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Premium comparison of UK private equity and strategic acquirers

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Date: 16/08/2021

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Abstract

This research investigates the premium difference between private equity acquirers and strategic acquirers in the UK during the 2010-2020 period. By performing an event study analysis on 1645 deals between UK bidders and UK targets from 2010 to 2020 with minimum 30% bidder ownership, we find that shareholders of target companies receive, on average, 2,7% lower premium from private equity acquirers compared to strategic acquirers. To account for potential correlations between target and deal characteristics, we estimate a multiple regression analysis using these characteristics as explanatory variables. The results show that the difference between the premium paid by private equity bidders and strategic bidders is insignificant, controlled for deal and target characteristics.

1. Introduction

In the last decades, the global number and value of M&A transactions have risen. Whereas the role of private equity purchases (PE) has risen considerably during the 1990s while being driven primarily by trade purchasers (i.e., industry or sector-focused companies seeking renovation, expansion or diversification). From 2010 to 2020, the global buyout deal value rose from \$200 billion to \$600 billion, despite massive disruption from the pandemic in 2020. With the increasing influence of PE funds on the acquisition market, the attention given to them in academia has been inadequate. Most research on PE performance focus on the US market, making the data heavily skewed towards the performance of US financial market. This study will examine PE performance in the UK market.

During the 1980s, the private equity industry first experienced a boom in activities. Private equity funds typically build a stake in the target firm using mostly debt financing from other sources and a small fraction in equity (Kaplan & Strömberg 2008). Although acquisitions can be done by both public and private firms, private companies are known to create more value relative to their public counterparts. In the US, PE funds have average annual returns of 10.5% from 2000 to 2020, whereas for the S&P 500 that number is 6.9%. However, Phalippou & Gottschalg (2009), find that PE acquirers do not always outclass public acquirers, for example during the period 1980-1993. Nevertheless, Bargaron et al. (2008), reaffirms that value creation by private equity is significant, citing the great boost in enterprise value of firms managed by PE funds over their holding period.

The last decade has been good for the PE industry, with enterprise value of portfolio companies rising substantially. Barber and Goold (2007) identify several reasons that are associated with PE value creation: tax benefits associated with heavy leveraging, improving operational and cash flows efficacy, relaxed regulations for private companies, and switching from a buy-to-keep to a buy-to-sell strategy. One feasible reason often overlooked for PE superior performance is their lower acquisition premium. Bargaron analysed the data and found that private acquirers only pay

35 percent on acquisition premium whereas public acquirers pay 63 percent, although the reasons are unclear and further research is needed.

This thesis is an extension of previous research on the difference of premiums paid by private equity and public acquirers. Specifically, this research examines premiums paid in UK market. Therefore, the thesis's research question is:

What are the deal characteristics, target firm characteristics and premiums paid by private equity and public acquirers in the UK from 2010 to 2020?

To address the current research gap on PE performance, this study will examine whether UK private equity firms pay lower premiums to target companies based on the premium paid and certain target and deal characteristics. There is no general agreement on such studies on premium based on certain characteristics. One possible explanation for this inconsistency in results is that the nature of the acquisition purpose differs between PE funds and strategic firms. Another argument is that the many eras and private equity cycles each have their own unique history. The study's findings are relevant to both private and public businesses, as well as the kinds of companies they buy. The profiles of the potential targets may explain why there is a significant difference in economic attractiveness to the two kinds of bidders. Private equity firms also pursue unique strategies that are different from those of publicly traded businesses.

To answer the research question, three hypotheses are formulated. The first hypothesis is that PE acquirers pay a lower premium than public acquirers. The second hypothesis is that there is a difference in target and deal characteristics between PE acquirers and strategic acquirers. The third hypothesis is that target and deal characteristics have a significant effect on premium paid.

The remaining sections of this paper is structured as follows. Section 2 discusses relevant literature to conduct this study. Section 3 describes the data collection and sample used. Section 4 explains the research methodology. Section 5 displays and interprets the results. Section 6 suggests potential further research and concludes the paper.

