Powerful bidders and value creation in M&As

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Highlights

- Powerful bidders (firms with significant market shares in concentrated industries) earn higher (positive) announcement returns from M&A activity.
- We attribute these results to bargaining power and evidence this through lower bid premiums.
- Powerful bidders have low financial constraints that allows them to derive greater value from M&A deals.

Abstract

This paper explores the role of bargaining ability in corporate mergers and acquisitions (M&As) by focusing on acquiring firms with ex-ante market power—powerful bidders. Drawing from a bargaining power theoretical stance, we argue that powerful bidders create value from M&A activity by paying comparatively lower premiums. We test our empirical proposition using a sample of 9,327 M&A deals announced between 2004 and 2016 by bidders across 30 countries. Contrary to the stylized fact that bidders do not gain from M&A activity, we uncover evidence suggesting that powerful bidders pay lower bid premiums and, consequently, earn positive (and relatively higher) cumulative announcement returns (CARs) from M&A deals. On average, the mean returns to powerful bidders (1.3%) are at least twice those of their less powerful counterparts (0.6%). We identify "low financial constraints" as a potential channel through which higher bidder power translates to improved deal performance. Overall, our results provide new evidence on how industry dynamics, notably bargaining power, influences M&A outcomes.

Keywords: Powerful bidders; bargaining power; takeover premium; financial constraints.

JEL classification: G30, G34.

1 Introduction

Mergers & Acquisitions (M&As) remain a strategy of choice for firms seeking exponential growth over a short period. Yet, a broad spectrum of the extant M&A research suggests that acquirers, at best, do not create value from M&A activity. Specifically, with the exception of a few studies (see, for example, Alexandridis et al., 2017; Tunyi, 2021), acquiring firms have been shown to earn tiny gains and even significant losses from M&A activity (Moeller and Schlingemann, 2004; Renneboog and Vansteenkiste, 2019). To understand the drivers of value creation during M&As, prior research has examined how deal features, managerial characteristics and corporate governance, amongst several others, influence the value-creation process (Masulis et al., 2007; Moeller et al., 2005; Wang and Xie, 2009; Tunyi and Machokoto, 2021). For example, studies looking at governance have shown that better governance quality leads to improved M&A performance due to its ability to curb CEO hubris and the overpayment (high premiums) for takeover targets (see, for example, Datta et al., 2001; Ellis et al., 2017; Martynova and Renneboog, 2008; Masulis et al., 2007; Moeller et al., 2005; Wang and Xie, 2009). Remarkably, little attention has been paid to the bidder's pre-deal market power and how it affects value-creation in M&As. Our study fills this gap by exploring the extent to which powerful bidders (defined as dominant firms within their industries) extract better value from merger deals as a consequence of their financial resources and their bargaining power.

Indeed, prior research explores how "power" influences firms' financial outcomes, notably profitability and stock returns (see, for example, Bain, 1951; Bustamante and Donangelo, 2017; Collins and Preston, 1969; Demsetz, 1973; Jory and Ngo, 2017; Mann, 1966; Mouselli and Jaafar, 2019). The authors accentuate the idea of "dominant market position" to explain the abnormal profits that powerful firms earn. In short, such benefits stem from the ability of powerful firms to better manage their investments (Demsetz, 1973; Stoughton et al., 2017), retain customer loyalty (Collins and Preston, 1969) and maintain lower idiosyncratic volatility (Jory and Ngo, 2017). Within the context of M&As, prior studies have shown that merger-induced market power partly explains value-creation in horizontal M&As (announcement returns) due to reduced competition (Hankir et al.,

2011). However, to our knowledge, prior studies offer no insights on how acquirers' ex-ante market power influences deal outcomes.

Akin to the sale of bespoke assets, acquisitions are essentially a bargaining process in which the bidder, when rational, seeks to acquire its target at the lowest possible prices—low enough so that the bidder creates value through the process (Ahern, 2012; Bradley et al., 1988) but high enough so that the bidder wins the auction (Humphery-Jenner and Powell, 2011; Servaes, 1991). The final deal price depends on the bargaining power of the firms involved, with the firm with higher bargaining power more likely to achieve its desired outcome, and hence better returns from the deal (Alexandridis et al., 2010; Lee, 2018). A powerful bidder with high bargaining power can, perhaps, better negotiate acquisition terms, particularly the deal premium. Consequently, such a bidder might create relatively more value from M&A deals.

Empirically, we test whether the bidder's pre-deal market power is associated with higher cumulative abnormal returns (CARs) around the deal announcement. We measure the bidder's ex-ante market power using a combination of (i) its market share (based on level of sales and assets) within its industry and (ii) the concentration of its industry. Specifically, a powerful bidder is a firm that, in the year before the M&A deal announcement, (i) achieved a market share in the upper tercile of its industry and (ii) belongs to an industry with industry concentration (measured by the Herfindahl-Hirschman index) in the upper tercile of its country. Simply put, we identify a powerful firm as one that holds a dominant position (by market share) within a highly concentrated industry. Using an international sample of 9,327 M&As from 30 countries over the period 2004-2016, we find that powerful bidders earn positive (and comparatively higher) CARs. The results are statistically and economically significant; on average, powerful bidders earn abnormal returns of 0.5 percentage points higher than those of their less-powerful counterparts. The effects persist after controlling for several well-established determinants of bidder returns (see, for example, Alexandridis et al., 2017), as well as the year, industry, and country fixed effects. We attribute these comparatively higher CARs to the powerful bidders' better bargaining position as evidenced by the lower acquisition premiums they

pay.

We next investigate the potential channel through which the bidder's pre-deal market power positively affects the bidder CARs. The important role of financial constraints in explaining M&A underperformance has been documented in prior research (Cleary and Hossain, 2020; Yang et al., 2019). We focus on financial constraints as an important channel explaining value creation by powerful bidders. Specifically, while powerful bidders offer lower premiums, they are more likely to have access to significant financial resources to support post-merger integration activities, thus leading to better M&A outcomes. We test this conjecture by exploring whether the level of financial constraints (proxied by the Kaplan and Zingales (1997) index) mediates the relationship between the market power of bidders and M&A CARs. Our results reveal that powerful bidders have lower financial constraints and financial constraints fully mediate the relationship between powerful bidders and merger announcement CARs. Our results are consistent with extant research suggesting that unconstrained firms earn higher returns on average due to their ability to generate better cash flows, engage in better investment opportunities and access better funding opportunities (Erel et al., 2015; Lamont et al., 2001; Chan et al., 2010). We extend these studies by highlighting the importance of financial constraints in the context of powerful bidders.

We conduct several checks to ascertain that our results are robust to modelling choices, such as how key variables are defined. We find that our results hold across different constructions of our key variable—market power—including the use of quintiles and quartiles in place of terciles, as well as, the use of a simpler definition which only considers a bidder's dominant position (market share) within its industry. Our main results also hold when we deploy a propensity score matching approach to sampling. Our results are also robust to alternative constructions of our dependent variables; CAR and merger premiums.

Additionally, we explore our main results across different deal types. If the effect we have documented is indeed a consequence of bidder power, we would expect to see that the effect is stronger within specific sub-samples, including cross-border deals (as opposed to

domestic deals), cash-financed deals (as opposed to stock-financed deals), deals for public targets (as opposed to deals for private targets) and focus deals (as opposed to diversified deals). For example, focus (same industry) M&A deals are associated with value creation through higher economies of scale, as well as a reduction in industry competition (Masulis et al., 2007; Grullon et al., 2019). Our empirical results suggest that the relationship between bidders' market power and M&A announcement CARs is more pronounced in cross-border deals, cash deals, deals for listed targets and focus deals.

Our study makes two important contributions to the M&A literature. First, we establish the role of pre-deal market power as an important determinant of acquirers' wealth effects in M&As. Our evidence suggests that powerful bidders create value for their shareholders through acquisitions. The results corroborate the bargaining power hypothesis. Consequently, we extend the work on bargaining power in M&As (Kubick et al., 2015; Lee, 2018). We provide an important caveat against the view that acquirers do not create value from M&As (Bradley et al., 1988; Moeller and Schlingemann, 2004; Renneboog and Vansteenkiste, 2019) by providing evidence that the bidders' returns depend on their bargaining power. Second, we expand the literature on the financial constraints (Erel et al., 2015; Kaplan and Zingales, 1997; Lamont et al., 2001) and its role in M&As by showing how powerful bidders leverage on their better access to financial resources to create value in the context of M&As.

The rest of our paper is structured as follows: Section 2 presents hypotheses development; Section 3 describes the data, sample and econometric models; Section 4 discusses our findings and Section 5 concludes the study.

2 Background literature and hypothesis

Academic interest in the effect of bargaining power on takeover outcomes has resulted in an abundance of research. This work can be divided into two broad categories. The first body of literature investigates the target's bargaining power and its impact on the takeover premium and target returns. According to scholars who follow this line of inquiry, the increased bargaining power of the target is the result of takeover

competition (Alexandridis et al., 2010; Shams, 2021), anti-takeover measures (Comment and Schwert, 1995), lock-up options (Burch, 2001), termination fees (Officer, 2003) and cash holdings (Cai and Vijh, 2007). These studies suggest that a relatively stronger bargaining position enables takeover targets to negotiate more favourable merger terms and demand a higher price that translates into higher takeover premiums and higher target cumulative abnormal returns.

The second line of research examines how bidder bargaining power affects takeover performance. For example, Lee (2018) demonstrates how increased political uncertainty in the target country results in increased bargaining power for the bidder due to the associated risk. Bertrand et al. (2016) find that weaker bilateral political ties between the bidder and target countries erode the bidder's bargaining power, as the host country's government intervenes in the negotiation process. Gelman et al. (2021) provides evidence that powerful firms have a detrimental effect on investment advisor misconduct, owing to advisor employment stability. According to Ghannam et al. (2019), bidders with strong non-executive chairs pay lower takeover premiums and earn higher returns due to their advisory and monitoring capabilities. Other studies report merger-induced market power for the combined firm in focused transactions (Bhattacharyya and Nain, 2011; Ariss, 2010; Devos et al., 2016), suggesting that the combined firm can exercise market power through price increases or output restrictions (Otchere and Abukari, 2020). In general, the empirical evidence suggests that the bargaining power of firms involved in acquisitions influences value creation during and after M&As.

