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**Examining the relationship between Corporate Social Responsibility performance and
shareholder value creation through acquisitions**



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Abstract

This study investigates the relationship between corporate social responsibility (CSR) performance and shareholder value creation through acquisitions. Results show that there is a statistically insignificant relationship between the acquirer's CSR performance and the acquisition performance, in terms of the takeover premium and cumulative abnormal returns (CAR). Secondly, high CSR performing companies do not always choose 'good' deal terms and characteristics that maximize shareholder value. Finally, high CSR performing companies do more often acquire companies with undisclosed CSR information, thus creating shareholder value. Overall, this study finds evidence for the fact that high CSR performing companies do sometimes create value for their shareholder through acquisitions. However, in some cases a negative relationship is found between CSR performance and shareholder value. Results are found using an event study and several multivariate regressions. In addition, results are robust to some alternative proxies and methods.

Keywords: Corporate social responsibility (CSR), Mergers & Acquisitions (M&A), firm-level governance, deal terms, shareholder value creation

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1. Introduction

A lot has been written and debated about the relationship between corporate social responsibility (CSR) and firm performance, but the literature remains divided about this relationship till this day. Knowing this relationship is important for managers, since the costs that relate to having a high CSR performance can be quite extensive. The existing literature mainly follows two theories. The stakeholder theory (Freeman, 1984; Porter & Kramer, 2006), which states that CSR components have a positive effect on the financial situation of a company, due to better firm reputation and stakeholder relations. On the other hand, the shareholder theory (Friedman, 1970) argues that investing in CSR has a negative effect on a firm's performance and value, because shareholder value isn't achieved here. One of the main reasons that the existing literature is divided is that CSR is a difficult concept to measure. Since CSR has become increasingly important over the years for consumers, shareholders and investors, more research on this topic is needed.

Environmental, Social and Governance (ESG) performance can be better measured than CSR performance, for that reason this study will look at ESG ratings specifically instead of CSR ratings for operationalization. The two subjects, however, have much overlap and the existing literature uses mainly CSR. Therefore, this study will use CSR in writing, but ESG is used as a measure for CSR. Since the relation between CSR and firm performance is thoroughly investigated (Barnea & Rubin, 2010; Saeidi et al., 2015; Park et al., 2017; Ikram et al., 2019) without a unilateral result, it seems that this method of investigating can't give a clear answer. New methods should be considered to investigate the relationship between CSR and firm performance.

Looking at mergers and acquisitions (M&A) could be a new way of researching this relationship and finding a clear answer. Acquisitions could be interesting to look at, because it could demonstrate how a firm treats its stakeholders, which can be derived from the outcome of the deal. Furthermore, a takeover process is unanticipated and can solve the endogeneity problem which occurs in earlier investigations on the impact of CSR on firm performance (Wang et al., 2021). Although the research about CSR and takeover performance isn't extensive yet, there is some research regarding this relationship. However, outcomes of these studies don't give a bilateral answer and, in some cases, contradict each other. Therefore, the problem statement that this study is addressing is if firms that invest in CSR create value for its shareholders through acquisitions.

The relevance of this study is driven by the high demand for the effects of CSR performance but the lack of clear results. This study mainly follows the studies of Yen and André (2019) and Krishnamurti et al. (2019), but adds a number of different factors. First, a larger, more recent and international sample is used. Therefore, results could be more valid. Second, ESG ratings are decomposed, which

makes it possible to see differences between the impact of the combined ESG score and its components. Lastly, this study identifies new 'good' deal terms and characteristics and tests if high CSR acquirers choose these terms more often in acquisitions.

The research question of this study will be: *Do high CSR performing companies create shareholder value through acquisitions?* The structure of this research is as follows: First, the market reaction on deal announcements will be tested. Second, the impact of CSR performance of the acquirer on deal performance, in terms of cumulative abnormal returns (CAR) and takeover premiums, will be tested. Third, this study will identify 'good' deal terms and test if high CSR firms do more often participate in deals with these terms. Thus, creating shareholder value. Lastly, this study will check if CSR orientated firms more often tend to acquirer targets with or without disclosed CSR ratings.

To test the relationships mentioned above, first an event study will be performed to find the CAR of the acquirer. Both the mean and market adjusted model are constructed for different event windows, after which the three-day (-1, 1) will be used further in the study. Then, several multivariate regressions will be conducted to test the effect of acquirer's CSR performance on acquisition performance, deal terms and target CSR disclosure. An Ordinary Least Square (OLS), logistic and probit regression will be used respectively with an international sample of 1,778 deals between 2003 and 2020. Results show a that the public market responds negatively to deal announcements. Also, there is no significant relationship between any proxy of acquirer CSR and the three-day CAR or takeover premium. For the choice of 'good' deal term of high CSR acquirers, mixed results are found, indicating that CSR orientated acquirers do not always choose deal terms that provide the most value. Finally, acquirers with higher CSR ratings are more likely to acquirer targets with undisclosed CSR ratings.

The rest of this study is organized in the following way. Chapter two discusses the theoretical framework and hypotheses. Chapter three and four will present the data and methodology respectively. Chapter five will present and discuss the results and finally chapter six will give the conclusion of this study.

2. Literature review

2.1. Historical and modern definition of CSR

CSR goes back decades in time. The history of the modern concept of CSR was shaped in the 1930's when people started debating about social responsibilities (Latapí Agudelo et al., 2019). In the 1950's the concept was really defined by Bowen (1953). He laid out what the social responsibilities of firm managers were, stating that they should make decisions that were in line with values of society. Bowen (1953) believed that the largest firms have great power in society, being the centre in making decisions and affecting society. Next to that, he was convinced that social responsibility should be an important pillar for the future of companies. Carroll (1999) named him therefore the founder of CSR. Fredrick (1960) was next to Bowen also one of the earlier economists to define the concept of social responsibility. He defines social responsibility as adding value to society's economic and human resources and also that companies and people are willing to use their resources not only for their own interests, but for the whole society. In the 1960's, the concept of CSR changed in the literature in a way that the relationship between corporations and society was more acknowledged (Walton, 1967). This change was however limited to better circumstances for employees and management as well as the impact on society, but more on financial performances (Latapí Agudelo et al., 2019). At the end of the 1960's, companies that were more involved with social responsibilities became incorporating concepts as philanthropy, employee conditions and customer and stockholder relations (Crane et al. 2008).

During the 1970's, the number of studies increased that were defining social responsibilities (Wood, 1991). There was also some criticism during this period, for instance from Friedman (1970). He argued that it was a vague concept and that it wouldn't lead to better firm performance. Furthermore, this period was mainly influenced by more awareness of environmental, social and labour rights. This resulted in CSR gaining more popularity amongst society, the definition however was still limited (Latapí Agudelo et al., 2019). In the late 1970's, Carroll (1979) came up with possibly the first universally accepted definition of CSR. This definition stated specific economic, legal, ethical and discretionary components for which companies were responsible for. In the 1980's and 1990's, more studies came that were operationalizing CSR. In general, less studies were performed in this period that were defining CSR. But more studies that made attempts to measure CSR and providing alternative frameworks (Carroll, 1999). Consequently, companies could be judged by concrete criteria and so on these corporations were incorporating CSR in their decision making (Jones, 1980). Other important studies during the 1980's that made significant contributions to the literature regarding CSR were Drucker (1984), Wartick and Cochran (1985) and Epstein (1987).

In the 1990's, not many new definitions were formed. Most studies accepted the definitions that were already in place and came up with alternative themes as stakeholder theory, business ethics and corporate citizenship (Carroll, 1999). Late 1980's and beginning 1990's CSR also became more universally accepted and agreements came into place. Agreements and institutions as the Montreal Protocol in 1987, the European Environmental Agency in 1990 and the UNFCCC in 1992 were brought into life. An important contribution was made by Wood (1991), stating a new model of corporate social performance that involved CSR issues. An important CSR model was explained by Carroll (1999), namely a three-circle model. This model had in the middle the economic functions, the intermediate functions show changes in social values and the outer circle showing emerging and other social responsibilities. Although it is an easy understandable and widely used model, it was also criticised (Hack et al., 2014). Holcomb et al. (2007) describe the emerging social responsibilities as 'cherry picking'. Meaning that companies judge their own behaviour and highlight only specific components on which they perform well according to the CSR measures. Hack et al. (2014) concludes that this needs to be regulated not by companies themselves, but by other institutions.

Starting the 21st century, there was more empirical research about the stakeholder theory, business ethics, sustainability and corporate citizenship (Crane et al., 2008). Also, at this point of time the Millennium Development Goals (MDGs) and the UNGC were founded. This resulted in broader responsibilities for companies worldwide. These broader responsibilities were focussed at social, labour, environmental, sustainability and anti-corruption. Regulatory institutions could use CSR as a measurement to assess if companies were fulfilling their duties in this field (Latapí Agudelo et al., 2019). In the 2000's, companies were expected to have a role in society other than before 2000. They had a lot more social responsibilities and were expected to constantly look for more sustainable solutions to problems in society. Therefore, CSR became a part of the strategic decisions of companies (Porter & Kramer, 2006; Husted & Allen, 2007). This development resulted in the question whether a strong CSR strategy would result in economic benefits for the company or that it would destroy value (Latapí Agudelo et al., 2019).

After 2010, the Paris Agreement and more Sustainable Development Goals (SDGs) came into life. This had a major impact on companies, since they were put up with even more responsibilities regarding CSR. During this period, the literature focussed mainly on the implementation of CSR into company activities and how this relates to specific components of performances of these companies (Latapí Agudelo et al., 2019). CSR nowadays stands for a company incorporating sustainable development goals and trying to find a balance between social and financial values. If a company is socially responsible, they are taking the interests of all the stakeholders into account. By doing so they are building a strong social reputation in the eyes of their stakeholders (Asante et al., 2020). Arouri et al.

(2019) state that CSR is the attitude of a company regarding its stakeholders. CSR is being operationalized by using ESG ratings (Yoon et al., 2018). The demand for this information is globally increasing significantly, but is still unorganized because there are no universally accepted rules (Eccles & Strohle, 2018).

2.2. Theories

There are a couple of theories regarding CSR and its impact on firm performance. The theories that are mainly used in the existing literature are the stakeholder and shareholder theory. Next to these main two theories, there are a few other theories discussing the effect of investing in CSR. Starting the 21st century, the stakeholder theory from Freeman (1984) is used in many studies regarding CSR and firm performance (Hack et al., 2014). This theory argues that companies need to maximize value for all the stakeholder, not only the shareholder. It is debated who are all included in the stakeholder group, but it is widely accepted that this refers to shareholders, customers, employees, suppliers and the local community (Smith, 2003). In the stakeholder theory, the managers of the firm are the agents for all the stakeholders and they have two main tasks. The first one is that they must make sure that the ethical rights of all the stakeholders aren't violated and the second one is that they need to find a balance between the interests of the stakeholders when making decisions or coming up with a strategy for the company (Smith, 2003). Porter and Kramer (2006) and Freeman (1984) argue that by investing in CSR, companies increase their value, because they have a better reputation and better relationships with the various stakeholders.

Wernefelt (1984) came up with the resource-based view. This theory explains that a good CSR performance can act as an intangible resource for the company which acts as a competitive advantage and leads to better firm performances. Signalling theory (Connely et al., 2010) argues that a high CSR performance leads to less information asymmetry. Firms sent signals about the quality of their businesses, which is in indication that their compliances are in order and their organisation meets the right requirements. Thus, creating value.

The shareholder theory from Friedman (1970) argues that shareholders give their capital to the managers of a company. And so, the managers are meant to direct the company's funds in a way that only the shareholders take profit from this. In this situation, all non-shareholders can be used to gain the maximum result for the shareholders. When managers of a firm invest in their CSR strategy, this will not be optimal for the shareholders, since also non-shareholders will benefit from this. Therefore, the shareholder theory states that investing in CSR is value destroying (Gomes & Marsat, 2018). Then there is also the agency theory. This theory that is discussed in the study of Jensen and Meckling (1976) argues that investments in CSR can lead to agency conflicts between managers and

shareholders, resulting in a trade-off between those two. Managers of companies can use investments in CSR to boost their own image and create a better image (Barnea & Rubin, 2010). Bhandari and Javakhadze (2017) also find evidence in their study for a negative relationship between capital allocation efficiency and investments in CSR.

Overall, there are several theories and views that discuss the impact of CSR on firm performance, which have different outcomes. Based on prior literature and their arguments, this study follows mainly the stakeholder theory of Freeman (1984), and in addition the resource-based view and signalling theory. Thus, it is assumed that a high CSR performance will lead to better firm performance and eventually result in more firm value.

2.3. Takeover announcements and the public market

Jensen and Ruback (1985) are one of the first to discuss the reaction of the public market to takeover announcements. The market's reaction to takeover announcements, according to the authors, is typically favourable for the target, as seen by the target firm's stock price sharply rising after the announcement. The "announcement effect" or "event study abnormal return" are common names for this increase. The market's reaction to acquisition announcements for the acquirer, however, is more complex. The authors state that around the time of the takeover announcement, acquiring firms may have positive, negative, or no abnormal returns. The extent of the abnormal returns varies depending on the size of the acquisition, the method of payment, the target industry and more.

Jarrell and Poulsen (1989) find both positive, negative and no abnormal returns for the acquirers' shareholders for takeovers, depending on the investigated time frame. They argue that there are three explanations of negative or no abnormal returns for acquiring firms. First, the wealth creating effects are not incorporated in the stock prices, because they are expressed in other information. Second, competition between multiple buyers may reduce acquirer gains and thirdly, acquisitions can be poor investment projects. Hazelkorn et al. (2005) show that acquiring firms endure small losses around the deal announcement, but they gain in the long-term. They argue that takeovers can create significant positive CARs for the acquirer if they participate in deals with certain characteristics. Deals that do create value have private targets, cash as only payment method, are within the same industry and are cross-border, instead of the opposite of all these factors.

