The impact of ESG of the target firm on the offer price of mergers and acquisitions (M&A)

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ABSTRACT,
This paper investigates the impact of ESG of the target firm on the offer price in mergers and acquisitions deals across the United States, Canada, and Europe. Through linear regression, the relationship between the ESG scores and the offer price is determined. Contrary to expectations, the findings indicate that higher ESG scores of target firms do not cause higher offer prices. This challenges the current assumption that better ESG performance leads to higher firm value in Mergers & Acquisitions. The findings suggest that sustainability may not directly influence the value of an M&A offer, even though ESG is growing in importance when it comes to investment decisions.

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Keywords
Mergers and acquisitions, Corporate social responsibility, Initial offer price, Target firm valuation, ESG, Stakeholder Theory

1. INTRODUCTION

1.1 Background

Over the last decade, Sustainable Finance has become increasingly relevant. (Stobierski, 2022) (Servaes & Tamayo, 2013) (Deng & Kang, 2013) (Mayer & Reizingerné Ducsai, 2023) This can be explained by the growing concern for environmental and social issues, investor demand, regulatory pressure from the government, and financial performance of the firm.

A strong part of the initiative comes from the governments. The European Union for example has international commitments on sustainability objectives and aims at attending those goals using sustainable investments. By shaping the economy, the governments set a direction for everyone and guide them with regulations. It can also be seen that not only the EU is heavily investing in sustainable finance. The International Platform on Sustainable Finance was launched in October 2019 and involves several other nations such as China, Japan, and India. (European Commission)

However, investor demand is not solely coming from governments, but also from private investors. (Costa Lourenco, Castelo Branco, Dias Curto, & Eugénio, 2012)have found that investors value corporate sustainability performance and consider market leaders required to signal sustainability leadership. Since sustainability has become a part of being competitive, investors are more likely to take ESG into account when taking investment decisions. More investors are demanding transparent and clear non-financial data on companies to complement with the already available financial data. (Mayer & Reizingerné Ducsai, 2023) Shareholder activism is growing with shareholders joining the corporate annual meetings. (Fombrun & Foss, 2004) According to Harvard Business Review, it is also clear that ESG has become one of the priorities of the investment institutions and is thus reflected in their investment strategies. (Robert G. & Svetlana, 2019)

The offer price is a relevant part of the M&A process. It includes a premium, called control premium, which is used to acquire a bigger stake of the business for more control. An offer price can be calculated by using the transaction comparable analysis which is comparing the offer to similar deals. (Kazi, 2021) In the past, the offer price was mostly determined based on the current economic state and negotiations. With time, these deals have become more complex, as the regulations changed, and more financial information could be analysed to determine prices. The larger number of factors considered also resulted in new kinds of valuation methods to be used to determine offer prices.

The research question is “What is the impact of ESG of the target firm on the offer price of mergers and acquisitions (M&A)?”

1.2 Relevance

Since the focus of sustainable finance is backed up by governments, it is highly likely to grow much further in importance. This then begs the question what impact it has on mergers and acquisitions processes. Although more factors are of relevance in an acquisition, analysing the impact of sustainable finance on the offer price will help in taking investment decisions. While CSR has been widely researched already and has become a greater importance for shareholders and stakeholders, the number of empirical studies on the impact of corporate social responsibility on firm value is still limited. (Jo & Harjoto, 2011) (Gomes & Marsat, 2018) According to a bibliometric study about the literature on M&A, there is an upwards trend in research. It is, however, scarce still, with less than 3% of the articles published in business journals. (Portugal Ferreira, Carvalho Santos, Isnard Ribeiro de Almeida, & Rosa Reis, 2014) This paper would thus add additional empirical work to further investigate the topic. The terms Sustainability, ESG, and CSR will be used interchangeably throughout the paper.

2. LITERATURE

One important concept for this topic is Sustainable Finance/ Sustainable Investing. Sustainable investing balances traditional investing with environmental, social, and governance related (ESG) insights to improve long-term outcomes. (CFA Institute, n.d.) These three insights can be viewed as pillars, the environmental pillar, the social pillar, and the governance pillar.

