	0.1267 (0.0786)	0.0127** (0.0645)
Acquirer Group 8	0.0013*** (0.0905)	0.0009*** (0.0877)	0.0030*** (0.0995)	0.0003*** (0.0772)	0.0002*** (0.0686)
Acquirer Group 9	0.7989 (0.0891)	0.5349 (0.0463)	0.0002*** (0.0318)	0.5827 (0.0471)	0.2409 (0.0470)
Acquirer Group 10	0.0004*** (0.0384)	0.0135** (0.0445)	0.0305** (0.0554)	0.0171** (0.0457)	0.1391 (0.0619)
R-squared	0.4023	0.5001	0.4970	0.5842	0.6251

The level of statistical significance: *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$

The main corporate governance mechanism that we have investigated was the board of directors. There were taken three different variables to measure the mechanism: total number of members on the board,

independence ratio of the board, and tenure of CEO. We got results on these components in columns 1, 2 and 4 in Table 5.4.

5.3 The Size of the Board of Directors

As it was addressed in the literature review, an optimum size of the board plays an important role in efficiency of the board work. Most of the research work (Guest, 2009; Peni, 2014) has shown that boards with smaller size are more effective that might also have a better impact of M&A deal performance. Therefore, the first hypothesis concerns the number of members in the board of directors and here a logarithm of the number of directors was applied to get the variable (Berger at al., 1997).

It is worth to note that number of directors on boards was in the range of 3-8. Only the Volkswagen had 22 members due to the huge size of the company with many subsidiaries in other countries. Therefore, comparing to 2000-2010 years, the size of boards in the European countries had a tendency to decrease, particularly in Germany. At the same time, the size of the bard depends on size of business and specific industry. Large-scale companies tend to have boards with more than 10 members.

The results show the positive coefficient that does not confirms the expectations of the study. As the outcome is not weighty there could not been made a distinct finding.

Hypothesis 1. *The size of the board of directors of EU listed companies has a negative impact on the effectiveness of M&A transactions.*

Based on the findings, there is no any clarity regarding how the board size influences M&A deal performance and hence there is no confirmation for hypothesis 1 in this study.

5.4 The Number of Independent Members of the Board of Directors

The second hypothesis is related to board independence. The variable used to measure the effect of independence ratio on M&A deals performance is a categorical variable with percentage of board independence split in four groups.

The prior research of scholars (Wesback, 1988; Ferreira and Kirchmaier, 2013; Naciti, 2019) has shown a positive impact of more independent boards on leverage of companies. Having a greater number of outside directors on the board results in better monitoring and growth in performance. However, as Adams and Ferreira (2007) point out, the degree to which independent directors can fulfil their function on a due level also depends on the quality of information provided by management and their experience and qualification. Despite that, insiders could be an important source of firm-specific information for the board; they might distort company's objectives because of private benefits and lack of independence from the CEO (Raheja, 2005).

In 2010-2019, comparing to 2000-2010 with 29-34% board independence ratio, number of outside directors has increased among EU-listed companies showing a positive sing towards improvement and significant development in corporate governance across Europe. Most of corporate governance compliance reports of the studied companies had an incentive and objective to raise number of independent members on the board for more than 50%. Observations prove that most of them managed year by year to achieve the set ratio.

There have been used four categories of board independence ratio. The minimum is within range 71-80%. The second category ranging 61-70% has the highest coefficient with values 0.3402. The result shows that only in column 2 there are positive sings comparing to other components. On the basis of the results, we could make a conclusion that having an independent ration of 61-70% would have a positive impact on cumulative abnormal returns and M&A deals performance. Whereas categories with 51-60% and 81-100% does not have clear results confirming the latest research stating that companies with majority of independent directors on the board would not improve inevitably the board efficiency because of higher information costs for outsiders (Duchin, Matsusaka, and Ozbas, 2009). Although the study does not show significant results, still the research data proves that more numbers of independent members on the board would lead to better M&A deal performance. On a whole, the results support the hypothesis formulated in the study.