Jansen and Stuart (2013) argue in their study that the announcement returns can be positive or negative, depending on several deal characteristics. According to them, deals create more value if the target is small, targets are private and if cash is the form of payment. In more recent literature, Ding et al. (2021) find positive short-term CARs for acquiring firms with an international deal sample,

while they find negative long-term CARs for these companies. They argue that CARs can be higher if the acquirer takes full control of the target (100% of the shares) and uses cash as payment method.

Overall, there is a lot of literature discussing the reaction of the public market to deal announcements. The literature finds many different results, which rely very much on their deals in the sample that they use. There are a lot of factors that influence the short-term CARs of acquiring firms, like country, payment method, industry, public status and more. Considering the sample of this study, which contains only public targets, the assumption is made that public markets respond negatively to deal announcements. Therefore, the first hypothesis will be:

Hypothesis 1: CARs for acquiring firms will be negative surrounding the takeover announcement date

2.4. CSR and takeover performance

CSR and its relationship with firm performance has been widely documented without a unified result. Therefore, focussing on the relationship between CSR and takeovers could give a more decisive answer on the question whether CSR has a positive effect on firm value (Gomes & Marsat, 2018). The literature regarding CSR and its impact on acquisition performance remains scarce. One of the main reasons for this can be the fact that CSR is an intangible asset that is difficult to value (Chen et al., 2019).

A PwC survey from 2012 that interviewed corporate buyers was one of the first to investigate the impact of ESG factors into a takeover price. Findings were that acquirers would pay a higher price for targets with high CSR performance, and a discount would be negotiated if a target would have a low CSR performance. Gomes and Marsat (2018) study supports this. They find that a good CSR performance of the target company has a positive effect on the takeover premium, meaning that the premium is higher. Their findings are in line with the stakeholder theory. Ozdemir et al. (2020) also find support in their study for a positive relation between target CSR performance and the deal premium. Meaning that a higher CSR performance of the target results in a higher takeover premium. For negative CSR performance of targets, no correlation is found. These findings are in line with the signalling theory.

Hussaini et al. (2021) look at the impact of CSR performance on takeover premiums in the US. They find, in line with the shareholder theory, that when an acquiring company has a high CSR performance, the takeover premium will be higher. Krishnamurti et al. (2019) do a broad research about the effects of the acquirer's CSR performance on acquisition performance. They find evidence for the fact that acquirers with a high CSR rating often pay lower premiums in transactions. Also, the announcement period cumulative abnormal returns are positive and significant when high CSR

performing companies announce an acquisition. Thus, these results support the stakeholder theory. Zhang et al. (2020) find, in line with the stakeholder theory and signalling theory, both mitigating stakeholders' objections and avoid a decline in market returns in the wake of an acquisition announcement. However, a high CSR engagement could be value destroying if the acquisition is a hostile takeover.

There are also studies that find no effect of acquirer CSR performance on acquisition performance. Jost et al. (2022) find no correlation between the CSR performance of a firm and the takeover premium, looking at both the acquirer's and target's CSR performance. They suggest that the relation between CSR and takeover performance cannot be explained by the stakeholder or shareholder theory alone. Chen and Gaviols (2015) also find no correlation between a high CSR performance and a premium that is being paid in acquisitions. According to their research, knowledgeable investors do not think that a company will actually profit from CSR. Another conclusion that is drawn from their findings is that skilled investors have better access to information about the company, which enables them to identify CSR firm practices that go against the CSR ideology. The results of Yen and André (2019) concur with the view that both stakeholder and shareholder theory cannot explain the relationship between acquirer CSR performance and takeover performance. Their explanation for this is that investors' cost-benefit considerations are the major factor that determines how CSR performance affects market responses to takeover announcements.

Taking all the previous literature into account, this study does believe in the importance of CSR performance and its impact on acquisition performances. Therefore, in line with the studies of Krishnamurti et al. (2019) and Zhang et al. (2020), the following two hypotheses are constructed:

Hypothesis 2a: Acquirers with a high CSR rating will obtain higher cumulative abnormal returns surrounding the takeover announcement date

Hypothesis 2b: Acquirers with a high CSR rating will pay a lower premium in the event of an acquisition

2.5. CSR and deal terms and characteristics

As discussed in section 2.3., there are certain deal terms and characteristics that are seen as 'good' and results in more firm value (Hazelkorn et al., 2005). In line with the stakeholder theory, high CSR performance acquirers are expected to choose these types of 'good' deal terms and characteristics, as they try to achieve maximum firm value for all stakeholders.

There are different forms of payment possible in takeovers. The most common forms are cash, stock or a combination of those two. Cash is the most simple form and gives the selling firm value

certainty. Stock can be used when the shareholders of the target want to be part of the merged company and when the acquirer stocks are overvalued. When the targets' shareholders want both value certainty and the possibility to participate in the merged company, a combination of cash and stock can be used as payment (Boateng & Bi, 2014). Most of the literature agrees that cash as method of payment provides the most value (Rau & Vermaelen, 1998; Hazelkorn et al., 2005; Tuch & O'Sullivan, 2007; Jansen & Stuart, 2013; Ding et al., 2021). There are however also studies that find no evidence between firm performance and the method of payment (Choi & Russell, 2004; Yook, 2004; King et al., 2004). Following most previous literature, this study formulates the following hypothesis regarding the payment method:

Hypothesis 3a: Acquirers with a high CSR rating are more likely to use cash as only method of payment

Most takeover attempts for public firms are made to the shareholders of the target. Sometimes the acquirer will ask the target management for approval. If the target management doesn't agree to the acquisition, the takeover becomes hostile. A hostile takeover is defined as a takeover where the management of the target resists (Sudarsanam & Mahate, 2006). Sudarsanam and Mahate (2006) argue that hostile takeover can be more costly, because they often require a higher takeover premium. Thus, destroying shareholder value. On the other hand, in friendly takeovers there can be high indirect costs due to the retention of an inefficient management. Some literature argues that hostile takeovers are more value destroying than friendly takeovers (Zhang et al., 2020), while others find evidence for more value creation of hostile takeovers (Sudarsanam & Mahate, 2006; Tuch & O'Sullivan, 2007). Therefore, the following hypothesis is constructed:

Hypothesis 3b: Acquirers with a high CSR rating are more likely to undertake a hostile takeover

Firms can choose to acquire other firms in the same industry or in other industries. Most acquisitions are same industry deals, also called horizontal takeovers, but there are a number of acquisitions that are classified as 'diversifying' (Bieshaar et al., 2001). Most literature argues that horizontal acquisitions create more value, mainly due to higher synergies (Ramaswamy, 1997; Hazelkorn et al., 2005; Ibrahim & Meghouar, 2019). While there is also literature that claims that diversifying acquisitions create more value, due to the diversification discount (Campa & Kedia, 2002). Balakrishnan (1988) also claims that diversifying acquisitions can create shareholder value. Next to that, he argues that results of most literature about diversifying acquisitions that find weak or no value enhancement can be explained by the fact that the measurements don't capture the entire value creation. In line with most previous literature this study chooses the following hypothesis:

Hypothesis 3c: Acquirers with a high CSR rating are more likely to acquire a target within the same two-digit SIC industry

Domestic and cross-border M&A's are investigated extensively in the existing literature. There is a large difference between these two types of acquisitions (Conn et al., 2005; Bertrand & Zitouna, 2008). Hussain and Shams (2022) argue in their study that cross-border deals are often driven by accessing new knowledge, which could create a certain value. Hazelkorn et al. (2005) and Yen and André (2019) support this view and state in their study that cross-border acquisitions create more value for the acquirer. On the other hand, Uysal et al. (2008) argues that CSR oriented firms more often participate in domestic deals due to information benefits. Kim et al. (2014) state cross-border deals are classified as more risky and therefore high CSR performing firms avoid these kinds of takeovers. Also, Skaife and Wangerin (2012) state that cross-border deals are more often terminated, which is value destroying for firms. Following the studies of Uysal et al. (2008), Skaife and Wangerin (2012) and Kim et al. (2014), the hypothesis is chosen that:

Hypothesis 3d: Acquirers with a high CSR rating are more likely to acquire a target that is located within the same country

Deal processes are usually led by M&A advisors. These can organize the process in a very competitive way with multiple bidders, or in a unilateral way with only one bidder. In a competitive process, bidders can be played off against each other, leading to a higher takeover premium. This is value destroying for acquiring firms (Jarrell & Poulsen, 1989). Skaife and Wangerin (2012) find that competitive deal processes are more often terminated, which is value destroying. On the other hand, studies of Rau and Vermaelen (1998) and Pangarkar and Tan (2021) suggest that competitive processes do create more value for acquiring firms. Therefore, the following hypothesis is constructed:

Hypothesis 3e: Acquirers with a high CSR rating are more likely to participate in competitive deal processes

2.6. CSR and target preferences

In line with the stakeholder theory of Freeman (1984), this study assumes high CSR rated companies to create value for their shareholder. Therefore, in takeovers they would seek targets that are not risky, have high synergy potential, don't have significant cultural differences and will increase their firms' performance. Kim et al. (2014) discuss that CSR orientated firms are less exposed to stock price crashes. Du et al. (2010) argue in their study that companies with a high CSR rating have a better corporate image, better stakeholder-company relations and support behaviours. Also, Krishnamurti

et al. (2019) show results that high CSR performing companies are more likely to acquirer companies with disclosed CSR ratings.

On the other hand, Hussain and Shams (2022) find that combined cumulative abnormal returns are higher in acquisitions where the acquirer-target CSR gap is larger. Results from Hussain and Shams (2022) are in line with the portability theory of Ellis et al. (2017), which state that with a higher acquirer-target CSR gap, the acquirer can transfer more knowledge and governance standards to the target. Assuming that companies with disclosed CSR ratings have higher CSR ratings in general (Eccles, 2014), companies with a high CSR rating would then obtain more value if they acquirer firms with undisclosed CSR ratings. In line with this reasoning, the following hypothesis is stated:

Hypothesis 4: Acquirers with a high CSR rating do more often tend to acquirer targets with undisclosed CSR ratings

3. Data

3.1. Sample selection

For ESG ratings, the Asset4 database of Thomson Reuters is used. This database holds data on 9,338 companies worldwide over a period of 2000-2021. Ratings are from 0 to 100, also making it possible to decompose for environmental, governance and social scores as well. For deals, the Refinitiv Eikon deals database is used with the company codes of the ESG rated firms. There are some criteria for the deals. First, the deals should be a completed acquisition. Secondly, both companies must be listed. Thirdly, the deal value should exceed the amount of 1 million euros and the acquirer must hold more than 50% of the shares of the acquirer after the transaction. Deals with undisclosed deal value are excluded from the sample. Following these criteria, an international sample is retrieved with 11,837 deals between 2000 and 2021.

Deal characteristics and other relevant company characteristics to construct variables are collected from the Refinitiv Eikon deals database. The required financial and accounting data for both the target and acquirer are retrieved from Datastream and Worldscope. Firm-level governance data is retrieved from the WRDS BoardEx database. Observations with missing values for governance data and the main independent variable are dropped. After merging all the datasets and dropping observations, a sample is constructed with 1,778 deals between 2003 and 2020.

3.2. Variable construction

The main dependent variables in this study are the takeover premium and the three-day CAR. The CAR is calculated using an event study, with the event study tool in Datastream, with an estimation period of 230 days (-255, -25) and an event window of 3 days (-1, 1). As in the studies of Officer (2007), Humphery-Jenner and Powell (2011) and Krishnamurti et al. (2019), the takeover premium is calculated by total deal value divided by the market capitalization of the target four weeks prior to the deal announcement date. This study uses the market capitalization of the target four weeks prior to the deal announcement date instead of 30 days prior to the deal announcement date, due to the availability of data. For hypotheses 3a through 3e, the dependent variables are several dummies equal to one if the payment method is cash only, the payment method is stock only, the deal is hostile, the deal is friendly, the deal is within the same industry, the deal is within the same country or the deal is a competitive process. Hypothesis 4 is tested with a dependent (dummy) variable that is equal to one if the ESG information of the target is disclosed and zero otherwise.

The independent variables used in this study are the ESG, environment, social and governance ratings of the acquiring company. These ratings are on a scale of 0 to 100. Components and metrics

for these different ratings are visualized in appendix B. The Thomson Reuters Asset4 databases is used because it is the most extensive ESG databases currently available and is up-to-date. In the regressions, the different ESG ratings are taken in the prior fiscal year to the deal announcement date.

As in previous literature (Krishnamurti et al., 2019; Yen & André, 2019; Jost et al., 2022; Hussain & Shams, 2022), governance variables are included. Since these papers use different types of firm-level or country-level governance variables, this study follows Krishnamurti et al. (2019) and incorporates the number of board members, the number of independent directors in the board and a dummy variable that is equal to one if the CEO is also the chairman of the board. The first two governance variables are also used by the study of Jenter and Lewellen (2015) about CEO preferences and takeovers. In the regressions, the different governance variables are taken in the prior fiscal year to the deal announcement date.

