

Premiums in public buyouts and the impact of CSR

A comparison of premiums paid by private equity firms and private operating firms.

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Premiums in public buyouts and the impact of CSR: A comparison of premiums paid by private equity firms and private operating firms.

Abstract:

This study investigates the differences in premiums paid in public-to-private (PTP) transactions depending on whether the acquirer is a private equity firm or a private operating firm. The study is conducted post financial crisis, during the years 2010-2018. Using a dataset containing 373 transactions on the US market, we conclude that private equity firms on average pay lower premiums compared to their private counterparts. Furthermore, we include Corporate Social Responsibility (CSR) to add a new perspective on PTP transactions. Through a regression analysis testing CSR rating, we find that private equity firms pay lower premiums than their private counterparts. Lastly, we bring various target characteristics into the regression. By doing this, we still find private equity firms to pay lower premium for higher CSR rating.

Keywords:

Premium, Corporate social responsibility, Public-to-private transactions, US buyout market, Private equity firms, Private operating firms

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1. Introduction

In this study we show that private operating firms pay higher premiums for target companies in public buyout transactions than private equity firms. Further, we show that private operating firms pay higher premiums for companies that contribute to a more sustainable society than their private counterparts.

Over the years there has been several major public-to-private (PTP) transactions that have generated billions of dollars. For example, in 2006, The Blackstone Group took Hilton Hotels private in a deal generating total earnings of USD 14 billion (Tan, 2018). This transaction shows that there evidently have been large upsides by taking companies private, despite the lack of visible strategic synergies.

There are many reasons why private acquirers look at public targets differently compared to the market and we will in this study look at two types of acquirers. To begin with, there are the private equity buyers like Blackstone. These buyers typically look to gain control of undervalued targets and use their full control to generate high cash flows from restructurings. According to Renneboog and Simons (2005) this is possible because of lack in current management's actions. This lack is based on management's interest to create an empire rather than to create shareholder value. In addition, there are the private operating firms. These firms look for targets that will create synergies with their already existing business. These are often long-term investments and the target company is usually a competitor, supplier or customer. Private operating firms have previously been shown to pay more than their financial competitors for a similar target due to strategic synergies (Gorbenko and Malenko, 2014).

We study the difference in premiums paid by these acquirers in US PTP transactions during the years 2010-2018. Hence, we investigate how much above market valuation these acquirers pay to gain full control of a target company. Our study concludes that private operating firms pay higher premiums than private equity firms and that there are several factors affecting how different acquirers value targets in PTP transactions.

Further, it has been shown that companies tend to increase their engagement in Corporate Social Responsibility (CSR) activities (Liang and Renneboog, 2017). Therefore, we look at how different acquirers value CSR. There are many different perspectives on how companies should incorporate CSR in the business plan. Milton Friedman (1970) states that firms should focus on creating shareholder value whereas Porter and Kramer (2011) advocates companies to create economic as well as societal value to be able to compete in the long run. We interpret these thoughts into how two types of acquirers value the CSR rating of a target in

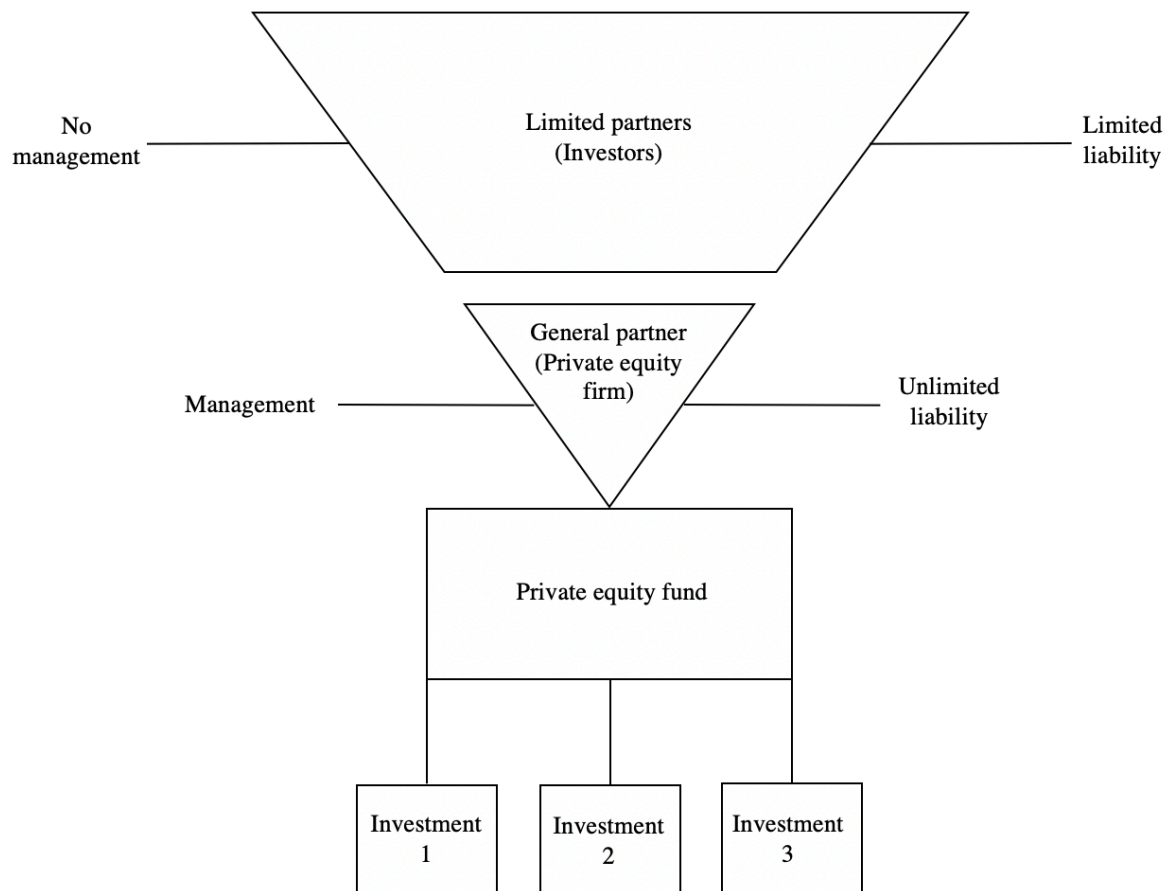
a PTP transaction. Our study concludes that private equity firms pay less for targets with a higher CSR rating than their private counterparts. We argue that there is a connection between CSR philosophy and acquirers' investment strategy in public buyouts.

1.1 Definitions

Earlier studies present a large variation of definitions within the academic field for buyout transactions and we therefore put extra emphasis on how terms are defined in our study. Firstly, we define PTP transactions as an acquisition where a privately held company ends up with 100% of the shares of a listed company post transaction and where the transaction includes a majority of the outstanding shares. We further narrow down our definition to when the ultimate parent company has private status. This is necessary to make sure that the company actually is taken private. One should bear in mind that it is easy to mix PTP transactions with Leveraged Buyout (LBO) transactions since both usually are financed with a large part debt. In some studies, the LBO definition is used for PTP transactions as well. However, we define an LBO transaction as an acquisition of a company completed by a specialized investment firm, using a relatively small portion of equity compared to a large portion of debt. This definition is in line with the previous study by Kaplan and Stromberg (2009). The LBO definition includes both private and public target companies, which is the main separator between the two types of transactions.

Our study focuses on two acquirer groups, private equity firms and private operating firms. The private equity firm is defined as an investor group or a private equity firm and the private operating firm is defined as all other private companies. By leaving the definition of private operating firms wider, we will not only focus on deals completed within the same sector, but also acquisitions executed by conglomerates. The private equity definition is further explained in Figure 1 by illustrating the structure of a common private equity arrangement. A private equity firm is known as the General Partner (GP), and the GP will raise capital in order to run investments via the private equity fund. The GP is also exclusively responsible for managing the investments. A Limited Partner (LP) is referred to as an investor, such as pension funds and high-net-worth individuals, who provide capital in order to raise funds. They are therefore seen as capital providers to the GPs and give the private equity firm room for investments.

Figure 1. Illustrative structure of a private equity arrangement.

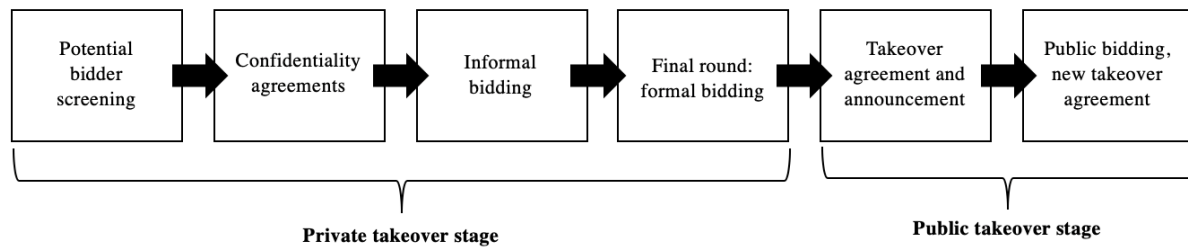


Note: The figure shows the typical structure of a private equity firm.

1.2 The auction process

PTP transactions are usually conducted via an auction process that includes several buyers. The acquisition process differs whether the company has public or private status and to provide better understanding of the differences, we illustrate both processes in Figure 2.

Figure 2. Timing of the takeover auction process (Gorbenko and Malenko, 2014).



