THÈSE DE DOCTORAT DE
L'UNIVERSITÉ CLERMONT AUVERGNE

École Universitaire de Management
École Doctorale des Sciences Économiques, Juridiques, Politiques et de Gestion
Centre de Recherche Clermontois en Gestion et Management

Présentée par

Mathieu GOMES

Pour obtenir le titre de

DOCTEUR EN SCIENCES DE GESTION

Sujet de la thèse :

Corporate Social Responsibility and Capital Markets: Evidence from Mergers and Acquisitions

soutenue le 27 novembre 2017

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L'université n'entend donner aucune approbation ni improbation aux opinions émises dans les thèses; ces opinions doivent être considérées comme propres à leurs auteurs.

"La esperienza non falla, ma sol fallano i nostri giudizi."[1]

Leonardo da Vinci

[1] L'expérience ne se trompe jamais, ce sont nos jugements qui se trompent.

Remerciements

Je tiens ici à exprimer ma profonde gratitude à toutes les personnes qui ont rendu possible la réalisation de cette thèse. Je tiens tout d'abord à remercier de manière chaleureuse mes deux directeurs de thèse, Mohamed Arouri et Sylvain Marsat. Leur bienveillance, leur disponibilité et leur soutien ont permis l'aboutissement de ce travail de recherche.

Je remercie également les membres du jury, Monsieur Paul André et Monsieur Jean-Laurent Viviani pour avoir accepté de rapporter ma thèse, Madame Sophie Giordano-Spring et Monsieur Benjamin Williams d'en être les suffragants.

Je tiens aussi à remercier la Chaire "Valeur & RSE" pour avoir financé les trois années de recherche ayant permis la réalisation de cette thèse.

Ma gratitude va ensuite à tous les membres du CRCGM, qu'ils soient doctorants, administratifs, maître de conférences ou professeurs. Je remercie les chercheurs de la thématique "Gouvernance et Valeur" pour leurs remarques et suggestions au cours des séminaires mensuels du CRCGM. Les nombreuses réflexions partagées au cours de ces réunions ont grandement enrichi ce travail de thèse. Je salue tout particulièrement les doctorants que j'ai eu le plaisir de côtoyer au cours de ces trois années. Adam, Amal, Amsatou, Camille, Djibril, Duy, Ibtissem, Julie, Laetitia, Saddek, Sanaa, Valeriia, Yao, merci à vous tous.

Enfin, mes pensées vont particulièrement à ma famille et en particulier à mon épouse Ioana. Sans son amour, son dévouement et son soutien indéfectible, cette thèse n'aurait tout simplement pas pu aboutir.

Abstract

This thesis consists of three empirical studies (chapter 2, chapter 3, and chapter 4, respectively) investigating the impact of corporate social responsibility (CSR) on mergers and acquisitions (M&A). We aim to contribute to the growing literature on the capital market consequences of CSR activities by analyzing the subject through the M&A lens.

In chapter 2, we investigate whether the CSR performance of firms impacts their propensity to become M&A targets. We find that the CSR performance of firms is positively related to takeover likelihood. What's more, all dimensions of CSR (environment, social, and corporate governance) appear to impact positively the appeal of firms to potential acquirers. We also show that the CSR performance of target firms is higher on average than the CSR performance of comparable non-target firms. These findings are consistent with stakeholder theory [Donaldson and Preston, 1995; Freeman, 1984; Jones, 1995] and the resource-based view of the firm [Barney, 1991; Hart, 1995; Wernerfelt, 1984] in that developing sound relationships with stakeholders through CSR activities may lead to the generation of valuable, rare, and non-duplicable internal resources that might be of interest to acquirers.

In chapter 3, we study the relationship between a M&A target's CSR performance and its valuation by the acquirer. Using acquisition premia offered by acquirers as proxies for target valuation, we show that CSR is, all else equal, positively and significantly associated with the premium offered by acquirers. Analyzing CSR dimensions individually, we find that the premium is explained by the environmental and social performances of firms. We further our analysis by accounting for the geographical nature or deals (i.e. domestic transactions versus cross-border transactions). Interestingly, we show that while overall CSR performance and environmental performance are generally valued by acquirers, social performance only commands a premium in the case of cross-border transactions. Overall, our results suggest that acquirers value the intangible assets generated by CSR activities and are willing to pay for them, in line with the resource-based view [Barney, 1991; Hart, 1995; Wernerfelt, 1984]. They also imply that CSR-related

benefits such as idiosinchratic risk reduction [Godfrey, 2005; Godfrey et al., 2009; Mishra and Modi, 2013] are particularly important for corporate acquirers. Finally, targets' social assets are shown to play a role in cross-border M&A transactions, suggesting acquirers look for ways to mitigate the increased uncertainty inherent in international deals resulting from the increased difficulty in assessing targets' relationships with local stakeholders.

Finally, in chapter 4, we analyze the impact of acquirers' CSR performance on M&A deal uncertainty. We use arbitrage spreads following initial acquisition announcements as a proxy for deal uncertainty. We document a negative association between arbitrage spreads and acquirers' CSR performance, showing that deal uncertainty decreases when M&A operations are initiated by high-CSR acquirers. Our results support the stakeholder theory of the firm [Donaldson and Preston, 1995; Freeman, 1984; Jones, 1995] in that taking care of all stakeholders' interests increases their support towards a firm's operations and acquisition projects, leading to lower deal uncertainty.

Overall, our results suggest that CSR performance is a significant determinant of M&A decisions and expected outcomes.

Keywords: Corporate social responsibility, Mergers and acquisitions, Target firm choice, Acquisition premia, Deal uncertainty, Risk arbitrage, Stakeholder theory.

Résumé

Cette thèse se compose de trois études empiriques (chapitre 2, chapitre 3, et chapitre 4) qui étudient l'impact de la responsabilité sociale des entreprises (RSE) dans les opérations de fusions et acquisitions (F&A). Notre objectif est de contribuer à la litérature florissante portant sur les conséquences financières de la RSE par le prisme des opérations de F&A.

Dans le chapitre 2, nous étudions la relation entre la performance RSE des firmes et leur propension à faire l'objet d'offres de rachats. Nous constatons que la performance RSE des firmes est positivement liée à la probabilité qu'elles ont d'être ciblées dans le cadre d'opérations de F&A. Cette relation vaut pour la performance RSE globale ainsi que pour ses dimensions individuelles (environnementale, sociale et de gouvernance). De plus, il apparait que la performance RSE des firmes ciblées est supérieure en moyenne à celle d'entreprises similaires mais non-ciblées. Ces résultats sont en ligne avec la théorie des parties prenantes [Donaldson and Preston, 1995; Freeman, 1984; Jones, 1995] et la théorie des ressources [Barney, 1991; Hart, 1995; Wernerfelt, 1984] en ce sens que le développement de bonnes relations avec les parties prenantes via les activités de RSE peut être à l'origine de ressources intangibles rares et non-imitables, qui elles-même peuvent créer l'intérêt d'acquéreurs potentiels.

Dans le chapitre 3, nous nous intéressons à la relation entre la performance RSE des firmes ciblées dans le cadre d'opérations de F&A et leur valorisation par les acquéreurs. Nous utilisons la prime d'acquisition afin de mesurer la valorisation de la cible, et constatons que la performance RSE des firmes ciblées est, toutes choses égales par ailleurs, positivement liée à la prime d'acquisition offerte. En nous intéressant aux dimensions individuelles de la RSE, nous constatons que la prime d'acquisition est en partie expliquée par la performance environnementale et la performance sociale. Enfin, nous comparons les opérations de F&A domestiques avec les opérations de F&A transfrontalières. De manière intéressante, alors que cette spécification additionnelle ne modifie pas l'impact de la performance RSE globale et de la performance environnementale sur la prime d'acquisition, il apparait en revanche que la performance sociale n'impacte la valorisation de la cible

que dans le cadre d'opérations transfrontalières. Dans l'ensemble, nos résultats suggèrent que les acquéreurs valorisent les ressources intangibles créées par les activité de RSE, en ligne avec la théorie des ressources [Barney, 1991; Hart, 1995; Wernerfelt, 1984]. Ils suggèrent également que l'impact identifié de la performance RSE sur la réduction du risque spécifique [Godfrey, 2005; Godfrey et al., 2009; Mishra and Modi, 2013] revête une importance particulière pour les acquéreurs. Enfin, la performance sociale des entreprises cibles semble jouer un rôle dans le cadre d'opérations de F&A transfrontalières, suggérant ainsi que les acquéreurs cherchent à réduire l'incertitude accrue inhérente aux opérations transfrontalières, résultant notamment de la difficulté d'évaluer les relations de la cibles avec les parties prenantes locales (fournisseurs, gouvernements, etc.).

Enfin, dans le chapitre 4, nous analysons l'impact de la performance RSE des acquéreurs sur l'incertitude entourant les opérations de F&A. Nous mesurons cette incertitude a l'aide du spread d'arbitrage un jour après l'annonce de l'offre. Nous trouvons une relation négative entre la performance RSE des acquéreurs et le spread d'arbitrage, suggérant ainsi que les opérations de F&A menées par des acquéreurs à forte performance RSE sont perçues comme ayant une probabilité accrue de réussite. Nos résultats sont cohérents avec la théorie des parties prenantes [Donaldson and Preston, 1995; Freeman, 1984; Jones, 1995] en ce sens que la prise en compte des intérêts des différentes parties prenantes augmente leur volonté de soutenir la firme et ses décisions d'expansion, réduisant ainsi le risque d'échec de ces opérations.

Globalement, nos résultats suggèrent que la performance RSE détermine de manière statistiquement significative les décisions de F&A et leurs perceptions par les acteurs de marché.

Mots clés: Responsabilité sociale des entreprises, Fusions et acquisitions, Choix des cibles, Prime d'acquisition, Incertitude, Risk arbitrage, Théorie des parties prenantes.

Contents

List of Figures

List of Tables

Abbreviations

CSR	**C**orporate **S**ocial **R**esponsibility
M&A	**M**ergers & **A**cquisitions
RBV	**R**esource-**B**ased **V**iew
AR	**A**bnormal **R**eturns
CAR	**C**umulative **A**bnormal **R**eturns
SRI	**S**ocially **R**esponsible **I**nvesting
ESG	**E**nvironmental, **S**ocial and **G**overnance

À mon fils Léonard.

General introduction

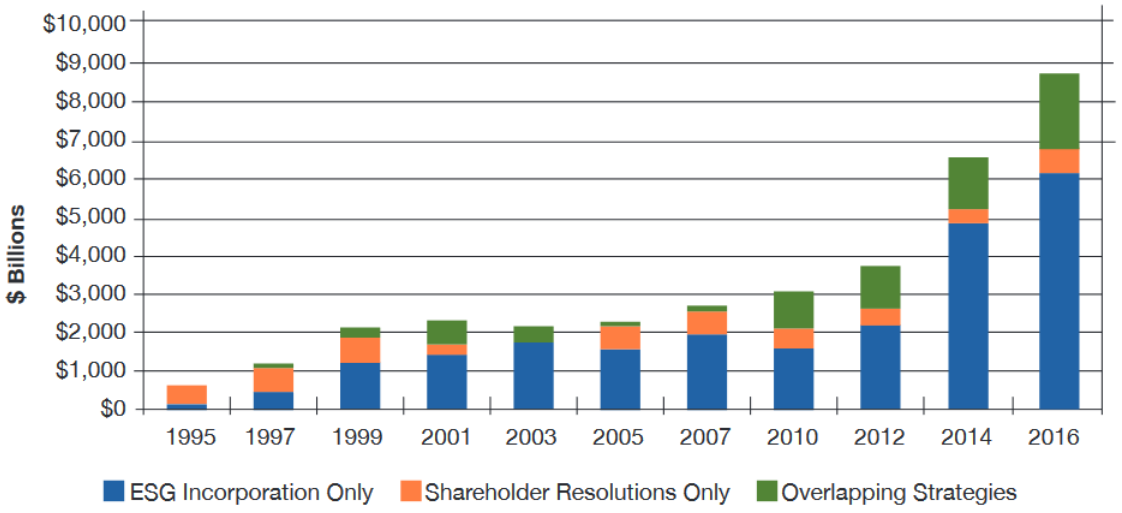
One of the most notable trends of the past twenty years has been the rise of Corporate Social Responsibility (CSR) and its increasing importance in current business models. Indeed, a recent survey by KPMG reports that no less than 73 percent of surveyed companies worldwide issued CSR reporting in 2015 (a 32 percentage-point increase relative to 2005), and that CSR reporting was undertaken by 92 percent of the world's largest 250 companies[2]. Moreover, the survey reveals that this upward trend in CSR reporting is a truly global phenomenon with four developing countries (India, Indonesia, Malaysia and South Africa) having the highest CSR reporting rates in the world. In addition, Socially Responsible Investing (SRI) and impact investing[3] have developed to a remarkable extent worldwide. Indeed, according to the US SIF Foundation's 2016 Report on Sustainable and Responsible Investing Trends in the United States[4], more than one out of every five dollars under professional management in the United States–$8.72 trillion or more–was invested according to SRI strategies as of year-end 2015. This represents a 33-percent increase since 2014, and a continuation of the long-term upward trend in SRI, as evidenced in Figure 1. This increase in SRI is not only a US phenomenon. Indeed, at the start of 2016, there were $22.89 trillion of assets being

[2]Source: KPMG Survey of Corporate Responsibility Reporting 2015. URL: https://assets.kpmg.com/content/dam/kpmg/pdf/2016/02/kpmg%2Dinternational%2Dsurvey%2Dof%2Dcorporate%2Dresponsibility%2Dreporting%2D2015.pdf

[3]According to the definition provided by the Forum for Sustainable and Responsible Investment (US SIF), SRI is "an investment process that considers the social and environmental consequences of investments, both positive and negative, within the context of rigorous financial analysis". Impact investing relates to "investments in companies, organizations and funds, often in private markets, with the intention to generate social and environmental impact alongside a financial return, which can range from below market to market rate." Source: http://www.ussif.org/

[4]Source: http://www.ussif.org/sribasics

FIGURE 1: Sustainable, Responsible and Impact Investing in the United States 1995–2016



professionally managed under responsible investment strategies worldwide as reported by the Global Sustainable Investment Alliance (GSIA). This represented 26 percent of all professionally managed assets globally, an increase of 25 percent since 2014[5]. To confirm this trend, the number of PRI[6] signatories has grown consistently since its inception in 2006, as shown in Figure 2, with 1,714 signatories as of April 2017, representing $68.4 trillion.

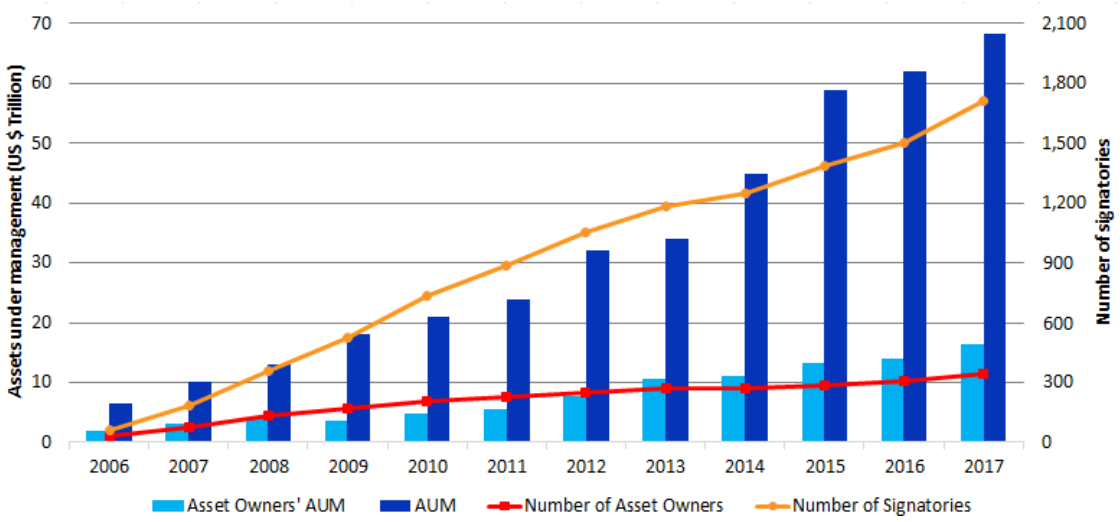
This increased focus on CSR issues does not only affect investors and asset managers but also corporate acquirers. To investigate this subject, PwC conducted a survey[7] on behalf of PRI in 2012 in order to assess trade buyers' attitudes towards evaluating CSR-related risks and opportunities encountered in mergers and acquisitions (M&A) activities. More precisely, the survey consisted of 16 interviews with corporate buyers from a range of sectors and involved a discussion

[5]Source: Global Sustainable Investment Review 2016. URL: http://www.gsi%2Dalliance.org/wp-content/uploads/2017/03/GSIR_Review2016.F.pdf.

[6]PRI stands for the "Principles for Responsible Investment" which were launched by the UN Secretary-General in April 2006.

[7]Source: The integration of environmental, social and governance issues in mergers and acquisitions transactions. Trade buyers survey results. PwC/PRI 2012. URL: https://www.pwc.com/gx/en/sustainability/publications/assets/pwc%2Dthe%2Dintegration%2Dof%2Denvironmental%2Dsocial%2Dand%2Dgovernance%2Dissues%2Din%2Dmergers%2Dand%2Dacquisitions%2Dtransactions.pdf

FIGURE 2: PRI -All signatories (asset owners, investment managers and servide providers) and respective AUM



around the following key topics: integration of environmental, social, and governance (ESG) factors[8] into the due diligence process; integration of ESG factors into M&A price, sale and purchase agreements (SPA); and integration of ESG factors in the post-acquisition period.

The survey's results reveal particularly insightful facts. First, we learn that ESG factors can affect the likelihood of a deal occuring as two thirds of the respondents said that poor performance on ESG factors had prevented a deal or affected their willingness to do a deal. What's more, one third of the interviewees stated that they believed good performance on ESG factors adds to the reputation and brand of the company, emphasizing that good performance on ESG factors can increase their motivation to do a deal. A number of respondents also stated that their willingness to do a deal would be seriously impacted if it appeared to be too difficult or expensive to integrate the target company and bring it up to their own internal standards on management of ESG factors. Regarding deal valuation, over half of the companies stated that they would expect a discount for poor performance on ESG factors, and a number of companies also appreciated that good performance on ESG factors is usually integrated in the valuation of the target

[8]These are the three dimensions commonly considered when assessing CSR.

company. Overall, results indicate a growing awareness of the contribution that CSR commitment makes to M&A wealth creation and firm risk management.

Despite the increasing importance of CSR in M&A transactions, academic attempts to study this link remain scarce. Indeed, while two major research works [Aktas et al., 2011; Deng et al., 2013] have investigated the impact of CSR performance on M&A wealth effects, there is yet very little work investigating the impact of CSR on M&A likelihood, acquisition premia, and deal uncertainty. Our thesis aims at filling this gap. More precisely, while the few existing studies on the subject mostly focus on the post-acquisition stage, we particularly investigate the planning stage, i.e, the determinants of M&A decisions, as well as the market assessment of M&A bids before completion. Understanding the drivers of M&A choices and how market participants evaluate these decisions is of paramount importance given the fact M&A transactions are one of the most crucial corporate investment decisions.

Specifically, we organize our work around the following main research question:

Does CSR influence M&A decisions and affect expected outcomes?

There are strong theoretical arguments suggesting that CSR should have an impact in the M&A context. The first argument stems from the resource-based view (RBV) of the firm [Barney, 1991; Wernerfelt, 1984]. The RBV suggests that competitive advantage is rooted inside a firm, in assets that are valuable and inimitable. A firm's capabilities or competencies and management's abilities to generate these assets to produce superior performance are what determines competitive advantage. In the RBV, resources are classified as tangible or intangible. Tangible resources include financial reserves and physical resources such as plant, equipment, and stocks of raw materials. Intangible resources include reputation, technology, and human resources; the latter include culture, the training and expertise of employees, and their commitment and loyalty [Russo and Fouts, 1997]. Although tangible resources can produce a temporary advantage for a firm, they often can be acquired on factor markets by competitors. Conversely, valuable intangible resources may enable a firm to generate a sustainable competitive

advantage as these resources cannot be easily acquired by competitors [Barney, 1991]. Because good relationships with stakeholders are hard to develop, high CSR performance can potentially provide a basis for the type of resource that serves as a source of competitive advantage under the RBV of the firm. Indeed, according to some authors, CSR activities can help firms develop valuable intangible assets such as know-how, corporate culture, and reputation [Aragon-Correa and Sharma, 2003; Branco and Rodrigues, 2006; Hart, 1995; Hillman and Keim, 2001; Russo and Fouts, 1997], which can in turn provide many benefits such as increased customer loyalty [Fombrun et al., 2000], the ability to attract and retain valuable employees [Branco and Rodrigues, 2006; Fombrun et al., 2000; Greening and Turban, 2000; Turban and Greening, 1997], and the ability to price products less agressively [Fombrun et al., 2000]. To the extent that CSR activities can be the source of intangible assets and impact firms' characteristics, it follows that they should have an impact on their attractiveness to potential acquirers.

The second argument can be linked to contract theory and the theory of the firm [Coase, 1937]. These theories view a firm as a nexus of contracts between shareholders and other stakeholders in which each group of stakeholders supplies the firm with resources or effort in exchange for claims described in explicit contracts (e.g., wage contracts and product warranties) or suggested in implicit contracts (e.g., promises of job security to employees and continued service to customers). Unlike explicit contracts, implicit contracts are ambiguous, with little or no legal standing. Firms can default on their implicit commitment without legal recourse from other stakeholders. As such, the value of implicit contracts depends on other stakeholders' expectations about a firm honoring its commitments [Cornell and Shapiro, 1987; Kristoffersen et al., 2005]. As pointed out by Deng et al. [2013], M&A are likely to unsettle key stakeholders in a firm because they put the continuity of existing long-term relationships between the firm and its stakeholders at stake and sometimes force stakeholders to renegotiate their contracts with the new combined entity. Thus, a firm's reputation for fulfilling its implicit contracts with relevant stakeholders and maintaining continued relations with them should be crucial to M&A success.

However, other theoretical arguments suggest that CSR performance could actually reduce the willingness to do a deal and its valuation, and negatively affect its expected outcome. First of all, if strong CSR performance is indeed expected to provide firms with future economic benefits, as suggested by stakeholder theory [Donaldson and Preston, 1995; Freeman, 1984; Jones, 1995], but these positive CSR-related benefits are priced by market participants, it follows that high-CSR firms will be more expensively valued compared with low-CSR firms. As a result, acquirers could be willing to favor low-CSR target in order to take advantage of lower valuations. Also, if CSR activities are perceived to be detrimental to firms' economic performance as per the shareholder expense view [Friedman, 1970; Jensen, 2001; Levitt, 1958], high-CSR firms being taken over should command lower valuations in the M&A market because of their underperformance relative to low-CSR firms. Finally, strong CSR features could also be detrimental to deal success. Indeed, according to the shareholder expense view [Friedman, 1970; Jensen, 2001], CSR activities could be used to help other stakeholders at the expense of shareholders [Deng et al., 2013]. In this context, acquisition projects undertaken by high-CSR firms could be seen as means to favor the interests of some non-financial stakeholders at the expense of shareholders. For example, corporate managers could pursue M&A for their private benefit, in line with the over-investment hypothesis [Barnea and Rubin, 2010]. If this is the case, acquirers' shareholders would get an incentive to delay or even block M&A proposals, thereby reducing the likelihood of favorable deal outcomes.

Regardless of which view prevails, it follows that CSR performance should have an impact on target choice, target pricing, and completion risk. Based on these elements, our work aims at empirically investigating these hypothesized relationships between CSR performance and various steps of the M&A process. Particularly, from our central thesis, we raise the following research questions:

Research question 1: Does CSR influence the choice of a target firm?

Research question 2: Does CSR impact acquisition premia?

Research question 3: Does CSR affect M&A uncertainty?

Specifically, this research is divided into four chapters. The first chapter reviews the theoretical and empirical literatures on M&A and CSR. We then proceed with a survey of the thin literature linking the two areas and explain why CSR should be expected to bear significant importance within M&A operations. Building on insights from this chapter, we then introduce our three empirical essays aimed at providing new evidence on how CSR performance can impact M&A decisions and risks. Throughout this thesis, we use CSR ratings provided by Thomson Reuters ASSET4 as well as a number of other financial and non-financial control variables. The sample of M&A deals is retrieved from Thomson Reuters Securities Data Company (SDC) and will somewhat vary from chapter to chapter because of different requirements in terms of control variables as well as in terms of CSR data (depending on whether we focus on targets or on acquirers).

Chapter 2 investigates whether the CSR performance of firms impacts their propensity to be subjected to takeover attempts. While various financial characteristics have been shown to impact target choice, we still know very little about how extra-financial information affect takeover likelihood and existing evidence is anecdotal[9]. Using a panel logistic regression framework and relying on a worldwide sample of 799 takeover attempts over the 2003-2014 period, we find that the CSR performance of firms is positively related to takeover likelihood. Moreover, all dimensions of CSR (i.e., environment, social, and corporate governance) appear to impact positively the appeal of firms to potential acquirers. To complement our investigation, we also make use of pair-matching techniques –nearest-neighbor matching and propensity score matching– in order to compare the CSR features of target firms with those of similar non-target firms. Results show that the CSR performance of target firms is higher on average than the CSR performance of comparable non-target firms. These findings are consistent with the stakeholder theory [Donaldson and Preston, 1995; Freeman, 1984; Jones, 1995] and the resource-based view of the firm [Barney, 1991; Hart, 1995; Wernerfelt, 1984] in that developing

[9]Source: The integration of environmental, social and governance issues in mergers and acquisitions transactions. Trade buyers survey results. PwC/PRI 2012. URL: https://www.pwc.com/gx/en/sustainability/publications/assets/pwc%2Dthe%2Dintegration%2Dof%2Denvironmental%2Dsocial%2Dand%2Dgovernance%2Dissues%2Din%2Dmergers%2Dand%2Dacquisitions%2Dtransactions.pdf

sound relationships with stakeholders through CSR activities may lead to the generation of valuable, rare, and non-duplicable internal resources that might be of interest to acquirers.

The aim of chapter 3 is to investigate the relationship between a M&A target's CSR performance and its valuation by the acquirer. Anecdotal evidence suggests CSR performance can affect the ultimate value of deals[10]. However, empirical investigation of the subject is almost non-existent. In our study, we use acquisition premia offered by acquirers as proxies for target valuation. Using an international sample of 588 M&A deals announced between 2003 and 2014, we show that CSR is, all else equal, positively and significantly associated with the premium offered by acquirers. Analyzing CSR dimensions individually, we find that the premium is explained by the environmental and social performances of firms. We further our analysis by accounting for the geographical nature or deals (i.e. domestic transactions versus cross-border transactions). Interestingly, we show that while overall CSR performance and environmental performance are generally valued by acquirers, social performance only commands a premium in the case of cross-border transactions. Overall, our results suggest that acquirers value the intangible assets generated by CSR activities and are willing to pay for them, in line with the resource-based view [Barney, 1991; Hart, 1995; Wernerfelt, 1984]. They also imply that CSR-related benefits such as idiosinchratic risk reduction [Godfrey, 2005; Godfrey et al., 2009; Mishra and Modi, 2013] are particularly important for corporate acquirers. Finally, targets' social assets are shown to play a role in cross-border M&A transactions. This can be explained by the fact that acquirers are looking for ways to mitigate the increased uncertainty inherent in international deals resulting from the increased difficulty in assessing targets' relationships with local stakeholders. CSR information can be particularly useful in such context.

The fourth chapter addresses the impact of acquirers' CSR performance on

[10]Source: How Green is the Deal? The Growing Role of Sustainability in M&A. Deloitte Mergers & Acquisition Services, 2009. URL: https://www2.deloitte.com/content/dam/Deloitte/il/Documents/risk/CCG/other_comittees/how_green_is_the_deal_deloitte_102408.pdf

M&A deal uncertainty. We analyze an international sample of 525 M&A operations spanning the 2004-2014 period and use arbitrage spreads following initial acquisition announcements as a proxy for deal uncertainty. We document a negative association between arbitrage spreads and acquirers' CSR performance, showing that deal uncertainty decreases when M&A operations are initiated by high-CSR acquirers. We find that this negative relationship holds for all dimensions of CSR performance, i.e., environment, social, and corporate governance. Our results support the stakeholder theory of the firm [Donaldson and Preston, 1995; Freeman, 1984; Jones, 1995] in that taking care of all stakeholders' interests increases their support towards a firm's operations and acquisition projects, leading to lower deal uncertainty. They also provide evidence that the CSR-related benefits in terms of reduction in M&A ex-post risk [Deng et al., 2013] are priced ex-ante by market participants.

Chapter 1

Mergers and acquisitions, corporate social responsibility, and capital market implications

In this chapter, we first review the literature on mergers and acquisitions (M&A). Specifically, we document the factors impacting M&A activity, value generation, target attractiveness, acquisition premia, and completion risk. Then, in section 1.2, we introduce the concept of corporate social responsibility (CSR) and review the literature linking it to capital markets. More precisely, we present its influence on firms' financial performance, valuation, and financial risk. Section 1.3 then presents the thin literature linking CSR to M&A. Finally, section 1.4 concludes this literature review and introduces the three empirical chapters presented in the remainder of this dissertation.

1.1 Mergers and acquisitions

As one of the most important corporate investment decisions, mergers and acquisitions have been the subject of an extraordinarily large amount of academic and professional research over the past 40 years. In this section, we review the history of M&A activity and explain motives underlying the decision to grow externally

through M&A. We then briefly review the empirical literature studying the financial consequences of M&A. Next, we address the subject of takeover likelihood and try to understand what it is that acquirers look for in target firms. We proceed by reviewing the motives for which acquirers usually pay premia in order to acquire companies and present the variables that have been shown to influence the magnitude of these premia. Finally, we examine the determinants of M&A completion risk and show how this risk is priced by market participants through arbitrage spreads.

1.1.1 Overview of M&A activity

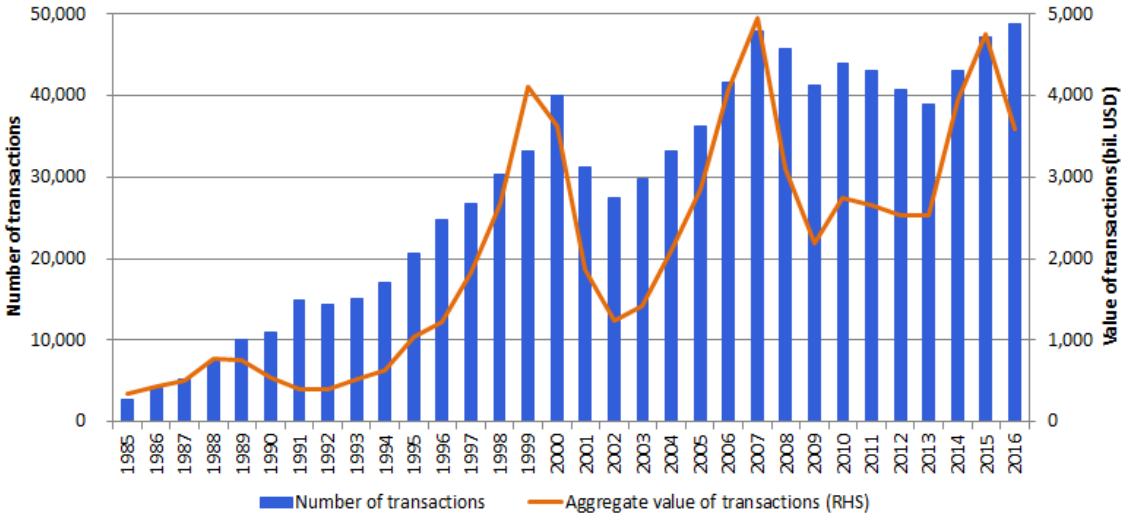
Enormous amounts of money flow each year as a result of M&A transactions. In 2016, for example, no less than 48,736 M&A transactions took place worldwide, representing an aggregate value of $3.6 trillion, according to the Institute for Mergers, Acquisitions, and Alliances (IMAA)[1]. Historical number and value of M&A worldwide appear in Figure 1.1. Although the long-term trend in the volume of M&A deals is upward, we can see on Figure 1.1 that this increase is not linear and shows cyclicality, i.e. periods of high M&A activity are followed by periods of low M&A activity. Periods of high M&A activity are often called merger waves[2]. These merger wages are caused by a combination of economic, technological, and regulatory shocks [Mitchell and Mulherin, 1996]. Economic shocks come in the form of economic expansions that motivate companies to expand in order to meet rapidly growing aggregate demand. Because M&A is a faster form of expansion than organic growth, the volume of M&A tend to increase in such context. Technological shocks can come in many forms and completely transform existing industries or even create new ones. Finally, regulatory shocks usually occur through the elimination of regulatory barriers that may have prevented corporate combination[3]. In

[1]Source: https://imaa-institute.org/

[2]Six completed merger waves have been documented [Gaughan, 2015]: 1897-1904, 1916-1929, 1965-1969, 1984-1989, 1992-2000, and 2003-2007. The seventh merger wave started around 2011 and it is unclear, as of this writing, whether it has more room to go.