The merger partner (acquirer or target) with greater bargaining power benefits from their ability to negotiate the takeover price. When determining the offer price, bidders must balance two opposing factors (Haleblian et al., 2009). On the one hand, they want to minimize acquisition costs (e.g., premium paid to target) and maximize acquisition gains (Haunschild, 1994). On the other hand, the bidder must make an offer that is attractive enough to outbid, dissuade or discourage other potential bidders (Humphery-Jenner and Powell, 2011). More powerful bidders may have better negotiating ability, perhaps due to stronger networks, access to high-quality financial advice, and the ability to coerce weaker

firms to submit to their demands (Yeung et al., 2009). Leveraging on this power, these powerful firms may thus be able to offer comparatively lower bid premiums and yet win takeover bids as other firms in the industry may be reluctant to engage in a bidding war against such powerful firms. We might therefore observe a positive relationship between bidders' ex-ante market power and M&A returns. More formally, we state our hypothesis as follows:

Hypothesis 1 (H1): *Ceteris paribus, bidders' announcement returns will increase with pre-deal market power.*

3 Data and sample

3.1 Sample

We use an extensive M&A sample covering deals announced by acquirers across 30 countries between 1 January 2004 and 31 December 2016. The initial sample comes from Thomson Financial's Securities Data Corporation (SDC) and comprises all M&A deals by publicly-listed acquirers. We obtain data on deal characteristics from SDC. These include; deal announcement date, payment method, deal type (cross-border or domestic) and merging firms' industries. We consider only completed deals and exclude financials (SIC codes 6000-6999) and utilities (SIC codes 4900-4949).

To compute our variables, we collect stock price data from Thomson Reuter's DataStream and financial statement data from WorldScope. We exclude bidders with negative sales and assets to calculate the bidder's market power before an M&A deal. Given our attention to the market power of bidders, we eliminate bidders with insufficient data to calculate our market power measures. To reduce noise in our estimation, we exclude countries with less than ten M&A deals. This filtering process results in a final sample of 9,327 deals. [1]

[1]We drop deals for Bulgaria, Colombia, Hungary, Malta and Peru due to missing accounting information about bidders.

3.2 Variables and model

To compute the bidder's pre-deal market power, we use two measures suggested by the literature—the bidder's market share (Jory and Ngo, 2017; Kale and Loon, 2011) and market concentration (Hou and Robinson, 2006; Stoughton et al., 2017). We calculate the bidder's market share one year before the deal announcement as the ratio of bidder's total sales to total industry sales. Following the literature (Hou and Robinson, 2006; Stoughton et al., 2017), we use the Herfindahl-Hirschman index (HHI) to measure market or industry concentration. A higher HHI implies a highly concentrated industry and vice versa.

To calculate HHI, we consider all public listed firms in a country for which sales and assets data are accessible on World Scope.[2] Our HHI measure depends on four-digit SIC codes from Fama-French 48 industry categories. We calculate HHI for each year, industry, and country one year before the deal. To measure the market power of the bidder one year prior to the deal announcement, we use tercile distributions of market share and market concentration.[3] Specifically, a bidder is classified as possessing market power if it ranks in the upper tercile of both the market share and the market concentration distributions. Effectively, we classify firms with a dominant position (market share in the upper tercile) operating within a concentrated industry (industry in the upper tercile of HHI distribution). To ensure that our findings are not driven by the market share and concentration measurements, for robustness, we additionally use firm assets in place of firm sales to calculate market share and HHI.

Following the literature (Alexandridis et al., 2017; Renneboog and Vansteenkiste, 2019; Masulis et al., 2007; Tunyi, 2021), we estimate value creation in M&As using abnormal returns earned by firms when deals are announced. As per our hypotheses, we expect that the bidder's pre-deal market power should positively affect the bidder's cumulative abnormal returns. Consistent with prior studies (Alexandridis et al., 2017; Tunyi, 2021; Tunyi and Machokoto, 2021), we use the market model to estimate expected

[2]One deficiency of the HHI index calculated while using Thomson Reuters' World Scope firms is that private firms are neglected.

[3]For robustness, we also use quartile and quintile distributions and find that our results are qualitatively unchanged.

returns and deduce abnormal returns as the difference between actual returns and estimated expected returns. Our estimation window covers a period of 230 trading days, starting 255 days and ending 25 days before the bid announcement i.e., [-255, -25]. We compute CARs earned by acquirers in the 5 days around the bid announcement i.e., [-2, +2] and denote this as 5-Day CARs. For robustness, we compute CARs for alternative event windows. For example, we also compute CARs earned in the 11 days around the bid i.e., [-5, +5] and denote this as 11-Day CARs. Our results are robust to the choice of the event window. We test the effect of the bidder's pre-deal market power on CARs using the following model:-

$$Bidder\ CAR_{it} = \beta_0 + \beta_1 Market\ power_{i,t-1} + \sum \beta_k\ Controls_{i,t-1} + v_i + v_{t-1} + \epsilon_{it-1} \tag{1}$$

where $Bidder\ CAR_{it}$ is the cumulative abnormal return around the announcement date for bidder i at time t over the 5-days event window; $Market\ power_{i,t-1}$ is a binary variable that equals one when the bidder is from the upper tercile of market share and market concentration distributions one year before the deal announcement; $Controls_{i,t}$ is a vector of deal-, firm- and country-level controls relating to specific deals, firms and countries involved. We provide further details of our control variables below.

We use three categories of controls linked with bidder returns: deal characteristics, bidder characteristics, and country characteristics.[4] We control the deal-specific characteristics for the same industry deals, whether bidder and target firms share the same Fama-French industry, payment method, cross-border deals, target's status (private or public), and relative size of the deal. M&As involving firms in the same industry might generate higher returns because of cost-savings emerging from economies of scale (Masulis et al., 2007; Morck et al., 1990), although some studies suggest that diversification through M&As can increase a firm's value (Campa and Kedia, 2002; Villalonga, 2004). The use of cash payment positively affects bidder returns as it suggests that the bidder is

[4]See Martynova and Renneboog (2008) and Renneboog and Vansteenkiste (2019) for a detailed discussion of factors influencing M&A performance.

undervalued (Graham et al., 2002; Shleifer and Vishny, 2002). Equity-financed deals might generate negative returns due to adverse selection problems (Myers and Majluf, 1984). Cross-border deals create positive returns for acquirer shareholders when acquirers are in better-governed countries (Ellis et al., 2017; Martynova and Renneboog, 2008). Bidders acquiring private targets earn significantly positive returns due to the liquidity discount (Fuller et al., 2002). Finally, the acquisition of relatively smaller targets might positively affect bidder returns due to implied lower transaction costs and greater ease of post-merger integration (Moeller and Schlingemann, 2004; Asquith, 1983).

The bidder firm characteristics that we use as controls in eq.1 include Tobin's q, book to market value of equity and leverage. These variables are measured one year prior to the deal's announcement. The impact of Tobin's q on M&A returns is inconclusive. Lang et al. (1989) report a positive impact of bidder Tobin's q on returns, while Wang and Xie (2009) do not find a significant relationship between bidder returns and Tobin's q. The book to market equity ratio negatively affects returns due to a higher risk of distress (Griffin and Lemmon, 2002). Leverage plays a pivotal role in limiting managerial discretion (Lang et al., 1991), provides takeover protection (Garvey and Hanka, 1999) and incentivizes managers to increase firm performance (Gilson, 1990). Following Masulis et al. (2007), we also add bidder stock price run-up to capture pre-deal stock performance.

Given our international sample, consistent with Fauver et al. (2017), we control for differences in the level of financial development across countries using gross domestic product (GDP) growth and log of GDP per capita. GDP growth and GDP per capita are both measured one year before the deal announcement. In all regressions, we include dummies to control for industry, country and year fixed effects. Finally, White (1980) robust standard errors are used to control for heteroscedasticity. The effect of outliers is mitigated by winsorizing bidder CARs and firm-specific controls at the bottom and top 1% of the distribution. We fully define all these control variables and explain their construction in Appendix A.

4 Results and discussions

4.1 Descriptive statistics

Table 1 shows the distribution of our full sample for M&A deals with and without market power across years (Panel A) and countries (Panel B). The distribution of M&As varies widely across years and countries. Panel A reports that most M&As happened in 2007. From 2004, the number of deals in every year increases until 2007, and in later years it shows the mixed trend. The observed trend is similar to that reported by Masulis et al. (2007). The percentage of deals made by acquirers with pre-deal market power is the highest in 2004, i.e., 28.73%. In Panel B, we observe that the most active nations in the takeover market are the United States and Japan, with other countries such as Australia and Canada also experiencing relatively high M&A activity over this period. Interestingly, the percentage of deals by bidders having market power is comparatively lower in these nations (the United States and Japan). By contrast, bidders from Scandinavian countries (Norway, Denmark, Sweden, and Finland) possess higher market power before the deal announcement.[5]

Insert Table 1 Here

Table 2 presents summary statistics for the variables in our full sample of M&A deals, as well as sub-samples of deals initiated by powerful and non-powerful bidders. In the full sample (column 1), the bidder's mean 5-day CAR is 0.8%, consistent with studies reporting positive but very small returns to bidder shareholders (Schmidt, 2015; Cai and Sevilir, 2012). The mean market power using sales (assets) is 23% (22.7%), implying that about a fourth of our sample bidders have pre-deal market power. The average market share and industry concentration (measured using Herfindahl-Hirschman index – HHI) based on sales are 35% and 44%, respectively. The averages of these three measures are similar when they are calculated using firm assets. We additionally present summary statistics for five deal-specific variables; same industry deal, payment method, cross-border deal, private target, and relative size. Mostly 45% deals engage

[5]The reason behind this could be the relatively higher level of ownership concentration in these countries (Sinani et al., 2008).

in the same industry, 46.6% deals are financed with cash, 29.2% deals are cross-border, 62.8% of acquisitions involve private targets,[6] and relative size is 8.4%. The mean of bidder characteristics including Tobin's q, book to market equity, leverage are 0.523, 0.003, 0.068, respectively. The average of the bidder stock price run-up is -0.6%. The mean values for GDP growth and log GDP per capita are 2.25 and 10.48, respectively.

Insert Table 2 Here

In columns (6)-(9) of Table 2, we conduct univariate tests to investigate the mean difference in the characteristics of bidders with and without pre-deal market power.[7] We divide our sample into two groups of bidders with and without market power (by sales)[8] before the deal announcement. Note that 2,144 (23%) M&A deals out of 9,327 deals involve bidders with pre-deal market power (by sales) while 7,183 involves bidders classified by our framework as non-powerful. The average returns for bidders with pre-deal market power (measured by sales) and without pre-deal market power are 0.013 and 0.006, respectively. The difference between the two groups (0.007) is statistically significant at 1% level.[9] The same pattern of returns is observed when we measure market power with firm assets. Further, we find that the mean premium (1 week) paid by powerful bidders is 12.9% compared to a mean premium (1 week) of 39.3% paid by non-powerful bidders. The difference (26.4 percentage points) is statistically significant at the 1% level. These results provide preliminary support for our contention that powerful bidders generate higher CARs by paying lower merger premiums.

