Lisbon School of Economics & Management
Universidade de Lisboa

Master's in Accounting

Master Thesis

2022/2023

The relationship between accounting quality and post-merger performance

Author: Bianka Fábián

Supervisor: Professor Cristina Belmira Gaio Martins de Silva

ISEG, 15 March 2024

Abstract

The aim of this study is to explore the relationship between the accounting quality of the target firm and the post-merger performance of the acquirer in a merger and acquisition (M&A) transaction. A dataset of 161 observations involving publicly listed companies from the core countries of the European Union, excluding financial and public administration sectors, was obtained using the Refinitiv Eikon database between 2010 and 2022. The accounting quality of the target company is evaluated using accruals quality as a proxy, based on the data covering six to eight years preceding the M&A deal. Additionally, post-merger performance is assessed through analysis of the acquirer's stock price return ratio, using data from one month before and after the announcement date. My report finds that a positive relationship and a significant association exist between the two variables, suggesting that higher accounting quality, which typically involves more accurate and transparent financial reporting, is associated with better post-merger performance outcomes. Conversely, negative coefficients are discovered for the size of the acquirer and negotiated deals indicating a potentially adverse effect on post-merger performance. The results of this study align with both the prediction and the findings of previous research conducted in this field.

KEYWORDS: Merger and acquisition; M&A; Accounting quality; Post-merger performance; Financial performance

JEL CODES: C23; G34; M40

Resumo

O objetivo deste estudo é explorar a relação entre a qualidade da informação contabilística da empresa-alvo e o desempenho pós-fusão da empresa adquirente numa operação de fusão e aquisição (F&A). Um conjunto de dados de 161 observações envolvendo empresas cotadas em bolsa dos países centrais da União Europeia, excluindo os sectores financeiros e da administração pública, foi obtido utilizando a base de dados Refinitiv Eikon entre 2010 e 2022. A qualidade da informação contabilística da empresa-alvo é avaliada com base na qualidade dos accruals num periodo , num periodo de seis a oito anos anteriores à operação de F&A. Além disso, o desempenho pós-fusão é avaliado através da análise do rácio de retorno do preço das acções do adquirente, utilizando dados de um mês antes e depois da transação. Conclui-se que existe uma correlação significativa entre as duas variáveis, o que sugere que uma maior qualidade da informação contabilística, que normalmente implica uma informação financeira mais exacta e transparente, está associada a melhores resultados em termos de desempenho pós-fusão. Por outro lado, os resultados indicam coeficientes negativos para a dimensão do adquirente, e os acordos negociados, indicando um potencial efeito adverso no desempenho pós-fusão. Os resultados deste estudo estão em conformidade com as previsões e as conclusões de estudos anteriores realizados neste domínio.

PALAVRAS-CHAVE: Fusões e aquisições; F&A; Qualidade contabilística; Desempenho pós-fusão; Desempenho financeiro

CÓDIGOS JEL: C23; G34; M40

Acknowledgment

The completion of this thesis marks a significant milestone in my academic journey.

First of all, I would like to thank my supervisor Cristina Gaio for her dedicated mentorship, invaluable guidance, and support throughout the completion of this thesis. Her expertise, encouragement, and constructive feedback have been essential in shaping the quality and focus of my research.

I am also grateful to ISEG for allowing me to choose a topic that suits my interests, and all the professors at ISEG who have supported my studies and my professional preparation by giving me the best of their knowledge.

List of abbreviations

IFRS – International Financial Reporting Standards

IRI – Implied ROE Improvement

M&A – Merger and acquisition

ROE – Return on Equity

UK – United Kingdom

VIF – Variation Inflation Factor

Table of Contents

1. Introduction

Mergers and acquisitions (M&A) have become increasingly common in the corporate world, yet the impact of accounting information quality on post-merger performance remains a topic of debate in the academic literature. In 2022, there were a total number of 44,144 M&A deals with a value of 2,589.2 billion US$ globally (Toomey, 2023). These statistics highlight the significance and economic impact of M&A transactions in today's business environments.

Accounting quality means the extent to which financial statements reflect the actual financial position of a company. It includes several aspects such as accuracy, completeness, reliability, and relevance of financial information (Păşcan, 2015). On the other hand, post-merger performance refers to the financial performance of a company after a merger or acquisition has occurred. Analysts typically examine various financial metrics to evaluate post-merger performance, such as profitability, liquidity, solvency, and market value. These metrics provide valuable insights into its ability to generate value for shareholders in the post-transaction period (Papadakis and Thanos, 2010).

Investigating the relationship between accounting quality and post-merger performance is relevant for several reasons. Firstly, M&A can have a significant impact on the financial performance of the companies involved in the process. Therefore, understanding the factors contributing to post-merger performance is important for investors, managers, and policymakers. Moreover, accounting quality can influence the financial reporting of the companies involved in M&A transactions, thereby impacting the accuracy and reliability of financial statements. By investigating the relationship between accounting quality and post-merger performance, insights into the role of accounting quality in M&A deals and its impact on financial reporting can be presented. Finally, understanding the relationship between the two dimensions can help identify best practices and inform regulatory policies.

This study holds significant importance in understanding the relationship between accounting quality and post-merger performance in the context of M&A. Activities of M&A are complex and involve the integration of two or more companies, which can result in changes in the financial landscape and performance dynamics. Therefore, it is

crucial to investigate how accounting quality, which reflects the reliability and relevance of financial information, influences post-merger performance.

The sample of this research contains 161 M&A deals for the years 2010 to 2022, considering publicly listed companies in the core countries [1]of the European Union. Through a thorough review of the existing literature, I identified a gap in the prior research investigating the M&A market. This study aims to answer the following research question which is whether there is a positive association between the target's accounting quality and the acquirer's financial performance after a deal. Consistent with previous studies of Dechow and Dichev (2002), accounting quality is measured by using accruals quality as a proxy. The post-merger performance is defined, based on the paper of Dikova and Sahib (2013), as the stock price return of the acquirer company using data for the stock price one month before and after the announcement date. The regression analysis used to test the hypothesis also includes controls for various attributes of the acquirer, the characteristics of the deal, and the different countries involved, as well as for the adjustments for the differences across years to account for the impact of the pandemic and other crises.

Increased uncertainty leads to more diverse bids and higher accepted bid amounts, resulting in higher acquisition costs reflected in the acquirer's stock return. Conversely, when a target firm provides detailed accounting information that enables a more accurate estimation of its value, the acquirer can bid more effectively and potentially profit more from the acquisition. Consequently, it is predicted that post-merger performance will be higher in acquisitions involving targets with higher accounting quality (McNichols and Stubben, 2015).

The results of this paper are consistent with the expectations and previous findings, as the regression analysis applied reveals that there is a significant association and a positive relationship between accounting quality and post-merger performance. This means that as accounting quality improves in the target company, the post-merger performance of the acquirer tends to improve as well. Moreover, the regression analysis also supports that the size of the target company compared to the acquirer significantly influences the financial performance of the acquirer after the M&A transaction.

[1] Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, and United Kingdom.

Conversely, my findings suggest that deals across different industries and those negotiated in advance may have a slightly adverse effect on the acquirer's post-merger performance.

Section 2 provides an overview of the previously existing literature within the context and poses the primary research question. In Section 3, the methodology employed is explained, covering the measurement of both accounting quality and post-merger performance, as well as the regression model used to explore the relationship between these variables. The methodology is followed by Section 4 which includes the explanation of the sample included in the regression model. Descriptive statistics and correlation matrix are also presented in this section to better understand the relationship between the independent variables. Section 5 contains the results of the regression analysis and additional analysis to strengthen the findings, and finally, Section 6 presents the conclusion of the research.

2. Literature review

The objective of this section is to give a thorough summary of the existing literature relating to the relationship between accounting quality and post-merger performance. The purpose is to provide a background and help the reader to understand the analysis made throughout the study. Initially, prior research is examined to provide a summary of the merger and acquisition market, along with the factors that influence post-merger performance. Following this, the focus shifts to an exploration of accounting quality, and finally, the connection between accounting quality and post-merger performance is established.