[3]Harford [2005] shows that these various shocks by themselves are usually not enough to bring about a merger wave and need to be accompanied by sufficient capital liquidity in order for waves to take hold.

FIGURE 1.1: Number and value of M&A worldwide



Source: IMAA

addition, Rhodes-Kropf et al. [2005] show that misevaluation and valuation errors also play en important role in motivating merger activity.

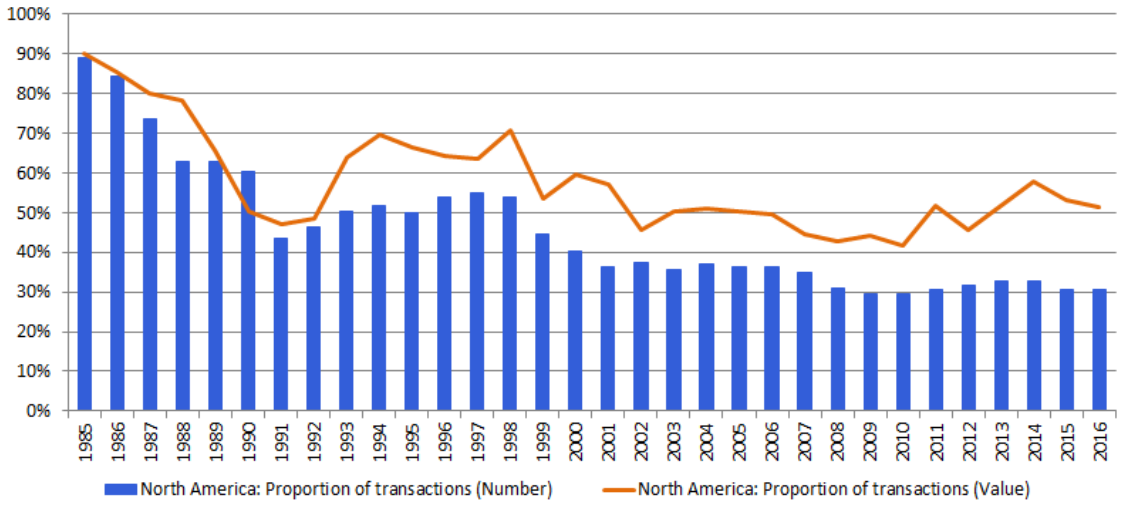
From a geographical point of view, while the first four waves were mainly a US phenomenon, the fifth merger wave marked the beginning of a worldwide increase in M&A activity. This fact appears clearly on Figure 1.2 which shows the volume of North American deals[4] as a proportion of global M&A activity. We can see that North American deals accounted for 90.2% of global M&A activity (in US$ value) in 1985, while that proportion fell to 51.3% in 2016. This trend towards increased internationalization of corporate combinations raises the need to take an international perspective when studying M&A.

1.1.2 M&A and value generation: Empirical evidence

Over the past 40 years, there has been an enormous volume of research aimed at determining whether M&A are value-enhancing operations. Despite the large attention devoted to this topic, the literature has failed to provide definitive answers. While the average positive impact of M&A on target shareholders' wealth has been demonstrated in various studies [Andrade et al., 2001; Bauguess et al., 2009; Dodd and Ruback, 1977; Jarrell et al., 1988], wealth effects for acquiring

[4]Deals in which the target firm was located in North America.

FIGURE 1.2: Proportion of North American deals



firms' shareholders are more ambiguous. Overall, the existing research suggests that, at best, acquiring firms' shareholders are unaffected by M&A. However, it appears that, in many cases, M&A are harmful to acquiring firms' shareholder wealth. For example, Moeller et al. [2005] show that acquiring-firm shareholders lost 1.6 cents around acquisition announcements per dollar spent on M&A in the 1980s and 12 cents per dollar spent on M&A from 1998 to 2001. These figures, however, are somewhat misleading as looking at the performance of M&A requires carefuly accounting for sample characterics. Indeed, in their article, Moeller et al. [2005] show that this overall massive wealth destruction is due to the large losses resulting from a small number of acquisition announcements. Specifically, they find that the aggregate wealth loss associated with these acquisitions (87 out of 4,136 transactions) is $397 billion, while all other acquisitions made a total gain of $157 billion. These differences in M&A performance have pushed scholars to look for determinants of acquirers' returns.

One of the well-documented determinants of M&A returns is the method of payment. The method-of-payment hypothesis suggests that firms are likely to undertake stock-financed M&A when they believe their stock to be overvalued, while they tend to favour cash payments when their stock is likely to be undervalued [Myers and Majluf, 1984; Shleifer and Vishny, 2003]. Indeed, if managers are better informed about the long-term prospects of their firm than is the market,

they will tend to pay for their acquisitions with shares when they believe that their stock is overvalued and use cash otherwise. This hypothesis predicts that long-run abnormal returns to acquirers will be negative in stock-financed M&A and positive in cash-financed M&A. This prediction has been verified empirically in various contexts [André et al., 2004; Andriosopoulos et al., 2015; Loughran and Vijh, 1997; Sudarsanam and Mahate, 2003].

Another way to look at the issue is through the over-extrapolation hypothesis [Rau and Vermaelen, 1998]. In their research work, Rau and Vermaelen [1998] examine a sample of 987 US takeovers between 1980 and 1991, and find that glamour acquirers (i.e., those with a high market-to-book value) underperform value ones. More precisely, they show that value acquirers earn significant abnormal returns of 8% in mergers, and of 16% in tender offers, while glamour acquirers earn a significant -17% in mergers and insignificant 4% in tender offers. They explain their findings by the fact that acquirers with a high market-to-book value resulting from their recent past performance (glamour acquirers) may act out of overconfidence in making acquisitions [Roll, 1986]. This hypothesis predicts that while in the short run, i.e., around the announcement of the acquisition, glamour bidders will experience higher abnormal returns than value bidders, in the long run this performance will reverse. Various research works have confirmed these findings under different settings [André et al., 2004; Loughran and Vijh, 1997].

Firm size also appears to matter for M&A gains. Using a sample of 12,023 M&A from 1980 to 2001, Moeller et al. [2004] find that the equally weighted abnormal announcement return is 1.1%, but acquiring-firm shareholders lose $25.2 million on average upon announcement. This disparity suggests the existence of a size effect in M&A announcement returns. More precisely, the authors find that the announcement return for acquiring-firm shareholders is on average 2.24 percentage points higher for small acquirers regardless of the form of financing and whether the acquired firm is public or private. They also show that this size effect is robust to firm and deal characteristics, and it is not reversed over time. They explain their findings by the fact that large acquirers offer larger acquisition premia than small firms and enter acquisitions with negative dollar synergy gains,

which is consitent with managerial hubris [Roll, 1986] playing more of a role in the decisions of large firms. Other studies suggest that target size also matters for M&A gains. For example, Hackbbarth and Morellec [2008] study a sample of 1,086 takeovers of publicly traded U.S. firms between 1985 and 2002 and find that larger deals as percentage of acquiring firms' equity value experience reliably lower post-M&A performance. This is confirmed by Alexandridis et al. [2013] who find that the acquisition of large firms destroy more value for acquirers around deal announcements. They explain this negative relationship between M&A performance and target size by the fact that target size may proxy, among others, for the unobserved complexity inherent in large deals.

Finally, Phalippou et al. [2015] find that the behavior of the target in terms of M&A activity also impacts M&A gains. Specifically, studying a sample of 19,262 domestic US deals from 1985 to 2010, they show that announcement returns average -0.51% for nonacquisitive targets, -1.67% when the target has made one acquisition over the past 3 years and -6.22% when the target has made five or more acquisitions over the past 3 years. They explain their findings with the "eat or be eaten" theory of Gorton et al. [2009] according to which a manager concerned with the prospect of becoming a takeover target would engage in defensive acquisitions and acquire acquisitive companies (i.e., eats in order not to be eaten).

1.1.3 Target characteristics and takeover likelihood

A number of empirical studies have attempted to construct statistical models using publicly available financial information to predict acquisition targets. Variables used to predict takeover likelihood are usually specified on the basis of seven hypotheses [Palepu, 1986; Powell, 1997]: inefficient management, firm undervaluation, free cash flow, firm size, real property, growth-resource imbalance, and industry disturbance.

The inefficient management hypothesis is based on the works of Manne [1965] and suggests that acquisitions are a mechanism by which managers of a firm who fail to maximize its market value are replaced. In other words, poor performance relative to some benchmark causes a firm's stock price to fall below its value under

efficient management, encouraging takeover bids from prospective new management teams. Palepu [1986] finds support for this hypothesis in that inefficiency is positively related to the propensity to be acquired. Powell [1997] finds partial support for this hypothesis insofar as he shows inefficiency to be positively linked to takeover likelihood only in the case of hostile bids.

The firm undervaluation hypothesis predicts that firms whose market values are low compared to their book values are more likely to become takeover targets. This is due to the fact that firms with low market-to-book ratios can be seen as 'bargains' and that firms whishing to expand via M&A compare the costs of new investment and the costs of acquiring existing assets [Hasbrouck, 1985]. Empirical assessment of this hypothesis leads to largely inconclusive results [Palepu, 1986; Powell, 1997].

The free cash flow (FCF) hypothesis lies on the 'agency cost of free cash flow' theory of takeovers [Jensen, 1986]. According to the author, managers have incentives to grow their firms –even if it means investing in negative net-present-value projects– because growth increases managers' power by increasing the resources under their control and is associated with increases in managers' compensation [Murphy, 1985]. As a result, firms with high FCF will tend to waste the money instead of returning it to shareholders (i.e., they will fail to maximize value). Therefore, the theory predicts that firms with high FCF are the most likely targets. This theory finds empirical support in the literature. Lehn and Poulsen [1989] show that FCF (as a percentage of equity) is significantly higher in firms that were taken private versus firms in the control group. Another confirmation comes from Mitchell and Lehn [1990] who show that firms making acquisitions that significantly reduce their equity value tend to subsequently become takeover targets. Powell [1997] also finds that larger FCF are associated with a higher probability of becoming a takeover target.

It is also commonly argued that size is negatively related to takeover likelihood. This hypothesis lies on the premise that there are several takeover size-related 'transaction costs'. These costs are associated with the absorbtion of the target into the acquirer's organizational framework and the prolonged battle that

target management may wage to defend itself. These costs are likely to increase with target size and hence the number of potential bidders for a firm is likely to decrease with size. This hypothesis is largely supported empirically [Levine and Aaronovitch, 1981; Palepu, 1986; Powell, 1997].

The percentage of real property, i.e., tangible fixed assets is also believed to correlate positively with takeover likelihood. This is justified insofar as tangible fixed assets could be a proxy for greater debt capacity [Stultz and Johnson, 1985]. Indeed, acquiring firms could use the target's assets as collateral in order to raise debt, thereby effectively reducing the direct cost of acquisition. Despite the validity of the economic rationale, empirical evidence fails to robustly support this hypothesis [Powell, 1997].

The growth-resource imbalance hypothesis also appears to partially explain the occurence of M&A. It suggests that firms with a mismatch between their growth and the financial resources at their disposal are likely M&A targets. For example, high-growth firms with low resources may be targeted by acquiring firms that are resource-rich but have few growth opportunities. Also, low-growth firms with high resource may be targeted by acquiring high-growth/resource-poor firms so as to take advantage of the excess cash flows of the target. This growth-resource imbalance is often proxied by a combination of variables including liquidity, leverage, and growth metrics and has found empirical support in the literature [Ambrose and Megginson, 1992; Palepu, 1986; Powell, 1997]. More recently, Levine [2017] develops a model of acquisitions and shows that target firms have productivity, sales growth, and investment rates that are higher than the average firm, suggesting they have quality projects. At the same time, these targets have low profitability, revealing that their costs are higher than other firms. On the other side of the transaction, the author notes that acquirers have both high productivity and low costs. These findings are consistent with the growth-resource imbalance hypothesis.

Finally, the industry disturbance theory developed by Gort [1969] suggests that firms that are in an industry subjected to 'economic disturbances' are likely

acquisition targets. The underlying rationale is that mergers are caused by valuation differentials among market participants which are triggered by economic shocks like changes in technology, industry structure, and regulatory environment. Therefore, it suggests that M&A cluster by industry and that a factor that signals the takeover likelihood of a firm is the recent history of acquisitions in its industry. Using a dummy variable that takes the value one if at least one acquisition occurred in a firm's industry during the year prior to the observation year in order to proxy for 'industry disturbance', Palepu [1986] fails to find support for this hypothesis. However, he does not rule it out as he explains that it could be due to the fact that industry effects can be short-lived (less than one year).

1.1.4 Acquisition premia: Motives and determinants

On average, firms acquire other firms at substantial premia over market values. Betton et al. [2009] find that the average premium paid for American acquisitions between 1980 and 2002 is equal to 43% of the market value of the target before the initial bid, with some premia exceeding 100%. This is in line with previous research that usually pointed towards average acquisition premia in the range of 30–50% [Hayward and Hambrick, 1997; Varaiya and Ferris, 1987; Walkling and Edmister, 1985]. Taking a global perspective over the 1990-2007 period, Alexandridis et al. [2010] document mean premia of 43%, 46%, 42%, 37% and 26% for the world, the United States, the United Kingdom, Canada, and Japan, respectively. The magnitude of acquisition premia is often attributed to a combination of the bidder's estimate of the acquisition gains and the strength of the target's bargaining position [Gaughan, 2015]. The acquisition gains may come from a variety of sources, including anticipated synergies derived from combining the bidder and the target, or the target being underpriced or poorly managed. Understanding the factors that drive acquisition premia is of paramount importance. Indeed, while too high a premium could reduce unnecessarily the subsequent return on investment for the acquirer, too low a premium may result in a failed offer and the loss of a profitable opportunity [Walkling and Edmister, 1985]. Three factors that are believed to influence the magnitude of acquisition premia are the number

of shares controlled by the acquirer before the bid, the target's attitude towards the possibility of being acquired, and the existence of multiple bidders.

The number of shares controlled by the acquirer before the bid is expected to be negatively related with the acquisition premium because of four factors. First, increased ownership provides influence on the actions of the target's management. Second, share ownership may provide the bidder with access to important information on the target firm. Third, increased ownership in the target firm would reduce the amount of shares needed to obtain any desired level of control. Fourth, acquirers with a previous commitment in the form of share ownership may be perceived as more serious in their acquisition attempts. Various studies have confirmed empirically this negative association between acquisition premia and target share ownership [Ayers et al., 2003; Dionne et al., 2015; Walkling and Edmister, 1985].

It is usually argued that 'deal attitude' also impacts the magnitude of acquisition premia. Indeed, opposition to the bid on the part of the target firm's management tends to reduce the bidder's bargaining power. Schwert [2000] maintains that a hostile reaction is intended to prevent the acquisition or initiate negotiation of a better offer. Accordingly, hostility is a negotiation strategy intended to increase the price the buyer pays. Therefore, it follows that hostile bids should be associated with higher premia. This intuition has been confirmed empirically by Ayers et al. [2003], Moeller [2005], and Dionne et al. [2015] who find that hostile bids are associated with premia that are on average 10% to 20% higher compared with friendly bids, ceteris paribus.

Finally, the existence of multiple bidders is also argued to influence the magnitude of acquisition premia. Indeed, competitive bids weaken each bidder's bargaining power and forces acquisition premia to rise toward the acquisition value expected by the most optimistic bidder. Again, this positive association between competitive bids and acquisition premia has been confirmed empirically [Ayers et al., 2003; Walkling and Edmister, 1985].

In addition to these factors, other variables have been shown to significantly impact acquisition premia. Among these variables is target size. Some authors

consider the size of the target directly, while others consider the target's relative size (i.e., the ratio of the size of the target to that of the buyer). Comment and Schwert [1995] and Schwert [2000], among others, use a direct measure of the target size and conclude that this variable has a significant negative effect on acquisition premia because larger targets are associated with higher integration costs. Gondhalekar et al. [2004], Moeller [2005], and Dionne et al. [2015] study a relative size variable and report an adverse effect of target size on acquisition premia.

The method of payment is also believed to be related to acquisition premia. Indeed, target shareholders may discount non-cash payments due to uncertainty about their value or transaction costs of redeeming them. On the other hand, cash payments force target shareholders to pay capital-gain taxes that could under some other payment arrangements be deferred until the swapped securities are sold [Slusky and Caves, 1991]. Empirical investigations conducted by Slusky and Caves [1991], Comment and Schwert [1995] and Betton et al. [2008] conclude that a wholly cash payment, which implies a prominent tax effect, increases the premium significantly.

Finally, target firm's past performance is often argued to influence acquisition premia. Theoretically, past performance can be expected to have two opposite effects on premia. First, buyers may be interested in targets that perform poorly because of the gains that could be realized if the current managers were replaced. In this case, the relation between the performance of the target and the premium is negative. Second, poor performance is often associated with fragile financial health and is therefore likely to hinder the target's ability to negotiate. In this case, the relation between performance and the premium is therefore positive. Empirical results are mixed. Using sales growth as a proxy for target firm's performance, Bange and Mazzeo [2004] find no statistically significant relationship with acquisition premia while Dionne et al. [2015] find evidence of a negative relationship. Ayers et al. [2003] uses return on equity as as a proxy for target firm's performance and finds strong evidence of a positive relationship with acquisition premia. The impact of target firm's past performance on acquisition premia is

therefore ambiguous.

1.1.5 Completion risk: Probability of success, time to completion, and arbitrage spreads

1.1.5.1 Probability of success

According to Myers and Majluf [1984], an acquirer whose stock is overvalued prefers to finance M&A with equity rather than cash. Also, Hansen [1987] demonstrates theoretically that if an acquirer has less information about the value of the target than the target itself, the acquirer is likely to use equity financing in order to share risk with target shareholders in the post merger period. This implies that in a M&A with stock payment, the uncertainty about stock values of the acquirer and target may lead to conflict over the reasonable exchange ratio, thereby reducing the probability of merger completion. In line with this reasoning, Branch and Yang [2003] find that cash payment tends to increase the probability of merger completion relative to stock payment. However, Mitchell and Pulvino [2001] find that a deal with cash payment increases the probability of failure by 4.65 percent, compared to other deals with non-cash payment.

Target managerial attitude has been shown to be a decisive deterrent to offer success [Hoffmeister and Dyl, 1981; Schwert, 2000; Walkling, 1985]. Opposition to the offer by the target management can take many forms, from withholding the list of shareholders to legal action against the bidder [Walkling, 1985]. The adverse influence of the target management on shareholders serves to reduce the pool of obtainable shares and decrease the probability of a successful offer. Moreover, target managements also influence outcome of an offer through their ownership positions in the target firms.

Economic theory also suggests that the probability of M&A success should be directly related to the size of the acquisition premium. Walkling [1985] explains that heterogeneous expectations among the target firm's shareholders should result in different estimates of value and differing selling (tendering) prices. As a result, M&A bidders face an upward-sloping supply curve in their quest for shares of the target and they normaly need to pay a premium over market price in order to

insure a successful offer. While the supply schedule is not known with certainty, higher bid premia should result in an increased amount of shares being tendered, increasing the probability of success. Walkling [1985],Jennings and Mazzeo [1993], and Branch and Yang [2003] find empirical support for this hypothesis in that they show bid premia to be positively related to the likelihood of takeover success. However, Mitchell and Pulvino [2001] and Baker and Savasoglu [2002] do not find a significant role for the bid premium in estimating a probability of merger completion/ success.

Size also appears to be an important factor impacting M&A probability of success. Hoffmeister and Dyl [1981] argue that the larger the size of the target, the greater its resources to oppose the takeover attempt. According to this reasoning, the larger the target, the lower the probability of deal success. Hoffmeister and Dyl [1981] using absolute size and Branch and Yang [2003] using relative size find empirical support for this hypothesis.

1.1.5.2 Time to completion

In addition to success/failure probability, the other component of completion risk is the required time to completion. Prolonged deal making is likely to be costly because it offers more room for competitors to initiate a bidding contest, resulting in a higher likelihood of deal abandonment [Luypaert and De Maeseneire, 2015]. In addition to the potential negative implications for actual deal closing, prolonged deal completion times generates important direct costs. Assuming that the combination of firms generates synergies and increases total value, a longer completion time implies that efficiency gains are deferred. Furthermore, protracted deal duration causes additional legal charges and creates diversion of managerial attention from other lucrative M&A deals and investment opportunities [Dikova et al., 2010]. A few authors have attempted to empirically idendify the determinants of deal completion. Ekelund et al. [2001] find that bigger deals and M&A in regulated industries take longer to complete. Dikova et al. [2010] show that cash offers and acquisitions of public targets are completed more rapidly, while a larger institutional distance prolongs deal making for cross-border transactions. Finally,

Luypaert and De Maeseneire [2015] undertake a more comprehensive analysis of the determinants of completion time and find that large transactions, stock offers, and hostile deals take longer to complete while strong shareholder support for the transaction, bidder experience and potential overpayment lead to a more rapid deal completion.

1.1.5.3 The ex-ante pricing of completion risk: Arbitrage spreads

When an acquisition bid is announced, the market stock price of the target company usually adjusts upward without exactly reaching the level of the offer price. The difference between the target stock price immediately following the acquisition announcement and the offer price is called the arbitrage spread. This arbitrage spread can be seen as a result from wagers on the expected outcome of the operation by market participants: the greater the perceived risk of failure, the wider the arbitrage spread. In other words, the arbitrage spread conveys the pricing of completion risk by market participants. More precisely, the arbitrage spread reflects three expectations [Branch and Wang, 2008]: 1) the likelihood that a deal will succeed; 2) the possibility of a future price revision; and 3) the market's expectations on how long a deal will take to reach its result.

Arbitrage spreads being a proxy for completion risk, it follows that most variables affecting probability of success and time to completion also affect arbitrage spreads (i.e., factors increasing probability of completion should be negatively related to arbitrage spreads). However, because arbitrage spreads also incorporate expectations regarding future bid revisions, the impact of some variables may not be as straigthforward. This is notably the case of bid premia and deal attitude. Higher bid premia make an offer more attractive and have been shown to increase likelihood of completion [Branch and Yang, 2003; Jennings and Mazzeo, 1993; Walkling, 1985]. This would tend to reduce arbitrage spreads ceteris paribus. However, when a M&A attempt fails, the price of the target company usually falls back to its pre-announcement level and the bid premium is lost. Therefore, the greater the bid premium, the wider the required arbitrage spread to compensate for the increased risk. On top of that, offers involving higher bid premia

are less likely to attract competing offers and subsequent bid revisions [Jennings and Mazzeo, 1993; Jindra and Walkling, 2004]. This in turn, would act in favor of wider arbitrage spreads. This last scenario is confirmed by Branch and Wang [2008] who find a positive association between bid premia and arbitrage spreads.

The impact of deal attitude is also ambiguous. Because hostility if often associated with a higher rate of failure [Hoffmeister and Dyl, 1981; Schwert, 2000; Walkling, 1985] and longer time to completion [Luypaert and De Maeseneire, 2015], it could be expected that hostile bids be associated with wider arbitrage spreads. However, hostile bids are also more likely to involve multiple bidders, which increases the probability of bid revisions [Jennings and Mazzeo, 1993; Jindra and Walkling, 2004]. If this scenario prevails, hostile bids should be associated with narrower arbitrage spreads. Jetley and Ji [2010] find support for the first scenario insofar as they report a positive association between arbitrage spreads and hostility, suggesting the higher probability of failure more than offsets the higher likelihood of bid revisions.

1.2 Corporate social reponsibility: Concept and market implications

1.2.1 Origins and definition of CSR

The concept of Corporate Social Responsibility (CSR) can be traced back to the seminal book of Bowen [1953] *Social Responsibilities of the Businessman.* In his work, Bowen defines social responsibility as "the obligations of businessmen to pursue those policies, to make those decisions, or to follow those lines of action which are desirable in terms of the objectives and values of [...] society." Since then, the concept of CSR has been studied through the lens of various disciplines ranging from ethics to finance and economics, and from normative to positive contributions. Although the underlying rationale is ultimately focused on the role of firms in society, there is a lack of consensus on a precise definition of CSR. Indeed, even though some authors have tried to provide a better understanding

of the concept of CSR [Carroll and Shabbana, 2010; Dahlsrud, 2008; Garriga and Melé, 2004], there is no universally accepted definition[5].

It is commonly accepted that CSR defines a situation where the firm goes beyond compliance and engages in "actions that appear to further some social good, beyond the interests of the firm and that which is required by law" [McWilliams and Siegel, 2001]. This definition complements the major work of Carroll [1979, 1991, 2016] in definig CSR. According to him, "the social responsibility of businesses encompasses the economic, legal, ethical and discretionary [or philanthropic] expectations that society has at a given point in time". Under this framework, CSR would relate to ethical and discretionary/philanthropic responsibilities. Ethical responsibilities refer to activities or behaviors that are expected by society's members, without being codified into law. Discretionary or philanthropic responsibilities are those for which society has no clear-cut message for business, and whose implementation is guided only by "a business's desire to engage in social roles not mandated, not required by law, and not even generally expected of businesses in an ethical sense" [Carroll, 1979]. To sum up, firms have various responsibilities to fulfill: to produce goods and services that society wants and to sell them at a profit (i.e., economic responsibility) all the while abiding by the rule of law (i.e., legal responsibility), and to fulfill other uncodified expectations by society's members (i.e., ethical responsibility), potentially going above those expectations (i.e., discretionary/philanthropic responsibility). These last two components are what CSR is intrinsically about.

The remainder of this section is organized as follows. We first review the extant literature on the capital market impacts of CSR. Then, we present the literature linking CSR to corporate acquisitions. Finally, we conclude and pave the way to the research questions adressed in the following chapters of this dissertation.

1.2.2 The capital market impacts of CSR

During the last two decades, CSR has drawn a lot of attention from academics. The growing emphasis on environmental and social performance has prompted

[5] A list of the main academic definitions is provided in appendix A

researchers to investigate the impact of CSR on capital markets [Malik, 2014]. In spite of an extent body of literature, there is still considerable debate surrounding the financial implications of CSR.

On the one hand, various lines of thinking contend that CSR involvement should provide capital market benefits. Stakeholder theory [Donaldson and Preston, 1995; Freeman, 1984; Jones, 1995] suggests that ethical behavior and profit are not mutually exclusive. Indeed, while money spent on ethical issues is not paid to shareholders over the short term, it might enable firms to be more profitable in the future. Taking the perspective of a firm being a nexus of contracts between managers and stakeholders, Jones [1995] posits that ethical behavior can ultimately lead to improved financial performance through the reduction of monitoring costs. In addition, using the resource-based-view (RBV) of the firm [Barney, 1991; Wernerfelt, 1984], Hart [1995] asserts that environmental social responsibility can constitute a resource that leads to the generation of a competitive advantage. RBV presumes that firms are bundles of resources and capabilities that are imperfectly mobile across firms, and that these resources can constitute a source of competitive advantage provided they are valuable, rare, inimitable, and non-substitutable [Barney, 1991]. Resources are defined by Barney [1991] as physical capital, human capital or organizational capital resources controlled by firms that enable them to conceive of and implement valuable strategies. According to some authors, CSR activities can help firms develop such resources in the form of valuable intangible assets such as know-how, corporate culture, and reputation [Aragon-Correa and Sharma, 2003; Branco and Rodrigues, 2006; Hart, 1995; Hillman and Keim, 2001; Russo and Fouts, 1997]. This improved reputation can in turn provide many benefits such as increased customer loyalty [Fombrun et al., 2000], the ability to attract and retain valuable employees [Branco and Rodrigues, 2006; Fombrun et al., 2000; Greening and Turban, 2000; Turban and Greening, 1997], and improved pricing power [Fombrun et al., 2000]. From a risk-reduction perspective, Godfrey [2005] asserts that CSR can provide "insurance-like" protection for many of a firm's idiosyncratic intangible assets and that this protection ultimately contributes to shareholder wealth. More precisely, the author shows that philanthropic activities

can generate "positive moral capital" which in turn mitigates negative judgments stakeholders may have as well as the severity of their sanctions when a negative event transpires. Engaging in CSR-related activities and communicating on these actions may also help firms gain legitimacy in the environment within which they operate [Giordano-Spring and Rivière-Giordano, 2008]. Establishing legitimacy through compliance to societal expectations is a necessary condition for firms to achieve long-term sustainability [Donaldson and Preston, 1995] and generate this protective "moral capital" Godfrey [2005].

On the other hand, some theories suggest that CSR activities are not legitimate and are detrimental to shareholder wealth. Levitt [1958] is often credited to be the first opponent of CSR when he cautions that "government's job is not business, and business's job is not government". Indeed, taking a neo-classical perspective, he criticizes beyond-compliance actions by firms and considers that the sole responsibilities of businesses should be "to obey the elementary canons of everyday face-to-face civility and to seek material gain". According to this view, it is not the role of corporations to engage in actions aimed at correcting externalities or redistributing wealth. Such actions, if necessary, should be taken by governments, according to the preferences of the majority.

Friedman [1970] expresses a similar view. According to him, "there is one and only one social responsibility of business - to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game, which is to say, engages in open and free competition without deception or fraud." He adds that the mere existence of CSR is a signal of an agency[6] problem within the firm. An agency theory perspective [Jensen and Meckling, 1976] implies that CSR represents a misallocation of corporate resources that would be better spent on valued-added internal projects or, in the absence of such, returned to shareholders. It also suggests that CSR is an "executive perk" [McWilliams et al., 2006], in the sense that executives use CSR to advance their careers or other personal agendas. This assertation is in line with the over-investment hypothesis

[6] Jensen and Meckling [1976] define an agency relationship as a "contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf, which involves delegating some decision making authority to the agent."

[Barnea and Rubin, 2010] which suggests that managers tend to overinvest in CSR activities in order to extract private benefits at the expense of shareholders. Jensen [2001] further criticizes the stakeholder approach arguing that it impossible for managers to maximize more than one function. Because stakeholder theory does not specify how to make the necessary tradeoffs between stakeholders' competing interests, Jensen [2001] argues that value maximization should be the firm's sole objective in order to make sure managers do not pursue their own interests at the expense of shareholders [Barnea and Rubin, 2010].

As we can see, theory alone cannot provide a clearcut answer as to whether CSR activities and shareholder wealth are mutually consistent and this debate has to be settled through empirical examination. In the remainder of this section, we review the vast empirical literature on the capital market consequences of CSR.

1.2.2.1 CSR and financial performance

Numerous studies have tried to assess the link between CSR performance and financial performance. While qualitative research mainly uses case studies or best practice examples to investigate the influence of CSR on financial performance, quantitative empirical research make use of three main methods [Salzmann et al., 2005]:

- portfolio studies comparing portfolios of high CSR firms and low CSR firms,
- event studies investigating market responses after CSR-related events,
- multiple regression studies.

Despite a large volume of research on the topic, results remain rather contradictory. Meta-analytical approaches are particularly relevant in such instances. Orlitzky et al. [2003] conduct a meta-analysis of 52 studies and find a slight positive relationship between CSR performance and financial performance. However, the authors also point out that the operationalizations of CSR performance and financial performance moderate the positive association. For example, they show that CSR performance appears to be more highly correlated with accounting-based measures of financial performance than with market-based indicators, and that

reputation indices are more highly correlated with financial performance than are other indicators of CSR performance. Margolis et al. [2009] investigate 251 studies and find a small but positive effect of CSR performance on financial performance. Endrikat et al. [2014] integrate the findings of 149 studies and conclude that there is a modest positive relationship between CSR performance and financial performance but that this relationship is subject to several moderation effects. More recently, Revelli and Viviani [2015] conduct a meta-analysis of 85 studies and 190 experiments in order to test the relationship between socially responsible investing (SRI) and financial performance. Their results indicate that the consideration of CSR in stock market portfolios is neither a weakness nor a strength compared with conventional investments. Focusing on hedge funds, Filbeck et al. [2016] find evidence that SRI hedge funds do significantly outperform similar non-SRI Hedge Funds on average by between 1.50 and 2.67% annually.