On average, powerful bidders' involvement in the same industry deals is lower (by 1.6%) when compared to non-powerful bidders, but this difference is statistically non-significant. Non-powerful bidders mostly pay in cash relative to powerful bidders, with a difference of 4.3% that is significant at 1% level. The bidders with pre-deal market power

[6]Although private targets dominate our sample, the results are not restricted to these targets. When we split our sample into private and public targets, we find similar results.

[7]In untabulated results we have also compared median differences and arrived at qualitatively similar conclusions. We do not present this here for brevity.

[8]Conclusions do not change when we defined market power by assets.

[9]In untabulated results, we further investigate the median differences in returns for both groups. In both market power measures, we find that the median returns for bidders with and without pre-deal market power groups are 0.011 and 0.001, respectively. The difference is statistically significant at 1% level.

engage in more cross-border deals than bidders without market power, significant at 1% level. The relative deal size is higher for non-powerful group than the powerful group with an average difference of 1.6% that is significant at 1%. The average of Tobin's q for powerful bidders is 0.566 while for non-powerful bidders is 0.510 with mean difference of 0.056, significant at 1% level. Other bidder characteristics, book to market equity, leverage, size, also report positive differences (i.e., powerful bidders have higher values than non-powerful counterparts) between powerful and non-powerful bidders.

Appendix B shows the Pearson correlation coefficients and variance inflation factors (VIF) for our variables of interest. We do not observe high correlations between our control variables and VIFs are all below the 3 threshold, suggesting that there are no significant issues of multicollinearity to contend with.

4.2 Market power and bidder returns

The bargaining position is one of the most common explanations for differences in stock price reaction across different deals around the announcement date (Ahern, 2012; Bertrand et al., 2016). We focus on the pre-deal phase, during which a powerful bidder negotiates with the target. Therefore, we postulate that the bidder's pre-deal market power explains the stock price reaction around the announcement date. We use the full sample of M&A deals and estimate eq.1 to explore the effect of the bidder's pre-deal power on bidder CARs. Our results are presented in Table 3.

Insert Table 3 Here

In Models (1) and (2) of Table 3, we present results for a simple model without control variables, defining market power by sales (1) and then by assets (2). In (3) and (4), we include deal, firm and country controls to our model. Finally, in (5) and (6), we further include industry, country and year fixed effects in the model.

Across all models, we document a positive and statistically significant (at the 1% level) relationship between market power and 5-Day CARs. In terms of economic significance, in Models (5) and (6), we find that powerful firms earn announcement returns (CARs) that are 0.5 percentage points higher than those of their less powerful counterparts. These

results are consistent with our hypothesis (H1)—for both measures of market power, we show that bidder CARs are higher when bidders have pre-deal market power than those that do not.[10] The results extend prior studies showing that better-governed bidders do not overpay for their targets (Datta et al., 2001; Masulis et al., 2007; Moeller et al., 2005) by demonstrating that pre-deal market power could be another source of value creation in M&As.

The regression models include a set of controls suggested in the literature. The coefficients of control variables are similar in magnitude and statistical significance across the four model specifications (Models (3)-(6)) in Table 3. Most of the coefficients of controls are qualitatively similar to what other studies report (Masulis et al., 2007; Moeller et al., 2005; Wang and Xie, 2009). We additionally find that the same industry dummy, private target dummy, and relative size positively affect bidder CARs.

Consistent with prior work on the benefits to firms from non-concentrated industries (Bain, 1951; Collins and Preston, 1969; Demsetz, 1973; Jory and Ngo, 2017; Mann, 1966) in general and bargaining power in particular (Ahern, 2012; Alexandridis et al., 2010; Bertrand et al., 2016; Bradley et al., 1988; Lee, 2018), our results provide evidence that bidders with pre-deal market power earn, on average, positive CARs during the announcement period. The theoretical support of our findings is derived from the bargaining power of the bidder (Ahern, 2012; Bradley et al., 1988) that could enable the bidder to acquire the target at a lower price. The results suggest that one potential source of higher bidder gains from M&As is the bidder's pre-deal power, which we argue, allows bidders to pay a lower or fairer premium when acquiring their targets. We will investigate this further below.

4.3 Market power and takeover premium

Prior studies attribute poor M&A performance to high premiums paid by bidders (Alexandridis et al., 2010; Humphery-Jenner and Powell, 2011; Morck et al., 1990; Rossi

[10]Later in our study, we present results for robustness checks in relation to the definition of some of the key variables (e.g., CARs and market power) in our main model. These tests reveal that our results are not sensitive to variable definitions, and remain robust when we use alternative definitions.

and Volpin, 2004; Shams, 2021; Shams et al., 2013). In Table 3, we establish that powerful bidders achieve superior M&A performance when compared to their counterparts. Our previous results (Table 2) also revealed that, on average, powerful bidders earn announcement returns (CARs) that are positive and over 0.7 percentage points higher than those earned by their counterparts. In this section, drawing from a bargaining power perspective, we anticipate that powerful bidders achieve better performance due to their bargaining ability which will be reflected in lower merger premiums. Empirically, we therefore test whether, other things remaining equal, powerful bidders pay lower premiums relative to their non-powerful counterparts. In our analysis, takeover premium is defined as the ratio of the bidder's offer price to the target's stock price before the deal announcement. Using SDC, we take two alternative premium measures (i.e., relative to stock price four weeks and also one week prior to the announcement day). The following model is used to estimate the market power effect on the takeover premium:-

$$Premium_{it} = \beta_0 + \beta_1 Market\ power_{i,t-1} + \sum \beta_k\ Controls_{i,t-1} + v_i + v_{t-1} + \epsilon_{it-1} \quad (2)$$

where $Premium_{it}$ is the takeover premium one week and four weeks before the announcement of deal. The key variable of interest is $Market\ power_{i,t-1}$ and the control variables are the same as used in the estimation of eq.1. Our results are presented in Table 4.

Insert Table 4 Here

As shown in Table 4, we observe a negative and statistically significant relationship between market power and merger premiums. Specifically, the coefficients on the market power dummy in all models are negative and significant at the 1% level. For example, in Model (1) of Table 4, all other things being equal, powerful bidders offer premiums that are 23.2% lower than their less powerful counterparts. Our results are qualitatively similar when we use alternative measures of premiums and market power. These results are consistent with our previous finding (Table 3) that powerful bidders achieve better M&A performance relative to their less powerful counterparts. Our results support the bargaining power hypothesis (Ahern, 2012; Bertrand et al., 2016) and suggest that

powerful bidders can negotiate lower premiums for their targets. The results also support the view that the takeover premium is an important bidding parameter and strategic decision in the takeover process (Eckbo, 2009; Haleblian et al., 2009) and evidence the importance of bargaining power from the bidder's perspective.

4.4 Market power, financial constraints and bidder returns

Financial constraints[11] influence firms' cash holdings (Denis and Sibilkov, 2010), firm productivity (Jin et al., 2019) and investment behavior (Campello et al., 2010; Hennessy and Whited, 2007) including M&A decisions (Greene, 2017; Yang et al., 2019; Chan et al., 2010; Lamont et al., 2001). Here, as in Table 5, we posit that financial constraints serve as a channel through which bidders pre-deal market power translates to improved M&A performance (announcement CARs). Takeovers require significant financial resources to cover both acquisition costs and costs relating to post-merger integration activities. Therefore, firms that have more access to such financial resources are likely to be more successful acquirers. Indeed, prior research has shown that M&A performance improves when acquirers have access to more financial resources (Cleary and Hossain, 2020; Yang et al., 2019). Since powerful bidders are likely to be financially unconstrained firms with access to significant financial resources, financial constraints may thus serve as a channel through which such bidders achieve better M&A performance. To test this proposition, we use the following mediation effect model:-

$$\begin{aligned} Financial\ constraint_{it} =& \beta_0 + \beta_1 Market\ power_{i,t} \\ &+ \sum \beta_k\ Controls_{i,t} + v_i + v_t + \epsilon_{it} \end{aligned} \tag{3}$$

$$\begin{aligned} Bidder\ CAR_{it} =& \beta_0 + \beta_2 Market\ power_{i,t-1} + \beta_3 Financial\ constraint_{i,t-1} \\ &+ \sum \beta_k\ Controls_{i,t-1} + v_i + v_{t-1} + \epsilon_{it-1} \end{aligned} \tag{4}$$

Variable definitions, as well as the set of Control variables in the mediation effect model are the same as those used in previous models (i.e., eq.1 and eq.2). Following Lamont

[11] Lamont et al. (2001) contends that financial constraints are frictions that can hamper a firm from the desired investment opportunity, and this inability to invest in desirable projects can arise because of illiquidity of assets, inability to issue stock, and relying on bank loans.

et al. (2001), we use Kaplan and Zingales (1997) index (KZ-index) as our proxy for financial constraints ($Financial\ constraint_{i,t-1}$). The KZ-index is a measure of the bidder's level of financial constraints one year before the deal announcement. To ascertain a mediation effect, three conditions must be met. Firstly, the independent variable (i.e., $Market\ power_{i,t}$) must be significantly (negatively) related to the dependent variable (i.e., $Bidder\ CAR_{it}$). In support of our main hypothesis (i.e., H1), we established this in Table 3. Secondly, the dependent variable (i.e., $Market\ power_{i,t}$) must be significantly (positively) related to the mediator variable (i.e., $Financial\ constraint_{it}$) in eq.3. Finally, the significance of the independent variable (i.e., $Market\ power_{i,t}$) should reduce once the mediator variable (i.e., $Financial\ constraint_{it}$) is included in the main equation as in eq.4. Our results testing the latter two conditions are presented in Table 5.

Insert Table 5 Here

For robustness, we estimate our equations using our two measures of market power (i,e., derived from sales and assets). In Model (1), we find a negative and statistically significant relationship between market power and our measure of the level of financial constraints (KZ index). This confirms our assertion that powerful firms have access to more financial resources and hence face lower levels of financial constraints. The results are significant at the 1% level. We then test the third condition (noted above) in Model (3). Specifically, we add financial constraints (KZ index) as an additional control variable (mediator) in our main regression equation (see eq.4). We find that market power, which was previously positively related to announcement CARs (see Table 3), loses its significance and even the sign of its coefficient. This provides strong evidence that financial constraints mediate the relationship between pre-deal market power and M&A performance (CAR). We, therefore, argue that pre-deal market power translates to improved M&A performance because of powerful bidders' access to financial resources to support acquisition activity.