2.1.M&A market

To fully comprehend this study, it is important to understand the concepts of mergers and acquisitions. Though often used interchangeably, in fact, these two terms have different meanings, despite that they lead to the same outcome: two distinct firms are brought under a single management structure. However, if a company buys a whole or part of another one, it is considered an acquisition. On the other hand, in case of a merger, two or more companies form a new one (Malik et al., 2014).

When a company undergoes a merger or acquisition it not only impacts its financial position but also the firm's operations and activities. This approach provides companies the opportunity to accelerate growth beyond what they could have achieved through natural growth. It can enable them to achieve market expansion, reach new customers, gain tax advantages through subsidiaries in tax-friendly jurisdictions, and potentially reduce competition (Renneboog and Vansteenkiste, 2019).

In their study, Fidrmuc and Xia (2016) investigate the motivations of the target company's managers for commencing M&A deals. They reveal that financial and competitive weaknesses often drive firms to commence M&A deals due to adverse selection effects indicating unfavorable valuation. Similarly, firms facing financial problems may prefer to be acquired as a going concern rather than go through a fire sale. Moreover, distressed firms should pursue mergers to avoid bankruptcy, as early consideration of acquisition is beneficial for shareholders. Finally, they highlight that managers lacking ownership may hesitate to initial a takeover to protect their control and personal advantages.

Similarly, Malik et al. (2014) reveal in their study that the primary goal of engaging in an M&A deal is to collaborate with other companies to gain market competitiveness. This strategic move usually results in increased return on equity and shareholder wealth, while simultaneously decreasing operating costs for the company. Additionally, mergers and acquisitions serve as a method for firms to maximize shareholder wealth and ensure survival in dynamic markets. Management teams often view these transactions favorably, as they provide opportunities to expand authority and achieve both short-term and long-term organizational objectives.

2.2. Post-merger performance

Accounting metrics are commonly used to evaluate the effectiveness of an acquisition, as they are believed to provide a reliable reflection of the synergies achieved. The common approach in accounting-based research is to compare the post-acquisition returns to the pre-bid returns of both the target and acquiring firm, using measures such as return on assets (ROA). However, some researchers questioned the usefulness of using this method because of three primary reasons. Firstly, accounting profits only determine the company's economic performance which is the narrowest part of the overall performance. Accounting measures also have been criticized for only considering past performance as well as being backward-looking. Lastly, accounting data provide aggregated information reflecting the overall performance of the entire organization, therefore, they fail to assess the success of a specific acquisition (Papadakis and Thanos, 2010).

Performance, as assessed through accounting-based metrics, can be evaluated using several variables classified as profitability, liquidity, and solvency. A recent study compares a company's performance five years before and five years after the merger. The findings prove that, over the five-year period following the merger, it has a notably positive effect on the profitability and liquidity of the acquiring company, on the other hand, the solvency position is not substantially affected by it. Given the significant costs to the acquiring firm involved in the M&A process, and due to the fact that materialization of the operational integration is time-consuming it requires a longer period of time for the synergies to arise. Therefore, M&A is profitable and positively impacts a company's accounting and financial position in the long term so it can be considered as a long-term investment (Aggarwal and Garg, 2022).

According to Kukalis (2013), several prior studies investigated post-merger performance by using accounting-based measures, but the majority of them reported mixed results and only some of them disclosed positive or negative performance. The author examined if, under four conditions, the results of post-merger performance measured by accounting-based metrics are different from the results obtained with market-based metrics. Under the first condition, the findings regarding the ownership show a different output, based on the market-based measure acquiring private firms resulted in better post-merger performance, while based on the accounting-based metrics their performance was not higher. This study discovered that, in terms of company size and payment method, both small acquirers and cash transactions led to higher performance compared to large acquirers and equity transactions. Finally, there was a difference when comparing the transactions that occurred during recessionary economic times with prosperous economic times. Although using the accounting-based method there is only limited evidence, the findings of market-based metrics showed strong support for higher returns associated with transactions during recessionary times.

Renneboog and Vansteenkiste (2019) also argue the assessment of post-merger performance using accounting data has its concerns. Mergers and acquisitions frequently involve financial adjustments such as restatement, write-downs, and special depreciation or amortization often arising from asset sales or subsequent M&A activities. These operations complicate the identification of whether an effect is due to the merger event. Moreover, modifications of the accounting standards over time and variations between earnings-based or cash-flow-based performance measurements can significantly influence the outcomes. In some cases, post-merger performance may appear to decline when analyzed from an earnings perspective yet show improvement when assessed using cash-flow measures.

Supporters of market-based performance measures argue for their superiority over accounting measures by emphasizing their advantages. They assert that market-based measures incorporate all relevant information, allowing them to capture multiple dimensions of firm performance, unlike accounting measures, which often focus on a single aspect. Furthermore, some researchers adopt a shareholder perspective and propose that maximizing shareholder wealth should be the primary goal in fulfilling the firm's economic objectives. Finally, previous research indicates that the market-to-book value

ratio may be the most accurate measure to exhibit strong associations with accounting performance measures (Gentry and Shen, 2010).

Wangerin (2019) analyses if there is a relationship between due diligence and post-merger performance as well as with financial reporting for business combinations. The findings of the study indicate that acquirers who conduct inadequate transactional due diligence exhibit inferior post-acquisition performance and a higher chance of future goodwill impairments. In addition, it reveals that insufficient transactional due diligence by acquirers weakens the connection between post-acquisition equity market values and fair value estimates for acquired assets and assumed liabilities. On the other hand, there is no evidence to suggest that the amount of time and resources spent by acquirers on due diligence has a significant impact on post-acquisition performance and financial reporting for business combinations.

2.3. Accounting quality

There are various definitions for accounting quality in the earlier literature. For instance, Chen et al. (2010) define it as the measure by which the information in the financial statements accurately depicts the economic reality of the company. According to Păşcan (2015), some researchers believe that in that case, if users can recognize the differences and similarities in two sets of economic phenomena the quality of information is deemed high. They argue that International Financial Reporting Standards (IFRS) aim to eliminate informational externalities resulting from the absence of comparability.

In earlier studies, most researchers determined accounting quality derived from realized earnings and earnings components. Accrual quality is often used as a primary proxy for accounting quality, as defined by Dechow and Dichev (2002). Later, Hribar et al. (2014) prove that by capturing previously unexplained audit fees researchers can gain access to new information relating to accounting quality. This information can then be used to test and validate theories related to the determinants and economic implications of accounting quality. The study of Tiron-Tudor and Achim (2019) evaluates accounting quality by employing four distinct indicators, culminating in an aggregate indicator known as "Accountability". This aggregate indicator is calculated as the equally weighted average of the following four variables. The “strength of auditing and reporting standards - SARS” indicator measures financial reporting quality and auditing strength by

surveying business executives worldwide, who rate their country's financial standards and it also acts as a proxy for institutional transparency. The following variable, "strength of investor protection" combines disclosure transparency, director liability, and shareholder legal rights, and the "efficacy of corporate boards" evaluates corporate governance by assessing the accountability of management to investors and boards. Lastly, "protection of minority shareholders' interests" examines the extent to which the legal system safeguards the rights of minority shareholders.

The adoption of the IFRS has been a significant development in the accounting field with many countries adopting or converging to this set of standards, and it has also impacted accounting quality. In this context, the study by Chen et al. (2010) conducts a comparison of the accounting quality of publicly listed companies in fifteen member states of the European Union before and after the full adoption of IFRS in 2005. They measure accounting quality with two different categories: earnings management and timely loss recognition. They found that accounting standards have an impact on the accounting quality assuming everything else is constant. In their latter literature, Tiron-Tudor and Achim (2019) support the previous conclusion since they discovered that IFRS and International Auditing Standards guarantee a specific level of reporting quality within a country.

Moreover, in Gaio's (2010) research the focus is on determining the relative importance of company, industry, and national factors in clarifying the level of accounting quality. She concludes that the factors related to the individual firm and its industry play a more significant role in establishing accounting quality compared to country characteristics. Furthermore, the analysis indicates that firms with greater investment opportunities, insider ownership, and larger size tend to achieve higher accounting quality rankings. Conversely, organizations with increased sales and operating cash flow volatility, longer operating cycles, and a higher incidence of negative earnings seem to have lower accounting quality rankings.