Hypothesis 2. *The number of independent members of the board of directors of EU listed companies has a positive effect on the effectiveness of M&A transactions.*

5.5 The Tenure of CEO

The last corporate governance component that has been studied is tenure of CEO. The results of the analysis showed that the younger the CEO, the less effective the M&A transaction. However, it cannot be definitely stated in view of the statistical insignificance of the variable. The length of the CEO's tenure also negatively affects the effectiveness of M&A transactions. Perhaps

this is due to the speed of decision-making by a less experienced CEO and a penchant for risky, but highly profitable transactions. However, it cannot be definitely stated in view of the statistical insignificance of the variable. The assumption that the presence of a blocking block of shares of the buyer company in state ownership negatively affects the effectiveness of M&A transactions is confirmed. However, it cannot be definitely stated in view of the statistical insignificance of the variable. It is also worth noting the influence of control variables. The method of payment in an M&A transaction in cash has a positive effect on the effectiveness of M&A transactions. However, the attitude of the acquired companies and the target company to the same industry has a negative impact on the effectiveness of M&A transactions. However, it cannot be definitely stated in view of the statistical insignificance of the variable. Also, note that the larger the operating cash flow, the worse the M&A transaction, but the coefficient is so small that it is possible to make an assumption about a neutral impact. However, it cannot be definitely stated in view of the statistical insignificance of the variable.

The prior research has provided mixed results on the relationship between CEO tenure and company performance. Company's value tends to decrease after fewer years of CEO tenure in dynamic industries taking into consideration less adaptability of CEO to changes and labor market with greater inconsistencies (Brochet at al., 2021). Depending on industry, CEO tenure is positively related to firm performance (Im & Chao, 2017). The result show 0.0581 coefficient in column 3. Hence, one could conclude that CEO tenure has a positive impact on M&A deal performance supporting the hypothesis 3.

Hypothesis 3. *The tenure of the CEO of the EU listed companies has a positive impact on the effectiveness of M&A transactions.*

5.6 Control variables

The next group of variables used in the research are control coefficients aiming at revealing other indicators that might have a certain impact on the cumulative abnormal return of an M&A deal announcement that might influence M&A deal performance. Most of Models show negative result hence no conclusions could be made based on these findings.

Most researchers note that it is not obligatory to include a large number of control variables in the regression equation. Thus, it was distinct to include a small number of control variables in the regression equation reflecting the impact of corporate governance on the effectiveness of M&A deals. At the same time, these variables reflect both the financial performance of the companies and the variables characterizing M&A transactions.

Coefficients related to cash-payment and the industry relatedness have positive singes confirming the previous research. Thus, cash-paid acquisitions have higher returns (Schlingenmann, 2004). The same with acquisitions made in the same industry: M&A deals performance would be better in acquisitions made on similar companies (Moeller et al., 2005). The results of the research show positive coefficients of 0.0090 in column 1, 0.0184 in column 2, 0.0109 in column 3, 0.0069 in column 4 and 0.0254 in column 5 for this variable.

5.7 Discussion

While reviewing the literature we found that most of M&A deals don't lead to positive changes in the shareholder value for the acquiring companies. The previous research has been undertaken mainly on M&A deals taken place in USA, Asia Pacific region, and separate countries and industries among European countries. As a result, this research work has tried to study impact of these components on efficiency of M&A deals performance during period covering 2010-2019 years. Thus, based on results of the study we could answer the main research question that was:

How do the board size, the board independence ratio, and CEO tenure influence M&A deal performance?

With regard to the number of directors on the board, the study found that an optimum board size had a positive impact on M&A deals performance. It is assumed that decision making costs are supposed to be lower in smaller boards than in larger boards. In essence, boards with fewer numbers of directors might be more effective in monitoring and observing companies' affairs. However, for the same reasons mentioned in the literature review part, being more "effective" does not always mean taking on less risk. Moreover, the outcome on risk taking will eventually depend on whether board members have taken into consideration shareholders' interests over the interests of other stakeholders. At the same time despite the coordination issues that might occur in larger boards, the risks related to decision making of larger boards might be minimized (Cheng, 2008).

While reviewing previous research, other relevant literature, and data there is observed that in 2000-2010 years, the boards in most of European

countries tend to have large number of members on it. However, there have been undertaken limited research on influence of the factor on M&A deals performance within this period. Later on in 2010-2019, in majority of countries including Germany, Netherlands, and Austria following introduction of several regulations on corporate governance including board composition there have been taken place a tendency towards decreasing board size to an optimum number. Thus, all boards of companies having M&A deals had in average 3-8 directors on the board except Volkswagen having 22 members due to its vast international expansion. As a result, according to the analysis there is evidence that an optimum board size will positively relate to M&A deal performance.

