IMPACT OF CORPORATE TRANSPARENCY ON TARGET FIRMS' ACQUISITION OPPORTUNITIES AND PREMIUMS: A SHORT-TERM STUDY

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ABSTRACT

I examine how the different corporate transparency levels affect target firms' market-timing opportunities and profits in the mergers and acquisitions market. My results show that acquirers have tendency to avoid low transparency (LT) targets, since it is high transparency (HT) targets that are more likely to receive takeover offers. While the univariate results show that LT targets always received higher acquisition premiums, after controlling for undervaluation and for various firm characteristics, I find that it is actually HT targets that are more likely to earn higher acquisition premiums in general. Only when competition level in the mergers and acquisitions market is strong or when the target has strong negotiating power, can LT targets successfully demand higher acquisition premiums. Therefore, target firms in general should increase their corporate transparency if they want to earn higher acquisition premiums.

INTRODUCTION

Information asymmetry creates noise, while such noise can inflict cost on market participants when market participants look at the wrong information or draw the wrong inferences from the information. As a result, information asymmetry pushes stock price away from its fair market value (De Long et al. (1990)). In this study, I classify targets based on their transparency levels: Low transparency (LT) and higher transparency (HT) based on Lang and Lundholm (1996). While studies have found various advantages and disadvantages for higher transparency, I examine specifically how corporate transparency impacts target firms' market-timing opportunities and profits in the mergers and acquisitions market by looking at the takeover offers and premiums of the target firms. Regarding the target firms, LT level can be advantageous for the targets if the targets are able to use the information asymmetry price discount to attract acquirers' bids and to negotiate higher acquisition premiums. On the other hand, information asymmetry problems of the target firms may also discourage acquirers from making offers, while rational acquirers may also discount the price of the LT target firms when negotiating for the acquisition premiums. As a results LT targets may receive lower acquisition premiums.

In this study, I assume that the investors are risk averse and are aware of the information asymmetry problems of the LT firms. As a result, investors will discount the price of LT targets as a form of information compensation discount. Less-than-rational acquirers which mistake price discounts as bargains are more likely to bid on LT targets and pay higher acquisition premiums to LT targets, while rational acquirers that are aware of the information asymmetry are more likely to bid on and pay higher premiums to HT targets.

A common question may be raised here: Why would acquirers overpay during acquisitions? Based on existing literature, acquirer managers may overpay during acquisitions when they are affected by hubris (Roll (1986)), empire-building mentality (Jensen (1986)), or free cash flow problems. If LT targets are able to use the information asymmetry and larger scaled mispricing to

take advantage of such acquirer managers (by accepting offers that are higher than the true value and rejecting offers below the true value as in optimal option exercise), they should be able to receive higher final acquisition premiums than HT targets. In addition, such findings will indicate that the information asymmetry problems can facilitate wealth transfer from the acquirer shareholders to the target shareholders.

This study provides several contributions. First, I use more direct measure (analyst forecast dispersion obtained from the IBES[1] Summary Tapes) to measure corporate transparency while some use private firms or firms that have recently had IPOs to identify firms with higher information asymmetry (Reuter et al. (2012)). By using a more direct measure of corporate transparency, I can draw more affirmative conclusions in this study. In addition, while LT can be beneficial in certain situations as mentioned in the next section of the literature review, using direct measures of acquisition offers and premiums, my results show that HT is more beneficial for target firms in the mergers and acquisitions market. Specifically, it is HT targets that are more likely to receive takeover offers and to earn higher acquisition premiums. Therefore, target firms that want to increase their market-timing opportunities and profits in the mergers and acquisitions market should choose to increase their transparency. Next, while the existing literature shows that managers do not always make optimal decisions, the results of this study show that acquirer managers are not totally oblivious of the information asymmetry problems. Like most investors in the market, acquirers also tend to discount the value of LT targets when they observe information asymmetry problems. As a result, LT targets receive lower acquisition premiums in general. However, when competition level is strong in the mergers and acquisitions market and when equipped with enough negotiating power, LT targets are capable of taking advantage of the timing option and demand higher premiums.

LITERATURE REVIEW AND MOTIVATION

In this section, I will present a brief literature review of the pros and cons of higher corporation transparency before discussing the motivation of this paper. Through the discussion, it should become clear that whether higher corporate transparency is beneficial to the corporation is a complex question, while this mergers and acquisitions study helps to narrow the gap of our understanding of corporate transparency.