2. Theoretical frameworks

2.1 Private equity and strategic acquirers

The M&A market features two kinds of acquirers: public companies (referred to as strategic buyers) and private equity funds (referred to as financial buyers). Academic research and practice on M&A are largely divided into these two parallel fronts – strategic vs. financial buyers. Kaplan and Strömberg (2008) describe the former as specialised financial institutions that acquire a company by buying a fairly tiny share of equity and a substantial amount of external debt, which is called a leveraged buyout (LBO). In contrast, strategic buyers are those with the aim to integrate the acquired company into their own operations, and tend to be more focused on buy-and-hold strategies. According to Martos-Vila et al. (2013), the key distinctions between a strategic buyer and a financial buyer are that strategic bidders simultaneously work on a present project and contemplate integrating the target while financial buyers look at the target as a separate project, and they explore a building plan only after acquisition, i.e. they buy first and buy later. Furthermore, strategic purchasers have corporate governance arrangements that are distinct from those of financial buyers (Acharya et al., 2009). There have been forecasts on how the PE market will progress since its creation. Jensen (1989) predicted that the day would come when private equity firms would supplant traditional publicly owned corporations, which he believes are substandard to PE leveraged buyouts because of the control and financial strength they provide. As Baldwin (2012) has pointed out, the private equity firms' dominance over public businesses is due to their more advantageous returns, diversity, and superiority in performance. Private equity opponents argue that this benefit is frequently overstated (Phalippou and Gottschalg, 2009).

Fidrmuc et al. (2012) explore the degree to which target characteristics and the target selling methods influence shareholder premiums. Whereas the majority of acquisitions are strategic, PE firms are more inclined to purchase targets with physical assets that are more broadly re-deployable, such as real estate, while strategic buyers seek companies with specialized assets such

as significant R&D expenditures, such as space shuttle manufacturers. Controlling for observable target qualities, they discover that premiums for the target firm are lower in the past year, and it follows that the company's profitability and stock performance are both better. Fidrmuc et al. (2002) didn't find substantial effects for marketing to book, leveraging, asset tangibility, cash, or R&D. It's difficult to comprehend, since the findings indicate that PE and strategic purchasers do not acquire the same objectives, and yet, the difference in targets does not account for the difference in prices paid by PE buyers. Fidrmuc et al. (2012) discovered that premiums are related to the manner in which a target is marketed. It is shown that, for informal auctions, the premium gap for PE vs. strategic bidders arises. Strategic buyers are more likely to pay a greater premium for low-profit targets with a high cash level and strong R&D spending. No substantial premiums were paid by these insurers for regulated auctions and negotiation. Nevertheless, this study fails to look at the many kinds of auctions.

Following how PE acquirers pay a lower premium, Hutson and Mahony (2008) also shows how the takeover chance of success reflected in the premium (abnormal return 1 day before the announcement) may influence the final premium. Their research shows that PE bidders receive better deals than public ones. Samuelson and Rosenthal (1986)'s model shows that the abnormal return on the announcement day has no effect on the final premium. The market also assess that private equity takeover offers are more likely to succeed than public company ones. Therefore, the market is likely to learn from previous takeover victories. This might be advantageous for PE firm to reduce their premiums. The target is prepared to accept a reduced premium because following a takeover, PE investors will likely create greater value for shareholders than public investors.

2.2 Target characteristics

To evaluate mergers and acquisitions based on target characteristics, an assessment of previous research is conducted to ascertain which characteristics are applicable for this study.

a. Target size

Earlier study has shown a negative correlation between shareholder returns and target size (Schwert, 1996). There are many ways to calculate firm size. In this research, firm size is determined by total assets, total debt, total cash, and net income. Earlier study suggested that acquiring smaller companies is easier, and that despite lower scale effects, it is simpler to harness current value creation potential (Beitel, Schiereck, & Wahrenburg, 2004). Thus, acquiring targets that offer significant synergies while remaining manageable in size could benefit value creation. By and large, It is evident that size affects the acquisition premium paid to target firms. Additionally, it is evident that target firm size relative to the acquirer directly affects the number of possible synergies. This implies that when companies grow in size, the potential synergies for a public acquirer may grow as well, boosting their readiness to pay a higher price. Therefore, it is expected that as a business grows in size, premiums would increase as well. For public acquirers, this premium rise is anticipated to be more pronounced.