Overall, although a majority of studies suggest a positive relationship between CSR performance and financial performance, results remain ambiguous. This ambiguity may come from technical problems related to the measurement of CSR performance [Wood, 2010] or model misspecification [McWilliams and Siegel, 2000]. In addition, studies linking CSR performance to financial performance often face endogeneity issues, especially related to reverse causality concerns. Indeed, the slack-resource hypothesis [Waddock and Graves, 1997] suggests that better financial performance may result in the availability of slack resources that provide the opportunity to invest in CSR activities (an therefore increase CSR performance). This potential bidirectionaly (from financial performance to CSR performance and vice versa) may explain the contradictory results observed in the literature.

1.2.2.2 CSR, firm value and financial risk

Market valuation and financial performance are two distinct concepts [Damodaran, 2007]. As a result, many CSR-related studies focus on market value because it sheds light upon the perception that investors have of corporate social issues, something that accounting metrics of financial performance cannot gauge [Marsat and

Williams, 2016]. More precisely, assuming efficient markets, market value measures should embed investors' assesment of intangible assets, which makes them particularly relevant to investigate CSR-related attributes [Marsat and Williams, 2013].

From a theoretical perspective, the value of any firm is the value of its future cash flows discounted to the present at the appropriate cost of capital:

$$V_0 = \sum_{t=1}^{\infty} \frac{CF_t}{(1+r_e)^t} \tag{1}$$

where CF_t is the expected cash flow to equity in year t, and r_e is investors' required rate of return, i.e., the cost of equity capital. Given this framework, CSR performance will be linked to firm value if it impacts cash flow expectations and/or cost of capital expectations. From the point of view of the shareholders, r_e, is the required rate of return for a particular firm given its exposure to systematic risk. Systematic risk is the only determinant of this required rate of return because specific risk, i.e., the risk that is particular to a given firm, can be diversified away. However, some authors argue that specific risk is also priced to some extent as some investors do not have, for various reasons[7], the ability to hold diversified portfolios [Fu, 2009; Malkiel and Xu, 2002; Merton, 1987]. Therefore, CSR performance will impact the market value of firms if it influences at least one of the following:

- their cash-flow-generating abilities,
- the probability of cash-flow shocks (i.e., specific risk),
- their sensitivity to macro-economic conditions (i.e., systematic risk).

Many empirical studies have attempted to examine a potential impact of CSR performance on these value components. Regarding the link between CSR performance and firm risk, Godfrey et al. [2009] conduct an event study of 178 negative legal actions between 1993 and 2003 and find that high CSR performance moderates the reduction of a firm's market value induced by a negative CSR event,

[7]These may include transactions costs, incomplete information, and institutional restrictions including limitations on short sales, taxes, liquidity constraints, or imperfect divisibility of securities.

confirming the ex-post insurance-like benefits of CSR [Godfrey, 2005]. Koh et al. [2014] complements these findings taking an ex-ante perspective in order to determine whether the risk benefits of CSR are valued before any negative event takes place. Based on a sample of 3,029 US firms for the period from 1991 to 2007, the authors find that CSR performance has a more important positive impact on market value for firms with higher litigation risks. Their results suggest that the extent to which CSR performance enhances firm value depends on the probability that the firm will use the 'insurance' in the future which, in turn, depends on the firm's risk exposures. This is further confirmed by Jo and Na [2012] who take a focus on controversial industries and find that the effect of risk reduction through CSR engagement is more economically and statistically significant in controversial industry firms than in non-controversial industry firms.

Some studies also focus on specific risk. Focusing on the Canadian market, Boutin-Dufresne and Savaria [2004] find a negative association between CSR performance and specific risk while Lee and Faff [2009] confirm these findings on the US market. Mishra and Modi [2013] differentiate between positive and negative CSR and show that positive CSR decreases specific risk while negative CSR increases it. However, they show that the reduction in risk from positive CSR is not guaranteed, with firms having high levels of financial leverage witnessing lower specific risk reduction.

CSR performance can also be expected to impact firms' systematic risk, and as a result their cost of capital. Sharfman and Fernando [2008] highlight the fact that high environmental performance reduces the market's risk perception of a company, and therefore leads to a lower systematic risk. Using a sample of 267 US firms, they show that improved environmental risk management is associated with lower systematic risk and lower cost of capital. Confirming these findings, Oikonomou et al. [2012] show that most of the individual social concerns (i.e., "negative" CSR) are significantly positively related to systematic risk. El Ghoul et al. [2011] focus on a large sample of US firms from 1992 to 2007 and hypothesize that high CSR firms have a lower cost of equity capital than low CSR firms owing to low CSR firms being associated with a smaller investor base [Heinkel et al., 2001;

Merton, 1987] and higher perceived risks. Their findings confirm their hypothesis as they show that firms with a higher CSR score exhibit a lower cost of equity capital. Finally, it is worth mentionning that some studies have complemented these findings by investigating the impact of CSR performance on downside risk[8]. These studies usually validate the negative association between CSR performance and risk.

Overall, studies linking CSR performance and risk suggest a negative association between the two variables. Ceteris paribus (i.e., assuming expected cash flows are held constant), this would therefore point to a positive association between CSR performance and firm value, as per equation 1. With that in mind, many studies have attempted to directly assess the impact of CSR performance on firm valuation measures[9].

Bird et al. [2007] use KLD ratings between 1991 and 2003 and show that a firm's market value (as proxied by market-to book and price-to-earnings ratios) is positively linked to diversity, employee and product strengths, but negatively related to community strengths. They also find a negative relationship between market-to-book and community, employee and environment-related concerns. Using the same ratings over the 1992-2006 period, Galema et al. [2008] find a positive impact of diversity strengths, product strengths and governance concerns on the market-to-book ratio, and a negative impact of environmental strengths on the market-to-book ratio. Jiao [2010] studies 822 firms over the 1992-2000 period and finds that high CSR firms are associated with higher market values insofar as an increase of 1 in the stakeholder welfare score leads to an increase of 0.587 in Tobin's Q. Specifically, employee relations and environment scores have a significant and positive impact on a firm's market value, whereas community relations, diversity, and product characteristics have no significant impact. Focusing on Innovest's eco-efficiency scores, Guenster et al. [2011] consider a sample of firms from 1996 to 2004 and find that environmental performance is positively related to Tobin's

[8] See for example Diemont et al. [2016]; Kim et al. [2014]; Oikonomou et al. [2012].

[9] Although some papers test how investors value CSR performance based on realized stock returns, Gregory and Whittaker [2013] show that such tests are weak if markets are efficient and firms change CSR policies infrequently. Indeed, if markets are efficient, information about CSR performance should be incorporated into stock prices quickly and long-term stock returns should therefore only reflect changes in CSR performance.

Q. However, using KLD scores and a sample of US firms over the 1991-2007 period, Lioui and Sharma [2012] show a negative direct relationship between a firm's market value and environmental performance, but a positive indirect effect. More precisely, they show that environmental performance leads to increased research and development activity, which in turn enhances market value. Taking an international perspective, Marsat and Williams [2013] use MSCI ESG ratings over the 2005-2009 period and find a negative and significant relationship between CSR performance and a firm's market valuation. They also study CSR sub-scores, i.e. environment, human capital, stakeholder capital, and strategic governance, and find that strategic governance and environment scores are negatively related to firm value while human capital score is positively related to firm value. Gregory et al. [2014] use KLD data between 1992 and 2009, and find a positive association between CSR performance and firm market value. They further disentangle this relationship according to equation 1 and find that this valuation effect is mainly driven by CSR performance being associated with better long run growth prospects, with an additional minor contribution made by a lower cost of equity capital. More recently, Marsat and Williams [2016] focus on the social dimension of CSR and show that, on a worldwide basis, a strong overall social performance as well strong attributes within social subsets (human rights, community, product responsibility, employment quality, training and development, diversity and opportunity, and health and safety) are all positively related to a firm's market valuation. Their study makes use of ASSET4 ESG data and is based on an unbalanced panel of 4,312 firms over the 2002-2011 period.

Overall, we see that the majority of studies linking CSR performance to firm value seem to point toward a positive association, although this finding is not unanimous. While the risk-reduction benefits of CSR appear to be clearly evidenced, its value-enhancing capabilities are sometimes challenged. There are various reasons potentially explaining this situation. First, CSR assessment is inherently subjective [Chatterji and Levine, 2006]. It follows that ratings provided by different providers might lead to different outcomes. Second, overall CSR metrics might not be good proxies of environmental and social performance insofar as investors

might value individual dimensions of CSR differently. Third, awareness toward environmental and social issues may have changed over time, which may explain contradictory results between studies focusing on different periods [Marsat and Williams, 2013]. Fourth, while most studies assume a linear relationship when assessing the link between CSR performance and firm value, this relationship may have a different shape [Barnett and Salomon, 2012]. Finally, the relationship between CSR performance and firm value might be moderated by firm visibility [Aouadi and Marsat, 2016; Servaes and Tamayo, 2013] or marketing capability [Mishra and Modi, 2016].

1.3 CSR implications for mergers and acquisitions

Although the mergers and acquisitions (M&A) literature is vast, and the CSR literature is constantly growing, only a few studies have attempted to bridge the research literature that adresses these two important areas [Malik, 2014]. This is surprising for two reasons. First, anecdotal evidence suggests CSR features are increasingly important in M&A deals[10]. Second and foremost, many theoretical arguments suggest that studying CSR performance within the M&A context is of particular interest.

First, because M&A represent one of the most important corporate investment decisions, with potentially tremendous wealth implications for shareholders, they are interesting events to study the financial impact of CSR activities.

Second, studying the value of CSR activities for corporate acquirers interestingly complements studies on the value of CSR for marginal investors (i.e.,

[10] A 2009 report by Deloitte emphasizes that sustainability can affect both the viability and the ultimate value of deals, that firms seek to gain support for acquisitions by committing to actions that will help address issues which affect the environment, and that some acquirers are willing to pay a premium earnings multiple for companies featuring a sustainability leadership. Source: How Green is the Deal? The Growing Role of Sustainability in M&A. Deloitte Mergers & Acquisition Services, 2009. URL: https://www2.deloitte.com/content/dam/Deloitte/il/Documents/risk/CCG/other_comittees/how_green_is_the_deal_deloitte_102408.pdf

investors on the exchange) as the two types of investors largely differ in terms of knowledge and risk-bearing capacity [Chen and Gavious, 2015].

Third, M&A are challenging corporate events whose eventual outcome depends on the support from various stakeholders both in the pre-acquisition and post-acquisition periods. The way companies treat their stakeholders through CSR activities should therefore have an impact on M&A decisions and outcomes.

Finally, studying CSR though the lens of M&A helps mitigate endogeneity issues often associated with studies linking CSR to firm value [McWilliams and Siegel, 2000; Waddock and Graves, 1997]. Indeed, M&A being largely unanticipated events, reverse causality in this context is much less of a concern [Deng et al., 2013].

In the remainder of this section, we review the extant literature linking CSR to M&A. Specifically, we organize the M&A-CSR literature by focusing on the impact of CSR on shareholder wealth, target choice, target pricing, and completion risk.

1.3.1 CSR wealth effect in M&A

In order to assess the potential impact of CSR on M&A announcement gains, studies usually rely on event study methodology in the spirit of Fama et al. [1969]. The procedures involves calculating an individual firm "normal" return, i.e., the return that would have occurred in the absence of the event. This normal return is usually estimated using the market model:

$$R_{i,t} = \alpha_i + \beta_i R_{M,t} + \epsilon_{i,t} \tag{2}$$

where $R_{i,t}$ is the observed return for firm i on day t, $R_{M,t}$ is the return of a concurrent stock market index on day t, α_i and β_i are the regression intercept and slope, and $\epsilon_{i,t}$ is the regression residual. Then, this normal return is compared with the actual return in order to compute the abnormal return (AR) for day t, i.e. the difference between the observed return on day t and that estimated using the market model:

$$AR_{i,t} = R_{i,t} - (\hat{\alpha}_i + \hat{\beta}_i R_{M,t}) \tag{3}$$

Finally, a cumulative abnormal return (CAR) is calculated by summing the daily abnormal returns for a given period surrounding the event being analyzed, often ranging from t-5 to t+5, to t-1 to t+1, as follows:

$$CAR_{i,t} = \sum_{t-k}^{t+k} AR_{i,t} \tag{4}$$

Abnormal returns surrounding M&A announcement dates are interesting tools because in efficient markets, they measure the wealth creation for shareholders. Making use of this methodology, two major research works investigate the impact of CSR performance on value creation for acquiring firms' shareholders.

The first attempts comes from Aktas et al. [2011] who study stock market reactions to M&A announcements and analyze the impact of targets' social and environmental performance on acquirer gains. Using Innovest ratings as proxies for general, environmental, and social performance (IVA, ENV, and SOC, respectively), they analyze an international sample of 106 deals taking place between 1997 and 2007 and find that targets' CSR performance have a significant positive impact on acquirers' CAR. In terms of economic significance, it appears that a one-unit increase in targets' IVA score leads to an increase in acquirers' CAR by 0.9%, which corresponds to an abnormal change of $0.9 million in market value for an acquirer having a size of $100 million in equity. This positive investor reaction to deal announcement means that acquiring socially responsible target represents a positive net present value project for acquirers. Documenting that the environmental and social performance of acquirers tend to increase following the acquisition of CSR-aware targets, they explain positive announcement returns by the fact that acquirers learn from targets' CSR practices and experiences, and that more synergistic deals occur with targets that exhibit better environmental performance.

Deng et al. [2013] complement the findings of Aktas et al. [2011] by focusing on the CSR performance of the acquirer. They use a large sample of 1,556 completed US mergers occuring between 1992 and 2007 for which KLD ratings are available for acquirers and confront two following hypotheses: the stakeholder value maximization theory based on stakeholder theory [Donaldson and Preston, 1995; Freeman, 1984; Jones, 1995] and the shareholder expense view based on agency theory [Friedman, 1970; Jensen and Meckling, 1976]. They find support for the stakeholder value maximization hypothesis in that, compared with low-CSR acquirers, high-CSR acquirers realize higher merger announcement returns, higher announcement returns on the value-weighted portfolio of the acquirer and the target, and larger increases in post-merger long-term operating performance. They also find that high-CSR acquirers realize positive long-term stock returns, suggesting that the market does not fully value the benefits of CSR immediately.

1.3.2 CSR and M&A target choice

It has been shown that the environmental and ethical features of firms can have an impact on their attractiveness to, and thus contracting decisions of, various stakeholders [Norheim-Hansen, 2015].

Motives for engaging in M&A transactions include greater efficiency [Avkiran, 1999; Town, 2001], attempts to reduce competition or excess supply in a market [Town, 2001], willingness to replace inefficient management [Jensen and Ruback, 1983] and diversification. Sometimes, M&A are initiated in order to acquire innovations and unique resources leading to competitive advantage [Ahuja and Katila, 2001]. This last motive is linked to the resource-based view (RBV) of the firm [Barney, 1991; Wernerfelt, 1984]. As per the RBV, imperfectly mobile resources and capabilities that are valuable, rare, inimitable, and non-substitutable can constitute sources of competitive advantage. Because good relationships with stakeholders are hard to develop, high CSR performance can potentially provide a basis for the type of resource that serves as a source of competitive advantage under the RBV of the firm [Hart, 1995; Russo and Fouts, 1997; Waddock and Graves,

2006]. In addition, even though CSR issues are not the primary driver of acquisition choices, adecdotal evidence suggests that environmental due-dilligence can nonetheless alter the terms of a deal or even cause the cancellation of a planned acquisition[11]. As a result, CSR strengths could have an impact on the attractiveness, or lack thereof, of target firms.

The first attempt to empirically study this potential link comes from Waddock and Graves [2006]. The authors hypothesize that acquirers have a lower level of CSR performance than the firms they target, and that acquisitions are a means to improve the acquirer's stakeholder practices. Using KLD scores and correlation analysis, they do not find any empirical evidence supporting their hypothesis and conclude that from an RBV perspective, stakeholder practices do not appear to be recognized as strategic resources in the M&A process. However, it is worth noting that small sample size (35 deals) as well as failure to account for multivariate relationships limit the interpretation of these findings.

More recently, Berchicci et al. [2012] posit that the heterogeneous distribution of environmental capabilities could allow gains from trade created by the transfer of such capabilities to or from an acquiring firm. Indeed, if M&A transactions can be a means to acquire specific resources and capabilities as per the RBV of the firm, they can also be motivated by a willingness to improve the performance of the target through resource redeployment [Capron and Hulland, 1999] and performance upgrading in the post-acquisition period[12]. In their article, Berchicci et al. [2012] study a sample of 2,485 acquisitions among US chemical manufacturing plants over the 1991-2005 period and find support for their hypothesis in

[11] A 2012 survey conducted by PwC on behalf of PRI, which was aimed at assessing trade buyers' attitudes to evaluating CSR risks and opportunities in their M&A activities, revealed that poor performance on CSR factors had prevented a deal or affected their willingness to do a deal. Source: The integration of environmental, social and governance issues in mergers and acquisitions transactions. Trade buyers survey results. PwC/PRI 2012. URL: https://www.pwc.com/gx/en/sustainability/publications/assets/pwc%2Dthe%2Dintegration%2Dof%2Denvironmental%2Dsocial%2Dand%2Dgovernance%2Dissues%2Din%2Dmergers%2Dand%2Dacquisitions%2Dtransactions.pdf

[12] As an example, the Carlyle Group together with the Environmental Defense Fund, formalized this process in 2010 by developing a tool that explicitly takes environmental opportunities into account in the due diligence process. More specifically, the Carlyle Group uses the environmental capabilities identified in companies already in its portfolio to assess how to make improvements in targets that it is considering. Source: Carlyle Group Teams Up With EDF. The Wall Street Journal, March 18, 2010. URL: https://blogs.wsj.com/privateequity/2010/03/18/carlyle-group-teams-up-with-edf/

that firms with higher environmental performance appear to be significantly more likely to acquire physically proximate facilities with lower environmental capabilities, while firms with lower environmental performance appear to be significantly more likely to acquire physically proximate facilities with higher environmental capabilities.

In addition to the potential impact of CSR capabilities on the expected economic outcome of M&A deals, CSR performance can also impact firm attractiveness through reduction in information asymmetry. Indeed, in the context of M&A, acquirers tend to have incomplete information on prospective targets and often use reputation as an informal signal [Fombrun and Shanley, 1990]. Because CSR performance is positively linked to reputation [Martinez-Ferrero et al., 2016], it follows that CSR involvement should play a role in the choice of prospective targets through its linkages to information asymmetry and perceived trustworthiness [Norheim-Hansen, 2015]. Using an experimental approach, Norheim-Hansen [2015] attempt to study the relationship between environmental performance and attractiveness to prospective partners. More precisely, the author administers a scenario-based questionnaire to a random sample of 138 CEOs and top managers of Norwegian manufacturing firms and finds that firms' environmental performance affects their appeal to other companies in prospective alliance partnerships.

1.3.3 CSR and M&A target pricing

As we saw, CSR performance can play a role in the choice of prospective targets. To the extent that CSR capabilities affect prospective targets' appeal to acquirers, it follows that it could also affect their pricing by acquirers. If, as per the RBV of the firm, CSR involvement is value-enhancing and leads to the generation of economic benefits coming from improved reputation, increased customer loyalty, and better standing with market participants and governments, then it follows that high-CSR firms should command a premium in the takeover market compared with low CSR-firms. In addition, if the acquisition of high-CSR targets results in more synergistic deals as argued by Aktas et al. [2011], acquirers should be ready to offer higher premia for such firms. Also, Laamanen [2007] show that acquisition

premia tend to be higher when target firms' resources are intangible and that these higher premia can be justified as they do not lead to negative wealth consequences for shareholders of acquiring firms. As a result, willingness to acquire valuable CSR-related intangible resources could lead to higher premia paid for high-CSR target.

The only attempt to study this subject comes from Chen and Gavious [2015]. In their research work, the authors investigate the implication of CSR adoption for different types of shareholders, namely marginal investors, institutional investors, and M&A buyers. Specifically, they employ price regression to study a sample of 134 M&A involving Israeli companies. In this particular context, the authors find no relationship between CSR involvement and target valuation and conclude that CSR involvement does not appear to matter for M&A acquirers. However, small sample size, focus on domestic transactions occuring in a single country, and specific CSR proxy may limit the interpretation and generalization of these findings[13].

1.3.4 CSR and M&A completion risk

The M&A approval process is often subject to a range of challenges and is contingent upon the support from various stakeholders who have a significant impact on the eventual outcome of a merger and play an important role in the post-M&A integration process [Deng et al., 2013]. According to stakeholder theory [Donaldson and Preston, 1995; Freeman, 1984; Jones, 1995], focusing on the interests of stakeholders increases their willingness to support a firm's operation. Because firms that invest more in CSR activities tend to have a stronger reputation for keeping their commitments associated with implicit contracts, stakeholders of these firms are more likely to be willing to contribute resources and effort to the firm and accept less favorable explicit contracts than stakeholders of poor CSR performers[14]. Because M&A represent unsettling events for key stakeholders in a firm as they put the continuity of existing long-term relations between the firm

[13] Additional elements regarding the specifics of this research are provided in Chapter 3.

[14] Krupp's attempt to take over Thyssen in 1997 constitutes a good illustration of the importance of stakeholders' support in M&A. At the time, Thyssen's employees and local community lobbied in order to block the takeover and were soon joined in their movement by the regional

and its stakeholders at stake, it follows that a firm's reputation for fulfilling its implicit contracts with relevant stakeholders and maintaining continued relations with them are paramount to M&A success. It logically follows that good stakeholder practices, i.e., high CSR performance, should be an important factor in smoothing the M&A process and increasing the probability of favorable outcomes.

Using a sample of 1,556 completed US mergers in which acquiring firms' KLD ratings are available from 1992 to 2007, Deng et al. [2013] find support for this prediction insofar as mergers initiated by high-CSR acquirers take less time to complete and are less likely to fail than mergers by low-CSR acquirers.

1.4 Conclusion

Despite the increasing attention devoted to CSR and the voluminous amount of studies focusing on mergers and acquisitions, the two literatures have seldom been associated. In this chapter, we have tried to bridge the gap between the two subjects in order to introduce the research questions that will be investigated in the remainder of this dissertation.

We first briefly discussed the concept of corporate social responsibility and its origins. We then reviewed the theoretical and empirical literature on CSR and its link with financial performance, market value, and risk. Most commonly accepted benefits of CSR in terms of risk reduction and intangible-asset generation give credit to the idea that CSR should matter in the context of M&A transactions. Building on this idea, a few authors have tried to empirically assess the impact of CSR performance on M&A decisions, risk, and wealth implications. These studies are summarized in Table 1.1.

A more readable view is provided by Figure 1.3 which integrates and positions the extant literature linking CSR to M&A into a simplified M&A timeline. The contributions we bring to the literature with this dissertation are also presented –in red– within Figure 1.3. Studies focusing on the planning phase include the works of Waddock and Graves [2006] and Berchicci et al. [2012]. Despite their quality,

government. This ultimately led Krupp to withdraw its bid (Krupp eventually succeeded in acquiring Thyssen in a second attempt two years later). Source: Brewer et al. [2002]

these studies are extremely narrow in focus, either because of small sample size and unsophisticated methodology [Waddock and Graves, 2006], or because they only study a very specific subset of CSR in a particular industry [Berchicci et al., 2012]. Studies focusing on the announcement period include the works of Aktas et al. [2011] and Deng et al. [2013] who focus on the wealth effect resulting from the CSR performance of targets and acquirers, respectively. Regarding the impact of CSR on target pricing, the only attempt to study the subject comes from Chen and Gavious [2015]. In spite of a very interesting research framework, small sample size and focus on a single country limit the generalization of their findings. Finally, Deng et al. [2013] also analyze the post-completion phase and focus on the impact of CSR on completion risk. Their study, however, leaves out the analysis of the ex-ante pricing of such risk.

Given these considerations and the limitations of existing studies, we particularly focus on three empirical inquiries, organized into a chronological perspective. In the next chapter, we start by focusing on the planning phase and examine the importance of CSR performance in target choice. In the spirit of studies on takeover likelihood [Palepu, 1986], we examine the incremental impact of CSR performance on firms' propensity to be subjected to M&A bids. Then, we employ pair-matching techniques to compare the CSR performance of target firms and similar non-target firms. In doing so, we complement previous findings in a significant way by being the first, to the best of our knowledge, to study the impact of CSR performance on M&A choice. Moreover, we take an international perspective while the few existing studies on the subject focus on very narrow samples. Finally, the use of various advanced methodologies provides additional benefits in terms of robustness.

The third chapter focuses on the following M&A step, i.e., target valuation and the determination of the offer price. More precisely, it aims at investigating the effect of CSR performance on target pricing in the context of M&A transactions. Specifically, we use acquisition premia as a proxy for target pricing. We then explore how the cross-border nature of deals affects the CSR performance-Acquisition premium relationship. We contribute to the literature investigating

the impact of CSR performance on target pricing in an international context, which is to our knowledge unprecedented. We also complement previous findings on the value implications of CSR by taking the perspective of strategic acquirers, while studies usually focus on marginal investors (i.e., investors on the exchange).

Finally, the fourth chapter focuses on the impact of acquirer's CSR performance on deal uncertainty, i.e., how the market evaluates a deal's likely issue after the M&A announcement is made. While the only investigation on the subject [Deng et al., 2013] focuses on ex-post measures of uncertainty (probability of completion and time to completion), we take an ex-ante perspective and use the arbitrage spread following initial acquisition announcement as a proxy for deal uncertainty. This way, we are able to investigate whether acquirers' CSR performance affects the way market participants assess a deal's expected outcome. To the best of our knowledge, we are the first to analyze the impact of CSR performance on deal uncertainty and contribute to the literature by investigating whether the effect of CSR performance on ex-post risk is correctly priced ex-ante.

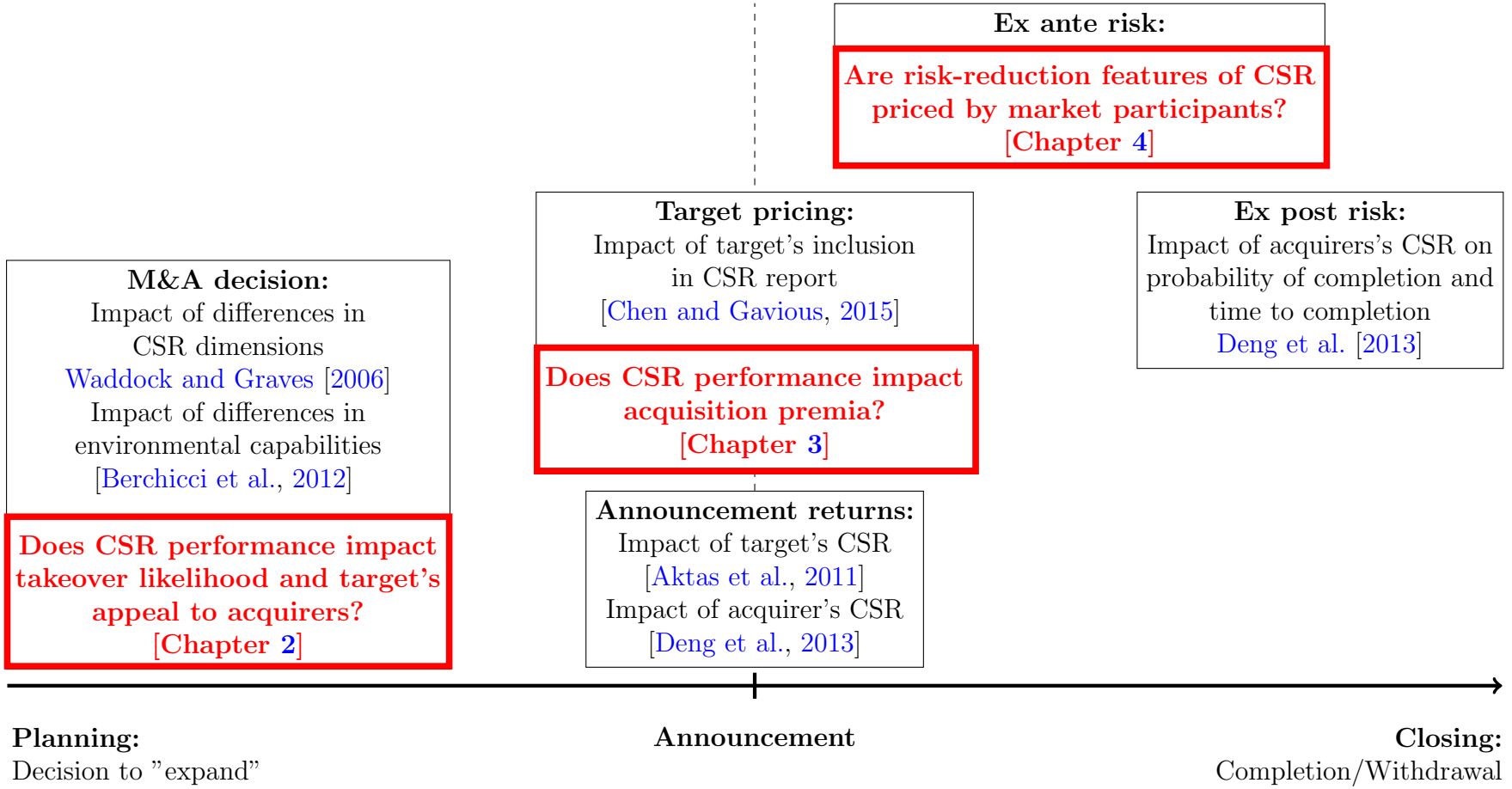
TABLE 1.1: Selected papers on the M&A-CSR link

Article	Research question	CSR proxy	Results	Rationale
Waddock and Graves [2006]	The relationship between CSR performance of acquirers and targets and M&A decisions.	KLD ratings.	Few differences exist between target and acquiring firms in their stakeholder practices. Merged firms yield both more strengths and more concerns than did either the targets or the acquiring firms, while there is a lack of significant differences between target and acquiring firms in the pre-merger phase.	Companies' stakeholder practices pre-merger are probably not the rationale for the merger.
Aktas et al. [2011]	The relationship between targets' CSR performance and value creation/destruction for acquiring firms' shareholders.	Innovest's IVA, environment, and social ratings.	Acquirer gains relate positively to the target's ability to cope with social and environmental risks and more synergistic deals occur with targets that exhibit better environmental performance.	Acquirers learn from targets' CSR practices and experiences, and socially responsible investing pays for acquirer shareholders.
Berchicci et al. [2012]	The relationship between environmental capabilities and corporate acquisition strategies.	EPA's Toxics Release Inventory (TRI) data.	Firms with superior environmental capabilities are significantly more likely to acquire physically proximate facilities with inferior environmental capabilities and vice versa	Firms are more likely to acquire facilities when ownership facilitates the transfer of capabilities either to or from the facility.

Table 1.1 Continued: Selected papers on the M&A-CSR link

Article	Research question	CSR proxy	Results	Rationale
Deng et al. [2013]	The relationship between acquirers' CSR performance and wealth implications for acquiring firms' shareholders.	KLD ratings.	Compared with mergers by low-CSR acquirers, those by high-CSR acquirers lead to higher announcement stock returns for acquirers and for value-weighted portfolios of the acquirer and the target, larger increases in long-term operating performance and stock returns, and higher likelihood and shorter duration of deal completion.	Firms that integrate various stakeholders' interests in their business operations engage in investment activities that enhance their long-term profitability and efficiency, which ultimately increases shareholder wealth and corporate value.
Chen and Gavious [2015]	The value implications of CSR for various types of investors.	Inclusion in the "Maala Ranking of CSR" report.	The marginal investor on the exchange values a firm's commitment to social responsibility positively, whereas the M&A and the long-term institutional investor are unaffected by the firm's being CSR.	Informed investors do not believe that CSR has a real profit potential for the firm while marginal investors sentimentally price their expectations for the long-term welfare for society as if it were long-term wealth for shareholders.

FIGURE 1.3: Simplified M&A timetable, extant literature on CSR impact, and contributions



Chapter 2

On the impact of CSR on takeover decisions: "Cream-skimming" or "Turn-around"?

Abstract

We study a worldwide sample including 799 takeover attempts over the 2003-2014 period, and examine whether CSR performance of firms impacts their propensity to be the target of takeover attempts by potential acquirers. Using logistic regression, we find that CSR performance is positively related to the likelihood of being the subject of a takeover offer. In addition, we employ pair-matching techniques and show that the CSR performance of target firms is higher on average than the CSR performance of comparable non-target firms. Overall, our results suggest that CSR matters in M&A decisions.