Several researchers have identified the advantages of high transparency. For example, corporate transparency is found to have a positive relationship with profitability in the US market (Singhvi and Desai (1971)); with firm size and firm performance (Lang and Lundholm (1993)); with responsiveness to earning (Price (1998)); and with stock performance, institutional ownership, analyst following, and stock liquidity (Healy, Hutton, and Palepu (1999)). In addition, Welker (1995) and Leuz and Verrecchia (2000) also find the increased disclosure can reduce bid-ask spreads and increase share turnover. Amihud and Mendelsohn (1980), Callahan, Lee, and Yohn (1997) suggest that increased liquidity can lower a firm's cost of capital. Heflin, Shaw, and Wild (2005) find that higher quality accounting disclosures, measured by total disclosure rating, can increase market liquidity. Sengupta (1998) finds that a higher quality of disclosure is related to lower effective interest costs in debt issuances. Botosan (1997) finds a negative (no) relation between the cost of equity and disclosure when the firm has low (high) analyst following. Furthermore, Verrecchia (2001) suggests that increasing disclosure can reduce investment inefficiency by reducing information asymmetry and agency problems. Beatty and Ritter (1986)

[1] Institutional Brokers Estimate System.

believe that disclosure can reduce the ex-ante uncertainty and ex-ante underpricing. Durnev and Kim (2005) find that firms with more profitable investment opportunities (proxied by higher Q), more concentrated ownership, and rely more on external financing tend to disclose more and have better governance. Last but not least, Mensah et al. (2004) find that increase in disclosure can reduce analyst forecast dispersion.

However, high transparency is not always more advantageous than low transparency. Botosan and Plumlee (2002) find that while cost of equity is negatively related to annual transparency rating, it is also positively related to timeliness of disclosure, such as quarterly report disclosure rating. Hence, timely disclosure can increase the cost of equity capital. Bushee and Noe (1999) argue that increasing total disclosure can potentially reduce future stock volatility when attracting long-term investors. However, when transient institutions trade on short-term earnings news, the increase in volatility induced by transient investors will completely offset the reduction in volatility brought by long-term investors. Therefore, timely disclosure attracts transient investors and increases stock volatility. In addition, Verrecchia (1983), Healy, Hutton, and Palepu (1999), Darrough and Stoughton (1990), and Wagenhofer (1990) argue that disclosure can also be costly to a firm when it reveals information to competitors, which may cause the firm to lose its competitive advantage or bargaining power. Based on the existing literature in corporate transparency, the verdict on the pros and cons of greater corporate transparency is not yet settled or definitive. Some firms to choose high transparency, while other firms to choose low transparency for different reasons and motivations.

We can see that the existing literature has shown us that whether higher corporate transparency is beneficial to the firm is a complex question. I will use the next two market-timing studies as a more specific example. Lo (2011) uses various methodologies to examine the long-term performance of SEO firms to determine whether HT helps managers to time the SEO issuance more successfully. Contrary to the common believe that HT firms are better performers, Lo (2011) finds that HT firms tend to underperform their LT counterparts in the long run post SEOs. The results indicate that HT firms are more successful at issuing overvalued stocks. Therefore, when price correction occurs in the long run, HT firms in general experience more negative long-term performance post their stock issuance.

To examine whether HT also provides higher market-timing profit in the stock repurchase market, Lo (2017) uses fixed-price tender offer sample in the study and finds that it is LT firms that are more successful at timing fixed-price tender offer stock repurchases. Specifically, Lo (2017) finds that LT firms are more successful at buying back their own stocks at discounts. As a result, when price correction occurs in the long run, LT firms outperform their HT counterparts post their own stock buybacks.

Based on the above discussion, corporate transparency is a complex issue that requires further examination. Whether it is SEOs, stock repurchases, or mergers and acquisitions, each corporate event is unique. Hence, corporate events like mergers and acquisitions also demand our attention to help us further complete the understanding of corporate transparency. In fact, mergers and acquisitions is a more complex area to study than SEOs and fixed-price tender offers, since in the SEO and the fixed-price tender offer markets, the managers are dealing with less sophisticated external investors. Such information asymmetry problems may more easily provide LT firms with more information advantage over external investors. On the other hand, in the mergers and acquisitions market, target firms are dealing with much more sophisticated and experienced acquirers. Needless to say, information asymmetry and noise affect how acquirer managers make investment decisions, since their jobs are now more complicated than before. While acquirers often

make suboptimal decisions and overpay during acquisitions (Roll (1986)), it is interesting to see whether acquirers are able to overcome such information barrier when acquiring LT targets.

To find straightforward answers to this more complex question, rather than examining the long-term performance, I examine the actual acquisition offers and premiums received by target firms to provide more direct and conclusive results. Specifically, since information asymmetry of LT firms leads to heterogeneous expectations in accurate firm valuation, such heterogeneous expectations can cause higher price dispersion. In addition, risk-averse investors who perceive higher information risk will discount the stock price of LT firms, causing LT firms to be traded at discounts on average. Therefore, I examine whether the combination of higher price dispersion, price discount, and strong negotiating power can create valuable timing options by providing LT firms with more market-timing opportunities and higher acquisition premiums.