Lastly, it is also important to note that the accuracy of a company's financial performance is determined not only by its operational efficiency but also by the accounting methodology used to evaluate it. While managers play a key role in determining accounting quality, there are also intrinsic factors, such as the company's

industry, macroeconomic conditions, and operating strategies, that significantly influence it (Marquardt and Zur, 2015).

2.4. Relationship between accounting quality and post-merger performance

Raman et al. (2013) investigate how the quality of information on target firms' equity affects takeover decisions. Their findings indicate that when the target has poor accounting quality, bidders tend to favor negotiated takeovers. Moreover, in such takeovers, accounting quality and takeover premiums display a negative relationship implying that the acquirer can gain access to confidential information during the negotiations. The study also revealed that more equity is involved regarding bids for targets with low accounting quality, which enables both the bidder and the target to share information risk and outcomes.

Previous research has demonstrated a negative association between the accounting quality of target firms and the utilization of auctions as a sale method, whereas a positive relationship exists between the former and the utilization of negotiation strategies. Furthermore, there is a positive association between accounting quality and the speed of the process as well as between accounting quality and the probability of successful deal completion. Overall, the study reveals that the quality of accounting information is linked to the M&A process, and sheds light on how it affects the allocation of capital resources in the economy (Marquardt and Zur, 2015).

According to Skaife and Wangerin (2013), the financial reporting's poor quality of the target firms can result in several implications for M&A transactions. Firstly, a higher premium is paid by acquirers when the financial reporting quality of the target firm is low. Additionally, in the previous case, there is more chance to renegotiate the deals and more crucially, it can lead to termination. Lastly, the study demonstrates that failed targets show a higher tendency to submit amended financial statements compared to other companies, which is a new factor contributing to financial statement restatements. The fact that failed targets are more prone to restating their financial statements compared to other publicly traded firms substantiates the assertion that poor financial reporting quality is a contributing factor to the breakdown of M&A deals.

In their study, McNichols and Stubben (2015) examine how profitable the target companies with high accounting quality are both for the acquirers and the targets in the period of 1990-2010. The authors find that the acquirers can effectively bid lower and pay less for those firms that possess high-quality accounting information. This is due to the fact that it reduces uncertainty surrounding the value of the target firm, leading to more precise evaluation and mitigating information asymmetry between the merging companies. Thus, better accounting quality can provide better conditions for decision-making by the acquirer. Additionally, the paper reveals that it is more profitable for the acquirer when target firms possess higher-quality accounting information, resulting in higher acquirer returns and lower target returns around the time of the acquisition announcement.

Ellahie et al. (2021) have developed a metric for evaluating the quality of M&A deals using well-established accounting and finance principles. This metric, known as "implied ROE improvement (IRI), quantifies the minimum increase in return on equity (ROE) that the acquirer must achieve from the target company to rationalize the acquisition price. If the calculated IRI is less than the potential increase in the target's ROE after the M&A transaction, it indicates a favorable outcome for the buyer. Conversely, the greater the IRI the harder it is for the buyer to reach the expected results, all other things being equal. In line with this observation, the study finds that M&A deals with a high IRI tend to result in reduced accounting returns and diminished returns for both shareholders and debtors after acquisition. To summarize, based on this research, it can be said that IRI is credible in evaluating M&A quality, proving valuable for both academic researchers and industry practitioners.

The studies by Skaife and Wangerin (2013) and McNichols and Stubben (2015) both shed light on the importance of accounting and financial reporting quality in M&A deals. While the first paper highlights the negative implications and risks of low financial reporting quality on M&A deals, the latter emphasizes the benefits and the positive impact of high-quality accounting information for acquirers in terms of reducing uncertainty and improving decision-making. Together, these findings suggest that accounting and financial reporting quality can significantly affect the outcomes of M&A transactions. Nevertheless, based on the research of Tiron-Tudor and Achim (2019) the quality of financial reporting significantly impacts how shares in the capital market move and how specific company information is reflected in stock prices. Specifically, greater accounting

quality corresponds to a greater amount of firm-specific information in the stock prices and reduced stock price synchronicity. For various stakeholders such as policymakers and company management, who rely on financial information for decision-making, the existence and direction of causality between financial reporting quality and the informativeness of stock prices have important implications.

2.5. Research question and hypothesis

As described in the paragraphs above, in this study I aim to address the following research question: *Is there a positive association between the accounting quality of a target company and the acquirer company's post-merger financial performance in M&A processes?* Notably, there is a research gap in the existing literature related to the topic, as no prior studies have specifically explored the association between these two dimensions. Based on the theoretical underpinnings, I expect to find a significant association between accounting quality and post-merger performance.

There were similar hypotheses assumed in the study of McNichols and Stubben (2015), which was already mentioned in the previous sub-chapter. The authors prove that high accounting quality results in higher profit for the acquirer. They also highlight that prior research has shown that to the comprehension of equity prices accounting quality is a contribution. Therefore, I test the following hypothesis:

Hypothesis*: There is a positive relationship between accounting quality and post-merger financial performance.*

This suggests that changes in accounting quality have an impact on the post-merger performance of the acquiring companies and accounting quality is a determinant of the financial performance of the acquiring company after a merger.

3. Methodology

In this section, I outline the methodology employed to investigate the relationship between accounting quality and post-merger performance. First, I measure both the accounting quality and post-merger performance, and after, a regression analysis is conducted to examine the relationship between the accounting quality of the target company and the post-merger financial performance of the acquiring company.

3.1.Measurement of accounting quality

Based on the presented literature, I measure accounting quality using the model of Dechow and Dichev (2002), the basic concept of accruals quality, as the foundational framework. This model offers a comprehensive evaluation of the extent to which current accruals accurately represent past, current, and future operating cash flows. By assessing the mapping of cash flows to accruals, this measure plays a crucial role in ensuring accurate firm valuation and identification of synergies during the M&A process. Furthermore, it is considered to be less susceptible to managerial manipulation when compared to alternative proxies of earnings quality.

By incorporating variables such as current sales growth and the current gross value of property, plant, and equipment, like McNichols and Stubben (2015) in their study, the model can be modified to estimate accounting quality by regressing current accruals on past, present, and future cash flows from operations. This approach ensures the robustness of the measure and its relevance to the M&A context, where accurate financial information plays a critical role in decision-making. Based on the information above the following equation can be used to measure working capital accruals:

$$WCA_{i,t} = \beta_{0,i} + \beta_{1,i}CFO_{i,t-1} + \beta_{2,i}CFO_{i,t} + \beta_{3,i}CFO_{i,t+1} + \beta_{4,i}\Delta REV_i + \beta_{5,i}PPE_{t,i} + \varepsilon_{t,i} \quad (1)$$

where *WCA* is the working capital accruals of firm *i* in year *t*, *CFO* is cash from operations of firm *i*, Δ*REV* is sales revenue growth and *PPE* is gross property, plant, and equipment of firm *i*, each of which is adjusted by dividing by the average total assets for the corresponding years.

The paper of Gaio (2010), among others, suggests that working capital accruals in year *t* for firm *i* are calculated:

$$WCA_{i,t} = \Delta CA_{i,t} - \Delta CL_{i,t} - \Delta Cash_{i,t} + \Delta Debt_{i,t} \quad (2)$$

where Δ*CA* is the increase or decrease of current assets of firm *i* in year *t*, Δ*CL* is the change of current liabilities of firm *i* from year *t-1* to *t*, Δ*Cash* is the increase or decrease of cash if firm *i*, and Δ*Debt* is the change in debt from year *t-1* to *t.*

The cash from operations can be calculated as:

$$CFO_{i,t} = NIBE_{i,t} - (\Delta CA_{i,t} - \Delta CL_{i,t} - \Delta Cash_{i,t} + \Delta Debt_{i,t} - Deprec_{i,t}) \quad (3)$$

where *NIBE* is the net income before extraordinary items of firm *i* in year *t* and *Deprec* is the depreciation and amortization expense of firm *i* in year *t.* The other variables are the same as explained before.

The accounting quality is determined from *Equation 1* using working capital accruals quality as a proxy. It is computed as the standard deviation of residuals as shown in the following formula:

$$AQ_i = \sigma(\varepsilon_{t,i}) \quad (4)$$

where *AQ* represents accruals quality. Greater values of *AQ* suggest lower quality in accruals, indicating that a smaller proportion of the variance in current accruals can be accounted for either by actual operating cash flows, sales revenue growth, or gross property, plant, and equipment. This lower quality in accruals signifies reduced overall accounting quality as well (Gaio, 2010).