Regarding the board independence, the analysis shows that boards with independence ratio within 71-80% have positive relation to M&A deals performance comparing to others.

Finally, on a whole, the outcome of the study might be useful for academia and business. With regard to the board size, companies might re-assess their corporate governance structure and undertake actions towards optimizing it as the most suitable number of board members could have an impact on M&A deals efficiency as well. Moreover, companies could also re-design the board composition in terms of independence ratio. As the study shows, a board with independence level of 61-70% would favorably relate to M&A deals performance comparing to other ratios. As the previous research has shown that high levels of independence might cause higher price for information acquisition causing hence information asymmetry issue.

Regarding the CEO tenure's relation to M&A deals' efficiency, the study finds evidence that this component has positive relation to M&A deals performance.

Furthermore, from an academic perspective the outcome of the study work has made a certain though minor contribution to the field of corporate governance, mergers and acquisitions, and impact of various corporate governance mechanisms on M&A deals performance in European countries. Besides that, the research work has made a certain input for possible solutions in improving efficiency of mergers and acquisitions deals decreasing the number of failed transactions and improving corporate governance mechanism.

Foremost, the study has revealed that the cumulative abnormal returns has been positive for shareholders of acquiring companies. According to Table 5.1 giving the results on descriptive statistics the average abnormal returns on all M&A deals within the set data was 0.041% showing positive reaction of the market. However, the finding does not support the previous research arguing that majority of M&A deals would have negative impact for shareholders of acquiring companies (Andrade et.al, 2001; Moeller et al., 2005). One explanation to this might be found in that the previous research has been undertaken on M&A deals taken place in American and South-East Asian markets; and the claims might not concern the European companies. Moreover, the prior research was mainly conducted using statistic data related to effect of an announcement day of M&A deal that failed to capture the reality of corporate value creation (Bradley et al., 2018). Secondly, along with regulatory changes and certain improvements achieved by companies in terms of corporate governance mechanisms and M&A deals performance in

general there might be a shift towards positive results in M&A deals performance. Another explanation might be in the data sample used in the current research. As there was not available all information on acquiring companies particularly share prices around deals' announcement, it could be the case that more deals with negative cumulative abnormal returns have not been included as compared to positive ones. However, this assumption is not based on actual data.

Next to the positive reaction of markets on M&A deals, it is worth noting how different components of corporate governance mechanism influence mergers and acquisitions' deals outcome. Size of the board has 0.1717 coefficient.

As for the board independence ratio, the optimum number of outside directors should range within 71-80% to get positive relation to M&A deals performance. The lower and higher independence rates show negative sing. First of all, larger boards might lead to additional costs on information acquisition for outsiders and additional monitoring costs that might be an extra work for executive personnel.

Chapter 6

Conclusion

On a whole, the research work intended to make an analysis of several corporate governance features that might influence M&A deals performance. However, one could claim that the outcome and findings are limited and might be insignificant. At the same time, the findings reveal that there might be other factors as well as corporate governance mechanisms and components related to M&A deals performance that worth to study. Overall, the study one more time reveals that agency problems are not the main reason for negative returns on M&A deals.

The potential factors that might have influence on M&A deals performance could be size of a deal, experience of a company in M&A transactions, and post-deal performance to achieve long-term sustainability in business activity.

Next to other factors that might have certain impact, there also could be other corporate governance components influencing M&A deals performance that have not been reviewed and analyzed in this research work. While this study has been mainly focused on the board composition and size, there might be other aspects such as different types of CEO remuneration as well as remuneration of management and board members related to M&A deals' performance. Moreover, other corporate systems such as influence of blockholders on M&A deals' performance as well as internal control mechanisms have not been precisely studied.

Although some interesting outcomes have been identified as a result of the research work, certain limitations have been faced during the study. First of all, there was limited availability of data on share prices. The selection criteria required different choices and availability of data was limited with regard to them. As the study involves a comparatively extensive research question, the data was collected from several sources that was used to get the variables. During this process, some information could not be available in databases because of lack of companies' specific information in each dataset. The main issue was lack on historical daily share prices of acquiring companies. Consequently, certain cases were not included.