4.5 Robustness tests

To check the validity of our results, we perform additional robustness tests and show these results in Tables 6 to 9. One potential concern that may arise with our analysis

is that the results could be driven by our division of market power into terciles. We allay this concern by using other methods to segregate between high and low market power. In Table 6, we use quartiles and quintiles (see Jory and Ngo, 2017) in place of terciles to construct our measures of market power. In Models (1)-(4), we re-estimate eq.1 based on these alternative measures of market power. We find that our results are qualitatively similar and our conclusions do not change. Specifically, we find a positive relationship between our different measures of market power and 5-Day CAR, suggesting that powerful bidders generally achieve better M&A performance.

Next, our measure of market power uses a combination of market share and industry concentration. In effect, we define powerful firms as dominant firms within concentrated industries. As a robustness check, we relax this definition so that we only capture dominant firms irrespective of their industry dynamics. Specifically, we use market share and ignore industry concentration when identifying powerful firms. We present the results of this analysis in Models (5) and (6) of Table 6. Here, we find that our results still hold, albeit with a slight reduction in their level of significance. Specifically, firms in the upper tercile of the market share distribution achieve better performance (about 0.5 percentage points higher CARs) when compared to firms below the upper tercile. The results are significant at the 5% level. These results generally support our contention that market power leads to better M&A performance.

Insert Table 6 Here

Our measures of M&A performance (i.e., 5-Day CAR) and merge premium (i.e., Premium-1 week and Premium-4 weeks) could may be biased in assessing bidder M&A performance and merger premiums. Specifically, 5-Day CARs may be too short to rule our the possibility that the long-term CARs of powerful bidders are negative or lower than those of non-powerful bidders. Additionally, 1-week and 4-week merger premiums may capture information leakage or merger anticipation effects and thus may be biased downwards. To address these issues, (1) we estimate CARs for longer-term event windows including 11-Days [-5,+5], 23-Days [-2, +20] and 56-Days [-5, +50] and (2) we estimate merger premiums relative to target stock price 8 and 12 weeks before the M&A announcement

date. We use these alternative estimates of CAR and merger premiums in place of our main measures. Our results are presented in Table 7.

For brevity, we present results with market power (by sales) as our main independent variable. As shown in Models (1)-(5) of Table 7, our results with alternative measures are qualitatively similar and our conclusion remains unchanged. Specifically, we find a positive relationship between market power and all measures of long run CARs. We also find a negative relationship between market power and alternative measures of merger premium.[12]

Insert Table 7 Here

M&As appear in waves and cluster by industries (Tunyi, 2021). Over 10% of the bidders in our sample are from the trading industry. So, whether our findings hold outside this industry is worth further investigation. For robustness, we exclude all deals from the trading industry before estimating our regression results. The results from excluding this dominant industry are presented in Model (1) of Table 8. Here, we find that our results are not driven by this specific industry as our results continue to hold. Overall, our results are consistent with prior findings that the bidder's pre-deal market power generates higher returns.

Our data description (Table 1) revealed that several of the deals in our sample (i.e., close to 60%) were initiated by US and Japanese firms. In untabulated results, we also find that investment and commodity firms initiated over 11% of the deals. To ensure that these factors do not drive our results, firstly, in Model (1) of Table 8, we exclude all firms in the trading industry from our sample and re-estimate our main results. Finally, in Models (2) and the (3) of Table 8, we exclude all deals initiated by Japanese (2) and USA (3) acquirers before estimating our main results. Our results are generally robust to these exclusions, thus suggesting that these dominant sub-samples do not drive our findings.

Insert Table 8 Here

The results so far show a positive association between the pre-deal market power and

[12]Our results are robust when we use our alternative measure of market power (by assets).

bidder returns. However, the results may suffer from endogeneity, notably selection bias, as only certain firms with specific characteristics engage in M&As. We use the propensity score matching procedure (PSM) to address the potential endogeneity issue. Here, using a one-to-one matching algorithm without replacement (nearest neighbour matching with a 0.01 caliper distance), we identify a sub-sample of non-powerful bidders (control group) that share very similar characteristics (payment method, cross-border, private target, Tobin's q, leverage, book to market ratio and firm size) with our sample of powerful bidders (treatment group). We present descriptive statistics comparing the characteristics of the treatment group to those of the control group in Appendix C. We then estimate our main regression (eq.1) on the matched sample of firms. The results, presented in Table 9, show that after controlling for possible selection bias, there is still a positive relationship between the pre-deal market power and bidder returns as hypothesized.

Insert Table 9 Here

4.6 Additional analyses

We extend our results and generate further insights on our key established relationship by assessing whether the effect of market power on returns differs across sub-samples of deal characteristics. If the effect we have documented is indeed a consequence of bidder power, we would expect to see that the effect is stronger within specific sub-samples, including Cross-border deals (as opposed to domestic deals) cash-financed deals (as opposed to stock-financed deals), deals for public targets (as opposed to deals for private targets), mega deals (as opposed to deals with lower value) and focus deals (as opposed to diversifying deals).

While cross-border M&A activity has increased over the last three decades, these deals are generally riskier and require significantly more resources (Dikova et al., 2010). Meanwhile, the expansion through cross-border M&As allows firms to obtain additional rents due to market inefficiencies and differences in tax systems across countries (Collins and Preston, 1969; Mann, 1966; Rhoades, 1970). Powerful firms may want to leverage on their power to expand their position outside of their home countries. Their strong

networks, access to high-quality financial advisors, as well as other resources, may allow them to reduce takeover risk by identifying more suitable targets, bridging the knowledge gap involved in expanding to other markets and negotiating better M&A terms. Therefore, we may observe that powerful firms generate better value from cross-border deals relative to their less powerful counterparts.

In Table 10, we subdivide our sample into domestic and cross-border deals and re-estimate our main results. Models (1) and (2) of Table 10 show that the effect of the bidder's pre-deal market power on announcement returns is positive and statistically significant in cross-border deals but not in domestic deals. As far as economic magnitude is concerned, it is comparatively higher in cross-border deals than domestic deals, suggesting that the potential for value creation in cross-border deals is higher than in domestic deals.

Insert Table 10 Here

Several studies report higher bidder returns in cash-financed deals relative to equity-financed deals (Andrade et al., 2001; Graham et al., 2002; Shleifer and Vishny, 2002). Fishman (1989) argues that bidders pay with cash to signal higher target stock valuation and discourage potential competing bidders. Additionally, as in Table 5, we have established that the powerful bidders are likely to be financially non-constrained firms. The results in Table 10 document that powerful bidders generate value when cash is used for payment than stock, highlighting the importance of low financial constraints.

Prior studies have also documented higher returns to acquirers in acquisitions of private targets as opposed to public targets (Fuller et al., 2002; Shams et al., 2013). The literature suggests that acquisitions of public targets may be value-destroying due to the longer time required to complete the deal (Shams and Gunasekarage, 2019), managerial hubris (Datta et al., 1992; Roll, 1986), higher costs associated with acquiring public targets(Shams et al., 2013). Counter to this view, prior research suggests that public acquisitions undergo better scrutiny from institutional investors and investment analysts (Starks and Wei, 2013), and are subject to lower levels of information asymmetry and hence, more accurate valuation (Shams and Gunasekarage, 2019). Given that powerful

bidders have better access to resources (lower financial constraints), higher quality information and stronger networks, they are likely to generate comparatively better returns when acquiring public firms. Our results in Models (5) and (6) of Table 10 suggest that this is the case. Specifically, we find that market power allows bidders to extract higher returns in public deals.

The existing literature on M&As reports that mega deals (over $500 million) cost investors more than small deals (Alexandridis et al., 2013; Jensen, 1986). Many reasons have been given for costly mega deals including; overpayment (Loderer and Martin, 1990), private benefits (Jensen, 1986) and integration complexity (Alexandridis et al., 2013). On the contrary, more recent studies argue that mega deals are no longer destructive as these deals undergo extensive publicity and investor scrutiny (Alexandridis et al., 2017; Hu et al., 2020). Given their size, targets in mega deals are likely to be established firms with strong connections and the ability to negotiate favourable terms. We may therefore see that the role of bidder's market power is diminished in mega deals relative to other deals. Our results, presented in Models (7) and (8) of Table 10 are mixed. We find that, relative to their less powerful counterparts, powerful bidders generate higher returns in both mega (Model 7) and other deals (Model 8). The relationship appears to be more pronounced in mega deals.

The construction of our measure of power focused on firms' bargaining position within their industry. We have argued that powerful firms can better negotiate deals due to their industry dominance (significant market share), thus explaining the higher announcement returns when they engage in acquisitions. If our arguments are valid, we should observe that this bargaining position is stronger when these firms acquire other firms within their industry (i.e., focused deals)—firms over which they already exercise this dominance. In Models (9) and (10) of Table 10, we explore whether, consistent with our arguments, powerful firms extract more value in focused deals. Our results suggest that the relationship between market power and announcement returns is positive and significant in focus deals (Model 9) but negative (statistically insignificant) in diversifying deals (Model 10). These results are consistent with our view that pre-deal market power

allows firms to extract better returns from M&A deals.

5 Conclusions

We examine the impact of the bidder's pre-deal market power on cumulative abnormal returns post-acquisition using a sample of 9,327 mergers and acquisitions from 2004 to 2016. Our market power measurement is based on the bidder's market share and industry concentration one year before an M&A deal. The bidder has market power when it lies in the upper tercile of market share and market structure distributions. We find that the bidders classified as possessing pre-bid market power in our sample, pay comparatively lower merger premiums and earn higher announcement returns from M&A deals. This finding supports the bargaining power hypothesis and suggests that powerful bidders use their bargaining power to better negotiate M&A deal terms. Our further investigation identify low financial constraints as a potential channel through which bidder market power translates to improved M&A performance. The relationship between pre-deal market power and bidder CARs is more pronounced in cross-border deals, cash-financed deals, same-industry deals and deals involving public listed targets. Taken together, we provide new evidence on how industry dynamics, specifically bargaining power, influence M&A outcomes. The results are robust to the use of alternative proxies of market power, merger premiums and M&A performance. The results are also robust to selection bias.

Our findings substantiate the bargaining power hypothesis by exploring how pre-bid market power influences M&A outcomes by enhancing the bidder's bargaining ability. We are able to provide evidence that powerful bidders pay lower premiums and extract higher value for their shareholders. This extends prior work showing how firms enhance their competitive position and market power within their industry by engaging in M&As. From a policy perspective, our work highlights the importance of firms' competitive positioning and bargaining power within their industry in enhancing their ability to deploy shareholder resources in an efficient manner. From a research perspective, our work provides new insights on the observation that several firms engage in M&As despite recurrent findings that, on average, M&As do not create value for bidder shareholders.

Specifically, our evidence suggests that powerful bidders generate announcement returns that are positive and significantly more than (i.e., double) the returns earned by their non-powerful counterparts.