3.2.Measurement of post-merger performance

I measure post-merger performance by using market financial performance measures based on prior research. Market-based performance is assessed based on the research of Dikova and Sahib (2013) a commonly used measure in management research, the stock price return ratio of the acquirer firm. This metric is widely recognized as a reliable indicator of stock market performance. It can be calculated by using the following formula:

$$Stock\ price\ return_i = \frac{Price_{after_i} - Price_{before_i}}{Price_{before_i}} \quad (5)$$

The $Price_{before_i}$ variable represents the stock price of the acquirer company *i* one month prior to the announcement of the M&A deal and $Price_{after_i}$ is the stock price of the same acquirer one month after the announcement date. Through this measurement, I seek to capture the impact of the integration efforts initiated by the acquirer following the acquisition.

Furthermore, employing market-based performance measures such as the stock price return ratio serves as a strategic approach to assess the effectiveness of post-merger

integration efforts beyond simple accounting-based metrics. The stock price return ratio reflects not only the immediate market reaction to the merger announcement but also the evolving perception of the merged entity's long-term prospects (Dikova and Sahib, 2013).

3.3. Measurement of the relationship

Expanding on the measurement of accounting quality and post-merger performance, the focus is now shifting to the evaluation of the connection between these two variables. To quantify this relationship, the following linear regression model can be employed:

$$PMP_i = \beta_0 + \beta_1 AQ_i + \beta_2 Dealvalue_i + \beta_3 Acqsize_i + \beta_4 Relsize_i + \beta_5 Stock_i + \beta_6 Acqown_i + \beta_7 Industry_i + \beta_8 Domestic_i + \beta_9 Tender_i + \beta_{10} Negotiated_i + \varepsilon_t \quad (6)$$

The post-merger performance of the acquirer serves as the dependent variable, denoted as *PMP* which is similar to the *Stock price return* mentioned in *Equation 5*. Meanwhile, the level of accruals quality of the target company denoted as *AQ*, acts as the independent variable. The coefficient β_0 represents the intercept of the regression equation, β_1 quantifies the relationship between accounting quality and post-merger performance, and ε signifies the error term. The hypothesis can be formulated as follows: $H1: \beta_1 \neq 0$. If the coefficient is found to be statistically significant, it would suggest that there is a relationship between accounting quality and post-merger performance.

Several control variables applied in previous research are included in *Equation 6* to explain the post-merger performance of the acquirer. *Dealvalue* shows the logarithmic value of the consideration paid by the acquirer, excluding fees and expenses. The expectation is that acquisitions with larger deal sizes have a greater influence on the post-merger performance of the acquirer form. This is because of their potential to significantly alter the company's future size and the likelihood of extracting publicity and reaction from the stock market (Dikova and Sahib, 2013).

In accordance with the paper of McNichols and Stubben (2015), *Acqsize* is the natural logarithm of the market value of the acquirer's equity, and *Relsize* is the target company's market value of equity divided by the acquirer's market value of equity. *Stock* is a dummy variable as well assigned a value of 1 if at least 90% of the payment is made with equity. Relative size helps to assess the impact of the size of the target company

compared to the acquirer, while acquirer size provides insights into the overall financial capacity and resources of the acquiring firm. The variable *Acqown* represents the percentage of the target firm's shares owned by the acquirer after the completion of the M&A to capture the differences in performance between complete and partial acquisitions (Dikova and Sahib, 2013).

The last four control variables are dummy variables. *Industry* and *Domestic* are also used by Masulis, Wang and Xie (2007), the first equals 1 if the target and the acquirer operate in the same industry and zero otherwise, similarly, the second takes the value of 1 if the acquirer and target companies are from the same nation. These variables serve the aim of capturing potential performance variations between cross-border and domestic acquisitions, as well as industry-related and unrelated ones. *Tender* is assigned a value of 1 if the acquisition went through a tender offer mechanism and *Negotiated* is given a value of 1 if the acquisition was negotiated beforehand, signifying a friendly M&A scenario. Since bidders potentially acquire valuable information through a negotiation process, a negative relationship was previously observed between earnings quality and takeover premiums (McNichols and Stubben, 2015). Finally, in their paper of Dikova and Sahib (2013) found that fixed effects panel data estimation is appropriate to mitigate the country-specific factors of the analysis. Furthermore, dummy variables representing the different years were introduced to account for fluctuations caused by crisis and pandemic-related disruptions.

A test for heteroskedasticity was implemented as well to test for group-wise heteroskedasticity in the residuals of fixed effect regression. As there is evidence that heteroskedasticity is present in the model, based on the study of Dikova and Sahib (2013), the regression analysis is conducted through a clustered regression which is appropriate to account for differences in different industries, regions, or time periods, that may exhibit unique characteristics and provide more accurate estimates of the regression coefficients. Clustered regression allows for the consideration of heterogeneity within the dataset by clustering observations into groups that share common characteristics.

4. Sample and descriptive statistics

The first part of the result section provides a detailed description of the data used for both measuring the accounting quality and calculating the post-merger performance.

Following this, the analysis and findings of the study are presented. Specifically, the results of the association analysis between accounting quality and post-merger performance are outlined. Additionally, any significant relationships or trends identified through regression analysis or other statistical tests are discussed. Overall, this section aims to offer a comprehensive overview of the sample and empirical outcomes of the research.

4.1. Data description

I investigate the relationship between accounting quality and post-merger performance among publicly listed companies in the core European Union countries. This group contains the following 15 countries: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, and Sweden. Additionally, the United Kingdom (UK), although no longer a member of the European Union, is retained in the analysis. Due to insufficient data availability, Luxembourg is not included as an acquirer or a target nation in the study, and Ireland is also excluded from the target nation. To enhance the uniformity of the sample and ensure comparability of results among firms, financial and public administration sectors are excluded. Data from the Refinitiv Eikon Deal Screener database is analyzed, focusing on mergers and acquisitions completed between 2010 and 2022. To mitigate potential biases arising from the effects of the financial crisis, the observation period of the study is from 2010, ensuring a more accurate assessment of the relationship between variables in the post-merger context.

In the database, there were initially 651 deal transactions recorded, representing a substantial pool of potential data. However, it became evident that not all the variables included had complete and accessible information. To ensure the integrity of the analysis, a careful filtering process was done, excluding data with missing information for at least one variable. Following this improvement, the dataset comprises 164 M&A deals, providing plenty of data to explore the connection between accounting quality and post-merger performance. Furthermore, a thorough examination of outliers was conducted as well, which led to the elimination of three observations with a value of several times the value of the other observations. The data with a higher than 150% stock price return ratio were excluded due to their economically irrational nature to ensure data quality. In the final iteration, 161 transactions remained, forming the basis for the dataset of the analysis.

The accounting quality is calculated using *Equations 1-4* for a 6-8 year period preceding the M&A for all the target companies in the sample. Each firm included in the dataset is required to have available data in the database for all the variables included in these equations, the ones missing data for at least one of the variables were excluded to ensure the integrity of the dataset and the validity of the analysis. *Equation 1*, which serves as the basis for calculating accounting quality for each target company in the dataset, is performed individually for each target company, and the standard deviation of firm-specific residuals is established from each regression. Accounting quality is determined from these standard deviations of residuals as discussed above.

Calculating the post-merger performance involves comparing the acquirer's stock price one month after the announcement of the deal with the stock price one month before the announcement of the acquisition agreement. *Equation 5* is performed individually for each acquirer company from the data extracted from the Refinitiv Eikon database. After all the necessary variables shown in *Equation 6* are calculated the regression can be implemented, from which the relationship between the two variables can be investigated.

4.2. Descriptive statistics by country

First, before the regression analysis, the descriptive statistics are discussed in this subsection. The following tables represent the mean values, the standard deviation, and the frequency of accounting quality and post-merger performance categorized by the country of the target and acquirer company, and after by years as well.