Note: The figure illustrates a typical auction process and the difference between a public and private auction.

An initial step towards selling a company is a recommendation from the board of directors. Thereafter, the company hires a financial advisor to work as the actual auctioneer in the process. The advisor contacts various potential buyers, using a confidential name of the company, to create a list of reasonable acquirers. The buyers then show interest in the company by signing non-disclosure agreements, also called confidentiality agreements. By signing the agreements, the potential buyers get non-public information about the company and are able to present indicative bids. These bids are non-binding and bidders often renegotiate them before coming up with a final bid. More serious acquirers are invited to management presentations as well as site visits. Final round bids are followed after these events and the bids are ordinarily binding. Thereafter, a takeover agreement is finalized, and the deal is completed and announced. One should bear in mind that there is no standardized takeover process and that every transaction process deviates from one another (Hansen, 2001), (Mulherin and Boone, 2007). Because of a more extensive public process, there is a higher risk of leaking information. In case of information leakage, the impact will be more severe on public companies in relation to their private counterparts. This makes it difficult in the measurement of a reliable premium.

2. Background and previous literature

2.1 Public-to-private transactions

When completing a PTP transaction, the acquirer can benefit economically from both cost savings as well as increased revenues. Firstly, by taking a company private, an acquirer reduces the risk of management creating an empire building at the cost of shareholders. With full control there are less shareholders running decisions and therefore the acquirer is able to influence management towards a more distinct direction (Renneboog and Vansteenkiste, 2017). Furthermore, acquirers are able to reduce costs if they relever the firm with more debt, resulting in a tax shield, as well as reduce the risk of the free cash flow hypothesis (Jensen, 1989). The free cash flow hypothesis proposes that managers endowed with an abundance of cash will invest in projects to enlarge the company rather than benefit shareholders. By going private, the company will also reduce the risk of the transaction cost hypothesis (Renneboog and Vansteenkiste, 2017). The transaction cost hypothesis highlights costs associated with listing requirements, e.g. costs associated with interim reporting and listing fees.

2.1.1 Pre-2000s

PTP transactions started to gain interest in the start of the 1980s as a result of the underlying development of LBO transactions. PTP transactions showed strong growth during 1979 until 1989, especially in the US, and over 2,000 PTP transactions were executed at a value exceeding USD 250 billion (Titman and Opler, 1993). All kinds of companies were taken private, large as small, and KKR & Company completed the largest buyout in 1989 with the transaction of RJR Nabisco at a deal valued at USD 25 billion. Investors and financiers believed that the commencement of PTP transactions could be seen as the “eclipse of the public corporation” (Jensen, 1989).

However, in the early 1990s it was clear that PTP transactions had not met the positive growth predictions. The reason why PTP deals were less interesting, even though market conditions were favorable, was because of reduced agency costs between managers and shareholders, e.g. improvements of information availability (Renneboog and Simons, 2005). The stagnation lasted until 1997 before the PTP market started to pick up its pace once again. The reason why the market once again took off was the fact that smaller listed companies were facing low trading volumes and hence a risk of being delisted by NASDAQ (Jain and Rezaee, 2006).

2.1.2 The 2000s

The PTP market had started its journey towards a new peak in the beginning of the 2000s and the cycle didn't seem to have a stop. The start of the millennium was driven by loose credit requirements which increased the level of corporate debt and the temptation towards riskier assets in the hunt for yield (Kaplan and Stromberg, 2009). The Sarbanes-Oxley Act also had major impact since it increased the listing costs of a company substantially (Jain and Rezaee, 2006). The listing costs were disproportionate to the size of smaller companies and therefore made them more attractive to take private (Renneboog and Simons, 2005). During these years, there was a peak in both total value of PTP transactions and capital raised for private equity funds (Axelson et al., 2013). The new wave reached PTP transaction values of USD 250 billion between 2005 and 2007.¹ This can be compared to the total PTP deal value of USD 110 billion during the years 1985-1989 and USD 10 billion between the years 1990-1994 (Kaplan and Stromberg, 2009).²

The peak was reached in late 2007 when both number of PTP transactions and amount of capital raised peaked (Axelson et al., 2013). The improvement of the financial system which allowed new financing methods as, e.g. collateral debt obligations commonly known as CDOs, were the fuel for this new peak (Shivdasani and Wang, 2011). However, in late 2007 the collapse of these new financing methods caused the number of PTP transactions to fall (Renneboog and Vansteenkiste, 2017). This period was the start of the financial crisis.

2.1.3 The 2010s

The financial crisis left the private equity industry with extremely low amounts of capital raised and the number of PTP transactions plummeted. Some of the private equity funds even liquidated (Rizzi, 2009). The private equity industry has since the crisis witnessed a stable comeback and the recovery period from 2009 until today is now closing up on the previous record of the ten comeback-years between 1991 and 2001 (Bain & Company, 2019). The private equity funds currently reach new top levels by accessing large amounts of equity at ease and obtaining vast amount of debt at low interest rate, which is a result of the ongoing macroeconomic environment. The asset class is nowadays more well-known and more easily accessible for investors. According to the yearly report from Bain & Company (2019), the private equity firms have during 2018 completed buyouts of USD 582 billion worldwide, add-on deals included, and has during the past five years raised more than USD 400 billion per

¹ Every transaction with a financial sponsor included, US and Canadian equity market.

² Every transaction with a financial sponsor included, US and Canadian equity market.

year. The presence of private equity firms has during the past years contributed to increased profitability, gross job creation and productivity due to expertise and contribution of resources (Davis et al., 2014). This validates the definition of capitalism by Porter and Kramer:

Capitalism is an unparalleled vehicle for meeting human needs, improving efficiency, creating jobs and building wealth. (Porter and Kramer, 2011, p.4)

At the same time as the private equity industry has great impact on the economy and as new top levels are being reached, the total average return from the private equity industry is declining (Bain & Company, 2019). Some studies have presented that the increased size of the funds has been negatively correlated to the return (Aigner et al., 2008). Finding lucrative investment opportunities is harshening and cash held by the funds in line to be invested, called dry powder, is stacking up. In December 2018 dry powder of the private equity industry summed up to USD 2 trillion (Bain & Company, 2019), which could explain the decrease in total return of the funds. At times when the economic and competitive landscape seem to change, and the industry closes up to the maturity phase the value creation procedure gets more competitive (Sensoy et al., 2014). In addition, the intensity of the market expands when private operating firms continuously enter the market. When the operational part of a firm is doing well, companies face an abundance of cash and therefore screen the market for investment opportunities. In line with the private equity business plan, operating firms will investigate the possibility of acquiring target firms which could increase their performance. By targeting companies in the same industry, operating firms may benefit from synergy effects such as combining business technology, cutting administrative costs and expanding reachable market through cross-selling.

2.2 Corporate Social Responsibility

The history of CSR dates back many years and the concept does not have a specific foundation date. During the past decades, the concept of CSR has created a lot of different opinions and strong beliefs on how to run companies in both academic studies as well as in business context. The academic field could be divided into two teams, where Milton Friedman is seen as the representative of the side where the corporation should focus on gaining the shareholders'

wealth whereas Michael E. Porter and Mark R. Kramer is seen as representatives of the side where focus lies on expanding the interaction between economic and societal progress.

According to Friedman (1970), the social responsibility of a corporation is to increase its profit and maximize shareholder value within lines of laws and regulations. Corporations should in other words not have responsibilities since these are supposed to be assigned to individuals. If CSR and profit maximization would be mutually exclusive, no company would engage in activities gaining welfare for other stakeholders and trends concerning CSR would not be present at all. In this neoclassical economic thinking, social responsibility and philanthropy would impose a constraint on the firm which inevitably would increase costs resulting in lower profits. If managers want to work towards a better society they should do so as individuals instead of as an agent of their principal at their principals' cost (Friedman, 1970). Nonetheless, companies today tend to extend their CSR activities, and this raises the question of the underlying reason (Liang and Renneboog, 2017). The common explanation is referred to as "doing well by doing good" which indicates a profit maximizing condition at times when CSR is taken into consideration (Krueger, 2015). Other studies consider the opposite (Hong et al., 2011) by investigating whether CSR investments are affordable for companies that are not well performing.

Porter and Kramer (2011) are partly supporting the "doing well by doing good"-concept and have developed their concept of creating shared value (CSV) instead, which should be seen as the future of corporations and capitalism. Corporations should move beyond the former belief that governments and non-government organizations (NGOs) are responsible of the negative externalities caused by companies in hunt for short-term profits. Instead of having social responsibility in the periphery of the business mindset, companies must take the social responsibility into the core of the business to create shared value (Porter and Kramer, 2011). According to Porter and Kramer (2011), businesses acting as businesses instead of as donors engaging in societal problems are seen as powerful companies in the reinvention of capitalism. These companies will lead the market towards innovation and growth (Porter and Kramer, 2011). To reach the desired state, the interdependence of society and corporations must be understood and taken into account when running daily operations. If this is disregarded, temporary gains will undermine both parties in the long term (Porter and Kramer, 2006). To be able to create shared value, companies should according to Porter and Kramer (2011) strive to; reconceive products and markets, redefine productivity in the value chain and build supportive industry clusters at the company's location. The absence of consensus of which CSR perspective that companies should act in accordance with is illustrated in Figure 3.

Figure 3. A comparison of CSR perspectives.