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Table 1 Sample distribution by announcement year and bidder country

This table shows the number of M&A deals per year and country in Panel A and Panel B. In both panels, we present the number of deals, percentage of deals, and percentage of deals by bidders having a pre-deal market power for our sample of M&As from 30 countries. We obtain data on M&As from Securities Data Corporation (SDC) from 2004 to 2016. We exclude financial bidders and utilities (SIC codes 6000-6999 and 4900-4949) and bidders with missing data on sales or total assets, as well as bidders with negative sales. Our final sample comprises 9,327 deals.

Panel A: Distribution by announcement year

Year	No. of deals	Percentage of deals	% of deals by powerful bidders
2004	464	4.96	28.73
2005	765	8.18	21.10
2006	848	9.06	25.12
2007	1,062	11.35	24.84
2008	826	8.83	23.27
2009	616	6.58	27.90
2010	751	8.03	24.03
2011	725	7.75	24.31
2012	720	7.70	20.03
2013	616	6.58	18.73
2014	669	7.15	21.71
2015	699	7.47	20.46
2016	596	6.37	18.58
Total	9,327	100	

Panel B: Distribution by bidder country

Country	No. of deals	Percentage of deals	% of deals by powerful bidders
Australia	747	8.01	31.06
Austria	27	0.29	55.56
Belgium	70	0.75	0.00
Brazil	42	0.45	21.43
Canada	445	4.77	20.67
Chile	20	0.21	50.00
China	277	2.97	7.58
Denmark	31	0.33	80.65
Finland	117	1.25	68.38
France	290	3.11	44.83
Germany	219	2.35	44.75
Greece	16	0.17	25.00
India	138	1.48	15.94
Indonesia	12	0.13	58.33
Israel	82	0.88	56.10
Italy	84	0.90	63.10
Japan	2,401	25.74	16.04
Malaysia	218	2.34	15.14
Mexico	33	0.35	75.76
Norway	74	0.79	70.27
Poland	52	0.56	69.23
Portugal	11	0.12	45.46
Singapore	155	1.66	31.61
Spain	93	1.00	64.52
Sri Lanka	18	0.19	77.78
Sweden	156	1.67	53.85
Switzerland	133	1.43	54.89
Thailand	26	0.28	50.00
United Kingdom	181	1.94	43.65
United States	3,159	33.87	12.41
Total	9,327	100	

Table 2 Descriptive Statistics and difference of means tests

This table reports descriptive statistics for our key variables across the full sample and across sub-samples of powerful and non-powerful bidders. Powerful bidders are those belonging to the upper tercile of both the market share (by sales) and the market concentration (by sales) distributions. All variables are fully defined in Appendix A.

	Full sample					**Powerful bidders**	**Non-powerful bidders**	**T Test**	
	Mean	Median	S.D.	p5	p95	Mean	Mean	Difference (6)-(7)	p value
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
5-Day CAR	0.008	0.004	0.065	-0.077	0.100	0.013	0.006	0.007	0.000
Premium (1 week)	0.332	0.364	2.382	-0.032	0.559	0.129	0.393	-0.264	0.000
Premium (4 weeks)	0.327	0.358	2.240	-0.038	0.591	0.124	0.388	-0.263	0.000
Market power (by sales)	0.230	0.000	0.421	0.000	1.000	1.000	0.000	1.000	—
Market power (by assets)	0.227	0.000	0.419	0.000	1.000	0.920	0.020	0.900	0.000
Market share (by sales)	0.350	0.192	0.365	0.001	1.000	0.935	0.175	0.760	0.000
Market share (by assets)	0.354	0.204	0.366	0.001	1.000	0.921	0.185	0.737	0.000
Industry concentration (by sales)	0.438	0.347	0.307	0.050	1.000	0.890	0.303	0.587	0.000
Industry concentration (by assets)	0.448	0.364	0.308	0.059	1.000	0.880	0.319	0.560	0.000
Same industry	0.451	0.000	0.498	0.000	1.000	0.439	0.455	-0.016	0.190
Payment method	0.466	0.000	0.499	0.000	1.000	0.433	0.476	-0.043	0.001
Cross-border	0.292	0.000	0.455	0.000	1.000	0.450	0.245	0.205	0.000
Private target	0.628	1.000	0.483	0.000	1.000	0.620	0.631	-0.011	0.356
Relative size	0.084	0.021	0.190	0.000	0.381	0.071	0.087	-0.016	0.001
Run-up	-0.006	-0.005	0.259	-0.351	0.319	-0.002	-0.007	0.006	0.355
Tobin's q	0.523	0.525	0.243	0.149	0.871	0.566	0.510	0.056	0.000
Book to market	0.003	0.002	0.016	0.001	0.008	0.112	0.055	0.057	0.000
Firm size	14.121	14.302	2.662	10.021	18.151	0.004	0.003	0.002	0.001
Leverage	0.068	0.091	0.291	-0.451	0.495	14.789	13.921	0.868	0.000
GDP growth	2.252	2.250	2.573	-2.537	6.905	2.183	2.272	-0.089	0.159
GDP per capita	10.486	10.656	0.704	8.888	10.947	10.485	10.486	-0.002	0.930
Observations	9,327					2,144	7,183		

Table 3 Market power and bidder returns

This table reports the results from regressions of market power effect for our sample of M&As from 30 countries. The dependent variable is the bidder's 5-day cumulative abnormal return around the announcement date. We show results using two measures of market power; (i) Market power (by sales) (ii) Market power (by assets). All variables are fully defined in Appendix A. T-statistics are shown in parenthesis and standard errors are corrected for heteroscedasticity (White, 1980). ***, **, * indicate significance at the one, five and ten percent levels, respectively

Variables	5-Day CAR					
	(1)	(2)	(3)	(4)	(5)	(6)
Market power (by sales)	0.007***		0.008***		0.005***	
	(5.132)		(5.690)		(2.933)	
Market power (by assets)		0.007***		0.008***		0.005***
		(4.848)		(5.540)		(2.815)
Same industry			0.003**	0.003**	0.004***	0.004***
			(2.302)	(2.316)	(2.864)	(2.856)
Payment method			0.000	0.000	0.000	0.000
			(0.104)	(0.101)	(0.021)	(0.035)
Cross-border			-0.000	-0.000	-0.002	-0.002
			(-0.340)	(-0.271)	(-1.499)	(-1.474)
Private target			0.008***	0.008***	0.008***	0.008***
			(5.390)	(5.438)	(5.061)	(5.087)
Relative size			0.014*	0.014*	0.014**	0.014*
			(1.937)	(1.922)	(1.965)	(1.957)
Run-up			-0.002	-0.002	-0.001	-0.001
			(-0.348)	(-0.354)	(-0.256)	(-0.262)
Tobin's q			-0.001	-0.001	-0.002	-0.002
			(-0.247)	(-0.202)	(-0.481)	(-0.454)
Leverage			-0.003	-0.003	-0.002	-0.002
			(-0.909)	(-0.932)	(-0.562)	(-0.577)
Book to market			-0.021	-0.020	-0.023	-0.023
			(-0.861)	(-0.836)	(-0.823)	(-0.817)
Firm size			-0.000	-0.000	0.001	0.001
			(-0.245)	(-0.255)	(1.231)	(1.231)
GDP growth			0.000	0.000	-0.001	-0.001
			(0.257)	(0.220)	(-0.786)	(-0.788)
GDP per capita			-0.000	-0.000	0.004	0.004
			(-0.364)	(-0.393)	(0.555)	(0.540)
Constant	0.006***	0.006***	0.005	0.006	-0.029	-0.028
	(7.400)	(7.543)	(0.366)	(0.394)	(-0.393)	(-0.375)
Observations	9,327	9,327	9,327	9,327	9,327	9,327
R-squared	0.002	0.002	0.008	0.008	0.026	0.026
Industry FE	No	No	No	No	Yes	Yes
Country FE	No	No	No	No	Yes	Yes
Year FE	No	No	No	No	Yes	Yes
F	26.34	23.50	6.891	6.808	2.812	2.786

Table 4 Market power and takeover premium

This table reports the results from regressions of market power effect on takeover premium for our sample of M&As from 30 countries. The dependent variable is takeover premium. We show results using two measures of market power; (i) Market power (by sales) (ii) Market power (by assets). All variables are fully defined in Appendix A. T-statistics are shown in parenthesis and standard errors are corrected for heteroscedasticity (White, 1980). ***, **, * indicate significance at the one, five and ten percent levels, respectively

	Premium (1 week)		Premium (4 weeks)	
Variables	(1)	(2)	(3)	(4)
Market power(by sales)	-0.232***		-0.238***	
	(-3.459)		(-4.257)	
Market power (by assets)		-0.193***		-0.201***
		(-2.875)		(-3.629)
Same industry	0.032	0.033	0.015	0.016
	(0.975)	(1.013)	(0.576)	(0.625)
Payment method	0.076	0.075	0.087	0.086
	(0.922)	(0.909)	(1.099)	(1.085)
Cross-border	0.007	0.004	0.009	0.005
	(0.120)	(0.065)	(0.168)	(0.107)
Private target	-0.068	-0.070	-0.081	-0.083
	(-1.024)	(-1.069)	(-1.391)	(-1.442)
Relative size	-0.081	-0.078	-0.059	-0.055
	(-0.455)	(-0.437)	(-0.332)	(-0.313)
Run-up	0.030	0.031	0.022	0.023
	(0.629)	(0.648)	(0.491)	(0.514)
Tobin's q	-0.206	-0.214	-0.191	-0.200
	(-1.483)	(-1.547)	(-1.423)	(-1.487)
Leverage	0.073	0.076	0.058	0.061
	(1.143)	(1.195)	(0.974)	(1.027)
Book to market	-0.439	-0.478	-0.399	-0.436
	(-1.322)	(-1.430)	(-1.326)	(-1.440)
Firm size	-0.009	-0.010	-0.009	-0.010
	(-0.738)	(-0.808)	(-0.807)	(-0.881)
GDP growth	-0.026	-0.026	-0.026	-0.026
	(-0.576)	(-0.576)	(-0.585)	(-0.584)
GDP per capita	0.087	0.092	0.113	0.119
	(0.791)	(0.834)	(1.076)	(1.119)
Constant	-0.135	-0.202	-0.424	-0.492
	(-0.152)	(-0.226)	(-0.503)	(-0.579)
Observations	9,327	9,327	9,327	9,327
R-squared	0.014	0.014	0.015	0.015
Industry FE	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
F-stat	22.01	17.79	21.88	17.76