This study controls for several firm characteristics. Firm-level control variables included in this study are acquirer market capitalization, acquirer Tobin's Q, acquirer debt, acquirer cash flow, acquirer cash holding, target Tobin's Q, target debt and target market capitalization. In the regressions, the firm-level control variables are taken at the fiscal year-end before the deal announcement year. Control variables for deal characteristics that are included in this study are for payment in cash or stock only, relative size, domestic deals, deals with multiple bidders, same two-digit SIC industry deals, friendly or hostile deals and the toehold. Exact definitions of all variables can be seen in appendix A.

For the variables *Premium*, *AMarkCap* and *TMarkCap* natural logarithms are taken to correct for extreme values. For the variable *ATOBQ* an inverse hyperbolic sine is taken instead of a natural logarithm, because the variable has negative values. A natural logarithm would have excluded the negative values, as a result of which wrong measurements would have been made. There are observations for which some control variables have missing values. These observations are not dropped, because it would reduce the sample size significantly and unnecessary. Therefore, for control variables with a low number of missing values, mean imputation is used. This involves the variables *ATOBQ*, *AMarkCap*, *ADEBT*, *ACashFlow*, *ACashHolding* and *Relative Size*. Variables *TTOBQ*, *TMarkCap* and *TDEBT* have a large amount of missing values. For these variables, the method of dummy variable imputation is used.

3.3. Descriptive statistics

Table 1 shows the deal announcement year distribution of the sample of this study. Deal announcements range from 2003 to 2020. In 2004 the fewest deal announcements (35) took place and in the years 2018 and 2019 the most (166). There is some variation in the number of deals that is announced between different years. Therefore, fixed effects for years are included in all models of this study. Table 2 shows the acquirer and target top 10 countries. For both parties, the top three consist of 1) United States 2) Japan and 3) Canada. The distributions are not entirely proportional. In fact, the top 3 countries take about 60% of the sample. Whereas companies from the US alone occupy around 40% of the sample.

Table 1. Announcement year distribution

Announcement year	Freq.	Percent
2003	41	2.31%
2004	35	1.97%
2005	69	3.88%
2006	91	5.12%
2007	103	5.79%
2008	62	3.49%
2009	61	3.43%
2010	102	5.74%
2011	97	5.46%
2012	105	5.91%
2013	78	4.39%
2014	98	5.51%
2015	115	6.47%
2016	129	7.26%
2017	144	8.10%
2018	166	9.34%
2019	166	9.34%
2020	116	6.52%
Total	1778	100%

This table represents the distribution of the announcement years for the deals in the sample.

Table 2. Acquirer and target top 10 countries

Country	Acquirer		Target	
	Freq.	Percent	Freq.	Percent
Australia	74	4.16%	94	5.29%
Canada	162	9.11%	167	9.40%
France	56	3.15%	46	2.59%
Germany	44	2.47%	26	1.46%
Japan	235	13.22%	186	10.47%
Netherlands	26	1.46%		
Spain	26	1.46%		
South Africa			22	1.24%
Switzerland	40	2.25%	22	1.24%
Taiwan			21	1.18%
United Kingdom	97	5.46%	73	4.11%
United States	726	40.83%	776	43.67%
Total	1778	100%	1778	100%

This table represents the distribution of the acquirer and target top 10 countries.

Table 3. Acquirer and target industries

Macro Industry	Acquirer		Target	
	Freq.	Percent	Freq.	Percent
Consumer Products and Services	75	4.22%	67	3.77%
Consumer Staples	82	4.61%	72	4.05%
Energy and Power	170	9.56%	165	9.28%
Financials	333	18.73%	325	18.28%
Healthcare	168	9.45%	195	10.97%
High Technology	251	14.12%	301	16.93%
Industrials	199	11.19%	184	10.35%
Materials	235	13.22%	225	12.65%
Media and Entertainment	56	3.15%	46	2.59%
Real Estate	88	4.95%	89	5.01%
Retail	65	3.66%	60	3.37%
Telecommunications	56	3.15%	49	2.76%
Total	1778	100%	1778	100%

This table represents the distribution of the acquirer and target industries.

In table 3, the distribution of acquirer and target industry is shown. For both parties, the top three consist of 1) Financials 2) High Technology and 3) Materials. Industries are spread fairly evenly across the sample. In both cases, the top 3 industries account for about 40-45% of the sample. To account for the distribution, fixed effects for industry are included in all models of this study.

Table 4. Descriptive Statistics

	N	Mean	Median	Min	Max	SD
CAR3	1763	-.0045	-0.0031	-.4352	.8313	.0573
Premium	1608	-.025	0.2276	-7.4353	4.5075	.9787
AESG	1778	47.6042	46.9200	.77	93.62	21.554
AENV	1778	40.773	41.5150	0	97.93	30.8163
AGOV	1778	52.7888	53.7850	.45	98.08	22.8526
ASOC	1778	48.281	47.1350	.37	97.75	24.2571
TESG	135	46.6452	45.7400	4.46	88.63	21.1894
d TESG	1778	.0759	0.0000	0	1	.265
AMarkCap	1778	8.9352	8.9352	3.42	13.0633	1.5976
ATOBQ	1778	.9233	0.8729	-.1593	4.4949	.5534
ADEBT	1778	.2397	0.2150	0	2.2078	.1806
ACashFlow	1778	.0864	0.0817	-.5841	.6374	.0786
ACashHolding	1778	.0793	0.0574	0	.7255	.0887
TTOBQ	1778	-1.5759	-2.0000	-2	11.341	1.1753
TDEBT	1778	-1.6808	-2.0000	-2	6.1651	.803
TMarkCap	1778	-.8789	-2.0000	-2	12.4226	3.0944
Cash Only	1778	.5028	1.0000	0	1	.5001
Stock Only	1778	.2058	0.0000	0	1	.4044
Relative Size	1778	.2105	0.0804	0	3.6148	.3332
Domestic	1778	.6659	1.0000	0	1	.4718
Contest	1778	.0472	0.0000	0	1	.2122
Industry	1778	.6479	1.0000	0	1	.4778
Friendly	1778	.9595	1.0000	0	1	.1972
Hostile	1778	.0067	0.0000	0	1	.0819
Toehold	1778	.2672	0.0000	0	1	.4426
Board Size	1778	11.5467	11.0000	3	33	3.9756
Duality	1778	.0371	0.0000	0	1	.1891
Independence	1778	.7736	0.8571	0	1	.2115

This table represents the descriptive statistics of the variables in the sample. The number of observations, mean, median, minimum, maximum and standard deviation of all variables are shown.

Table 4 shows the descriptive statistics of all variables. Because there are multiple dependent variables, not all missing values of the premium and three-day CAR variables are dropped. This study does drop observations where the main independent variables have missing values for the dependent variables. For this reason, the variables *CAR3* and *Premium* have slightly less observations. Also, ESG information for target companies is only available for 135 observations, which is not used in the regressions. Both the premium and three-day CAR variables have a negative mean. Implying that the public market views deal announcements as something negative and that there is no premium over historical market capitalisation for the average target firm. All means of ESG scores range between 40 and 52, implying that the firms in the sample score a little below average in general. Assuming that a score of 50 would be average. In about 50% of the deals cash is the only method of payment and in about 20% of the deals stock is the only method of payment.

In only 4% of the deals, more than one bidder for the target is reported, which is low. Meaning that most deals in the sample can be classified as non-competitive. In 65% of the deals, the buyer acquirers a target within the same two-digit SIC industry. Almost all deals (96%) are classified as friendly, while the share of hostile takeovers is less than 1%. Acquirers have on average 11.5 board members and a proportion of 80% independent directors within the board. At 3% of the acquirers, the CEO is also the chairman of the board.

A Pairwise correlation matrix is presented in appendix C. Overall, there is little correlation between the variables. Between the independent variables *AESG*, *AENV*, *ASOC* and *AGOV*, high correlation is found, which is an indication of multicollinearity. Instead of running individual models for each variable, a solution is to use a multivariate regression model that incorporates all the dependent variables. This can increase the precision of the estimations and help to account for the correlations between the variables. Therefore, this study uses multiple multivariate regressions.

4. Methodology

To investigate the effect of the acquirer's CSR performance on the three-day CAR, first an event study must be executed. Thereafter, different multivariate regressions will be performed. This chapter will first in 4.1. explain the methodology of the event study and in 4.2. the methodologies of different multivariate regressions.

4.1. Event study

Researchers frequently utilize event studies to examine how the market responds to firm-specific events, such as deal announcements. MacKinlay (1997) state that first an event must be chosen, which will be deal announcements in this study. Therefore, for this study the deal announcement date will be the event that is investigated. Following Husain and Shams (2022), an estimation window of 230 days (-255, -25) is chosen. To determine whether analysing a different time frame around the announcement returns has different effects, different event windows are employed. Following Yen and André (2019), this study looks at event windows of 21 (-10, 10), 11 (-5, 5), 7 (-3, 3), 5 (-2, 2), 3 (-1, 1), 4 (-2, 1) and 5 (-3, 1) days. Anomalies in returns around the announcement date are analysed to see whether deal announcements have an impact on market pricing. To calculate the abnormal returns, the following market adjusted model is used:

$$AR_{i,t} = R_{i,t} - [a_{i,t} + \beta_i(R_{m,t})] \quad (1)$$

$AR_{i,t}$ are the abnormal returns for firm i at time t . $R_{i,t}$ is the observed return for firm i at time t . $a_{i,t}$ is the constant for firm i . β_i is the beta of firm i . $R_{m,t}$ is the return of the market index at time t . In order to estimate normal returns, or the expected stock returns in the absence of a deal event, this study uses the market adjusted model. The following market model is used:

$$R_{i,t} = a_i + \beta_i (R_{m,t}) + \varepsilon_{i,t} \quad (2)$$

$R_{i,t}$ is the observed return for firm i at on event date t . a_i is the constant for firm i . β_i is the beta of firm i . $R_{m,t}$ is the return of the market index at time t . $\varepsilon_{i,t}$ is the residual error term of the regression. The S&P 500 is chosen as the market index, since most companies in the sample are US based and it is a global standard. As an alternative to the market adjusted model, this study also tests the mean adjusted model, which has the following abnormal returns and market model:

$$AR_{i,t} = R_{i,t} - [a_{i,t} + \beta_i(R_{c,t})] \quad (3)$$

$$R_{i,t} = a_i + \beta_i (R_{c,t}) + \varepsilon_{i,t} \quad (4)$$

Where $R_{c,t}$ is the return of the control group at time t . The difference between the market adjusted model and mean adjusted model is that the market model assumes that stock returns are influenced by the general market and the mean model assumes that stock returns are influenced by the mean returns of a control group.

The CAR can be constructed by calculating the abnormal returns for each separate day in the event window and adding these together. The model for the CAR is as follows:

$$CAR_i(t_1 t_2) = \sum_{t=t_1}^{t_2} AR_{i,t} \quad (5)$$

$CAR_i(t_1 t_2)$ is the cumulative abnormal return for firm i at the first day of the event window t_1 and the last day of the event window t_2 . $AR_{i,t}$ is the abnormal return for firm i at day t . $\sum_{t=t_1}^{t_2}$ stands for the sum of all abnormal returns in the event window.

4.2. Multivariate analysis

Several multivariate analyses are performed regarding CRS ratings. First, the effects of acquirer's CSR performance on acquisition performance is tested using an OLS regression, as is used by most previous literature (Gomes & Marsat, 2018; Krishnamurti et al., 2019; Yen & André, 2019; Hussaini et al., 2021; Jost et al., 2022). The effect of the independent variables on the dependent variables is tested with and without a number of governance variables. Therefore, the following two models are used, where model 6 has no governance variables included and model 7 does include governance variables:

$$AcqPerformance_{i,t} = \beta_0 + \beta_1 ACSR_{i,t-1} + \Sigma\beta_2 Firm\ controls_{i,t-1} + \Sigma\beta_3 Deal\ controls_{i,t} + \eta IndustryFE + \gamma YearFE + \varepsilon_{i,t} \quad (6)$$

$$AcqPerformance_{i,t} = \beta_0 + \beta_1 ACSR_{i,t-1} + \Sigma\beta_2 Governance\ controls_{i,t-1} + \Sigma\beta_3 Firm\ controls_{i,t-1} + \Sigma\beta_4 Deal\ controls_{i,t} + \eta IndustryFE + \gamma YearFE + \varepsilon_{i,t} \quad (7)$$

$AcqPerformance_{i,t}$ represents the dependent variable, which could be either 1) the three-day CAR or 2) the takeover premium. $ACSR_{i,t-1}$ represents the independent variables 1) ESG performance 2) environmental performance 3) social performance and 4) governance performance, all are measured one year prior to the deal announcement. The effect of the independent variables on the dependent variables are all tested separately. $Firm\ controls_{i,t-1}$ are the variables $AMarcCap$, $ATOBQ$, $ADEBT$, $ACashFlow$, $ACashHolding$, $TTOBQ$, $TDEBT$, and $TMarkCap$, which are all measured at the fiscal year-end before the deal announcement year. $Deal\ controls_{i,t}$ are the variables $Cash\ Only$, $Stock\ Only$, $Relative\ Size$, $Domestic$, $Contest$, $Industry$, $Friendly$, $Hostile$ and $Toehold$. $Governance\ controls_{i,t-1}$ are the variables $Board\ Size$, $Duality$ and $Independence$, which are measured one year prior to the

deal announcement. Exact definitions of all variables can be found in appendix A. Both models also include $\eta IndustryFE + \gamma YearFE$, which are industry and year fixed effects respectively.