Friedman's perspective	CSR	CSV
Value: maximize shareholder value.	Value: doing good.	Value: economic and societal benefits relative to cost.
Profit maximization.	Citizenship, philanthropy, sustainability.	Joint company and community value creation.
Stay within legal requirements.	Discretionary or in response to external pressure.	Integral to competing.
CSR as a constraint for profit maximization.	Separate from profit maximization.	Integral to profit maximization.
Agenda is that every corporation's responsibility is to maximize the value to its shareholders.	Agenda is determined by external reporting and personal preferences.	Agenda is company specific and internally generated.
CSR is not a part of the budget, unless it leads to increased profits.	Impact limited by corporate footprint and CSR budget.	Realigns the entire company budget.
Example: Cutting CSR investments to increase dividend payout.	Example: Fair trade purchasing.	Example: Transforming procurement to increase quality and yield.

Note: Table inspired by Porter and Kramer (2011), we add one column to include Friedman's theory. In all three cases companies are assumed to follow laws and ethical standards.

2.3 Research focus and objectives

Several earlier studies have been conducted on the differences between how a private equity firm values a target company compared to how a private operating firm values a target. According to Gorbenko and Malenko (2014), operating firms will value a typical target higher than a private equity firm as a result of potential synergies. However, the study presents that some target characteristics appeal more than others to each one of the private acquirers. These findings are in line with the study presented by Fidrmuc et al. (2012). Fidrmuc et al. (2012) and Gorbenko and Malenko (2014) focus their studies on the US market between the years 1997-2006 and 2000-2008, respectively. In comparison, our study focuses on the years 2010-2018. The gap between the research windows implies that transaction patterns and post-crisis climate of the industry would have amended. Further, we aim to broaden the understanding of how CSR rating affects the premium paid in a buyout transaction.

Despite a vast amount of research on how CSR should be integrated into companies, literature has failed to reach homogeneity in explaining how CSR affects company valuation.

The lack of research is suggested to be dependent on the fact that attributes associated with CSR is mainly intangible which makes CSR performance harder to value (Gomes and Marsat, 2018).

Our study will firstly contribute to new knowledge of the buyout market and create a better understanding of premiums paid by different types of acquirers in PTP transactions. Secondly, it will provide knowledge on how CSR affects premiums paid by different acquirers. Our research question will therefore be stated as:

<i>Research question:</i> What type of private acquirer pays the highest premium in public buyouts and does CSR affect the premium paid depending on acquirer type?
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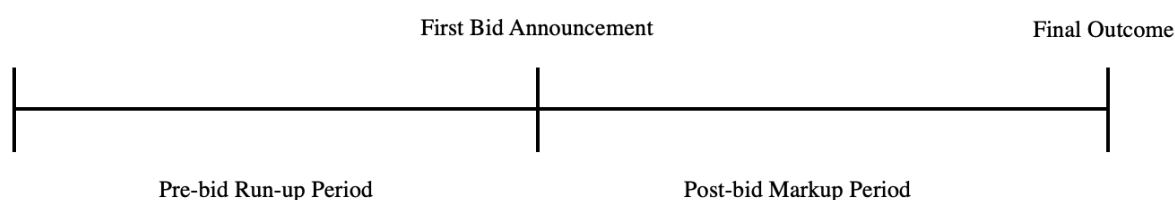
3. Theoretical framework

3.1 Premium measurement

There are several previous papers discussing the premiums paid by private equity firms compared to private operating firms. A majority of these has come to the conclusion that private operating firms pay higher premiums than private equity firms. However, the comparison methodologies have differed remarkably.

There are several studies that have used an event study-approach. Renneboog et al. (2007) base their study on the calculation of average abnormal returns. They focus on the appreciation related to market reactions of a PTP announcement. The premium is measured with an event window of 11 days centered around the announcement date. A problem with this type of analysis is that it is hard to compare premiums cross-sectionally due to the non-uniformity in leaked information. Even though the study is conducted on the UK market, they conclude that pre-transaction shareholders receive a premium of 40% on average in PTP transactions and that the share price increases 30% after the PTP announcement. Another event-study approach is presented by Schwert (1996). He shows how the share price in mergers and acquisitions (M&A) is affected by a pre-bid run-up period and a post-bid markup period which is applicable on PTP transactions as well (see Figure 4). The study concludes that the compounded abnormal returns of a bid starts to arise approximately 42 days prior to announcement and has its largest impact from 21 days before the announcement and onwards.

Figure 4. Timeline of M&A events, measuring the total premium (Schwert 1996).



Note: The figure shows the timeline over M&A events applicable to PTP transactions as well.

The premium can also be studied by measuring shareholder value effects through a premium analysis. The premium is calculated by comparing the offer price to stock price several days prior to deal completion (Fidrmuc et al., 2012). The share price is affected by both external

factors and by leaked information before the deal is completed. Therefore, it is of high importance to select the most reliable anticipation window³.

3.2 Target characteristics

There are several variables to analyze when studying premiums paid in PTP transactions. The target characteristics used in this study are mainly financial metrics based on two earlier studies.

Firstly, Fidrmuc et al. (2012) conduct their research as a comparison of acquisitions completed by private equity versus strategic buyers. The comparison focuses on public buyouts from the US stock exchange from 1997 until 2006. They further categorize the variables into target and deal characteristics. They e.g. use transaction value as a target characteristic and number of bidders as a deal characteristic. By using both target and deal characteristics, Fidrmuc et al. (2012) are able to analyze deals from various perspectives. They conclude that private equity firms typically acquire targets with lower market to book ratios and higher levels of cash and equivalents. This can be compared to private operating firms that normally acquires targets with higher market to book ratios, more intangible assets and higher R&D expenditures.

Secondly, our characteristics are also based on Gorbenko and Malenko's (2014) study on the comparison of private equity bidders and strategic bidders in a bidding process. Their study takes another angle when analyzing the two different types of acquisitions and focuses on who has the highest valuation of potential targets as well as the probability of one type of acquirer actually winning the bid. Their study finds that different bidders glance towards different target characteristics rather than strategic bidders always paying a higher premium. Accordingly, private equity firms are found to acquire slightly larger companies with higher leverage ratios and companies that have shown a strong cash flow growth prior to transaction. Their counterparts, the private operating firms, typically acquire companies with higher R&D expenditure and short-term investments combined with cash and cash equivalents.

To conclude, our study does not focus on deal characteristics as Fidrmuc et al.s (2012) define it. Since we look at the target firm and not the characteristics of the process we choose to put emphasis on target characteristics. We also add a new target variable for measurement of CSR.

³ The time period between the day used as a base in measuring the premium and the announcement date.

4. Data

We analyze US PTP transactions during the years 2010-2018. The data is conducted with Thomson Reuters SDC platinum and supplemented with CSRhub to gather CSR rating. The following criteria's have been used to extract the sample.⁴

- Deal value of at least USD 20 million.
- The transaction type is not a spinoff, recapitalization, tender offer, self-tender, exchange offer, repurchase or minority stake purchase.
- Target has public status.
- Ultimate parent company of acquirer is non-public.
- Deal has been completed.
- Acquisition of a majority of all stocks outstanding, ending up with all stocks.
- Offer price to target stock price premium 4 weeks prior to announcement.

The US market is used due to a large value of PTP transactions during the last couple of years according to the yearly report from Bain & Company (2019). We observe that smaller companies are not valued with a CSR rating. Therefore, we exclude transactions with a transaction value lower than USD 20 million. 35 transactions are excluded due to this matter. The data focuses on transactions where the buyer has acquired a majority of all shares and has ended up with 100% of outstanding shares. This is done since the foundation of a PTP transaction is built upon receiving full control of the company.

4.1 Sample description

Our dataset contains 373 transactions, including 160 transactions executed by private equity firms and 213 transactions executed by private operating firms. Summarizing the different years, 2010 stands out in terms of number of transactions and 2015 stands out in terms of total transaction value (see Appendix 4 for yearly summary). A total of 52 transactions were completed in 2010 and divided equally between the acquirer types. 2015 was the peak in total transaction value for both private equity firms and private operating firms and this can mainly be described by two major transactions. Dell's acquisition of EMC for USD 66 billion in 2015 represents the largest private operating buyout and JAB Holding's acquisition of Keurig Green

⁴ The financial metrics are based on the last twelve months prior to the transaction unless otherwise stated.

Mountain Inc for USD 13.9 billion represents the largest private equity buyout. The total transaction value this year exceeded USD 133 billion.

Further, we observe that Sierra Merger Sub Co's acquisition of Telanetix Inc. in 2013 shows a significantly higher premium than the rest of the sample. The transaction showed a premium of 1868%. To investigate this further we look for press releases regarding the transaction. Due to the lack of press releases, we exclude this acquisition.

4.1.1 Corporate Social Responsibility rating

The CSR rating is collected from the database CSRhub at the end of the year prior to the transaction. By obtaining the rating at the end of the year prior to the transaction we mitigate leaking information about the acquiring peer and create a persistent collecting date on a yearly basis. The rating is based on four categories; community, environment, governance and employees, which is further narrowed down to 12 subcategories, provided in Appendix 1. CSRhub generates the rating from an aggregate collection of other data sources e.g. MSCI and ASSET4 (Thomson Reuters). The rating methodology is provided in Appendix 2. Due to the lack of a widely used and standardized reporting method, a lot of companies miss rating. We gather 157 CSR rated target companies out of the 373 transactions. By comparing the number of CSR ratings collected over the years, we observe a solid growth in number of companies being valued with a CSR rating. In 2010, three companies were rated out of our sample of 52 transactions, and this can be compared to 2018 where 29 companies were rated out of 41 transactions. The average CSR rating peaked in 2015 at a value of 57 on a scale of 1-100.