Keywords: Corporate social responsibility, Mergers and acquisitions, Target firm choice

Résumé

Nous étudions un échantillon international de 799 offres de fusions et acquisitions (F&A) sur la période allant de 2003 à 2014 afin de déterminer si la performance RSE des firmes impacte leur propension à être ciblées dans les cadre d'opérations de F&A. Nous utilisons un modèle de régression logistique (LOGIT) en données de panel et constatons que la performance RSE des firmes impacte positivement la probabilité qu'elles ont de faire l'objet d'une offre de rachat. A l'aide de méthodes d'appariement, nous montrons également que la performance RSE des firmes ciblées est supérieure en moyenne à celle d'entreprises similaires mais non-ciblées. Globalement, il apparait que la RSE joue un rôle dans les décisions d'expansion des firmes.

Mots clés: Responsabilité sociale des entreprises, Fusions et acquisitions, Choix des cibles

2.1 Introduction

Research on Corporate Social Responsibility (CSR) and its financial implications has been flourishing over the past twenty years. Recent studies show that CSR performance impacts the market value of firms [Aouadi and Marsat, 2016; Jiao, 2010], firm risk [Diemont et al., 2016; Jo and Harjoto, 2014; Kim et al., 2014], the cost of capital [Dhaliwal et al., 2014; El Ghoul et al., 2011; Martinez-Ferrero et al., 2016], market performance [Sahut and Pasquini-Descomps, 2015], and corporate cash holdings [Arouri and Pijourlet, 2017; Cheung, 2016].

Although a few authors [Aktas et al., 2011; Berchicci et al., 2012; Deng et al., 2013; Waddock and Graves, 2006] have tried to study CSR within the context of mergers and acquisitions (M&A), we still know very little about the impact of extra-financial factors on strategic decisions related to firms' boundaries [Norheim-Hansen, 2015]. This subject deserves further investigation as many theoretical reasons suggest CSR performance could indeed play a role in takeover decisions, and more specifically on the choice of target firms. This chapter aims at filling this void by empirically investigating whether CSR performance is a determinant of corporate takeover decisions.

According to the stakeholder theory of the firm [Donaldson and Preston, 1995; Freeman, 1984; Jones, 1995], CSR-related expenditures benefit firms by inducing the creation of intangible assets, ultimately leading to value generation. From this viewpoint, the interests of shareholders and other stakeholders[1] are not mutually exclusive, and taking care of the latter therefore maximizes the utility of the former. Under this hypothesis, strong CSR performance is thus a desirable trait to have as it can lead to benefits such as stronger reputation [Martinez-Ferrero et al., 2016], increased customer loyalty [Fombrun et al., 2000], and lower business risk [Godfrey et al., 2009; Orlitzky and Benjamin, 2001]. According to this view, high-CSR firms should be more attractive to acquirers than similar low-CSR firms. However, strong CSR performance often comes with higher valuations [Jiao,

[1] There is no common consensus as to what the concept of a stakeholder means, with hundreds of different definitions existing in the literature [Miles, 2012]. According to Freeman [1984], stakeholders are "any group or individual who can affect or is affected by the achievements of the organizations objectives", i.e., shareholders, customers, employers, NGOs, governments, communities, etc.

2010], and acquirers could therefore target low-CSR firms in order to take advantage of depressed prices and the resulting opportunities to increase the target's value in the post-acquisition phase. In addition, powerful unions and strong employee privileges often associated with high-CSR firms could also deter potential acquirers, especially if the acquisition entails a restructuring of the target firm. If this view prevails, low-CSR firms should be more attractive to acquirers than similar high-CSR firms.

To determine which –and if– one of these opposite views is empirically validated, we focus on a worldwide sample of 799 acquisition attempts spanning the 2003-2014 period and evaluate the impact of CSR performance on takeover likelihood. Our CSR measure comes from ASSET4 Thomson Reuters ESG Research Data.

Using logistic regression, we show that CSR performance is positively related to the propensity of being an acquisition target. In addition, we find that each CSR dimension (Environment, Social, and Corporate Governance) is positively associated with takeover likelihood. To further our analysis, we make use of pair-matching techniques in order to compare target firms to similar non-target firms. We find that target firms display a higher level of CSR performance than comparable non-target firms. Our results are robust to alternative samples and confirm that CSR matters in corporate acquisition decisions.

Our paper contributes to the existing literature by being the first –to the best of our knowledge– to investigate the impact of CSR performance on takeover likelihood. We introduce a unique context (the pre-acquisition phase) to study the influence of CSR on capital markets and therefore complement previous CSR research in an original fashion. The remainder of this article is organized as follows: in section 2.2, we review the literature and develop our hypotheses. Then, we present our dataset in section 2.3. Section 2.4 outlines the empirical method, presents some robustness tests, and discusses the results. Section 2.5 concludes.

2.2 Related literature and hypotheses

In this section, we first review previous research studies linking M&A to CSR. Next, we develop hypotheses related to the impact of CSR performance on takeover likelihood.

Numerous corporate finance papers investigate the determinants of M&A deals and the characteristics of target firms. They identify a set of ex ante variables that are positively associated with takeover likelihood. These include –among others– firm size [Palepu, 1986], poor performance relative to the industry [Manne, 1965], undervaluation [Hasbrouck, 1985], cash-flow generating abilities [Jensen, 1986], and misalignment between growth perspectives and resources [Palepu, 1986].

Despite the increasing interest in CSR, investigations relating CSR to M&A operations appear to be rather scarce. While some papers study CSR through its impact on abnormal returns surrounding acquisitions [Aktas et al., 2011; Deng et al., 2013], only two research works investigate CSR performance as a determinant of target choices. The first attempt comes from Waddock and Graves [2006]. They hypothesize that acquirers have a lower level of CSR than the firms they target, and that acquisitions are a means to improve the acquirer's stakeholder practices. Using KLD scores and correlation analysis, the authors do not find any empirical evidence supporting their hypothesis. However, small sample size (35 deals) and failure to account for multivariate relationships potentially limit the interpretation of these findings.

Approaching the problem from another viewpoint, Berchicci et al. [2012] investigate whether environmental capabilities influence firms' corporate acquisition strategies and hypothesize that firms are more likely to acquire facilities when ownership facilitates the transfer of capabilities either from the acquirer to the target or from the target to the acquirer. They study a sample of 2,485 acquisitions among US chemical manufacturing plants over the 1991-2005 period and find support for their hypothesis insofar as firms with superior environmental performance appear to be significantly more likely to acquire physically proximate

facilities with inferior environmental capabilities, while firms with inferior environmental performance appear to be significantly more likely to acquire physically proximate facilities with superior environmental capabilities.

To the best of our knowledge, no authors have tried to assess the potential impact of CSR performance on takeover likelihood. However, numerous theoretical reasons suggest CSR could be an important determinant of such operations. In this chapter, we consider two alternative incentives underlying acquisition target choices. More precisely, and following the terminology of Banaszak-Holl et al. [2002], we differentiate between "cream-skimming" and "turn-around" strategies.

2.2.1 The "cream-skimming" scenario

The stakeholder theory of the firm [Donaldson and Preston, 1995; Freeman, 1984; Jones, 1995] claims that the interests of shareholders and other stakeholders are not mutually exclusive and that CSR is expected to benefit the company. From this perspective, corporate success and social utility are not a zero-sum game [Porter and Kramer, 2006]. Indeed, strategically developing sound relationships with stakeholders may lead to the generation of valuable, rare, and non-duplicable internal resources. One of the main competitive advantages to be gained from strong CSR-commitments is improved reputation [Martinez-Ferrero et al., 2016]. Strong reputation can increase the ability to attract financial capital [Cheng et al., 2014], improve the appeal to current and potential employees [Branco and Rodrigues, 2006; Fombrun et al., 2000], and increase customer loyalty [Fombrun et al., 2000]. It can also lead to more attractive contract terms with strategic partners, mainly as a result of improved trust [Barney and Hansen, 1994], and the ability to price products and services less aggressively [Fombrun et al., 2000]. Strong social attributes directed towards internal stakeholders can also bring various benefits for a firm, such as enhancing the skills of employees through training and therefore making them more productive [Becker, 1962].

Another expected benefit of strong CSR performance is decreased business risk. Indeed, taking into consideration implicit stakeholder claims may reduce the risk of facing uncertain future explicit claims. Examples of such explicit claims

include pollution-related lawsuits against the company, labor unrest, or increased government regulation aimed at constraining the firm's behavior [Godfrey et al., 2009; Orlitzky and Benjamin, 2001]. Apart from losing the reputational benefits described above and facing increased business risk, low-CSR companies may suffer from a decreased investor base [Heinkel et al., 2001] which would reduce risk-sharing among non-CSR investors and eventually lead to an increased cost of capital [Merton, 1987]. This hypothesis has been empirically confirmed by various authors [Dhaliwal et al., 2014; El Ghoul et al., 2011; Martinez-Ferrero et al., 2016]. This combination of value-generation and insurance-like benefits should make high-CSR firms more attractive to potential acquirers. We therefore formulate the following hypothesis.

H_1**:** *The higher a firm's CSR performance, the more likely it is to become a takeover target*

2.2.2 The "turn-around" scenario

Targeting low-CSR firms could also have merits. This would be based on the fact that acquisitions can be viewed as a means to change, reconfigure or redeploy capabilities that cannot be easily exchanged on the open market [Barney, 1991; Capron and Hulland, 1999]. Moreover, change-focused acquisitions can also potentially produce cost reductions, increased competitiveness and economies of scale [Chatterjee and Wernerfelt, 1991; Dutz, 1989; Jensen, 1986]. According to this view, acquirers would tend to target low-CSR firms with the intent of increasing the CSR performance of the target while taking advantage of potentially depressed valuations. Indeed, Jiao [2010] shows that CSR performance is positively associated with a firm's valuation. Focusing on the social dimension, Marsat and Williams [2016] show that a strong overall social performance as well as strong attributes within social subsets (human rights, community, product responsibility, employment quality, training and development, diversity and opportunity, and health and safety) are all positively related to a firm's market valuation. As a result, high-CSR companies could be considered as too expensive for potential acquirers, leading them to prefer firms with a lower CSR performance.

In addition, a strong social performance often goes hand in hand with strong employee privileges and potentially powerful unions which could also scare potential acquirers if the acquisition entails a restructuring of the target company. Therefore, under this "turnaround" scenario, acquirers would focus on low-CSR targets and try to improve their pre-acquisition performance [Jensen and Ruback, 1983; Wernerfelt, 1984]. In other words, low CSR attributes could be seen as areas for discounting price as well as opportunities to increase the target's value after acquisition. This leads to the following hypothesis.

H_2**:** *The higher a firm's CSR performance, the less likely it is to become a takeover target*

On theoretical grounds, and taking an acquirer's viewpoint, CSR performance could therefore lead to two completely opposed conclusions regarding the appeal, or lack thereof, of a target firm. An empirical approach is thus needed to settle the debate. This is what we propose doing in the remainder of this chapter.

2.3 Data

2.3.1 Measure of a firm's CSR performance

To measure a firm's CSR performance, we use data obtained from ASSET4 Thomson Reuters ESG Research Data. The ASSET4 ESG database has a reputation as one of the most diligent and trustworthy sources for CSR data [Stellner et al., 2015]. The overall rating is based on more than 750 data points aggregated into 250 key performance indicators (KPI). These KPI scores are aggregated into a framework of 18 categories grouped within three dimensions[2] (Environmental, Social, and Corporate Governance). At each level, the scores are combined using equal weighting to ensure objectivity. Each indicator and score is relative to the universe and normalized between 0 and 100. The ASSET4 – Thomson Reuters ESG Research Data covers the main equity indices worldwide and includes 5,000

[2]Detail on the composition of ASSET4 indicators is provided in appendix B.

publicly listed companies. It provides history up to fiscal year 2002 for close to 1,000 companies.

We follow standard practice [Cheng et al., 2014; Stellner et al., 2015] and compute a firm's overall CSR score (CSR) by averaging the scores assigned to each CSR dimension (environment, social, and corporate governance). We also test each dimension individually (ENV, SOC, and GOV).

2.3.2 Control variables

To avoid any specification bias that could explain the propensity to be an acquisition target, we include a set of control variables that have been previously identified in the literature on takeover likelihood. Several motives are advocated in the literature to explain the choice of a target.

According to the inefficient management hypothesis [Manne, 1965], poor performance relative to the firm's industry causes the firm's share price to fall below its value under efficient management, thereby encouraging takeover bids by prospective management teams. This is based on the premise that takeovers are a mechanism by which managers that are not able to maximize the value of their company are replaced by more efficient ones [Powell, 1997]. We follow Palepu [1986] and proxy for management efficiency by using the return on equity (ROE) averaged over a period of three years prior to the observation year.

Valuation metrics also seem to play a role as Hasbrouck [1985] argues that firms wishing to expand via corporate acquisitions compare the costs of new investment with the cost of acquiring existing assets (i.e. used assets pertaining to other firms). Accordingly, undervalued companies should display an increased attractiveness to prospective buyers. To proxy for valuation, we use the market-to-book ratio (MTB) at the end of the accounting year prior to the observation year.

Free Cash Flows (FCF), defined as cash flow in excess of that required to fund positive-NPV projects when discounted at the relevant cost of capital [Jensen, 1986], should also be positively related to the propensity to be targeted. Indeed, according to the free cash flow theory [Jensen, 1986], the agency cost of cash

reduces the value of the firm because firms with high FCF would tend to unproductively use the money instead of returning it to shareholders. Firms that have accumulated large FCFs are therefore expected to be the most attractive ones for potential acquirers. We follow Powell [1997] and proxy FCF by using the ratio of operating cash flows to total assets averaged over three years prior to the observation year.

Research has shown that firm size matters and that smaller firms are more likely to be targeted in corporate acquisitions [Brar et al., 2009; Palepu, 1986]. This is in line with the argument that larger firms induce a higher cost of conducting an acquisition [Hasbrouck, 1985; Palepu, 1986]. We use the natural logarithm of USD-denominated market capitalization ($SIZE$) as a measure of size.

Tangibility should theoretically be positively associated with the propensity to be targeted as a higher tangibility should lead to a higher debt capacity as tangible assets can be pledged as collateral when issuing debt [Stultz and Johnson, 1985]. In this paper, we measure tangibility (TAN) as the ratio of net property, plant and equipment over total assets.

Following Powell [1997], we also include leverage, growth, and liquidity variables. These variables appear to be potentially important in determining the likelihood of acquisitions because of the growth-resource imbalance theory [Palepu, 1986] according to which high-growth firms with low resources (i.e. high leverage and low liquidity) should be targeted by acquirers with the opposite growth-resource imbalance (i.e. low growth, high resources). The same is true for low-growth firms with high resources that should be targeted by acquirers with the opposite growth-resource imbalance (i.e. high growth and low resources) in order to take advantage of the target's excess cash flows [Powell, 1997]. We proxy for leverage (LEV) using the debt-to-equity ratio while liquidity (LIQ) is measured using the quick ratio. Both measures are averaged over three years prior to the observation year. We measure growth (GRO) as the average sales growth over a period of three years prior to the observation year.

The economic disturbance theory [Gort, 1969] stipulates that mergers and acquisitions are caused by factors such as change in technology or industry structure

and thereby cluster by industry. According to this theory, the recent history of acquisitions in an industry should display predictive power regarding future operations. This variable has been used previously in the literature [Brar et al., 2009; Palepu, 1986]. To proxy for economic disturbance ($DIST$), we use a dummy variable taking the value of one if at least one acquisition has occurred in the firm's industry group over the previous twelve months.

Finally, we control for the potential impact of target country institutional factors on M&A decisions by including data from the Worldwide Governance Indicators (WGI) report. More specifically, for each year-country pair, we take the aggregate value of the six WGI dimensions: Voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption[3]. Table 2.1 provides the full description, calculation method and predicted sign of the relationship with takeover likelihood for the control variables.

2.3.3 Sample selection

To build our sample, we identify all companies that were subjected to takeover attempts over the 2003-2014 period using the Thomson Financial Securities Data Company (SDC) database. We exclude firms from the financial and insurance sectors to make sure results are not distorted by the interpretation of their financial ratios. Our final sample is composed of an unbalanced panel of 3,857 firms over the 2003-2014 period, from which 799 firms were targeted. The number of firm-year observations is 26,621. Table 2.2 provides the distribution of our sample over the period under investigation. The number of yearly observations ranges from 731 in 2003 to 3,828 in 2012, consistent with the increase in CSR coverage over the years. There is a similar pattern in the number of target firms within our sample which ranges from 5 target firms in 2003 to 104 target firms in 2014.

The geographical distribution of takeover attempts over the period is provided in Table 2.3. We see that the bulk of our sample is represented by American companies which account for 29.26% of our sample. Japan, the United Kingdom,

[3]Data and methodology are available at www.govindicators.org

Table 2.1: Description of control variables

Variable	Description	Expected sign
ROE	Return-on-Equity averaged over a period of three years prior to the observation year.	-
MTB	Market-to-Book ratio at the end of the last accounting year prior to the observation year.	-
FCF	Ratio of operating cash flow[a] to total assets, averaged over three years prior to the observation year.	+
$SIZE$	Size is proxied by the natural logarithm of the firm's market capitalization.	-
TAN	We compute tangilibility as the ratio of net property, plant and equipment over total assets.	+
LEV	We proxy for leverage by using the debt-to-equity ratio averaged over a period of three years prior to the observation year.	N/A
GRO	Growth is measured by the average sales growth over a period of three years prior to the observation year.	N/A
LIQ	Liquidity is measured by the average quick ratio[b] over a period of three years prior to the observation year.	N/A
$DIST$	Economic disturbance is assessed using a dummy variable taking the value of one if at least one acquisition has occurred in the firm's industry group over the previous twelve months, and zero otherwise.	+
WGI	Aggregate value of the six World Governance Indicators (WGI) dimensions: Voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption.	+

This table reports the description of the control variables used in our models as well as the sign of their predicted relationship with takeover likelihood.

[a] Computed as cash flow from operations less change in working capital less change in net fixed assets.

[b] Computed as the ratio of cash and cash equivalents, marketable securities, and accounts receivable on current liabilities.

Canada, and Australia are the next countries most represented in our sample, with 12.74%, 9.95%, 6.69%, and 5.91% respectively. Overall, 54 countries are present in our sample. Target firms come mostly from the USA, the UK, Australia, and Canada, with 276, 125, 107, and 62 firms respectively.

TABLE 2.2: Sample distribution across years

Year	Number of firms	%	Target firms	%
2003	731	2.75%	5	0.63%
2004	744	2.79%	8	1.00%
2005	1,432	5.38%	19	2.38%
2006	1,780	6.69%	72	9.01%
2007	1,803	6.77%	84	10.51%
2008	1,963	7.37%	72	9.01%
2009	2,352	8.84%	55	6.88%
2010	2,721	10.22%	93	11.64%
2011	3,258	12.24%	101	12.64%
2012	3,828	12.50%	102	12.77%
2013	3,347	12.57%	84	10.51%
2014	3,115	11.70%	104	13.02%
Total	26,621	100.00%	799	100.00%

This table reports the yearly number of firms as well as the yearly number of target firms over the sample period. Our sample includes 799 target firms between January 1, 2003, and December 31, 2014. The overall panel dataset includes 26,621 firm-year observations.

2.3.4 Summary statistics

Table 2.4 presents summary statistics for the variables previously described. CSR measures (CSR, ENV, SOC, and GOV) are normalized between 0 and 100, with their mean and median close to 50 by construction. The average ROE is 12.8% while the average MTB is 2.89. Average FCF is 1% and appears to be quite volatile. The mean values for leverage, growth, and liquidity are 1.182, 12.8%, and 1.196 respectively. Real assets (Tangibility) represent on average 30.3% of total assets. Correlations among variables are reported in Table 2.5. Correlations among CSR variables are high, which means that companies tend to fare similarly in all CSR dimensions, i.e., when a firm is strong (weak) in one dimension, it will probably be strong (weak) in other dimensions as well. Other variables appear to be moderately correlated, ruling away potential multicollinearity issues.

TABLE 2.3: Sample distribution across countries

	Number of firm-year pairs	%	Target firms	%
USA	7,789	29.26%	276	34.54%
Japan	3,392	12.74%	32	4.01%
UK	2,649	9.95%	125	15.64%
Canada	1,781	6.69%	62	7.76%
Hong Kong	869	3.26%	8	1.00%
France	829	3.11%	10	1.25%
Germany	690	2.59%	20	2.50%
Switzerland	495	1.86%	8	1.00%
Taiwan	457	1.72%	5	0.63%
Sweden	455	1.71%	11	1.38%
South Korea	393	1.48%	7	0.88%
Singapore	377	1.42%	6	0.75%
Spain	367	1.38%	15	1.88%
South Africa	339	1.27%	15	1.88%
China	334	1.25%	1	0.13%
Brazil	329	1.24%	5	0.63%
Netherland	319	1.20%	18	2.25%
Italy	306	1.15%	9	1.13%
India	283	1.06%	8	1.00%
Others (34)	2,595	12.80%	77	9.64%
Total	26,621	100.00%	799	100.00%

This table reports the distribution of our sample across countries. It also reports the number of target firms across countries.

2.4 Findings

2.4.1 Preliminary analysis

We begin our empirical investigation with a univariate analysis, splitting our sample between target firms and non-target firms. We compare the means of both sub-samples and test the statistical significance of the difference between them. Results are reported in Table 2.6. It appears that target firms have a higher mean overall CSR score than non-target firms. If we focus on individual dimensions, we see that target firms feature a higher CSR score than non-target firms for both the social and the corporate governance dimension. The difference in environmental score does not appear to be statistically significant. These facts would tend to support H_1, even though we need to confirm these results with a multivariate analysis.

TABLE 2.4: Summary statistics

	Mean	Std. Dev.	Q1	Median	Q3
CSR	49.077	23.982	30.500	47.548	68.620
ENV	48.031	31.560	16.770	42.200	81.420
SOC	48.448	30.560	18.970	45.650	78.570
GOV	50.753	30.265	20.250	57.440	77.713
ROE	0.128	0.196	0.052	0.120	0.200
MTB	2.894	5.253	1.190	1.910	3.200
FCF	0.010	0.402	-0.013	0.001	0.028
$SIZE$	15.196	1.755	14.453	15.226	16.097
TAN	0.303	0.266	0.074	0.234	0.480
LEV	1.182	2.477	0.222	0.849	1.437
GRO	0.128	0.214	0.015	0.085	0.182
LIQ	1.196	3.099	0.314	0.949	1.353
WGI	6.521	4.135	5.184	7.540	8.774

This table reports summary statistics for our sample. The sample consists of 26,621 firm-year observations between January 1, 2003, and December 31, 2014. All financial variables are winsorized at the 1% and 99% level.

Turning to control variables, it appears that target firms feature a lower mean return on equity than firms that were not targeted, consistent with the inefficient management hypothesis [Manne, 1965]. Also, target firms are on average smaller, more liquid and more leveraged than firms that were not subjected to takeover attempts. There does not appear to be any statistically significant difference in market-to-book, free cash flows, and tangibility between our two sub-samples.

2.4.2 Multivariate analysis

2.4.2.1 Logistic regression

In order to better assess the impact of CSR performance on the likelihood of a firm to be targeted by a potential acquirer, we need to resort to multivariate analysis. We follow Palepu [1986] and use logistic regression to measure takeover likelihood as a function of firm characteristics. The LOGIT model takes the following form:

$$p(i,t) = \frac{\exp(x'_{i,t})\beta}{[1+\exp(x'_{i,t}\beta)]} \tag{1}$$

where $p(i,t)$ is the probability that the firm i will be acquired in period t, $x_{i,t}$ is a vector of explanatory variables, and β is a vector of unknown parameters to be estimated. Explanatory variables include a firm's CSR score as well as a set of control variables, both described in section 2.3. We also control for country and year fixed effects and winsorize all financial variables at the 1% and 99% level. All financial variables are from Datastream. The final model is as follows:

$$\begin{aligned} p(i,t) = 1/[1 + \exp(-(&\beta_0 + \beta_1 CSR_{i,t} + \beta_2 ROE_{i,t} + \beta_3 MTB_{i,t} + \beta_4 FCF_{i,t} \\ &+ \beta_5 SIZE_{i,t} + \beta_6 TAN_{i,t} + \beta_7 LEV_{i,t} + \beta_8 LIQ_{i,t} + \beta_9 GRO_{i,t} \\ &+ \beta_1 0 DIST_{i,t} + \beta_1 1 WGI_{i,t}))] \end{aligned} \tag{2}$$

Results are provided in Table 2.7 and seem to confirm H_1. In column 1, overall CSR score (CSR) appears to be positively associated with the likelihood of firms being targeted by potential acquirers. In columns 2 to 5, we test each dimension individually (ENV, SOC, and GOV) and see that they are all positively associated with the propensity to become an acquisition target. The odds ratios (computed by exponentiating the LOGIT coefficients) are 1.0134 for the overall CSR score, 1.0074 for the environmental score, 1.0097 for the social score, and 1.0101 for the governance score. Taking the overall CSR score as an illustration, the interpretation is that for each unit-increase in overall CSR score, the estimated odds of being subjected to a takeover attempt increases by 1.34%. All results are significant at the 1% level. Therefore, it appears that CSR performance is indeed a determinant of takeover likelihood, i.e., there is a positive link between a firm's CSR performance and its propensity to be the subject of an acquisition attempt. Our results are in line with the stakeholder view [Donaldson and Preston, 1995; Freeman, 1984; Jones, 1995] and seem to validate the fact that CSR capabilities are viewed as intangible assets providing benefits to firms. According to previous studies, these benefits include, among other things, improved appeal to current and potential employees [Branco and Rodrigues, 2006; Fombrun et al., 2000], increased leeway in product pricing [Fombrun et al., 2000], increased employee productivity [Becker, 1962], reduced market risk [Jo and Harjoto, 2014] and a lower cost of

capital [Dhaliwal et al., 2014; El Ghoul et al., 2011; Martinez-Ferrero et al., 2016].

In terms of controls, ROE appears to be negatively associated with takeover likelihood, in line with the inefficient management hypothesis [Manne, 1965]. Consistent with what we hypothesized, Size is negatively related to the propensity of being targeted. The economic disturbance theory [Gort, 1969] is also confirmed as the recent history of acquisitions in an industry seems to display some predictive power regarding future operations, i.e., firms belonging to sectors in which acquisitions took place in the recent past are more likely to become acquisition targets. In addition, leverage is positively associated with takeover likelihood while MTB appears to be negatively related to the likelihood of being subjected to an acquisition attempt, in line with previous findings [Hasbrouck, 1985]. Finally, coefficients associated with FCF are positive and statistically significant, in line with the free cash flow theory [Jensen, 1986].

2.4.2.2 Matched-pair analysis

In this sub-section, we complement our previous findings on the role of CSR performance in takeover likelihood by analyzing differences between target firms and non-target firms. Our sample contains much more non-target observations (25,822) than target observations (799). Binary dependent variables with dozens to thousands of times fewer ones than zeros can lead to biased estimates of the probabilities associated with those rare events [King and Zeng, 2001]. To deal with this issue, most studies focusing on takeover likelihood use a matched-pair approach, i.e., they compare target firms with an equal number of comparable non-target firms. The procedure used to create the control group varies and is often based on a single variable such as size [Hasbrouck, 1985] or market-to-book [Brar et al., 2009]. Traditional dimension-by-dimension matching may potentially not yield good ex-ante matches because of a multi-dimensional matching problem, which makes it difficult to match simultaneously on multiple dimensions [Li and Zhao, 2006]. To overcome potential selection biases resulting from the multi-dimensional matching problem, this paper employs treatment-effect methodologies.

Matching estimators are based on the idea of comparing the outcomes of subjects that are as similar as possible with the sole exception of their treatment status (i.e., in our case, to be subjected to a takeover attempt). For a single covariate such a size, identifying a pair of comparable firms is not difficult. However, once we consider multiple covariates, finding identical matches becomes a challenge. The solution is to use a similarity measure, which is a statistic that measures how "close" two observations are.

In this article, we use two matching methods: nearest-neighbor matching (NNM) and propensity score matching (PSM). NNM is accomplished by calculating the "distance" between pairs of observations with regard to a set of covariates and then "matching" each subject to comparable observations that are closest to it. The "distance" to be minimized is the Mahalanobis distance[4]. Because we are matching on multiples continuous covariates, we include a bias-correction term[5].

Instead of performing bias correction to handle the case of more than one continuous covariate, a common solution is to combine all the covariate information into estimated treatment probabilities, known as propensity scores, and use this single continuous covariate as the matching variable. Similarity between subjects is based on estimated treatment probabilities, known as propensity scores [Rosenbaum and Rubin, 1985]. In other words, the control group is built in a way that its members have the same propensity to belong to the treatment group, i.e., to be takeover targets. Our aim is to assess differences in CSR performance between target firms and a control group of non-target firms that had the closest ex-ante propensities to be targeted according to a set of control variables (ROE, MTB, FCF, Size, Leverage, Growth, and Disturbance, in addition to year fixed-effects).

[4]For further detail, see Mahalanobis [1936].
[5]For further detail, see Abadie and Imbens [2012].

Table 2.5: Correlation matrix

	CSR	*ENV*	*SOC*	*GOV*	*ROE*	*MTB*	*FCF*	*SIZE*	*TAN*	*LEV*	*GRO*	*LIQ*	*WGI*
CSR	1												
ENV	**0.835**	1											
SOC	**0.885**	**0.774**	1										
GOV	**0.608**	**0.154**	**0.279**	1									
ROE	**0.075**	**0.025**	**0.092**	**0.058**	1								
MTB	**0.020**	**-0.065**	0.006	**0.110**	**0.473**	1							
FCF	**-0.026**	**-0.040**	**-0.031**	**0.012**	0.000	**0.006**	1						
SIZE	**0.375**	**0.347**	**0.396**	**0.128**	**0.259**	**0.173**	**-0.025**	1					
TAN	**0.030**	**0.052**	**-0.012**	**0.030**	**-0.082**	**-0.070**	-0.015	**-0.048**	1				
LEV	**0.020**	**0.027**	**0.044**	**-0.025**	**-0.030**	**0.103**	**-0.016**	**0.037**	**-0.026**	1			
GRO	**-0.149**	**-0.148**	**-0.127**	**-0.071**	**0.132**	**0.109**	**-0.013**	**0.031**	**0.041**	**-0.033**	1		
LIQ	**-0.085**	**-0.092**	**-0.111**	0.007	**-0.066**	**0.100**	**0.116**	**-0.136**	0.002	**-0.215**	**0.069**	1	
WGI	**0.202**	**0.074**	**0.043**	**0.359**	**-0.053**	**0.026**	**0.015**	**-0.095**	0.010	0.010	**-0.100**	**0.057**	1

This table reports correlation coefficients between variables for our sample. All financial variables are winsorized at the 1% and 99% level. Bold denotes significance at the 5% level or better.

TABLE 2.6: Univariate analysis

	Target (N=799)	Non-Target (N=25,822)	Difference
CSR	53.293	48.965	4.328***
ENV	47.503	48.045	-0.542
SOC	50.308	48.398	1.910**
GOV	62.067	50.450	11.617***
ROE	0.094	0.129	-0.035***
MTB	2.802	2.896	-0.094
FCF	0.045	0.010	0.037*
$SIZE$	14.726	15.209	-0.483***
TAN	0.306	0.302	0.004
LEV	1.615	1.170	0.445***
GRO	0.136	0.128	0.008
LIQ	1.495	1.188	0.307**
WGI	7.555	6.493	1.062***

This table reports our variables mean values for target firms and non-target firms, as well as the differences between these two sub-groups. ***, ** and * denote significance at the 1%, 5% and 10% level respectively.

Results are reported in Table 2.8 and further confirm H_1. Indeed, on average, target firms display a higher level of CSR performance than similar non-target firms. Results are statistically significant under both matching methods (NNM and PSM). Taking the overall CSR score as an illustration, the interpretation is that target firms have a CSR score that is on average 5.490 points higher than similar non-target firms according to the NNM method, and 7.512 points higher than similar non-target firms according to the PSM method. Furthermore, the difference in CSR performance between target firms and non-target firms is confirmed for each individual CSR dimension.