Secondly, the effect of acquirer's CSR performance on deal terms and characteristics is tested using a logistic regression model. Governance variables are included in all models in these tests. The model is as follows:

$$\text{Deal Terms}_{i,t} = \beta_0 + \beta_1 ACSR_{i,t-1} + \Sigma\beta_2 \text{Governance controls}_{i,t-1} + \Sigma\beta_3 \text{Firm controls}_{i,t-1} + \Sigma\beta_4 \text{Deal controls}_{i,t} + \eta \text{IndustryFE} + \gamma \text{YearFE} + \varepsilon_{i,t} \quad (8)$$

Deal Terms_{i,t} represents the dependent variables, which could be 1) *Cash Only*, a dummy variable equal to one if cash is the only payment method 2) *Stock Only*, a dummy variable equal to one if stock is the only payment method 3) *Friendly*, a dummy variable equal to one if it is a friendly deal 4) *Hostile*, a dummy variable equal to one if it is a hostile deal 5) *Industry*, a dummy variable equal to one if the acquirer and target are within the same two-digit SIC industry 6) *Domestic*, a dummy variable equal to one if acquirer and target are located within the same country 7) *Contest*, a dummy variable equal to one if there are more than one bidders for the target. ACSR_{i,t-1}, Governance controls_{i,t-1} and Firm controls_{i,t} are the same as in models 6 and 7. Deal controls_{i,t} represents the variables *Relative Size* and *Toehold*. All dependent variables are tested separately and fixed effects for industry and year are included.

Lastly, this study determines whether the target CSR disclosure has an impact on the bidder's acquisition choice. Thus, do high CSR acquirers more often acquirer targets with disclosed CSR ratings. A probit regression model is used to test this for one model without governance variables and one model with governance variables, which are as follows:

$$d \text{TCSR}_{i,t} = \beta_0 + \beta_1 ACSR_{i,t-1} + \Sigma\beta_2 \text{Firm controls}_{i,t-1} + \Sigma\beta_3 \text{Deal controls}_{i,t} + \eta \text{IndustryFE} + \gamma \text{YearFE} + \varepsilon_{i,t} \quad (9)$$

$$d \text{TCSR}_{i,t} = \beta_0 + \beta_1 ACSR_{i,t-1} + \Sigma\beta_2 \text{Governance controls}_{i,t-1} + \Sigma\beta_3 \text{Firm controls}_{i,t-1} + \Sigma\beta_4 \text{Deal controls}_{i,t} + \eta \text{IndustryFE} + \gamma \text{YearFE} + \varepsilon_{i,t} \quad (10)$$

d TCSR_{i,t} represents a dummy that is equal to one if the CSR rating of the target is available and zero otherwise. The same control variables for firm, deal and governance apply as in models 6 and 7, as well as the fixed effects for industry and year. Again, all dependent variables are tested separately.

5. Results

5.1. Event study

To test the main hypotheses, the effect of the buyer's CSR score on the acquirer's cumulative abnormal returns, an event study must be performed. Thereafter, a one sample T-test is performed to test for significance. In table 5 the abnormal returns for the marked adjusted returns model and mean adjusted returns model are shown with an event window of 21 days (-10, 10) and an estimation window of 230 days (-255, -25). The S&P 500 is used as benchmark, since most firms are US based. For the market adjusted returns model, the average abnormal returns for days -10 to -1 are quite small in most cases. For the days -5 and -3, the average abnormal returns are negative and statistically significant at a 5% and 10% respectively. At day -2, the average abnormal return is statistically significant and positive. At the announcement day, day 0, the average abnormal return is negative and statistically significant at a 1% level. For the days 1 to 10, the average abnormal returns are also quite small in most cases. For day 3, the average abnormal return is negative and statistically significant at a 10% level. For day 5, the average abnormal return is positive and statistically significant at a 5% level.

Table 5. Average abnormal returns for all days in the event study for the mean and market model

Day	Marked adjusted returns model			Mean adjusted returns model		
	Mean	t value	p value	Mean	t value	p value
-10	.0005	.828	.4075	.001	1.7635	.078
-9	-.0005	-.619	.536	-.0005	-.432	.666
-8	-.0005	-.585	.5585	0	-.0515	.959
-7	0	-.0995	.921	0	-.2445	.807
-6	-.0005	-1.3345	.182	-.0005	-1.157	.2475
-5	-.001	-2.5485	.011	-.001	-2.204	.0275
-4	0	.2065	.8365	0	-.2105	.8335
-3	-.001	-1.904	.057	-.001	-1.588	.1125
-2	.001	2.2975	.0215	.001	1.8365	.0665
-1	0	-.199	.8425	-.0005	-.5575	.5775
0	-.004	-3.9425	0	-.004	-3.756	0
1	-.0005	-.4735	.636	-.0005	-.3495	.727
2	.0005	.871	.384	.0005	.9665	.334
3	-.001	-1.757	.079	-.001	-2.31	.021
4	0	.4425	.658	0	.445	.6565
5	.001	2.1565	.031	.001	2.0235	.043
6	0	.0775	.9385	0	.4835	.629
7	-.0005	-.8455	.398	0	-.27	.787
8	0	.322	.7475	0	.25	.8025
9	0	-.476	.634	-.0005	-.6365	.5245
10	-.0005	-1.053	.2925	-.0005	-.7015	.483

This table represents the average abnormal returns for all days in the event study with a maximum event window of 21 days (-10, 10) for both the market adjusted returns model and the mean adjusted returns model. An estimation window of 230 is used (-255, -25). The sample consists of 1,763 deals between 2003 and 2020, which are retrieved from Refinitiv Eikon. Means, t-values and p-values are shown. Significance is tested using a one sample T-test.

These results imply a couple of things. Firstly, the takeover could already be known to the public market in the days before the announcement. Secondly, the takeover is perceived as something negative to the public market, since the average abnormal returns for the days -5, -3 and 0 are statistically significant and negative. Day 0 shows a negative outlier, meaning that the effect of the takeover announcement on the public market is the strongest here. Another interesting result from table 5 is that at days -2 and 5 the public market has a more positive view regarding the takeover announcement, since it is statistically significant and positive here.

The results of table 5 can also be seen in the graph in appendix D, where a negative outlier can be seen at day 0, which is the deal announcement day. Results of table 5 are in line with the first hypothesis of this study, which states that the announcement of a takeover results in significant negative results. This indicates that the public market perceives a takeover as value destroying. The CARs for the market and mean model are calculated using an event study, significance is tested using a one sample T-test. Results can be seen in table 6. Following Yen and André (2019), seven different event windows are tested, for robustness, with event windows of 21 (-10, 10), 11 (-5, 5), 7 (-3, 3), 5 (-2, 2), 3 (-1, 1), 4 (-2, 1) and 5 (-3, 1) days. All the CARs are statistically significant and negative, which is also in line with the first hypothesis. The results of this study are different from that of Yen and André (2019), who find statistically significant and positive results for the different CARs. This study uses the marked adjusted model CAR with an event window of 3 days (-1, 1) as in Moeller et al. (2004), since it gives the most significant result.

Table 6. Cumulative abnormal returns for different event windows for the mean and market model

	Marked adjusted returns model			Mean adjusted returns model		
	Mean	t value	p value	Mean	t value	p value
(-10, 10)	-0.0065	-2.6605	.008	-.0055	-2.095	.0365
(-5, 5)	-.0045	-2.359	.0185	-.005	-2.409	.016
(-3, 3)	-.0045	-2.766	.0055	-.005	-2.8125	.005
(-2, 2)	-.003	-1.854	.064	-.003	-1.8215	.0685
(-1, 1)	-.0045	-3.2705	.001	-.0045	-3.1485	.0015
(-2, 1)	-.0035	-2.1765	.0295	-.0035	-2.2045	.0275
(-3, 1)	-.0045	-2.711	.007	-.0045	-2.646	.008

This table represents the summary statistics for the cumulative abnormal returns of the market adjusted returns model and the mean adjusted returns model of the acquirer for seven different event windows. An estimation window of 230 is used (-255, -25). The sample consists of 1,763 deals between 2003 and 2020, which are retrieved from Refinitiv Eikon. Means, t-values and p-values are shown. Significance is tested using a one sample T-test.

5.2. CSR score and acquisition performance

In this section, the multivariate regressions will be presented to test the main hypotheses and give an answer to the research question. In section 5.2.1. hypothesis 2a will be tested to see what the impact is of the CSR score of the acquirer on the three-day CAR and in section 5.2.2. hypothesis 2b will be tested to see what the impact is of the acquirer's CSR score on the takeover premium.

5.2.1. CSR and the three-day CAR

To test hypothesis 2a, the effect of different CSR measures on the three-day CAR is tested using an OLS regression, which can be seen in table 7. This is the same methodology as is used in Krishnamurti et al (2019). Fixed effects for year and two-digit industry are included in the model. This study may isolate the influence of the other variables in the regression and get more precise estimates of their coefficients by incorporating fixed effects for year and two-digit SIC industry. This enhances the dependability of the findings and helps allay worries about omitted variable bias. Standard errors and statistical inference can be improved by clustering standard errors at the firm level in a regression to account for any correlation of error terms within the same firm. Therefore, standard errors are clustered at the firm level. Five observations are dropped in the model due to singleton observations (Correia, 2015).

The dependent variable CAR is constructed using a three-day event study (-1, 1) with an estimation period of 230 days (-255, -25). As in Krishnamurti et al. (2019), Yen and André (2019) and Jost et al. (2022) this study controls for governance factors of the acquiring firm. There are four different measures for acquirer CSR score, namely the combined ESG score (column 1 and 2), the environmental score (column 3 and 4), the social score (column 5 and 6) and the governance score (column 7 and 8). These four measures are ranked from 0 to 100 and will serve as this study's dependent variables. Each variable will be tested with and without the governance variables *Board Size*, *Duality* and *Independence*. The tests without governance variables can be seen in columns 1, 3, 5 and 7 and the tests with governance variables can be seen in columns 2, 4, 6 and 8 of table 7. The model also includes several control variables for firm and deal characteristics. Definitions of all variables can be seen in appendix A.

The results of table 7 show positive and statistically insignificant results for all dependent variables. For the columns without governance variables (1, 3, 5 and 7) the results are in line with Yen and André (2019) and Groening and Kanuri (2013), but in contrary to Krishnamurti et al. (2019) and Hussain and Shams (2022). Therefore, this study supports evidence for the fact that shareholder theory and stakeholder theory alone cannot explain the effect of the acquirer's CSR on the three-day CAR. For the columns with governance variables (2, 4, 6 and 8) the results are again in in contrary to

Krishnamurti et al. (2019) and Hussain and Shams (2022), who find significant results. Also, Yen and André (2019) do find significant and negative results for the effect of acquirer's environmental score on the CAR, when controlling for country governance characteristics.

Table 7. The effect of the acquirer's CSR score on the three-day CAR

	CAR3 1 k = ESG	CAR3 2 k = ESG	CAR3 3 k = ENV	CAR3 4 k = ENV	CAR3 5 k = SOC	CAR3 6 k = SOC	CAR3 7 k = GOV	CAR3 8 k = GOV
ACSR _k	.0001 (.0001)	.0001 (.0001)	0 (.0001)	0 (.0001)	.0001 (.0001)	.0001 (.0001)	0 (.0001)	0 (.0001)
Board Size		-.0001 (.0004)		-.0001 (.0004)		-.0002 (.0004)		-.0001 (.0004)
Duality		-.0011 (.0067)		-.0014 (.0067)		-.0009 (.0067)		-.0013 (.0067)
Independence		-.0006 (.007)		-.0001 (.007)		-.0016 (.0071)		-.0001 (.007)
AMarkCap	-.0008 (.0014)	-.0007 (.0015)	0 (.0015)	.0001 (.0016)	-.001 (.0013)	-.0009 (.0013)	-.0002 (.0012)	-.0001 (.0012)
ATOBQ	-.0023 (.0048)	-.0024 (.0049)	-.0031 (.0049)	-.0032 (.005)	-.0024 (.0047)	-.0025 (.0048)	-.0029 (.0047)	-.003 (.0048)
ADEBT	.0021 (.0093)	.0022 (.0093)	.0022 (.0092)	.0022 (.0092)	.0016 (.0093)	.0017 (.0093)	.0022 (.0093)	.0022 (.0093)
ACashFlow	-.0444 (.0287)	-.0447 (.0286)	-.0421 (.0287)	-.0425 (.0286)	-.0433 (.0286)	-.0436 (.0285)	-.0427 (.0286)	-.043 (.0284)
ACashHolding	.0349* (.0196)	.0348* (.0198)	.0339* (.0194)	.0339* (.0196)	.0345* (.0197)	.0341* (.0199)	.0342* (.0197)	.0342* (.0199)
TTOBQ	.0052* (.003)	.0052* (.003)	.0051* (.003)	.0051* (.003)	.0053* (.003)	.0053* (.003)	.0051* (.003)	.0051* (.003)
TDEBT	.0092* (.0053)	.0092* (.0054)	.0093* (.0052)	.0093* (.0052)	.0092* (.0053)	.0091* (.0054)	.0093* (.0053)	.0093* (.0053)
TMarkCap	-.0006 (.0021)	-.0006 (.0021)	-.0006 (.0021)	-.0006 (.0021)	-.0006 (.0021)	-.0006 (.0021)	-.0006 (.0021)	-.0006 (.0021)
Cash Only	.0061* (.0035)	.006* (.0035)	.006* (.0035)	.006* (.0035)	.006* (.0035)	.006* (.0035)	.006* (.0035)	.006* (.0035)
Stock Only	.0036 (.0048)	.0036 (.0049)	.0034 (.0048)	.0034 (.0049)	.0037 (.0049)	.0036 (.0049)	.0034 (.0049)	.0034 (.0049)
Relative Size	-.0091 (.0058)	-.009 (.0059)	-.0092 (.0058)	-.0092 (.0059)	-.009 (.0058)	-.0089 (.0059)	-.0092 (.0058)	-.0091 (.0059)
Domestic	-.0001 (.0028)	-.0002 (.0028)	-.0006 (.0028)	-.0006 (.0028)	0 (.0028)	-.0001 (.0028)	-.0005 (.0028)	-.0005 (.0028)
Industry	-.0001 (.003)	-.0001 (.003)	-.0002 (.003)	-.0002 (.003)	-.0001 (.003)	-.0001 (.003)	-.0002 (.003)	-.0001 (.003)
Friendly	.0039 (.0048)	.0038 (.0048)	.0041 (.0048)	.004 (.0047)	.004 (.0048)	.0039 (.0047)	.004 (.0048)	.0039 (.0047)
Hostile	.0133 (.0135)	.0133 (.0136)	.0142 (.0133)	.0142 (.0134)	.0132 (.0135)	.0132 (.0137)	.014 (.0134)	.014 (.0134)
Toehold	.002 (.0036)	.002 (.0038)	.0021 (.0038)	.0022 (.0039)	.0022 (.0036)	.0021 (.0038)	.0021 (.0036)	.0021 (.0038)
_cons	-.0167 (.0198)	-.0156 (.0207)	-.0185 (.0203)	-.0179 (.0208)	-.0157 (.0198)	-.0136 (.0206)	-.0181 (.0194)	-.0175 (.0202)
Observations	1758	1758	1758	1758	1758	1758	1758	1758
R-squared	.0771	.0771	.0766	.0766	.0775	.0776	.0766	.0766
Industry Dummy	YES	YES	YES	YES	YES	YES	YES	YES
Year Dummy	YES	YES	YES	YES	YES	YES	YES	YES