Table 1. Yearly CSR rating

This table shows the number of CSR rated companies per year as well as mean, standard deviation, minimum and maximum CSR rating for PTP targets on the US market during the years 2010-2018. The rating is based on a scale from 1-100.

		Total		
		n=157		
Years	n	μ	Max	Min
2010	3	45	60	30
2011	9	49	66	42
2012	5	50	59	39
2013	16	48	61	32
2014	14	53	60	46
2015	26	57	71	47
2016	27	52	62	46
2017	28	52	63	46
2018	29	49	60	44

4.2 Biases

Since the stock price of a company is volatile and fluctuates on a daily basis, there is no date that indicates the true share price to compare to the offer price. Therefore, it is hard to use an anticipation window predicting the correct premium. In order to choose the most reliable anticipation window, there are two main factors to consider. Firstly, it is of great importance to not pick a date that is too close to the announcement date, this to avoid the compounded abnormal returns from leaking deal information. Secondly, it is important to pick an anticipation window that is not too wide compared to the announcement date. This to avoid other market fluctuations affecting the stock price. To sum this up, we want to pick an anticipation window as close to the announcement date as possible, but that has not been affected by leaking deal information. Schwert (1996) shows that the compounded abnormal returns strongly affect the share price 21 days before announcement, and to outrun the problem we use an anticipation window of four weeks.

Further, we find a great risk of selection bias since more than half of the target companies miss CSR rating at the end of the year prior to the deal completion. This could be derived from two sub reasons. To begin with, we evaluate transactions that were completed from 2010-2018. During the first years of this period CSR information was not common and therefore we miss some CSR ratings from these years (see Table 1). In addition, companies are not legally bound to present their sustainability work as public information. This results in a potential adverse selection where only companies actually investing in CSR present information. This might have an impact on our results but we are not able to adjust for this bias.

5. Hypotheses and Methodology

5.1 Hypotheses

The industry has undergone drastic structural changes during the last decades. Changes in credit requirements combined with an overflow of equity at the same time as private operating firms enter the market has resulted in a tightened hunt of lucrative investment opportunities. Our first hypothesis states that there still is a difference in the premium paid by private equity firms compared to private operating firms. This is in line with Barger et al.'s (2008) previous research which shows that private operating firms on average pay 40.9% premium when acquiring a company, compared to 28.5% premium when looking at an acquisition completed by a private equity firm. This has led to our first hypothesis.

H₁: Private operating firms pay on average a higher premium than private equity firms.

In Gomes and Marsat (2018) study about premiums in M&A transactions they find that CSR rating is positively correlated with premiums paid. However, since their study focuses on both private and public targets, it differs from ours. Another difference is that their study is conducted globally whereas our study is conducted on the US market. Liang and Renneboog (2017) suggest that the legal origin of the company has greater explanatory power to CSR performance than other factors such as “doing well by doing good”. In other words, the CSR rating and the premium could differ substantially between our study and Gomes and Marsat's (2018). However, our study does not aim to investigate how CSR is correlated with premiums paid but instead focuses on how CSR performance affect the preferences of different acquirer types. Even though the correlation between CSR and premium could deviate from the study of Gomes and Marsat (2018), CSR and sustainability are believed to have greater impact on targets acquired by private operating firms. Accordingly, since private equity firms typically look to exit their targets instead of incorporating targets into their own operating businesses. These conditions lead up to the next hypothesis.

H₂: Private equity firms pay on average a lower premium for higher CSR rating compared to private operating firms.

In line with the previous research by Gorbenko and Malenko (2014), where target characteristics are included in the tests, we add several target characteristics to examine whether a private equity buyer pays a lower premium in relation to CSR rating. This yields a similar hypothesis.

H₃: When taking account for target characteristics, private equity firms pay on average a lower premium for higher CSR rating compared to private operating firms.

5.2 Methodology

Our first hypothesis is tested by conducting an independent group t-test on the differences in premium means between the two acquirer groups. The test is conducted both as a two-sided and a one-sided test. We are able to use the test since we assume that our sample is normally distributed due to the size of the sample. Further, we conclude that the sample has unknown group variances.

The second and third hypotheses are tested through an ordinary least squares (OLS) regression. To be able to run an OLS regression on the sample, the dataset must fulfill the following five assumptions. It must show (1) that the dependent and independent variables show linearity, (2) that there is no multicollinearity, (3) that the residuals are normally distributed, (4) that the residuals covariance equals zero, meaning there is no autocorrelation and (5) that the residuals are homoscedastic. When doing the tests we find:

1. The dependent and independent variables do not show linearity. This has been tested through a Ramsey Reset test.
2. We have checked for multicollinearity through a VIF-test and can conclude that there is no multicollinearity in the data. Appendix 5 provides a correlation matrix, showing the correlation between each variable.
3. The residuals have been found to not be normally distributed, this is following a Jarque-Bera and Kernel Density test.
4. By using the Breusch-Goodfrey test, we cannot reject the hypothesis of no serial correlation at any significant level. The residuals are not autocorrelated.
5. With a Breusch-Pagan test, we find that the data is heteroscedastic.

As concluded from the tests, the data collected does not fulfill the assumptions required to run an OLS regression. This implies a risk that our data consists of extreme values or observations. These observations will have a major impact on our OLS regression and create a biased result that cannot be interpreted. To reduce the potential impact from these particular observations, we use robust standard errors. By doing this, our regression becomes more conservative and reduces the likelihood of a Type-1 error. This creates an effect on our t-values and p-values, but most importantly increase the reliability of our regression. The second hypothesis is tested with an OLS regression focused on CSR. The third hypothesis is tested by adding target characteristics to the previous regression. We do this to create a better understanding of how CSR performance affect premiums.

5.2.1 Variables

We use the premium as our dependent variable in our analysis. The premium is measured by dividing the stock price four weeks prior to announcement with the offer price. To divide the two acquirer groups, we use a PE-dummy variable to indicate whether the buyer is a private equity firm or a private operating firm. The dummy has a value of 1 if the buyer is a private equity firm and a value of 0 if the buyer is a private operating firm. Furthermore, we use target characteristics to measure the premiums paid by the different types of acquirers. Our most highlighted target characteristic is the CSR rating. This rating is measured in the end of the latest completed year before acquisition. The variable is further used in combination with our PE-dummy to see if private equity firms pay higher or lower premiums for CSR than private operating firms:

$$Premium_i = \beta_0 + \beta_1 PEbuyer_i + \beta_2 CSRscore_i + \beta_3 PE_CSR_i + \varepsilon_i \quad (1)$$

Most other independent variables are chosen from previous literature by Gorbenko and Malenko (2014). We do not use the exact same variables since their study is directed towards studying bidding processes in public buyouts. However, we include several variables to create better understanding. The target characteristics used as independent variables are mainly based on financial metrics and the regression model is constructed as follows:

$$\begin{aligned}
Premium_i = & \beta_0 + \beta_1 PE_{buyer_i} + \beta_2 \ln MarketValue_i + \beta_3 \ln Sales_i \\
& + \beta_4 EBITDA_{margin_i} + \beta_5 CashTvalue_i + \beta_6 leverage_{-i} \\
& + \beta_7 CFFOAssets_i + \beta_8 CSRscore_i + \beta_9 PE_CSR_i + \varepsilon_i
\end{aligned} \tag{2}$$

Firstly, we use market capitalization four weeks prior to announcement as the measure of the size of the target company. The natural logarithm of market capitalization is used to make the variable more symmetric. Secondly, the regression contains the natural logarithm of net sales last twelve months (LTM) prior to announcement. To include the operating segments of the targets, we use EBITDA-margin. This variable is measured as EBITDA divided by net sales. EBITDA is also based on LTM prior to announcement. Furthermore, we include cash as a fraction of the transaction. The firm's leverage is generated as the fraction of total debt divided by total assets. Further on, we use cash flow from operations (CFFO) as a fraction of assets. The CFFO is defined as Net Cash from Operations and is taken from the last twelve months prior to announcement. Assets are also based on LTM numbers.

6. Results

6.1 Descriptive statistics

In Table 2 the sample shows that private equity firms typically acquire targets with a slightly higher CSR rating. The targets acquired by private operating firms show a larger variation in CSR rating, with both the highest and lowest rating. The standard deviation of the CSR rating is 6.34 when looking at the private equity acquirers and 6.06 when looking at the private operating firms.

In Table 3 it is noticeable that several characteristics show remarkable differences in averages depending on acquiring peer. We find that private operating firms on average pay USD 1.69 billion for a target while private equity firms pay less and on average USD 1.36 billion. Even though private operating firms seem to acquire larger targets in terms of market value and transaction value, the targets show lower average net sales. We can observe that private equity firms typically acquire companies with higher EBITDA-margin and also higher cash flow from operations in relation to total assets than the private operating firms. It is noticeable that the standard deviation of the premiums paid in our sample differs a lot. The standard deviation of premiums paid by private equity firms is 0.25 whereas the standard deviation of private operating firms is 0.51.

Table 2. CSR rating depending on acquirer

This table shows the CSR mean, standard deviation, minimum value and maximum value for PTP targets on the US market during the years 2010-2018. The rating is valued between a rating from 0 to 100 and is conducted from the CSRhub database. The rating is collected at the end of the year prior to transaction.