2.4.3 Robustness tests

To check the robustness of our results, we conduct our investigation using alternative samples. First of all, while we previously identified as targets all firms for which a bid was made regardless of the deal's outcome, we now estimate our models using successful deals only. In doing so, we follow some previous studies that only consider targets that have effectively been taken over [Espahbodi and Espahbodi, 2003; Powell, 1997]. This reduces our number of targets from 799 to

584. Results are presented in column 1 of Table 2.9. Panel A reports the results of logistic regression under this sample specification. For the sake of brevity, we only report the coefficients and t-statistics associated with our variables of interest, i.e., CSR. The coefficient associated with the overall CSR score is positive and statistically significant at the 1% level, thereby confirming our previous findings. Panel B reports the results of matched-pair analysis under NNM and PSM. Again, previous results are confirmed as we see that target firms display on average higher CSR scores than comparable non-target firms.

Then, to ensure our results are not biased by unrepresentative cases, we remove from our sample all observations coming from countries in which less than ten firms were targeted. This reduces our sample size to 20,183 firm-year observations and 742 target firms. Results are presented in columns 2 of Table 2.9. Again, the logistic regression coefficient –reported in Panel A– associated with CSR is positive and statistically significant, confirming that –everything else equal– high-CSR firms have a higher propensity to become acquisition targets. Matched-pair analysis –reported in Panel B– confirms previous findings and show that target firms have a higher level of CSR performance than similar non-target firms.

To further make sure results are not impacted by unobserved institutional factors, we conduct our study by focusing on US firms only. This reduces our sample size to 7,789 firm-year observations and 276 target firms. Results are presented in columns 3 of Table 2.9 and confirm our previous conclusions. The LOGIT coefficient associated with CSR is positive and statistically significant at the 1% level, confirming the higher propensity of high-CSR firms to be subjected to takeover attempts relative to low CSR firms. Similarly, target firms display on average higher CSR scores than comparable non-target firms, as evidenced by matched-pair analysis.

In addition, to ensure our results are not driven by the US, which represent 29.26% of our sample and 34.54% of target firms, we exclude US companies from our sample. This reduces our sample size to 18,832 firm-year observations and 523 target firms. Logistic regression results are presented in columns 4 of Table 2.9 (Panel A) and confirm the fact that high-CSR firms are more likely to be subjected

to takeover attempts. Matched-pair analysis results –reported in Panel B– are also in line with previous findings and show that target firms display a higher level of CSR performance than similar non-target firms.

Finally, we conduct the above-described set of robustness tests on individual dimensions to see if relationships between CSR subsets and takeover likelihood hold under these specifications. Results are reported in Tables 2.10 and 2.11. Table 2.10 reports the results of logistic regression. The positive relationship between CSR performance and takeover likelihood is confirmed for all dimensions and all specifications. Table 2.11 reports the results of matched-pair analysis under NNM and PSM. Again, previous results are mostly confirmed as we see that target firms display on average higher scores than comparable non-target firms.

2.4.4 Discussion

Overall, our results support the idea that CSR attributes of target firms matter for acquiring firms and that acquiring firms look for targets that feature good CSR capabilities. We show that a firm's CSR performance is positively associated with its propensity to be the subject of an acquisition attempt. More specifically, each unit-increase in a firm's overall CSR score increases the odds of it being the subject of a takeover attempt by 1.34%. Moreover, using pair-matching techniques, we document that target firms feature a CSR score that is approximately 5 to 8 points higher than similar non-target firms. Reasons underlying the avoidance of low-CSR targets could include the cost and difficulty of bringing a target company up to the acquirer's standards with regards to managing CSR factors[6].

Also, the propensity to target high-CSR companies could be explained by cost savings linked to energy efficiency, revenue growth from sales of more sustainable products, reduced risk of litigation and improved risk management, better earnings

[6]This was confirmed in a 2012 PRI-PWC survey in which a number of companies stated that their willingness to do a deal would be seriously impacted if it appeared to be too difficult or expensive to bring the target company up to their own internal standards on ESG factors. Source: The integration of environmental, social and governance issues in mergers and acquisitions transactions. Trade buyers survey results. PwC/PRI 2012. URL: https://www.pwc.com/gx/en/sustainability/publications/assets/pwc%2Dthe%2Dintegration%2Dof%2Denvironmental%2Dsocial%2Dand%2Dgovernance%2Dissues%2Din%2Dmergers%2Dand%2Dacquisitions%2Dtransactions.pdf

TABLE 2.7: LOGIT estimates of the likelihood of being targeted

	(1)	(2)	(3)	(4)
CSR (×100)	1.329***			
	(6.07)			
ENV (×100)		0.738***		
		(4.71)		
SOC (×100)			0.965***	
			(5.78)	
GOV (×100)				1.009***
				(4.42)
ROE	-0.529**	-0.529**	-0.543**	-0.552**
	(-2.31)	(-2.31)	(-2.37)	(-2.40)
MTB	-0.031*	-0.033*	-0.033*	-0.035**
	(-1.76)	(-1.87)	(-1.87)	(-1.99)
FCF	1.714*	1.596*	1.647*	1.638*
	(1.75)	(1.71)	(1.81)	(1.73)
$SIZE$	-0.316***	-0.280***	-0.308***	-0.245***
	(-7.65)	(-6.96)	(-7.48)	(-6.44)
TAN	-0.086	-0.099	-0.049	-0.065
	(-0.57)	(-0.66)	(-0.33)	(-0.44)
LEV	0.080***	0.081***	0.079***	0.082***
	(3.90)	(3.93)	(3.87)	(3.99)
GRO	0.381*	0.322	0.353*	0.264
	(1.83)	(1.55)	(1.70)	(1.28)
LIQ	0.040	0.037	0.040	0.036
	(1.45)	(1.34)	(1.46)	(1.34)
$DIST$	0.265***	0.260***	0.253***	0.237**
	(2.72)	(2.68)	(2.61)	(2.44)
WGI	0.196	0.189	0.181	0.207
	(1.49)	(1.44)	(1.38)	(1.57)
$Intercept$	-2.421**	-2.565**	-2.201*	-3.635***
	(-1.99)	(-2.10)	(-1.80)	(-3.00)
Country FE	yes	yes	yes	yes
Year FE	yes	yes	yes	yes
Obs	26,621	26,621	26,621	26,621
LR-Chi^2	492.320	476.840	488.500	474.650
P > LR-Chi^2	0.000	0.000	0.000	0.000

The dependent variable is a binary variable taking the value one if a firm is targeted during a particular year, and zero otherwise. All financial variables are winsorized at the 1% and 99% level. T-statistics are in parentheses. ***, ** and * denote significance at the 1%, 5% and 10% level respectively.

TABLE 2.8: Pair-matched analysis of CSR difference between target and non-target firms

	Nearest-neighbor matching	Propensity score matching
CSR	5.490***	7.512***
	(5.36)	(6.50)
ENV	2.665*	6.104***
	(1.91)	(3.73)
SOC	4.506***	7.636***
	(3.50)	(5.61)
GOV	9.298***	12.779***
	(7.03)	(10.89)
Obbservations	1,598	1,598

This table reports the results of pair-matched analysis for CSR measures using nearest-neighbor matching (NNM) and propensity score matching (PSM). Covariates used for pairing observations are ROE, MTB, FCF, $SIZE$, LEV, GRO, and $DIST$, in addition to year fixed-effects. T-statistics are in parentheses. ***, ** and * denote significance at the 1%, 5% and 10% level respectively.

quality [Kim et al., 2012], or increased reputation and customer loyalty [Fombrun et al., 2000].

The dimension-specific analysis provides valuable information. It reveals that targets' governance performance has the strongest impact on takeover likelihood, followed by the social, and environmental dimensions. More specifically, logistic regression analysis shows that a unit-increase in the governance, social, and environment score of a given firm, is associated with an increase in the odds of that firm being the subject of a takeover attempt of 1.01%, 0.97%, and 0.74% respectively. Using matched-pair analysis to compare target firms with similar non-target firms reveals that target firms feature higher scores on average in all CSR dimensions. More specifically, target firms display, on average, a governance score that is between 9 and 13 points higher, a social score that is approximately 4 to 8 points higher, and an environmental score that is approximately 2 to 6 points higher than comparable non-target firms. These findings can be explained by the various benefits associated with strong performance in CSR subsets.

TABLE 2.9: Robustness tests

	Successful deals only	More than 10 deals only	US deals only	Without US deals
Panel A: Logistic regression				
	(1)	(2)	(3)	(4)
CSR (×100)	1.267***	1.819***	1.695***	1.225***
	(5.06)	(7.91)	(4.39)	(4.51)
Intercept	-2.017**	-0.948	0.824	-1.986
	(-2.48)	(-1.31)	(0.66)	(-0.06)
Country FE	yes	yes	yes	yes
Year FE	yes	yes	yes	yes
Observations	26,621	20,183	7,789	18,832
LR-Chi^2	254.260	242.990	114.440	393.430
P > LR-Chi^2	0.000	0.000	0.000	0.000
Panel B: Matched-pair analysis				
	NNM	PSM	NNM	PSM	NNM	PSM	NNM	PSM
CSR	3.136***	4.964***	3.871***	6.534***	6.378***	4.602***	7.493***	8.920***
	(2.68)	(3.75)	(3.71)	(5.25)	(4.34)	(2.91)	(5.53)	(6.18)
Observations	1,168	1,168	1,484	1,484	552	552	1,046	1,046

This table reports the results of robustness tests. Panel A presents logistic regression results. The dependent variable is a binary variable taking the value one if a firm is targeted during a particular year, and zero otherwise. CSR is overall CSR score. Control variables are the same as in Table 2.7 (except for WGI which is omitted in the US-only analysis) and coefficients associated with them are not reported for the sake of brevity. Regressions include country (except for US-only analysis) and year fixed effects. Panel B reports the results of pair-matched analysis for CSR measures using nearest-neighbor matching (NNM) and propensity score matching (PSM). Covariates used for pairing observations are ROE, MTB, FCF, $SIZE$, LEV, GRO, and $DIST$, in addition to year fixed-effects. T-statistics are in parentheses. ***, ** and * denote significance at the 1%, 5% and 10% level respectively.

TABLE 2.10: Robustness tests

	Successful deals only			More than 10 deals only			US deals only			Without US deals		
	Logistic regression											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
ENV (×100)	0.444*			0.539***			1.023***			0.594***		
	(1.68)			(3.34)			(3.99)			(2.94)		
SOC (×100)		0.699***			1.025***			1.337***			0.828***	
		(3.71)			(6.01)			(4.49)			(4.01)	
GOV (×100)			1.533***			1.579***			0.885*			1.138***
			(7.61)			(8.55)			(1.90)			(4.27)
Intercept	-2.843***	-2.267***	-2.470***	-1.625**	-1.265*	-1.837**	0.805	1.228	-1.033	-2.085	-2.514	-2.113
	(-3.47)	(-2.78)	(-3.11)	(-2.19)	(-1.74)	(-2.56)	(0.64)	(0.95)	(-0.86)	(-0.06)	(-0.81)	(-0.15)
Country FE	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Observations	26,621	26,621	26,621	20,183	20,183	20.183	7,789	7,789	7,789	18,832	18,832	18,832
LR-Chi^2	227.550	241.600	291.410	187.610	213.640	258.230	110.250	115.39	97.780	381.390	365.690	391.420
P > LR-Chi^2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

This table reports the results of robustness tests. The dependent variable is a binary variable taking the value one if a firm is targeted during a particular year, and zero otherwise. *ENV* is environmental score. *SOC* is social score. *GOV* is governance score. Control variables are the same as in Table 2.7 (except for WGI which is omitted in the US-only analysis) and coefficients associated with them are not reported for the sake of brevity. Regressions include country (except for US-only analysis) and year fixed effects. ***, ** and * denote significance at the 1%, 5% and 10% level respectively.

TABLE 2.11: Robustness tests

	Successful deals only		More than 10 deals only		US deals only		Without US deals	
	Matched-pair analysis							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ENV (×100)	2.515*	2.244*	2.132*	5.229***	6.558***	5.471**	4.477***	3.703**
	(1.72)	(1.74)	(1.77)	(2.95)	(3.07)	(2.51)	(2.69)	(2.06)
SOC (×100)	2.547*	3.504**	3.358**	6.446***	8.413***	5.924***	7.146***	8.038***
	(1.70)	(2.28)	(2.47)	(3.87)	(4.53)	(3.10)	(4.42)	(4.56)
GOV (×100)	7.376***	10.145***	7.122***	7.927***	4.165***	2.410*	10.857***	15.019***
	(4.79)	(5.61)	(5.53)	(5.76)	(4.53)	(1.72)	(6.31)	(8.48)
Observations	1,168	1,168	1,484	1,484	552	552	1,046	1,046

This table reports the results of pair-matched analysis for CSR measures using nearest-neighbor matching (NNM) and propensity score matching (PSM). Covariates used for pairing observations are ROE, MTB, FCF, $SIZE$, LEV, GRO, and $DIST$, in addition to year fixed-effects. ENV is environmental score. SOC is social score. GOV is governance score. T-statistics are in parentheses. ***, ** and * denote significance at the 1%, 5% and 10% level respectively.

Increased transparency associated with high governance standards, e.g. increased earnings quality and lower level of earnings management [Xie et al., 2003], leads to reduced information asymmetry and reduced risk, making high-quality governance firms more appealing to prospective buyers.

Strong social attributes are associated with increased employee productivity [Becker, 1962], improved reputation and appeal to potential employees [Branco and Rodrigues, 2006; Fombrun et al., 2000]. Strong social features also reduce the probability of future labor unrest, making potential buyers more comfortable regarding post-acquisition outcomes.

Finally, strong environmental attributes lead to substantial risk reduction. Indeed, strong environmental features decrease the probability of negative outcomes such as pollution-related hazards, thereby reducing potential future claims, litigation costs, and reputation damages. Strong environmental performance can also decrease the likelihood of regulatory intervention by state or federal governments [Orlitzky and Benjamin, 2001].

2.5 Conclusion

The importance of Corporate Social Responsibility (CSR) for corporations has increased in recent years. Environmental, social, and governance performance have been shown to impact a firm's valuation (Jiao, 2010; Aouadi and Marsat, 2016), its cost of capital [Dhaliwal et al., 2014; El Ghoul et al., 2011; Martinez-Ferrero et al., 2016], its financing policy [Pijourlet, 2015], and its market risk [Diemont et al., 2016; Jo and Harjoto, 2014; Kim et al., 2014]. While studies related to CSR are numerous, very few authors have tried to study CSR in the context of mergers and acquisitions (M&A). We attempt to bridge this gap and examine whether a firm's CSR performance influences its propensity to be the target of a takeover attempt.

We develop two competing hypotheses and use an extensive and rich international dataset spanning the 2003-2014 period. We find that CSR performance appears to be a determinant of target choices. More specifically, we employ the

logistic regression framework and find a positive association between CSR performance and the likelihood of being an acquisition target. Our results show that all CSR dimensions appear to play a role.

To further assess the impact of CSR performance on target choices, we create control groups of non-target firms using treatment-effect matching techniques (nearest-neighbor matching and propensity score matching). We compare the CSR performance of target firms with the CSR performance of otherwise comparable non-target firms and find that target firms display higher CSR scores on average. Our results demonstrate robustness to alternative sample specifications.

Taken together, our findings contribute to the M&A and CSR literatures by showing that CSR matters for corporations, and is an important determinant of external growth operations. More specifically, we provide new insight into the CSR literature by showing that CSR influences the way corporate buyers assess potential target firms. Finally, our work has interesting managerial implications in that it supplements anecdotal evidence which shows that CSR attributes matter for acquirers and are part of pre-acquisition due-diligence processes. Our study is therefore of interest to corporate managers insofar as improving the CSR performance of their firms could increase their appeal to potential acquirers.

Finally, we also show that acquirers prove to be particularly sensitive to some CSR subsets, especially the governance and social pillars. This fact provides interesting avenues for future research. Future work could investigate these relationships more deeply by further decomposing governance and social scores in order to determine whether some key performance indicators (audit committee independence, board membership limits, diversity, employee relations...) matter more than others for acquirers.

Acknowledgements

We thank Andrei Filip, Franck Missonier and Jean-Michel Sahut, participants at the 2017 "Conférence Internationale de Gouvernance", for helpful conversations and comments. We also thank CRCGM workshop participants. We gratefully

acknowledge the financial support of the "Value and CSR" chair. All errors remain our responsibility.

Chapter 3

The pricing of M&A targets: Does CSR impact acquisition premia?

Abstract

Studies linking corporate social responsibility (CSR) to the market value of firms for marginal investors have found mixed evidence. However, the case of strategic acquirers has scarcely been analyzed. We investigate whether CSR is valued by acquirers in mergers and acquisitions (M&A) and find that CSR is positively associated with acquisition premia. Interestingly, while global CSR and environmental performance are generally valued by acquirers, social performance only commands a premium in cross-border transactions. Our findings suggest that acquirers value targets' CSR involvement and may consider it as a way to reduce information asymmetry and targets' specific risk.

Keywords: Corporate social responsibility, Mergers and acquisitions, Acquisition premium

Résumé

Les études portant sur le lien unissant performance RSE et valeur de marché aboutissent à des résultats équivoques. Toutefois, le lien entre performance RSE et valeur de rachat par un acquéreur stratégique n'est quasiment pas abordé. Nous nous intéressons à la relation entre la performance RSE des firmes ciblées dans le cadre d'opérations de F&A et leur valorisation par les acquéreurs et constatons que la performance RSE des firmes ciblées est, toutes choses égales par ailleurs, positivement liée à la prime d'acquisition offerte. De manière intéressante, alors que l'impact de la performance RSE globale et de la performance environnementale sur la prime d'acquisition est démontré de manière générale, il apparait en revanche que la performance sociale n'impacte la valorisation de la cible que dans le cadre d'opérations transfrontalières. Nos résultats suggèrent que les acquéreurs valorisent la performance RSE des cibles et la considèrent potentiellement comme une manière de réduire l'asymétrie d'information et le risque spécifique de la cible.

Mots clés: Responsabilité sociale des entreprises, Fusions et acquisitions, Prime d'acquisition

3.1 Introduction

A series of interviews with corporate buyers conducted by PwC in 2012[1] revealed that performance on corporate social responsibility (CSR) factors could largely impact deal valuation. More precisely, it revealed that good CSR performance was usually integrated in the valuation of the target company and that poor CSR performance could be used as a lever in negotiating a discount. Such qualitative evidence suggests CSR plays an important role in mergers and acquisitions (M&A). However, in spite of the growing CSR literature, attempts to empirically investigate its impact on M&A are scarce.

CSR has been discussed in academic studies for decades. The debate focuses on why firm would invest significant resources on CSR activities and features two opposing views. On the one hand, the shareholder expense view [Friedman, 1970; Levitt, 1958] claims that the only social responsibility of business should be to increase profits and maximize shareholder value. On the other hand, the stakeholder view [Donaldson and Preston, 1995; Freeman, 1984; Jones, 1995; Porter and Kramer, 2006] suggests that ethical behavior and profit are not mutually exclusive and that CSR activities may actually enable firms to be more profitable. These views lead to opposite conclusions as to the impact of CSR on firm valuation and numerous attempts have been made in order to determine which one prevails. Despite much research on the topic [Aouadi and Marsat, 2016; Gregory et al., 2014; Jiao, 2010; Jo and Harjoto, 2011; Servaes and Tamayo, 2013], the literature has failed to reach a firm and definitive consensus. The relation between CSR performance and firm value may be unclear because of the intangible nature of attributes often associated with CSR. These attributes, which include corporate reputation, culture, and employee's knowledge and capabilities, can be a source of competitive advantage as per the resource-based view (RBV) of the firm [Barney, 1991; Wernerfelt, 1984] insofar as they are difficult to create or replicate [Branco

[1]Source: The Integration of Environmental, Social and Governance Issues in Mergers and Acquisitions Transactions, December 2012, PwC/PRI. URL: https://www.pwc.com/gx/en/sustainability/publications/assets/pwc%2Dthe%2Dintegration%2Dof%2Denvironmental%2Dsocial%2Dand%2Dgovernance%2Dissues%2Din%2Dmergers%2Dand%2Dacquisitions%2Dtransactions.pdf

and Rodrigues, 2006]. However, these intangible assets are also extremely hard to value.

In light of this difficulty, our paper approaches the problem from a different angle. Instead of examining the impact of CSR performance on the value of firms as perceived by marginal investors (i.e., conveyed by stock market prices), we evaluate the impact of CSR performance on the value assigned to firms by M&A bidders. This approach is particularly relevant for two main reasons. First, in every acquisition, there is an inherent information asymmetry between the acquirer and the target. As a result, M&A bidders perform extensive due diligence analysis of potential acquisition candidates in order to reduce this information asymmetry [Laamanen, 2007] and obtain a great deal of information about the target that is inaccessible to the public. It can therefore be argued that these acquirers have a deeper understanding of the value of a target than the market, and that they are better able to assess its organizational characteristics such as intangible CSR-related assets. Second, M&A bidders are by definition forced to assume a large amount of specific risk because of investment concentration and the high costs associated with the divestiture of acquired businesses. This is in stark contrast with the situation of marginal investors who have the ability to diversify their portfolios and liquidate positions at minimal costs. In other words, while marginal investors are mainly concerned with systematic risk, M&A bidders are largely concerned with potential targets' specific risks. Because good relationships with stakeholders decrease firm-specific risk insofar as they build goodwill that reduces cash-flow shocks when negative events materialize [Godfrey et al., 2009], the CSR performance of M&A targets should be of particular importance to acquirers.

Given the growing importance attributed to CSR, understanding its value implications is worth further investigation. Although anecdotal evidence suggests a positive link between CSR performance and deal valuation, attempts to examine this matter are almost nonexistent. A notable exception is Chen and Gavious [2015], who study the link between CSR involvement and sale price for a sample of 134 Israeli M&A transactions. In this particular context, the authors find no relationship between CSR involvement and target valuation. Our study aims

at complementing this finding and differs from Chen and Gavious [2015] in the following ways. First, we conduct our analysis on a worldwide sample of M&A transactions. Second, we use the offered acquisition premium as a proxy for target value instead of the sale price of the firm's share in the M&A transaction. This has the advantage of capturing the difference between the market's perception and the acquirer's assessment of the target. Third, while Chen and Gavious [2015] use CSR data from the Maala report, we use CSR scores provided by Thomson Reuters ASSET4. In addition, our international sample enables us to distinguish between domestic and cross-border deals. This distinction is important given the increased complexity of cross-border M&As, which embed greater information asymmetry and a higher risk of improper evaluation compared with domestic operations [Gatignon and Anderson, 1988]. Moreover, monitoring the target by the acquirer is even more difficult in cross-border deals as the cost of acquiring reliable and objective information to monitor the target in the post-acquisition phase increases considerably [Cho and Ahn, 2017; Fama and Jensen, 1983]. Within this framework, extra-financial information is likely to be especially valuable in the assessment and pricing of foreign targets.

Using an international sample of 588 deals announced over the 2003-2014 period, we find that targets' CSR performance is positively associated with acquisition premia. We also show that acquirers value CSR performance differently depending on whether the deal involves a domestic or a foreign target. Specifically, while overall and environmental performance are generally positively valued, social performance only commands a premium in the case of cross-border deals, suggesting M&A bidders seek further reduction in information asymmetry through the analysis of "social assets" to compensate for the higher uncertainty associated with cross-border operations.

The contributions of this paper are manifold. First, to the best of our knowledge, we are the first to investigate the worldwide impact of CSR on acquisition premia. Second, we show that the assessment of CSR is contingent on the type of investors we focus on. Indeed, while value implications for marginal investors appear to be ambiguous, their significance for better informed corporate acquirers

is clear. Overall, we contribute to and build on two main areas in the literature. On the one hand, we complement studies related to the value implications of CSR. On the other hand, we complement previous findings on the determinants of acquisition premia.

This chapter proceeds as follows. Section 3.2 presents the data. Section 3.3 then introduces our tests and empirical findings. Finally, section 3.4 concludes.

3.2 Data

3.2.1 Measuring CSR

To measure CSR, we use data provided by Thomson Reuters ASSET4. The ASSET4 database includes 5,000 global publicly listed companies and provides history up to fiscal year 2002 for close to 1,000 companies. Specifically, in year t, a firm is assigned a z-score for each of the CSR dimensions (environment and social), benchmarking its performance against the rest of the firms based on all the information available in fiscal year t-1. The resulting percentage is therefore a relative measure of performance, z-scored and normalized to be comprised between 0 and 100%. In this study, for each deal we use the last available ASSET4 scores before the announcement date. Following Cheng et al. [2014], we compute a firm's overall CSR score (CSR) by averaging the scores assigned to the environmental, social, and corporate governance dimensions[2].

3.2.2 Sample selection

The selection of our sample is derived in multiple steps. We download a list of international deal offers over the 2003-2014 period from Thomson Financial Securities Data Company (SDC). In line with most studies on the subject [Ayers et al., 2003; Dionne et al., 2015], we select all offers where the bidder initially owns less than 50% of the target firm and seeks to acquire more than 50% of the target firm. Bloomberg and Reuters news services were used to check the information's accuracy. We then merge this list of deals with the ASSET4 database and remove

[2]Detail on the composition of ASSET4 indicators is provided in appendix B.

TABLE 3.1: Sample distribution across years

Year	#Deal	Proportion (%)
2003	3	0.51
2004	5	0.85
2005	10	1.70
2006	58	9.86
2007	67	11.39
2008	50	8.50
2009	32	5.44
2010	66	11.22
2011	76	12.93
2012	76	12.93
2013	50	8.50
2014	95	16.16
Total	588	100

This table provides the sample distribution by announcement year. #Deal indicates the number of deals.

the bids for which we do not have environmental and social scores for the target. Finally, we merge this sample with the Thomson Reuters Datastream database to get the necessary controls. We follow standard practice and exclude financial firms. Our final sample contains 588 deal offers. Table 3.1 presents the number of observations per year. The countries and industries involved in the sample appear in Tables 3.2 and 3.3, respectively.

3.2.3 Measuring target valuation using acquisition premia

We follow Betton et al. [2009] and define the acquisition premium as follows:

$$Premium_i = \frac{P_{offer} - P_{target,t-42}}{P_{target,t-42}} \tag{1}$$

where $Premium_i$ is the bid premium, P_{offer} is the acquisition price per share offered to target shareholders, and $P_{target,t-42}$ is the target's stock price 42 days prior to the acquisition announcement.

Table 3.2: Home country

Country	#Target	Proportion (%)	#Acquirer	Proportion (%)
USA	217	36.90	230	39.12
UK	94	15.99	72	12.24
Australia	91	15.48	36	6.12
Canada	55	9.35	43	7.31
Germany	14	2.38	30	5.10
Netherlands	12	2.04	13	2.21
France	10	1.70	21	3.57
Spain	10	1.70	12	2.04
Sweden	9	1.53	6	1.02
Japan	8	1.36	13	2.21
Singapore	8	1.36	9	1.53
Switzerland	6	1.02	11	1.87
India	6	1.02	7	1.19
South Africa	6	1.02	5	0.85
Norway	6	1.02	2	0.34
Other	36	6.12	78	13.27
Total	588	100.00	588	100.00

This table breaks down the sample by country of domicile. #Target and #Acquirer denote, respectively, the number of targets and acquirers per country.

Table 3.3: Industry

Industry (2-digit SIC code)	#Target	Proportion (%)	#Acquirer	Proportion (%)
Agriculture, forestry, and fisheries (01-09)	5	0.85	1	0.17
Mineral industries and construction (10-17)	118	20.07	91	15.48
Manufacturing (20-39)	217	36.90	175	29.76
Transportation and communications (40-48)	63	10.71	38	6.46
Utilities (49)	37	6.29	31	5.27
Wholesale and retail trade (50-59)	47	7.99	30	5.10
Service industries (70-89)	101	17.18	222	37.76
Total	588	100.00	588	100.00

This table breaks down the sample by country of domicile. #Target and #Acquirer denote, respectively, the number of targets and acquirers per industry.

3.2.4 Control variables

In order to avoid any specification bias that could explain acquisition premia, we include a set of control variables that have been previously identified or suggested in the literature. Several motives are advocated in the literature to explain acquisition premia.

According to Comment and Schwert [1995], larger targets are associated with higher integration costs and should therefore be associated with lower premia. We therefore include a measure of target size (*Size*) in order to proxy for this effect. Specifically, we use the natural logarithm of target's market capitalization.

We also include target's market-to-book ratio (*MTB*) as suggested by Dionne et al. [2015]. A negative relation should be anticipated between the market-to-book ratio and the premium if a low ratio illustrates the undervaluation of the target, whereas a positive relation between the market-to-book ratio and the premium should be seen if a low ratio signals restricted investment opportunities.

We control for leverage (*Leverage*) because a target that has considerable debt should be less attractive to bidders [Dionne et al., 2015]. We thus expect a negative relationship between leverage and acquisition premia. We use target's debt-to-asset ratio as our measure of leverage.

Buyers may be interested in targets that perform poorly because of the gains that could be realized if the current managers were replaced. In this case, the relation between the performance of the target and the premium should be negative. However, poor performance is often associated with fragile financial health and is therefore likely to hinder the target's ability to negotiate. In this case, the relation between performance and the premium should be positive [Dionne et al., 2015]. In order to proxy for target's performance, we use its average sales growth (*Growth*) over a period of three years prior to the observation year.

We also control for target's stock price variation prior to the announcement (*Runup*). We follow Betton et al. [2009] and use the logarithm of the ratio of the share price of the target on the day before the announcement to the share price 42 days before the announcement. The higher the runup, the higher should the premium offered to acquire the target be, in line with the markup price effect

identified by Schwert [1996].

Liquidity (*Liquidity*) gives information about the target's financial position and could therefore affect premia [Ayers et al., 2003]. We proxy for liquidity using the target's current ratio.

According to Laamanen [2007], the target's R&D activities can yield important synergistic resources offering private benefits, and could be expected to be positively related to premia. We follow Chen and Gavious [2015] and use R&D expenditures scaled by total sales (*R&D*) as a proxy for R&D activity.

We control for acquirer's holding of target's shares prior to the announcement (*Blockholder*). Specifically, we follow Dionne et al. [2015] and use dummy variable equal to one if the bidder held more than 5% of the target's shares before deal announcement. This variable measures the effect of information asymmetry [Dionne et al., 2015] and bidder's bargaining power [Ayers et al., 2003] and is expected to be negatively related to acquisition premia.

Hostile transactions usually command a higher premium [Ayers et al., 2003; Dionne et al., 2015]. We therefore use a dummy variable (*Hostile*) equal to one if the transaction is defined as hostile by SDC.

A wholly cash payment, which implies a prominent tax effect, should increase the premium significantly [Comment and Schwert, 1995]. We control for this effect with a dummy variable (*Cash*) equal to one if the transaction is fully paid in cash.

The presence of more than one potential buyer creates competition that could increase the premium that the target could obtain from the buyer [Ayers et al., 2003; Dionne et al., 2015]. We therefore use a dummy variable (*Competing*) equal to one if there was a competing bidder for the target.

We also use a dummy variable (*CrossBorder*) equal to one if target and acquirer come from different countries as cross-border deals embed greater information asymmetry and a higher risk of improper evaluation compared with domestic operations [Gatignon and Anderson, 1988].

Finally, we include a dummy variable equal to one in the the transaction is horizontal (i.e., when acquirer and target belong to the same industry), and zero

otherwise. Outliers are dealt with by winsorizing the top and bottom 1% of continuous variables. Table 3.4 provides the full description, calculation method and predicted sign of the relationship with acquisition premia for the control variables.

Table 3.5 presents summary statistics for the variables previously described. The average acquisition premium is 32.1% with a standard deviation of 26.8%, which is consistent with previous research [Betton et al., 2008]. The CSR score averages 0.475 with a standard deviation of 0.267. Correlations among variables are reported in Table 3.6. Correlations among CSR variables are high, which means that companies tend to fare similarly in all CSR dimensions, i.e., when a firm is strong (weak) in one dimension, it will probably be strong (weak) in other dimensions as well. Other variables appear to be moderately correlated.

3.3 Results

3.3.1 CSR and acquisition premia

In order to assess the marginal impact of CSR on acquisition premia, we run the following regression:

$$\begin{aligned} Premium_i = \beta_0 &+ \beta_1 CSR_i + \beta_2 Size_i + \beta_3 MTB_i + \beta_4 Leverage_i \\ &+ \beta_5 Growth_i + \beta_6 Runup_i + \beta_7 Liquidity_i + \beta_8 R\&D_i \\ &+ \beta_9 Blockholder_i + \beta_{10} Hostile_i + \beta_{11} Cash_i \\ &+ \beta_{12} Competing_i + \beta_{13} CrossBorder_i + \beta_{14} Horizontal_i \\ &+ YearEffects + IndustryEffects + CountryEffects + \epsilon_i \end{aligned} \tag{2}$$

In addition to the set of control variables described in section 3.2, we control for year, country, and industry[3] fixed effects to address unobserved heterogeneity. We tested econometric specifications for multicollinearity by using the variance-inflation factor (VIF). None of the main variables exceeded a VIF of 2.67, well

[3]Industry fixed effects are based on two-digit SIC codes.