Table 1 provides insight into the distribution of accounting quality measures across the different countries in the sample. The total mean value equals 0.022, which serves as an indicator of the dataset. This approach aligns with similar findings presented by Francis et al. (2004) in their study of US firms from 1975 to 2001, where they disclosed a mean value of 0.026 for accounting quality. Additionally, similar results are reported by Gaio (2010), who stated a mean value of 0.027 in the comprehensive research focusing on 38 countries during the period of 1990-2003.

Table 1: Descriptive statistics of accrual quality by country

Target nation	Summary of accrual quality			
	Mean	Standard deviation	Frequency	Percentage
Austria	0.044	0.072	3	2%
Belgium	0.012	0.011	6	4%
Denmark	0.042	0.000	1	1%
Finland	0.013	0.010	6	4%
France	0.020	0.040	38	24%
Germany	0.014	0.014	17	11%
Greece	0.009	0.008	3	2%
Italy	0.020	0.032	11	7%
Netherlands	0.023	0.017	7	4%
Portugal	0.010	0.000	1	1%
Spain	0.010	0.017	8	5%
Sweden	0.015	0.026	11	7%
United Kingdom	0.033	0.107	49	30%
Total	***0.022***	***0.064***	***161***	***100%***

Among individual nations, Austria has the highest mean value of accounting quality with a value of 0.044, closely followed by Denmark and the UK with an amount of 0.042 and 033. In contrast, Greece and Portugal have the lowest mean values with an average of 0.009 and 0.010. These variations highlight the possible differences in accounting practices and reporting standards among nations, which could impact the outcomes of post-merger performance. However, reaching a conclusion based on this data is not feasible, as there are countries with only one or just a few observations, such as Denmark or Portugal.

In addition to providing insights into accounting quality, presenting descriptive statistics of financial performance by country in *Table 2* serves to offer a comprehensive view of the dataset. By examining post-merger performance metrics across different countries, we gain a detailed understanding of how accounting quality may influence financial outcomes within distinct geographical contexts. This analysis helps identify differences or patterns in post-merger performance measures, revealing how accounting quality and financial performance interact across countries.

Table 2: Descriptive statistics of financial performance by country

	Summary of financial performance			
Acquirer nation	**Mean**	**Standard deviation**	**Frequency**	**Percentage**
Austria	-0.181	0.000	1	1%
Belgium	-0.054	0.086	5	3%
Denmark	-0.184	0.000	1	1%
Finland	0.088	0.080	5	3%
France	0.032	0.157	47	29%
Germany	-0.016	0.150	13	8%
Greece	-0.138	0.000	1	1%
Ireland	-0.048	0.247	2	1%
Italy	-0.066	0.209	17	11%
Netherlands	-0.068	0.196	5	3%
Portugal	-0.036	0.053	2	1%
Spain	-0.116	0.359	8	5%
Sweden	-0.013	0.114	14	9%
United Kingdom	0.007	0.176	40	25%
Total	***0.006***	***0.181***	***161***	***100%***

The mean values of the financial performance range from negative values to positive values, indicating a mix of performance outcomes. Countries like Finland and France show relatively high mean, suggesting favorable financial performance following mergers. Conversely, countries like Austria and Denmark exhibit the lowest mean with negative values, indicating challenges or declines in financial performance post-merger. However, there is only one observation in the dataset for these two nations. The standard deviation also varies across nations, reflecting the degree of variability in post-merger financial outcomes.

Overall, most observations in the sample were conducted in France and the UK, and there are also some countries where only one observation is in the sample, such as Austria, Denmark, and Greece. France has a moderately high mean value for accounting quality and financial performance. This suggests a robust alignment between outstanding accounting practices and strong post-merger financial outcomes in these countries. Moreover, Belgium and Spain have one of the lowest values for both variables. Interestingly, the UK is ranked third highest in accounting quality but has a low mean value in financial performance. This indicates a potential disconnection between accounting quality and financial outcomes in this context.

4.3. Descriptive statistics by year

Continuing from the examination of descriptive statistics across different countries, the analysis now delves into a year-by-year breakdown to uncover any temporal trends in accounting quality and financial performance. In *Table 3* the descriptive statistics of accounting quality, and in *Table 4* the descriptive statistics of financial performance by year can be seen.

Table 3: Descriptive statistics of accrual quality by year

	Summary of accrual quality			
Year	**Mean**	**Standard deviation**	**Frequency**	**Percentage**
2010	0.009	0.013	17	11%
2011	0.018	0.020	13	8%
2012	0.021	0.022	14	9%
2013	0.018	0.034	13	8%
2014	0.065	0.186	15	9%
2015	0.031	0.026	16	10%
2016	0.012	0.013	16	10%
2017	0.027	0.056	9	6%
2018	0.026	0.058	15	9%
2019	0.004	0.005	8	5%
2020	0.009	0.010	12	7%
2021	0.027	0.040	7	4%
2022	0.007	0.022	6	4%
Total	***0.022***	***0.064***	***161***	***100%***

The table provides a year-wise summary of accounting quality across the observed period. The mean fluctuates over the years, ranging from 0.004 to 0.065, as well as the standard deviation, ranging from 0.005 to 0.186, indicating fluctuations. Some years demonstrate higher variability than others. Notably, the mean of *AQ* in 2014 is significantly higher compared to other years, however, the standard deviation is also higher than in other years, suggesting increased variability in accounting quality during that period. These findings underscore the importance of considering temporal dynamics when analyzing accounting quality within the dataset.

Table 4: Descriptive statistics of financial performance by year

Year	Summary of financial performance			
	Mean	**Standard deviation**	**Frequency**	**Percentage**
2010	-0.003	0.193	17	11%
2011	0.053	0.137	13	8%
2012	0.035	0.153	14	9%
2013	0.025	0.076	13	8%
2014	-0.004	0.126	15	9%
2015	0.052	0.163	16	10%
2016	0.027	0.205	16	10%
2017	-0.133	0.335	9	6%
2018	-0.027	0.098	15	9%
2019	-0.019	0.138	8	5%
2020	0.063	0.160	12	7%
2021	0.002	0.134	7	4%
2022	-0.117	0.405	6	4%
Total	***0.006***	***0.181***	***161***	***100%***

Examining financial performance over different years reveals interesting patterns and variations. In 2020, it appears to be the highest mean value, indicating generally favorable performance outcomes during that period. However, subsequent years, such as 2010, 2014, 2017, 2018, 2019, and 2022 depict negative mean values, suggesting below-average financial performance during those intervals. The last year can be explained by the long-term impact of the pandemic crisis worldwide in the years before. Notably, the year 2013 stands out with a relatively low standard deviation compared to other years, suggesting a degree of consistency in financial performance outcomes across acquirers during that time. Conversely, the year 2017 presents an interestingly high standard deviation, indicating a wide range of financial performance outcomes among acquirers in that particular year.

Comparing the two variables, while accounting quality had the highest value in 2014, financial performance was relatively low in that year. Conversely, in 2020, when financial performance had the highest value, accounting quality had the second lowest value. Finally, the financial performance table exhibits higher variability in standard deviations compared to the accounting quality table, suggesting greater volatility in financial performance metrics over time. The frequency of the observations during the

years is relatively consistent, the least transactions in the sample are in 2022 and the most are in 2010.

4.4. Overall descriptive statistics

Table 5 provides an overview of the key variables in the dataset, including their mean values, standard deviation, and ranges.

Table 5: Descriptive statistics

Variable	Observations	Mean	Standard deviation	Minimum	Maximum
PMP	161	0.006	0.181	-0.995	0.622
AQ	161	0.022	0.064	0.000	0.734
Dealvalue	161	5.087	2.420	-3.270	11.433
Acqsize	161	7.856	2.263	2.644	12.067
Relsize	161	0.396	0.659	0.001	6.533
Stock	161	0.261	0.440	0	1
Acqown	161	77.191	32.962	3.316	100
Industry	161	0.671	0.471	0	1
Domestic	161	0.652	0.478	0	1
Tender	161	0.360	0.482	0	1
Negotiated	161	0.236	0.426	0	1

Having previously discussed the post-merger performance and accounting quality, the descriptive statistics table now provides additional insights into various aspects of the observed M&A transactions. The logarithmic value of the deals indicates a wide spectrum and highlights the diverse financial magnitudes of the observed deals. On the other hand, the sizes of the acquiring companies vary from 2.644 to 12.067. The mean value of *PMP* indicates that on average 0.6% increase is experienced by the acquirers in the stock price after one month of the M&A announcement.