	Private equity firms n=76				Private operating firms n=81			
	μ	σ	Min	Max	μ	σ	Min	Max
CSRrating	51.89	6.34	35	69	51.27	6.06	30	71

Table 3. Summary of target characteristics

This table shows the mean, standard deviation, minimum value and maximum value for PTP targets on the US market between the years 2010-2018. All numbers are conducted from the SDC Platinum (Thomson Reuters) database and are from the targets' reports last twelve months prior to announcement if not otherwise stated. Premium is measured as market value four weeks prior to the announcement divided by the transaction value. Market value is the market value four weeks prior to announcement and is stated in USD millions. Net sales is the targets net sales and is stated in USD millions. EBITDA-margin is earnings before interests, taxes, depreciation and amortization over net sales. Transaction value is the value of the completed deal at announcement day. Leverage is the ratio of debt/total assets. CFFO/Assets is the cash flow from operations divided by the value of total assets. CSR rating is the CSR rating varying from 0 to 100 and is conducted from CSRhub at the end of the year prior to the announcement.

	Private equity firms				Private operating firms			
	μ	σ	Min	Max	μ	σ	Min	Max
Premium	0.33	0.25	-0.08	1.32	0.43	0.51	-0.05	5.79
Market value	1027	1955	4	18346	1303	4485	7	57532
Net sales	1469	5714	-38	58 586	1058	2609	0	24 738
EBITDA-margin	0.14	0.25	-0.76	2.61	0.12	0.54	-5.83	2.52
Transaction value	1364	2536	23	21522	1692	5308	20	66000
Leverage	0.33	0.25	0.00	1.43	0.34	0.55	0.00	6.41
CFFO/Assets	0.10	0.15	-0.16	1.51	0.07	0.22	-2.21	0.91
CSR rating	51.9	6.3	35.0	69.0	51.3	6.1	30.0	71.0

6.2 Hypotheses

6.2.1 Hypothesis 1

In our first hypothesis, we test if private operating firms on average pay higher premiums than private equity firms. By firstly conducting a two-sided t-test, we find that there is a difference in means between the two acquiring groups. This is significant at the 5% level. After this, we conduct the same test but as one-sided. The null hypothesis, that private equity firms pay on average an equal or higher premium than private operating firms, is rejected at the 1% level. This is illustrated in Table 4.

Table 4. Difference in average premiums paid by private equity firms compared to private operating firms

This table shows the mean and standard deviation and difference between the two acquirer types on the US PTP market during 2010 until 2018. These numbers are presented in percentage units. The premium is measured as the offer price compared to the share price four weeks prior to announcement date. The difference is tested through a one-sided independent group t-test. The table also shows the p-value and t-value from the test.

	Private equity firms n=160		Private operating firms n=213		Difference in acquirer types n=373		
	μ	σ	μ	σ	Diff.	P-value	T-value
Premium	33.16	1.97	43.45	3.47	-10.29***	0.0052	2.58

Note: * p<0.1, ** p<0.05, *** p<0.01

H₁: Private operating firms pay on average a higher premium than private equity firms.

Result: The hypothesis is **supported**.

We can from this result conclude that private operating firms on average pay a higher premium than private equity firms. Private operating firms pay on average 43.45% which is 10.29 percentage points higher than the premium paid by private equity firms who pay 33.16% on average.

6.2.2 Hypotheses 2 and 3

An OLS regression is computed to test our second hypothesis. The interaction variable PE_CSR shows that the premium paid in relation to CSR will be lower when a private equity firm acquires a target company. This is significant at the 10% level and shown in Table 5.

Table 5. Primary regressions

This table shows two different OLS regressions on the US PTP market during the time period 2010-2018. The dependent variable is the premium measured as the offer price divided by the share price four weeks prior to announcement and stated in percentage units. PEbuyer is an independent dummy variable that shows if the acquirer is a private equity firm. CSRrating is the CSR rating conducted at the end of the year prior to announcement. PE_CSR is a dummy variable multiplying CSRrating and PEbuyer. The simple regression includes the main independent dummy variable. The CSR regression includes the main dummy variable, the CSR rating and the interaction between these two.

	Simple	CSR
PEbuyer	-10.290** (0.010)	54.458* (0.087)
CSRrating		-0.080 (0.814)
PE_CSR		-1.043* (0.084)
Constant	43.449*** (0.000)	35.480** (0.041)
Observations	373	157
Adjusted R-squared	0.012	0.027

Robust p-value in parentheses

* p<0.1, ** p<0.05, *** p<0.01

H₂: Private equity firms pay on average a lower premium for higher CSR rating compared to private operating firms.

Result: The hypothesis is **supported**.

We add target characteristics and find the result of hypothesis 3 in Table 6. We conclude that private equity firms still, when bringing in financial metrics as control variables, pay less for a higher CSR rating than their private counterparts. The result show that the null-hypothesis can be rejected at a significant level of 10%.

Table 6. Primary regressions including target characteristics

This table shows three different OLS regressions on the US PTP market during the time period 2010-2018. The dependent variable is the premium measured as the offer price divided by the share price four weeks prior to announcement and is stated in percentage units. The independent variables are measured as last twelve months prior to announcement if not otherwise stated. PEbuyer is an independent dummy variable that shows if the acquirer is a private equity firm. LnMarketValue is the natural logarithm of market value four weeks prior to announcement. LnSales is the natural logarithm of net sales of the target. EBITDAmargin is earnings before interests, taxes, depreciation and amortization over net sales. TransactionValue is the value of the completed deal at announcement day. Leverage_ is the ratio of debt/total assets. CFFOAssets is the cash flow from operations divided by the value of total assets. CSRrating is the CSR rating conducted at the end of the year prior to the announcement. PE_CSR is a dummy variable multiplying CSRrating and PEbuyer. The target regression adds all target independent variables to the CSR regression.

	Simple	CSR	Target
PEbuyer	-10.290** (0.010)	54.458* (0.087)	69.066 (0.109)
LnMarketValue			-7.690** (0.028)
LnSales			4.693 (0.102)
EBITDAmargin			-12.816 (0.472)
CashTvalue			-11.826 (0.467)
leverage_			2.375 (0.785)
CFFOAssets			8.142 (0.764)
CSRrating		-0.080 (0.814)	0.388 (0.341)
PE_CSR		-1.043* (0.084)	-1.394* (0.088)
Constant	43.449*** (0.000)	35.480** (0.041)	47.926* (0.065)
Observations	373	157	111
Adjusted R-squared	0.012	0.027	0.101

Robust p-value in parentheses

* p<0.1, ** p<0.05, *** p<0.01

H₃: When taking account for target characteristics, private equity firms pay on average a lower premium for higher CSR rating compared to private operating firms.

Result: The hypothesis is **supported**.

The financial metrics have in earlier studies been shown to increase the explanatory value of a premium. This is also the case in our study. By including these variables, we create a better understanding of our model and we conclude that we now, with higher explanatory value than before, show that private equity firms value CSR lower than private operating firms.

6.3 Interpretation and Implications

Our results show that premiums paid on the US PTP market are higher when the acquisition is executed by a private operating firm compared to a private equity firm. The means are tested against each other in a one-sided t-test and the results are significant on the 1% level. The result is in line with previous findings by Barger et al. (2008) who also conclude that private operating firms pay on average a higher premium than their financial counterparts.

When looking at the CSR regression, it is of great importance to understand that the regression does not estimate company valuation but rather the differences in valuation between the market and private acquirers. We observe coefficients with substantial impact on the regression for both the constant and the PEbuyer variable. Therefore, it might be interpreted that the private equity firms pay higher premiums than their private counterparts.

$$Premium_i = 35.480 + 54.458 * PEbuyer_i - 0.080 * CSRrating_i - 1.043 * PE_CSR_i \quad (1)$$

However, this is a misleading interpretation since we include the PE_CSR variable which affects whether the acquirer is a private equity firm or not. To illustrate this interpretation, we simulate our regression model with an example. By using Hilton Hotels Corporations and its CSR rating of 60, we estimate that the regression would generate a premium of 22.56% if the acquirer was a private equity firm and 30.68% if the acquirer was a private operating firm. The difference is 8.12 percentage points, resulting in a difference in transaction value of USD 2.16 billion⁵.

⁵ Calculated as 8.12% of Hilton Hotels Corporations market capitalization, May 10, 2019.

$$(1) \text{Premium}_i = 35.480 + 54.458 * 1 - 0.080 * 60 - 1.043 * (1 * 60) = 22.56 \%$$

$$(2) \text{Premium}_i = 35.480 + 54.458 * 0 - 0.080 * 60 - 1.043 * (0 * 60) = 30.68\%$$

Note: CSR rating equals 60 as of the end of 2018.

By taking target characteristics into account, we estimate that the CSR rating has a greater impact on premiums paid depending on acquiring firm type, which is significant at the 10% level. However, we are limited by interpreting an example with the regression denoted as Target due to absent information of the variable CashTvalue, since it is founded upon transaction value.

Companies such as Hilton Hotels Corporations with a CSR rating of 60 would be estimated to generate a premium in a potential buyout between 20-30% if no target characteristic would be taken into account. It is questionable whether a regression with an adjusted R-squared of 2.7% would be reliable when predicting premiums in PTP transactions. Even though the results are significant, a low adjusted R-squared implies that there might be unobserved variables that are not taken into account. It can also imply that variables included has none or low explanatory value.