The Environmental Social and Governance factors are a subset of non-financial performance indicators which include ethical, sustainable, and corporate government issues such as making sure there are systems in place to ensure accountability and managing the corporation’s carbon footprint. (Market Business News, n.d.) Due to the recent global climate change crisis, carbon neutrality, and crisis events like COVID-19, nonfinancial values such as the ESG factors became increasingly important to evaluate the companies. (Cho Y. , 2022) They are used in combination with quantitative indicators from financial statements for company evaluation. Studies about the impact of ESG on firm value have produced inconsistent results, depending on their data. Some have found a negative or insignificant relationship between ESG performance and firm value while others have found a positive relationship. (Sadiq, Singh, Raza, & Mohamad, 2020) It is also important to note that financial values are still particularly important when it comes to the determination of the offer price. Valuation methods include financial ratios such as Price-to-Earnings Ratio (P/E Ratio), Enterprise-Value-to-Sales Ratio (EV/Sales) and methods like the Discounted Cash Flow. (Hayes, 2023)

The notion of CSR has been around for a long time now, but researchers have found it challenging to define the specific constructs in CSR, in the past. Over the past decades, CSR has become more accurate due to a larger amount of useable data, measured more uniformly. (Malik M. , 2014)

A crucial difference to take into account, for research, is the level of reporting of countries. In emerging markets, an increase in reporting on ESG can be observed. Europe and America are already at an elevated level of reporting. (Ionescu, Firoiu, Pirvu, & Vilag, 2019). The growing interest worldwide in Sustainability also created an opportunity for companies specialising on rating other companies on ESG, based on their performance. And since there are so many agencies, it is also important to be aware of the potential differences between all the different ESG rating agencies. They all have a different approach to determining how sustainable a company is. (Team Iris Carbon, 2023) According to Iris Carbon, the approaches vary from qualitative to quantitative with some taking a focus on the carbon footprint and energy efficiency while others prioritise labour practices and human rights. The complexity of such an ESG metric makes results more variable. A study looking into the reliability and the transparency of ESG ratings concluded that companies cannot be reliably compared based on their sustainability performance, with different agencies rating differently. (Mayer & Reizingerné Ducsai, 2023) They can have a lot of influence on the outcome of research.

When it comes to the literature of CSR on firm value, there has been a division amongst researchers. (Servaes & Tamayo, 2013)

(Gomes & Marsat, 2018) According to (Servaes & Tamayo, 2013), the larger number of studies are agreeing that CSR activities are positively related to enhancing profitability and firm value. However, there is also a sizeable portion of studies that states the opposite. They also concluded that there is no direct relation between CSR and firm value, which explains the divided opinions.

The Stakeholder Theory can be used as the basis for this research. The stakeholder theory is the most widely used literature used in the relevant studies, based on my findings. The stakeholder theory, designed by Edward Freeman, suggests that every stakeholder of a firm should be taken into consideration. For a company to be healthy and successful, a firm should satisfy all the relevant groups (stakeholders) that are contributing to the success of the company. (Simon, 2022)

Albeit the stakeholder theory did not have a lot of influence on M&A deals in the past, it increased in importance and is helpful to anticipate & improve M&A outcomes for all stakeholders. (Segal, Guthrie, & Dumay, 2021) The shareholder view has been more prominent in the past. Maximising the values of shareholders was the purpose of the business during earlier times. This is contradicting the stakeholder theory because the money dedicated to shareholders would be used in CSR activities. That is reflected in a drop in a firm's stock after CSR investments. However, by investing in CSR, the stakeholders are more willing to support the business in their growth, which in turn benefits the shareholder of the firm. (Cho, Hun, Kim, & Kim, 2021) (Deng & Kang, 2013) It is also suggested that, in a high CSR firm, the interest of shareholders and other stakeholders are more harmonized than in low CSR firms, and are thus more likely to work towards long-term profitability. (Deng & Kang, 2013) Acquirers are willing to pay more if they can generate more value by merging the firms and apply their stakeholder management to the target. Additionally, (Ferrell, Hao, & Renneboog, 2016) have found evidence that a firm's CSR practice is consistent with shareholder wealth maximization. This only goes to a certain level of expenditures, where an increase leads to marginal benefits. (Fatemi, Fooladi, & Tehranian, 2015)

The resource-based view argues that a firm's success is based on its ability to use valuable, rare, inimitable, and non-substitutable resources to gain a competitive advantage. This could be tangible or intangible assets. With the growing importance mentioned in the beginning, one of these resources is Sustainability, measured through ESG. (Castelo Branko & Lima Rodrigues, 2006) used the resource-based view to analyse CSR and its impact for the firms. Engaging in CSR activities helps firms creating a strategic advantage which then in turn increases their financial performance. In Mergers & Acquisitions, knowing which resource within the firm is highly valued by the acquiror can help in the negotiation process of a deal.