b. Leverage

Leverage is the next feature to consider when comparing targets. Safieddine and Titman (1999) demonstrate that raising leverage seems to benefit shareholders by alleviating the free cash flow issue, boosting tax savings through the tax shield, and protecting existing shareholders from value loss due to dilution. Private acquirers favour low-leverage targets because they allow them to establish their own capital structure without incurring refinancing expenses. From another viewpoint, an overleveraged target may imply that it enables greater consolidated involvement of the target (Bargeron et al., 2008), compelling an acquirer to pay more. According to the latter reasoning, highly leveraged companies are more likely to be purchased by public corporations. This is because when the premium increases, a buyout becomes less appealing to private acquirers since it reduces their profits. It is consistent with the common observation that public companies are more prepared to pay a large premium. Additionally, PE acquirers would be less inclined to pay high if the business is already heavily leveraged, since the tax shields they seek would already be used up.

c. Profitability

Profitability is a simple way to measure firm performance. Higher profitability brings higher expected returns for shareholders, which means more potential buyers. In this research, profitability is calculated as net income over total assets. This metric is intended to reduce the likelihood that a target's profitability has a distinctive effect on the premium a PE bidder must pay in comparison to a public bidder. PE bidders are anticipated to be more inclined to buy targets with low profitability owing to their exceptional skill in operational improvement and subsequent potential to enhance profitability. This would mean PE bidders pay a greater premium for low profit goals companies than public bidders. Contrarily, public bidders are expected to acquire targets with high profitability in order to maximize the synergies creation potential.

d. Operating cash flows

If the operating cash flows of the target companies are positive, the targets may be viable acquisition candidates. According to Barger et al. (2008), targets purchased by PE businesses have higher operating cash flow compared to targets acquired by public bidders. They also discover that private equity businesses are better at creating value than public companies since PE bidders deliver a 4 percent greater free cash flow to shareholders than public bidders. When it comes to the effect on the premium, researchers Guo, Hotchkiss, and Song (2011) come to the conclusion that cash flow gains are bigger for businesses that have seen greater increases in leverage as a consequence of the acquisition, which is typical of the private equity strategy. As a result, it is anticipated that PE bidders would pay a smaller premium to target shareholders, based on operational cash flows, than public bidders.

2.3 Deal characteristics

This section contains supporting literature and data showing that target shareholders benefit less from private business acquisitions.

a. Deal size

There is no conclusive evidence in the current literature linking private equity or public takeovers to deal size. Numerous researches uncover inconsistent findings across historical periods and sectors. Bargeron et al. (2008) discover that public acquirers' acquisitions have higher deal value than those of private acquirers. Whereas Gompers and Kaplan (2015) discover that when PE bidders pursue an LBO strategy, their deal size tend to be larger. Deal size is applied to indicate the deal size both bidder types usually pursue. Premiums can be better understood with this, since the size of a company may have a direct impact on the premiums paid.

b. Deal type

Tender offers result in much greater profits for target shareholders than mergers do (Bargeron et al. 2008). Given the basics of a tender offer, which is a proposal to purchase most or all outstanding shares at a premium to current market price, it's logical that public bidders frequently make tender offers. Additionally, tender offers are more likely to provide a significant premium. As a result, tender offers by public acquirers are understood to carry a larger premium. Similarly, follow-on offers might increase the premium paid by bidders.

c. Deal payment method

Most PE acquisition deals are paid in cash, with some being made in convertibles or stocks. The type of payment method is expected to affect the premium paid due to the pecking order theory (Myers and Majluf, 1984). The choice to pay in stock rather than cash might have an effect on shareholder returns. There is evidence that shareholders of acquirers perform worse in stock deals than in cash deals at the time of announcement.

3. Data

The deals data used is taken from Zephyr database. Completed acquisition deals in the United Kingdom from 01-01-2010 to 31-12-2020 are considered. Deals selected have both the acquirer

and target domiciled in the United Kingdom. Deals with defunct target, deals with no value data, spinoffs, and privatisations are ignored. The percentage of final stakes by acquirers must be 30% minimum as to exclude minority stake deals. As private firms do not have public equity to offer to the target, most private acquisitions are done with cash, with a few opting for converted debt. Only deals with public target are included, as private targets do not have sufficient financial data required for this study. By applying these requirements, the data sample consists of 1645 deals.