Several theories and studies are consistent with the hypothesis and find acquirers to make value-reducing or suboptimal decisions when they are affected by hubris (Roll (1986)), empire-building mentality (Jensen (1986)), or free cash flow problems. Roll (1986) argues that managers are often overconfident and over-optimistic. Acquirers tend to overestimate the potential synergistic gains and are likely to overpay while making acquisitions. Numerous studies have found consistent evidence indicating that acquirers often overpay during acquisitions. Asquith, Bruner, and Mullins (1983) find that bidders on average lose. Varaiya (1985) finds that when there are rival bidders, the successful bidders' loss is significantly greater. In addition, Loughran and Vijh (1997) find that acquirers in stock mergers underperform in the long run. The purpose of this study is to merge the corporate transparency literature with the mergers and acquisitions literature to determine the impact of corporate transparency in the mergers and acquisitions market.

HYPOTHESES

In this study, I classify targets based on their transparency levels. Low transparency (LT) targets have lower disclosure and more information asymmetry problems (Diamond and Verrechia (1991)); high transparency (HT) targets have higher disclosure, and therefore less information asymmetry problems. Since LT firms have more information asymmetry problems, risk-averse investors will discount the stock price of LT firms as a form of information compensation discount. On the other hand, since HT firms have little or no information asymmetry problem, the stock of HT firms is more likely to be traded at or close to the equilibrium.

In the null hypothesis, acquirers that bargain hunt will be more likely to bid on LT firms because of the information price discount. Furthermore, those who mistake information price discounts as bargains are more likely to overpay. Therefore, LT targets are not only more likely to receive takeover offers, but they are also more likely to earn higher acquisition premiums. This is especially true for targets with enough negotiating power to reject offers below their reservation prices, and only accept higher offers.

In the alternative hypothesis, acquirers are not totally irrational. Acquirers who are aware of the negative impact of information asymmetry problems will not treat the price discount of the LT targets as bargains. Therefore, they are more likely to bid on HT targets to avoid such uncertainty created by information asymmetry problems. In addition, when making offers, acquirers are also likely to apply information price discount when acquiring LT targets. As the result, HT targets receive higher acquisition premiums than LT targets. In this case, it is the HT targets that will have more market-timing opportunities and earn higher market-timing profits in the mergers and acquisitions market.

DATA AND METHODOLOGY

Mergers and acquisitions data are obtained from Securities Data Company, SDC, while financial data are obtained from Compustat and returns data are obtained from CRSP. Corporate transparency data is measured by analyst forecast dispersion obtained from IBES. In this study, I include both successful and unsuccessful merger and acquisition offers in order to provide a more complete study. The final sample consists of 5,422 of firms and 6,209 events.

A takeover is defined as successful when it results in a completed transaction. Since IBES only cover public firms, only public targets are included in the study. All observations with deal value of less than $1 million[2] or deal value that is less than 1% of the market value of the acquirer are eliminated from the sample (Moeller, Schlingemann, and Stulz (2002)). Deal value is defined by SDC as the total value of consideration paid by the acquirer, excluding fees and expenses yet including amount paid for all common stock, common stock equivalents, preferred stock, debt, options, assets, warrants, and stake purchases made within six months of the announcement date of the transaction. Financial and utility firms are excluded from the study. Targets with stock price of less than $2 per share are eliminated from the study since Ball et al. (1995) find that lower-priced stocks are more likely to be affected by market microstructure effects, such as large proportional bid-ask spreads.

While some may conclude the potential effects of the information asymmetry problems on mergers and acquisitions by comparing the empirical results of public targets with those of private targets[3], assuming that public targets are always more transparent and therefore have less information asymmetry than private targets are may not be valid[4]. Therefore, studies using direct transparency measures may provide more reliable conclusions than studies using the target's public status to proxy for the information asymmetry problems. In this study, I use the analyst forecast dispersion from IBES Summary Tapes to proxy for corporate transparency since firms with more information asymmetry problems should have higher analyst forecast dispersion. The analyst forecast dispersion has been commonly used to measure transparency or information asymmetry[5]. To measure analyst forecast dispersion, the standard deviation of forecast is scaled

[2] Other studies, like Schwert (1996), choose $10 million as the cut off when they examine public targets.

[3] Officer (2007), Chang (1998), and Officer et al. (2009) use private target samples to proxy for targets with more information asymmetry problems in their study.

[4] Private (public) targets and low (high) transparency targets may have very different firm characteristics. For example, ownership of private firms cannot be bought or sold as easily as that of public low transparency firms. Public firms have publicly-traded stocks, which allow investors to transfer their ownership easily, while private firms do not have publicly-traded stocks to provide investors with similar benefits. As a result, while the lack of liquidity in private firms may allow the acquirers to purchase private targets at discounts, such liquidity discounts may not be equally applicable to publicly-traded low transparency targets. In addition, private firms in general have more concentrated ownership when the stock of the firm is owned by a smaller number of shareholders. Such concentrated ownership in private firms often brings about better monitoring and fewer agency problems. On the other hand, concentrated ownership and fewer agency problems are not the typical characteristics of low transparency firms. Furthermore, regulations often affect public targets and private targets differently. For example, the William Act of 1968 only makes tender offers more costly and more time-consuming for the acquirer of public targets, while private targets and subsidiaries are not covered or protected by this regulation. Moreover, private firms are likely to have more limited sources of funds than low transparency firms, since funds of private firms are limited to the personal wealth of the small number of shareholders, in addition to debt financing and IPOs. Besides, assuming that all public firms are transparent is also unrealistic since managers often can choose the level, type, and timing of information disclosure to the outside investors, for as long as they still meet the basic disclosure requirements.