Another theory to consider is the institutional theory. The institutional theory argues that companies are seeking for social support and legitimacy from their institutional environment. (Cho Y. , 2022) The social structures, norms, and rules help keeping stability in societies and organisations. Due to the increasing growth and strengthening of sustainability-related regulations, organisations must secure legitimacy in their environment to increase their viability in the market. (Cho Y. , 2022) This suggests that the companies must engage in CSR activities to increase their value and keep repercussions, from not meeting norms formed by the institutional environment, as low as possible.

Since CSR activities are an investment and can be costly, there is a chance of managers to over-invest and thus fail to create worthwhile value for the company. CEOs and managers tend to over-invest in CSR activities to build their personal reputation which can negatively affect the firm value. (Jo & Harjoto, 2011). (Ferrell, Hao, & Renneboog, 2016) state that there are managers who use CSR activities for their own benefit instead of increasing shareholder wealth, concluding that more CSR is not always better. This would align with the agency theory, which argues that there can be a moral hazard where the agent takes actions to benefit their personal goals that are not in the best interest of the shareholders. However, external monitoring by analysts ensures that a firm's engagement in CSR activities enhances firm value. (Jo & Harjoto, 2011)

One specific study also finds that, in case the target's CSR performance is higher, an acquisition results in higher premiums for the target shareholder. (Cho, Hun, Kim, & Kim, 2021) This finding would be aligned with the hypothesis. A study on the impact of corporate social responsibility found that the engagement in CSR enhances the value of a firm. (Jo & Harjoto, 2011) In addition to these findings, Brammer et al. also found that not engaging in CSR activities damages the firm value. (Brammer, Brooks, & Pavelin, 2006) The same conclusion has been found in another study, where corporate social responsibility activities positively affect the value of a corporation. (Young Chung, Jung, & Young, 2018) By following the results of that study, a target firm with a high ESG score (expected to be engaged in CSR), should have a higher offer price than the offer price of a target firm with a lower score. According to the value enhancing theory, CSR activities can directly and indirectly increase the market value of a firm. (Yoon, Hwan Lee, & Byun, 2008) The findings mentioned above also confirm this theory. Despite all the positive results, there has also been a study looking directly into the effects of corporate social responsibility expenditures and the firm value and concluded that the increased financial performance is more likely due to the signalling value of CSR expenditures rather than positive returns on those investments. (Lys, P. Naughton, & Wang, 2015) The impact of ESG on market value has also been investigated on a more granular level by looking at the three ESG pillars specifically and concluded that they were not equally important. The result showed that investors positively value CSR practices, which supports the value enhancing theory. However, when investigating on a pillar level, it showed that environmental practices where positively valued for firms which were not part of environmentally sensitive industries. For sensitive industries, the market positively valued firms engaging in social and governance practices. The environmental practices for firms in sensitive industries were already reflected in the share price (Miralles-Quirós, Miralles-Quirós, & Valente Gonçalves, 2018) This shows that there its more than simply ESG, with varying degrees of impact based on industry.

One empirical study shows evidence that stock performance is linked with ESG factors. The ESG factors would bring lower volatility, which decreases risk and thus creates higher risk-adjusted returns. (Ashwin Kumar, et al., 2016) This makes a company much more desirable to acquirers, as large sums of money are spent in acquisitions. This plays into theories such as the stakeholder theory and the shareholder theory as the focus lies on increasing the stock performance by increasing the ESG value of the firm.

The hypothesis of this research is that the higher the ESG of the target firm, the higher the offer price of the acquirer. While this research focussed on the factor "ESG," keeping in mind other determinants of target price can be beneficial for a broader understanding of the topic. Offer prices are not solely determined on ESG performance, but also on many other factors such as financial performance, industries, and firm-specific reasons.

Examining the interaction between ESG and these factors could provide useful knowledge on the impact of ESG itself.