To collect the relevant financial data of target firms and the acquisition premium, we use Orbis and Thomson Reuters DataStream. Orbis provides additional financials measuring target firms' characteristics. DataStream provides the cumulative abnormal returns for time periods around the deal announcement date. Combining the datasets from these databases result in some missing observations from Orbis and DataStream due to incomplete reporting of firms. Among 1645 deals, 71 are PE deals and 1574 are public deals over the time period 2010-2020. The public-private ratio is consistent with previous studies. The study is done using these observations.

Table 1 summarizes the sample. The deal number and value are given. There is a clear cycle pattern in the data, with the annual deal number for all bidders peaking at 304 deals in 2011 before dropping and rising again from 2019. The same pattern is true for strategic bidders with its peak at 301 in 2011. For PE bidders, deal numbers reached a high in 2012 before dropping and rising again from 2018, reaching a peak of 17 deals in 2020.

Table 1

Number of deals and aggregate deal value by type of bidder over time

The sample includes all Zephyr completed merger and acquisition deals between a UK bidder and a UK public target announced between 2010 and 2020 that result in minimum 30% ownership by the bidder. The aggregated deal value is in inflation-adjusted 2021 thousand of British pounds.

| | All bidders | | PE bidders | | Strategic bidders | |
|------|-------------|------------|------------|------------|-------------------|------------|
| Year | N | Deal value | N | Deal value | N | Deal value |

| | | | | | | |
|-------|------|----------|----|--------|------|----------|
| 2010 | 130 | 29486615 | 5 | 12522 | 125 | 29474093 |
| 2011 | 304 | 8728293 | 3 | 19732 | 301 | 8708561 |
| 2012 | 218 | 5483437 | 13 | 208981 | 205 | 5274456 |
| 2013 | 226 | 5898636 | 11 | 110326 | 215 | 5788310 |
| 2014 | 159 | 4317628 | 5 | 26531 | 154 | 4291097 |
| 2015 | 107 | 6710524 | 3 | 25143 | 104 | 6685381 |
| 2016 | 118 | 6689911 | 2 | 17181 | 116 | 6672730 |
| 2017 | 107 | 9772838 | 0 | 0 | 107 | 9772838 |
| 2018 | 66 | 2846508 | 7 | 337727 | 59 | 2508781 |
| 2019 | 100 | 8960907 | 5 | 10176 | 95 | 8950731 |
| 2020 | 110 | 3995430 | 17 | 142917 | 93 | 3852513 |
| Total | 1645 | 92890727 | 71 | 911236 | 1574 | 91979491 |

4. Empirical methodology

Since this research focuses on studying the acquisition premium paid by PE bidders and strategic bidders, the study design is similar to the empirical methodology of Barger et al. (2008). The premiums are calculated by conducting an event study. Event study is a commonly used statistical method in financial economics. In an event study, the expected return is used as the benchmark return in the normal situation to compare with the actual return during the event window(s). The benchmark return represents the return unrelated to the event being studied. There are choices of model to estimate expected returns. In this study, there are two estimations of expected returns: mean-adjusted return and market-model-adjusted return.

The mean-adjusted return is the average return over the estimation period. The formula for mean-adjusted return is:

$$E(R_{i,t}) = \bar{R}_i$$

For market-model-adjusted return, calculation of the anticipated return is conducted on a single factor market model. The coefficients $\hat{\alpha}_i$ and $\hat{\beta}_i$ are estimated by Ordinary Least Square (OLS)

regression throughout the estimation period. By using this estimation, the correlation between stock and market returns is controlled. It can also allow for differences in stock-specific risks. The formula for mean-adjusted return is:

$$E(R_{i,t}) = \hat{\alpha}_i + \hat{\beta}_i R_{m,t}$$

According to established methodology in academic research of mergers and acquisitions, such as those described in Officer (2010). The following formula is used to compute the cumulative abnormal returns:

$$CAR_{i,(T_a,T_b)} = \sum_{t=T_a}^{T_b} AR_{i,t}$$

Where i denotes the individual stock, and (T_a, T_b) is the event window. Abnormal returns are measured by taking the difference between expected return and actual return. Abnormal return is calculated using the following formula:

$$AR_{i,t} = R_{i,t} - E(R_{i,t})$$

Thomson Reuters DataStream enables cross-sectional analysis of daily stock returns of sample firms. Next, cumulative abnormal returns are calculated around the event date T_0 . Then, the market model parameters are estimated over the period -125 to -6 days before the announcement date of the takeover, using a value-weighted index. This study uses CAR5 as the event measure, which has a timeframe of -2 to 2, with 0 being the announcement date.