This table shows the OLS regression results of the impact of acquirer's CSR performance on acquisition performance, in terms of cumulative abnormal returns. The sample consists of 1,758 deals between 2003 and 2020, which are retrieved from Refinitiv Eikon. The dependent variable is the three-day market adjusted cumulative abnormal returns (-1,1), which is calculated using an event study. The main independent variables are the acquirer's ESG, environmental, social and governance rating, which are ranked from 0 to 100 and are retrieved from Thomson Reuters. All variables are defined and explained in appendix A. Fixed effects for year and two-digit SIC industry are added. Standard errors are clustered at the firm level. Standard errors are in parentheses *** p<.01, ** p<.05, * p<.1

When only controlling for firm-level governance characteristics, they also don't find statistically significant results. Therefore, the results of this model are in line with Yen and André (2019) and indicate that firm-level governance characteristics are insufficient to win the trust of investors. This study cannot explain the effect of acquirer's CSR score on the three-day CAR and hypothesis 2a is rejected.

Furthermore, all governance variables are negative, but also statistically insignificant. The variables *ACashHolding*, *TTOBQ*, *TDEBT* and *Cash Only* are all positive and statistically significant at the 10% level. Economically speaking, this would mean that acquisitions where the acquirer has a larger cash holding, the target has a higher TOBQ and/or debt and where cash is used as payment are perceived as positive by the public market. Thus, resulting in an increase in the three-day CAR. The findings for the variables *ACashHolding* and *Cash Only* are in line with earlier findings on cash payment, which state that acquisitions where cash is used as payment method result in more shareholder value. The intercept term in the model is statistically insignificant for all columns, suggesting that the relationship between the dependent variable and independent variables is weak or doesn't exist.

5.2.2. CSR and the takeover premium

To test hypothesis 2b, the effect of different CSR measures on the takeover premium are tested using an OLS regression, which can be seen in table 8. Fixed effects for year and two-digit SIC industry are included in the model and standard errors are clustered at the firm level. The same independent variables, governance variables and control variables are included in this model as in the previous section, where all odd columns are without governance variables and all even columns with governance variables. Definitions of all variables can be seen in appendix A. The dependent variable is the takeover premium and is calculated by the total deal value divided by the market capitalization of the target four weeks prior to the deal announcement date, as in Officer (2007), Humphery-Jenner and Powell (2011) and Krishnamurti et al. (2019).

Results of table 8 show negative and statistically insignificant results for columns 1 to 6 and positive and statistically insignificant results for columns 7 and 8. These results are in line with Yen and André (2019) and Jost et al. (2022), but contradicts the results from Krishnamurti et al. (2019) and Hussaini et al. (2021). Hussaini et al. (2021) find that high CSR acquirers pay higher takeover premia, while Krishnamurti et al. (2019) find that high CSR acquirers pay lower takeover premia. Differences in results from this study can be caused by the use of an international sample. This study supports evidence for the fact that shareholder theory and stakeholder theory alone cannot explain the effect of the acquirer's CSR on takeover premia. Firm-level governance characteristics are, as in section 5.2.1., insufficient to win the trust of investors. Therefore, hypothesis 2b is rejected.

Furthermore, the variable for the acquirer market capitalization is statistically significant and negative for columns 1 to 6. Indicating that larger companies pay lower takeover premia.

Table 8. The effect of the acquirer's CSR score on the takeover premium

	Premium 1 k = ESG	Premium 2 k = ESG	Premium 3 k = ENV	Premium 4 k = ENV	Premium 5 k = SOC	Premium 6 k = SOC	Premium 7 k = GOV	Premium 8 k = GOV
ACSR _k	-.0032 (.0039)	-.0034 (.0043)	-.0014 (.0022)	-.0009 (.0022)	-.0036 (.0046)	-.0042 (.005)	.0019 (.0039)	.0017 (.0039)
Board Size		.0035 (.0131)		.0029 (.0129)		.0044 (.0139)		.0027 (.0126)
Duality		.399 (.575)		.4075 (.5714)		.3892 (.5691)		.4115 (.5715)
Independence		.5702 (.3664)		.5413 (.3398)		.6129 (.3954)		.538 (.3446)
AMarkCap	-.1599* (.0912)	-.1629* (.0931)	-.17* (.0997)	-.1788* (.1047)	-.1535* (.0909)	-.1541* (.0904)	-.1949 (.1194)	-.197 (.1234)
ATOBQ	.4511 (.3436)	.4165 (.3295)	.4583 (.3487)	.4316 (.3376)	.4554 (.3518)	.4178 (.3372)	.4909 (.3527)	.4561 (.3382)
ADEBT	.0813 (.5271)	.0671 (.5298)	.0856 (.5249)	.0721 (.5265)	.0968 (.5235)	.0834 (.5236)	.0925 (.5265)	.0784 (.5286)
ACashFlow	-.2834 (.6431)	-.28 (.6552)	-.3249 (.632)	-.3335 (.6529)	-.3198 (.6399)	-.3203 (.6568)	-.4341 (.5833)	-.4191 (.6006)
ACashHolding	-1.844 (1.4326)	-1.7259 (1.356)	-1.8306 (1.4203)	-1.7084 (1.3438)	-1.8344 (1.4165)	-1.7069 (1.3376)	-1.7782 (1.3964)	-1.6706 (1.3245)
TTOBQ	-.0491 (.0577)	-.0414 (.0557)	-.0466 (.0559)	-.0389 (.0538)	-.0527 (.0589)	-.0453 (.0569)	-.0444 (.0541)	-.0373 (.0523)
TDEBT	-.3622 (.5172)	-.325 (.5068)	-.3542 (.5075)	-.3226 (.4994)	-.3617 (.5164)	-.321 (.5036)	-.3522 (.5003)	-.3192 (.4927)
TMarkCap	-.0425 (.0452)	-.0386 (.0443)	-.042 (.045)	-.0382 (.0442)	-.0414 (.0447)	-.0372 (.0435)	-.0403 (.0437)	-.0367 (.0428)
Cash Only	.419* (.2301)	.4642* (.2461)	.4222* (.2318)	.4654* (.2468)	.4196* (.2306)	.4675* (.2477)	.4249* (.2327)	.4677* (.2477)
Stock Only	-.3388** (.1528)	-.2904** (.1382)	-.3324** (.1491)	-.2848** (.1362)	-.3447** (.1558)	-.2945** (.14)	-.3253** (.1451)	-.2796** (.1333)
Relative Size	.1133 (.2914)	.1159 (.2813)	.1161 (.2939)	.1201 (.2847)	.1122 (.2904)	.1131 (.2788)	.12 (.2981)	.1235 (.2894)
Domestic	.1543 (.1232)	.1631 (.123)	.1577 (.1251)	.169 (.1259)	.1501 (.123)	.1584 (.1228)	.1691 (.1263)	.177 (.1266)
Industry	.0243 (.1451)	.0203 (.1437)	.0245 (.1454)	.0214 (.1436)	.0262 (.1434)	.0222 (.1418)	.0291 (.1406)	.0249 (.1389)
Friendly	.1433 (.2033)	.1372 (.2001)	.1369 (.2035)	.1292 (.1999)	.1408 (.2035)	.1356 (.2002)	.1254 (.2112)	.1196 (.2078)
Hostile	.1137 (.4441)	.1091 (.4481)	.103 (.4486)	.0936 (.4544)	.1143 (.4442)	.1101 (.4495)	.0769 (.4753)	.0745 (.4801)
Toehold	-.4369 (.3942)	-.358 (.4278)	-.432 (.3981)	-.3589 (.4277)	-.4443 (.3897)	-.3611 (.4248)	-.4373 (.3938)	-.3624 (.4244)
_cons	2.7862** (1.1689)	2.2526** (.9332)	2.7671** (1.1496)	2.2845** (.9457)	2.7502** (1.1365)	2.166** (.8584)	2.786** (1.1566)	2.2926** (.9531)
Observations	1603	1603	1603	1603	1603	1603	1603	1603
R-squared	.0682	.0697	.068	.0694	.0684	.07	.0681	.0695
Industry Dummy	YES	YES	YES	YES	YES	YES	YES	YES
Year Dummy	YES	YES	YES	YES	YES	YES	YES	YES

This table shows the OLS regression results of the impact of acquirer's CSR performance on the takeover premium. The sample consists of 1,603 deals between 2003 and 2020, which are retrieved from Refinitiv Eikon. The dependent variable is the takeover premium, calculated by the total deal value divided by the market capitalization of the target four weeks prior to the acquisition announcement date. The main independent variables are the acquirer's ESG, environmental, social and governance rating, which are ranked from 0 to 100 and are retrieved from Thomson Reuters. All variables are defined and explained in appendix A. Fixed effects for year and two-digit SIC industry are added. Standard errors are clustered at the firm level. Standard errors are in parentheses *** p<.01, ** p<.05, * p<.1

Variables for the method of payment, *Cash Only* and *Stock Only*, are statistically significant. The first one being positive and the latter being negative. This indicates that deals where cash is used as payment method are accompanied by higher takeover premia and deals with stock as payment method are accompanied by lower takeover premia.

Overall, hypotheses 2a and 2b are rejected and it can be concluded that the acquirer CSR performance doesn't have a statistically significant impact on the acquisition performance. Thus, shareholder theory and stakeholder theory alone cannot explain the effect of the acquirer's CSR on acquisition performance.

5.3. CSR performance and deal terms and characteristics

In this section, multivariate regressions will be presented to test the relationship between acquirer CSR performance and deal terms and characteristics. In section 5.3.1. hypothesis 3a will be tested to investigate the relationship between acquirer CSR score and method of payment. In section 5.3.2. hypothesis 3b will be tested to investigate the relationship between acquirer CSR score and hostile takeovers. In section 5.3.3. hypotheses 3c and 3d will be tested to investigate the relationship between acquirer CSR score and target choice, in terms of same industry and same country. In section 5.3.4. hypothesis 3e will be tested to see if high CSR acquirers engage more often in competitive deal processes. Since all dependent variables in this section are dummy variables, a logistic regression model is used for all tests. Fixed effects for year and two-digit SIC industry are included and standard errors clustered at the firm level in all models. In all models, the effect of the four independent variables on the dependent variable is tested with the governance variables *Board Size*, *Duality* and *Independence*. The models also include several control variables for firm and deal characteristics. Definitions of all variables can be seen in appendix A. In all models, a number of observations are dropped due to omitted observations in the year and two-digit SIC industry fixed effects.

5.3.1. High CSR acquirers and method of payment

In table 9, the effect of the acquirer's CSR score on the method of payment is investigated to test hypothesis 3a. The dependent variable in columns 1, 3, 5 and 7 is *Cash Only*, which is equal to one if cash is the only payment method and zero otherwise. The dependent variable in columns 2, 4, 6 and 8 is *Stock Only*, which is equal to one if stock is the only payment method and zero otherwise.

Results of table 9 show statistically significant results in columns 4, 5 and 6. Columns 4 and 6 are negative and show that high rated environmental and social acquirers use stock less often as method of payment. Column 5 is positive and shows that high rated social acquirers use cash more often as method of payment. These results suggest that, in line with the results of Krishnamurti et al. (2019),

acquirers with high CSR performance more often use cash as payment method and less often use stock as payment method. Thus, confirming hypothesis 3a and the reasoning that that high rated CSR acquirers choose ‘good’ deal characteristics instead of ‘bad’ ones. Furthermore, some interesting results from table 9 are that companies where the CEO is also the chairman of the board do less often pay with cash as only form of payment. Larger acquirers, in terms of market capitalization, have significant and positive results for the *Cash Only* variable and significant and negative results for the *Stock Only* variable. Meaning that larger companies pay more often with cash as only form of payment. For the target company, an increase in market capitalization results in deals with less often cash as form of payment. Also, acquirers with a high cash flow pay more often with cash than stock as form of payment, for which the results are significant at the 1% level.