Combining our results with previous studies, we interpret a connection between private acquirer's investment strategy and CSR philosophy. The neoclassical economic theory states that CSR affects companies with a constraint that will result in reduced profits. The constraint is founded on the theory that sustainable improvement, such as lowering CO₂ impact from production in an already profit maximizing company, increases costs. With this said, companies with higher CSR ratings are more likely to restrict their maximization of shareholder value. We therefore argue that Friedman's (1970) theory can be associated with lower CSR performance and that Porter and Kramer's (2011) theory can reflect the opposite. Accordingly, we argue that private equity firms tend to be more in line with Friedman's (1970) theory whereas private operating firms tend to be in favor of Porter and Kramer's (2011) theory.

Adding to this, we argue that since private equity firms usually conduct an exit strategy on their acquisitions, they are more willing to maximize profits short term disregarding potential externalities. In contrast, private operating firms usually conduct an investment strategy for a longer time frame. These strategies lead to different perspectives on the importance of CSR within a target company and is reflected in premiums paid.

6.4 Robustness test

To examine the validity of our results we conduct two robustness tests. First, we widen the private equity definition to examine whether the results still hold to be significant. The definition is now presented as financial buyers with SIC codes between 6000-6799⁶. The sample change remarkably and is under this definition consisting of 280 transactions completed by private equity firms, instead of 160, and 93 transactions completed by private operating firms, instead of 213. With this definition, we cannot conclude that private equity firms pay lower premiums than private operating firms nor that private equity firms pay less for a higher CSR rating. Results are provided in Appendix 6.

Further, we conduct a narrower private equity definition by classifying private equity firms as acquirers with the SIC code 6799. This SIC code is defined as “investors, not elsewhere classified” and includes some of the private equity firms from our main definition. With this definition, we conclude that private equity firms pay lower premiums than private operating firms and that they also pay lower premiums for higher CSR rating. Results are provided in Appendix 7.

6.5 Limitations

We disregard deal characteristics that in previous studies such as Fidrmuc et al.’s (2012) have had an impact on the premium. Deal characteristics are outside of our scope; hence they are not included in our sample. If deal characteristics were to describe the major part of premiums paid, our study would be less reliable.

Another limitation is that the actual premium paid in an acquisition does not reflect the true purchasing power of the acquirer but instead reflect the purchasing power of the second highest bidder. This is because the acquirer must outbid all other bidders. Therefore, the premium paid also depends on other bidders’ valuation of the target. There is no distinct solution to outrun this limitation. However, a bidding analysis would create a more valid result when testing CSR impact in company valuation and purchasing power. Nonetheless, we are restricted from conducting a bidding analysis due to few transactions with public bids. This is most likely a result of a large sample of non-binding bids.

⁶ Corporations classified as financial entities according to SIC standards.

Furthermore, we disregard several of the assumptions needed for using an OLS regression. This may be an issue when validating our results and analysis. However, it should be noticeable that this is often the case when conducting quantitative research.

7. Conclusion

Our study focuses on different acquirer types and how they differ in the premium paid for a target in PTP transactions on the US market during the years 2010-2018. We show that private equity firms pay a lower premium on average than private operating firms. This is significant at the 1% level. Our findings are in line with earlier studies by Gorbenko and Malenko (2014) as well as Barger et al. (2008).

To bring new knowledge about PTP transactions, we include a CSR factor. This CSR factor is used to describe the premium paid in a regression but mainly to describe which acquirer that pays most for a target with high CSR rating. Since there has been limited research on how CSR rating affects premiums paid in PTP transactions, it is hard to compare our result to earlier studies. However, we find that private equity firms pay a significantly lower premium for a higher CSR rating than private operating firms.

Previous research has shown that premiums paid are explained by several target characteristics. To investigate if our results regarding the CSR impact on premiums still stands, these target characteristics are added into the OLS regression. By doing this, we conclude that our result still stands and that private equity firms still pay less for a higher CSR rating than their private counterparts. This is shown to be significant at the 10% level.

Conclusively, our study contributes to the understanding of PTP transactions in several ways. Firstly, by conducting our study in a more recent time frame, we contribute to the understanding of premiums between private equity firms and private operating firms. Secondly, our study provides understanding of CSR performance of targets in PTP transactions in an industry where there are limited findings on this topic. Lastly, we argue that there is a connection between acquiring firms investment strategy and CSR rating's impact on premiums.

7.1 Further research

Going forward, our study opens up a new perspective of how CSR impacts company valuation when gaining full control of a company. For further research, we therefore suggest investigating how CSR performance affects target valuation depending on if the target has public or private status. This would deepen the understanding of CSR's importance in acquisitions. To further expand the research area, there is additional space for further studies on the connection of CSR rating and investment strategy. This could be done by analyzing

specific acquirers and the difference between their portfolio companies. A study on this topic would improve understanding to our research and also deepen the knowledge of CSR impact on entire companies. A more straightforward way for further study would be to implement our method on another global market, e.g. the European market. This would add knowledge and show if there is a large difference between the US PTP market and its global counterparts.

8. References

- Axelson, U., Jenkinson, T., Stromberg, P., and Weisbach, M. S., (2013). Borrow cheap, buy high? the determinants of leverage and pricing in buyouts. *The Journal of Finance*, 68(6), 2223-2267.
doi:10.1111/jofi.12082
- Aigner, P., Albrecht, S., Beyschlag, G., Friederich, T., Kalepky, M. & Zagst, R. (2008). What drives PE? analyses of success factors for private equity funds. *The Journal of Private Equity*, 11(4), 63-85. doi:10.3905/jpe.2008.710907
- Bain & Company. (2019). *Global private equity report 2019*. Retrieved from:
<https://www.bain.com/insights/year-in-review-global-private-equity-report-2019/>
- Bargeron, L. L., Schlingemann, F. P., Stulz, R. M., & Zutter, C. J. (2008). Why do private acquirers pay so little compared to public acquirers? *Journal of Financial Economics*, 89(3), 375-390.
doi:10.1016/j.jfineco.2007.11.005
- Davis, S. J., Haltiwanger, J., Handley, K., Jarmin, R., Lerner, J. & Miranda, J. (2014). Private equity, jobs, and productivity. *The American Economic Review*, 104(12), 3956-3990. Retrieved from
<http://www.econis.eu/PPNSET?PPN=849477042>
- Fidrmuc, J. P., Roosenboom, P., Paap, R., & Teunissen, T. (2012). One size does not fit all: Selling firms to private equity versus strategic acquirers. *Journal of Corporate Finance*, 18(4), 828-848.
doi:10.1016/j.jcorpfin.2012.06.006
- Friedman, M., (1970, September 13). The social responsibility of business is to increase its profits. *The New York Times Magazine*. Retrieved from: <http://nytimes.com>
- Gomes, M., & Marsat, S. (2018). Does CSR impact premiums in M&A transactions? *Finance Research Letters*, 26, 71-80. doi: 10.1016/j.frl.2017.12.005
- Gorbenko, A. S., & Malenko, A. (2014). Strategic and financial bidders in takeover auctions. *The Journal of Finance*, 69(6), 2513-2555. doi:10.1111/jofi.12194
- Hansen, R., (2001). Auctions of companies. *Economic Inquiry*, 39(1), pp. 30-43.
Retrieved from: <http://ssrn.com/abstract=253085>
- Hong, H.G., Kubik, J.D. & Scheinkman, J.A. (2011, January 3). Financial Constraints on Corporate

- Goodness. *Chicago Meetings Paper*, retrieved from: <https://ssrn.com/abstract=1784357>
- Jain, P. K., & Rezaee, Z. (2006). The Sarbanes-Oxley act of 2002 and Capital-Market behavior: Early evidence. *Contemporary Accounting Research*, 23(3), 629-654. doi:10.1506/2GWA-MBPJ-L35D-C4K6
- Jensen, M. C. (1989). "Active investors, LBOs, and the privatization of bankruptcy". *Journal of Applied Corporate Finance*, 2(1), 35-44. doi:10.1111/j.1745-6622.1989.tb00551.x
- Kaplan, S. N., & Stromberg, P. (2009). Leveraged buyouts and private equity. *Journal of Economic Perspectives*, 23(1), 121-146. doi: 10.1257/jep.23.1.121
- Krueger, P. (2015). Corporate goodness and shareholder wealth. *Journal of Financial Economics*, 115(2), 304-319. doi: 10.1016/j.jfineco.2014.09.008
- Liang, H and Renneboog, L., (2017). On the Foundations of Corporate Social Responsibility. *The Journal of Finance*, 72(2), pp. 853-910. doi: 10.1111/jofi.12487
- Mulherin, J.H. and Boone, A.L. (2007). How Are Firms Sold? *Journal of Finance*, 62(2), pp. 847-875. doi: 10.2139/ssrn.64306
- Porter, M. E., & Kramer, M. R. (2006). Strategy and society: The link between competitive advantage and corporate social responsibility. *Harvard Business Review*, 84(12), 78-92. Retrieved from <https://www.hbs.edu/faculty/Pages/item.aspx?num=23102>
- Porter, M. E., & Kramer, M. R. (2011).
How to reinvent capitalism—and unleash a wave of innovation and growth. *Harvard Business Review*, nos. 1-2(89), 62-77. doi:10.1007/978-3-658-07984-0
- Renneboog, L., & Simons, T. (2005). Public-to-private transactions:
LBOs, MBOs, MBIs and IBOs. (CentEr Discussion Paper: Vol. 2005-98) Tilburg: Finance.
- Renneboog, L., Simons, T., & Wright, M. (2007). Why do public firms go private in the UK? the impact of private equity investors, incentive realignment and undervaluation. *Journal of Corporate Finance*, 13(4), 591-628. doi:10.1016/j.jcorpfin.2007.04.005
- Renneboog, L., & Vansteenkiste, C. (2017). Leveraged Buyouts: A Survey of the Literature. (CentEr Discussion Paper: Vol. 2017-015). Tilburg: CentEr, Center for Economic Research.
- Rizzi, J. V. (2009). Back to the future again: Private equity after the crisis. *Journal of Applied*