The difference in mean and median between the premium paid by private equity and strategic bidders will be tested using two-sample t-test for equal means, and Wilcoxon rank sum test for equal medians. These tests provide insight into the disparities in means between private equity and strategic acquirers. They, however, do not account for deal- and target-specific effects. Hence, regressions are conducted for a more thorough analysis of the hypotheses.

Ordinary Least Squares (OLS) regression is utilised to the dataset of 1645 deals from 2010 to 2020. First, target and deal characteristics are explored at the univariate level. Then, multiple regression analysis is done to investigate whether the different characteristics can explain the difference in premium paid between two bidder types.

In the theoretical framework section, several characteristics have been found in previous research to have an effect on the premiums paid. As a result, the following target characteristics will be included as control variables: Total assets, Total debt, Total cash, Net income, Leverage, Profitability, and Cash flow. Among these variables, Total assets, Total debt, Total cash, Net income, and Cash flow are in inflation-adjusted 2021 British pounds. Profitability is calculated as net income over total assets and leverage as total debt over total assets.

Deal value, Tender offer, Follow-on offer, Cash deal, and Convertibles deals are control variables for deal characteristics. With the exception of Deal value, all of these variables are dummy variables equal to one when the type of the takeover is respectively a tender offer, a follow-on offer, a cash deal and a convertibles deal.

The univariate analysis is done to test for differences in characteristics private equity and strategic bidders pursue. Then, the multiple regression analysis is done to examine if the findings from the first section are statistically significant against control variables. In the multiple regression analysis, a dummy variable PE is used to identify the nature of the acquirer, either a private equity acquirer or a public acquirer. In line with previous findings that private equity acquirers pay a smaller premium than public acquirers, this estimate should have a negative coefficient.

5. Empirical results

5.1 Premium analysis

Table 2 shows the mean and median for CAR5 calculated by mean-adjust return and market-model-adjusted return methods. For mean-adjusted 5-day cumulative abnormal return, the

average acquisition premium by strategic firms is 1,0%. In contrast, the average acquisition premium by private firms is -1,7%. For market-model-adjusted 5-day cumulative abnormal return, the average acquisition premium by strategic firms is 1,1%, whereas by private firms this number is -1,5%. The difference in premium is -2,7% when measured in mean-adjusted parameters and -2.6% when measured in market-model-adjusted parameters. The median differences for both variables are abysmal at 0,0%.

Table 2

Target return measures for different bidder types

The sample includes all Zephyr completed acquisition deals between a UK bidder and a UK public target announced between 2010 and 2020 that result in minimum 30% ownership by the bidder. Stock price data is taken from Thomson Reuters DataStream. Mean and (median) return measures for the full sample (All) and for subsamples consisting of PE bidders, strategic bidders, and their difference are reported. The p-value for each difference between the mean (median) returns for PE and strategic bidders is reported. All reported p-values are based on t-tests for differences in the mean and Wilcoxon tests for differences in the median. The variables MeanCAR5 and MMCAR5 are 5-day cumulative abnormal returns around the announcement day, calculated based on mean-adjusted and market-model-adjusted returns, respectively.

| Return measure | All bidders | PE bidders | Strategic bidders | PE-strategic | |
|----------------|-------------|------------|-------------------|--------------|---------|
| | | | | Difference | p-value |
| MeanCAR5 | 0,0090 | -0,0169 | 0,0102 | -0,0271 | 0,203 |
| | (-0,0011) | (-0,0004) | (-0,0012) | (0,0008) | (0,059) |
| MMCAR5 | 0,0097 | -0,0151 | 0,0108 | -0,0259 | 0,219 |
| | (-0,0009) | (-0,0008) | (-0,0009) | (0,0001) | (0,601) |

5.2 Univariate analysis

Table 3 compares target and deal characteristics for private equity and strategic bidders. By looking at Total assets, Total debt, and Total cash, we find that strategic acquirers on average acquire much bigger targets.