In spite of the fact, the aim of the current research has been empirical study of certain aspects related to corporate governance mechanisms and their influence on M&A deals performance, during the research work there has emerged other issues that would be of interest to investigate in the future. Thus, it might be interesting to undertake study on deals in other European countries that have mixed governance structure and to compare impact of corporate governance mechanisms between different types of boards in terms of M&A deals' performance efficiency. Moreover, it is worth to cover more corporate governance components such as number of blockholders, CEO and board members' remuneration schemes, as well as experience of board members in industry among European companies in relation to mergers and acquisitions deals' performance.

Furthermore, another interesting area to study would be the size of a deal influencing its performance as the recent research undertaken globally shows that deals with smaller size work out better (Bradley et. al., 2018). The recent research confirms that companies that regularly and systematically

undertake M&A deals with reasonably small sizes bring higher returns to shareholders than companies that don't. It would be compelling to find evidence for this issue with regard to M&A deals taken place in European markets and learn whether the deal size necessarily influence the ultimate outcome.

Bibliography

Adams, R.B., Hermalin, B.E., Weisbach, M.S. (2010). The Role of Boards of Directors in Corporate Governance: A Conceptual Framework and Survey. *Journal of Economic Literature, 48(1)*, 58-107.

Adams, R., & Ferreira, D. (2007). A Theory of Friendly Boards. *The Journal of Finance, 62(1)*, 217-250.

Akerlof, G. A. (1970). The market for lemons: Quality uncertainty and the market mechanism. *Quarterly Journal of Economics*, 84, 488-500.

Akpan, E.O., Amran, N.A. (2014). Board characteristics and company performance: evidence from Nigeria. *Journal of Finance and Accounting*, 81-89.

Alchian, A. A., Demsetz, H. (1972). Production, information costs, and economic organization. *The American Economic Review*, *62*(5), 777-795.

Anand, J., Singh, H. (1997) Asset redeployment, acquisitions and corporate strategy in declining industries. *Strategic Management Journal,* 18, 99 – 118.

Andrade, G., Mitchell, M., Stafford, E. (2001). New evidence and perspectives on mergers. *The Journal of Economic Perspectives*, *15*(2), 103-120.

Asquith, P., Bruner, R. F., Mullins Jr, D. W. (1983). The gains to bidding firms from merger. *Journal of Financial Economics*, *11*(1), 121-139.

Barkema, H. G., Schijven, M. (2008). How do firms learn to make acquisitions? A review of past research and an agenda for the future. *Journal of Management*, *34*(3), 594-634.

Baysinger B D, Kiskin R.D., Turk T.A. (1991). *Academy of Management Journal, 34 (1)*, 205-214.

Bergh, D. D. (2001). Executive retention and acquisition outcomes: A test of opposing views on the influence of organizational tenure. *Journal of Management 27*, 603 – 622.

Berk, J. and DeMarzo, P. (2014) Corporate Finance. *3rd Edition, Pearson, Boston*.

Berle, A., Means, G. (1932). *The Modern Corporation and Private Property*. New York: Macmillan.

Block, D., Gerstner, A. M. (2016). One-tier vs. two-tier board structure: A comparison between the United States and Germany. *Comparative Corporate Governance and Financial Regulation, 1*.

Bodie, Z., Kane, A. and Marcus, A. (2009) Investments. *Scientific Research, 8,* McGraw-Hill, New York.

Bourgeois, L.J, & Abiad, V. (2009). Note on Postmerger Integration. *Business Darden Case: Business Communications*

Bradley, Ch., Hirt, M., Smit, S., West, A. (2018). Research Shows That Smaller M&A Deals Work Out Better. *Harvard Business Review.*

Brar, G., Giamouridis, D., & Liodakis, M. (2009). Predicting European Takeover Targets. *European Financial Management, 15(2)*, 430-450.

Bruner, R.F. (2004). Applied mergers and acquisitions. *Wiley & Sons Inc,* New York USA.

Bushman, R. M., & Smith, A. J. (2001). Financial accounting information and corporate governance. *Journal of Accounting and Economics*, *32*(1), 237-333.

Caiazza, S., Pozzolo, A., & Trovato, G. (2014). Do domestic and cross-border M&As differ? Cross-country evidence from the banking sector. *Applied Financial Economics 24(14), 967-981.*

Caiazza, S., & Alberto, F.P. (2016). The Determinants of Failed Takeovers in the Banking Sector: Deal or Country Characteristics? *Journal of Banking and Finance, 72 (S)*, 92–103.