Examining the relative size of the two companies, the tables indicate that typically, the size of the acquirer is larger. Just a quarter of the transactions were settled using stock as payment, and on average the acquirer company owns 77% of the target after the M&A transaction. The last four variables are also dummy variables, which encode categorical data into binary form. The descriptive statistics table reveals the distribution of industry-related deals, domestic transactions, tender offers, and negotiated deals among the observed data. Approximately 67% of the transactions occurred within the same industry, while a similar percentage, 65%, took place in the same country, reflecting a significant

proportion of deals with such characteristics. Finally, only 36% of the deals went through a tender offer mechanism, and around 24% of the deals in the dataset were negotiated beforehand, indicating a tendency towards a friendly M&A scenario.

4.5. Correlation matrix

The focus is now shifting to the correlation matrix, which is a crucial part of the study. *Table 6* shows the correlation matrix including all the independent, and control variables in the model. The correlation matrix provides insights into the relationships between different independent variables in the dataset.

Table 6: Correlation matrix

	AQ	Dealvalue	Acqsize	Relsize	Stock	Acqown	Industry	Domestic	Tender	Negotiated
AQ	1.000									
Dealvalue	-0.085	1.000								
Acqsize	-0.149*	0.594***	1.000							
Relsize	-0.029	0.140*	-0.198**	1.000						
Stock	0.003	-0.062	-0.274***	0.009	1.000					
Acqown	0.058	0.175**	-0.111	-0.120	0.319***	1.000				
Industry	0.001	0.147*	0.071	0.066	-0.005	0.036	1.000			
Domestic	0.086	-0.247***	-0.203***	-0.109	-0.012	0.040	-0.206***	1.000		
Tender	-0.098	0.035	0.111	0.005	-0.210***	0.343***	-0.025	-0.050	1.000	
Negotiated	-0.058	-0.132*	0.101	0.050	-0.264***	-0.814***	-0.109	-0.086	-0.387***	1.000

* *Correlation is significant at the 10% significance level (0.10)*
** *Correlation is significant at the 5% significance level (0.05)*
*** *Correlation is significant at the 1% significance level (0.01)*

All the variables are below the 0.7 cut-off threshold which is used commonly. The matrix highlights some interesting relationships such as the strongest correlation observed which is between *Acqown* and *Negotiated* with a value of -0.814, indicating that negotiated acquisitions tend to involve lower acquirer ownership post-transaction.

In addition, it reveals a negative correlation between *AQ* and *Acqsize* with a value of -0.149 indicating a controversial relationship. A similar relationship can be identified between *Dealvalue* and both *Domestic* and *Negotiated*, meaning that as the value of the deal increases the possibility of it being domestic or negotiated tends to decrease. The variables of *Industry* and *Domestic* also have a negative correlation value. Deals are less likely to be domestic if the companies involved operate in the same industry.

The correlation between deal value and acquisition size, and also relative size, is moderately positive (0.594), suggesting that larger deals tend to involve larger acquiring companies. Moreover, the correlation between *Dealvalue* and both *Acqown* and *Industry* with a positive value suggests that as the deal value increases the percentage of the shares

owned by the acquirer after the M&A tends to increase as well, just as the possibility of the companies involved being in the same industry. A similar correlation is observed between *Acqown* and *Tender* with a value of 0.343, which implies that a higher percentage of the target company being owned by the acquirer after the transaction is associated with tender transactions.

Additionally, there is a negative correlation (-0.274) between stock payments and the size of the acquirer, implying that larger acquirers are less likely to use stock as the payment method during an M&A. Similarly, the negative correlation value of -0.203 suggests that there is a tendency for smaller acquirers to engage in domestic transactions more frequently, while larger acquirers might be involved in cross-border deals. There is also a negative correlation between *Stock*, *Tender*, and *Negotiated*, there is a tendency for these variables to move in opposite directions. Specifically, as the stock consideration in the deal increases, the likelihood of the deal being negotiated decreases, and vice versa.

In contrast, between *Stock* and *Acqown*, a positive correlation value can be noticed. This suggests that acquisitions settled through the tender offer mechanism tend to result in a higher ownership stake for the acquirer post-transaction. Finally, the correlation value of *Acqsize* and *Relsize* reveals that larger acquirers may tend to acquire smaller targets relative to their own size.

5. Results

After exploring the potential trends revealed by the descriptive statistics, the next step is to develop a deeper investigation through regression analysis. By employing regression, the relationship between the accounting quality of the target company and the post-merger performance of the acquirer can be better understood.

5.1. Variance Inflation Factor

Before the regression analysis, it is important to investigate the potential multicollinearity within the employed model. *Table 7* table provides valuable insights into the presence of multicollinearity among the independent variables in the regression. By examining the variance inflation factor (VIF) values, the reliability and accuracy of the regression model can be better assessed. Identifying and addressing multicollinearity

is crucial for ensuring robust statistical inference and avoiding potential biases in the interpretation of the regression findings.

Table 7: Variance Inflation Factor

Variable	VIF	1/VIF
Acqown	22.26	0.04
Acqsize	30.82	0.03
Dealvalue	12.11	0.08
Negotiated	4.28	0.23
Domestic	3.33	0.30
Industry	3.33	0.30
Tender	2.29	0.44
Stock	1.92	0.52
Relsize	1.80	0.56
AQ	1.18	0.85
Mean VIF	***8.33***	

As shown in the table, *Acqown*, *Acqsize,* and *Dealvalue* have a significantly higher value than 10, which, based on the research of Murray et al. (2012), indicates a higher level of multicollinearity between these two variables. Multicollinearity appears when independent variables in the regression model are highly correlated with the other independent variables. Despite that in the correlation matrix the value for the first two variables is just 0.111, indicating a weak correlation between them, the VIF value is high. This suggests that their relationships with the other variables in the model contribute to multicollinearity issues. Therefore, even weakly correlated variables can contribute to multicollinearity if they are highly correlated with other variables in the model. *AQ* has the lowest VIF value, which suggests that there is only a moderate level of correlation between *AQ* and the other variables. The reciprocal values of VIF (1/VIF) can be also used to test for multicollinearity. In this case, the higher the 1/VIF value is the lower the level of the multicollinearity, indicating that these variables have less influence on these issues.

The mean VIF provides an average measure of multicollinearity across the independent variables included in the regression model. Therefore, monitoring the mean VIF is crucial for ensuring the validity and interpretability of the regression model. A value below 5 is acceptable since it indicates that the multicollinearity is not severe

(Murray *et al.*, 2012). As it can be seen in *Table 7*, the mean VIF is 8.33, which is considered high and means that there is little association among the variables that could affect the accuracy of the coefficient estimates but there is only a moderate level of multicollinearity among the independent variables.

In the process of refining the regression model, three variables were identified with high VIF values, indicating potential multicollinearity issues. To address this concern and ensure the robustness of the model, the two variables with the highest VIF values were excluded from the regression analysis. Multicollinearity, characterized by high correlations between independent variables, can distort the estimation of coefficients and undermine the reliability of regression results. By removing these variables, the regression model becomes less vulnerable to multicollinearity effects, thereby improving the accuracy of parameter estimates and enhancing the overall validity of the analysis. This strategic adjustment enables a clearer examination of the relationship between the remaining variables and the dependent variable, facilitating a more accurate interpretation of the results and supporting the integrity of the findings.

In addition, a second variance inflation factor table is prepared to see if the association between the independent variables is entirely eliminated from the model by excluding these two correlated variables or if there is a need to eliminate the third variable as well. This step aims to verify that the model accurately captures the unique contribution of each independent variable to the dependent variable, without the influence of collinearity.

Table 8: Second Variance Inflation Factor

Variable	**VIF**	**1/VIF**
Dealvalue	6.13	0.16
Domestic	3.31	0.30
Industry	3.31	0.30
Tender	2.20	0.45
Negotiated	1.97	0.51
Stock	1.69	0.59
Relsize	1.41	0.71
AQ	1.17	0.85
Mean VIF	***2.65***	

By examining the variance inflation factors in *Table 8*, it can be concluded that the issue of multicollinearity is successfully addressed as there are no longer any VIF values in the model exceeding 10. This signifies that the correlation between the independent variables is now within acceptable limits. Moreover, all the values have slightly decreased and are closer to 1, which means that there is a minimal correlation between the independent variables. This reduction also serves as evidence for the mitigation of multicollinearity. The mean value now stands at 2.65, despite the original value of 8.33, which is a significantly more moderate value indicating a lower level of multicollinearity in the model.