[5] Lang and Lundholm (1996), Healy, Hutton, and Palepu (1999), and Finnerty and Yan (2012).

by the stock price to facilitate comparisons across firms[6]. Industry median is subtracted from the scaled dispersion measure to adjust for the cross-industry variation (Lang and Lundholm (1996)).

Number of Bids

To determine if LT targets are more likely to receive takeover offers from acquirers, I perform both univariate and multivariate analyses. To examine the number of offers of a target, I use only the first announced offer from the same acquirer for each acquisition event. Therefore, when competing bids from a different acquirer occur, I include the first offer of the competing acquirer in the sample as well. In addition, I identify industry dummy based on all SIC codes of the acquirer and the target. If any of the acquirer's SIC codes matches with any of those of the target, the industry dummy is equal to one; otherwise, it is equal to zero. I also examine each of the event years separately to see if the result is consistent throughout the sample period.

After the above univariate analysis, I also perform multivariate analysis to determine if LT targets are more likely to receive offers. I use Probit model for the multivariate analysis. In the multivariate analysis, all firm year observations are included in the sample. The dependent variable is equal to one if the firm receives an offer and zero otherwise.

$$\begin{aligned} OFFER_T = {} & \alpha + \beta_1 DISPERSION + \beta_2 SIZE + \beta_3 BTM + \beta_4 QUICK\ ASSETS \\ & + \beta_5 CASH\ FLOW + \beta_6 LEVERAGE + \beta_7 COMPETITION \\ & + \beta_8 COMPETITION{*}LT\ DUMMY + \beta_9 Q{*}QUICK\ ASSETS + \beta_{10} Q{*}LEVERAGE \\ & + \beta_{11} Q{*}CASH\ FLOW + \beta_{12} TIME\ DUMMIES \end{aligned} \quad (1)$$

where DISPERSION is the industry-median-adjusted analyst forecast dispersion of the target firms, while higher dispersion means lower transparency. SIZE is the size of the transparency firm, which is the natural log of the market value of common stock, measured at the end of the fiscal year before the first bid. It is included in the analysis since smaller firms are less likely to be covered by financial analysts and have more information asymmetry problems. BTM is the book-to-market ratio of the transparency firm. It is calculated as book value of equity divided by the market value of equity, while book value of equity is calculated as the book value of common equity plus deferred taxes and investment tax credits in fiscal year t-1. QUICK ASSETS of the firm are calculated as the target's quick assets[7] divided by the market value of the common stock[8]. LEVERAGE of the firm is the debt-to equity of the target, and it is calculated as book value of long-term debt divided by the market value of the target's common stock outstanding as of the last balance sheet date before the acquisition. Quick assets, cash flow, and leverage of the targets are included in the model because Jensen's (1986) free cash flow theory suggests that targets with excess free cash flow and lower leverage are more likely to have agency problems. As a result, acquirers may prefer to acquire such targets in anticipation of more gains. Book-to-market, quick assets, cash flow, and leverage will all be adjusted by the industry median. To measure competition in the mergers and acquisitions market, I follow Schlingemann, Stulz, and Walkling (2002) by

[6] I also scale the forecast dispersion by the absolute value of mean earnings forecast as a robustness check.
[7] Quick assets are calculated as (cash + receivables + marketable securities). Cash flow measure (Lehn and Poulsen (1989)) is also used to proxy for agency problems.
[8] I also scale the quick assets by the total assets to determine if different scaling may affect the results.

calculating competition as the liquidity index[9] in specific industry as the value of all corporate control transactions of $1 million or more reported by SDC for each year and two-digit SIC code divided by the total book value of assets of all Compustat firms in the same two-digit SIC code and year. Interactions terms are also used. 1980s and 1990s DUMMIES are added to the regression to allow change in time series data[10].