Table 9. The effect of the acquirer’s CSR score on the method of payment

	Cash only 1 k = ESG	Stock only 2 k = ESG	Cash only 3 k = ENV	Stock only 4 k = ENV	Cash only 5 k = SOC	Stock only 6 k = SOC	Cash only 7 k = GOV	Stock only 8 k = GOV
ACSR _k	.0039 (.0037)	-.0076 (.0047)	.0042 (.0026)	-.0068** (.0033)	.0064** (.0032)	-.0088** (.0041)	-.0022 (.003)	.0022 (.0035)
Board Size	.0091 (.0171)	-.0197 (.0218)	.0081 (.017)	-.0184 (.0218)	.0067 (.0172)	-.0177 (.0218)	.0104 (.017)	-.0212 (.0215)
Duality	-.6817** (.3434)	.3018 (.3814)	-.6754** (.3418)	.2992 (.3724)	-.6654* (.3429)	.2758 (.3805)	-.6851** (.3416)	.3264 (.3706)
Independence	-.8694** (.3769)	-2.062*** (.3977)	-.815** (.3748)	-2.176*** (.3969)	-.9529** (.3819)	-1.984*** (.4008)	-.8043** (.3743)	-2.167*** (.3955)
AMarkCap	.1274** (.0565)	-.1553** (.0697)	.1124** (.0556)	-.1409** (.07)	.1044* (.055)	-.1426** (.0681)	.1693*** (.0517)	-.2255*** (.0617)
ATOBQ	-.4441*** (.1515)	.3438* (.2021)	-.426*** (.1528)	.3285 (.2037)	-.4366*** (.1508)	.3545* (.1979)	-.4949*** (.1511)	.4404** (.202)
ADEBT	-.1113 (.422)	.4941 (.4471)	-.1209 (.4216)	.5292 (.4484)	-.1344 (.4229)	.5288 (.4474)	-.1406 (.4231)	.4819 (.452)
ACashFlow	3.9483*** (.9289)	-4.759*** (1.1988)	3.928*** (.9332)	-4.762*** (1.1993)	3.9975*** (.9196)	-4.902*** (1.2215)	4.1043*** (.9357)	-5.019*** (1.2034)
ACashHolding	1.1253 (.7713)	-2.1757** (1.0522)	1.1877 (.7749)	-2.225** (1.0522)	1.0834 (.7674)	-2.1305** (1.0528)	1.0877 (.7784)	-2.1234** (1.0517)
TTOBQ	.2098 (.1511)	-.0815 (.1438)	.2079 (.1494)	-.0833 (.1434)	.2159 (.1516)	-.0876 (.1434)	.2047 (.1503)	-.074 (.1423)
TDEBT	-.3637 (.2687)	-.8537 (.9247)	-.3891 (.2707)	-.8405 (.9456)	-.3684 (.2682)	-.8147 (.9152)	-.3808 (.2732)	-.7536 (.8769)
TMarkCap	-.1932** (.0817)	-.0292 (.0892)	-.1929** (.082)	-.023 (.0894)	-.1963** (.082)	-.0276 (.0898)	-.1962** (.0818)	-.0311 (.0895)
Relative Size	-2.177*** (.5332)	.8571*** (.2648)	-2.178*** (.5313)	.8525*** (.2645)	-2.167*** (.5315)	.8536*** (.2657)	-2.191*** (.5347)	.87*** (.2648)
Toehold	-.4298** (.167)	.2539 (.1806)	-.4408*** (.1676)	.2713 (.1813)	-.427** (.1672)	.2483 (.18)	-.4216** (.167)	.2421 (.1799)
_cons	-.1254 (.9292)	3.643*** (1.0769)	-.0083 (.9306)	3.4677*** (1.0893)	.0958 (.9361)	3.4637*** (1.0849)	-.2241 (.9235)	3.8605*** (1.0598)
Observations	1754	1691	1754	1691	1754	1691	1754	1691
Pseudo R ²	.2282	.196	.2288	.1969	.2295	.1975	.228	.1946
Industry Dummy	YES	YES	YES	YES	YES	YES	YES	YES
Year Dummy	YES	YES	YES	YES	YES	YES	YES	YES

This table shows the logit regression results of the impact of acquirer’s CSR performance on the method of payment. The sample consists of 1,754 deals for the Cash Only variable and of 1,691 deals for the Stock Only variable between 2003 and 2020, which are retrieved from Refinitiv Eikon. The variable Cash Only is equal to one if cash is the only payment method and zero otherwise. The variable Stock Only is equal to one if stock is the only payment method and zero otherwise. The main independent variables are the acquirer’s ESG, environmental, social and governance rating, which are ranked from 0 to 100 and are retrieved from Thomson Reuters. All variables are defined and explained in appendix A. Fixed effects for year and two-digit SIC industry are added. Standard errors are clustered at the firm level. Standard errors are in parentheses *** p<.01, ** p<.05, * p<.1

5.3.2. High CSR acquirers and hostile takeovers

In table 10, the effect of the acquirer's CSR score on the deal attitude is investigated to test hypothesis 3b. The dependent variable in columns 1, 3, 5 and 7 is *Friendly*, which is equal to one if it is a friendly deal and zero otherwise. The dependent variable in columns 2, 4, 6 and 8 is *Hostile*, which is equal to one if it is a hostile deal and zero otherwise. In the models where *Hostile* is the dependent variable, the variable *Duality* is excluded from the model, due to omitted values.

Table 10. The effect of the acquirer's CSR score on the takeover attitude

	Friendly 1 k = ESG	Hostile 2 k = ESG	Friendly 3 k = ENV	Hostile 4 k = ENV	Friendly 5 k = SOC	Hostile 6 k = SOC	Friendly 7 k = GOV	Hostile 8 k = GOV
ACSR _k	.0064 (.0084)	.0471** (.0191)	-.0012 (.0063)	.0471*** (.017)	-.0005 (.0073)	.0334* (.0185)	.0115* (.006)	.013 (.0143)
Board Size	-.0682** (.0326)	.0585 (.0808)	-.0643** (.0321)	.0323 (.0778)	-.0647** (.0326)	.0664 (.0808)	-.0656** (.0322)	.0994 (.0859)
Duality	.8373 (1.1468)		.7908 (1.1292)		.7973 (1.1293)		.862 (1.145)	
Independence	-.2753 (.7102)	-1.0033 (1.572)	-.2228 (.7014)	-.1876 (1.4558)	-.2042 (.7226)	-1.2495 (1.6537)	-.3807 (.7166)	-.5168 (1.2321)
AMarkCap	-.1078 (.0989)	.0706 (.3193)	-.0447 (.0992)	.0067 (.3313)	-.0537 (.0975)	.1275 (.3073)	-.1108 (.0897)	.3123 (.2939)
ATOBQ	-.3409 (.3352)	-1.4307 (.9022)	-.3837 (.3332)	-1.5417 (1.0329)	-.3741 (.3296)	-1.6097* (.8669)	-.3108 (.3294)	-1.6939* (.9033)
ADEBT	-.1414 (.8503)	2.3884 (3.3571)	-.1115 (.8325)	2.4299 (3.0665)	-.1098 (.8521)	1.9711 (3.3485)	-.1024 (.8529)	2.0954 (3.2511)
ACashFlow	-.3188 (2.4658)	2.6727 (4.8992)	-.0567 (2.4366)	3.1248 (5.1514)	-.1057 (2.4046)	2.8738 (4.6687)	-.462 (2.3726)	4.1501 (4.7661)
ACashHolding	-1.8064 (1.9998)	8.347** (3.9812)	-1.9794 (2.0145)	10.7274** (5.2848)	-1.9403 (1.9822)	7.6421* (4.1275)	-1.9032 (1.9771)	7.077** (3.4869)
TTOBQ	-.1864 (.2701)	-.3665 (.7606)	-.1933 (.2645)	-.622 (1.2475)	-.1928 (.2658)	-.3785 (1.0331)	-.2095 (.2715)	-.2094 (.4446)
TDEBT	-1.951 (1.884)	.3317 (.744)	-1.9857 (1.8829)	.2041 (.8941)	-1.9873 (1.8804)	.258 (.7137)	-1.8858 (1.9029)	.2701 (.6055)
TMarkCap	-.0804 (.1597)	.2391 (.474)	-.089 (.1597)	.3155 (.5425)	-.0872 (.1578)	.2097 (.4285)	-.0719 (.1582)	.0974 (.4034)
Relative Size	.0976 (.4144)	2.8766*** (1.0051)	.076 (.414)	3.011*** (1.0283)	.0773 (.4142)	2.9206*** (.9236)	.1015 (.4075)	2.5964*** (.9028)
Toehold	-.6154** (.3012)	.4204 (1.0727)	-.6112** (.3004)	.4547 (.9775)	-.6136** (.3006)	.4697 (1.0454)	-.6064** (.3022)	.4453 (1.0929)
_cons	6.0597*** (2.0439)	-8.1025 (5.2636)	5.7909*** (1.9854)	-8.506 (5.6616)	5.8221*** (2.0377)	-7.3726 (5.0226)	5.7586*** (2.0493)	-7.8487* (4.7241)
Observations	1337	438	1337	438	1337	438	1337	438
Pseudo R ²	.1168	.2809	.1158	.3001	.1157	.2722	.1215	.249
Industry Dummy	YES	YES	YES	YES	YES	YES	YES	YES
Year Dummy	YES	YES	YES	YES	YES	YES	YES	YES

This table shows the logit regression results of the impact of acquirer's CSR performance on the takeover attitude. The sample consists of 1,337 deals for the Friendly variable and of 438 deals for the Hostile variable between 2003 and 2020, which are retrieved from Refinitiv Eikon. The variable Friendly is equal to one if it is a friendly deal and zero otherwise. The variable Hostile is equal to one if it is a hostile deal and zero otherwise. The main independent variables are the acquirer's ESG, environmental, social and governance rating, which are ranked from 0 to 100 and are retrieved from Thomson Reuters. All variables are defined and explained in appendix A. Fixed effects for year and two-digit SIC industry are added. Standard errors are clustered at the firm level. Standard errors are in parentheses *** p<.01, ** p<.05, * p<.1

Results from table 10 show statistically significant and positive results, in columns 2, 4, 6 and 7, for the impact of acquirer CRS performance on the deal attitude. This indicates that acquirers with high ESG, environmental and social scores participate more often in hostile takeovers, which is in line with hypothesis 3b. Acquirers with high governance score are more likely to participate in friendly

takeovers, which would be contrary to hypothesis 3b. This is an interesting aspect, that shows that there is a difference in acquirer preferences for deal attitudes when decomposing the ESG rating. Furthermore, the table shows that when the board size of the acquirer increases, the likelihood of a friendly takeover decreases.

5.3.3. High CSR acquirers and takeovers within the same industry and country

In table 11, the effect of the acquirer's CSR performance on deals within the same industry and country is investigated to test hypotheses 3c and 3d. The dependent variable in columns 1, 3, 5 and 7 is *Industry*, which is equal to one if the acquirer and target are within the same two-digit SIC industry and zero otherwise. The dependent variable in columns 2, 4, 6 and 8 is *Domestic*, which is equal to one if the acquirer and target are located within the same country and zero otherwise.

Table 11. The effect of the acquirer's CSR performance on the same industry and domestic deals

	Industry 1 k = ESG	Domestic 2 k = ESG	Industry 3 k = ENV	Domestic 4 k = ENV	Industry 5 k = SOC	Domestic 6 k = SOC	Industry 7 k = GOV	Domestic 8 k = GOV
ACSR _k	-.0041 (.004)	-.0166*** (.0042)	-.0046* (.0027)	-.0142*** (.003)	-.0011 (.0035)	-.0148*** (.0037)	-.0028 (.0031)	-.0035 (.0032)
Board Size	.0215 (.0257)	-.0354* (.0192)	.0227 (.0259)	-.0326* (.0191)	.0206 (.0258)	-.0339* (.0193)	.0199 (.0254)	-.0414** (.0189)
Duality	.3771 (.3485)	.3484 (.3844)	.3752 (.3498)	.3502 (.3876)	.3829 (.3465)	.3151 (.3902)	.3892 (.3474)	.3891 (.3697)
Independence	.0121 (.3496)	-.7306* (.3862)	-.0533 (.348)	-.9509** (.3867)	-.0011 (.3541)	-.6043 (.3895)	.0053 (.3505)	-.8309** (.3853)
AMarkCap	-.0755 (.0579)	.032 (.0651)	-.0577 (.0583)	.0538 (.0629)	-.0984* (.0573)	.0278 (.0647)	-.0934* (.052)	-.0832 (.0582)
ATOBQ	.4155** (.1685)	.0488 (.1725)	.392** (.1694)	.0167 (.1737)	.4438*** (.1662)	.0902 (.1726)	.4256*** (.1642)	.1481 (.1728)
ADEBT	-.3924 (.4011)	.034 (.411)	-.3818 (.4015)	.0716 (.4103)	-.3873 (.4021)	.1046 (.4136)	-.4055 (.4017)	.023 (.4088)
ACashFlow	.2225 (1.0412)	1.3201 (.9599)	.2585 (1.0278)	1.3818 (.9538)	.1451 (1.0436)	1.0364 (.9719)	.224 (1.0547)	1.0889 (.9445)
ACashHolding	-.8562 (.8482)	.0426 (.8947)	-.9386 (.8499)	-.195 (.8972)	-.8279 (.8507)	.1808 (.8903)	-.8288 (.8521)	.1431 (.9009)
TTOBQ	-.0418 (.1338)	-.1136 (.1269)	-.0421 (.1374)	-.111 (.1186)	-.0392 (.1353)	-.124 (.127)	-.0395 (.1323)	-.0966 (.1257)
TDEBT	.4168 (.3142)	.0072 (.3121)	.4413 (.3124)	.0858 (.3102)	.4216 (.3218)	.0143 (.3094)	.3985 (.3184)	-.0246 (.2959)
TMarkCap	-.026 (.0782)	.0194 (.0762)	-.0253 (.0783)	.0201 (.0761)	-.0262 (.078)	.0232 (.0766)	-.0276 (.078)	.0195 (.0772)
Relative Size	1.0471*** (.2858)	.2977 (.2146)	1.0491*** (.2871)	.2975 (.2154)	1.0551*** (.2864)	.2903 (.2168)	1.055*** (.2864)	.332 (.2146)
Toehold	-.309** (.1532)	.216 (.1551)	-.2999* (.1531)	.2478 (.156)	-.3132** (.153)	.1939 (.1557)	-.3116** (.1528)	.1888 (.154)
_cons	2.2785** (.9396)	.8296 (.8932)	2.1457** (.9491)	.5546 (.9071)	2.3593** (.9491)	.6098 (.9073)	2.4512*** (.9384)	1.4627 (.8934)
Observations	1765	1726	1765	1726	1765	1726	1765	1726
Pseudo R ²	.1702	.1036	.1711	.1081	.1697	.1041	.1701	.0941
Industry Dummy	YES	YES	YES	YES	YES	YES	YES	YES
Year Dummy	YES	YES	YES	YES	YES	YES	YES	YES