5.2. Regression analysis

The regression analysis is used to examine the relationship between the dependent variable and independent variables, and also to help quantify the impact of the different variables on post-merger performance. As explained in the Methodology paragraph, the regression was performed with a fixed effect by country. The model includes 161 observations grouped into 14 clusters based on the acquirer country. By using clusters for the regression, the within-group correlation or heteroskedasticity can be accounted for, therefore providing more accurate estimates.

Table 9: Regression analysis

			Number of observations:	161
			R-squared:	0.283
PMP	**Coefficient**	**Robust std. error**	**t**	**P > | t |**
AQ	-0.212	0.096	-2.21	0.045
Dealvalue	0.007	0.010	0.68	0.511
Relsize	-0.100	0.030	-3.29	0.006
Stock	-0.036	0.067	-0.53	0.604
Industry	0.022	0.021	1.04	0.317
Domestic	-0.037	0.028	-1.32	0.210
Tender	-0.022	0.020	-1.11	0.287
Negotiated	-0.053	0.111	-0.48	0.641
_cons	0.090	0.294	0.31	0.763

The overall R-squared represents the proportion of variance in the post-merger performance explained by all the independent variables collectively, across all

observations in the dataset. The R-square equals 0.283 in the regression of Table 9, which suggests that approximately 28.3% of the variation in the dependent variable is explained by the independent variables in the dataset. It is considered a moderate ability to predict or account for the changes in the financial performance of the acquirer after the M&A transaction. However, this should not raise significant concern, as the primary focus lies in explaining the influence of accounting quality rather than employing the model for predictive analysis.

When examining the coefficients displayed in the table, *AQ* (accruals quality) stands out with a relatively large coefficient in absolute terms. *AQ* represents the quality of accruals, where lower accruals quality indicates higher accounting quality. The negative coefficient for *AQ* in our model is -0.212, suggesting that as accounting quality improves, so does the financial performance of the acquirer post-merger. The significance of this relationship is underscored by a p-value of 0.045, confirming that accounting quality is a statistically significant factor at the 5% significance level. This finding is consistent with established literature, reinforcing the positive association between accounting quality and post-merger success. Specifically, for every one-unit improvement in the target company's accounting quality, the acquirer's financial performance improves by an average of 0.212, holding all other factors constant.

Relsize, which represents the relative size of the target to the acquirer, also exhibits a notable coefficient. With a value of -0.100, it indicates that as the target company grows larger relative to the acquirer, the latter's post-merger financial performance tends to decrease. This observation aligns with previous findings by McNichols and Stubben (2015), who documented a similar negative relationship. The significance of *Relsize* is further supported by its p-value of 0.006, making it statistically significant at all the usual 1%, 5%, and 10% significance levels. This suggests that the size of the target company compared to the acquirer is a crucial determinant of the financial outcomes post-merger.

Other variables such as *Stock*, *Domestic*, *Tender*, and *Negotiated* deals also show negative coefficients, with values of -0.036, -0.037, -0.022, and -0.053, respectively. These coefficients imply that deals paid primarily with stock, those involving companies from different countries, and those that are pre-negotiated tend to have a slightly adverse impact on post-merger performance. However, these variables did not achieve statistical significance at conventional levels, indicating that their effects on post-merger

performance are not as significant as those of *AQ* and *Relsize*. Despite their lack of statistical significance, including these variables in the model is essential to control for potential confounders and ensure the robustness of the analysis.

In summary, the analysis reveals that accounting quality, and the relative size of the target are significant predictors of post-merger financial performance. *AQ*'s negative coefficient and significant p-value highlight the importance of high accounting quality in achieving better financial outcomes post-merger. Similarly, the negative coefficient and significant p-value for *Relsize* underscore the impact of the target's relative size on the acquirer's financial performance. While other variables such as *Stock*, *Domestic*, *Tender*, and *Negotiated* deals were not significant, their inclusion helps provide a comprehensive understanding of the factors influencing post-merger success. These insights align with existing research and offer valuable guidance for future M&A strategies.

5.3. Additional analysis

An additional analysis based on the paper of Dikova and Sahib (2013) was conducted to strengthen the findings by using different time periods for calculating the stock price return ratio of the acquirer. In the main regression, the financial performance is calculated by comparing the stock price of the acquirer one-month prior announcement with one month after. As an additional analysis, I examined the stock price return ratio for the following periods: one month before the announcement and on announcement day.

Table 10: Additional analysis

		Number of observations:	161
		R-squared:	0.214
PMP	**Coefficient**	**Robust std. error**	**t**	**P > | t |**
AQ	-0.099	0.019	-5.30	0.000
Dealvalue	0.000	0.000	1.02	0.325
Relsize	0.089	0.022	4.11	0.001
Stock	0.013	0.039	0.33	0.748
Industry	-0.053	0.022	-2.37	0.034
Domestic	-0.002	0.019	-0.08	0.939
Tender	0.034	0.027	1.26	0.229
Negotiated	0.016	0.042	0.39	0.705
_cons	0.079	0.090	0.87	0.401

The regression was conducted using the same methodology as before, and the same variables were excluded based on their high values of VIF to ensure the integrity and reliability of the regression results. By maintaining consistency in the approach, the impact of the remaining variables on the post-merger performance can be confidently assessed.

The result of the additional regression aligns with the initial finding of *Table 9*, demonstrating that accounting quality remains statistically significant at the 5% significance level and even achieved significance at the 1% significance level. *AQ* exhibits a negative coefficient in this regression as well, which means that there is a positive relationship between the accounting quality of the target company and the acquirer's post-merger performance, since the lower the accruals quality the higher the accounting quality. This consistent pattern across analyses provides robust evidence supporting the assumption that higher accounting quality levels contribute positively to the financial performance of acquirers following M&A deals.

Moreover, *Relsize* maintained its significance and reached the 1% significance level as well. This indicates a robust and noteworthy relationship, suggesting a substantial impact of relative size on the financial performance. In addition, the *Industry* demonstrates significance at the 5% significance level, which is a change from its previous status. It means that acquirers involved in a cross-industry M&A transaction tend to have higher post-merger performance. Finally, none of the other variables exhibit significance at any commonly used significance level. Nonetheless, their inclusion in the analysis remains essential for a comprehensive examination of the model.

This additional analysis provides a deeper understanding of the factors influencing the post-merger performance and helps validate the robustness of the initial findings. Additionally, it allows for the exploration of alternative specifications or model assumptions, thereby enhancing the overall reliability and validity of the research results.

6. Conclusion

In conclusion, this study has reviewed the previously existing literature on accounting quality and post-merger performance as well as identified gaps in the current research. This study aims to investigate the relationship between accounting quality and post-merger performance. A sample of 161 observations is obtained for the research including publicly listed companies in the fifteen largest countries of the European Union. Approximately 67.1% of the transactions in the sample occurred within the same industry and 65.2% happened in the same country, while only 23.6% of the deals were negotiated beforehand.

The results suggest a positive association between the accounting quality of the target firm and the post-merger performance of the acquirer. The analysis reveals that high accounting quality in the target company corresponds to higher post-merger performance in the acquirer company. Acquirers with access to information about the target firm's high accounting quality, can more accurately assess the true value of the target company, enabling them to navigate negotiations more effectively, ultimately resulting in lower acquisition costs. This outcome underscores the importance of accounting quality as a predictor of post-merger success and highlights its potential impact on overall performance outcomes in merger and acquisition scenarios.

Furthermore, the regression analysis also supports the substantial impact of the size of the target company relative to the acquirer on the financial performance of the acquirer following the M&A. Conversely, the results also indicate that deals across different countries, and those arranged through negotiated in advance may marginally reduce post-merger performance. Notably, a negative correlation between the relative size of the target company compared to the acquirer and the latter's financial outcomes post-M&A suggests that as the target company's relative size increases in comparison to the acquirer, there is a tendency for the post-merger performance after the deal announcement to decrease.