Acquisition Premiums

I use several different measures to estimate acquisition premium in this analysis. The first premium measure is the percentage premium provided by SDC, which is calculated as the premium offered with respect to the target's trading price four week prior to the first announcement date. However, since Officer (2007) finds that the premium information provided by SDC is only available for about half of the observations, I also follow Moeller et al. (2002) to use the value of cash, stock, and other securities of the offer as the premium measure, since this variable provides the highest number of observations and is often available at announcement. The premium is then scaled by the market value of equity of the target 50 days prior to the announcement day (Moeller et al. (2002) and Officer (2007)). In addition, I follow Schwert (2000) to calculate the premium measure as the sum of price run-up prior to the first announcement and the price markup from the announcement. More specifically, the abnormal performance is estimated by the market model residual for the target firm cumulated over the period (-63, 126) from the first announcement day[11].

$$Premium_{\,i} = \sum_{t=-63}^{126} R_{it} - \alpha_i - \beta_i R_{mt} \tag{2}$$

where R_{it} is the return to target firm i on trading t, R_{mt} is the return to the CRSP NYSE/AMEX/Nasdaq value-weighted portfolio return on day t, while the α and β are estimated by using market model and return data during the (-316 and -64) event window from the first announcement date.

$$R_{it} = \alpha_{\,i} + \beta_i R_{mt} + \varepsilon_{it} \quad \text{where t = -316 to -64} \tag{3}$$

I first use univariate analysis to examine if LT targets are more likely to receive higher acquisition premiums based on the above premium measures, both industry-adjusted and

[9] The liquidity index is used because Boone and Mulherin (2002) find that private auction can occur and increase competition in the acquisition market when SDC does not report such events. Therefore, they find the number of bidders provided by SDC can underestimate the actual competition in the acquisition market.

[10] Bradley, Desai, and Kim (1988) find that average abnormal return of acquirers in acquisition falls from roughly 4 percent in the 1960s to 1.3 percent in the 1970s and -3 percent in the 1980s, all statistically significant. William Act, adopted in 1968, made the tender offer process more costly and more time consuming for the acquirers. Defense mechanisms adopted by target firms and state anti-takeover regulations in the 1980s also affected the returns of the acquirers.

[11] Price runup is included as a part of premium calculation because of potential insider trading activities prior to announcement (Meulbroek (1992)) and information leakage prior to the first announcement (Jarrell and Poulsen (1989)). Announcement of 13D filings with the Securities and Exchange Commission (SEC) when an investor acquires more than 5% of the target's stock can often provide a clue to the market of potential takeover offer. In addition, they find that price runup prior to the first announcement does not substitute for post announcement markup in their sample. Therefore, price runup should be considered as a part of acquisition premium.

unadjusted measures. After the univariate analysis, I also apply multivariate analysis to control for other variables. I perform a regression for each of the premium measures mentioned above, both adjusted and unadjusted.

$$\begin{aligned} Premium_T = {} & \alpha + \beta_1 DISPERSION_T + \beta_2 SIZE_T + \beta_3 SIZE_A + \beta_4 BTM_T + \beta_5 BTM_A \\ & + \beta_6 COMPETITION_T + \beta_7 INDUSTRY\ DUMMY + \beta_8\ \%\ of\ STOCK \\ & + \beta_9 POISON\ PILL + \beta_{10} QUICK\ ASSETS_T + \beta_{11} LEVERAGE_T \\ & + \beta_{12} POOLING\ INTERESTS + \beta_{13} COMPETITION_T * LT\ DUMMY_T \\ & + \beta_{14} ADVISING\ FEES\ PAID_T * LT\ DUMMY_T \\ & + \beta_{15} INDUSTRY\ DUMMY * LT\ DUMMY_T + \beta_{16} TIME\ DUMMIES \end{aligned} \quad (4)$$

where $DISPERSION_T$ is the transparency measure of the target, while higher dispersion indicates lower transparency. $SIZE_T$ and $SIZE_A$ are the size of the target and acquirer respectively, while BTM_T and BTM_A are the book-to-market ratio of the target and acquirer firms, respectively. In addition to the previously mentioned control variables, the *% of STOCK* is the percentage of acquisition payment made in stock. Based on the definition of SDC, *POISON PILL* [12] is equal to one if the target invokes the poison pill or if the existence of the poison pill discourages the potential acquirer, and zero otherwise[13]. *POOLING INTERESTS* is equal to one if the accounting method of the corporate combination is pooling of interests method, or zero otherwise[14]. Competition is used to proxy for negotiating power of the target firm. Two interaction terms, $COMPETITION_T$ * *LT Dummy* and $ADVISING\ FEES\ PAID_T$ * *LT Dummy*, are used to examine if competition in the target firm's industry and advising fees paid by the LT target will increase the negotiating power of the LT firm. $ADVISING\ FEES\ PAID_T$ is the investment banking fees or advisor fees[15] that the target pays upon completion of the merger. *INDUSTRY DUMMY * LT DUMMY* is included to examine if related merger can reduce the information asymmetry problems and market-timing premium of LT targets. *INDUSTRY DUMMY* is equal to one if any of the acquirer's SIC codes matches with any of the target's SIC codes; otherwise, the industry dummy is equal to 0. Time dummies are used to allow variables to change in time.