Furthermore, firms acquired by private equity tend to have higher average net income than those acquired by public firms, although median-wise the reverse is true. This can be attributed to the fact that net income of some target firms is highly negative before the announcement date, creating outliers that affect the data.

The next two variables are Leverage and Profitability. For Leverage, the result is mixed between mean and median data, presumably due to outliers. For Profitability, firms acquired by private equity tend to have lower profitability compared to strategic acquirers.

Table 3 shows that cash flow of targets acquired by strategic bidders are much higher than targets of private equity. This finding is contrary to Barger et al. (2008)'s conclusion on cash flow of target firms.

Finally, we interpret the deal characteristics. Deal value made by strategic bidders are generally much higher than by private equity. Tender offers are more frequently made by private equity than strategic bidder. Contrarily, follow-on offers are exclusively made by strategic bidder, as the mean of the dummy variable is 0 for PE bidders. For Cash deal and Convertibles deal, the results are mixed and inconclusive.

Table 3

Summary statistics on target and deal characteristics

The sample includes all Zephyr completed acquisition deals between a UK bidder and a UK public target announced between 2010 and 2020 that result in minimum 30% ownership by the bidder. Mean and (median) values for target and deal characteristics are reported. Financial data is taken from Orbis. Total assets, Total debt, Total cash, Net income, Cash flow, and Deal value are in inflation-adjusted 2021 British pounds. Profitability is calculated as net income over total assets

and leverage as total debt over total assets. The deal characteristics variables Tender offer, Follow-on offer, Cash deal, and Convertibles deal are dummy variables equal to one if the deal respectively is a tender offer, follow-on offer, cash deal, and convertibles deal.

| | All bidders | PE bidders | Strategic bidders | PE-strategic | |
|------------------------|-------------------------------------|-----------------------------------|--------------------------------------|--|------------------|
| | | | | Difference | p-value |
| Target characteristics | | | | | |
| Total assets | 4980000000,0000 (205000000,0000) | 392000000,0000 (55200000,0000) | 5200000000,0000 (262000000,0000) | -5160800000,0000 (-206800000,0000) | 0,003 (0,000) |
| Total debt | 28200000000,0000 (79400000,0000) | 129000000,0000 (3474000,0000) | 29400000000,0000 (105000000,0000) | -29271000000,0000 (-101526000,0000) | 0,000 (0,000) |
| Total cash | 3840000000,0000 (27500000,0000) | 63300000,0000 (1866300,0000) | 4000000000,0000 (32200000,0000) | -3936700000,0000 (-30333700,0000) | 0,000 (0,000) |
| Net income | -556000000,0000 (-306000,0000) | 67100000,0000 (-180000,0000) | -584000000,0000 (-276000,0000) | 651100000,0000 (-1524000,0000) | 0,243 (0,040) |
| Leverage | 0,9513 (0,5820) | 1,9089 (0,1905) | 0,9103 (0,5820) | 0,9986 (-0,3915) | 0,160 (0,001) |
| Profitability | -0,5089 (-0,0271) | -1,0887 (-0,0754) | -0,4827 (-0,0249) | -0,6060 (-0,0505) | 0,207 (0,182) |
| Cash flow | 4300000000,0000 (15600000,0000) | -3259948,0000 (-1937000,0000) | 4420000000,0000 (19600000,0000) | -4423259948,0000 (-21537000,0000) | 0,000 (0,000) |
| Deal characteristics | | | | | |
| Deal value | 57300000,0000 (10900000,0000) | 13000000,0000 (3619000,0000) | 59300000,0000 (12900000,0000) | -46300000,0000 (-9281000,0000) | 0,563 (0,000) |
| Tender offer | 0,0419 (0,0000) | 0,2394 (0,0000) | 0,0330 (0,0000) | 0,2064 (0,0000) | 0,000 (0,000) |
| Follow-on offer | 0,0055 (0,0000) | 0,0000 (0,0000) | 0,0057 (0,0000) | -0,0057 (0,0000) | 0,523 (0,523) |
| Cash deal | 0,8973 | 0,9155 | 0,8964 | 0,0191 | 0,605 |

| | | | | | |
|-------------------|----------|----------|----------|----------|---------|
| | (1,0000) | (1,0000) | (1,0000) | (0,0000) | (0,605) |
| Convertibles deal | 0,0292 | 0,0282 | 0,0292 | -0,0010 | 0,959 |
| | (0,0000) | (0,0000) | (0,0000) | (0,0000) | (0,959) |