Table 5 Market power, financial constraints and bidder returns

This table reports results from regressions of market power and financial constraints effect on bidder returns through structural equation modelling. The bidder's financial constraint proxied by KZ index is dependent variable in the first stage and bidder's 5-day cumulative abnormal return around the announcement date is the dependent variable in the second stage. In Models (1) and (2), we show results using two measures of market power i) Market share and HHI using sales, ii) Market share and HHI using assets. Our variable of interest in the first stage is the bidder's Market power that is equal to one when the bidder lies in the upper tercile of market share and HHI distributions and zero otherwise. In the second stage, the key variable of interest is KZ index. All variables are fully defined in Appendix A. T-statistics are shown in parenthesis and standard errors are corrected for heteroscedasticity (White, 1980). ***, **, * indicate significance at the one, five and ten percent levels, respectively

	KZ index		5-day CAR	
Variables	(1)	(2)	(3)	(4)
Market power (by sales)	-26.872***		-0.023	
	(-9.998)		(-0.129)	
Market power (by assets)		-27.369***		-0.004
		(-10.140)		(-0.022)
KZ index			-0.003***	-0.003***
			(-3.834)	(-3.823)
Same industry	-1.374	-1.483	-0.128	-0.128
	(-0.616)	(-0.664)	(-0.879)	(-0.877)
Payment method	-0.879	-0.719	-0.451	-0.451
	(-0.207)	(-0.169)	(-1.625)	(-1.626)
Cross-border	16.334***	16.304***	0.019	0.020
	(7.340)	(7.327)	(0.132)	(0.134)
Private target	-21.205***	-21.238***	-0.148	-0.151
	(-8.457)	(-8.477)	(-0.898)	(-0.916)
Relative size	3.371	3.143	0.783***	0.783***
	(1.378)	(1.285)	(4.901)	(4.900)
Run-up	-1.229	-0.908	1.363***	1.363***
	(-0.204)	(-0.150)	(3.456)	(3.457)
Tobin's q	28.195***	27.596***	-0.226	-0.228
	(4.706)	(4.608)	(-0.575)	(-0.581)
Leverage	-75.080***	-74.724***	-0.546*	-0.546*
	(-14.970)	(-14.899)	(-1.647)	(-1.647)
Book to market	407.802***	407.530***	-0.736	-0.757
	(5.746)	(5.743)	(-0.158)	(-0.163)
Firm size	3.457***	3.502***	0.002	0.001
	(7.158)	(7.247)	(0.046)	(0.037)
GDP growth	-3.735***	-3.697***	-0.016	-0.016
	(-7.478)	(-7.404)	(-0.493)	(-0.491)
GDP per capita	13.278***	13.391***	-0.032	-0.038
	(7.289)	(7.353)	(-0.320)	(-0.319)
Constant	-111.991***	-113.382***	0.846	0.846
	(-5.435)	(-5.504)	-0.628	-0.628
Observations	9,327	9,327	9,327	9,327

Table 6 Robustness checks: alternative definitions of market power

This table presents results using quartile and quintile distributions of market power measures. The dependent variable is 5-day CAR.We use the same set of controls as in Table 3. The variable of interest is market power, a binary variable with the value of one when the bidder lies in the upper tercile of market share and HHI distributions and zero otherwise. All variables are fully defined in Appendix A. T-statistics are shown in parenthesis and standard errors are corrected for heteroscedasticity (White, 1980). ***, **, * indicate significance at the one, five and ten percent levels, respectively

	5-Day CAR					
Variables	(1)	(2)	(3)	(4)	(5)	(6)
Market power (by sales) - quartiles	0.006***					
	(3.206)					
Market power (by assets) - quartiles		0.003				
		(1.484)				
Market power (by sales) - quintiles			0.005**			
			(2.543)			
Market power (by assets) - quintiles				0.002		
				(0.949)		
Market share (by sales)					0.005**	
					(2.490)	
Market share (by assets)						0.005**
						(2.376)
Same industry	0.004***	0.004***	0.004***	0.004***	0.004***	0.004***
	(2.837)	(2.806)	(2.826)	(2.777)	(2.684)	(2.694)
Payment method	-0.000	0.000	-0.000	0.000	0.001	0.001
	(-0.018)	(0.024)	(-0.010)	(0.035)	(0.370)	(0.389)
Cross-border	-0.002	-0.002	-0.002	-0.002	-0.001	-0.001
	(-1.530)	(-1.418)	(-1.477)	(-1.401)	(-0.651)	(-0.640)
Private target	0.008***	0.008***	0.008***	0.008***	0.009***	0.009***
	(5.094)	(5.141)	(5.112)	(5.142)	(5.538)	(5.566)
Relative size	0.014**	0.014*	0.014**	0.014*	0.014*	0.014*
	(1.974)	(1.956)	(1.970)	(1.955)	(1.926)	(1.919)
Run-up	-0.001	-0.001	-0.001	-0.001	-0.002	-0.002
	(-0.250)	(-0.250)	(-0.244)	(-0.249)	(-0.336)	(-0.339)
Tobin's q	-0.003	-0.002	-0.002	-0.002	-0.002	-0.002
	(-0.489)	(-0.426)	(-0.448)	(-0.411)	(-0.454)	(-0.409)
Leverage	-0.002	-0.002	-0.002	-0.002	-0.003	-0.003
	(-0.562)	(-0.586)	(-0.590)	(-0.592)	(-0.838)	(-0.867)
Book to market	-0.024	-0.021	-0.023	-0.020	-0.020	-0.020
	(-0.849)	(-0.744)	(-0.823)	(-0.718)	(-0.839)	(-0.831)
Firm size	0.001	0.001	0.001	0.001	0.000	0.000
	(1.343)	(1.438)	(1.436)	(1.501)	(0.767)	(0.767)
GDP growth	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001
	(-0.779)	(-0.788)	(-0.779)	(-0.781)	(-0.806)	(-0.797)
GDP per capita	0.004	0.004	0.004	0.004	0.003	0.003
	(0.527)	(0.524)	(0.511)	(0.526)	(0.378)	(0.370)
Constant	-0.027	-0.026	-0.026	-0.027	-0.023	-0.022
	(-0.367)	(-0.358)	(-0.351)	(-0.360)	(-0.312)	(-0.304)
Observations	9,327	9,327	9,327	9,327	9,327	9,327
R-squared	0.026	0.025	0.026	0.025	0.017	0.017
Industry FE	Yes	Yes	Yes	Yes	No	No
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes

Table 7 Robustness checks: alternative definitions of CAR and premium

This table presents results using alternative measures of CAR (11-Day, 23-Day and 56-Day CARs) and premium (8 and 12 weeks). We use the same set of controls as in Table 3. The variable of interest is market power, a binary variable with the value of one when the bidder lies in the upper tercile of market share and HHI distributions and zero otherwise. All variables are fully defined in Appendix A. T-statistics are shown in parenthesis and standard errors are corrected for heteroscedasticity (White, 1980). ***, **, * indicate significance at the one, five and ten percent levels, respectively

	CAR			Premium	
	11-Day	23-Day	56-Day	8 weeks	12 weeks
Variables	(1)	(2)	(3)	(4)	(5)
Market Power (Sales)	0.008***	0.014***	0.042***	-0.371*	-0.400*
	(3.429)	(3.553)	(6.354)	(-1.773)	(-1.862)
Same industry	0.010***	0.003	0.000	0.061	0.027
	(4.890)	(0.999)	(0.060)	(0.662)	(0.306)
Payment method	-0.002	-0.000	0.000	0.797	0.797
	(-1.260)	(-0.081)	(0.061)	(1.119)	(1.113)
Cross-border	-0.000	-0.003	-0.006	-0.117	-0.127
	(-0.016)	(-1.092)	(-1.200)	(-0.439)	(-0.444)
Private target	0.008***	0.008***	0.013**	0.084	0.132
	(3.471)	(2.679)	(2.495)	(0.721)	(1.094)
Relative size	0.012	0.009	0.021	-0.943	-0.965
	(1.294)	(0.580)	(0.892)	(-0.985)	(-0.971)
Run-up	-0.002	-0.025	0.009	-0.184	-0.162
	(-0.227)	(-1.460)	(0.265)	(-0.422)	(-0.361)
Tobin's q	-0.005	-0.018	-0.028	-0.568	-0.581
	(-0.606)	(-1.344)	(-1.308)	(-0.796)	(-0.782)
Leverage	0.002	0.014*	0.017	0.345	0.425
	(0.300)	(1.747)	(1.273)	(0.623)	(0.698)
Book to market	-0.051	-0.088	-0.134	-1.192	-1.521
	(-1.227)	(-1.240)	(-1.056)	(-0.607)	(-0.734)
Firm size	0.000	0.001	0.006***	-0.028	-0.031
	(0.564)	(1.308)	(3.123)	(-0.559)	(-0.553)
GDP Growth	-0.000	-0.000	0.003	-0.754	-0.767
	(-0.327)	(-0.023)	(0.955)	(-1.041)	(-1.057)
GDP per capita	0.012	0.012	-0.017	0.147	-0.004
	(1.198)	(0.775)	(-0.664)	(0.217)	(-0.006)
Constant	-0.102	-0.106	0.115	4.375	6.117
	(-0.989)	(-0.646)	(0.441)	(0.526)	(0.679)
Observations	9,327	9,327	9,327	1,122	1,133
R-squared	0.023	0.028	0.034	0.086	0.085
Industry FE	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes

Table 8 Robustness checks: Excluding dominant industries and countries

This table presents model coefficient estimates obtained after excluding the dominant industry (trading) and the dominant countries (Japan and USA) from our sample. We use the same set of controls as in Table 3. The variable of interest is market power, a binary variable with the value of one when the bidder lies in the upper tercile of market share and HHI distributions and zero otherwise. All variables are defined in the Appendix A. T-statistics are shown in parenthesis, and standard errors are corrected for heteroscedasticity (White, 1980).