3. DATA AND METHODOLOGY

The research is empirical research that makes use of quantitative primary data obtained from Refinitiv Eikon as it provides detailed analytics of real time and historical data. There are various other platforms which could have been great for this research, however, they all cost a lot of money, and I was only able to use Refinitiv thanks to the university. Additionally, other studies have made use of Refinitiv Eikon (or Thomson Reuters Eikon). Other sites like Sustainalytics and the Dow Jones Sustainability Index (DJSI) have been considered, but it was easier to stick to Refinitiv, as they incorporate the Thomson Reuters ESG Research Data. The first step of this research will be to gather the data of all the completed acquisitions from the periods of 2003 (earliest deal registrations in Refinitiv Eikon) to 2023. Only public companies are considered since they have more available data to use (deal data, general financial data about the company, and higher likelihood of ESG ratings). This is further refined down with the following conditions:

Deal is completed.

The acquirer holds less than 50% of the target's shares before the announcement and owns more than 50% after the transaction.

The deal value disclosed in Refinitiv Eikon is greater than $1 million.

Refinitiv Eikon will also be used to collect the ESG score of the target firms. If a target firm has no available reports regarding sustainability, it will be excluded from the excel file. Refinitiv Eikon does come with a built-in evaluation of those reports to determine a score, but that is not applied to every company. Using Refinitiv Eikon will make it easy to collect consistent and well calculated ESG scores.

A large part of the methodology will be based on the research on offer premiums during acquisitions done by Mathieu Gomes and Sylvain Marsat. (Gomes & Marsat, 2018) They have researched if CSR impacts premiums in M&A transactions. Given the similar nature of the research, my methodology is partially based on theirs and adjusted to my needs. The following control variables will be used in the analysis: Size (natural logarithm of the market value of equity at previous year-end), Leverage (total debt divided by total assets), Liquidity (current ratio), Market to book ratio (MTB), and Return on Assets (RoA, of the last 12 months before announcement). These variables have been chosen based on their importance and availability. (Gomes & Marsat, 2018) went further in their research and included the type of acquisition in their analysis. They included whether the acquisition was hostile or if there was a competitive bidder included. This will not be included in this research as that would build up on the complexity and the focus does not lie on the premiums directly.

A linear multivariate regression analysis is then used to determine the relationship between the ESG score of the target firm and the offer price.

Regression Equation:

$$\begin{aligned} \textit{Offer price} = \beta_0 + \ & \beta_1 ESG_i + \beta_2 Size_i + \beta_3 Leverage_i \\ & + \beta_4 Liquitidy_i + \beta_5 MTB_i + \beta_6 ROA_i \\ & + \varepsilon_i \end{aligned}$$

3.1 Variable Definition

Initial offer price: The initial offer price is the first price suggested by the acquiring firm. It is important to use the initial offer price, as the offer price could change throughout the negotiation process and be impacted by several factors during this process. The deal sheets in the Refinitiv database provide this information.

ESG Score: The ESG score represents how well a firm is performing on ESG. It is used as the independent variable. The calculations for ESG scores have been made with the ESG statements provided by Refinitiv Eikon and range between 1 and 12, with 1 being the lowest score and 12 being the highest score.

Leverage: A high debt is less attractive. So a lower price would be paid when a target has a debt. Taken directly from the database of Refinitiv.

Liquidity: Calculated by dividing Current Assets (past 12 months) by Current Liabilities (past 12 months). Both values were gathered from the Refinitiv database.

Market-to-Book ratio: Calculated with the formula (Market Value per Share * Total Shares Outstanding) / Total Equity.

Return on Assets: RoA is used as a substitute for RoE due to low availability of RoE amongst the target firms in the database. The value of 12 months before the announcement has been used.

Size: The log of target market value is used to determine the size of a target firm. More specifically, the value, in million dollars, four weeks before the announcement is used to avoid any influence from the reactions of shareholders.

3.2 Descriptives and Data Collection

The data in Refinitiv Eikon has been filtered by nation for two reasons. Firstly, given the vast number of companies, a reduction was necessary to be able to manage the amount of Refinitiv ESG score checking. I focussed on more developed countries and stuck to the United States of America, Canada, and all the countries from Europe. Secondly, by filtering based on more developed countries, there is a higher chance that there is enough available data in general. This has been confirmed in previous research, with developed countries show an elevated level of reporting. (Ionescu, Firoiu, Pirvu, & Vilag, 2019) If the companies were listed on the major stock exchanges, the likelihood of available data is higher. After all the filtering, the following countries of target firms were part of the sample: Austria, Belgium, Canada, Finland, France, Germany, Greece, Italy, Norway, Spain, Switzerland, United Kingdom, and the United States. Most of the acquirors also match these countries, with some exceptions from Asia (China, Hong Kong, and Japan).