RESULTS

In Table I, I examine the characteristics of the targets based on the industry-adjusted, price-scaled analyst forecast dispersion and earnings-scaled analyst forecast dispersion. Since results based on the different measures provide very similar results, only those based on price-scaled dispersion are provided. In Table 1, I find that LT targets are in general smaller and have higher *BTM* ratio, lower *Q*, lower *CASH FLOW*, and higher *LEVERAGE*. Consistent with previous empirical results, Lang and Lundholm (1993) also find that LT firms are in general smaller, while Healy, Hutton, and Palepu (1999) find that LT firms are more likely to be traded at discount. The lower *Q* indicates that LT targets in general have lower growth rate and therefore fewer needs for external capital and disclosure. The higher *LEVERAGE* is consistent with the lower growth rate

[12] Schwert (1996), Ryngaert (1988), Malatesta and Walkings (1988), Bradley, Desai, and Kim (1988), Comment and Schwert (1995) all find higher acquisition premium when the target has poison pill in place.
[13] Note that while Gompers index may also be used to proxy for negotiating power, it is only available from 1990.
[14] Robinson and Shane (1990) find higher acquisition premium when pooling of interests method is used as the accounting method for mergers. This variable is obtained from SDC.
[15] This variable is obtained from SDC.

since low growth firms are more likely to have higher leverage. The lower *CASH FLOW* measured based operating income before depreciation minus all taxes, interests, and dividends indicates that LT targets are poorer performers than HT targets. The higher *QUICK ASSETS* are consistent with the agency theory that LT firms are more likely to have agency problems.

In Table II, I use Probit analysis to determine whether LT firms are more likely to receive offers, after controlling for the firm characteristics[16]. After controlling for the various firm characteristics, the results show that it is HT targets that are more likely to receive takeover offers. The interaction term of *COMPETITION*LT DUMMY* also indicates that when competition in the mergers and acquisitions market is strong, LT targets are less likely to receive offers. Potentially, when competition is strong, acquirers are less likely to act as bargain hunters. The positive *COMPETITION* coefficient indicates that when competition is strong in the mergers and acquisitions market, targets are more likely to receive offers. Surprisingly, *BTM* is insignificant, while it is smaller firms with higher *CASH FLOW* and lower *LEVERAGE* are more likely to receive takeover offers.

In Table III, I examine the various acquisition premium measures of successful mergers and acquisitions. Three premium measures are used based on the previous empirical studies, while *Schwert Premium* is further decomposed into *Price Markup* and *Price Runup*. In addition, two more premium measures are included to examine the price movement and premium up until the merger complete date. Both unadjusted raw premiums and industry-adjusted premiums are examined in Panels A and B, respectively. I find that whether raw premiums or industry-adjusted premiums are used, all of the univariate results show that LT targets are in fact able to demand higher acquisition premiums than HT targets. However, since stocks of LT targets are more likely to be traded at discounts to start with, to make sure that the higher premiums of LT targets are not inflated as a result of the price correction for the information price discount, various firm characteristics are used as control variables in the multivariate analysis in the next table.

In Table IV, control variables are chosen based on the existing available empirical studies and based on the hypotheses in this study. Results based on raw (industry-adjusted) premiums are provided in the first (last) two regressions. Note that only *4-week Premium* and *Moeller Premium* are used here, while *Schwert Premium* is excluded from this table. *Schwert Premium* is excluded from the regressions because it measures price runup during [-63, 126] of the announcement instead of the actual premium offers. Since the purpose of this table is to examine the premium offer than the price runup, it is appropriate to exclude *Schwert Premium* from this section of the analysis. The results show that smaller targets tend to receive higher acquisition premiums, while larger acquirers are more likely to pay higher premiums. The positive coefficient of acquirer's size is consistent with the finding of Moeller et al. (2002) that larger acquirers are more likely to be affected by hubris (Roll (1986)); therefore, larger acquirers are more likely to overpay than smaller acquirers do. More importantly, dispersion coefficient is negative in all cases, indicating that it is HT targets that are more likely to receive higher premiums, after controlling for various variables. However, the interaction terms of *COMPETITION* LT DUMMY* and *FEES PAID*LT DUMMY* indicate that when competition in the mergers and acquisitions market is strong or when negotiating power of the target (proxied by the advising fees paid by the target) is strong, LT targets can still demand higher acquisition premiums.

[16] Logit analysis is also used, while results remain similar (not reported).

CONCLUSIONS

In this study, I use multiple premium measures to examine how corporate transparency affects target firms' acquisition opportunities and premiums. While the univariate results show LT targets to receive higher acquisition premiums at the very surface, after controlling for various firm characteristics and undervaluation in the multivariate analysis, it is actually HT targets that are more likely to receive takeover offers and earn higher acquisition premiums. My results are robust across the multiple premium measures and are consistent with the alternative hypothesis: While acquirers do not always make optimal decisions, they are not totally irrational. Acquirers are well aware of LT targets' information asymmetry problems. Consequently, acquirers are more likely to bid on HT targets and pay higher premiums to HT targets, while LT targets earn lower acquisition premiums as a form of information price discount. However, when competition in the industry is strong or when equipped with enough negotiating power (proxied by advising fees paid by the target), LT targets can successfully negotiate higher acquisition premiums than their HT counterparts. Therefore, without negotiating power and strong competition level in the mergers and acquisitions market, target firms should increase their transparency level if they want to earn higher acquisition premiums.