There are some limitations of this research. First of all, a potential limitation is the reliance on publicly available financial data, which might not fully capture all relevant aspects of the firms' financial performance. The methodology used to measure accounting quality and post-merger performance may have its own limitations, for example, the availability of the desired data, affecting the accuracy of the results. Moreover, the study's

focus on publicly listed companies may overlook important insights from privately held firms. The generalizability of the findings may be limited as the study may only focus on a particular geographical area, the core countries of the European Union. It also may only examine the short-term effects of the merger on post-merger financial performance since the stock price return ratio is calculated one month before and after the announcement date and may not fully capture the long-term effects of the merger. The sample size could also be broadened by using a broader period or by applying the research to the whole European Union or the USA.

In addition to the limitations described above, future research could examine the role of accounting quality in M&A processes in specific industries or sectors. Investigation of how other factors, such as cultural differences or regulatory environments, influence the relationship between accounting quality and post-merger financial performance can be interesting to expand this topic. Finally, it can be analyzed how changes in accounting quality over time, such as due to changes in accounting standards or changes in management, affect post-merger financial performance.

References

Aggarwal, P. and Garg, S. (2022) 'Impact of Mergers and Acquisitions on Accounting-based Performance of Acquiring Firms in India', *Global Business Review*, 23(1), pp. 218–236. Available at: https://doi.org/10.1177/0972150919852009.

Chen, H. *et al.* (2010) 'The role of international financial reporting standards in accounting quality: Evidence from the European Union', *Journal of International Financial Management and Accounting*, 21(3), pp. 220–278. Available at: https://doi.org/10.1111/j.1467-646X.2010.01041.x.

Dechow, P.M. and Dichev, I.D. (2002) 'The Quality of Accruals and Earnings: The Role of Accrual Estimation Errors', *The Accounting Review*, 77, pp. 35–59.

Dikova, D. and Sahib, P.R. (2013) 'Is cultural distance a bane or a boon for cross-border acquisition performance?', *Journal of World Business*, 48(1), pp. 77–86. Available at: https://doi.org/10.1016/j.jwb.2012.06.009.

Ellahie, A., Hshieh, S. and Zhang, F. (2021) 'Measuring the Quality of Mergers and Acquisitions', *SSRN Electronic Journal* [Preprint]. Available at: https://doi.org/10.2139/ssrn.3765106.

Fidrmuc, J.P. and Xia, C. (2016) 'M&A Deal Initiation and Managerial Motivation', *SSRN Electronic Journal* [Preprint]. Available at: https://doi.org/10.2139/ssrn.2719561.

Gaio, C. (2010) 'The relative importance of firm and country characteristics for earnings quality around the world', *European Accounting Review*, 19(4), pp. 693–738. Available at: https://doi.org/10.1080/09638180903384643.

Gentry, R.J. and Shen, W. (2010) 'The Relationship between Accounting and Market Measures of Firm Financial Performance: How Strong Is It?', *JOURNAL OF MANAGERIAL ISSUES*, XXII(4), pp. 514–530.

Hribar, P., Kravet, T. and Wilson, R. (2014) 'A new measure of accounting quality', *Review of Accounting Studies*, 19(1), pp. 506–538. Available at: https://doi.org/10.1007/s11142-013-9253-8.

Jennifer Francis *et al.* (2004) 'Costs of Equity and Earnings Attributes', *The Accounting Review*, 79(4), pp. 967–1010.

Kukalis, S. (2013) 'Market-based versus Accounting-based Performance: A new investigation in post-merger situtation', *The International Journal of Fincance*, 24(3), pp. 7383–7405.

Malik, M.F. *et al.* (2014) 'Mergers and Acquisitions: A Conceptual Review', *International Journal of Accounting and Financial Reporting*, 1(1), p. 520. Available at: https://doi.org/10.5296/ijafr.v4i2.6623.

Marquardt, C. and Zur, E. (2015) 'The role of accounting quality in the M&A market', *Management Science*, 61(3), pp. 604–623. Available at: https://doi.org/10.1287/mnsc.2013.1873.

Masulis, R.W., Wang, C. and Xie, F. (2007) *Corporate Governance and Acquirer Returns*, *THE JOURNAL OF FINANCE* •.

McNichols, M.F. and Stubben, S.R. (2015) 'The effect of target-firm accounting quality on valuation in acquisitions', *Review of Accounting Studies*, 20(1), pp. 110–140. Available at: https://doi.org/10.1007/s11142-014-9283-x.

Murray, L. *et al.* (2012) 'Variance Inflation Factors in regression models with dummy variables', *Conference on Applied Statistics in Agriculture* [Preprint]. Available at: https://doi.org/10.4148/2475-7772.1034.

Papadakis, V.M. and Thanos, I.C. (2010) 'Measuring the performance of acquisitions: An empirical investigation using multiple criteria', *British Journal of Management*, 21(4), pp. 859–873. Available at: https://doi.org/10.1111/j.1467-8551.2009.00671.x.

Păşcan, I.-D. (2015) 'Measuring the Effects of IFRS Adoption on Accounting Quality: A Review', *Procedia Economics and Finance*, 32, pp. 580–587. Available at: https://doi.org/10.1016/s2212-5671(15)01435-5.

Raman, K., Shivakumar, L. and Tamayo, A. (2013) 'Target's earnings quality and bidders' takeover decisions', *Review of Accounting Studies*, 18(4), pp. 1050–1087. Available at: https://doi.org/10.1007/s11142-013-9224-0.

Renneboog, L. and Vansteenkiste, C. (2019) 'Failure and success in mergers and acquisitions', *Journal of Corporate Finance*, 58, pp. 650–699. Available at: https://doi.org/10.1016/j.jcorpfin.2019.07.010.

Skaife, H.A. and Wangerin, D.D. (2013) 'Target financial reporting quality and M&A deals that go bust', *Contemporary Accounting Research*, 30(2), pp. 719–749. Available at: https://doi.org/10.1111/j.1911-3846.2012.01172.x.

Tiron-Tudor, A. and Achim (Nasca), A.M. (2019) 'Accounting quality and stock price informativeness: a cross-country study', *Economic Research-Ekonomska Istrazivanja*, 32(1), pp. 2481–2499. Available at: https://doi.org/10.1080/1331677X.2019.1650655.

Toomey, J. (2023) *Global M&A by the Numbers: 2022 in Review, S&P Global Market Intelligence*. Available at: https://www.spglobal.com/marketintelligence/en/news-insights/blog/global-ma-by-the-numbers-2022-in-review (Accessed: 30 April 2023).

Wangerin, D. (2019) 'M&A Due Diligence, Post-Acquisition Performance, and Financial Reporting for Business Combinations', *Contemporary Accounting Research*, 36(4), pp. 2344–2378. Available at: https://doi.org/10.1111/1911-3846.12520.

Appendix

Table 11: Description of the variables

Variable	Description
WCA	Working Capital Accruals
CFO	Cash Flow from Operations
ΔREV	Sales revenue growth
PPE	Gross Property, Plant, and Equipment
ΔCA	Changes in Current Assets
ΔCL	Changes in Current Liabilities
ΔCash	Changes in Cash
ΔDebt	Changes in Debt
NIBE	Net Income Before Extraordinary items
Deprec	Depreciation and amortization expense
AQ	Accruals Quality
$Price_{after}$	Stock price 1 month after announcement
$Price_{before}$	Stock price 1 month before announcement
PMP	Post-Merger Performance of the acquirer
AQ	Accruals Quality of the target
Dealvalue	Logarithmic value of the consideration paid
Acqsize	Natural logarithm of the market value of the acquirer's equity
Relsize	The target company's market value of equity divided by the acquirer's market value of equity
Stock	Dummy variable: 1 if at least 90% of the payment is made with equity
Acqown	Percentage of the target firm's shares owned by the acquirer after the completion
Industry	Dummy variable: 1 if the target and the acquirer operate in the same industry
Domestic	Dummy variable: 1 if the acquirer and target companies are from the same nation
Tender	Dummy variable: 1 if the acquisition went through a tender offer mechanism
Negotiated	Dummy variable: 1 if the acquisition was negotiated beforehand