Refinitiv Eikon provides Scores and Combined Scores (Scores with the added influence of controversies) and a grade version for both for companies in their company database. Most companies that would suit my dataset did not have such a score available. Refinitiv does this based on Refinitiv ESG Statement where all kind of relevant data is collected and used in the scoring, with each section having an industry specific amount of weight towards the score. However, most companies with such an ESG Statement did not have calculated scores available. Since the ESG Statements are standardized, I used these as measure for ESG scores and did the calculations for a score myself. They range from 1 to 12, with twelve being the highest value . On the statement, each item had a grade from D- to A+ with an attached weight. Adding up all the weight, 100% was reached, which made it possible to calculate a score by giving each grade a score (D- equals to 1, A+ equals to 12, see Table 1), multiplying that score by the respective weight, and then adding up all the scores to get a final score. The only difference that could influence the results is the reporting scope, where all the data was checked for the different items in their statements.

Table 1. Score System for ESG Score

Grade	Score
A+	12
A	11
A-	10
B+	9
B	8
B-	7
C+	6
C	5
C-	4
D+	3
D	2
D-	1

After applying all the criteria mentioned before, I checked if a company had an available ESG statement for the year before announcement of the acquisition. Those were included in the sample and were later filtered with the remaining variables, to have a sample with all the relevant data in a complete form. The final sample size after all the filtering was ninety-nine observations.

Four outliers have been detected which influenced the sample too much. Those four companies either had a too high market value or a too high market to book ratio, compared to the rest of the sample. They were taken out before redoing the descriptive statistics and the regression. The hesitation of taking them out before was due to the size of the sample. The final sample size thus ended up being 95. The descriptive statistics of the sample can be found in Table 1 (see Table 2). The size also has been added as a normal value in million USD for a better understanding. The range difference of target market value is not very visible when only looking at the natural log variable. The kurtosis of the variables Liquidity, MTB, Return on Asset, and Size measured in Market Value have a high value above 10, indicating that the distribution was more heavy-tailed compared to the normal distribution. This is due to the big range of values, given that the companies are vastly different. A larger sample size would reduce those values. With the variable Size having a value of 22, I use the logarithmic value to reduce the impact of extreme values.

Table 2. Descriptive Statistics of the sample

Variables	ESG Scores	Initial Offer Price (US$ per Share)	Leverage	Liquidity	MTB	Return on Assets Last 12 Months	Size (natural log of market value)	Size, Target Market Value 4 Weeks Prior to Announcement (US$, Millions)
Average	6.132	22.441	0.237	2.791	3.861	-3.776	6.884	4417.088
Median	5.887	16.500	0.222	1.590	1.862	3.305	6.982	1077.278
Stdev	2.798	22.788	0.204	3.648	6.598	27.895	1.948	9992.988
Min	1.119	0.082	0.000	0.247	0.078	-149.111	1.906	6.728
Max	11.722	93.205	0.709	19.816	40.878	28.020	11.146	69264.799
25th Percentile	4.093	4.800	0.045	0.990	0.894	-2.984	5.693	297.402
75th Percentile	8.217	33.401	0.364	2.823	3.923	6.949	8.186	3594.916
Skew	0.193	1.380	0.647	3.121	3.899	-3.532	-0.326	4.421
Kurt	-1.048	1.591	-0.389	10.408	16.660	14.063	-0.111	22.628

4. RESULTS

The main variables have also been assessed for multicollinearity by using the variance-inflation factor (VIF) (see Table 3). All the variables are way below any cut-off point (5 or 10 depending on perception). There was no need to worry about collinearity happening between the variables for this sample.

Additionally, the dependent variable and the independent variables have been checked pairwise for correlation (see Table 4 & 5). The variable "Size" showing moderate correlation with "Initial Offer Price", "Return on Asset", and "Leverage". "Liquidity" is showing a moderate negative correlation with "Leverage". All the other variables show a weak correlation among each other. The correlation between the variables "Initial Offer Price" and "ESG Score" is weak, yet positive, which supports the findings of the regression analysis.