TABLE 3.4: Description of control variables

Variable	Description	Expected sign
Size	Size is proxied by the natural logarithm of the firm's market capitalization.	-
MTB	Market-to-Book ratio at the end of the last accounting year prior to the observation year.	+/-
Leverage	We proxy for leverage by using the debt-to-asset ratio averaged over a period of three years prior to the observation year.	-
Growth	Growth is measured by the average sales growth over a period of three years prior to the observation year.	+/-
Runup	We measure runup with the logarithm of the ratio of the share price of the target on the day before the announcement to the share price 42 days before the announcement, as in Betton et al. [2009].	+
Liquidity	Liquidity is measured by the average current ratio[a] over a period of three years prior to the observation year.	+/-
R&D	R&D expenditures scaled by total sales, as in Chen and Gavious [2015].	+
Blockholder	Dummy variable that takes the value of one if the bidder held more than 5% of the target's shares before deal announcement, and zero otherwise, as in Dionne et al. [2015].	-
Hostile	Dummy variable that takes the value of one when takeover attempt is considered hostile, and zero otherwise.	+
Cash	Dummy variable that takes the value of one when the form of consideration is cash-only, and zero otherwise.	-
Competing	Dummy variable that takes the value of one if there was a competing bidder for the target, and zero otherwise.	+
CrossBorder	Dummy variable that takes the value of one if target and acquirer come from different countries, and zero otherwise.	+/-
Horizontal	Dummy variable that takes the value of one if target and acquirer come from the same industry, and zero otherwise.	+/-

This table reports the description of the control variables used in our models as well as the sign of their predicted relationship with acquisition premia.

[a] Computed as the ratio of current assets on current liabilities.

TABLE 3.5: Summary statistics

	Mean	Std. Dev.	Q1	Median	Q3
Premium	0.321	0.268	0.161	0.298	0.423
CSR	0.475	0.267	0.242	0.434	0.706
Environment	0.453	0.294	0.171	0.381	0.725
Social	0.497	0.282	0.228	0.539	0.819
Governance	0.652	0.228	0.539	0.716	0.819
Size	14.715	1.350	13.975	14.783	15.574
MTB	2.327	1.623	1.245	2.020	3.043
Leverage	0.252	0.187	0.108	0.241	0.367
Growth	0.146	0.285	0.000	0.074	0.190
Runup	0.031	0.440	-0.048	0.048	0.152
Liquidity	2.342	3.861	0.986	1.499	2.268
R&D	0.028	0.061	0.000	0.000	0.019

This table reports summary statistics for our sample. The sample consists of 588 deal offers initiated between January 1, 2003 and December 31, 2014. All financial variables are winsorized at the 1% and 99% level.

below the generally perceived cut-off level of 10. We can therefore conclude that multicollinearity is not an issue of concern in this study.

Table 3.7 displays regression results. We see in column 1 that the coefficient associated with CSR is positive and statistically significant. This result reveals that target CSR is positively associated with acquisition premia ceteris paribus. The coefficients associated with the control variables are generally in line with prior research. To complement our findings, we analyze the impact of CSR performance in each of the three underlying dimensions, i.e., environment, social, and corporate governance. Results are reported in columns 2, 3 and 4, and show that, overall, environmental and social performances are positively related to acquisition premia, which confirms that acquirers assign importance to targets' CSR performance. More precisely, the regression coefficients imply that acquisition premia are increased by 5.5, 4.6, and 4.7 percentage points for each standard deviation unit-increase in overall, environmental, and social scores, respectively. Corporate governance as a stand-alone dimension does not seem to impact target value.

3.3.2 Domestic vs. cross-border deals

In order to disentangle the potential impact of the cross-border nature of acquisitions, we introduce an interaction term between CSR and the Cross Border binary variable to capture the incremental impact of CSR performance for cross-border transactions. Among the 588 deals in our sample, 349 are domestic transactions and 239 are deals involving bidders and targets coming from different countries. Our modified regression model is as follows:

$$\begin{aligned} Premium_i = \beta_0 &+ \beta_1 CSR_i + \beta_2 CrossBorder_i + \beta_3 (CSR_i \times CrossBorder_i) \\ &+ \beta_4 Size_i + \beta_5 MTB_i + \beta_6 Leverage_i + \beta_7 Growth_i + \beta_8 Runup_i \\ &+ \beta_9 Liquidity_i + \beta_{10} R\&D_i + \beta_{11} Blockholder_i + \beta_{12} Hostile_i \\ &+ \beta_{13} Cash_i + \beta_{14} Competing_i + \beta_{15} Horizontal_i \\ &+ YearEffects + IndustryEffects + CountryEffects + \epsilon_i \end{aligned} \tag{3}$$

Results are reported in Table 3.8. Interestingly, while overall CSR performance and environmental performance are positively associated with acquisition premia, we find that the positive incremental impact of social performance is only significant for cross-border deals. This suggests that social performance is particularly important in international transactions which are inherently more uncertain and complex. Indeed, cultural and regulation differences between targets and bidders may obscure the true value of assets to be acquired and the ability of the bidder to manage relationships with foreign stakeholders [Benou et al., 2007]. It follows that acquirers may be willing to pay a premium related to social data (working conditions, relationships with suppliers, business partners, contractors, and communities) that are contingent upon other national contexts.

TABLE 3.6: Correlation matrix

	Premium	*CSR*	*Environment*	*Social*	*Governance*	*Size*	*MTB*	*Leverage*	*Growth*	*Runup*	*Liquidity*	*R&D*
Premium	1											
CSR	**0.087**	1										
Environment	0.061	**0.861**	1									
Social	0.078	**0.841**	**0.651**	1								
Governance	0.063	**0.590**	**0.262**	**0.228**	1							
Size	**-0.129**	**0.353**	**0.326**	**0.325**	**0.145**	1						
MTB	0.055	0.006	-0.028	0.027	0.020	**0.208**	1					
Leverage	-0.029	**0.111**	**0.115**	**0.114**	0.017	**0.192**	0.059	1				
Growth	**0.084**	**-0.187**	**-0.169**	**-0.176**	-0.077	-0.005	0.015	-0.013	1			
Runup	**0.327**	0.074	0.070	**0.083**	0.009	0.051	0.071	**0.087**	-0.061	1		
Liquidity	**0.091**	**-0.261**	**-0.231**	**-0.225**	**-0.139**	**-0.301**	-0.041	**-0.335**	0.004	-0.012	1	
R&D	0.069	0.018	0.011	0.004	0.029	**0.109**	**0.102**	**-0.187**	0.034	0.070	**0.087**	1

This table reports correlation coefficients between variables for our sample. All financial variables are winsorized at the 1% and 99% level. Bold denotes significance at the 5% level or better.

3.3.3 Dealing with potential endogeneity

To make sure our CSR measure does not proxy for other unobserved variables, we estimate instrumental variable regressions. For the choice of instruments, we base our work on Ioannou and Serafeim [2012] that show that a firm's CSR performance is impacted by a time-invariant component associated with its membership in the country-industry pair, and a time-varying component at the country level. In other words, a firm's CSR performance is impacted by the CSR performance of other firms within the same industry-country pair, and by the CSR performance of other firms in the same country over time. We follow Cheng et al. [2014], and Arouri and Pijourlet [2017], and use the country-year mean of CSR scores and the country-industry mean of CSR scores, computed using the entire Thomson Reuters ASSET4 database. Results are reported in Table 3.9 and show our results do not suffer from endogeneity issues[4].

3.3.4 Other robustness checks

In our study,we consider both cash-only and stock deals. For robustness purposes, we also conducted all tests featured in this paper using only cash deals (386 observations). Results are provided in table 3.10. Panel A show regression results for model 2 while Panel B features results for model 3 including the interaction term between CSR and the $CrossBorder$ binary variable. None of our conclusions are altered under this specification.

Also, our main tests comprise both successful and unsuccessful deals. We therefore conduct additional tests focusing on successful deals only (400 observations), using the final price paid for acquiring the target instead of the offered price. Results are provided in table 3.11. Panel A show regression results for model 2 while Panel B features results for model 3 including the interaction term between CSR and the $CrossBorder$ binary variable. Again, our previous conclusions are all confirmed.

[4]For the sake of brevity, the first-stage results are not reported here but are available upon request. Both instruments are statistically significant.

Table 3.7: CSR and acquisition premia

	Overall (1)	Environment (2)	Social (3)	Governance (4)
CSR	0.244***	0.155***	0.165***	0.104
	(3.89)	(3.39)	(3.73)	(1.64)
Size	-0.042***	-0.041***	-0.040***	-0.029***
	(-3.76)	(-3.59)	(-3.57)	(-2.71)
MTB	0.009	0.009	0.008	0.007
	(1.37)	(1.35)	(1.21)	(1.05)
Leverage	0.038	0.035	0.043	0.049
	(0.55)	(0.50)	(0.62)	(0.69)
Growth	0.104***	0.100**	0.101**	0.079**
	(2.59)	(2.50)	(2.51)	(1.96)
Runup	0.284***	0.287***	0.287***	0.286***
	(6.73)	(6.79)	(6.79)	(6.69)
Liquidity	0.005	0.004	0.004	0.004
	(1.11)	(0.98)	(0.88)	(0.92)
R&D	0.056	0.053	0.046	0.057
	(0.29)	(0.27)	(0.24)	(0.29)
Blockholder	-0.050*	-0.054*	-0.049*	-0.054*
	(-1.77)	(-1.94)	(-1.75)	(-1.91)
Hostile	0.117***	0.113***	0.124***	0.121***
	(3.18)	(3.04)	(3.37)	(3.23)
Cash	0.045*	0.040*	0.046**	0.042*
	(1.90)	(1.71)	(1.98)	(1.76)
Competing	0.076**	0.077**	0.076**	0.076**
	(2.31)	(2.34)	(2.29)	(2.29)
CrossBorder	0.046**	0.048**	0.048**	0.041*
	(2.03)	(2.09)	(2.13)	(1.77)
Horizontal	0.006	0.002	0.009	0.002
	(0.26)	(0.10)	(0.41)	(0.10)
Intercept	0.652***	0.696***	0.634***	0.559***
	(3.23)	(3.40)	(3.14)	(2.74)
Year FE	yes	yes	yes	yes
Country FE	yes	yes	yes	yes
Industry FE	yes	yes	yes	yes
Observations	588	588	588	588
Adj-R^2	0.223	0.217	0.221	0.203

All financial variables are winsorized at the 1% and 99% level. T-statistics are in parentheses. ***, ** and * denote significance at the 1%, 5% and 10% level respectively.

TABLE 3.8: CSR and acquisition premia: domestic vs. cross-border deals

	Overall (1)	Environment (2)	Social (3)	Governance (4)
CSR	0.211***	0.183***	0.086	0.100
	(2.87)	(3.43)	(1.64)	(1.31)
$CrossBorder$	-0.001	0.080	-0.052	0.035
	(-0.01)	(1.02)	(-1.20)	(0.52)
$CSR_i \times CrossBorder$	0.085	-0.070	0.200***	0.009
	(0.86)	(-0.99)	(2.72)	(0.09)
$Size$	-0.043***	-0.040***	-0.040***	-0.029***
	(-3.80)	(-3.54)	(-3.64)	(-2.70)
MTB	0.010	0.009	0.009	0.007
	(1.40)	(1.32)	(1.28)	(1.05)
$Leverage$	0.043	0.029	0.050	0.049
	(0.62)	(0.42)	(0.73)	(0.69)
$Growth$	0.106***	0.098**	0.099**	0.080**
	(2.62)	(2.43)	(2.46)	(1.96)
$Runup$	0.287***	0.284***	0.293***	0.286***
	(6.78)	(6.70)	(6.99)	(6.65)
$Liquidity$	0.005	0.004	0.004	0.004
	(1.15)	(0.92)	(0.97)	(0.92)
$R\&D$	0.060	0.058	0.052	0.059
	(0.31)	(0.30)	(0.27)	(0.30)
$Blockholder$	-0.051*	-0.053*	-0.052*	-0.054*
	(-1.81)	(-1.88)	(-1.86)	(-1.91)
$Hostile$	0.117***	0.114***	0.122***	0.121***
	(3.17)	(3.08)	(3.33)	(3.23)
$Cash$	0.045*	0.040*	0.048*	0.041*
	(1.90)	(1.70)	(2.04)	(1.76)
$Competing$	0.075**	0.079**	0.072**	0.076**
	(2.25)	(2.38)	(2.18)	(2.27)
$Horizontal$	0.004	0.004	0.004	0.002
	(0.18)	(0.19)	(0.19)	(0.10)
$Intercept$	0.686***	0.669***	0.689***	0.563***
	(3.33)	(3.24)	(3.42)	(2.68)
Year FE	yes	yes	yes	yes
Country FE	yes	yes	yes	yes
Industry FE	yes	yes	yes	yes
Observations	588	588	588	588
Adj-R^2	0.222	0.217	0.231	0.201

All financial variables are winsorized at the 1% and 99% level. T-statistics are in parentheses. ***, ** and * denote significance at the 1%, 5% and 10% level respectively.

TABLE 3.9: CSR and acquisition premia using 2SLS

	Overall (1)	Environment (2)	Social (3)	Governance (4)
CSR	0.746***	0.449***	0.582***	0.363
	(3.67)	(3.05)	(3.67)	(1.69)
Size	-0.075***	-0.068***	-0.072***	-0.040***
	(-4.51)	(-4.05)	(-4.47)	(-3.38)
MTB	0.015**	0.014**	0.013*	0.011
	(2.21)	(2.09)	(1.84)	(1.55)
Leverage	0.017	0.010	0.028	0.046
	(0.25)	(0.14)	(0.40)	(0.69)
Growth	0.166***	0.149***	0.169***	0.098**
	(3.65)	(3.33)	(3.61)	(2.48)
Runup	0.271***	0.282***	0.278***	0.267***
	(6.64)	(7.08)	(6.69)	(6.41)
Liquidity	0.008*	0.006	0.005	0.008*
	(1.89)	(1.54)	(1.31)	(1.72)
R&D	0.071	0.061	0.038	0.094
	(0.38)	(0.33)	(0.20)	(0.51)
Blockholder	-0.034*	-0.049*	-0.029*	-0.041*
	(-1.73)	(-1.85)	(-1.73)	(-1.74)
Hostile	0.107***	0.096***	0.130***	0.114***
	(3.01)	(2.66)	(3.58)	(3.22)
Cash	0.054**	0.040*	0.063**	0.049*
	(2.35)	(1.82)	(2.61)	(2.15)
Competing	0.075**	0.079**	0.072**	0.075**
	(2.36)	(2.52)	(2.22)	(2.34)
CrossBorder	0.052**	0.056***	0.061***	0.030**
	(2.36)	(2.55)	(2.68)	(1.96)
Horizontal	0.014	0.003	0.028	0.003
	(0.64)	(0.12)	(1.20)	(0.16)
Intercept	0.804***	0.919***	0.776***	0.471***
	(3.96)	(4.17)	(3.78)	(2.66)
Year FE	yes	yes	yes	yes
Country FE	yes	yes	yes	yes
Industry FE	yes	yes	yes	yes
Observations	588	588	588	588
Adj-R^2	0.279	0.305	0.244	0.257

This table presents the estimation of the effect of CSR on acquisition premia using instrumental variables and two-stage least-square regression (only second-stage results are reported). All financial variables are winsorized at the 1% and 99% level. T-statistics are in parentheses. ***, ** and * denote significance at the 1%, 5% and 10% level respectively.

3.4 Conclusion

In this article, we seek to determine whether corporate social responsibility is valued by corporate acquirers when setting the price of a target firm. Given the special characteristics of strategic acquirers, M&A bid prices might be more informative than market prices in order to assess the value implications of CSR. However, to the best of our knowledge, this subject has been largely untouched.

Using a worldwide dataset of 588 deals announced between 2003 and 2014, we find a positive and significant association between acquisition premia and targets' CSR performance. This shows that strategic acquirers are actually paying a premium for targets' CSR involvement. We further disentangle the impact of CSR on target pricing by studying individual CSR dimensions and separating domestic deals from cross-border transactions. Interestingly, we find that overall CSR and environmental performance are positively related to acquisition premia regardless of the nature of the deal while social performance is only positively associated with acquisition premia in cross-border acquisitions. These results are consistent with firms assigning more importance to social performance when buying foreign targets in order to mitigate the amount of additional risk and information asymmetry inherent in such transactions.

Our findings contribute to the literature by enhancing our understanding of target pricing in M&A transactions in an international setting. For the acquirer, CSR performance might offer positive signals such as higher goodwill and lower specific risk. They also further our knowledge of the value implications of CSR for firms. Our work has managerial implications for target shareholders insofar as increasing CSR performance could increase potential takeover gains. Future research could be aimed at further disentangling the importance of CSR for acquirers by studying more precisely the sub-components of each CSR dimension and to better understand the channels through which acquisition premia are affected.

Acknowledgements

We thank CRCGM workshop participants, for helpful conversations and comments. We gratefully acknowledge the financial support of the "Value and CSR"

chair. The ideas, methodology, and findings expressed in this paper remain our sole responsibility.

TABLE 3.10: Robustness checks: Cash deals only

Panel A. CSR and acquisition premia				
	Overall (1)	Environment (2)	Social (3)	Governance (4)
CSR	0.226***	0.110**	0.153***	0.172
	(2.92)	(1.98)	(2.70)	(1.58)
$Intercept$	0.678***	0.693***	0.666***	0.576**
	(2.56)	(2.58)	(2.51)	(2.17)
Year FE	yes	yes	yes	yes
Country FE	yes	yes	yes	yes
Industry FE	yes	yes	yes	yes
Observations	386	386	386	386
Adj-R^2	0.255	0.242	0.251	0.246
Panel B. CSR and acquisition premia: domestic vs. cross-border deals				
	Overall (1)	Environment (2)	Social (3)	Governance (4)
CSR	0.179**	0.141**	0.055	0.158
	(2.01)	(2.03)	(0.79)	(1.64)
$CrossBorder$	-0.040	0.051	-0.086	-0.011
	(-0.56)	(1.04)	(-1.51)	(-0.12)
$CSR_i \times CrossBorder$	0.108	-0.067	0.219**	0.030
	(0.88)	(-0.75)	(2.39)	(0.24)
$Intercept$	0.723***	0.669**	0.718***	0.595**
	(2.68)	(2.47)	(2.72)	(2.14)
Year FE	yes	yes	yes	yes
Country FE	yes	yes	yes	yes
Industry FE	yes	yes	yes	yes
Observations	386	386	386	386
Adj-R^2	0.254	0.241	0.263	0.244

All financial variables are winsorized at the 1% and 99% level. Control variables are the same as in equations 2 and 3 and coefficients associated with them are not reported for the sake of brevity. T-statistics are in parentheses. ***, ** and * denote significance at the 1%, 5% and 10% level respectively.

TABLE 3.11: Robustness checks: Successful deals only

Panel A. CSR and acquisition premia				
	Overall (1)	Environment (2)	Social (3)	Governance (4)
CSR	0.238***	0.157***	0.159***	0.079
	(3.25)	(3.05)	(3.04)	(1.07)
$Intercept$	0.639***	0.690***	0.640***	0.594***
	(3.04)	(3.26)	(2.91)	(2.77)
Year FE	yes	yes	yes	yes
Country FE	yes	yes	yes	yes
Industry FE	yes	yes	yes	yes
Observations	400	400	400	400
Adj-R^2	0.280	0.277	0.277	0.258
Panel B. CSR and acquisition premia: domestic vs. cross-border deals				
	Overall (1)	Environment (2)	Social (3)	Governance (4)
CSR	0.268***	0.208***	0.142	0.125
	(3.18)	(3.45)	(1.58)	(1.39)
$CrossBorder$	0.063	0.077	-0.005	0.077
	(0.92)	(1.59)	(-0.11)	(0.97)
$CSR_i \times CrossBorder$	-0.088	-0.138	0.248***	-0.102
	(-0.72)	(-1.42)	(2.56)	(-0.90)
$Intercept$	0.611***	0.650***	0.652***	0.546**
	(2.85)	(3.06)	(3.08)	(2.47)
Year FE	yes	yes	yes	yes
Country FE	yes	yes	yes	yes
Industry FE	yes	yes	yes	yes
Observations	400	400	400	400
Adj-R^2	0.279	0.281	0.276	0.257

All financial variables are winsorized at the 1% and 99% level. The dependent variable is the final price paid for acquiring the target. Control variables are the same as in equations 2 and 3 and coefficients associated with them are not reported for the sake of brevity. T-statistics are in parentheses. ***, ** and * denote significance at the 1%, 5% and 10% level respectively.

Chapter 4

Corporate social responsibility and M&A uncertainty[1]

Abstract

Aktas et al. [2011] and Deng et al. [2013] show that CSR performance significantly impacts mergers and acquisitions (M&A) announcement and post-merger abnormal returns. We investigate whether the CSR performance of acquirers impacts the ex-ante uncertainty surrounding mergers and acquisitions (M&A) deals. Using arbitrage spreads following initial acquisition announcements as a measure of deal uncertainty as well as a set of ex-ante control variables, we document –for worldwide sample of 525 M&A operations spanning the 2004-2014 period– a negative association between arbitrage spreads and acquirers' CSR performance. Our results suggest the CSR performance of acquirers is an important determinant of the way market participants assess the outcome of M&As and supports the stakeholder value maximization hypothesis.

Keywords: Corporate social responsibility, Mergers and acquisitions, Risk arbitrage

[1] A paper based on this chapter is currently under revision (R&R) in **Journal of Banking and Finance**.

Résumé

Aktas et al. [2011] et Deng et al. [2013] montrent que la performance RSE impacte de manière significative les rentabilités anormales liées aux annonces de rachats d'entreprises. Nous cherchons à déterminer si la performance RSE des acquéreurs a un impact sur l'incertitude entourant les opérations de fusions et acquisitions (F&A). Nous utilisons le spread d'arbitrage un jour après l'annonce de l'offre comme mesure d'incertitude et étudions un échantillon international de 525 offres de F&A sur la période allant de 2004 à 2014. Nous constatons une relation négative entre la performance RSE des acquéreurs et le spread d'arbitrage, suggérant ainsi que les opérations de F&A menées par des acquéreurs à forte performance RSE sont perçues comme ayant une probabilité accrue de réussite. Nos résultats sont cohérents avec la théorie des parties prenantes [Donaldson and Preston, 1995; Freeman, 1984; Jones, 1995].

Mots clés: Responsabilité sociale des entreprises, Fusions et acquisitions, Risk arbitrage

4.1 Introduction

One of the most significant corporate trends in the last decade has been the growth in activities associated with Corporate Social Responsibility (CSR), as documented by the constantly growing share of companies adopting CSR reporting[2] and the similarly growing role played by Socially Responsible Investment (SRI) funds[3]. This increasing importance of CSR has led many scholars to study the subject and try to assess its effects on capital markets and on financial performance. Recent studies show that CSR performance impacts the market value of firms [Aouadi and Marsat, 2016; Jiao, 2010], the cost of capital [Dhaliwal et al., 2014; El Ghoul et al., 2011; Martinez-Ferrero et al., 2016; Sharfman and Fernando, 2008], the financial risk of companies [Diemont et al., 2016; Jo and Harjoto, 2014; Kim et al., 2014] and the value of cash holdings [Arouri and Pijourlet, 2017]. However, existing research work has yet to achieve consensus, and whether shareholders' interests are consistent with those of other stakeholders is still an open question that deserves further empirical analysis.

This study is one of the few academic attempts to study CSR in the context of mergers and acquisitions (M&A). Indeed, while there is considerable research focusing on the relationship between CSR and capital markets, the analysis of the link between CSR and M&A is largely untouched, with –to the best of our knowledge– only two notable exceptions [Aktas et al., 2011; Deng et al., 2013]. This issue is particularly interesting for at least two reasons. First, M&A deals are usually not neutral, i.e., they either result in ex-post value creation or destruction for shareholders and other stakeholders , and these stakeholders can have a significant impact on the outcome of a deal. Second, as pointed by Deng et al.

[2]A 2016 KPMG survey documents that 73 percent of surveyed companies worldwide issued CSR reporting in 2015 (a 32 percentage-point increase relative to 2005), and that CSR reporting was undertaken by 92 percent of the world's largest 250 companies. Source: KPMG Survey of Corporate Responsibility Reporting 2015. URL: https://assets.kpmg.com/content/dam/kpmg/pdf/2016/02/kpmg%2Dinternational%2Dsurvey%2Dof%2Dcorporate%2Dresponsibility%2Dreporting%2D2015.pdf

[3]The total US-domiciled assets under management using SRI strategies expanded from $6.57 trillion at the start of 2014 to $8.72 trillion at the start of 2016, an increase of 33% percent, representing nearly 22 percent of the $40.3 trillion in total assets under management in the US in 2016. Source: http://www.ussif.org/files/SIF_Trends_16_Executive_Summary(1).pdf

[2013], the largely unanticipated nature of M&A operations mitigates potential endogeneity problems often associated with studies linking CSR performance to financial performance.

In terms of empirical findings, Aktas et al. [2011] find a positive relation between acquirer gains and the level of the target's social and environmental risk management practices. They explain their findings by the fact that acquirers learn from targets' CSR capabilities and that this results in more synergistic deals. Deng et al. [2013] find that high-CSR acquirers realize higher merger announcement returns and post-merger long-term operating performance than low-CSR acquirers. They also find that M&A operations by high-CSR acquirers take less time to complete and are less likely to fail than M&A operations by low-CSR acquirers.

While the above studies have focused on the implications of CSR with respect to M&A-related abnormal returns as well as its impact on ex-post risk, we take a different approach and study the subject by taking an ex-ante perspective. More specifically, we link acquirers' CSR performance to risks surrounding M&A operations and use the arbitrage spread as an ex-ante measure of M&A uncertainty. The arbitrage spread is the difference between the offer price (to be paid in cash and/or in acquirer's stock) and the market price of the target immediately following the M&A announcement. This spread provides us with an excellent proxy for uncertainty as it conveys market expectations regarding a deal's expected outcome [Jindra and Walkling, 2004]. In this sense, it gives us unique insight into what the market thinks of the chances of a deal succeeding, and therefore appropriately complements previous works that focus on what happens after deal completion.

Many determinants have been identified to explain the variability of arbitrage spreads. However, to the best of our knowledge, there are no studies relating arbitrage spreads to CSR performance. Based on the theoretical literature, we can formulate two opposing hypotheses on how CSR performance could impact M&A uncertainty.

On the one hand, the stakeholder value maximization hypothesis based on stakeholder theory [Donaldson and Preston, 1995; Freeman, 1984; Jones, 1995] suggests that ethical behavior and profit are not mutually exclusive and that acting

in all stakeholders' interests ultimately benefits shareholders. According to this view, high-CSR companies should benefit from stronger stakeholders commitment thanks to an increased reputation for delivering on their implicit contracts [Deng et al., 2013]. Indeed, strong CSR attributes should reduce the probability of a breach in implicit contracts and therefore increase stakeholders' support towards a firm. This is especially important within the context of unsettling events such as M&As. As a result, M&As conducted by high-CSR acquirers should embed less uncertainty than operations initiated by low-CSR acquirers, and this lower uncertainty should result in narrower arbitrage spreads.

On the other hand, the shareholder expense hypothesis, rooted in agency theory [Friedman, 1970; Jensen and Meckling, 1976], stipulates that the sole objective of firms should be to maximize profit. In this context, CSR-related expenditures are seen as a waste of valuable resources and benefits enjoyed by stakeholders (other than shareholders) come at the expense of shareholders. According to this view, M&As could be perceived as benefiting other stakeholders at the expense of shareholders and induce shareholders to vote against the deal proposal, and delay or even block deal completion. Following this view, M&As conducted by high-CSR acquirers should be characterized by more uncertainty than operations initiated by low-CSR acquirers, and this higher uncertainty should result in wider arbitrage spreads.

We contribute to the open debate on the capital market consequences of CSR activities and evaluate these two opposite views by empirically assessing the impact of acquirer's CSR performance on arbitrage spreads using an international sample of 525 deals spanning the 2004-2014 period. Our measure of acquirer's CSR comes from ASSET4 – Thomson Reuters ESG Research Data. Our main findings provide strong evidence that arbitrage spreads are negatively related to the CSR performance of acquirers. These results are consistent with the stakeholder value maximization view of CSR. Moreover, to ensure the robustness of these findings, we also run a series of tests in which we use different measures of arbitrage spreads. In addition, we remove from our sample the deals that took place during the financial crisis to make sure results are not influenced by this period of financial distress. We

also remove deals related to financial industries to make sure specificities related to this sector do not bias our results. In all cases, our results are confirmed and point to a negative relationship between CSR performance and arbitrage spreads. Finally, to rule out potential endogeneity and omitted variables biases, we also employ the instrumental variables estimation method and find that overall CSR performance of acquirers is confirmed to bear a negative relationship with M&A perceived uncertainty.

Although some researchers have investigated CSR in the context of M&As [Aktas et al., 2011; Deng et al., 2013], to the best of our knowledge, our study represents the first attempt to link acquirers' CSR performance to M&A uncertainty as measured by arbitrage spreads. Our work sheds light on how CSR can influence the way market participants perceive the risk surrounding M&A operations.

The remainder of this chapter is organized as follows. In section 4.2, we present the concept of risk arbitrage, the related literature, and our hypotheses. In section 4.3, we describe the data and provide summary statistics for the different variables we use. We provide empirical results in section 4.4, and conclude in section 4.5.

4.2 Related literature and hypotheses

This section serves three purposes. First, we review previous research studies on M&A and risk-arbitrage. Second, we discuss the main findings of research works on CSR. Finally, we relate the two previous literatures and formulate the hypotheses on the impact of CSR on the uncertainty surrounding M&A deals.

4.2.1 M&A and risk-arbitrage

When an acquisition bid is announced, the market stock price of the acquiring company usually goes down while the market stock price of the target company usually adjusts upward without exactly reaching the level of the offer price (to be paid in cash and/or stock of the acquiring company). The difference between the target stock price immediately following the acquisition announcement and

the offer price is called the speculation or arbitrage spread. Arbitrage spreads are theoretically set conditional on the features of a particular acquisition and anticipating the outcome of the offer. While the bid price provides information about the bidder's valuation of the target, the arbitrage spread conveys information about the market's pricing of the target conditional on the existence of the bid [Jindra and Walkling, 2004]. The arbitrage spread can therefore be seen as a result from wagers on the expected outcome of the operation by market participants: the greater the perceived risk of failure, the wider the arbitrage spread.

Risk arbitrage (sometimes called merger arbitrage) –for which investors seem to have been regaining interest recently[4]– is the investment strategy aimed at profiting from this spread. In the case where the bid is successful, the arbitrageur pockets the arbitrage spread. However, if the deal fails, the arbitrageur suffers a loss usually much greater than the profit realized if the deal succeeds. For risk-arbitrageurs, the appropriate positions to undertake depend on the deal consideration structure. In cash bids, the acquirer offers to exchange cash for the target's equity. In this case, the arbitrageur simply purchases the target company's stock and earns the arbitrage spread if the offer eventually succeeds. In stock bids (all-stock or stock-and-cash deals), the arbitrageur still purchases the target company's stock but also sells short a given amount of the acquirer's stock.

Several reasons have been suggested to explain risk arbitrage returns. Larcker and Lys [1987] view risk arbitrage returns as a compensation for the cost of acquiring valuable private information while Mitchell and Pulvino [2001] see them as a compensation for providing liquidity, especially in bear markets.

Generally speaking, the main risk in merger arbitrage is completion risk, i.e., the risk that the deal ultimately fails. Other risks relate to the uncertainty surrounding the deal terms and the time to consummate the deal [Brown and Raymond, 1986]. As risk arbitrage profits are considered a reward for bearing these risks, any change in these risks will also affect the arbitrage spread [Baker and Savasoglu, 2002].

[4]Source: Hedge Fund Investors Have Fallen in Love With Merger Arb (Again). Bloomberg. April 27, 2016. URL: https://www.bloomberg.com/news/articles/2016-04-27/hedge%2Dfund%2Dinvestors%2Dhave%2Dfallen%2Din%2Dlove%2Dwith%2Dmerger%2Darb%2Dagain

Researchers have attempted to explain the cross-sectional variations of arbitrage spreads and to find their determinants. Jindra and Walkling [2004] are the first to explore this subject. They analyze a sample of 362 US cash tender offers spanning the 1981-1995 period and find that arbitrage spreads are significantly associated with ex-ante bid and offer characteristics. They also show arbitrage spreads are positively related to offer duration and negatively related to the magnitude of price revisions. Branch and Wang [2008] analyze a comprehensive sample of 1,223 announced deal attempts occurring between 1995 and 2005 and find that characteristics such as bid premia, arbitrageurs' involvement and target's relative size have an impact on arbitrage spreads. More recently, Jetley and Ji [2010] investigate the decline of risk-arbitrage returns over the 1990-2007 period and find that all-cash transactions are usually associated with narrower spreads because these transactions are less risky.