This table shows the logit regression results of the impact of acquirer's CSR performance on same industry and domestic deals. The sample consists of 1,765 deals for the Industry variable and of 1,726 deals for the Domestic variable between 2003 and 2020, which are retrieved from Refinitiv Eikon. The variable Industry is equal to one if the acquirer and target are within the same two-digit SIC industry and zero otherwise. The variable Domestic is equal to one if the acquirer and target are located in the same country and zero otherwise. The main independent variables are the acquirer's ESG, environmental, social and governance rating, which are ranked from 0 to 100 and are retrieved from Thomson Reuters. All variables are defined and explained in appendix A. Fixed effects for year and two-digit SIC industry are added. Standard errors are clustered at the firm level. Standard errors are in parentheses *** p<.01, ** p<.05, * p<.1

Hypothesis 3c states that high CSR acquirers would more often acquire targets within the same industry. In table 11 column 3, a negative statistically significant result at the 10% level is found for the impact of acquirer's environmental performance on the same two-digit SIC industry dummy. Meaning that high rated environmental acquirers are more likely to acquire targets that are not in the same two-digit SIC industry. This can be seen as diversifying acquisitions. By the results of table 11, hypothesis 3c is rejected.

Hypothesis 3d states that high CSR rated acquirers would more often acquire targets that are located within the same country. Statistically significant and negative results are found in columns 2, 4 and 6. This indicates that acquirers with high ESG, environmental and social scores are less likely to acquire firms within the same country. Hypothesis 3d is therefore rejected. These results are in contrary to Krishnamurti et al. (2019), who find that high CSR firms acquire domestic targets more often. The reason for this is that cross-border deals are perceived as riskier due to cultural differences, different accounting systems, political issues or greater information asymmetries. Results of table 11 are in line with the results of Yen and André (2019), who find evidence for the fact that high CSR acquirers do more often participate in cross-border deals. This suggests that acquirers try to improve their corporate image by taking over foreign targets, which increases the chances of a successful acquisition.

Furthermore, table 11 shows that when the board size or the number of independent directors in the board increases, the likelihood of a domestic deal decreases.

5.3.4. High CSR acquirers and competitive deal processes

In table 12, the effect of the acquirer's CSR performance on deals with multiple bidders is investigated to test hypotheses 3e, which states that high CSR acquirers do engage more often in competitive deal processes. The dependent variable is the dummy variable *Contest*, which is equal to one if there were more than one bidder for the target and zero otherwise.

Results in table 12 show positive and statistically significant results in columns 1 and 3. This suggests that acquirers with high ESG and social performance do more often participate in deals with multiple bidders. Therefore, hypothesis 3e is accepted, which states that high CSR rated firms do more often participate in competitive deal processes. Thus, creating value for shareholders (Rau & Vermaelen, 1998; Pangarkar & Tan, 2021). Other interesting results from table 12 indicate larger acquirers, in term of market capitalization, do more often compete in competitive deal processes. Next to that, deals where the acquirer already owns more than 5% of the shares 6 months prior to the deal announcement are less likely to be competitive processes.

Table 12. The effect of the acquirer's CSR score on deals with multiple bidders

	Contest 1 k = ESG	Contest 2 k = ENV	Contest 3 k = SOC	Contest 4 k = GOV
ACSR _k	.0166** (.0073)	.0027 (.0051)	.0187*** (.0069)	.0072 (.0064)
Board Size	-.0316 (.0398)	-.0249 (.0395)	-.0377 (.0404)	-.0216 (.039)
Duality	.708 (.5537)	.6045 (.5657)	.7413 (.565)	.61 (.56)
Independence	.3937 (.7207)	.493 (.7048)	.2191 (.7347)	.3954 (.7124)
AMarkCap	.1381 (.1162)	.2302* (.1189)	.1176 (.1165)	.2247** (.109)
ATOBQ	.279 (.283)	.1923 (.2868)	.2768 (.28)	.2075 (.2825)
ADEBT	-.244 (.7744)	-.3063 (.7715)	-.3875 (.7892)	-.2551 (.7705)
ACashFlow	-.8833 (1.9964)	-.5372 (2.0042)	-.6328 (1.9317)	-.6676 (2.0168)
ACashHolding	1.6468 (1.8603)	1.5734 (1.8903)	1.5292 (1.8174)	1.5171 (1.8875)
TTOBQ	-.1286 (.1645)	-.1384 (.1665)	-.1208 (.1722)	-.1361 (.164)
TDEBT	-.0338 (.2741)	-.0398 (.2875)	-.0267 (.2718)	.0128 (.2828)
TMarkCap	.1807 (.1353)	.1819 (.1376)	.1719 (.1354)	.1836 (.1359)
Relative Size	.676** (.2772)	.638** (.279)	.7055** (.2841)	.646** (.2737)
Toehold	-1.4564*** (.4847)	-1.429*** (.4841)	-1.4529*** (.4859)	-1.425*** (.4878)
_cons	-5.7584*** (1.7846)	-6.137*** (1.8078)	-5.2995*** (1.8117)	-6.3914*** (1.7846)
Observations	1484	1484	1484	1484
Pseudo R ²	.1776	.1712	.1827	.173
Industry Dummy	YES	YES	YES	YES
Year Dummy	YES	YES	YES	YES

This table shows the logit regression results of the impact of acquirer's CSR performance on deals with multiple bidders. The sample consists of 1,484 deals between 2003 and 2020, which are retrieved from Refinitiv Eikon. The dependent variable Contest is equal to one if there were more than one bidders for the target and zero otherwise. The main independent variables are the acquirer's ESG, environmental, social and governance rating, which are ranked from 0 to 100 and are retrieved from Thomson Reuters. All variables are defined and explained in appendix A. Fixed effects for year and two-digit SIC industry are added. Standard errors are clustered at the firm level. Standard errors are in parentheses *** p<.01, ** p<.05, * p<.1

5.4. High CSR acquirers and CSR targets

In this section, a multivariate regression will be presented to test the relationship between acquirer CSR performance and the choice for target orientated CSR firms. A probit regression model is used. Fixed effects for year and two-digit SIC industry are included and standard errors clustered at the firm level in all models. The effect of the four independent variables on the dependent variable is tested with (columns 2, 4, 6 and 8) and without (columns 1, 3, 5 and 7) the governance variables *Board Size*, *Duality* and *Independence*. The models also include several control variables for firm and deal characteristics. Definitions of all variables can be seen in appendix A. A number of observations is dropped due to omitted observations in the year and two-digit SIC industry fixed effects. In table 13, the choice of CSR orientated acquirers on CSR orientated targets is investigated to test

hypotheses 4, which states that CSR acquirers do more often acquirer targets with undisclosed CSR ratings. The dependent variable is the dummy variable *TESG*, which is equal to one if there is an ESG rating for the target available and zero otherwise.

Table 13. Acquirer and target ESG score disclosure acquisition choice

	TESG 1 k = ESG	TESG 2 k = ESG	TESG 3 k = ENV	TESG 4 k = ENV	TESG 5 k = SOC	TESG 6 k = SOC	TESG 7 k = GOV	TESG 8 k = GOV
ACSR _k	-.0034 (.0096)	-.0034 (.0098)	-.0045 (.0076)	-.0053 (.0079)	-.0172* (.0089)	-.0181** (.0089)	.0056 (.0084)	.0061 (.0087)
Board Size		-.0061 (.0571)		-.0035 (.058)		.0143 (.0562)		-.0151 (.0558)
Duality		1.615 (1.1959)		1.6559 (1.2487)		1.3973 (1.1824)		1.4467 (1.2681)
Independence		-.9269 (1.0718)		-1.0334 (1.0907)		-.9372 (1.1478)		-1.0442 (1.1029)
AMarkCap	-.3096** (.1324)	-.3062** (.1429)	-.3009** (.1351)	-.2983** (.1441)	-.211 (.1391)	-.2168 (.1457)	-.3254** (.1267)	-.3105** (.1419)
ATOBQ	-.8246* (.4737)	-.8821 (.6126)	-.8656* (.4773)	-.9293 (.6158)	-1.0244** (.4573)	-1.0432* (.593)	-.6925 (.4522)	-.7217 (.6186)
ADEBT	.3942 (1.1953)	.3698 (1.1841)	.5672 (1.245)	.5806 (1.252)	1.0389 (1.2289)	.9715 (1.2178)	.3701 (1.1923)	.3648 (1.1911)
ACashFlow	-.1512 (1.8791)	.8411 (2.6216)	-.1097 (1.9175)	.9921 (2.7217)	.3563 (1.8441)	1.256 (2.5778)	-1.0145 (1.9961)	-.3179 (2.8595)
ACashHolding	2.1094 (2.4391)	1.8023 (2.3676)	2.0082 (2.4074)	1.6533 (2.3651)	2.8093 (2.5032)	2.4422 (2.4822)	2.0493 (2.4709)	1.8855 (2.4344)
TTOBQ	-.1353 (.0926)	-.1553 (.097)	-.1443 (.0933)	-.1679* (.0965)	-.139 (.0977)	-.1621 (.103)	-.1596 (.0992)	-.1842* (.1068)
TDEBT	.5052 (1.0941)	.3407 (1.1069)	.5603 (1.0712)	.371 (1.0955)	.5597 (1.06)	.3641 (1.0524)	.5839 (1.1238)	.4035 (1.1364)
TMarkCap	1.2106*** (.1438)	1.2239*** (.1548)	1.2227*** (.1464)	1.2396*** (.1592)	1.2361*** (.1488)	1.2494*** (.1604)	1.2356*** (.1415)	1.2543*** (.1569)
Cash Only	-.6928 (.5005)	-.8398 (.5586)	-.6988 (.5046)	-.8671 (.5713)	-.8987* (.5427)	-1.0254* (.5971)	-.591 (.4964)	-.7516 (.5595)
Stock Only	.8565 (.6131)	.7203 (.6067)	.8729 (.6093)	.7296 (.6056)	.7342 (.6325)	.5986 (.6159)	.9083 (.5975)	.761 (.6028)
Relative Size	-1.7322* (.9934)	-1.9087* (1.0297)	-1.837* (.9961)	-2.0559* (1.0498)	-2.1285** (1.0399)	-2.2313** (1.0677)	-1.5969* (.9663)	-1.7954* (1.0179)
Domestic	-1.450*** (.4353)	-1.6007*** (.4876)	-1.4972*** (.4293)	-1.6741*** (.4877)	-1.5658*** (.46)	-1.7039*** (.5018)	-1.4227*** (.426)	-1.588*** (.4834)
Industry	.5369 (.3833)	.5395 (.3822)	.5475 (.3794)	.552 (.3794)	.7184* (.3862)	.6988* (.3778)	.4978 (.3739)	.5268 (.3742)
Friendly	2.4762** (1.1589)	2.5594** (1.1237)	2.4113** (1.1728)	2.5073** (1.1408)	2.1374* (1.1206)	2.3157** (1.0967)	2.4801** (1.1548)	2.5599** (1.1173)
Hostile	-2.9971** (1.26)	-2.9559** (1.2674)	-3.0568** (1.2382)	-3.0232** (1.239)	-3.2851*** (1.2085)	-3.3137*** (1.1994)	-3.2468** (1.3957)	-3.2526** (1.4232)
Toehold	-.9042*** (.3399)	-.9926** (.3935)	-.9308*** (.3422)	-1.0452*** (.4049)	-1.0558*** (.3505)	-1.1809*** (.4074)	-.9106*** (.3496)	-1.0001** (.4172)
_cons	-1.473 (1.7121)	-.4105 (2.1855)	-1.4171 (1.7091)	-.188 (2.275)	-1.0668 (1.7585)	-.0743 (2.2634)	-2.0994 (1.7986)	-.959 (2.2657)
Observations	1556	1556	1556	1556	1556	1556	1556	1556
Pseudo R ²	.8905	.8913	.8907	.8916	.8933	.8941	.8907	.8915
Industry Dummy	YES	YES	YES	YES	YES	YES	YES	YES
Year Dummy	YES	YES	YES	YES	YES	YES	YES	YES

This table shows the probit regression results of the impact of acquirer's CSR performance on target CSR disclosure preferences. The sample consists of 1,556 deals between 2003 and 2020, which are retrieved from Refinitiv Eikon. The dependent variable is a dummy that is equal to one if ESG information of the target is disclosed and zero otherwise. The main independent variables are the acquirer's ESG, environmental, social and governance rating, which are ranked from 0 to 100 and are retrieved from Thomson Reuters. All variables are defined and explained in appendix A. Fixed effects for year and two-digit SIC industry are added. Standard errors are clustered at the firm level. Standard errors are in parentheses *** p<.01, ** p<.05, * p<.1

Table 13 shows statistically significant and negative results for columns 5 and 6. This would suggest that high social orientated acquirers would less often acquire CSR orientated targets, which is in line with hypothesis 4. This however is in contrary to Krishnamurti et al. (2019), who find a positive relationship between CSR orientated acquirers and targets. Furthermore, table 13 shows that the larger the target company, the more likely it is that they disclose their ESG information. Also, targets with ESG disclosure do less often participate in domestic deals and are more often subject to friendly deals.