Table 3. Variance-inflation factor of the variables

Variable	VIF
Return on Assets Last 12 Months	1.19
Leverage	1.32
Size (natural log of market value)	1.22
Liquidity	1.23
MTB (Market to Book Ratio)	1.04
ESG Scores	1.05

Table 4. Correlation Matrix (Correlation)

	Offer Price	MTB	Liquidity	Size	Leverage	RoA	ESG
Offer Price	1	-0.05	-0.10	0.47	0.11	0.16	-0.03
MTB	-0.05	1	-0.02	-0.04	-0.05	-0.17	-0.07
Liquidity	-0.10	-0.02	1	-0.13	-0.42	-0.17	0.03
Size	0.47	-0.04	-0.13	1	0.31	0.33	0.16
Leverage	0.11	-0.05	-0.42	0.31	1	0.21	0.03
RoA	0.16	-0.17	-0.17	0.33	0.21	1	0.15
ESG	-0.03	-0.07	0.03	0.16	0.03	0.15	1

Table 5. Correlation Matrix (P-value)

	Offer Price	MTB	Liquidity	Size	Leverage	RoA	ESG
Offer Price	NA	0.62	0.35	0.00	0.30	0.13	0.75
MTB	0.62	NA	0.86	0.70	0.60	0.10	0.48
Liquidity	0.35	0.86	NA	0.20	0.00	0.10	0.75
Size	0.00	0.70	0.20	NA	0.00	0.00	0.11
Leverage	0.30	0.60	0.00	0.00	NA	0.04	0.75
RoA	0.13	0.10	0.10	0.00	0.04	NA	0.15
ESG	0.75	0.48	0.75	0.11	0.75	0.15	NA

Table 6. Regression Summary

Regression Statistics	
Multiple R	0.493
R Square	0.243
Adjusted R Square	0.192
Standard Error	20.486
Observations	95

The summary output of the regression (see Table 6) shows a moderate value for multiple R. R Square and Adjusted R Square however are low. My model only explains a small portion of the variance in the dependent variable. This is also visible when looking at the specific regression results (see Table 7). The regression has been done with a confidence level of 0.95. Only Size (natural log of market value) has a significantly positive p-value. So, the higher the market value of a target firm, the higher the initial offer price for that target firm. This was to be expected, as the more a firm is worth on the stock market, the more an acquirer will have to pay. All the other variables have a higher p-value than 0.05 and are thus statistically not significant based on this sample. The focus variable ESG Score has a p-value of 0.22 which is greater than the threshold of 0.05. Based on these findings, I fail to reject the null hypothesis, which signifies that the impact of ESG scores on the offer price in M&A deals is not significant. This goes against the expectations, with most consulted studies finding a significant positive impact. When looking at the coefficients, Size has a strong positive slope and Leverage has a strong negative slope. The coefficients of the other variables are all negative, besides Return on Assets which is close to 0. The coefficient of the intercept is -8.9. However, it is not relevant to determine the offer price if all variables are zero, as it needs financials and non-financials to even exist.

To check with any issues regarding the higher value datapoints in the variables RoA and Mtb, I omitted these datapoints from the sample to run a kurtosis analysis and used the regression model on that sample. Regarding the kurtosis, the values dropped to 5.6 and 5.7 respectively, which is still high but considerably lower than in the descriptives of my sample. However, rerunning the regression produced only marginal differences. The high kurtosis of some variables in my sample is thus not problematic for this sample and model.

Table 7. Regression Results

	Coefficients	Standard Error	t Stat	P-value
Intercept	-8.870	9.541	-0.930	0.355101
Return on Assets Last 12 Months	0.006	0.083	0.077	0.939007
Leverage	-7.683	11.944	-0.643	0.521761
Size (natural log of market value)	5.879	1.197	4.911	0.000004
Liquidity	-0.340	0.643	-0.529	0.598398
MTB	-0.151	0.326	-0.463	0.644430
ESG Scores	-0.942	0.773	-1.220	0.225870

The results from the regression are not significant enough to make definite conclusions. This is due to the limitations of this thesis. There are a few key factors to take into account. The number of firms with available ESG scores from Refinitiv Eikon was extremely limited when including the criteria. Additionally, they had to have reported all the other variables as well. The sample is a pool of firms that are putting importance in their reporting and were also selected by Refinitiv to be analysed for ESG performance. The result is a small sample size. A large part of the population in Mergers and Acquisitions do not have an ESG rating, omitting them from research in a setting like this.