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Table 1:
CHARACTERISTICS OF THE TARGETS BASED ON TOTAL TRANSPARENCY

Target firms are classified into low transparency (LT) and high transparency (HT) target portfolios based on the industry-adjusted, price-scaled analyst forecast dispersion. Targets with positive (negative) industry-adjusted dispersion are classified as LT (HT) targets. *SIZE* of the firm is market value of common stock at the end of fiscal year before the first bid. *Size* is quote in millions of dollars. *BTM*, book-to-market, is calculated as book value of equity divided by market value of equity in fiscal year t-1, while book value of equity is calculated as book value of common stock equity plus deferred taxes, plus investment tax credit. *Q* is calculated as market value of assets divided by book value of assets. *CASH FLOW* is calculated as operating income before depreciation - total tax income + change in deferred taxes from the previous year to the current year -gross interest expense on short- and long-term debt, total preferred dividend requirement on cumulative preferred stock and dividend paid on noncumulative preferred stock, and total dollar dividends declared on common stock before scaled by total assets. *QUICK ASSETS* are calculated as (cash + receivables + marketable securities) / market value of common stock. *LEVERAGE* is calculated as long-term debt / market value of common stock. All variables are adjusted by industry median. *INDUSTRY DUMMY* is equal to one if any of the acquirer's SIC codes matches with any of the target's SIC codes; otherwise, the industry dummy is equal to 0. All variables are winsorized at 1% and 99%. When the target receives more than one bid in a calendar year, only the first observation is included. Mean, (median), and [p-value] are reported below.

	Low Transparency (N = 3375)	**High Transparency (N = 2047)**	**LT - HT**	**p-value of t test and (Wilcoxon Test)**
SIZE	660.90 (161.73) [< .0001]***	1477.47 (308.82) [< .0001]***	-816.57	0.0001*** (0.0001)***
BTM	0.17 (0.06) [< .0001]***	-0.03 (-0.10) [0.0330]***	0.20	0.0001*** (0.0001)***
Q	0.24 (-0.02) [< .0001]***	0.35 (0.04) [< .0001]***	-0.11	0.0021*** (0.0001)***
QUICK ASSETS	0.59 (0.02) [< .0001]***	0.31 (-0.03) [< .0001]***	0.28	0.0010*** (0.0001)***
CASH FLOW	-0.02 (0.01) [< .0001]***	0.06 (0.06) [< .0001]***	-0.08	<.0001*** (0.0001)***
LEVERAGE	0.39 (0.06) [< .0001]***	0.17 (0) [< .0001]***	0.22	0.0001*** (0.0001)***

Table 2 **Probit Analysis of Bidding**			
All IBES firms are included in the analysis to determine if LT firms are more likely to receive offers. The dependent variable, offer, is equal to one if the firm receives at least an offer in a given year. Time dummies are used to allow change in time series data.			
Intercept	**-0.5644** **(<.0001)***	**-0.5741** **(<.0001)***	**-0.5779** **(<.0001)***
Dispersion	**-3.7770** **(0.0001)***	**-3.4780** **(0.0006)***	**-2.9336** **(0.0046)***
LOG(SIZE)	**-0.0246** **(0.0392)**	**-.0270** **(0.0245)**	**-0.0281** **(0.0219)**
BTM	**-0.0321** **(0.3517)**	**-0.0293** **(0.3958)**	**-0.0238** **(0.5002)**
Quick Assets/ MV Equity	**-0.0024** **(0.8785)**	**-0.0024** **(0.8777)**	**0.0026** **(0.8755)**
LP CashFlow/ Asset	**0.5323** **(<.0001)***	**0.5192** **(<.0001)***	**0.6546** **(<.0001)***
Leverage	**-0.0909** **(<.0001)***	**-0.0890** **(<.0001)***	**-0.0809** **(0.0007)***
Competition	**0.1466** **(<.0001)***	**1.5605** **(<.0001)***	**1.7684** **(<.0001)***
Competition* LT Dummy		**-0.6174** **(0.0449)**	**-0.8908** **(0.0049)***
Q*Quick Assets			**0.0416** **(0.4197)**
Q*Leverage			**0.0700** **(0.1845)**
1980 Dummy	**-0.4071** **(<.0001)***	**-0.4068** **(<.0001)***	**-0.4091** **(<.0001)***
1990 Dummy	**-0.5499** **(<.0001)***	**-.5524** **(<.0001)***	**-0.5489** **(<.0001)***

Table 3
UNIVARIATE ANALYSIS OF ACQUISITION PREMIUM

The *4-week Premium* is calculated as the offer price minus the price four weeks prior to the first announcement scaled by the price four weeks prior to the first announcement. *Moeller Premium* is calculated as the sum of cash payment, stock payment, and other security payment divided by the market value of equity of the target 50 days prior to the announcement day (Moeller et al. (2002) and Officer (2007). *Schwert Premium* is calculated as the CAR from day -63 to day 126 after the first announcement, while price marketup and price runup are also calculated (Moeller et al. (2002). Value weighting results are reported, while equal weighting provides similar results. Mean and (median) are both examined below.