- Finance*, 19(1-2), 165-177. Retrieved from <https://search.proquest.com/docview/201574509>
- Schwert, G. W. (1996). Mark-up pricing in mergers and acquisitions. *Journal of Financial Economics*, 41(2), 153-192. doi:10.3386/w4863
- Sensoy, B. A., Wang, Y., & Weisbach, M. S. (2014). Limited partner performance and the maturing of the private equity industry. *Journal of Financial Economics*, 112(3), 320-343. doi:10.1016/j.jfineco.2014.02.006
- Shivdasani, A., & Wang, Y., (2011). Did structured credit fuel the LBO boom? *The journal of finance*, 66(4), 1291-1328. doi:10.2139/ssrn.1394421
- Tan, G. (2018, May 18). Blackstone exits hilton, earning \$14 billion after 11 years. *Bloomberg*. Retrieved from <http://bloomberg.com>
- Titman, S., & Opler, T. (1993). The determinants of leveraged buyout activity: Free cash flow vs. financial distress costs. *Journal of Finance*, 48(5), 1985-99. doi: 10.1111/j.1540-6261.1993

Appendices

Appendix 1: Categories and subcategories of rating elements

Community

The **Community Category** covers the company's commitment and effectiveness within the local, national and global community in which it does business. It reflects a company's citizenship, charitable giving, and volunteerism. This category covers the company's human rights record and treatment of its supply chain. It also covers the environmental and social impacts of the company's products and services, and the development of sustainable products, processes and technologies.

The **Community Development and Philanthropy subcategory** covers the relationship between a company and the communities within which it is embedded. It reflects a company's community citizenship through charitable giving, donations of goods, and volunteerism of staff time. It also includes protecting public health (e.g., avoidance of industrial accidents) and managing the social impacts of its operations on local communities. The subcategory also includes a company's land use and building design impact on the local economy and ecosystem.

The **Product subcategory** covers the responsibility of a company for the development, design, and management of its products and services and their impacts on customers and society at large. This subcategory reflects a company's capacity to reduce environmental costs, create new market opportunities through new sustainable technologies or processes, and produce or market goods and services that enhance the health and quality of life for consumers. This subcategory rating covers the integrity of a company's products and sales practices, including their labeling and marketing, social impacts and end-of-life disposition. It also relates to product safety and quality and the company's response to problems with safety and quality.

The **Human Rights and Supply Chain subcategory** measures a company's commitment to respecting fundamental human rights conventions, its ability to maintain its license to operate by supporting freedom of association and excluding child, forced or compulsory labor. This subcategory covers a company's transparency in overseas sourcing disclosure and monitoring and a company's relationship with and respect for the human rights of indigenous peoples near its proposed or current operations.

Employees

The **Employees category** includes disclosure of policies, programs, and performance in diversity, labor relations and labor rights, compensation, benefits, and employee training, health and safety. The evaluation focuses on the quality of policies and programs, compliance with national laws and regulations, and proactive management initiatives. The category includes evaluation of inclusive diversity policies, fair treatment of all employees, robust diversity (EEO-1) programs and training, disclosure of workforce diversity data, strong labor codes (addressing the core ILO standards), comprehensive benefits, demonstrated training and development opportunities, employee health and safety policies, basic and industry-specific safety training, demonstrated safety management systems, and a positive safety performance record.

The **Compensation and Benefits subcategory** covers a company's capacity to increase its workforce loyalty and productivity through rewarding, fair, and equal compensation and financial benefits. It includes benefits that engage employees and improve worker development. This subcategory also focuses on long-term employment growth and stability by promotion practices, lay-off practices, and relations with retired employees.

The **Diversity and Labor Rights subcategory** covers workplace policies and practices covering fair and non-discriminatory treatment of employees, and its diversity policies. It covers a company's labor-management

relations and participation by employees, National Labor Relations Board (NLRB) violations or patterns of anti-union practice, conformance to internationally recognized worker rights, as defined in the basic conventions of the International Labor Organization (ILO). Fundamental labor rights include freedom of association and protection of the right to organize; right to bargain collectively; a minimum age for the employment of children; a prohibition against forced labor; lack of employment and occupational discrimination; and equal compensation. This subcategory measures a company's ability to maintain diversity, provide equal opportunities regardless of gender, age, ethnicity, religion or sexual orientation, and promote work-life balance.

The **Training, Safety and Health subcategory** measures a company's effectiveness in providing a healthy and safe workplace. This subcategory includes accident and safety performance, as well as job training, safety standards and training, and employee-management safety teams. It includes programs to support the health, well-being and productivity of all employees. This subcategory includes workplace policies and programs that boost employee morale, workplace productivity, company policies and practices to engage employees, and worker development.

Environment

The **Environment category** data covers a company's interactions with the environment at large, including use of natural resources, and a company's impact on the Earth's ecosystems. The category evaluates corporate environmental performance, compliance with environmental regulations, mitigation of environmental footprint, leadership in addressing climate change through appropriate policies and strategies, energy-efficient operations, and the development of renewable energy and other alternative environmental technologies, disclosure of sources of environmental risk and liability and actions to minimize exposure to future risk, implementation of natural resource conservation and efficiency programs, pollution prevention programs, demonstration of a strategy toward sustainable development, integration of environmental sustainability and responsiveness with management and the board, and programs to measure and engage stakeholders for environmental improvement.

The **Energy and Climate Change subcategory** measures a company's effectiveness in addressing climate change through appropriate policies and strategies, energy-efficient operations, and the development of renewable energy and other alternative environmental technologies. The subcategory includes energy use, emissions to air of CO₂ and other Greenhouse Gas Emissions (GHG).

The **Environmental Policy and Reporting subcategory** includes a company's policies and intention to reduce the environmental impact of a company and its value stream to levels that are healthy for the company and for the environment, now and in the future. The data includes the company's environmental reporting performance, adherence to environmental reporting standards such as the Global Reporting Initiative, and compliance with investor, regulatory and stakeholders' requests for transparency. Compliance data consists of breaches of regulatory limits and accidental releases.

The **Resource Management subcategory** covers how efficiently resources are used in manufacturing and delivering products and services, including those of a company's suppliers. It includes a company's capacity to reduce the use of materials, energy or water, and to find more efficient solutions by improving its supply chain management. This subcategory includes environmental performance relative to production size and is monitored by the production-related Eco Intensity Ratios (EIRs) for water and energy defined as resource consumption per produced or released unit. Resource materials include raw materials and packaging materials for production and related processes and packaging of products. Resource Management data also include waste and recycling performance. Recycling data is related to the proportion of waste recycled of the total waste. Data includes how the company manages operations to benefit the local airshed and watershed, and how the company impacts land use and local ecological stability. The water resource data includes consumption of drinking water, industrial water and steam.

Governance

The **Governance category** covers disclosure of policies and procedures, board independence and diversity, executive compensation, attention to stakeholder concerns, and evaluation of a company's culture of ethical leadership and compliance. Corporate governance refers to leadership structure and the values that determine corporate direction, ethics and performance. This category rates factors such as: are corporate policies and practices aligned with sustainability goals; is the management of the corporation transparent to stakeholders; are employees appropriately engaged in the management of the company; are sustainability principles integrated from the top down into the day-to-day operations of the company. Governance focuses on how management is committed to sustainability and corporate responsibility at all levels.

The **Board subcategory** covers a company's effectiveness in following best practices in corporate governance principles related to board membership, independent decision making through experienced, diverse and independent board members, effectiveness toward following best practices related to board activities and functions, and board committee structure and composition. It includes how the company provides competitive and proportionate management compensation and its ability to incent executives and board members to achieve both financial and extra-financial targets.

The **Leadership Ethics subcategory** measures how a company manages its relationships with its various stakeholders, including investors, customers, communities, and regulators. This subcategory measures a company's effectiveness in treating its shareholders equitably. Leadership ethics includes the company's culture of ethical decision making. It measures a company's commitment and effectiveness toward the vision of integrating social and environmental aspects into the overall core strategy and whether sustainability principles are integrated from the top down into the day-to-day operations of the company.

The **Transparency and Reporting subcategory** rates factors including are corporate policies and practices aligned with sustainability goals, is the management of the corporation transparent to stakeholders, are employees appropriately engaged in the management of the company, and do sustainability reports comply with standards such as the Global Reporting Initiative, AccountAbility (AA1000) and other standards, and are these reports made publicly available. This subcategory includes whether the company provides a list of its major stakeholders and how it engages with them. It also covers whether the company is a signatory of Global Compact and other leading global entities. It evaluates the assurance (3rd party audit) of the accuracy, completeness, and reliability of its Sustainability or Corporate Social Responsibility reports.