Additionally, the research does not exclude firms that restructure their organization. These firms do not care about the financial and ESG performance of their subsidiaries, but rather do the restructuring for other benefits such as asset protection and taxation benefits. Another limitation is that the research did not check for the type of acquisition, besides going from zero shares or minority shareholder to the major shareholder. (Gomes & Marsat, 2018) were also including dummy variables for hostile takeovers and checked if there was competition, since can influence the offer price of a firm. That would have helped getting more specific results and being able to investigate into potential differences.

To battle these limitations, it would help to have a bigger sample size to compare more firms. While it is great that Refinitiv Eikon offers ESG scoresheets for some firms, it could help to use another method to gauge ESG performance based on available data. The ESG scoresheets from Refinitiv include a lot of distinct factors, which is great if that information is available, which is not always the case. So, for a small sample size, the difference between the scoresheets (full scale versus based on little information) could be significant. Still, staying with Refinitiv for all the data collection was the safest option, as no other platform provided enough information. While the sample size might be small, there is as less mismatch as possible between the data as everything has been gathered in one place.

I have checked for any differences in my sample that could be based on the industry variable (see Table 8). Some industries like Energy & Power and Materials had a high percentage in the sample. During data collection, the only industries with a higher percentage were Financial Services and Real Estate (both omitted due to research practices). The table shows that either there is a higher amount of acquisition done in those industries, or that they are more likely to have ESG scores available. The score average per industry does not seem vastly different between industries, asides from healthcare being lower than all the others, and Telecommunications having a high score due to a count of only 2.

A study found that the impact of ESG on firm value differs between industry sectors. While for most sectors, the impact was inconsistent, the sectors materials, consumer non-cyclical, energy and industrial showed a strong and positive association. (Gholami, Sands, & Shams, 2022) Interestingly, these few mentioned sectors represent more than 60% of my sample. (Ionescu, Firoiu, Pirvu, & Vilag, 2019) did a study on the travel and tourism industry in Europe, Asia, and the United States, and concluded that there is only a weak link between ESG performance and market value except from the US, where they found a negative relationship. They mentioned financial implications as potential cause. The costs are still relevant, in the end. So, a company must make sure that ESG initiatives turn out to be a benefit for the company instead of unnecessary costs.

Table 8. ESG Score Descriptive based on Industry

Target Macro Industry	ESG Scores			Count	Distribution (%)
	Average	Min	Max		
Consumer Products and Services	5.99	2.16	9.06	5	5.26%
Consumer Staples	6.31	2.33	11.43	7	7.37%
Energy and Power	5.95	1.38	11.72	22	23.16%
Healthcare	4.36	2.35	7.40	10	10.53%
High Technology	5.32	2.01	9.80	9	9.47%
Industrials	6.24	1.68	9.64	12	12.63%
Materials	6.96	1.12	10.77	22	23.16%
Media and Entertainment	6.81	2.49	10.78	6	6.32%
Telecommunications	8.61	6.69	10.52	2	2.11%
Grand Total	6.13	1.12	11.72	95	100.00%

I cross checked my table with the Refinitiv database by looking at all the available companies with an ESG score in North America and Europe (see Table 9). All the numbers seem normal. Compared to my sample, however, my proportion of Energy and Materials is much higher than the proportion in the Refinitiv database. This could mean that these two sectors are more actively engaged in Mergers and Acquisitions. A study investigating the different industries found that environmentally sensitive industries such as mining are more likely to disclose their ESG performance and to have a focus on it to protect their reputation. (Sanches Garcia, Mendes-Da-Silva, & Orsato, 2017). If I apply the conclusion of that study to both table 8 and 9, some of the data could potentially be explained. In both tables, materials have the leading average ESG score (if Telecommunications is omitted). According to Investopedia, the basic material sector is made up of businesses engaged in the discovery, development, and processing of raw materials. (Kopp, 2022) While one would assume that they are a more environmentally destructive industry, they seem to perform well in terms of ESG. Added to being a sensitive industry, there is also an industry peer effect. Through competitive imitation, they could strive for higher performance. (Zhao & Wang, 2024) It adds further to the complexity when looking at the impact of ESG in Mergers & Acquisitions.