Campa, J.M., & Hernando, I. (2004). Shareholder Value Creation in European M&As. *European Financial Management, 10(1).*

Capron, L., & Shen., J-Ch. (2007). Acquisitions of Private vs. Public Firms: Private Information, Target Selection, and Acquirer Returns. *Strategic Management Journal, 28(9),* 891 – 911.
Carsten, E. (2006). The Effectiveness of Corporate Governance in One-Tire and Two-Tire Board Systems – Evidence from the UK and Germany. *European Company and Financial Law Review*, 3(4), 426-474, 437.

Casares, L.F., Mkrtchyan, A., (2017). The effect of director experience on acquisition performance. *Journal of Financial Economics, 123(3)*, 488-511.

Chen, A., Kao, L., Tsao, M., Wu, C. (2007). Building a corporate governance index from the perspectives of ownership and leadership for firms in Taiwan. *Corporate governance: An International Review, 15(2),* 251-261.

Cheng, S., Evans, J. H., Nagarajan, N. J. (2008). Board size and firm performance: the moderating effects of the market for corporate control. *Review of Quantitative Finance and Accounting*, *31*(2), 121-145.

Cloodt, M.,Hagedoorn, J., & Kranenburg, H. (2006). Mergers and Acquisitions: Their effect on the Innovative Performance of Companies in High-tech Industries. *Research Policy, 35 (5),* 642-654.

Dalton, D.R., Daily, C., Johnson, J., & Ellstrand, A. (1999). Number of Directors and Financial Performance: A Meta-Analysis. *The Academy of Management Journal, 42 (6),* 674-686.

Dalton, C.M., & Dalton, D.R. (2005). Board of Directors: Utilizing Empirical Evidence in Developing Practical Prescriptions. *British Journal of Management, 16(S1)*, 91-97.

Demsetz, H. (1983). Structure of Ownership and the Theory of the Firm, *Journal of Law and Economics*, *26(2)*, 375-390.

Duggal, R., & Millar J.A. (1999). Institutional ownership and firm performance: The case of bidder returns. *Journal of Corporate Finance, 5 (2),* 103-117.

Eisenberg, T., Sundgren, S., Wells, M.T. (1998) Larger Board Size and Decreasing Firm Value in Small Firms. *Journal of Financial Economics, 48*, 35-54.

Ellwanger, N., & Boschma, R. (2013). Who acquires whom? The Role of Geographical Proximity and Industrial Relatedness in Dutch Domestic M&As Between 2002 and 2008. *Papers in Evolutionary Economic Geography (PEEG) 1319, Utrecht University, Department of Human Geography and Spatial Planning, Group Economic Geography*.

Enriques, L., & Volpin, P. (2007). Corporate governance reforms in continental Europe. *Journal of Economic Perspectives, 21(1),* 117–140.

Fama, E. (1980) Agency Problems and the Theory of the Firm. *Journal of Political Economy, 15(2)*, 251-261.

Fama, E. F., Jensen, M. C. (1983). Separation of ownership and control. *Journal of law and economics*, *26*(2), 301-325.

Ferreira, D., & Kirchmaier, T. (2013). Corporate boards in Europe: Size, Independence and gender diversity. *In Boards and Shareholders in European Listed Companies:Facts, Context and Post-Crisis Reforms.* M. Belcredi and G. Ferrarini, eds. Cambridge: Cambridge University Press.

Guest, P. M. (2009). The impact of board size on firm performance: evidence from the UK. *The European Journal of Finance*, *15*(4), 385-404.

Gupta, O., Ross, G. (2001). Mergers and Acquisitions Through an Intellectual Capital Perspective. *Journal of Intellectual Capital, 2*(3), 297 – 309.

Hambrick, D. C., Fukutomi, G. D. (1991). The Seasons of a CEO's Tenure. *Academy of Management, 16(4),* 719-742.

Harris, M., & Raviv, A. (2008). A Theory of Board Control and Size. *The Review of Financial Studies*, 21 (4), 1797–1832.

Hart, O. (1995). Corporate Governance: Some Theory and Implications. *The Economic Journal, 105*, 678-698.