5.3 Multiple regression analysis

Table 4 shows the estimates of the multiple regression analysis. The variable PE has significant negative coefficients for both premium measures, meaning that acquisitions by private equity have significantly lower premiums than acquisitions by strategic firms. Convertibles deals also has significant negative coefficients for both premium measures, meaning that deals paid in convertibles have a lower premium. On the other hand, Leverage and Follow-on offer have significant positive coefficients for both measures, meaning that targets with higher leverage or deals that are follow-on offers tend to receive higher premium. Profitability is only significantly positive for MMCAR5. Total assets, Total debt, Total cash, Net income, Cash flow, Deal value, Tender offer, and Cash deal are insignificant.

Table 4

Multiple regression analysis

The sample includes all Zephyr completed acquisition deals between a UK bidder and a UK public target announced between 2010 and 2020 that result in minimum 30% ownership by the bidder. The independent variable PE is a dummy variable equal to one if the acquirer is a private equity bidder. All other variables are defined in the header of Table 2 and Table 3. p-values are based on heteroskedasticity-consistent standard errors. Coefficients denoted with a, or b, are significant at the 5%, or 10% level, respectively.

| | MeanCAR5 | | MMCAR5 | |
|--------------|----------------------|---------|----------------------|---------|
| | Coef. | p-value | Coef. | p-value |
| PE | -0.0485 ^a | 0.036 | -0.0459 ^a | 0.043 |
| Total assets | -0.0000 | 0.912 | -0.0000 | 0.908 |

| | | | | |
|---------------------|----------------------|-------|----------------------|-------|
| Total debt | 0.0000 | 0.877 | 0.0000 | 0.854 |
| Total cash | -0.0000 | 0.732 | -0.0000 | 0.789 |
| Net income | -0.0000 | 0.747 | -0.0000 | 0.882 |
| Leverage | 0.0079 ^b | 0.055 | 0.0091 ^a | 0.025 |
| Profitability | 0.0104 | 0.140 | 0.0124 ^b | 0.072 |
| Cash flow | 0.0000 | 0.850 | 0.0000 | 0.924 |
| Deal value | 0.0000 | 0.740 | 0.0000 | 0.971 |
| Tender offer | 0.0129 | 0.743 | 0.0157 | 0.685 |
| Follow-on offer | 0.1101 ^a | 0.025 | 0.0970 ^a | 0.044 |
| Cash deal | -0.0034 | 0.842 | -0.0012 | 0.944 |
| Convertibles deal | -0.0533 ^b | 0.065 | -0.0500 ^b | 0.078 |
| Constant | 0.0149 | 0.365 | 0.0116 | 0.474 |
| Obs. | 1192 | | 1192 | |
| Adj. R ² | 0.0113 | | 0.0095 | |

6. Conclusions

In this paper, we find the premiums paid in acquisition deals by private equity acquirers statistically lower than premiums paid by strategic acquirers. Using two measures of 5-day cumulative average return to calculate premiums, we find that target shareholders earn 2.7% higher premiums with strategic bidders rather than private equity bidders. This difference is tested both on a univariate level, and a multiple regression level, with target and deal characteristics as controls.

We explore the reason for such disparate gains for target companies. Evidence show that strategic acquirers pay more for target firms in order to reap the benefits of synergy. For hypothesis 1, the results indicate that private equity acquirers do pay a lower premium than public acquirers. For hypothesis 2, there are significant differences in Total assets, Total debt,

Total cash, Cash flow, and Tender offers between deals by private equity acquirers and strategic acquirers. For hypothesis 3, only Convertibles deals, Leverage, Follow-on offer, and Profitability have a significant effect on premiums paid.

This paper contributes to previous relevant literature on acquisition premiums of private equity firms. Some limitations exist, such as the exclusion of private targets due to unavailable data, and a limited set of characteristics. Further studies can build on this paper by investigating long-term value of target firms to measure the value of synergies. Furthermore, adding more target and deal characteristics can better explain the behaviours of acquirers.

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