	5-Day CAR		
Variables	Excluding trading firms (1)	Excluding Japan (2)	Excluding U.S.A (3)
Market power (by sales)	0.004**	0.005**	0.004*
	(2.353)	(2.296)	(1.941)
Same industry	0.004***	0.005***	0.005***
	(2.663)	(2.918)	(2.683)
Payment method	0.001	0.001	-0.001
	(0.408)	(0.890)	(-0.696)
Cross-border	-0.003	-0.001	-0.001
	(-1.623)	(-0.725)	(-0.406)
Private target	0.009***	0.009***	0.008***
	(5.044)	(4.443)	(4.163)
Relative size	0.014*	0.013*	0.023**
	(1.859)	(1.792)	(2.414)
Run-up	-0.003	0.001	-0.002
	(-0.488)	(0.113)	(-0.242)
Tobin's q	-0.007	-0.004	-0.005
	(-1.193)	(-0.603)	(-0.775)
Leverage	0.002	0.000	-0.004
	(0.499)	(0.021)	(-0.651)
Book to market	-0.031	-0.019	0.338
	(-1.178)	(-0.660)	(1.448)
Firm size	0.001	0.001	0.001*
	(1.345)	(1.296)	(1.845)
GDP growth	-0.001	-0.001	-0.000
	(-0.891)	(-0.883)	(-0.353)
GDP per capita	-0.000	0.009	0.004
	(-0.040)	(1.116)	(0.544)
Constant	0.018	-0.083	-0.042
	(0.225)	(-0.972)	(-0.514)
Observations	8,235	6,926	6,168
R-squared	0.028	0.031	0.037
Industry FE	Yes	Yes	Yes
Country FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes

Table 9 Robustness check; Propensity Score Matching

This table presents results estimated from a propensity score-matched sample. We use the same set of controls as in Table 3. The variable of interest is market power, a binary variable with the value of one when the bidder lies in the upper tercile of market share and HHI distributions and zero otherwise. All variables are fully defined in Appendix A. T-statistics are shown in parenthesis and standard errors are corrected for heteroscedasticity (White, 1980). ***, **, * indicate significance at the one, five and ten percent levels, respectively

	5-Day CAR	5-Day CAR
Variables	(1)	(2)
Market power (by sales)	0.004**	
	(2.139)	
Market power (by assets)		0.007***
		(4.150)
Same industry	0.010***	0.006***
	(5.415)	(3.644)
Payment method	-0.001	0.001
	(-0.536)	(0.631)
Cross-border	0.000	0.000
	(0.170)	(0.173)
Private target	0.004**	0.002
	(2.265)	(1.070)
Relative size	0.026***	0.008
	(5.137)	(1.571)
Run-up	0.010**	0.003
	(2.494)	(0.648)
Tobin's q	-0.013***	0.007
	(-2.741)	(1.555)
Leverage	-0.001	-0.008*
	(-0.144)	(-1.747)
Book to market	-0.037	-0.025
	(-0.905)	(-0.658)
Firm size	-0.000	-0.001***
	(-0.393)	(-2.638)
GDP growth	-0.001	0.000
	(-1.209)	(0.874)
GDP per capita	0.008	-0.000
	(1.111)	(-0.343)
Constant	-0.056	0.017
	(-0.774)	(1.098)
Observations	4,288	4,236
R-squared	0.056	0.013
Industry FE	No	No
Country FE	Yes	Yes
Year FE	Yes	Yes

Table 10 Additional analysis; Powerful bidders and deal features

This table presents model coefficient estimates obtained from different sub-samples. We use the same set of controls as in Table 3. The variable of interest is market power, a binary variable with the value of one when the bidder lies in the upper tercile of market share and HHI distributions and zero otherwise. All variables are fully defined in Appendix A. T-statistics are shown in parenthesis and standard errors are corrected for heteroscedasticity (White, 1980). ***, **, * indicate significance at the one, five and ten percent levels, respectively

	Target nation		Method of payment		Target status		Deal size		Industry	
	Cross-border	Domestic	Cash	Other	Public	Private	Mega deals	Other deals	Focus	Diversify
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Market power (by sales)	0.009***	0.002	0.006***	0.004	0.006**	0.002	0.010*	0.004**	0.015***	-0.003
	(3.434)	(1.033)	(2.725)	(1.474)	(2.148)	(1.133)	(1.931)	(2.442)	(6.571)	(-1.374)
Same industry	0.005**	0.004**	0.005**	0.004*	0.006***	0.004*	0.006	0.004**		
	(2.163)	(2.158)	(2.346)	(1.848)	(2.657)	(1.763)	(1.455)	(2.332)		
Payment method	-0.002	0.000			0.005***	-0.003	0.011***	-0.001	0.000	-0.001
	(-0.782)	(0.068)			(2.748)	(-1.584)	(2.850)	(-0.859)	(0.128)	(-0.363)
Private target	-0.005*	0.014***	0.002	0.013***			0.005	0.008***	0.008***	0.008***
	(-1.776)	(6.884)	(1.083)	(5.689)			(1.246)	(4.486)	(3.507)	(3.590)
Relative size	0.002	0.018**	0.020**	0.011	-0.011	0.040***	-0.023**	0.034***	-0.005	0.033***
	(0.163)	(2.062)	(2.142)	(1.135)	(-1.451)	(3.486)	(-2.155)	(3.562)	(-0.564)	(3.148)
Run-up	0.009	-0.004	-0.010	0.003	-0.009	-0.001	0.026	-0.002	-0.002	-0.002
	(0.754)	(-0.724)	(-1.332)	(0.359)	(-1.202)	(-0.190)	(1.066)	(-0.408)	(-0.266)	(-0.263)
Tobin's q	-0.001	-0.003	-0.004	0.000	-0.001	-0.006	0.028**	-0.005	-0.014*	0.003
	(-0.149)	(-0.441)	(-0.698)	(0.050)	(-0.090)	(-0.869)	(1.965)	(-0.850)	(-1.708)	(0.395)
Leverage	-0.015*	0.001	0.004	-0.007	0.006	-0.006	-0.017	-0.001	0.004	-0.007
	(-1.888)	(0.245)	(0.728)	(-1.263)	(0.827)	(-1.208)	(-1.489)	(-0.338)	(0.667)	(-1.317)
Book to market	0.004	-0.029	-0.068***	0.077	-0.006	-0.025	0.182	-0.015	0.114	-0.038
	(0.111)	(-0.828)	(-2.612)	(0.900)	(-0.146)	(-0.725)	(1.170)	(-0.528)	(0.745)	(-1.557)
Firm size	-0.000	0.001	0.000	0.001	0.000	0.001**	-0.004**	0.001***	0.000	0.001
	(-0.132)	(1.364)	(0.392)	(1.034)	(0.145)	(2.386)	(-2.034)	(2.647)	(0.398)	(1.404)
GDP growth	-0.002	-0.000	-0.000	-0.001	-0.002*	0.001	-0.003	-0.000	-0.001	0.000
	(-1.602)	(-0.297)	(-0.037)	(-1.372)	(-1.915)	(0.524)	(-1.459)	(-0.375)	(-1.144)	(0.252)
GDP per capita	0.005	0.004	-0.018**	0.019*	0.002	0.006	0.004	0.004	-0.013	0.015
	(0.437)	(0.484)	(-2.078)	(1.840)	(0.204)	(0.660)	(0.174)	(0.489)	(-1.282)	(1.608)
Cross-border			-0.004**	-0.001	0.008***	-0.009***	0.004	-0.003*	-0.001	-0.004*
			(-2.026)	(-0.346)	(3.481)	(-4.455)	(1.043)	(-1.825)	(-0.570)	(-1.671)
Constant	-0.007	-0.038	0.188**	-0.178	-0.024	-0.051	0.019	-0.035	0.158	-0.155
	(-0.057)	(-0.424)	(2.091)	(-1.583)	(-0.243)	(-0.507)	(0.072)	(-0.458)	(1.525)	(-1.546)
Observations	2,725	6,602	4,344	4,983	3,471	5,856	955	8,360	4,209	5,118
R-squared	0.063	0.038	0.044	0.041	0.056	0.048	0.219	0.031	0.043	0.048
Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Appendix A Variable descriptions

Variable	Description
Panel A: Dependent variables	
5-Day CAR	5-day bidder cumulative abnormal returns for the event window commencing 2 days before the announcement day and ending 2 days after the deal completion [-2,+2]. The model is estimated using the market model with an estimation window of 230 days [-255, -25]. Source: DataStream.
11-Day CAR	11-day bidder cumulative abnormal returns for the event window commencing 5 days before the announcement day and ending 5 days after the deal completion [-5,+5]. The model is estimated using the market model with an estimation window of 230 days [-255, -25]. Source: DataStream.
23-Day CAR	23-day bidder cumulative abnormal returns for the event window commencing 2 days before the announcement day and ending 20 days after the deal completion [-2,+20].The model is estimated using the market model with an estimation window of 230 days [-255, -25]. Source: DataStream.
56-Day CAR	56-day bidder cumulative abnormal returns for the event window commencing 5 days before the announcement day and ending 50 days after the deal completion [-5,+50]. The model is estimated using the market model with an estimation window of 230 days [-255, -25]. Source: DataStream.
Premium (1 week)	M&A premium (implicit in offer price) relative to target stock price 1 week before bid announcement date. Source: SDC.
Premium (4 weeks)	M&A premium relative to target stock price 4 weeks before bid announcement date. Source: SDC.
Premium (8 weeks)	M&A premium relative to target stock price 8 weeks before bid announcement date. Source: SDC, DataStream.
Premium (12 weeks)	M&A premium relative to target stock price 12 weeks before bid announcement date. Source: SDC, DataStream.
Kaplan & Zingales (KZ) index	$= -1.001909 \times \frac{Cash\ flows}{K} + 0.2826389 \times Q + 3.139193 \times \frac{Debt}{Totalcapital} + -39.3678 \times \frac{Dividends}{K} + -1.314759 \times \frac{Cash}{K}$ (See, Kaplan and Zingales, 1997, for details.)
Panel B: Independent variable	
Market power (by sales)	Dummy variable that takes a value of 1 if a bidder belongs to the upper tercile of both the market share (by sales) and the market concentration (by sales) distributions, and a value of 0 otherwise.
Market power (by assets)	Dummy variable that takes a value of 1 if a bidder belongs to the upper tercile of both the market share (by assets) and the market concentration (by assets) distributions, and a value of 0 otherwise.
Panel C: Deal characteristics	
Same industry	Dummy variable: 1 for same industry deal, 0 otherwise. Source: SDC.
Payment method	Dummy variable: 1 for purely cash-financed deal, 0 otherwise. Source: SDC.
Cross-border	Dummy variable: 1 if cross border deal, 0 otherwise. Source: SDC.
Private target	Dummy variable: 1 if target is private firm, 0 otherwise. Source: SDC.
Relative size	Deal value/Bidder market value of equity. Sources: SDC and World Scope.

Appendix A Cont'd: Variable descriptions

Variable	Description
Panel D: Bidder characteristics	
Run-up	The sum of pre-deal abnormal returns using the market model for the period of 90 days up to 20 days before the deal announcement. Source: DataStream.
Tobin's q	(assets − book value of equity + market value of equity) /assets. Source: WorldScope
Book to market	Book value of equity divided by market value of equity. Source: WorldScope.
Leverage	Lag Debt/lag total assets. Source: WorldScope.
Firm size	Natural logarithm of book value of assets. Source: WorldScope.
Panel E: Country characteristics	
GDP growth	Annual growth in real GDP. Source: World Development Indicators.
GDP per capita	Log of real GDP (current US dollars)/average population. Source: World Development Indicators.