6. Conclusion

This paper investigates whether companies with high CSR ratings create value for their shareholders through takeovers. To answer the main research question, four sub questions are formulated with a total of nine hypotheses. An international sample of 1,778 deals is used between 2003 and 2020. The hypotheses are tested using an event study and different multivariate regressions: OLS, logit and probit.

First, evidence is found for the fact that the public market perceives deal announcements as a negative event. Secondly, no significant relationship between CSR performance and acquisitions performance, in terms of the three-day CAR and takeover premia, is found. This indicates that the shareholder or stakeholder theory alone does not explain this relationship. Then, five 'good' deal terms and characteristics are identified to see if high CSR acquirers tend to participate in deals with these kind of terms and characteristics. Results are significant and positive for the relationship between high CSR performance and cash payments, hostile takeovers and competitive deal processes. Significant and negative results are found for the relationship between high CSR performance and same industry and same country deals. Thus, high CSR performing companies do not always choose 'good' deal terms and characteristics. Finally, this study investigates whether high CSR acquirers tend to more often acquirer targets with disclosed information and finds negative and significant results. This indicates that high CSR acquirers do more often acquirer targets with undisclosed CSR information, that have lower CSR rates in general, and obtain more synergies. This creates shareholder value.

To answer the research question, this study finds evidence that in some cases high CSR performing companies create shareholder value through acquisitions. On the other hand, this study also finds insignificant results for acquisition performance and significant negative results for some deal terms and characteristics. It can therefore be concluded that high CSR performing companies do not always make decision, with regards to acquisitions, that create value to their shareholders.

Results of this study contribute to the existing literature by providing more evidence on the relationship between CSR performance and shareholder value creation. In addition, new deal terms and characteristics are identified as 'good' and it is investigated whether high CSR performing firms do more often choose these terms. Finally, the difference is shown between the impact of the separate ESG components. Other researchers can use these results when assuming whether a high CSR rating creates value through acquisitions. Furthermore, investors can use this study for investment reasons and shareholders can use this study when their company is participating in an acquisition.

Results are robust to some alternative proxies and methods. First, multiple event windows are used in the event study. For calculating the abnormal returns both the market adjusted model and the mean adjusted model are used. Finally, several proxies are used for CSR. A limitation of this study is that the quality and consistency of ESG data, which is retrieved from the Asset4 database of Thomson Reuters, can vary between different companies and industries. Also, the deal sample is limited to the amount of acquirers with disclosed ESG and governance information. Therefore, the sample is relatively small and consists only out of public companies. Besides, ESG data of targets in takeovers was barely available. Lastly, this study doesn't test for endogeneity, which can be caused by reversed causality.

Avenues for further research would be to look further into the acquirer-target CSR gap for the acquirer acquisition choice. Also, it would be interesting to investigate the impact of CSR on long term measures, instead of the premium or three-day CAR. Third, the integration of the two companies in an acquisitions could be researched to further investigate the relationship between CSR and shareholder value creation. Fourth, it would be interesting to perform the same research for the past few years, since the importance of CSR has increased significantly around the world. Finally, it would be interesting to use impact investment measures instead of ESG measures as independent variables.

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8. Appendix

Appendix A – Variable definitions

Variable	Definition	Source
<i>Dependent variables</i>		
CAR3	Acquirer cumulative abnormal returns. Estimation period 230 days of (-255, -25) and an event window of 3 days (-1, 1)	Datastream – Event study tool
Premium	Logarithm of the takeover premium, calculated by the total deal value divided by the market capitalization of the target four weeks prior to the deal announcement date	Refinitiv Eikon deals database
d TESG	Dummy variable that is equal to one if the target firm has an ESG rating in year of the deal announcement and zero otherwise	Thomson Reuters Asset4 database
<i>Main independent variables</i>		
AESG	Acquirer ESG rating in the prior fiscal year	Thomson Reuters Asset4 database
AENV	Acquirer environment rating in the prior fiscal year	Thomson Reuters Asset4 database
ASOC	Acquirer social rating in the prior fiscal year	Thomson Reuters Asset4 database
AGOV	Acquirer governance rating in the prior fiscal year	Thomson Reuters Asset4 database
<i>Firm variables</i>		
TESG	Target ESG rating in the prior fiscal year	Thomson Reuters Asset4 database
AMarkCap	A logarithm of the market capitalization of acquirer at the fiscal year-end before the deal announcement year	Datastream
ATOBOQ	An Inverse Hyperbolic Sine of the acquirer's Tobin's Q, which is calculated by taking the enterprise value as the market value of the firm and dividing it by the book value of total assets at the fiscal year-end before the deal announcement year	Datastream – expression tool
ADEBT	Debt divided by the total assets of the acquirer at the fiscal year-end before the deal announcement year	Worldscope
ACashFlow	Net cash flow operating activities divided by the total assets of the acquirer at the fiscal year-end before the deal announcement year	Worldscope
ACashHolding	Cash divided by the total assets of the acquirer at the fiscal year-end before the deal announcement year	Worldscope
TTOBQ	Tobin's Q of the target, which is calculated by taking the enterprise value as the market value of the firm and dividing it by the book value of total assets at the fiscal year-end before the deal announcement year	Datastream - expression tool
TDEBT	Debt divided by the total assets of the target at the fiscal year-end before the deal announcement year	Worldscope
TMarkCap	A logarithm of the market capitalization of the target company at the fiscal year-end before the deal announcement year	Datastream
<i>Deal variables</i>		
Cash Only	Dummy variable that is equal to one if cash is the only method of payment and zero otherwise	Refinitiv Eikon deals database

Stock Only	Dummy variable that is equal to one if stock is the only method of payment and zero otherwise	Refinitiv Eikon deals database
Relative Size	Deal value divided by the acquirer's market capitalization four weeks before the announcement date	Refinitiv Eikon deals database
Domestic	Dummy variable that is equal to one if the acquirer and target are located within the same country and zero otherwise	Refinitiv Eikon deals database
Contest	Dummy variable that is equal to one if there were more than one bidder for the target and zero otherwise	Refinitiv Eikon deals database
Industry	Dummy variable that is equal to one if the acquirer and target are within the same two-digit SIC industry and zero otherwise	Refinitiv Eikon deals database
Friendly	Dummy variable that is one if the deal is a friendly deal and zero otherwise	Refinitiv Eikon deals database
Hostile	Dummy variable that is one if the deal is a hostile deal and zero otherwise	Refinitiv Eikon deals database
Toehold	Dummy variable equal to one if the acquirer owned more than 5% of the shares of the targets six months prior to the deal announcement and zero otherwise	Refinitiv Eikon deals database
<i>Governance variables</i>		
Board Size	Board size of the acquirer in the prior fiscal year	WRDS – BoardEx
Duality	Dummy variable that is equal to one if the CEO is also the chairman of the board of the acquirer in the prior fiscal year and zero otherwise	WRDS – BoardEx
Independence	Number of independent directors active in the board divided by the board members of the acquirer in the prior fiscal year	WRDS - BoardEx

Appendix B – ESG components and metrics

Dimensions	Components	Metrics
Environmental	Resource use	20
	Emissions	28
	Innovation	20
Social	Workforce	30
	Human rights	8
	Community	14
Governance	Product responsibility	10
	Management	35
	Shareholders	12
	CSR strategy	0

This table shows the components for the ESG measurement and its metrics. Retrieved from Thomson Reuters.

Appendix C – Pairwise correlation

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)
CAR3	1.00																											
Premium	-0.15	1.00																										
AESG	0.01	-0.02	1.00																									
AENV	-0.01	-0.08	0.87	1.00																								
AGOV	-0.02	0.03	0.70	0.46	1.00																							
ASOC	0.02	-0.01	0.90	0.74	0.41	1.00																						
TESG	-0.15	-0.10	0.07	0.11	0.07	0.02	1.00																					
d TESG	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
AMarkCap	0.06	-0.06	0.50	0.43	0.27	0.51	0.05	.	1.00																			
ATOBQ	0.10	0.12	-0.22	-0.28	-0.20	-0.13	-0.05	.	0.14	1.00																		
ADEBT	-0.04	-0.13	0.06	0.10	-0.15	0.18	-0.14	.	0.13	0.05	1.00																	
ACashFlow	-0.18	0.16	0.02	0.00	0.00	0.02	0.18	.	0.10	0.54	-0.25	1.00																
ACashHolding	-0.09	0.14	-0.14	-0.21	-0.06	-0.12	0.05	.	-0.06	0.36	-0.23	0.34	1.00															
TTOBQ	0.14	0.04	-0.06	-0.03	-0.12	-0.05	-0.18	.	0.05	0.13	-0.09	0.05	0.06	1.00														
TDEBT	0.03	0.18	-0.09	-0.07	-0.14	-0.00	0.05	.	-0.21	0.04	0.12	0.04	0.11	0.06	1.00													
TMarkCap	-0.11	-0.12	-0.03	-0.06	-0.08	0.04	0.42	.	0.08	0.01	-0.10	0.16	-0.12	0.19	-0.12	1.00												
Cash Only	0.06	-0.09	0.12	0.14	-0.02	0.14	-0.14	.	0.29	0.10	-0.22	0.14	0.23	0.16	-0.12	-0.09	1.00											
Stock Only	0.03	0.04	-0.34	-0.28	-0.27	-0.28	-0.02	.	-0.32	0.01	0.14	-0.18	-0.18	-0.17	0.10	-0.10	-0.52	1.00										
Relative Size	-0.24	0.24	-0.17	-0.21	-0.02	-0.20	0.01	.	-0.17	0.11	0.14	0.00	-0.09	-0.03	0.02	0.16	-0.33	0.21	1.00									
Domestic	0.3	0.12	-0.18	-0.19	-0.13	-0.15	0.07	.	-0.22	0.10	0.01	0.01	0.18	-0.04	0.05	0.05	-0.27	0.11	0.09	1.00								
Contest	-0.00	0.12	-0.11	-0.13	-0.03	-0.13	-0.11	.	-0.01	0.12	0.03	0.15	0.02	-0.06	-0.02	0.02	0.06	-0.09	0.21	0.17	1.00							
Industry	0.02	0.09	0.03	-0.00	0.06	0.00	0.05	.	-0.06	-0.03	-0.12	0.08	-0.23	-0.01	0.01	0.14	-0.14	0.12	0.13	-0.15	0.07	1.00						
Friendly	-0.02	0.20	-0.22	-0.19	-0.09	-0.25	-0.05	.	-0.16	0.09	-0.08	0.05	0.11	-0.02	0.00	-0.04	0.17	-0.11	-0.01	0.04	0.05	-0.04	1.00					
Hostile	0.10	0.03	0.03	0.03	0.05	0.01	0.07	.	0.17	0.04	0.05	-0.00	-0.07	-0.06	0.02	0.07	-0.08	-0.05	0.09	-0.11	-0.03	0.07	0.02	1.00				
Toehold	0.02	-0.73	0.02	0.10	-0.02	-0.02	0.06	.	-0.02	-0.25	0.03	-0.15	-0.07	-0.15	-0.06	-0.01	0.04	-0.08	-0.31	-0.10	-0.10	-0.10	-0.10	-0.06	1.00			
Board Size	0.06	-0.21	0.39	0.35	0.19	0.39	0.17	.	0.38	-0.19	0.08	-0.07	-0.19	-0.07	-0.15	0.11	0.03	-0.16	-0.17	-0.18	-0.09	0.03	-0.29	0.08	0.28	1.00		
Duality	0.12	0.05	-0.17	-0.11	-0.10	-0.22	0.06	.	-0.11	0.20	0.02	-0.17	0.03	-0.00	0.06	-0.06	-0.04	0.15	0.04	0.02	-0.05	0.00	0.03	-0.02	-0.10	-0.12	1.00	
Independence	-0.02	0.24	0.17	0.10	0.12	0.20	-0.03	.	0.17	0.10	0.05	0.10	-0.21	-0.03	-0.07	0.12	-0.24	-0.06	0.12	-0.16	-0.03	0.19	-0.08	0.11	-0.36	0.07	-0.04	1.00

This table shows the pairwise correlation matrix between all variables.

Appendix D - Average abnormal returns for the market adjusted returns model and the mean adjusted returns model



This graph shows the average abnormal returns for all days in the event study with a maximum event window of 21 days (-10, 10) for both the market adjusted returns model and the mean adjusted returns model. An estimation window of 230 is used (-255, -25).