Hayward, M. L., Hambrick, D. C. (1997). Explaining the Premiums Paid for Large Acquisitions: Evidence of CEO Hubris. *Administrative Science Quarterly*, *42*(3), 103-127.

Hauser, R. (2018). Busy Directors and Firm Performance: Evidence from Mergers. *Journal of Financial Economics*, *128(1)*, 16-37.

Heidrick & Struggles (2014). *Towards Dynamic Governance 2014: European Corporate Governance Report.*Brussels: Heidrick & Struggles.

Henderson, A., Miller, D., Hambrick, D.C. (2006). How Quickly do CEOs become Obsolete? Industry Dynamism, CEO Tenure, and Company Performance. *Strategic Management Journal, 27(5)*, 447-460.

Hoffmann, W.H., Schaper-Rinkel, W. (2001) Acquire or Ally a Strategic Framework for Deciding between Acquisition and Collaboration. *Management International Review, 41*, 131-59.

Hooghiemstra, R., & van Manen, J. (2004). The independence Paradox: (Im)possibilities facing Non-executive Directors in the Netherlands. *Corporate Governance - An International Review*, *12*(3), 314-324.

Hoorn, F., Hoorn N. (2011). Mergers and Acquisitions, Firm Performance and Corporate Governance. *Master thesis. University of Twente*.

Hopt, K.J. (1998). The German Two-Tier Board: Experience, Theories, Reforms.

Comparative Corporate Governance: the State of the Art and Emerging Research. Oxford: Oxford Univ. Press, ISBN 0-19-826888-2, 227-258

Hussinger, K. (2012). Absorptive Capacity and Post-Acquisition Inventor Productivity. *Journal Technology Transfer* 37, 490 – 507.

Huyghebaert, N., & Luypaert, M. (2010). Antecedents of Growth through Mergers and Acquisitions: Empirical Results from Belgium. *Journal of Business Research, 63(4)*, 392-403.

Fornalczyk, A. (2012). Competition protection and Philip Kotler's strategic recommendations *Center for Antitrust and Regulatory Studies* Faculty of Management University of Warsaw Poland *MPRA Paper no 38520* Munich University Munich Germany, 1 – 14.

Im, J., & Cao, X. (2017). CEO Tenure and Financial Performance: A Meta-Analysis. *Academy of Management Annual Meeting Proceedings, 2015(1).*

Ivaschenko, I., P. Brooks (2008). Corporate Governance Reforms in the EU: Do They Matter and How? *IMF Working Paper WP/08/91*. Washington, D.C., International Monetary Fund.

Jensen, M. C., Meckling, W. H. (1976). Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. *Journal of Financial Economics*, *3*(4), 305-360.

Jensen, M. C., & Ruback, R. S. (1983). The Market for Corporate Control: The Scientific Evidence. *Journal of Financial economics*, *11*(1), 5-50.

Jones, K. (2009). Mergers & Acquisitions: a Snapshot of a Special pre and post M&A Process. *International School of Management,* Paris, France. *MPRA Paper no 18500;* Munich University, Munich, Germany, 1 – 19.

La Porta, R., Lopez, F.D., Shleifer A. (1999). Corporate Ownership around the World. *Journal of Finance, 54(2)*, 471-517.

Knoben., J., & Oerlemans, L.A.G. (2006). Proximity and Inter-Organizational Collaboration: A Literature Review. *International Journal of Management Reviews, 8 (2),* 71-89,

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R. (2002). Investor Protection and Corporate Valuation. *The Journal of Finance*, 57 (3), 1147-1170.

Malkiel, B. G. (2005). Reflections on the Efficient Market Hypothesis: 30 Years Later. *The Financial Review, 40*, 1-9.

Martin, J.D., & Sayrak, A. (2003). Corporate diversification and shareholder value: a survey of recent literature. *Journal of Corporate Finance, 9(1)*, 37-57.

Martynova, M., Renneboog, L. (2008). A Century of Corporate Takeovers: What Have We Learned and Where Do We Stand? *Journal of Banking and Finance,* ECGI - Finance Working Paper No. 97/2005.

Matsusaka, J. (1993). Takeover Motives during the Conglomerate Merger Wave. *RAND Journal of Economics, 24 (3)*, 357-379.