Panel A: Raw Premiums

	4-Week Premium	*Moeller Premium*	*Schwert Premium* [-63, 126]	*Price Markup* [-63, 0]	*Price Runup* [0, 126]	*Schwert Premium* [-63, completion]	*Price Markup* [0, completion]
LT	47.89% (40.74%)	61.07% (52.21%)	41.51% (36.98%)	27.66% (23.55%)	13.56% (10.10%)	42.26% (37.70%)	28.41% (24.28%)
HT	41.79% (35.92%)	51.44% (45.42%)	28.76% (28.27%)	21.18% (18.81%)	7.65% (7.34%)	29.11% (28.77%)	21.52% (19.33%)
Difference	6.10%	9.63%	12.75%	6.48%	5.91%	13.15%	6.89%
P value	<.0001***	<.0001***	<.0001***	0.0001***	0.0001***	<.0001***	0.0001***

Panel B: Industry-Adjusted Premiums

	4-Week Premium	*Moeller Premium*	*Schwert Premium* [-63, 126]	*Price Markup* [-63, 0]	*Price Runup* [0, 126]	*Schwert Premium* [-63, completion]	*Price Markup* [0, completion]
LT	22.09% (12.12%)	128.46% (128.55%)	21.26% (16.97%)	14.28% (8.37%)	6.70% (4.00%)	25.02% (19.21%)	18.05% (12.58%)
HT	17.19% (12.79%)	120.06% (125.57%)	9.02% (9.74%)	9.28% (6.05%)	-0.17% (0.93%)	11.49% (13.37%)	11.74% (8.84%)
Difference	4.90%	8.40%	12.24%	5.00%	6.87%	13.53%	6.31%
P value	0.0003***	0.0003***	<.0001***	<.0001***	<.0001***	<.0001***	<.0001***

Table 4
MULTIVARIATE ANALYSIS OF ACQUISITION PREMIUM

Premium measures are calculated as in Table 3. Reported results are based on value weighted returns, while equal weighting provides similar results. Only successful mergers are included.

	Raw 4-Week Premium	***Raw Moeller Premium***	***Industry-Adjusted 4-Week Premium***	***Industry-Adjusted Moeller Premium***
DISPERSION$_T$	-402.57** (0.0228)	-4.36* (0.0769)	-402.23** (0.0176)	-6.59** (0.0124)
SIZE$_T$	-9.40*** (<.0001)	-0.12*** (<.0001)	-7.96*** (<.0001)	-0.16*** (<.0001)
SIZE$_A$	5.03*** (0.0007)	0.06*** (0.0006)	3.90*** (0.0057)	0.06*** (0.0008)
BTM$_T$	-5.04 (0.3594)	0.10 (0.1622)	-4.21 (0.4242)	0.13* (0.0861)
BTM$_A$	-0.94 (0.8876)	-0.02 (0.8174)	4.53 (0.4789)	0.11 (0.2024)
COMPETITION$_T$	5.29 (0.8668)	-0.05 (0.9095)	-5.49 (0.8560)	-1.48*** (0.0007)
INDUSTRY DUMMY	4.92 (0.3543)	0.14** (0.0406)	3.54 (0.4859)	0.07 (0.33230)
% of STOCK	0.03 (0.7370)	0.00 (0.1032)	0.01 (0.9349)	0.01** (0.0465)
POISON PILL	31.42 (0.3581)	0.12 (0.7734)	31.64 (0.3342)	-0.15 (0.7344)
QUICK ASSETS/ MVE$_T$	0.20 (0.7749)	-0.01 (0.8771)	-0.06 (0.9291)	0.01 (0.7990)
LEVERAGE$_T$	-0.39 (0.8754)	0.02 (0.5616)	0.76 (0.7488)	0.01 (0.8024)
POOLING INTEREST	-0.28 (0.9518)	0.08 (0.1349)	0.95 (0.8282)	0.09 (0.1189)
COMPETITION LT DUMMY $_T$*	67.08* (0.0922)	0.51 (0.3189)	71.08* (0.0628)	1.09** (0.0492)
*FEES PAID * LT DUMMY $_T$*	0.75* (0.0706)	0.01** (0.0243)	0.82** (0.0395)	0.01** (0.0217)
INDUSTRY D LT DUMMY$_T$*	-0.70 (0.8955)	0.07 (0.3107)	-1.54 (0.7641)	-0.08 (0.2702)
1980 DUMMY	5.82 (0.6093)	-0.01 (0.9137)	12.00 (0.2716)	-0.46*** (0.0006)
1990 DUMMY	10.92** (0.0323)	-0.05 (0.4694)	30.04*** (<.0001)	0.23*** (0.0011)