Table 9. Average ESG score per Industry in the Refinitiv Database for North America and Europe

TRBC Economic Sector Name	Avg of ESG Score	Count	Proportion (%)
Academic & Educational Services	39.83	18	0.29%
Basic Materials	51.61	447	7.09%
Consumer Cyclicals	46.78	859	13.62%
Consumer Non-Cyclicals	50.21	309	4.90%
Energy	44.79	350	5.55%
Financials	42.98	957	15.17%
Healthcare	37.94	958	15.19%
Industrials	47.85	904	14.33%
Real Estate	48.25	401	6.36%
Technology	43.37	923	14.63%
Utilities	51.60	181	2.87%
Grand Total	45.13	6307	100.00%

Lastly, the timeframe used for this study was 21 years (from 2003 to 2023, both included). Despite that large timeframe, the sample size ended up being only 95 after omitting outliers. During that time, a lot could have changed regarding Mergers & Acquisitions, so having only a few observations per year could be misleading. Ideally, a larger sample would minimise the impact of the high diversity of companies that partake in Mergers & Acquisition deals.

Except the timeframe issue that I encountered; other studies have found similar limitations in their results. (Malik & Kashiramka, 2024) mentioned that there is too much focus on quantity of ESG data instead of quality and that the samples are restricted to companies listed in one database (Refinitiv, Bloomberg, …). Although one expects the quantitative data to be the same between platforms, there is a certain disparity when it comes to qualitative data such as ESG ratings. With ESG scores being the main independent variable, the findings are of limited use for a general outlook.

5. CONCLUSION

There have not been significant results in this research to conclude that ESG impacts the offer price of an acquisition. It is not without any insights, however. It showed that firms do have other factors in mind when taking over another firm, and ESG does not seem to be a major. None of the other variables were significant, besides the market value. The market value accurately reflects the price an acquiror is willing to offer. This result supports the findings of (Chen & Gavious, 2015) who also looked at the price and found that M&A investors believe that CSR do not offer a firm any real profit potential. To get a deeper understanding of how the pricing could be influenced, different control variables in greater numbers should be added to the list. They should inquire more about the specific reasons why firms buy up others. Variables like competition, synergies, and other strategic purposes like intellectual property could show more insights about how impactful sustainability is. It would be more in line with the stakeholder theory which is about satisfying all the relevant stakeholders as the impact of ESG does not necessarily influence the financial part of M&A transactions. To do this, a bigger sample size encompassing a higher number of firms would be essential. It is also important to note that the sample size consists of public companies only. They have a lot more accessible information available, which could make acquisitions easier to accurately value. It would be interesting to see how this applies to private companies that do not have all their data displayed to the public. Many M&A transactions are strategic acquisitions, meaning that the offer price for a private company resulting from pricing multiples is more likely to be an investment value than a fair market value. (Lance, 2012) There is potentially more room for higher price ranges in negotiations when it comes to acquisitions, as there is no market value readily available.

When comparing the findings to the theories, especially the stakeholder theory and the value enhancing theory, there are some insights that can be gained. The findings show that the relationship is more complex than what the hypothesis implied. It is possible that, despite a high ESG score being firm value enhancing, the extra value from the ESG performance is already included in the market price. When looking at the initial offer price in a M&A transaction for public companies, it is mostly the same as the market price for that company. In the deal sheets, the initial offer price and the final offer price sometimes varied because the market price was different at those two occasions. With the stakeholder theory, ESG seems to be a more indirect way to impact and improve firm value, since the firm is looking for a long-term profitability and not quick profits.

My research contributes to a better understanding of the relationship between ESG performance and the offer price. Other studies chose to evaluate the impact of ESG by looking at the bid premium instead of the offer price to capture the difference between the market's perception and the acquirer's assessment of the target. (Gomes & Marsat, 2018) (Simonyan, 2014). They expect M&A investors to have additional information to the available one and that there is more specific risk than for a traditional investor on a stock exchange, with both points reflected in the premium. Even though, based on this research, ESG is not directly impacting the price in an acquisition deal, it is having a more indirect impact since it has become an increasingly relevant resource within a company. Investors look at ESG performance when developing their investment strategies, so the importance should not be dismissed. The paper helped realizing that this relationship requires a more detailed analysis and a different approach to get more insightful results.

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