4.2.2 Corporate social responsibility

There are two conflicting views regarding CSR: the shareholder expense hypothesis and the stakeholder value maximization hypothesis. The shareholder expense hypothesis is rooted in neoclassical economic theory according to which the sole responsibility of managers is to maximize profit [Friedman, 1970] while social and environmental issues should be resolved by the market itself, within the boundaries of what is permitted by government regulation. In the same vein, Levitt [1958] criticizes beyond-compliance actions by firms and considers that the only responsibilities of businesses are "to obey the elementary canons of everyday face-to-face civility and to seek material gain". According to this view, CSR-related expenditures are seen as a waste of valuable resources that should instead be employed to maximize the company's value. In this case, benefits that other stakeholders get from CSR activities come at the expense of shareholder wealth, resulting in a wealth transfer from shareholders to other stakeholders.

The stakeholder value maximization hypothesis claims that "corporate success and social welfare are not a zero-sum game" [Porter and Kramer, 2006], and that CSR-related activities increase stakeholders' support towards a company's

operations and therefore ultimately benefit shareholders. As pointed out by Deng et al. [2013], this view is closely related to contract theory [Coase, 1937] according to which a company is a nexus of explicit and implicit contracts between shareholders and other stakeholders. Implicit contracts are not legally binding and there is no explicit cost involved in not honoring them [Kristoffersen et al., 2005]. Therefore, they carry a high amount of uncertainty and their value is thus contingent on stakeholders' expectations regarding the firm's willingness to honor its commitments [Cornell and Shapiro, 1987].

CSR activities are often associated with a stronger reputation [Martinez-Ferrero et al., 2016] and a stronger commitment to honor implicit contracts. This stronger reputation in turn can increase the ability to attract financial capital [Cheng et al., 2014], the appeal to current and potential employees [Branco and Rodrigues, 2006; Fombrun et al., 2000] and customer loyalty [Fombrun et al., 2000]. It can also lead to more attractive contract terms with strategic partners, mainly as a result of improved trust [Barney and Hansen, 1994] and the ability to price products and services less aggressively [Fombrun et al., 2000].

Trust is particularly important in the context of uncertain event like mergers and acquisitions. These events are likely to unsettle key stakeholders because they challenge the continuity of existing long-term relationships between the firm and stakeholders and can in some cases require stakeholders to renegotiate their contracts with the new combined entity [Deng et al., 2013]. As a result, a firm's reputation for honoring its implicit commitments to stakeholders is a key determinant of a combination's success. This also explains why firms considering alliance projects are more attracted by prospective partners perceived as trustworthy [Shah and Swaminathan, 2008].

4.2.3 CSR and uncertainty surrounding M&A deals

According to the stakeholder value maximization hypothesis, strong CSR attributes should reduce the probability of a breach in implicit contracts and therefore increase stakeholders' support towards a firm. In addition, target's stakeholders could also protest and lobby against a takeover conducted by an acquirer

perceived as socially irresponsible (low-CSR acquirer), potentially convincing the board to consider alternatives to the takeover. Therefore, mergers and acquisitions conducted by high-CSR acquirers should embed less uncertainty than operations initiated by low-CSR acquirers.

This fact has been validated empirically. Indeed, Deng et al. [2013] find that mergers initiated by high-CSR acquirers take less time to complete and are less likely to fail than mergers initiated by low-CSR acquirers. They emphasize the fact that "high [CSR] acquirers effectively reduce the conflicts of interests between shareholders and other stakeholders by improving the welfare of both parties", leading to faster integration. Similarly, Hawn [2013] studies the importance of CSR in the expansion of multinational companies through corporate acquisitions and finds that strong CSR performance (by acquirers) leads to faster deal completion, implying that CSR advantage actually overcomes home country disadvantage. This is a fundamental point as arbitrageurs must not only predict the outcome of a transaction but must also estimate the time to completion. Indeed, if a deal takes significantly longer to complete than anticipated, the rate of return will decline to uneconomic levels. As a result, strong CSR performance by the acquirer could be expected to reduce M&A uncertainty.

Increased stakeholders' support should also reduce acquisition-related uncertainty through the channel of deal financing. In cash transactions, the ability to finance the purchase of the target may, in certain circumstances, create substantial risks to deal completion. As noted by Paulson in Parker [2005], while all buyers are confident about their ability to raise the money at the time of announcement, a rise in interest rates, an earnings decline in either the target or the acquirer, or a declining stock market may all cause financing difficulties. A strong CSR performance could limit this problem though its effect on the cost of capital [Dhaliwal et al., 2014; El Ghoul et al., 2011; Martinez-Ferrero et al., 2016; Sharfman and Fernando, 2008] and access to finance [Cheng et al., 2014]. This reduction in financing risk could in turn lead to lower uncertainties and narrower spreads. According to these elements, we formulate the following hypothesis:

H_1: *Strong CSR performance by acquirers will be associated with lower M&A uncertainty.*

In contrast to this view, the advocates of the shareholder expense hypothesis suggest that CSR-related activities benefit other stakeholders at the expense of shareholders. In this context, mergers and acquisitions could be perceived as benefiting other stakeholders at the expense of shareholder wealth, thereby leading shareholders to vote against the deal proposal and delaying (or even blocking) completion.

In addition, according to the agency view of CSR [Jensen, 2001], managers cannot maximize more than one objective function at the same time. Jensen [2001] claims that without a single and clearly stated corporate objective –which should be shareholder wealth maximization– self-interested managers have greater latitude to pursue their own interests at the expense of shareholders'. Also, the over-investment hypothesis of Barnea and Rubin [2010] argues that managers may seek to overinvest in CSR-related activities for their private benefit. They could indeed strategically commit themselves to socially responsible activities aimed at gaining stakeholders' support to ultimately strengthen their own position within the firm (entrenchment strategy). This behavior is detrimental to shareholder wealth, and thus such firms should exhibit a higher cost of capital, reducing its financing capabilities and weakening its acquisition power. These features should lead to a higher uncertainty surrounding deal completions. According to these elements, we formulate the following hypothesis:

H_2: *Strong CSR performance by acquirers will be associated with higher M&A uncertainty.*

4.3 Data

4.3.1 Sample selection

The selection of our sample is derived in multiple steps. We download a list of international deal offers (successful and unsuccessful) over the 2002-2014 period

from Thomson Financial Securities Data Company (SDC). We select all offers where the bidder initially owns less than 50% of the target firm and seeks to acquire more than 50% of the target firm, and where the value of the transaction exceeds $10 million. Bloomberg and Reuters news services were used to check the information's accuracy. This first screen yields 2,753 deal offers. We then remove the bids for which we do not have a CSR score for the acquirer, which reduces our sample to 1,246 deal offers. Among these bids, many have complicated terms (embedded options) preventing us from determining the hedge ratio. As a result, we remove these deals from our sample. We also omit the deals for which we lack accurate data regarding the deal terms, preventing us from computing the spreads. Finally, we merge this sample with the Thomson Reuters Datastream database to get the necessary financial information. Our final sample contains 525 deal offers.

4.3.2 Measure of arbitrage spread

Arbitrage spreads are computed one day after the offer announcement date. For cash deals, risk arbitrage involves buying the stock of the target after the merger has been announced and in this case, the arbitrage spread is computed as follows:

$$S_{cash,t} = \frac{P_{offer} - P_{target,t}}{P_{target,t}} \tag{1}$$

where $S_{cash,t}$ is the arbitrage spread for a cash deal on trading day t, P_{offer} is the price in cash offered by the acquiring company for each share of the target company's common stock and $P_{target,t}$ is the closing price of the target company's common stock on trading day t.

For stock deals (i.e., mergers in which target shareholders receive shares of the acquiring company), risk arbitrage involves buying one share of the target company and short selling a given number of shares of the acquiring company according to the exchange ratio (i.e., the number of shares of the acquiring company's common stock offered in exchange for one share of the target company's common stock).

In this case, the arbitrage spread is computed as follows:

$$S_{stock,t} = \frac{P_{acquirer,t} \times ER - P_{target,t}}{P_{target,t}} \tag{2}$$

where $S_{stock,t}$ is the arbitrage spread for stock deals on trading day t, $P_{acquirer,t}$ is the closing price of the acquiring company's common stock on trading day t, ER is the exchange ratio, i.e., the number of shares of the acquirer's common stock offered to the target's common shareholders in exchange for one share of the target's common stock and $P_{target,t}$ is the closing price of the target company's common stock on trading day t.

4.3.3 Measure of a firm's CSR performance

To proxy for CSR, we use the data provided by ASSET4 – Thomson Reuters ESG Research Data. The ASSET4 ESG database has a reputation as one of the most diligent and trustworthy sources for CSR data [Stellner et al., 2015]. It includes 5,000 global publicly listed companies and provides history up to fiscal year 2002 for close to 1,000 companies. The overall rating is based on approximately 700 individual data points, which are combined into over 250 key performance indicators (KPIs). These KPI scores are aggregated into a framework of 18 categories grouped within 3 dimensions (Environmental, Social, and Governance) that are integrated into a single overall score using equal weighting. In year t, a firm receives a z-score for each of the pillars, benchmarking its performance against the rest of the firms based on all the information available in fiscal year t-1 (by construction, this variable is lagged by one year). The resulting percentage is therefore a relative measure of performance, z-scored and normalized to be comprised between 0 and 100%. We follow standard practice [Cheng et al., 2014; Stellner et al., 2015] and compute a firm's overall CSR score by averaging the scores assigned to the environment, social, and corporate governance dimensions. In this study, we use for each deal the last available ASSET4 ESG score before the announcement date.

4.3.4 Control variables

To investigate the relation between acquirers' CSR performance and arbitrage spreads and make sure our CSR measure does not proxy for other known factors that influence arbitrage spreads, we include several controls in our regressions.

We include the bid premium as it has been found to have significant explanatory power on arbitrage spreads [Branch and Wang, 2008; Jetley and Ji, 2010; Jindra and Walkling, 2004]. Indeed, when an acquisition attempt fails, the price of the target company usually falls back to its pre-announcement level, i.e. the bid premium is lost. Therefore, the greater the bid premium, the wider the required arbitrage spread to compensate for the increased risk. In addition, offers involving higher bid premia are less likely to attract competing offers and subsequent bid revisions [Jennings and Mazzeo, 1993; Jindra and Walkling, 2004]. On the other hand, it is also true that a higher bid premium makes an offer more attractive, potentially leading to an increased likelihood of completion [Walkling, 1985]. However, empirical research has usually shown that the increased risk prevails and we thus expect bid premia to be positively associated with arbitrage spreads.

We also include the cumulative return of the target stock prior to the announcement. According to Jindra and Walkling [2004], this cumulative return can be interpreted as an indicator of shifts in ownership distribution that is likely associated with increased speculative activity and the accumulation of shares in more neutral hands. This would imply a higher probability of bid revisions and deal success. We thus expect the cumulative returns to be negatively associated with arbitrage spreads.

We use abnormal trading volume around acquisition announcements (from t – 1 to t + 1) as a proxy for arbitrageurs' activity. According to Cornelli and Li [2002], the probability of deal success should be positively linked to the increased presence of risk arbitrageurs since arbitrageurs' involvement facilitates the offer process. Therefore, abnormal trading volume is expected to be negatively associated with arbitrage spreads.

Hoffmeister and Dyl [1981] argue that the bigger the target, the greater its resources to oppose the takeover attempt. As a result, the target's size should

be negatively related to the probability of deal success and therefore positively related to arbitrage spreads. We follow Branch and Yang [2003] and Branch and Wang [2008] and use the relative size of the target with respect to the acquirer as they argue this measure is more relevant than the target's total market value.

We use the target's market-to-book ratio to proxy for its growth potential. The higher the market-to-book, the more optimistic the market is in relation to the company's growth prospects. Branch and Wang [2008] hypothesize that companies with higher growth potential are likely to attract competing bids. As a result, we expect targets' market-to-book ratios to be negatively associated with arbitrage spreads.

We also use the acquirer's market-to-book as an additional control variable. High market-to-book acquirers should have a greater ability to secure financing through debt or equity issues, therefore reducing the risk of deals failure because of financing problems. We thus expect acquirers' market-to-book ratios to be negatively associated with arbitrage spreads.

We use a dummy variable that is equal to one when the form of consideration is cash-only. This is an important aspect of the deal as cash transactions are associated with a higher certainty relative to the offer price [Jetley and Ji, 2010]. As a result, we expect cash deal attempts to be associated with narrower arbitrage spreads.

We use a dummy variable that is equal to one when the takeover attempt is considered hostile. Schwert [2000] finds that hostile takeover have a lower success rate. Accordingly, hostile bids should result in wider arbitrage spreads compared with friendly attempts. However, hostile bids are also more likely to involve multiple bidders, which increases the probability of bid revisions [Jennings and Mazzeo, 1993; Jindra and Walkling, 2004]. If this factor prevails, hostile bids should be associated with narrower arbitrage spreads.

We include a dummy variable that takes the value of one when target and acquirer come from different countries. As cross-border deals potentially involve additional complexity and uncertainty due to a lack of familiarity with the target's legal and institutional systems, we expect cross border deals to be associated with

wider arbitrage spreads.

Finally, we control for potential impact of target country institutional factors on M&A uncertainty by including data from the Worldwide Governance Indicators (WGI) report. More specifically, for each year-country pair, we take the aggregate value of the six WGI dimensions: voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption[5].

We winsorize all financial variables at the 1% and 99% level. Table 4.1 provides the full description, calculation method and predicted sign of the relationship with arbitrage spreads for the control variables.

4.3.5 Distribution of the sample and arbitrage spreads

Our screening procedure yields 525 deals over the 2004-2014 period. Table 4.2 shows the yearly-partitioned distribution of deals and arbitrage spreads for our sample. The majority of deals are clustered in more recent years with about 70% of offers taking place in or after 2010. The percentage of deals associated with negative arbitrages spreads ranges from 11.11% in 2005 to 38.10% in 2010, while the number of cases with negative arbitrage spreads is 26.61% over the whole sample period. Among the 525 deals, 396 deals were eventually successful. In terms of deal structure, 315 deals involve a cash-only payment while the remaining 210 offers are cash-and-stock or stock-only offers. The number of hostile bids is relatively low with only 26 observations. Finally, our sample comprises 216 cross-border deals.

Our sample is geographically diverse with 43 countries involved. Table 4.3 shows a detailed distribution of deal offers across countries along with their values for the top 20 target and acquiring countries based on the number of deal offers. Not surprisingly, the United States are by far the most active market over the sample period, both as an acquirer and as a target, with 188 offers as acquirer (totalling $1,688 billion) and 202 offers as target (totalling $1,775 billion). The UK, Australia, Canada, France and Japan are the other main countries involved

[5]Data and methodology are available at www.govindicators.org

TABLE 4.1: Description of control variables

Variable	Description	Expected sign
$BidPremium_i$	Difference between offer price and average price before bid, deflated by the average price before bid[a].	+
$CumRet_i$	Target's stock price return from t – 42 to t – 1 relative to announcement date.	-
$AbnVol_i$	Cumulative abnormal trading volume around acquisition announcements using the method of Lakonishok and Vermaelen [1990][b].	-
$RelSize_i$	Relative size of the target with respect to the acquirer computed as the natural logarithm of the ratio of target size to acquirer size.	+
$TarMTB_i$	Market-to-Book ratio of the target.	-
$AcqMTB_i$	Market-to-Book ratio of the acquirer.	-
$Cash_i$	Dummy variable that takes the value of one when the form of consideration is cash-only, and zero otherwise.	-
$Hostile_i$	Dummy variable that takes the value of one when takeover attempt is considered hostile, and zero otherwise.	N/A
$CrossBorder_i$	Dummy variable that takes the value of one when the deal involves a target and an acquirer coming from two different countries, and zero otherwise.	+
WGI	Aggregate value of the six World Governance Indicators (WGI) dimensions: Voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption.	-

This table reports the description of the control variables used in our models as well as the sign of their predicted relationship with arbitrage spreads.

[a] Average price before bid is computed from t - 30 to t - 10 relative to the announcement date, as in Jindra and Walkling [2004].

[b] Window is from t - 1 to t + 1. Abnormal volume for day t is the ratio of volume on day t to normal volume. Normal volume is the average trading volume between t – 50 and t – 25 relative to announcement date.

TABLE 4.2: Sample distribution across years

Year	Deal offers	Average arbitrage spread (%)	Negative arbitrage spreads (%)	Successful deals	Cash deals	Hostile deals	Cross-border deals
2004	6	10.90	16.67	1	1	1	1
2005	9	2.88	11.11	7	5	0	4
2006	36	3.28	30.56	26	21	4	16
2007	40	3.24	37.50	30	24	4	25
2008	39	5.14	23.08	25	25	5	18
2009	28	4.89	21.43	21	15	2	11
2010	63	2.34	38.10	48	33	3	27
2011	68	3.61	29.41	56	47	4	25
2012	84	4.43	15.48	68	54	1	33
2013	64	3.94	23.44	49	40	0	21
2014	88	3.28	25.00	65	50	2	35
Total	525	3.78	26.67	396	315	26	216

This table reports average arbitrage spreads and number of deal offers over the sample period. See Equations 1 and 2 for the calculation of arbitrage spread. Our sample includes 525 deal offers announced between January 1, 2004, and December 31, 2014. Arbitrage spreads are computed one day after deal announcement.

in deal attempts, both as acquirers and targets (with these countries cumulatively totaling $980 billion as acquirers and $880 billion as targets).

4.3.6 Summary statistics of explanatory variables

Table 4.4 reports summary statistics related to our set of variables. The mean and median arbitrage spreads are 3.80% and 2.30% respectively, with a standard deviation of 7.60%. The average acquiring firm in our sample has a CSR score of 62.90% and a market-to-book ratio of 2.81. The average premium offered for the target is 33.50%. Correlations among these explanatory variables are reported in Table 4.5. None of our variables are highly correlated, ruling out potential multicollinearity issues. Interestingly, the correlation between arbitrage spreads and acquirers' CSR scores is significantly negative. In addition, we see that arbitrage spreads are positively correlated with the bid premium and the target's relative size, and negatively correlated with cumulative returns and target country institutional governance. These facts are in line with what we described above.

TABLE 4.3: Deal offers by acquirer and target countries

Acquirer							Target						
	Domestic		Cross-border		All			Domestic		Cross-border		All	
	#	$Mil.	#	$Mil.	#	$Mil.		#	$Mil.	#	$Mil.	#	$Mil.
USA	146	1,403,794	42	284,831	188	1,688,626	USA	146	1,403,794	56	371,541	202	1,775,335
UK	19	69,824	37	290,143	56	359,967	Australia	33	57,357	28	68,148	61	125,505
Canada	32	56,727	19	56,156	51	112,883	Canada	32	56,727	26	109,499	58	166,226
Japan	26	75,711	14	43,906	40	119,616	UK	19	69,824	29	390,841	48	460,664
Australia	33	57,357	2	144,811	35	202,169	Japan	26	75,711	2	17,234	28	92,945
France	9	12,413	19	173,297	28	185,710	France	9	12,413	6	22,148	15	34,560
Germany	6	52,255	13	98,769	19	151,024	South Africa	9	3,422	3	4,183	12	7,605
Switzerland	5	67,400	12	47,381	17	114,781	Switzerland	5	67,400	6	18,172	11	85,571
Spain	2	2,771	11	61,196	13	63,967	Germany	6	52,255	2	9,488	8	61,744
South Africa	9	3,422	1	130	10	3,552	Netherlands	1	5,058	7	133,445	8	138,503
China	0	0	7	12,762	7	12,762	Italy	3	67,250	3	9,520	6	76,770
Netherlands	1	5,058	5	29,550	6	34,608	Spain	2	2,771	4	27,150	6	29,921
Hong Kong	2	7,396	3	5,405	5	12,800	Sweden	0	0	6	56,305	6	56,305
Italy	3	67,250	2	7,292	5	74,542	Ireland	0	0	5	70,866	5	70,866
Norway	2	1,741	3	4,648	5	6,389	Norway	2	1,741	2	4,650	4	6,391
India	1	3,911	3	1,400	4	5,310	South Korea	2	6,767	2	6,504	4	13,272
Singapore	0	0	4	13,373	4	13,373	Taiwan	4	3,356	0	0	4	3,356
Taiwan	4	3,356	0	0	4	3,356	Brazil	1	1,143	2	4,149	3	5,292
Brazil	1	1,143	2	10,540	3	11,683	Hong Kong	2	7,396	1	1,472	3	8,868
Ireland	0	0	3	5,103	3	5,103	India	1	3,911	2	3,600	3	7,510
South Korea	2	6,767	1	5,850	3	12,618	Israel	0	0	3	2,035	3	2,035
Other (14)	6	21,716	13	96,578	19	118,294	Other (20)	6	21,716	21	62,170	27	83,887
Total	309	1,920,012	216	1,393,120	525	3,313,132		309	1,920,012	216	1,393,120	525	3,313,132

This table reports descriptive statistics on all attempted domestic and cross-border deals along with information on deal values. The deal offers are listed by country of origin of the target and acquirer. The data are obtained from the SDC database. Reported values are denominated in US dollars. # indicates the number of deals.

TABLE 4.4: Summary statistics

	Mean	Std. Dev.	Q1	Median	Q3
$ArbSpread_i$	0.038	-0.004	0.023	0.072	0.076
CSR_i	0.629	0.449	0.665	0.824	0.218
ENV_i	0.614	0.302	0.724	0.913	0.315
SOC_i	0.631	0.399	0.714	0.894	0.290
GOV_i	0.651	0.496	0.741	0.859	0.267
$BidPremium_i$	0.335	0.173	0.299	0.457	0.284
$CumRet_i$	0.082	-0.032	0.062	0.181	0.221
$AbnVol_i$	46.225	11.867	25.146	52.595	75.890
$RelSize_i$	-2.169	-3.343	-1.832	-0.796	1.704
$TarMTB_i$	2.865	1.190	1.930	3.220	4.354
$AcqMTB_i$	2.813	1.470	2.240	3.420	2.846
WGI	7.543	7.304	7.593	9.580	2.888

This table reports summary statistics for our sample. The sample consists of 525 deal offers initiated between January 1, 2004 and December 31, 2014. $ArbSpread_i$ represents the arbitrage spreads one day after announcement. See Equations 1 and 2 for the calculation of arbitrage spread. CSR_i is an acquirer' overall CSR scores. ENV_i is an environmental score. SOC_i is a social score. GOV_i is a governance score. All these CSR scores correspond to the last available scores before deal announcements and are provided by ASSET4 ESG Data. $BidPremium_i$ is the percentage difference between the offer price and the target's average price between t-30 to t-10 relative to announcement date. $CumRet_i$ is the cumulative target's stock price return from t − 42 to t − 1 relative to announcement date. $AbnVol_i$ is abnormal trading volume around acquisition announcements (from t-1 to t+1). $RelSize_i$ is the natural logarithm of the target's relative size with respect to the acquirer's. $TarMTB_i$ and $AcqMTB_i$ are the targets' and acquirers' market-to-book ratios, respectively. WGI_i is the aggregate value of the six World Governance Indicators dimensions. All financial variables are winsorized at the 1% and 99% level.

TABLE 4.5: Correlation matrix

	$ArbSpread_i$	CSR_i	$BidPremium_i$	$CumRet_i$	$AbnVol_i$	$RelSize_i$	$TarMTB_i$	$AcqMTB_i$	WGI
$ArbSpread_i$	1								
CSR_i	**-0.223**	1							
$BidPremium_i$	**0.215**	0.042	1						
$CumRet_i$	**-0.122**	-0.001	**0.221**	1					
$AbnVol_i$	-0.058	0.060	**0.318**	0.002	1				
$RelSize_i$	**0.159**	**-0.209**	**-0.351**	**-0.144**	**-0.211**	1			
$TarMTB_i$	-0.010	0.008	-0.016	0.002	-0.053	**0.108**	1		
$AcqMTB_i$	-0.053	0.055	0.022	0.051	-0.060	0.016	**0.169**	1	
WGI	**-0.136**	0.026	0.084	-0.011	0.0423	-0.022	0.029	0.0345	1

This table reports correlation coefficients between variables for our sample. $ArbSpread_i$ represents the arbitrage spreads one day after announcement. See Equations 1 and 2 for the calculation of arbitrage spread. CSR_i is acquirers's last available CSR score before announcement. $BidPremium_i$ is the percentage difference between the offer price and the target's average price between t-30 to t-10 relative to announcement date. $CumRet_i$ is the cumulative target's stock price return from t – 42 to t – 1 relative to announcement date. $AbnVol_i$ is abnormal trading volume around acquisition announcements (from t-1 to t+1). $RelSize_i$ is the natural logarithm of the target's relative size with respect to the acquirer's. $TarMTB_i$ and $AcqMTB_i$ are the targets' and acquirers' market-to-book ratios, respectively. WGI_i is the aggregate value of the six World Governance Indicators dimensions. All financial variables are winsorized at the 1% and 99% level. Bold denotes significance at the 5% level or better.

4.4 Empirical analysis

In this section, we first explore the univariate relationship between the deals' arbitrage spreads and acquirers' CSR performance. Then, we conduct multivariate analyses to assess the relationship between CSR performance and M&A uncertainty under various specifications using appropriate controls.

4.4.1 Univariate analysis: CSR performance and M&A uncertainty

As discussed in the introduction, despite increased academic interest in CSR, we still know very little about how CSR performance relates to M&A risk. The purpose of our study is to address this gap in the literature by empirically examining the link between acquirers' CSR performance and arbitrage spreads. We begin our investigation by performing univariate tests. Table 4.6 reports mean arbitrage spreads for subsamples based on the ASSET4 CSR scores of the acquirers. High-CSR acquirers are acquirers with an ASSET4 score above the third quartile (Q3), i.e., located in the top 25% of our sample, and low-CSR acquirers are acquirers with an ASSET4 score below the first quartile (Q1), i.e., located in the bottom 25% of our sample. Panel A reports the average arbitrage spreads depending on the overall CSR score of acquirers. The difference-in-means test suggests arbitrage spreads are significantly lower for deals conducted by high-CSR acquirers than for deals conducted by low-CSR acquirers. Panel B reports the average arbitrage spreads depending on the environmental score of acquirers. Panel C reports the average arbitrage spreads depending on the social score of acquirers, and Panel D reports the average arbitrage spreads depending on the governance score of acquirers. For all CSR dimensions, results are confirmed as arbitrage spreads are significantly lower for deals conducted by high-CSR acquirers than for deals conducted by low-CSR acquirers. The evidence reported in Table 4.6 is consistent with H_1 and suggests M&As conducted by high-CSR acquirers are perceived as embedding less uncertainty compared with M&As conducted by low-CSR acquirers.

TABLE 4.6: Univariate analysis: CSR performance and arbitrage spreads

	Arbitrage spread
Panel A: Overall CSR performance	
(1) High-CSR acquirer	0.021
(2) Low-CSR acquirer	0.063
Difference in means (1)-(2)	-0.042***
Panel B: Environmental performance	
(1) High-CSR acquirer	0.018
(2) Low-CSR acquirer	0.063
Difference in means (1)-(2)	-0.045***
Panel C: Social performance	
(1) High-CSR acquirer	0.026
(2) Low-CSR acquirer	0.058
Difference in means (1)-(2)	-0.032***
Panel D: Corporate governance performance	
(1) High-CSR acquirer	0.023
(2) Low-CSR acquirer	0.054
Difference in means (1)-(2)	-0.031***

This table reports mean arbitrage spreads for subsamples based on the Asset 4 scores of the acquirers. See Equations 1 and 2 for the calculation of arbitrage spread. High-CSR acquirers are acquirers with an ASSET4 score above the third quartile (Q3) and Low-CSR acquirers are acquirers with an ASSET4 score lower than the first quartile (Q1). ***, ** and * denote significance at the 1%, 5% and 10% level respectively.

4.4.2 Multivariate analysis: CSR performance and M&A uncertainty

To assess the impact of acquirers' CSR performance on M&A perceived uncertainty, we regress the arbitrage spread on a measure of acquirer's CSR performance

and a set of control variables previously described. Our main model is as follows[6]:

$$\begin{aligned} ArbSpread_i = \beta_0 + \beta_1 CSR_i + \beta_2 BidPremium_i + \beta_3 CumRet_i + \beta_4 AbnVol_i \\ + \beta_5 RelSize_i + \beta_6 TarMTB_i + \beta_7 AcqMTB_i + \beta_8 Cash_i + \\ \beta_9 Hostile_i + \beta_1 0 CrossBorder_i + \beta_1 1 WGI_i \\ + CountryEffects + YearEffects + \epsilon_i \end{aligned} \tag{3}$$

where CSR_i is the acquirer's CSR measure. In order to better assess how acquirer's CSR performance impacts arbitrage spreads, we test the overall CSR score as well as the scores for each ASSET4 CSR dimensions, namely environment, social, and corporate governance. CSR_i is the acquirer's overall CSR score in column 1 of Table 4.7. CSR_i is the acquirer's environmental score (ENV_i) in column 2, the social score (SOC_i) in column 3, and the corporate governance score (GOV_i) in column 4. As indicated in section 4.3, $BidPremium_i$ is the premium offered by the acquirer relative to the target's average stock price before deal announcement, CumReti is the cumulative return experienced by the target stock before the announcement, $AbnVol_i$ is the target's cumulative abnormal trading volume before the announcement, $RelSize_i$ is a measure of the relative size of the target with respect to the acquirer, $TarMTB_i$ is the target's market-to-book ratio, $AcqMTB_i$ is the acquirer's market-to-book ratio, $Cash_i$ is a dummy variable equal to one for cash-only bids, and zero otherwise, $Hostile_i$ is a dummy variable equal to one for hostile bids, and zero otherwise, and $CrossBorder_i$ is a dummy variable equal to one for deals involving a target and an acquirer coming from two different countries, and zero otherwise. WGI_i is the target country's aggregate score provided by the Worldwide Governance Indicators report. Further detail regarding the computation of these variables is provided in Table 4.1. In our model, we control for year as well as for acquirer and target country fixed effects to address unobserved heterogeneity. To address potential endogeneity concerns, we perform Ramsey

[6]In unreported tests, we also specify a model including a squared CSR term to account for potential non-linearity in the relationship between CSR performance and arbitrage spreads. We find no evidence of non-linear association.

[1969]'s Regression Specification Error Test (RESET) for omitted variables. Results fail to reject the null hypothesis of no omitted variable, and therefore suggest our model does not suffer from this misspecification.

Table 4.7 presents our results. In column 1, we run our main model using the overall ASSET4 CSR score as our CSR measure. Our results validate H_1 as the coefficient associated with CSR_i is negative and statistically significant at the 1% level. This suggests that arbitrage spreads are negatively related to the acquirer's CSR performance. More precisely, the coefficient associated with the acquirer's CSR, CSR_i is -0.060 (t-statistic = -4.33). Descriptive statistics presented in Table 4.4 report that the standard deviation of CSR_i is 0.218. Therefore, the regression coefficient implies that arbitrage spreads are reduced by 1.31 percentage points (-0.060 $\times$ 0.218) for each standard deviation unit-increase in the acquirer's CSR score. In addition, we also test scores for each individual CSR dimension, namely Environment, Social, and Corporate Governance. Results are presented in columns 2 to 4 and show that each CSR dimension is negatively related to arbitrage spreads at the 1% significance level. In terms of economic interpretation, results imply that an increase of one standard deviation in the acquirer's environmental, social, and corporate governance performance, are associated with a reduction in arbitrage spreads of 1.23, 1.07, and 0.96 percentage points, respectively.

Coefficients associated with control variables are mostly in line with what we expected. Indeed, the bid premium and target's relative size are both positively related to arbitrage spreads while target's cumulative price return, abnormal volume, and target country institutional governance are negatively related to arbitrage spreads. Also, cash deals and hostile deals appear to be associated with narrower arbitrage spreads, again confirming the expected association. Target and acquirer market-to-book ratios do not appear to influence arbitrage spreads, nor does the cross-border nature of deals. Overall, our results seem to suggest that more socially responsible firms are perceived by the market as more capable of successfully and timely completing mergers and acquisitions[7].