Minton B., Taillard J, Williamson R. (2011). Do Independence and Financial Expertise of the Board Matter for Risk Taking and Performance? Charles A. Dice Center Working Paper No. 2010-14, *Fisher College of Business Working Paper No. 2010-03-014*.

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.

Morck, R., Wolfenzon, D., & Yeung, B. (2005). Corporate Governance, Economic Entrenchment, and Growth. *Journal of Economic Literature, Vol 43(3)*, 655-720.

Naciti, V. (2019). Corporate Governance and Board of Directors: The effect of a Board Composition on Firm Sustainability Performance. *The Journal of Cleaner Production, 237.*

Peni, E. (2014). CEO and Chairperson Characteristics and Firm Performance. *Journal of Management and Governance, 18(1)*, 185-205.

Perepeczo, A. (2007). Event Study in the Evaluation of Effects of Mergers and Acquisitions. *Folia Oeconomica Stetinensia*, *6*(1), 107.

Perry, J. S., & Herd, T. J. (2004). Reducing M&A Risk Through Improved Due Diligence. *Strategy & Leadership*, *32*(2), 12-19.

Raheja, C. G. (2005). Determinants of Board Size and Composition: a Theory of Corporate Boards. *Journal of Financial and Quantitative Analysis, 40*, 1-38.

Rani, N., Yadav, S. S., Jain, P. K. (2013). Impact of Corporate Governance Score on Abnormal Returns of Mergers and Acquisitions. *Procedia Economics and Finance*, *5*, 637-646.

Rechner, P.L., Dalton, D.R. (1991). CEO Duality and Organizational Performance: A Longitudinal Analysis. *Strategic Management Journal, 12(2), 155—161.*

Reguera-Alvarado, N., Bravo, F. (2017) The Effect of Independent Directors' Characteristics on Firm Performance: Tenure and Multiple Directorships. *Research in International Business and Finance, 41,* 590-599.

Renneboog. L., & Vansteenkiste., C. (2019). Failure and Success in Mergers and Acquisitions. *CentER Discussion Paper Series No. 2019-026*.

Seal, W. (2006). Management Accounting and Corporate Governance: an Institutional Interpretation of the Agency Problem. *Management Accounting Research, 17(4),* 389-408.

Sirower, M. L. (1997). The Synergy Trap: How Companies Lose the Acquisition Game. *Free Press,* New York, USA.

Shleifer, A., Vishny, R. W. (1997). A survey of corporate governance. *The Journal of Finance*, *52*(2), 737-783.

Statista Research Department (January 26, 2022). Value of M&A deals globally 2010-2021.

Sudarsanam, S., Mahate, A. (2004). *Glamour Acquirers, Method of Payment and Post-acquisition Performance: The UK Evidence. Journal of Business Finance and Accounting, 30(1-2),* 299-342.

Swanstrom, M. (2006). Corporate governance and the abnormal returns to acquisition announcements. *Journal of Business Strategies*, *23*(2), 115.

Walsh, J. P., Seward, J. K. (1990). On the efficiency of internal and external corporate control mechanisms. *The Academy of Management Review, 15*(3), 421–458.

Wang C., Xie F., Zhu M. (2015). Industry Expertise of Independent Directors and Board Monitoring. *Journal of Financial and Quantitative Analysis,* 50(5), 929-962.

Weitzel, U., & McCarthy, K.J. (2012). Theory and Evidence on Mergers and Acquisitions by Small and Medium Enterprises. *International Journal of Entrepreneurship and Innovation Management, 14(2/3).*

Williamson, O.E. (1984). Corporate Governance. *Yale Law Journal*, 93, 1197 - 1230.

Wymeersch, E. (2013). European Corporate Governance Codes and Their Effectiveness. In *Boards and Shareholders in European Listed Companies: Facts, Context and Post-Crisis Reforms.* M. Belcredi and G. Ferrarini, eds. Cambridge: Cambridge University Press.

Yermack, D. (1996). Higher Market Valuation of Companies with a Small Board of Directors. *Journal of Financial Economics*, *40*(2), 185-211.

Young, S. (2009). Contemporary Issues in International Corporate Governance. Prahan: Tilde University Press.

Zollo, M., Singh, H. (2004). Deliberate Learning in Corporate Acquisitions: Post-Acquisition Strategies and Integration Capability in US Bank Mergers. *Strategic Management Journal, 25,* 1233 – 1256.