Appendix 2: Rating methodology of CSRhub

1. In order to rate a subcategory, we require:

- a. A minimum number of sources (it ranges depending upon a variety of circumstances between two and six sources) for each subcategory. So, to give a company a rating for “Energy & Climate Change” we might need data from both CDP and Climate Counts.
- b. A minimum amount of data. We measure this in terms of “data weight”. Some sources tend to predict and follow the consensus of our other sources—others diverge often from consensus. Our software gives the sources that are good predictors a higher weight than those who are not. Some sources invest a lot of resources in their work and/or generate original data. Our software gives these sources additional weight compared to those who merely summarize work done by others. Some sources offer one rating that covers a wide range of sustainability issues while others have many detailed ratings elements. Those with more elements get more weight.
- c. If there is not good agreement between the data sources or if the resulting rating is extreme (e.g., 0 or 100), we may exclude the result. (Whether or not we do depend on the quality of the sources, number of sources, etc.)

2. To rating a category, we must have a rating for at least one subcategory. We may suppress a category rating if we do not have enough weight in the subcategories underneath it to produce a reliable rating.

C. To offer an overall rating, we must have:

- a. Ratings for all four categories.
- b. Ratings for at least five subcategories (so at least one category must have two subcategories in it).
- c. Enough total weight.
- d. Enough total sources.
- e. If the weight is light or the number of sources is low, a reasonable rating (we trim outliers that do not have enough support to justify).

The above process is mechanical—our software handles the details of both converting the data we receive into a 0 to 100 rating, mapping it into our subcategories and special issues, normalizing the data across all of the companies we follow, and then processing the data to produce ratings. We have data on approximately 100,000 companies. We analyze data on 31,646 companies. We issue ratings on 18,020 companies (about 67% of the companies we analyze data on). We offer full ratings on only 8,557 of these (about 70% of the companies we rate). Each month, we conduct a separate “human review” of our ratings to make sure that we have not missed an obvious problem or outlier. At present, only 26 companies are receiving “manual” adjustments.

Appendix 3: Premium summary

Table 7. Premium summary

This table shows the mean, standard deviation, minimum value and maximum of premiums paid in PTP transactions on the US market between the years 2010-2018. All numbers are presented in percentage units. The premium is measured as the offer price divided by the share price four weeks prior to announcement.

	Private equity firms n=160				Private operating firms n=213				Total n=373			
	μ	σ	Min	Max	μ	σ	Min	Max	μ	σ	Min	Max
Premium	33.16	24.94	-7.73	132.14	43.45	50.67	-4.65	579.17	39.03	41.89	-7.73	579.17

Appendix 4: Yearly data

Table 8. Yearly transaction summary

This table shows the number of transactions per year as well as mean, standard deviation, minimum value and maximum transaction value for PTP targets on the US market during the years 2010-2018. The transaction values are denoted in USD million. The table also shows data for each type of acquirer acting in the market.

	Private equity firms n=160				Private operating firms n=213				Total n=373			
	n	μ	Max	Sum	n	μ	Max	Sum	n	μ	Max	Sum
2010	26	933	5157	24254	26	736	4517	19133	52	834	5157	43387
2011	18	963	5139	17341	23	776	3871	17846	41	858	5139	35187
2012	18	400	1886	7193	24	414	2210	9927	42	408	2210	17120
2013	19	1614	21522	30658	19	2776	23479	52737	38	2195	23479	83395
2014	14	1820	8454	25485	20	2741	13933	54817	34	2362	13933	80302
2015	17	2409	13878	40945	20	4611	66000	92229	37	3599	66000	133174
2016	19	1228	6943	23329	29	966	4211	28024	48	1070	6943	51352
2017	15	1781	7160	26716	25	1211	7636	30274	40	1425	7636	56990
2018	14	1595	6881	22335	27	2049	22250	55315	41	1894	22250	77649

Appendix 5: Correlation matrix

Table 9. Correlation matrix

This table shows the correlation between the variables used for regressions. The sample is based on the US PTP market during 2010-2018.
PE_CSR is excluded due to the combination of already existing variables.

	Premium	PEbuyer	lnMarketValue	lnSales	EBITDAmargin	CashTvalue	leverage_	CFFOAssets	CSRrating
Premium	1								
PEbuyer	-0.0349	1							
lnMarketValue	-0.284**	-0.0914	1						
lnSales	-0.0250	-0.0417	0.664***	1					
EBITDAmargin	-0.185	-0.131	0.447***	0.0825	1				
CashTvalue	-0.106	0.0405	0.111	-0.0181	-0.0515	1			
leverage_	-0.00161	0.0214	0.0831	0.0937	0.327***	-0.0939	1		
CFFOAssets	-0.0936	-0.0618	0.401***	0.194*	0.430***	0.0968	0.101	1	
CSRrating	-0.148	0.140	0.174	0.0701	0.00545	0.0328	-0.127	0.0519	1

Note: * p<0.05 ** p<0.01 *** p<0.001

Appendix 6: Wider private equity definition

Table 10. Difference in average premiums paid by private equity firms compared to private operating firms: Wider definition of private equity firms

This table shows the mean and standard deviation and difference between the two acquirer types in the US PTP market during 2010-2018. These numbers are presented in percentage units. The premium is measured as the offer price compared to the share price four weeks prior to announcement date and stated as percentage units. The difference is tested through a one-sided independent group t-test. The table also shows the p-value and t-value from the test.

T-test wider	Private equity firms n=280		Private operating firms n=93		Difference in acquirer types n=373		
	μ	σ	μ	σ	Diff.	P-value	T-value
Premium	37.84	2.59	42.62	3.87	-4.78	0.1528	1.03

Note: * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

Table 11. Primary regressions including target characteristics: Wider definition of private equity firms

This table shows three different OLS regressions on the US PTP market during the time period 2010-2018. The dependent variable is the premium measured as the offer price divided by the share price four weeks prior to announcement and stated as percentage units. The independent variables are measured as last twelve months prior to announcement if not otherwise stated. PEbuyer is an independent dummy variable that shows if the acquirer is a private equity firm. LnMarketValue is the logarithmized market value four weeks prior to announcement. LnSales is the logarithmized net sales of the target. EBITDAmargin is earnings before interests, taxes, depreciation and amortization over net sales. TransactionValue is the value of the completed deal at announcement day. Leverage_ is the ratio of debt/total assets. CFFOAssets is the cash flow from operations divided by the value of total assets. CSRrating is the CSR rating conducted at the end of the year prior to the announcement. PE_CSR is a dummy variable multiplying CSRrating and PEbuyer. The target regression adds all target independent variables to the CSR regression.

	Simple	CSR	Target
FinBuyer	-4.782 (0.304)	-16.79 (0.586)	-23.54 (0.520)
LnMarketValue			-8.483** (0.022)
LnSales			5.143* (0.097)
EBITDAmargin			-4.826 (0.802)
CashTvalue			-13.20 (0.440)
leverage_			-4.286 (0.802)
CFFOAssets			20.59 (0.481)
CSRrating		-0.782* (0.071)	-0.596 (0.167)
FinBuyer_CSR		0.275 (0.642)	0.409 (0.560)
Constant	42.62*** (0.000)	73.79*** (0.001)	100.7* (0.001)
Observations	373	157	111
Adjusted R-squared	0.000	0.011	0.070

Robust p-value in parentheses

* p<0.1, ** p<0.05, *** p<0.01

Appendix 7: Narrower private equity definition

Table 12. Difference in average premiums paid by private equity firms compared to private operating firms: Narrower definition of private equity firms

This table shows the mean and standard deviation and difference between the two acquirer types in the US PTP market during 2010-2018. These numbers are presented in percentage units. The premium is measured as the offer price compared to the share price four weeks prior to announcement date. The difference is tested through a one-sided independent group t-test. The table also shows the p-value and t-value from the test.

T-test narrow	Private equity firms n=280		Private operating firms n=93		Difference in acquirer types n=373		
	μ	σ	μ	σ	Diff.	P-value	T-value
Premium	34.29	2.02	42.64	3.48	-8.34**	0.0194	2.07

Note: * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

Table 13. Primary regressions including target characteristics: Narrower definition of private equity firms

This table shows three different OLS regressions on the US PTP market during the time period 2010-2018. The dependent variable is the premium measured as the offer price divided by the share price four weeks prior to announcement and stated as percentage units. The independent variables are measured as last twelve months prior to announcement if not otherwise stated. PEbuyer is an independent dummy variable that shows if the acquirer is a private equity firm. LnMarketValue is the natural logarithm market value four weeks prior to announcement. LnSales is the natural logarithm net sales of the target. EBITDAmargin is earnings before interests, taxes, depreciation and amortization over net sales. TransactionValue is the value of the completed deal at announcement day. Leverage_ is the ratio of debt/total assets. CFFOAssets is the cash flow from operations divided by the value of total assets. CSRrating is the CSR rating conducted at the end of the year prior to the announcement. PE_CSR is a dummy variable multiplying CSRrating and PEbuyer. The target regression adds all target independent variables to the CSR regression.

	Simple	CSR	Target
PEbuyer2	-8.435 (0.039)	58.64* (0.090)	74.69* (0.097)
LnMarketValue			-7.702** (0.026)
LnSales			4.763* (0.094)
EBITDAmargin			-12.26 (0.492)
CashTvalue			-10.86 (0.508)
leverage_			2.168 (0.807)
CFFOAssets			7.150 (0.791)
CSRrating		-0.114 (0.728)	0.413 (0.314)
PE2_CSR		-1.065* (0.093)	-1.489* (0.078)
Constant	42.62*** (0.000)	36.79* (0.027)	45.20* (0.087)
Observations	373	157	111
Adjusted R-squared	0.000	0.011	0.070

Robust p-value in parentheses

* p<0.1, ** p<0.05, *** p<0.01