[7]To further control for country or institutional factors, we also ran our model focusing on US deals only. Results are not materially different under this specification and are not reported for brevity's sake. They are available upon request.

TABLE 4.7: Multivariate analysis: CSR performance and M&A uncertainty

	Overall	Environment	Social	Corporate governance
	(1)	(2)	(3)	(4)
$Constant$	0.154***	0.152***	0.140***	0.139***
	(5.35)	(5.25)	(4.90)	(4.85)
CSR_i	-0.060***	-0.039***	-0.037***	-0.036***
	(-4.33)	(-3.90)	(-3.47)	(-3.14)
$BidPremium_i$	0.114***	0.112***	0.114***	0.116***
	(8.74)	(8.57)	(8.70)	(8.80)
$CumRet_i$	-0.060***	-0.058***	-0.061***	-0.057***
	(-4.11)	(-4.00)	(-4.17)	(-3.90)
$AbnVol_i(\times 100)$	-0.010*	-0.011*	-0.011**	-0.010*
	(-1.76)	(-1.93)	(-1.96)	(-1.66)
$RelSize_i$	0.005**	0.005**	0.005**	0.006**
	(2.44)	(2.50)	(2.50)	(3.04)
$TarMTB_i$	-0.005	-0.006	-0.005	-0.004
	(-0.65)	(-0.77)	(-0.62)	(-0.46)
$AcqMTB_i$	-0.002	-0.002	-0.002	-0.001
	(-1.15)	(-1.52)	(-1.31)	(-0.83)
$Cash_i$	-0.026***	-0.024***	-0.026***	-0.030***
	(-3.74)	(-3.40)	(-3.65)	(-4.27)
$Hostile_i$	-0.028**	-0.029**	-0.029**	-0.027**
	(-2.10)	(-2.14)	(-2.16)	(-1.98)
$CrossBorder_i$	-0.008	-0.008	-0.008	-0.014
	(-1.36)	(-1.25)	(-1.31)	(-1.23)
WGI	-0.004***	-0.004***	-0.004***	-0.003***
	(-4.05)	(-4.34)	(-4.28)	(-3.28)
Year FE	yes	yes	yes	yes
Country FE	yes	yes	yes	yes
Observations	525	525	525	525
Adj-R^2	0.226	0.221	0.216	0.213

The dependent variable represents the arbitrage spreads one day after announcement. See Equations 1 and 2 for the calculation of arbitrage spread. CSR_i is the acquirer's overall CSR score in column 1, the environmental score in column 2, the social score in column 3, and the corporate governance score in column 4. $BidPremium_i$ is the percentage difference between the offer price and the target's average price between t-30 to t-10 relative to announcement date. $CumRet_i$ is the cumulative target's stock price return from t − 42 to t − 1 relative to announcement date. $AbnVol_i$ is abnormal trading volume around acquisition announcements (from t-1 to t+1). $RelSize_i$ is the natural logarithm of the target's relative size with respect to the acquirer's. $TarMTB_i$ and $AcqMTB_i$ are the targets' and acquirers' market-to-book ratios, respectively. $Cash_i$ is a dummy variable that takes a value of one for purely cash-financed deals, and zero otherwise. $Hostile_i$ is a dummy variable that takes a value of one for hostile bids, and zero otherwise. $CrossBorder_i$ is a dummy variable that takes a value of one when the acquirer and the target are not in the same country, and zero otherwise. WGI_i is the aggregate value of the six World Governance Indicators dimensions. Regressions include country and year fixed effects. All financial variables are winsorized at the 1% and 99% level. T-statistics are in parentheses. ***, ** and * denote significance at the 1%, 5% and 10% level respectively.

4.4.3 Alternative measures of M&A uncertainty

In this sub-section, we test alternative measures of M&A uncertainty by computing arbitrage spreads in different ways. Results are presented in Table 4.8. For the sake of brevity, we only report the coefficients and t-statistics associated with our variable of interest, i.e., CSR_i. In column 1, we use an adjusted arbitrage spread measure (Market-Adjusted Spread), computed by subtracting from the arbitrage spread one day after announcement the sample mean arbitrage spread. In column 2, we use an adjusted arbitrage spread measure (Industry-Adjusted Spread) computed by subtracting from the arbitrage spread one day after announcement the industry[8] mean arbitrage spread. In both cases, we still observe a negative and significant (at the 1% level) relationship between acquirer's CSR performance and adjusted arbitrage spreads.

Following Branch and Wang [2008], we also test the arbitrage spread two days after announcement (instead of just one day) in order to allow the market more time to absorb the deal-related information fully. Results are reported in column 3 and confirm the negative relationship between acquirers' CSR performance and M&A uncertainty, albeit at a slightly lower level of significance (5%).

4.4.4 Accounting for the financial crisis

Our sample comprises various deals initiated during the 2007-2009 financial crisis. It is therefore possible that our results could be biased by particular behaviors characterizing periods of economic distress. In this sub-section, we control for this potential issue by removing from our sample all deals announced during the financial crisis period as defined by the National Bureau of Economic Research (NBER), i.e. ranging from December 2007 to June 2009. There are 56 deals in our sample that were announced during this period. We remove them and re-estimate our model. Results are presented in column 4 of Table 4.8 and confirm the negative and statistically significant (at the 1% level) relationship between acquirer's CSR performance and M&A uncertainty.

[8] We use two-digit SIC codes

4.4.5 Removing financial firms

Several papers [Deng et al., 2013; Jindra and Walkling, 2004] exclude financial companies from their investigations as financial industries have different reporting policies and are subject to different regulations. To make sure our results are not biased by the inclusion of financial firms, we remove deals involving financial companies and re-estimate our model. The exclusion of financial industry deals reduces the sample size by 65 deals. Results are reported in column 5 of Table 4.8. Again, acquirer's CSR performance appears to bear a negative and statistically significant relationship with arbitrage spreads, confirming our previous conclusions.

4.4.6 Excluding negative arbitrage spreads

In this sub-section, we remove from our sample the deals that exhibit negative arbitrage spreads. Negative arbitrage spreads may be less intuitive to understand. In fact, they occur as a result of increased speculation regarding the possibility of an offer price revision by the current bidder, or an expected higher offer coming from a competitive bidder. This, in turn, could bias our results by adding to the conditional pricing of the deal an extra layer of speculation on top of the assessment of completion risk. Removing these deals reduces our sample to 385 deals. Results are reported in column 6 of Table 4.8, and confirm our previous findings. Indeed, the association between acquirer's CSR performance and arbitrage spreads remains negative and statistically significant (at the 1% level).

4.4.7 Addressing potential endogeneity

In this sub-section, to further address potential endogeneity problems, we also estimate instrumental variable regressions. In the first stage, we estimate ordinary least square regressions to predict the value of CSR_i, i.e., we regress our CSR measure on explanatory variables used in Equation 3 and on two instrumental variables.

TABLE 4.8: Sensitivity analysis

	Spread measures			Sample		
	Market-adjusted spread	Industry-adjusted spread	Arbitrage spread (t+2)	Ex-crisis	Ex-financial	Ex-negative spreads
	(1)	(2)	(3)	(4)	(5)	(6)
Constant	0.136***	0.137***	0.141***	0.158***	0.139***	0.162***
	(4.61)	(4.25)	(4.62)	(5.54)	(4.47)	(5.86)
CSR_i	-0.062***	-0.058***	-0.028**	-0.068***	-0.054***	-0.061***
	(-4.33)	(-4.14)	(-1.96)	(-4.79)	(-3.65)	(-4.42)
Observations	525	525	525	469	460	385
Adj-R^2	0.229	0.184	0.199	0.236	0.221	0.231

In column 1, our dependent variable is the arbitrage spread one day after announcement from which we subtract the sample mean arbitrage spread. See Equations 1 and 2 for the calculation of arbitrage spread. In column 2, our dependent variable is the arbitrage spread one day after announcement from which we subtract the industry mean arbitrage spread.CSR_i is our CSR measure, i.e. the overall ASSET4 ESG score. In column 3, our dependent variable is the arbitrage spread two days after announcement. In column 4, we restrict our sample to the non-crisis period. In column 5, we restrict our sample to non-financial firms. In column 6, we restrict our sample to deals exhibiting positive arbitrage spreads. Control variables are the same as in Equation 3 and coefficients associated with them are not reported for the sake of brevity. Regressions include country and year fixed effects. All variables are winsorized at the 1% and 99% level. T-statistics are in parentheses. ***, ** and * denote significance at the 1%, 5% and 10% level respectively.

For the choice of instruments, we base our work on Ioannou and Serafeim [2012] that show CSR performance is determined by both country and industry characteristics. More precisely, a firm's CSR performance is impacted by a time-invariant component associated with its membership in the country-industry pair, and a time-varying component at the country level [Cheng et al., 2014]. In other words, a firm's CSR performance is impacted by the CSR performance of other firms within the same industry-country pair, and by the CSR performance of other firms in the same country over time. We follow Cheng et al. [2014], and Arouri and Pijourlet [2017], and use the country-year mean of CSR scores and the country-industry mean of CSR scores, computed using the entire ASSET4 ESG database. Results are presented in Table 4.9.

In the first-stage regression reported in columns 1, we see that both instruments are statistically significant, which seems to validate their use. In the second-stage regression, we substitute the predicted values of our CSR measure for the actual CSR score and report results in columns 2. These results confirm our previous findings that the predicted values of our CSR measures are negatively associated with arbitrage spreads at significant levels (5%).

Overall, our results suggest that high CSR performance by the acquirer tends to reduce the uncertainty surrounding mergers and acquisitions and leads to narrower arbitrage spreads. In accordance with the stakeholder value maximization hypothesis, we explain this fact by arguing that strong CSR attributes reduce the probability of a breach in implicit contracts and increase stakeholders' support towards a firm. More specifically, we argue that target firms' stakeholders are less likely to oppose the acquisition attempt if it comes from a socially responsible firm, because of the increased reputation associated with corporate social performance [Martinez-Ferrero et al., 2016][9]. We also explain the impact of CSR performance on M&A uncertainty by the reduction of conflict-of-interest risk between shareholders and other stakeholders, which facilitates the acquisition process and leads to faster integration [Deng et al., 2013]. Finally, we argue that CSR performance

[9]This result is confirmed within our sample. Using Fortune's World's most admired companies ranking, we find that firms present in the index feature a CSR score which is 23% higher on average, compared with firms which are not present in the index. Results are not reported for the sake of brevity but are available upon request.

TABLE 4.9: Sensitivity analysis

	Overall CSR score	
	First stage	Second stage
	(1)	(2)
Constant	1.718	0.150***
	(0.19)	(4.91)
CSR_{adj}		-0.060**
		(-2.34)
$Country - year$	0.384***	
	(3.59)	
$Country - industry$	0.704***	
	(9.07)	
Observations	525	525
Adj-R^2	0.320	0.231

This table presents our two-stage least square estimations. In the first stage, CSR_i is regressed on two instruments, which are the mean of overall CSR scores of the acquirer's country in the year when M&A occurred, and the mean of overall CSR scores of the industry in the country of the acquirers. CSR_i is acquirers' CSR measure based on overall ASSET4 score. CSR_{adj} is the predicted value of the overall CSR score. Control variables are the same as in equation 3 and coefficients associated with them are not reported for the sake of brevity. Regressions include country and year fixed effects. T-statistics are in parentheses. ***, ** and * denote significance at the 1%, 5% and 10% level respectively.

reduces M&A uncertainty through its impact on deal financing, as empirical studies have shown the negative relationship between CSR performance and cost of capital [Dhaliwal et al., 2014; El Ghoul et al., 2011; Martinez-Ferrero et al., 2016][10].

4.5 Conclusion

In this study, we assess for the first time the impact of CSR Performance on M&A uncertainty as measured by arbitrage spreads. We rely on the literature on CSR and develop two competing views (shareholder expense view vs. stakeholder value maximization) about the effect of an acquirer's CSR performance on M&A uncertainty. The shareholder expense view suggests that high-CSR acquirers should face higher uncertainty when conducting acquisitions; as a result, M&As undertaken

[10]Our sample also confirms this relationship. High-CSR acquirers (see definition in section 4.4.) have a weighted average cost of capital that is 2.4 percentage points lower on average than Low-CSR acquirers. Results are not reported for the sake of brevity but are available upon request.

by high-CSR acquirers should be characterized by wider arbitrage spreads. In contrast, the stakeholder value maximization view predicts that high-CSR acquirers should be more capable of quickly and successfully completing M&As; therefore, M&As undertaken by high-CSR acquirers should be characterized by less uncertainty and narrower arbitrage spreads. Using an international sample of 525 deals announced between 2004 and 2014 and controlling for other determinants previously identified in the literature, we find that deals conducted by firms with strong CSR performance are associated with lower uncertainty as evidenced by narrower arbitrage spreads. This empirical result is consistent with the stakeholder value maximization hypothesis. In addition, we also examine the individual impact of each CSR dimension (environment, social, and corporate governance) taken in isolation and find that performance in all dimensions is negatively associated with M&A uncertainty. Our results demonstrate robustness in terms of alternative measures of arbitrage spreads. We also show they are not affected by endogeneity bias. Overall, our findings contribute to the M&A and CSR literatures by showing how CSR influences the way markets assess the expected outcome of M&As. We show that CSR is an important determinant of the perceived risk surrounding M&A operations.

Acknowledgements

We thank CRCGM workshop participants, for helpful conversations and comments. We gratefully acknowledge the financial support of the "Value and CSR" chair. All errors remain our responsibility.

General conclusion

Research on corporate social responsibility (CSR) and its financial consequences has grown significantly over the past two decades. The bulk of the research has focused on the impact of CSR on firm performance [Endrikat et al., 2014; Margolis et al., 2009; Orlitzky et al., 2003; Sahut and Pasquini-Descomps, 2015], firm valuation [Aouadi and Marsat, 2016; Gregory et al., 2014; Jiao, 2010; Jo and Harjoto, 2011; Marsat and Williams, 2013; Servaes and Tamayo, 2013], and firm risk [Diemont et al., 2016; Godfrey, 2005; Godfrey et al., 2009; Jo and Harjoto, 2014; Kim et al., 2014; Mishra and Modi, 2013; Orlitzky and Benjamin, 2001]. Results clearly show that CSR performance plays a role in reducing firm risk through the generation of "insurance-like" intangible assets. In addition, research evidences a robust negative relationship between CSR performance and the cost of capital [El Ghoul et al., 2011; Martinez-Ferrero et al., 2016; Sharfman and Fernando, 2008]. Empirical results also tend to point toward a slight positive relationship between CSR performance and firm performance and valuation. While the literature on the subject is now voluminous, very few attempts have been made to study CSR in the context of mergers and acquisitions (M&A) transactions [Malik, 2014]. This fact is surprising given the growing importance of CSR in business models and anecdotal evidence suggesting CSR does play a role in M&A decisions[11,12].

The aim of our thesis was to enrich the CSR and M&A literatures and to

[11]Source: How Green is the Deal? The Growing Role of Sustainability in M&A. Deloitte Mergers & Acquisition Services, 2009. URL: https://www2.deloitte.com/il/en/pages/risk/articles/how%2green%2is%2the%2deal%2.html

[12]Source: The integration of environmental, social and governance issues in mergers and acquisitions transactions. Trade buyers survey results. PwC/PRI 2012 (December). URL: https://www.pwc.fr/fr/publications/developpement%2Ddurable/the%2Dintegration%2Dof%2Denvironmental%2Dsocial%2Dand%2Dgovernance%2Dissues%2Din%2Dmergers%2Dand%2Dacquisitions%2Dtransactions.html

contribute in bridging the gap between the two. Broadly speaking, our research extends the literature on the capital market impacts of CSR by focusing on one of the most important corporate decisions made by firms: the pursuit of external growth through M&A. It also furthers the M&A-related literature by investigating the impact of CSR as an additional important determining factor of target choice, deal pricing, and deal completion uncertainty. The main question we adressed in this PhD dissertation was: 'Does CSR influence M&A decisions and affect expected outcomes?'. After investigating the matter from different viewpoints, the answer appears to be yes. Specifically, the questions we raised in this thesis were the following:

- Does CSR influence the choice of a target firm?
- Does CSR impact target pricing?
- Does CSR affect M&A uncertainty?

Research findings

Using a worldwide set of M&A deals announced over a period ranging from 2003 to 2014, along with CSR ratings provided by Thomson Reuters ASSET4 ESG Data, we empirically assessed the impact of CSR performance on the M&A process and found that CSR characteristics matter.

In chapter 2, we show that CSR performance of firms is a significant determinant of takeover likelihood and that strong CSR attributes increases a firm's appeal for potential acquirers. Specifically, we show that each unit-increase in a firm's overall CSR score increases the odds of it being the subject of a takeover attempt by 1.34%. In addition, we show that firms that are targeted in M&A feature a CSR score that is on average, 5 to 8 points higher that similar non-target firms. We also show that each CSR dimension matters in the context of target choice. Indeed, we find that a unit-increase in the governance, social, and environment score of a given firm, is associated with an increase in the odds of that firm being the subject of a takeover attempt of 1.01%, 0.97%, and 0.74% respectively. We further show that target firms display, on average, a governance score that is between 9 and 13 points higher, a social score that is approximately 4 to 8 points

higher, and an environmental score that is approximately 2 to 6 points higher than comparable non-target firms. This study represents the first attempt to analyze the impact of CSR performance on takeover likelihood and target choice. We investigate this subject taking a worldwide perspective, thereby further differentiating from previous related studies which take a narrower perspective and focus on very specific samples [Berchicci et al., 2012; Waddock and Graves, 2006].

In chapter 3, we find that target's CSR performance affects deal valuation in that targets' CSR performance is positively associated with acquisition premia. Specifically, our results imply that acquisition premia are increased by 5.5 percentage points for each standard deviation unit-increase in overall CSR score. In addition, we show that CSR appears to be valued differently depending on whether deals are domestic or international. More specifically, while overall CSR performance and environmental characteristics are generally positively valued, social performance only commands a premium in the case of cross-border deals. Corporate governance does not appear to be linked to acquisition premia. This can be explained by the fact that target companies usually feature strong governance characteristics (as shown in chapter 2) and that as a result, our sample firms tend to be good performers in this area, preventing variations in corporate governance to have explanatory power in this framework. To our knowledge, our work represents the first attempt to study the impact of CSR performance on acquisition premia in an international context. Indeed, the only previous study on the subject [Chen and Gavious, 2015] focuses on a very small sample of deals in a single country (Israel). In addition, we provide additional insight into how the dimensions of CSR performance can impact deal valuation depending on the geographical nature of deals.

Finally, in chapter 4, we show that acquirers' CSR performance is negatively related to deal completion uncertainty, suggesting strong CSR attributes are seen as an asset allowing firms to improve their deal closing capacities. Using arbitrage spreads immediately following takeover announcement as a proxy for deal completion uncertainty, we find that arbitrage spreads are on average reduced by 1.31 percentage points for each standard deviation unit-increase in acquirers' CSR

scores. This negative association between deal completion uncertainty and CSR was found to hold for overall CSR performance as well as for environment, social, and corporate governance dimensions. Our study represents an original approach to examining the impact of acquirers' CSR performance on deals' perceived uncertainty. Indeed, the only study linking CSR performance to M&A risk [Deng et al., 2013] focuses on ex-post risk while we take an ex-ante perspective.

Contributions and practical implications

Overall, our work brings various contributions to the CSR and M&A literatures. First, our findings contribute to the CSR debate and support theories that emphasize the idea that CSR activities ultimately provide firms with economic benefits. They particularly complement previous empirical evidence in favor of stakeholder theory [Donaldson and Preston, 1995; Freeman, 1984; Jones, 1995], which claims that ethical behavior can ultimately lead to improved economic performance through increased stakeholder support. They also confirm the resource-based view (RBV) of CSR [Aragon-Correa and Sharma, 2003; Branco and Rodrigues, 2006; Hart, 1995; Hillman and Keim, 2001; Russo and Fouts, 1997] in that ethical activities can help firms develop resources that are valuable, rare, inimitable and non-substitutable, as defined by the RBV of the firm [Barney, 1991; Wernerfelt, 1984]. These CSR-induced resources include intangibles such as corporate reputation, know-how, and culture, and they can lead to improved relationships with internal and external stakeholders. Stronger stakeholder support can in turn lead to improved financing terms [Cheng et al., 2014], lower cost of capital [Dhaliwal et al., 2014; El Ghoul et al., 2011; Martinez-Ferrero et al., 2016; Sharfman and Fernando, 2008], increased customer loyalty [Fombrun et al., 2000], reduced employee turnover [Branco and Rodrigues, 2006; Fombrun et al., 2000; Greening and Turban, 2000], and better relationships with governments [Orlitzky and Benjamin, 2001].

Second, we complement the very thin literature linking CSR to M&A. Indeed, while anecdotal evidence points toward the increasing role played by CSR in external growth operations, there is a dearth of academic research on the topic.

Specifically, we contribute to the M&A and CSR literatures by showing that CSR matters for corporations, and is an important determinant of M&A decisions. We provide new insight by showing that CSR influences the way corporate buyers pick potential acquisition candidates. In doing so, we contribute to the existing literature by being the first to investigate the impact of CSR performance on takeover likelihood. We also show that once that choice is made, CSR influences deal valuation, in line with anecdotal evidence coming from managers and corporate officers. Finally, we are the first to study how CSR relates to ex-ante deal uncertainty and we show that CSR performance impacts expectations regarding M&A completion risk. In doing so, we interestingly complement ex-post findings of Deng et al. [2013] in showing that shorter time to completion and higher success probability associated with high-CSR acquirers are priced ex-ante by market participants.

Third, while most previous studies focus on particular national contexts, we take a worldwide perspective and conduct our work relying on an international sample of deals. Doing so interestingly complements previous work as it provides a global picture, in line the increasingly global nature of M&A activity outlined in the introduction (Section 1.1). What's more, we show that the impact of CSR on M&A can vary depending on whether deals are domestic or international.

Our work also has interesting managerial implications. First, we show that CSR attributes matter for acquirers and are part of pre-acquisition due-diligence processes. As a consequence, developing CSR activities and increasing CSR performance could be a way for managers looking to sell their firm to increase its appeal to potential acquirers, and therefore increase its likelihood of being taken over.

Second, our thesis also suggests that managers and corporate officers could increase potential takeover gains by increasing their company's CSR performance. Indeed, insofar as CSR performance is positively linked to takeover premia, increasing CSR performance could lead to obtaining a better deal, i.e., a higher price per share.

Finally, our study also has interesting implications for risk arbitrageurs. Indeed, we show that the CSR performance of acquirers is negatively related to arbitrage spreads following acquisition announcement. Because it has been shown

by Deng et al. [2013] that the CSR performance of acquirers negatively impacts ex-post risk (i.e., probability of success and time to completion), our findings rule away a potential anomaly that would consist in CSR influencing M&A outcomes without being properly priced by market participants.

Limitations and avenues for future research

Obviously, our work is not exempt from various limitations which also provide us with future research opportunities. First, our work relies on CSR data provided by Thomson Reuters ASSET4 ESG data and our conclusions are therefore dependent on these ratings, i.e., our sample is conditionned by the availibility of ASSET4 scores. Indeed, even though ASSET4 scoring are well defined in order to ensure objectivity, the choice of such rules remains, to some extent, inherently subjective [Chatterji and Levine, 2006]. As a result, it could be interesting to complement our work with similar studies making use of alternative CSR measures, in order to make sure ratings provided by different providers do not lead to different outcomes.

Also, in our work, we focus on the three commonly accepted components of CSR, i.e., environment, social, and corporate governance. While these subsets are a good starting point to assess the impact of CSR, it is possible that specific CSR items could in fact drive our results. In order to disentangle these potential effects, other studies should be conducted in order to further decompose CSR characteristics into more granular subsets.

We must also acknowledge the fact that our work could benefit from a larger number of observations. Indeed, our sample size was largely driven by the availability of CSR data. Although other studies linking CSR to M&A also feature small samples (106 deals in Aktas et al. [2011], 134 deals in Chen and Gavious [2015]), other studies should be conducted to further confirm our findings as the availibility of such data increases.

Finally, in our study, we've focused our attention on the CSR performance of acquirers or targets, but not on both. This choice was partly the result of a lack of data. Indeed, restraining our study to deals for which we had CSR data for both parties (i.e., acquirers and targets) would have reduced our sample

to unnaceptable levels. However, as the amount of CSR data increases, we will eventually be able to take into account potential CSR dynamics between acquirers and targets and therefore enrich our understanding of the role played by CSR in M&A transactions.

Appendix A

Definitions of CSR

TABLE A.1: Main academic definitions of CSR[a]

Author(s)	Definition
Bowen [1953]	"It refers to the obligations of businessmen to pursue those policies, to make those decisions, or to follow those lines of actions which are desirable in terms of the objectives and values of our society."
Davis [1960]	"Businessmen's decisions and actions taken for reasons at least partially beyond the firm's direct economic or technical interest."
McGuire [1963]	"The idea of social responsibilities supposes that the corporation has not only economic and legal obligations, but also certain responsibilities to society which extend beyond these obligations."
Davis and Blomstrom [1966]	"Social responsibility, therefore, refers to a person's obligation to consider the effects of his decisions and actions on the whole social system. Businessmen apply social responsibility when they consider the needs and interest of others who may be affected by business actions. In so doing, they look beyond their firm's narrow economic and technical interests."
Manne and Wallich [1973]	"To qualify as socially responsible corporate action, a business expenditure or activity must be one for which the marginal returns to the corporation are less than the returns available from some alternative expenditure, must be purely voluntary, and must be an actual corporate expenditure rather than a conduit for individual largesse."

Table A.1 Continued: Main academic definitions of CSR[a]

Author(s)	Definition
Davis [1973]	"It refers to the firm's consideration of, and response to, issues beyond the narrow economic, technical, and legal requirements of the firm. It is the firm's obligation to evaluate in its decision-making process the effects of its decision on the external social system in a manner that will accomplish social benefits along with traditional economic gains which the firm seeks."
Eilbirt and Parket [1973]	"The concept involves two phases. On one hand, it means not doing things that spoil the neighborhood. On the other, it may be expressed as the voluntary assumption of the obligation to help solve neighborhood problems."
Eells and Walton [1974]	"In its broadest sense, corporate social responsibility represents a concern with the needs and goals of society which goes beyond the merely economic."
Backman [1975]	"Social responsibility usually refers to the objectives or motives that should be given weight by business in addition to those dealing with economic performance (e.g., profits)."
Sethi [1975])	"Social responsibility implies bringing corporate behavior up to a level where it is congruent with the prevailing social norms, values, and expectations of performance."
Fitch [1976])	"Corporate social responsibility is defined as the serious attempt to solve social problems caused wholly or in part by the corporation."
Carroll [1979]	"The social responsibility of business encompasses the economic, legal, ethical and discretionary expectations that society has of organizations at a given point in time."
Jones [1980]	"Corporate social responsibility is the notion that corporations have an obligation to constituent groups in society other than stockholders and beyond that prescribed by law and union contract. Two facets of this definition are critical. First, the obligation must be voluntarily adopted. [...] Second, the obligation is a broad one, extending beyond the traditional duty to shareholders to other societal groups such as customers, employees, suppliers, and neighboring communities."
Drucker [1984]	"The proper "social responsibility" of business is to [...] turn a social problem into economic opportunity and economic benefit, into productive capacity, into human competence, into well-paid jobs, and into wealth."

Table A.1 Continued: Main academic definitions of CSR[a]

Author(s)	Definition
Epstein [1987]	"Corporate social responsibility relates primarily to achieving outcomes from organizational decisions concerning specific issues or problems which (by some normative standard) have beneficial rather than adverse effects on pertinent corporate stakeholders."
Wood [1991]	"The basic idea of corporate social responsibility is that business and society are interwoven rather than distinct entities; therefore, society has certain expectations for appropriate business behavior and outcomes. However, a review of the literature shows that attempts to specify principles of CSR have not distinguished among three conceptually distinct though related phenomena: expectations placed on all businesses because of their roles as economic institutions, expectations placed on particular firms because of what they are and what they do, and expectations placed on managers (and others) as moral actors within the firm."
McWilliams and Siegel [2001]	"We define CSR as actions that appear to further some social good, beyond the interests of the firm and that which is required by law."

[a] Sources: Carroll [1999]; Carroll and Shabbana [2010]; Gond and Igalens [2016].

Appendix B

Description of ASSET4 ESG performance indicators

Environmental performance

Emission reduction: The emission reduction category measures a company's management commitment and effectiveness towards reducing environmental emission in the production and operational processes. It reflects a company's capacity to reduce air emissions (greenhouse gases, F-gases, ozone-depleting substances, NOx and SOx, etc.), waste, hazardous waste, water discharges, spills or its impacts on biodiversity and to partner with environmental organisations to reduce the environmental impact of the company in the local or broader community.

Product innovation: The product innovation category measures a company's management commitment and effectiveness towards supporting the research and development of eco-efficient products or services. It reflects a company's capacity to reduce the environmental costs and burdens for its customers, and thereby creating new market opportunities through new environmental technologies and processes or eco-designed, dematerialized products with extended durability.

Resource reduction: The resource reduction category measures a company's management commitment and effectiveness towards achieving an efficient use of natural resources in the production process. It reflects a company's capacity to reduce the use of materials, energy or water, and to find more eco-efficient solutions by improving supply chain management.

Social performance

Customer/Product Responsibility: The customer/product responsibility category measures a company's management commitment and effectiveness towards creating value-added products and services upholding the customer's security. It reflects a company's capacity to maintain its license to operate by producing quality goods and services integrating the customer's health and safety, and preserving its integrity and privacy also through accurate product information and labelling.

Society/Community: The society/community category measures a company's management commitment and effectiveness towards maintaining the company's reputation within the general community (local, national and global). It reflects a company's capacity to maintain its license to operate by being a good citizen (donations of cash, goods or staff time, etc.), protecting public health (avoidance of industrial accidents, etc.) and respecting business ethics (avoiding bribery and corruption, etc.).

Society/Human Rights: The society/human rights category measures a company's management commitment and effectiveness towards respecting the fundamental human rights conventions. It reflects a company's capacity to maintain its license to operate by guaranteeing the freedom of association and excluding child, forced or compulsory labour.

Workforce/Diversity and Opportunity: The workforce/diversity and opportunity category measures a company's management commitment and effectiveness towards maintaining diversity and equal opportunities in its workforce. It reflects a company's capacity to increase its workforce loyalty and productivity by promoting an effective life-work balance, a family friendly environment and equal opportunities regardless of gender, age, ethnicity, religion or sexual orientation.

Workforce/Employment Quality: The workforce/employment quality category measures a company's management commitment and effectiveness towards providing high-quality employment benefits and job conditions. It reflects a company's capacity to increase its workforce loyalty and productivity by distributing rewarding and fair employment benefits, and by focusing on long-term employment growth and stability by promoting from within, avoiding lay-offs and maintaining relations with trade unions.

Workforce/Health and Safety: The workforce/health and safety category measures

a company's management commitment and effectiveness towards providing a healthy and safe workplace. It reflects a company's capacity to increase its workforce loyalty and productivity by integrating into its day-to-day operations a concern for the physical and mental health, well-being and stress level of all employees.

Workforce /Training and Development: The workforce/training and development category measures a company's management commitment and effectiveness towards providing training and development (education) for its workforce. It reflects a company's capacity to increase its intellectual capital, workforce loyalty and productivity by developing the workforce's skills, competences, employability and careers in an entrepreneurial environment.

Corporate governance performance

Board of Directors/Board Functions: The board of directors/board functions category measures a company's management commitment and effectiveness towards following best practice corporate governance principles related to board activities and functions. It reflects a company's capacity to have an effective board by setting up the essential board committees with allocated tasks and responsibilities.

Board of Directors/Board Structure: The board of directors/board structure category measures a company's management commitment and effectiveness towards following best practice corporate governance principles related to a well balanced membership of the board. It reflects a company's capacity to ensure a critical exchange of ideas and an independent decision-making process through an experienced, diverse and independent board.

Board of Directors/Compensation Policy: The board of directors/compensation policy category measures a company's management commitment and effectiveness towards following best practice corporate governance principles related to competitive and proportionate management compensation. It reflects a company's capacity to attract and retain executives and board members with the necessary skills by linking their compensation to individual or company-wide financial or extra-financial targets.

Integration/Vision and Strategy: The integration/vision and strategy category measures a company's management commitment and effectiveness towards the creation of an overarching vision and strategy integrating financial and extra-financial aspects.

It reflects a company's capacity to convincingly show and communicate that it integrates the economic (financial), social and environmental dimensions into its day-to-day decision-making processes.

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