Appendix B Correlation Matrix

This table reports the correlation matrix for our key variables of the sample from 30 countries. Financial and stock price data are from Thomson's WorldScope and Datastream databases, respectively. We eliminate financial bidders and utilities (SIC codes 6000-6999 and 4900-4949) and bidders with missing data on sales or total assets, as well as bidders with negative sales. All variables are defined in the Appendix A.

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	VIF
(1) Bidder CARs	1															
(2) Market power-sales	0.04	1														1.06
(3) Market power-assets	0.04	0.90	1													1.06
(4) Same industry	0.02	-0.01	-0.01	1												1.02
(5) Payment method	0.00	-0.03	-0.03	-0.02	1											1.02
(6) Cross-border	0.00	0.18	0.18	0.08	-0.04	1										1.08
(7) Private target	0.05	0.00	-0.02	-0.03	-0.03	0.03	1									1.16
(8) Relative size	0.03	-0.03	-0.03	0.04	-0.08	-0.06	-0.07	1								1.09
(9) Run-up	0.00	0.00	0.01	0.00	0.00	-0.01	-0.01	0.01	1							1.00
(10) Tobin's q	-0.01	0.09	0.09	-0.07	-0.03	0.00	-0.09	0.00	0.00	1						1.76
(11) Book to market	0.00	0.03	0.03	-0.02	0.01	0.00	0.01	0.00	-0.01	0.01	1					1.00
(12) Firm size	-0.03	0.13	0.14	-0.03	0.01	0.14	-0.29	-0.21	0.01	0.28	0.00	1				1.37
(13) Leverage	-0.01	0.08	0.08	-0.07	-0.07	-0.02	-0.02	0.01	0.00	0.64	0.00	0.27	1			1.76
(14) GDP growth	0.01	-0.01	-0.01	0.00	-0.05	0.00	0.09	0.04	-0.02	-0.04	0.01	-0.14	-0.01	1		1.37
(15) GDP per capita	0.00	0.00	0.00	0.04	0.01	0.02	0.00	0.00	0.02	-0.03	0.00	0.10	-0.04	-0.49	1	1.36

Appendix C Robustness check; Propensity Score Matching

This table presents Univariate differences between treatment (Powerful) and control (non-powerful bidders) groups.

Variables	Market power (by sales)				Market power (by assets)			
	Mean Treated	Mean Control	t-stat	p-value	Mean Treated	Mean Control	t-stat	p-value
Bidder CAR	0.013	0.009	2.700	0.007	0.013	0.006	4.010	0.000
Payment method	0.432	0.460	-1.850	0.065	0.431	0.443	-0.780	0.438
Cross-border	0.450	0.469	-1.260	0.208	0.448	0.469	-1.360	0.174
Private target	0.619	0.618	0.060	0.950	0.609	0.609	0.030	0.975
Relative size	0.071	0.074	-0.510	0.607	0.073	0.080	-1.360	0.175
Run-up	-0.002	0.003	-0.630	0.527	0.000	-0.008	1.220	0.222
Tobin's q	0.566	0.555	1.540	0.123	0.564	0.556	1.040	0.297
Leverage	0.111	0.101	1.340	0.179	0.113	0.103	1.300	0.193
Book to market	0.003	0.003	-0.450	0.652	0.003	0.003	-0.660	0.508
Firm size	14.786	14.730	0.750	0.453	14.833	14.743	1.180	0.237
GDP Growth	2.185	2.299	-1.470	0.143	2.201	2.277	-0.970	0.334
GDP Per capita	10.484	10.473	0.490	0.623	10.489	10.488	0.040	0.971

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Table A.1 Distribution of deals by target country

Target Nation	No. of deals	Percentage of deals	% of deals by powerful bidders
Argentina	17	0.18	41.18
Australia	669	7.17	28.10
Austria	21	0.23	28.57
Bahamas	1	0.01	0.00
Belarus	3	0.03	66.67
Belgium	58	0.62	18.97
Bermuda	4	0.04	0.00
Bolivia	1	0.01	100.00
Bosnia	1	0.01	100.00
Botswana	1	0.01	100.00
Brazil	94	1.01	44.68
British Virgin	1	0.01	0.00
Brunei	1	0.01	0.00
Bulgaria	4	0.04	0.00
Cambodia	1	0.01	100.00
Cameroon	1	0.01	0.00
Canada	446	4.78	19.51
Cayman Islands	1	0.01	0.00
Chile	38	0.41	52.63
China	318	3.41	14.47
Colombia	14	0.15	50.00
Costa Rica	3	0.03	66.67
Croatia	5	0.05	100.00
Cyprus	4	0.04	0.00
Czech Republic	11	0.12	81.82
Denmark	37	0.40	51.35
Dominican Rep	1	0.01	0.00
Ecuador	5	0.05	80.00
Egypt	4	0.04	25.00
El Salvador	1	0.01	100.00
Estonia	4	0.04	75.00
Fiji	1	0.01	0.00
Finland	74	0.79	55.41
France	253	2.71	26.48
Gabon	1	0.01	0.00
Germany	238	2.55	31.51
Greece	16	0.17	50.00
Guam	1	0.01	0.00
Guatemala	1	0.01	100.00
Guernsey	1	0.01	0.00
Honduras	1	0.01	100.00
Hong Kong	41	0.44	43.90
Hungary	3	0.03	66.67
Iceland	1	0.01	0.00
India	153	1.64	27.45
Indonesia	44	0.47	31.82
Ireland-Rep	25	0.27	28.00
Israel	65	0.70	24.62
Italy	92	0.99	50.00
Jamaica	1	0.01	100.00
Japan	2,001	21.45	14.64
Jersey	4	0.04	0.00
Kazakhstan	5	0.05	60.00
Latvia	1	0.01	100.00
Lithuania	7	0.08	28.57
Luxembourg	10	0.11	20.00
Malawi	1	0.01	0.00
Malaysia	209	2.24	16.75
Mauritius	2	0.02	0.00
Mexico	37	0.40	62.16
Monaco	1	0.01	0.00
Mongolia	1	0.01	0.00
Morocco	4	0.04	50.00

Table A.1 Cont'd: Distribution of deals by target country

Target Nation	No. of deals	Percentage of deals	% of deals by powerful bidders
Neth Antilles	1	0.01	0.00
Netherlands	63	0.68	23.81
New Zealand	27	0.29	51.85
Norway	80	0.86	48.75
Panama	1	0.01	0.00
Papua New Guinea	3	0.03	0.00
Peru	12	0.13	50.00
Philippines	10	0.11	30.00
Poland	65	0.70	61.54
Portugal	10	0.11	20.00
Puerto Rico	1	0.01	100.00
Qatar	1	0.01	100.00
Romania	9	0.10	33.33
Russian Federation	25	0.27	44.00
Saudi Arabia	2	0.02	50.00
Serbia	7	0.08	42.86
Singapore	119	1.28	30.25
Slovak Rep	1	0.01	0.00
Slovenia	4	0.04	75.00
South Africa	21	0.23	42.86
South Korea	43	0.46	9.30
Spain	96	1.03	51.04
Sri Lanka	17	0.18	76.47
Sweden	113	1.21	38.05
Switzerland	81	0.87	35.80
Taiwan	22	0.24	13.64
Thailand	48	0.51	45.83
Trinidad & Tobago	1	0.01	100.00
Tunisia	1	0.01	0.00
Turkey	22	0.24	36.36
Ukraine	3	0.03	33.33
United Kingdom	386	4.14	27.98
United States	2,931	31.42	17.13
Uruguay	7	0.08	57.14
United Arab Emirates	1	0.01	0.00
Venezuela	2	0.02	0.00
Vietnam	25	0.27	24.00
Zambia	1	0.01	0.00
Total	9,327	100	

Table A.2 Robustness checks: alternative definitions of CAR and premium

This table presents results using alternative measures of CAR (11-Day, 23-Day and 56-Day CARs) and premium (8 and 12 weeks). We use the same set of controls as in Table 3. The variable of interest is market power, a binary variable with the value of one when the bidder lies in the upper tercile of market share and HHI distributions and zero otherwise. All variables are fully defined in Appendix A. T-statistics are shown in parenthesis and standard errors are corrected for heteroscedasticity (White, 1980). ***, **, * indicate significance at the one, five and ten percent levels, respectively

	CAR			Premium	
	11-Day	23-Day	56-Day	8 weeks	12 weeks
Variables	(1)	(2)	(3)	(4)	(5)
Market Power (Assets)	0.007***	0.013***	0.038***	-0.440*	-0.473*
	(2.998)	(3.178)	(5.962)	(-1.656)	(-1.709)
Same industry	0.010***	0.003	0.000	0.056	0.021
	(4.869)	(0.981)	(0.033)	(0.615)	(0.242)
Payment method	-0.002	-0.000	0.000	0.798	0.798
	(-1.241)	(-0.057)	(0.102)	(1.115)	(1.108)
Cross-border	0.000	-0.003	-0.006	-0.113	-0.123
	(0.023)	(-1.040)	(-1.114)	(-0.433)	(-0.438)
Private target	0.008***	0.008***	0.013**	0.093	0.141
	(3.505)	(2.725)	(2.571)	(0.798)	(1.154)
Relative size	0.012	0.009	0.020	-0.952	-0.976
	(1.283)	(0.567)	(0.868)	(-0.990)	(-0.976)
Run-up	-0.002	-0.025	0.009	-0.193	-0.172
	(-0.232)	(-1.464)	(0.257)	(-0.439)	(-0.379)
Tobin's $	-0.005	-0.018	-0.027	-0.600	-0.616
	(-0.576)	(-1.309)	(-1.245)	(-0.828)	(-0.816)
Leverage	0.002	0.014*	0.017	0.385	0.468
	(0.282)	(1.723)	(1.233)	(0.678)	(0.750)
Book to market	-0.050	-0.087	-0.130	-1.139	-1.465
	(-1.209)	(-1.217)	(-1.025)	(-0.593)	(-0.725)
Firm size	0.000	0.001	0.006***	-0.025	-0.028
	(0.586)	(1.334)	(3.148)	(-0.540)	(-0.538)
GDP Growth	-0.000	-0.000	0.003	-0.761	-0.775
	(-0.328)	(-0.025)	(0.952)	(-1.046)	(-1.063)
GDP per capita	0.012	0.012	-0.018	0.143	-0.003
	(1.181)	(0.754)	(-0.699)	(0.212)	(-0.005)
Constant	-0.100	-0.102	0.126	4.442	6.148
	(-0.968)	(-0.621)	(0.485)	(0.532)	(0.682)
Observations	9,327	9,327	9,327	1,122	1,133
R-squared	0.023	0.028	0.033	0.086	0.085
Industry FE	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes