# No News is Good News!
# The role of Media Coverage in Mergers and Acquisitions' Methods of Payments, Premium and Time of Completion

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## Abstract

The purpose of this study is to empirically examine the relationship between different media coverage (degree of media coverage, positive and negative media coverage) and various aspects of takeover from asymmetric information perspective. I find that the degree of media is positively associated with cash offer, positive media is negatively associated with cash offer and negative news is negatively associated with a cash offer in merger deal. In relation between media and premium, the results suggest that the degree of media coverage is negatively associated with premium, positive media coverage and premium is negatively significant and negative media coverage is negatively associated to premium. Finally, the results suggest that the degree of media coverage and positive media coverage are positively associated with time of completion, however, negative media is positively associated with time of completion.

*Keywords*: Mergers and acquisitions; Media coverage; Method of payment; Premium; Time of Completion.
*JEL Classifications*: G34, L82

*"The acquisition of information and its dissemination to other economic units are, as I all know, central activities in all areas of finance" Robert Merton 1987*

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# 1. Introduction

Mergers and acquisitions (M&A)[1], takeovers, and buyouts are among the most important investment decisions that firms make (Adra & Barbopoulos, 2018). Therefore, success of the firm highly depends on informed decisions. Media coverage[2] has various roles to play in takeover, and one of the most important is the role of media to mitigate information asymmetry (Dyck et al., 2008). Moreover, media coverage is one of the most notable factors that help decision-making process, particularly in markets with information friction (Li et al., 2018;Yang et al., 2018). In another interpretation, media disseminates information to a broader audience, and it can be adjutant tools to reduce information asymmetry between target and acquirer. Likewise, study on the stock price model, Tetlock, (2010) also suggests that public news eliminates the asymmetric information between two sides of the deal. To measure the takeover reaction on information that is disseminated from media, I use different variant of media coverage to see the association between media and merger. As elaborated in contract theory (Akerlof, 1970) and agency theory (Eisenhardt & Eisenhardt, 1989; Shapiro, 2005), I highlight the impact of information asymmetry on various aspects of the acquisition transaction by focusing on mitigation of information between acquirer and target.

Growing number of literature studies on how media coverage can decrease information asymmetry and affect various aspects of relevant markets such as investment funds (Dyck & Zingales, 2002), pricing and stock returns (Fang & Peress, 2009; Tetlock, 2010, 2011). Bhattacharya et al. (2011) define good or bad news as information units that have positive or negative implications on the target. Positive and negative news influence merger deals by

[1] "Definition of M&A is 'the partial or full merger or acquisition of firms that are legally independent from each other'" (Arvanitis & Stucki, 2015). In addition, the analysis of this study is limited to the acquisitions of listed target firms. Therefore, the terms 'acquisition' and 'M&A' throughout this paper refer exclusively to listed target acquisitions (Adra & Barbopoulos, 2018).

[2] Henceforward, all "media coverage" is media coverage of the target.

inducing information. Different levels of news have several effects on the financial behavior of firms, such as: negative media coverage influences forming a leader behavior and independency of the boards (Bednar, 2012); positive corporate social responsibility (CSR) media coverage is associated with shareholder's value (Byun & Oh, 2018); positive impacts of media on prices and trading (Rogers et al., 2016); and eventually negative effect of media coverage on firms' stock returns (Tetlock, 2011). This outcome supports the fact that media could be a sensitive tool on which investors base their financial decisions. One concern about the news-based information is that media is perceptual by its nature. To address this concern, I have divided media coverage into three levels to expand the influence of perceived information. I categorized media into degree of media, positive media, and negative media. I define degree of media coverage as general perception from the media with any specification on positive and negative information from the media.

In this study, I evaluate the extent to which different types of media sentiment purposively influence merger deal. Furthermore, to identify firms with incentives from media coverage, I concentrate only on target firms. In particular, I focus my attention on methods of payment as a cash, premium and time of completion in pre and interim phase of the acquisition deal. To expand my hypotheses, I discuss in core competency the relationships between the aforementioned phases on merger with disparate levels of media.

First, I look at the degrees of media coverage and how it can impact as a general unit of information on methods of payment. Indicating the main determinant of media coverage in methods of payment, I exploit how degree of media coverage, positive media and negative media influence cash offer with focus on information asymmetry. I posit that there is a positive association between degree of media coverage and cash offer in methods of payment, positive association between positive news and cash offer and negative association between negative media and method of payment as a cash. To account for examining methods of payment, I form

the payment of cash as an indicator variable to check with each levels of media coverage independently. Through each analyzes, I include additional control variables to check further aspects of the deal. After studying on correlation of methods of payment and media coverage in general, I find strong casual evidence that information from media has significant impact on the way acquirer is willing to pay to target.

Second, I focus on premium paid in the merger deal with reference to three levels of media coverage (degree of media, positive and negative). One of the factors that is affected by information asymmetry in merger deal is premium and accordingly, premium and methods of payment are one of the major determinants of takeover (de La Bruslerie, 2013). In this regard, I identify premium as the offer price per share minus closing price four weeks before the date of announcement which is divided by the closing price four weeks before the announcement date. I highlight that the impact of information asymmetry in the correlation between premium paid and various levels of media coverage. Thereupon, I posit that low premium paid is positively associated with degree of media, positive media leads to lower premium and finally negative media leads to a higher premium in merger deal.

Third, to test further the impact of media coverage on time of completion in the acquisition deal, I identify the time of completion of target firms which is a number of the days from the announcement date of the merger deal to the date that the deal is completed. Information asymmetry influences the merger deal's time of completion, and I test how various types of media influence the time that takes for the deal to be completed. With respect to agency theory and information asymmetry, I hypothesize that degree of media coverage is ambiguously associated with time of completion, positive media leads to shorter time of completion and contrariwise negative media prolongs merger deal.

I exploit comprehensive data sets that include a large number of US domestic listed target M&A transactions from 2000 to 2017. For the empirical analysis, I use unique dataset

for media coverage that is handedly collected. I collect daily financial media coverage of target from over 118.000 media coverage categorized to overall media coverage (degree of media), positive media and negative media from LexisNexis® which includes, hardcopy and electronic data. I collect daily newspapers and newswires, from four well-known newspapers that represent more than 10% of the weekday circulation of newspapers in the USA (Fang et al., 2014) *Wall Street Journal Abstracts* (*WSJ Abstract*), *New York Times* (*NYT*), *USA Today* (*USAT*), and *The Washington Post* (*WP*).

The empirical results in this study show that the degree of media is positively associated with cash offer, positive media is negatively associated with cash offer and negative news is negatively associated with cash offer in merger deal. In relation between media and premium the results suggest that the degree of media coverage is negatively associated with premium, positive media coverage and premium is negatively significant and negative media coverage is negatively associated to premium. Finally, the results suggest that the degree of media coverage and positive media coverage are positively associated with time of completion, however, negative media is positively associated with time of completion.

Finally, to address potential concern regarding to the endogeneity of my sample and I assess the sample selection bias by using Propensity Score Matching (PSM) method. With taking everything into account, my findings on the robustness tests are aligned with the results from the previous analyses. Using Rozenbaum Bound (RB) analysis, I check the missing covariate of my final results which should be change and increase the relative odds of treatment variable by 65%–75% (Adra & Barbopoulos, 2019; Rosenbaum & Rubin, 1983).

To that end, this study contributes to the corporate finance literature in the following ways: First, to my knowledge, this paper will be the first to document the impact of different types of media coverage of a target firm on several dimensions of takeover transactions (means of payment, premium offered, and time of completion) and therefore adds to the literature on

the identification of determinants of the aforementioned M&A aspects. Second, by uncovering some evidence on the relationship between media and merger, I show that the impact of media coverage works in part through fluctuation of information asymmetry in takeover deal.

This remainder of this study is structured as follows. Section 2 reviews literature of M&A and media coverage, the determinants of financial media coverage. Section 3 develops models and methodology, discuss the database, and set the empirical predictions. Section 4 is dedicated to the findings. Section 5 addresses the potential endogeneity. Section 6 discusses the conclusions and limitations of this study.

## 1. An overview of literature

Several studies suggest that media coverage is one of the important sources of information (Ahern & Sosyura, 2014; Brown & Ryngaert, 1991; Cheng et al., 2017) consequently, Information plays a significant role in determining decisions in the firm. Important information catches the eyes of media and the audiences pay attention to what media disseminates around the globe (Hossain & Javakhadze, 2019). Media applies its power and influence role to various aspects of corporate policy (Zingales, 2000). There is clear consensus that the media creates common knowledge in the financial market (Dyck & Zingales, 2003). As a result, it is unfeasible for firms to ignore the influence of media sentiment on financial decision making. Media coverage is a crucial mechanism in disseminating information to the stakeholders and investors Naumer and Yurtoglu, (2019). Therefore, it is crucially important to study how information from media can impact in corporate takeover. There is expanding empirical literature regarding the relationship between media and finance but still very small due to various types of media coverage. Due to the ability of the media to integrate, package, and spread information, it has become an increasingly important source of information for decision-makers (Gao et al., 2009).

### *2.1. Information asymmetry in takeover*

In this paper I extend the literature and its core to discover how information asymmetry influences M&A and, seeking to further this point, I focus on the role of media coverage of a target firm in degrees of media coverage, and positive and negative types of media coverage. The prevailing consensus in the M&A literature proposes the important role of news and its impact on the financial behavior of firms, such as creating narrative and policymaking (Chan, 2003; O'Connell & Mills, 2003; Soroka, 2006). To avoid "Lemon" problem due to asymmetric information, Meyer & Majluf, (1984) suggests acquirers with private information to be cautious about targets' estimation of value that the acquirer suggest. Along similar lines, it has been documented that information diffused by the media strongly affects M&A transactions (Yang et al., 2019). There is a notable focus on investors in the financial market whose vigorous desire to hunt for information plays a significant role in M&As (Shleifer & Vishny, 2001). Among others, Tetlock, (2007) argues about the casual observation of media coverage and suggests that the content of news, especially the ones that come from newspapers, could be linked to investors' financial behavior. Furthermore, prior researches have studied media coverage can decrease information asymmetry and affect numerous aspects of the relevant market for instance, the positive impact of media coverage on investment funds (Dyck et al., 2008), the negative impact of media on stock returns (Fang & Peress, 2009); and the "independent influence" of media coverage on the cost of debt (Gao et al., 2009).

While there are a large number of sources of information that influence the acquirer to decide about the target and how to close the deal, determining the type of information that impacts on investors' decisions is difficult. This may be due to the various types of media coverage that draw the attention of stakeholders (Westphal & Zajac, 2013). Although the nature of media as an information source has been acknowledged by many scholars (Ahern & Sosyura,

2014; Chan, 2003; Dyck & Zingales, 2003; Fang & Peress, 2009; Liu & Li, 2019), there is little understanding of how information propagate from the news can effect on the deal between acquirer and target.

### *2.2. Degrees of media coverage, positive media coverage, and negative media coverage*

The common perception of media coverage is that information from media, which is occasionally referred as "news attention cycle", is extremely important in attracting attention and, subsequently, for decision-making (Olsen et al., 2003). Although media coverage appears to have a compelling role in biasing the perception of individuals with positive and negative information, for instance (Diermeier et al., 2017), in macro levels of analysis, the degree of media coverage is expanded as a disseminating source of information. In addition to the public perception of media coverage, this unit is a provenance of information that leads the majority of its users. However, public perception of media coverage and the research into the way people perceive news media has been studied by many scholars (Tsfati & Cohen, 2013). The notion of the degree of media coverage applies to how the audience perceive the information. It should be noted that there are different mechanisms that can influence the stakeholders, investors, and managers to explore and process the information, such as media intermediaries or the self-perception and self-interpretation of information from the media. Having said that, conversely, it is also important to know that the information presented by the media has already been selected and modified through the aim of the media intermediary.

The degree and the influence of media is divided into two positive and negative contents. *New York Times* columnist Bob Herbert argues that "A common problem with media is their tendency to lead with stories the public wants to read, rather than what it needs to know." The assessment of sentiment in written text is inevitably subjective and subject to considerable disagreement (Wiebe et al., 2001).

The above note highlights the fact that positive and negative information can influence the performance of firms. In principle, information asymmetry between acquirer and target can help both sides of the deal in what is a vague situation. If the news is positive, the information asymmetry alleviates doubt and unclear thoughts for both acquirer and target and, likewise, if there is negative news, the consequences of negative information would be different and might lead to a means of payment other than cash, prolong the time of completion and may lead to higher premium. On the other hand, sometimes, negative news will positively affect the decision of the acquirer as the negative news might be negative from the perception of the newsmaker but have a positive signal for the acquirer.

In the M&A-related literature, abundant empirical studies suggest that people usually periodize negative information rather than positive information (Fournier et al., 2020). Several researches aimed to study the specific industries and media and how media disseminates information in these industries from newspapers to media broadcasts (Chandra & Collard-Wexler, 2009; Evens & Donders, 2015; Greco, 1996). Among the studies that predominantly examine the influence of media coverage in finance, I believe that this study is the first to specifically present the influence of various types of media coverage of the news taking into account different aspects on M&A transactions.

The synchronicity of media broadcasts in the financial crisis of the firm uncovers new insights into firms' information status (Fang & Peress, 2009; Tetlock, 2007, 2010). By studying different paradigms, I study media by its unit of newspaper articles to see the relevance of media in M&A transactions. Several studies have examined the relationship between the media and financial markets, although, to date, there is no specific research explicitly investigating the reason for investors' intentions decreased as a result of the asymmetry of information by the media. Research in this area indicate the novel data sources that come from the media and

their impact on different outcomes of financial markets by focusing on how the information impacts the behavior of the firm and, subsequently, the merger deal.

The literature on the financial media includes a variety of empirical researches that aim to find the value of financial news by performing textual analysis (Feng, 2010; Kearney & Liu, 2014; Loughran & McDonald, 2011; Nardo et al., 2016; Tetlock, 2014). Tetlock (2010) concluded that public news plays a significant role in decision-making processes for investors, and furthermore, Roll (1988) emphasizes that the information deduced from news alone cannot act as a tool to affect the financial behavior of firms. This study improves my understanding on how information asymmetry impacts the process of takeover and the way investors apply the information from media to the future of their firm. Furthermore, as the information from the media is pre-selected and analyzed before its broadcast, there are some levels of reassurance from the media for its audience (here, the investors). Moreover, the same perception regarding the information from media can assist investors and managers to promote the post-merger relationship with their counterpart or opponents.

This research posits different roles played by the media coverage in the financial performance of a firm. The agency problem is asymmetric information-driven conflicts of interest and their influence on the takeover transaction, which lead to information asymmetry. From the role of media as intermediary between corporate parties to reduce information asymmetry (Diamond & Verrecchia, 1991), through shaping corporate policy of firms by advising and assisting them to have socially acceptable behavior (Dyck et al., 2008), to alleviating the cost of capital via advisors' attention (Merton, 1987) and eventually to influencing the public perception of the events by inducing the information, media coverage is a tool for firms to collect and certify information. It is well known in the literature that M&A success is highly characterized by informed decisions (Dionne et al., 2015). Based on the above

factors I expect, *ceteris paribus,* there are positive, negative or neutral influence from the media on the aforementioned aspects of acquisitions.

### *2.3. The determinants of method of payment in takeover*

Extant empirical studies have considered information asymmetry and its effect on different means of payment, such as use of cash, stock, or a hybrid of both methods (Eckbo et al., 1990; Glascock et al., 2017; Hansen, 1987; Martin, 1996; Travlos, 1987; Yang Zhao & Renneboog, 2014). One of the main focuses in this study is the significant role of information asymmetry in means of payment. In addition, it has been found by many scholars that there are fewer cash payments and more stock payments when the information asymmetry is high in takeover transactions (Eckbo et al., 1990; Hansen, 1987; Yang Zhao & Renneboog, 2014).This indicates the significant role of information and how media as a tool to assist decision-makers in firms in the takeover process.

To help triangulate evidence, Travlos (1987) argues that negative information is caused by financing deals through exchange of common stock. This is a potential reason that positive information may lead to payment in cash in a takeover deal. Prior study, Kalay and York, (1987) emphasize the influence of negative information on market participants' new equities in the firms. Furthermore, it is well established in the literature that the more the information asymmetry caused by the media exists, the less is the probability that the acquirer will pay in cash. In line with this, Hansen (1987) studies the desire of the acquirer to pay with stock rather than cash when the asymmetric information is between acquirer and target, and Eckbo et al. (1990) study the intention of the acquirer to pay using a mixed method of cash and stock when information asymmetry occurs. Noting types of information induced from media (e.g., positive and negative), the reaction of investors varies on the means of payment in merger deal. Accordingly, I posit that there is a positive correlation between positive news and MOP.CASH and a negative correlation between negative news and MOP.CASH.

*Hypothesis 1a: The degrees of media coverage*[3] *is positively associated with cash offers in a takeover.*

*Hypothesis 1b: Positive news is positively associated with cash offers in a takeover.*

*Hypothesis 1c: Negative news is negatively associated with cash offers in a takeover.*

### *2.4. The determinants of premium in takeover*

According to the literature, the target's acceptance of the deal is more likely to depend on the premium offered (Luypaert & Van Caneghem, 2014). According to Zhu and Jog (2011), there is a strong positive relationship between information asymmetry and acquisition premium in the acquisitions of emerging market firms. Similarly, previous literature examines the effect of information asymmetry on premiums and how uncertainty in information asymmetry impacts on the anticipation of both the target and acquirer in the takeover process (Hennart & Reddy, 2000; Jory et al., 2016; Zhu & Jog, 2011). Continuing this line of reasoning, there are diverse opinions about the positive and negative effect of information on the acquisition premium.

The more symmetric information about the target is revealed by the media, the more it is expected of the acquirer to pay the target. Furthermore, higher premiums are paid in takeover transactions when the acquirer receives negative news about the target (Yang et al., 2019). To explain this phenomenon, Baumeister et al. (2001) suggest that negative information has a strong impact on the behavior of investors compared to positive information. I also know the effect of penetration of information asymmetry on premium and how it can influence on lower paid premium in takeover (Jory et al., 2016; Zhu & Jog, 2011). In a similar vein, in the research conducted by Loughran and McDonald, (2011), the authors analyze the use of negative and positive words and the results suggest that the tendency is more to negative words and, in fact,

[3] In the first hypothesis, I check media coverage as a general concept, with no specification for the type of news.

the number of positive words is lower than negative words. Finally, Rozin and Royzman, (2001) argue the attraction of negative information to public attention and the creation of stronger reactions.

In this study, I develop hypotheses about the effect of the degrees of media coverage, and positive and negative media coverage on the acquisition premium. Thus, my focus is on how information disseminated by the media is associated with the acquisition premium. Positive MC reduces asymmetric information, which leads to the acquirer paying a lower premium to the target, and this implies the vital role of information in the process of takeover and how asymmetric information between acquirer and target might affect the acquisition process. Conversely, a wide range of the literature suggests that the negative information (news) elevates asymmetric information and causes the acquirer to pay more for the premium in a merger deal (Loughran & McDonald, 2011; Rozin & Royzman, 2001; B. Yang, Guo, Sun, et al., 2018).

*Hypothesis 2a: The degree of media coverage is associated with the acquirer paying a less premium in a takeover.*

*Hypothesis 2b: Positive media coverage of the target is associated with the acquirer paying less premium in a takeover.*

*Hypothesis 2c: Negative media coverage of the target is associated with the acquirer paying more premium in a takeover.*

### *2.5. The determinants of time of completion in takeover*

Pursuant to studies, understanding the drivers of completion time is important, as a prolonged deal duration is costly and postpones the realization of synergy gains. It should be emphasized that an enhanced understanding of time to completion matters not only for merging companies but also for their investors and rivals (Luypaert & De Maeseneire, 2015). Moreover, various papers have discussed the importance of deal completion time in M&As (Ahern &

Sosyura, 2014; Kolb & Tykvová, 2016; Luypaert & De Maeseneire, 2015). Luypaert and De Maeseneire (2015) also posit that information asymmetry influences due diligence and accordingly prolongs the time of completion in takeover transactions. The drawback is that the nature of due diligence in the M&A process involves time-consuming investigation and, in this period, asymmetric information might prolong due diligence. Although no prior studies suggest that longer due diligence is defective, the potential investors might take more time in the due diligence process in a merger deal, which could be costly for both sides of acquisition. Other existing literature indicates that there is no clear evidence of whether due diligence takes time during takeover transactions (Salim et al., 2018). Besides, time of completion can be prolonged without knowledge of managers due to hindsight bias,[4] which is caused by "degrees of consistency between old and new information" (Angwin, 2004).

As much as there are various incentives to shorten the time of completion in takeover transactions, there are also some deterrents that generate delays in completion time, and information, whether positive or negative, can influence the takeover transaction by impacting on the duration of the completion procedure. Furthermore, information asymmetry is one of the factors that cause hidden actions in legal due diligence and contracts and lead to prolonging the deal (Parvinen & Tikkanen, 2007). Consequently, propagation of positive news leads to more information and the more information that exists, the less time will be taken to complete a deal. Conversely, producing negative news by the media leads to information asymmetry and prolonging the deal.

*Hypothesis 3a: The degree of media coverage has an ambiguous impact on the time of completion in a takeover.*

*Hypothesis 3b Positive news positively impacts on the time of completion in a takeover.*

[4] Hindsight bias is a psychological phenomenon that occurs in people who believe that they predicted an event accurately. This phenomenon has direct impact on the judgment of a person (Fischhoff, 1975).

*Hypothesis 3c: Negative news negatively impacts on the time of completion in a takeover.*

# 2. Methodology

## *3.1. Data*

I collect my data by using comprehensive data on M&A deals in the US announced between January 1, 2000 and December 31, 2017 from the Thomson Financials' Eikon mergers and acquisitions database. I obtained the accounting data from Compustat from the same period as my takeover dates. I use the Center for Research in Security Prices (CRSP) for stock prices which is used in the robustness check. Finally, I use The Institute Brokers Estimate System (I/E/B/S) to provide data for analyst coverage. In analyzing the process, I first sorted the data according to the period of 2000–2017 (due to the availability of media data). To be included into my analysis were : (1) Both acquirer and target firms must be publicly traded; (2) Only the highest percentage owned by the acquirer was chosen in double mergers in the same year; (3) The selected acquirer should own less than 5% of the targets' share before the takeover transaction; (4) Only three types of means of payment should be chosen, i.e., cash, stock, and a combination of both and missing values should be dropped (Luypaert & Van Caneghem, 2014; J. Yang et al., 2019); and finally as there are some studies that focus on acquirer level of takeover (Ahern & Sosyura, 2014; Barbopouloset al., 2019), accordingly, my focus in this paper is only on the target level. With all the data merged, the final sample included 902 firms with degrees of media coverage, and positive and negative news from January 2000 to December 2017.

To detect the sentiment embedded in financial media coverage, data on media coverage from 01 January 2000 to 31 December 2017 were hand-collected from LexisNexis[5] (Fang & Peress, 2009; Gao et al., 2009). I then categorized as degrees of media coverage ($MC^D$), positive

[5] LexisNexis is an academic database that provides information on firms with the capability to filter various modifications."

news *(PMCT)* and negative news *(NMCT)* (Shu et al., 2017). Collecting the financial media coverage, I started from 2000 as previous news data are not adequate for cover the information of media coverage for firms before 2000. In addition, most research focus on recent decades, so I decided to continue in their path.

*3.2. Construction and measurement of the independent variable (media coverage)*

Media coverage in this paper is measured by the total number of newspaper and newswire articles about M&As to proxy for the M&A news exposure written about a firm in the month prior to announcement (L. Fang & Peress, 2009) in well-known daily newspapers and newswires, including the *Wall Street Journal Abstracts* (*WSJ Abstract*), *New York Times* (*NYT*), *USA Today* (*USAT*), and *The Washington Post* (*WP*). I chose the aforementioned newspapers as they represent more than 10% of the weekday circulation of newspapers in the USA (L. H. Fang et al., 2014).

Next, I merged all the data of the newspapers into one comprehensive file. I restricted my data to the period from 1 January 2000 to 31 December 2017 to match the mainstream of recent financial news. I narrowed my data to the four aforementioned newspapers to "date," "geography by document," and "negative news," which included both "negative business" and "negative personal news" (due to the overlap of these two types of negative news, I aggregated them into negative news in general). When searching for articles, I used the exact name of the target firm as used in the in LexisNexis database. In addition, I included "geography by documents" in "North America" and specifically the USA (as my M&A data are based on this area). Each newspaper article included the title, date of publication, section, body, link, graphics, classification, subject, organization, and industry of the related news. I also included the industry trade press, which is a type of news, and finally, I excluded all other languages except English.

To define what are positive and negative news and distinguish them from the general concept of media coverage (as I explained as degrees of media coverage), I categorized the news with the unique NexisUni®[6] algorithm. First, I downloaded all the news without specifying positivity or negativity or the news. Then, I deselected negative news, so the results were positive news, and finally I selected only negative news, which resulted in all the negative news concerning the target firms. According to NexisUni:

*"…The Negative News category can be described as follows: Contains negative news (adverse or unfavorable) stories relating to a business entity or person. The Negative News search enables users to quickly and easily find out important negative information about an organization or person that might not be readily available through other means. Examples of terms that Negative News looks for in the text of articles include "mismanagement," "incompetence," "deceptive business practice," "misconduct," "negligence," and "theft." The full taxonomy is available in English and smaller subsets in French, German, Dutch, Spanish, Portuguese, Italian, Russian and Arabic. The terms have been selected by a LexisNexis Smart indexing team. Limitation of the Negative news queries: There is no proximity between the subject of the negative personal news and the negative terms that are picked up by the classifier."*[7] and that is how I identify negative news by selecting a category with the same name.

In selecting the newspaper articles on the target firms, I matched the names of firms with all the content of the news from the title to the text (Solomon et al., 2014; Tetlock et al., 2008). I also checked the correct name of the target firms, as some of the target firms' names had abbreviations in the data. For the analysis of my independent variables, I first used the logarithm of one plus the number of newspaper articles as a proxy for media effect (L. Fang &

[6] https://www.lexisnexis.com/en-us/professional/academic/nexis-uni.page
[7] Source: Client developer Business Information Solutions LexisNexis https://www.lexisnexis.com/en-us/gateway.page

Peress, 2009; Gao et al., 2009; L. X. Liu et al., 2013). To examine the effect of media coverage, I used a portfolio sort and divided the sample into degrees or media coverage ($MC^D$), positive/negative news ($MC^{pn}$ and $MC^{nn}$) one month prior to the announcement date of the takeover transaction. Appendix A is an example of part of a news and the specification of each news by details.

### *3.3. Dependent variables (means of payment, premium, and time of completion)*

#### *3.3.1. Means of Payment*

Studies of means of payment in corporate acquisition are intriguing. In this paper, means of payment is my dependent variable. To analyze this variable, I used a binary method and converted my nominal data to count data of 1 if the means of payment is cash and 0 otherwise. Data were gathered from Thomson Financials' EIKON Platinum mergers and acquisition with all the transactions from 2000 to 2017 with three methods of cash, stock and the combination of both. Table 1 represents the histogram of distribution for the number of all kinds of payments (cash and other forms of payment) for all the firms in the sample with degrees of media coverage, positive and negative media coverage. The vertical axis represents the total number of all payments and the horizontal axis represent the years of the sample from 2000–2017. At the top of each scale, there is the number of each payment sorted by year.

[ Insert Table 1]

In the table, 41.64% of the payments are made by cash and the years 2016, with almost 4%, and 2010, with 3%, are the years in which the acquirers have paid by cash in takeover transaction.

#### *3.3.2. Premium*

Prior researches defined the premium as the price difference between the price of the purchasing firm more than the price of the assets of the target firm in the takeover transaction (Yuheng Zhao et al., 2018). The data set of the premium is from Thomson Financials' Eikon

mergers and acquisitions database, with all the transactions from 2000 to 2017. Moreover, the premium is generally calculated by the bid price that the acquirer suggests minus the market value of the target firm prior to the announcement of takeover, divided by the value of the target firm prior to the announcement of takeover (Jory et al., 2016; Kim et al., 2011; Laamanen, 2007; Reuer et al., 2012). Various papers study how the premium offered is usually computed based on the target stock price between one month to 40 days prior to announcement (Barbopoulos et al., 2019; Gomes & Marsat, 2018; Kim et al., 2011). To withhold the possible fluctuation or implication on the market value of the target firm due to rumors about value of the target prior announcement (Schwert, 1996), in this model I use a month prior announcement to calculate the influence of MC on Premium.

$$Premium_i = \left[\frac{FDV_i - MVT_{-28}}{MVT_{-28}}\right] \quad (1)$$

where the $FDV_i$ is the final deal value between two sides of takeover transactions. $MVT_{-28}$ is the market value of the target firm 28 days prior the date of announcement of the deal in takeover.

### *3.3.3. Time of Completion*

Timing comprises the takeover process divided into various periods, from pre-negotiation to negotiation, announcement and transaction period (Ahern & Sosyura, 2014). However, I include the whole timing of completing of completing the takeover transaction and how media impact on the whole period. Another dependent variable is the time of completion in the takeover transaction. The data set for this variable is obtained from the Thomson Reuters Eikon Platinum mergers and acquisitions database. I calculate the number of days between the announcement and completion date. Conventional wisdom proposes that the longer the takeover transaction to completion, the higher the cost both acquirer and target spend on the whole acquisition process.

## *3.4. Control variables*

To control my variables, I used target and acquirer firm size, target and acquirer firms' analyst coverage (analyst coverage reduces the information asymmetry (Ying Li et al., 2019)), target and acquirer firm age, target and acquirer market-to-book (MTB) ratios, target employees, target and acquirer leverage. In addition, I adopted these variables: target and acquirer MTB ratio, target and acquirer leverage, target and acquirer firm size, target and acquirer cash flow, target and acquirer analysts coverage, target and acquirer MTB ratio, target and acquirer analysts coverage to control the information intermediary, acquirer free cash flow, target high tech, target R&D, target sale growth, target and acquirer-related industry and target and acquirer states in the US (Jory et al., 2016; Luypaert & De Maeseneire, 2015).

Regarding the size of target and acquirer, there much of the literature argues the relevance of firm size with valuation, hubris and information (Gorton et al., 2009; Officer et al., 2008). Some studies argue information asymmetry is one of the reasons that the acquirers are less likely to buy the target firm with cash and generate a lower return by using a stock swap in the deal (Travlos, 1987) and that can enable bigger firms, which might have access to more information, to have a cash choice of payment in their transaction. Definitions of all control variables are provided in Appendix B.

### *3.5. Model specification*

#### *3.5.1. Means of Payment Model*

I run binary Probit regression to test the model on how media coverage on both negative and positive sides impact on means of payment. I have a dichotomous dependent variable, which is $Y_i \in \{0,1\}$. To redefine my variable, I transform the dichotomous *Y* dependent into the continuous variable $Y' \in (-\infty, +\infty)$ and by using the "link function," the outcome defines to real-valued *Y*. Eventually, I arrive at $\Pr(y_i = 1|x_i) = \Phi(X^T\beta)$ . Also, to create a dummy variable, I recode the variable mean of payment to cash offer:

$$Cash = \begin{cases} 1, & if\ the\ means\ of\ pyment\ is\ cash \\ 0, & otherwise \end{cases} \quad (2)$$

To test my *H1a*, *H1b* and *H1c* hypotheses I have this model:

$$Pr(CASH = 1)_i = \alpha + \beta_1 MC^D{}_i + \beta_2 MC^{pn}{}_i + \beta_3 MC^{nn}{}_i + \rho\, Control\, X_i + \gamma\, Control\, Z_i + \delta_j + \varepsilon_i \quad (3)$$

where the probability of cash offer as dummy variable is one when the mean of payment is cash and zero otherwise, and the independent variable is media coverage *MC* in a month prior to announcement date. In addition, *i* indexes the number of the deal, $\delta_j$ is industry and Φ is cumulative distribution function of standard normal distribution. The marginal index effect *(MIE)* is zero as the $x_i$ is binary variable as $MIE$ of $x_i =$ value of $x_i\beta$ when $x_i = 1\ or\ x_i = 0$ . The marginal probability effect *(MPE)* that is partial effect of independent variable on the probability that the dependent variable is equal to one $y_i = 1$ and $MPE\ of\ x_i$=$\emptyset\,(x_i\beta) - \emptyset(x_0\beta)$.

In the first test of my means of payment model, I regress the degrees of media coverage ($MC^D$) and afterwards I test the positive news $MC^{pn}$ variable and the negative news $MC^{nn}$ . Control $X_i$ represents a vector that includes the control variables of primary interest in my study, including information asymmetry. I employ the number of acquirer analyst coverage *(A.ANAL.C)* and target analyst coverage *(T.ANALYST.C)* as a proxy to detect the effect of information asymmetry (Gao et al., 2009). Control $Z_i$ represents a vector included in the control variables and I used firm characteristics to test control variables for means of payment Relative size (*REL.SIZE*), target market-to-book ratios *(T.MTB)*, target analyst coverage *(T.ANALYST.C)*, target leverage (*T.LEV)*, target sales growth *(T.SALES.GR)*, target in high-tech industry *(T.HI.TECH)*, target R&D *(T.R&D)*, target firm size (*T.SIZE)*, acquirer market-to-book ratios *(A.MTB)*, acquirer analyst coverage *(A.ANALYST.C)*, acquirer leverage (*A.LEV)*, acquirer stock returns (*A.STOCK.REs)*, acquirer free cash flow *(A.FCF)* and same state for both acquirer and target in US *(SAME.STATE)*. All the regressions include year fixed effect and industry effect of Fama-French 48 classification (Fama & French, 1997).

### *3.5.2. Premium Model*

To analyze the nexus of media coverage with premium in the takeover transaction, I opted for an OLS model to test my *H2a*, *H2b and H2c*. The premium in a takeover transaction is calculated based on the price that the acquirer suggests to the target minus the target's market value prior to the announcement date divided by the market value of the target.

To analyze the relationship between MC and premium, I used OLS regression:

$$4W.Premium_i = \beta_0 + \beta_1 MC^D{}_i + \beta_2 MC^{pn}{}_i + \beta_3 MC^{pn}{}_i + \rho\ Control\ X_i + \gamma\ Control\ Z_i + \delta_j + \varepsilon_i \quad (4)$$

where premium is the dependent variable for target i and Control $X_i$ is a vector to control my independent variable, including acquirer analyst coverage *(A.ANALYST.C)* and target analyst coverage *(T.ANALYST.C)* as a proxy to detect the effect of information asymmetry in MC (Gao et al., 2009). Control $Z_i$ is a vector including the control same industry effect (*Industry),* and variables ar target book-to-market ratios *(T.MTB)*, target cumulative abnormal return *(T.CAR),* Relative size (*REL.SIZE*), acquirer cumulative abnormal return *(A.CAR),* acquirer book-to-market ratios *(A.MTB)* and target R&D *(T.R&D)*. All the regressions include year and industry fixed effect of Fama-French 48 classification (Fama & French, 1997).

### *3.5.3. Time of Completion Model*

There are various factors that can affect the M&A time to complete, such as high-quality of accounting information in reducing time (Marquardt & Zur, 2015) or common investment bankers in increasing the time of completion (Agrawal et al., 2013). In this model, I tested my *H3a*, *H3b* and *H3c* hypotheses to determine the relationship between media coverage in both negative and positive news in time of completion *(TOC)*. To analyze the time of completion, I used the Luypaert and De Maeseneire, (2015) method by calculating deal completion day *(DCD)* minus date of deal announcement *(DDA)*.

$$TOC = DCD - DDA \quad (5)$$

By focusing on information asymmetry and the likelihood of *T.O.C* and to examine my hypotheses, I estimate the following regression to see the probability of Time of Completion. Furthermore, to reduce the influence of outliers of my dependent variable, I used OLS to regress the variable.

$$(TOC_i) = \beta_0 + \beta_1 MC^D{}_i + \beta_2 MC^{pn}{}_i + \beta_3 MC^{pn}{}_i + \rho\ Control\ X_i + \gamma\ Control\ Z_i + \delta_j + \varepsilon_i \quad (6)$$

where the *T.O.C* is the variable that is the number of the days between deal announcement and actual day of completion. First, I test the degrees of media coverage ($MC^D$) and after that I tested $MC^{pn}$ in the regression. Then I test $MC^{nn}$ as my other independent variable. All my independent variables are binary variables if there is any news; positive or negative news is one and zero otherwise. Control $X_i$ represents the vector of control for my independent variable with acquirer analyst coverage *(A.ANALYST.C)* and target analyst coverage *(T.ANALYST.C)* to detect information asymmetry. Following prior literature, Control $Z_i$ represents the vector of control for my dependent variable, including characteristics of both acquirer and target firm, such as profitability of target *(T.ROA)*, target analyst coverage *(T.ANALYST.C),* target cumulative abnormal return *(T.CAR),* target leverage (*T.LEV)*, profitability of acquirer *(A.ROA*), number of the deals, acquirer analyst coverage *(A.ANALYST.C),* acquirer cumulative abnormal return *(A.CAR)*, acquirer leverage (*A.LEV)*, target and acquirer belonging to the same industry (*Industry*), the target relative size to acquirer (*REL.SIZE*), dummy variable of means of payment as one if the means of payment is cash offer and zero otherwise *(MOP.CASH)* (Amel-Zadeh & Zhang, 2015; Luypaert & De Maeseneire, 2015; Marquardt & Zur, 2015; Salim et al., 2018; Wangerin, 2019). All the regressions include year and industry fixed effect of Fama-French 48 classification (Fama & French, 1997).

To further sharpen the hypothesis of this study, I check the sensitivity of my data summery and the outliers by using some robustness checks after the data summary.

[Insert Figure 1.]

# 3. Empirical Findings

## *3.1. Descriptive statistics*

Table 2 reports the summary statistics of 902 news for all target firms during the period of 2000 to 2017 from the four journals *Wall Street Journal Abstracts (WSJ Abstract), New York Times (NYT), USA Today (USAT), and The Washington Post (WP)*. Panel A tabulates the yearly amount of media coverage categorized by degrees of media coverage, positive and negative news. The column "Total MC of all papers" refers to the mean, standard deviation and median of the total numbers of media coverage news presented. Panel B reports the distribution of media coverage across industries. The panel represents the fraction of degrees of media coverage, positive and negative news for target publicly traded firms. In addition, the Panel A reports the mean, median, standard deviation, and 25th and 75th percentiles of the main independent variables.

[Insert Table 2.]

As reported in panel A, the amount of media coverage per year escalates gradually with two peaks in 2009 and 2014. In contrast, there are only a few target firms with negative or positive news at the same time and all the target firms in my sample have either positive or negative media coverage over 2000 to 2017. Panel A reports the mean, standard deviation, median, first and third quartile of total media coverage news. The total amount of positive news is 897 deals, and the negative news comprises 594 of all news.

Table 3 represents the summary statistics of the variables in this study. The variables are winsorized at the 99th and 1st percentiles to mitigate the effect of the outliers. The mean and standard deviation for the total amount of media coverage (*DGMCT*) are 131.7273 and 611.5345, respectively. The mean and standard deviation figures for positive media coverage

of target (*PMCT*) are 278.7655 and 175.3598, respectively. The media coverage of target with negative news (*NMCT*) has a mean and standard deviation 178.1212 and 155.1246, respectively. Methods of payment by cash (*MOPCASH*) has the mean and standard deviation of 0.4556541 and 0.4983059, respectively. *4WEEKPREMIUM* is the excess price offered to the target one month (4 weeks) before the announcement of the deal. Applying this measurement for the premium will eliminate the effect of run-up stock price of the target firm (Jory et al., 2016; Schwert, 1996). The mean and standard deviation of the 4-week premium are 0.4222543 and 0.4020742, respectively. Time of completion (*T.O.C*) is calculated as the number of days between the announcement of the deal and completion date. The mean and standard deviation of T.O.C are 132.0754 and 97.7371, respectively.

[Insert Table 3.]

Table 4 represents the Pearson correlation coefficient for the dependent and independent variables in this study. The sample consists of 902 observations of publicly traded target firms, and the sample period spans 2000 through 2017. MOP.CASH is an indicator variable with the value of one if the target firm has media coverage, otherwise zero. DGMCT is the degree of media coverage and equal to the total number of media coverage for target firms. PMCT refers to the media coverage of the target with positive news and NMCT refers to the media coverage for target firms with negative news. A.FCF is acquirer free cash flow. A.MTB is acquirer book-to-market ratios, A.LEV is leverage of the acquirer, A.STOCK.RE is the stock return of the acquirer and A.ANALYST.C is the acquirer analyst coverage. These refer to target firms: T.MTB target book-to-market ratios, T.SIZE target size, 4W.PREMIUM is the excess price offered to the target one month prior to transaction (4 weeks), T.R&D target R&D, T.SALES.GR target sales growth, T.LEV is target leverage, T.ANALYST.C is target analyst coverage. In addition, other dummy variables in this study are T.HI.TECH, which is target high-tech industry, Related as the industry relatedness of both acquirer and target firms,

and SAME.STATE as both firms being in the same state. All variables are winsorized at the 1% and 99% levels and Bonferroni adjustment was used to adjust the significance level. t-statistics are referred on standard errors adjusted for the autocorrelation and ∗, ∗∗, and ∗∗∗ represent statistical significance at the 10%, 5%, and 1% level, respectively.

[Insert Table 4.]

### *3.1.1. Multiple Regressions of M&A Methods of Payment*

I classify the media coverage to positive and negative news and present the measurement of payment by applying the binary method and convert my nominal variable to count data of 1 if the means of payment is cash and 0 otherwise. Table 5 displays the results for multiple Probit regression.

[Insert Table 5]

The table presents different results for the multiple regression from Model (1) to Model (4) for my *H1a*, *H1b and H1c.* I tested the relationship between degrees of media coverage, positive and negative media coverage and methods of payment and how it affects the decision of the acquirer to make the payment. The table presents coefficients and *t-statistics* and all the standard errors and *z-statistics* are adjusted for heteroscedasticity- consistency (White, 1980). Model (1) includes the control variable. This model specifies that most of the control variables are significant at the 5% level. In Model (2), the degree of media coverage for the target is added. The results indicate that the coefficient associated with DGMCT is .000095 with a *p-value* of (0.053), which suggests that there is a correlation between methods of payment and degree of media coverage of the target and in line with H1a. In Model (3), I use positive media coverage of target and the coefficient associated with positive media coverage is significant with -0.0001 and *p-value* of (0.032) which rejects the H1b. Model (4) represents the negative media coverage of target firms with the coefficient is 0.0006 and the *p-value* is (0.000), which suggests statistically highly significant in the regression. In another word, for every additional

number of negative media coverage, the expected number of methods of payment as a cash is decreasing by 0.0006 on average, holding all other variables.

In addition, the table presents significant correlation between some variables. I checked whether there was any linear association between dependent and independent variables by using the variance inflation factor (VIF). The estimated coefficients for the variables were significant at 5% and 10% level. In addition, the VIF was less than VIF∼2.4 and did not surpass critical values or more than 5 in pairwise correlations, and this suggests that they were below the ceiling of 10 and there were no severe multicollinearity issues in my model (Greene, 2002; Hair et al., 1973).

### *3.1.2. Multiple Regressions of M&A Premium*

Table 6 reports the result of the ordinary least squares (OLS) regression for the dependent variable (4W.Premium) and independent variables (degree of media coverage, positive media coverage and negative media coverage). 4W.Premium is excess offer price over stock price four weeks before the announcement of takeover. As in the previous section, DGMCT is the degree of media coverage and equal to the total amount of media coverage for target firms. PMCT refers to the media coverage of the target with positive news and NMCT refers to the media coverage for target firms with negative news. All control variables are defined in Appendix B. All variables are winsorized at the 1% and 99% levels and Bonferroni adjustment was used to adjust the significance level. T-statistics are referred on standard errors adjusted for the autocorrelation and ∗, ∗∗, and ∗∗∗ represent statistical significance at the 10%, 5%, and 1% level, respectively. The table presents coefficients and t-statistics, and all the standard errors and P-values are reported in parentheses.

[Insert Table 6]

Model (1) in this table includes all my control variables. Column (2) measures the effect of degree media coverage and indicates that media coverage in general is negatively associated

with premium and lead the acquirer to pay less premium to target. For every additional number of degree of media coverage, the expected premium decreases by 0.0000347 on average, holding all other variables. This leads the acquirer to pay less to the target which aligns with the *H2a*. Column (3) presents the effect of positive media coverage and, as anticipated, the coefficient is negative (-0.0211**) and significant at 5% level which lead the acquirer to pay less to target. The result robust with the *H2b* that positive media coverage of the target will lead the acquirer to pay a less in an M&A transaction. Column (4) includes the negative media coverage of the target and the coefficient is negative (-0.0296) and significant at 5% level. The result confirms the third hypothesis *H2c* that negative media coverage is negatively correlated with the premium paid and will lead the desire of the acquirer to pay more to the target. In all models, I have analyzed both acquirer and target firms and deal characteristics.

### *3.1.3. Multiple Regression of M&A Time of Completion*

Table 7 reports the result of the ordinary least squares (OLS) regression for the dependent variable (Time of completion) and independent variables (Total number of media coverage, Positive media coverage and Negative media coverage). TOC is the number of the days between the deal announcement and the actual day of completion. DGMCT is the degree of media coverage and equal to the total amount of media coverage for target firms. PMCT refers to the media coverage of the target with positive news and NMCT refers to the media coverage of target firms with negative news. All control variables are defined in Appendix B. All variables are winsorized at the 1% and 99% levels and Bonferroni adjustment was used to adjust the significance level. T-statistics are referred on standard errors adjusted for the autocorrelation and ∗, ∗∗, and ∗∗∗ represent statistical significance at the 10%, 5%, and 1% levels, respectively. The table presents coefficients and t-statistics, and all the standard errors and P-values are reported in parentheses.

[Insert Table 7]

Column (1) includes all my control variables and I particularly choose the variables that are available in all my models. Column (2) introduces Degree of media coverage to the model and the positive coefficient with (.0234) and *p-value* of (0.037), which is significant and consistent with the hypothesis and suggests that the vague impact of the degree of media coverage has on time of completion. In another interpretation, different perception of media coverage pilot to ambiguous impact from media coverage in time of completion. Column (3) measures the positive media coverage on time of completion with the coefficient is positive with (.0262) and *p-value* of (0.022), which confirm the hypothesis. Column (4) measures the impact of negative media coverage on time of completion in takeover transaction with the coefficient is (.0338) and *p-value* of (0.035), is significant at 10% level and does not confirm as the negative media coverage is positively associated with time of completion and decrease the probability of prolonging time of completion in takeover.

## 4. Robustness Test

In this section, I investigate the results of the analyses in several additional methods. I divide the robustness analyses to two sections. First, I assess if any external, unobserved and redundant factors that might effect the sample of target which lead to bias the selection. Second, I check for possible sample selection bias in in next section. To test for the potential endogenity bias, I conduct additional test to evaluate the robustness of the results. To find the potential endogeneity of my selected sample, I intoduce new variables in the test to check the effect of media on several related variables (L. Fang & Peress, 2009).

The first model includes the (Other Payments) as the dependent which includes other methods of payment including stock and the combination of cash and stock and it takes the value of 1 if it us other payments and 0 if it is cash. For the second models of the subsample, I calcculate the data for cumulative abnormal return (3D.CAR) and (5D.CAR). The (3D.CAR)

is the cumulative abnormal return over the window [-1,+1] i.e. three days prior and three day subsequent to the date of announcement and the (5D.CAR) is the cumulative abnormal return over the window [-5,+5] i.e. five days prior and three day subsequent to the date of announcement. For third and forth model which is the stock price, I calculate targets' stock price four weeks prior to the announcement stock price in the subsample. For fifth model, I check the profability, operating performance and characteristics of target firm, I introduce return of assets (T.ROA) of the target firm to the regression (Hossain & Javakhadze, 2019; Salim et al., 2018).

[Insert Table 8]

Consistant with the measurement of (Maung et al., 2019; Starks & Wei, 2013), to check the robustness of premium, I use the acquisition premium calculated based on 1 week window by measuring the natural logarithm of offer premium 1 day prior to the announcement of takeover transaction and the results are presented in table 8.

$$ln\ (1week.Premium_i) = \beta_0 + \beta_1\ ln\ MC^{pn}{}_i + \beta_2 ln\ MC^{nn}{}_i + \rho\ Control\ X_i + \gamma\ Control\ Z_i + \delta_j + \varepsilon_i \quad (7)$$

where premium is dependent variable for target i and Control $X_i$ is a vector to control the independent variable .

[Insert Table 9]

The table reports the result of Ordinary least squares (OLS) regression for the dependent vaiable (1W.Premium) and independent variables (Total number of media coverage, Positive media coverage and Negative media coverage). The sample consists of 902 observations of publicly traded target firms, and the sample period spans 2000 through 2017. 1W.Premium is excess offer price over stock price one day prior the announcement of takeover. I use the natural logarithm of offer premium 1 day prior to the announcement of takeover transaction. All

variables are winsorized at the 1% and 99% levels and used Bonferroni adjustment to adjust the significance level.T-statistics are referred on standard errors adjusted for the autocorrelation and $*$, $**$, and $***$ represent statistical significance at the 10%, 5%, and 1% level, respectively. The table presents coefficents and t-statisitics and all the standard errors and P-values are reported in parantheses. The results remain the same as previous analysis.

Since the data for time of completion is limited only to the deals that are completed, the sample is subject to potential self-selection and to test the possible sample selection bias for the time of completion data, I analyzes the data in for all three dependent variables in next section.

## 5. Sample selection and addressing endogeneity

***Propensity Matching Score***

In this section, I further assess the selection bias and address the endogeneity of my sample. For this study, I use Propensity Matching Score (PMS) method by Smith & Todd, (2005). To obtain the result for PMS, I start with estimation of the Average Treatment Effect (ATT) and compare methods of payment, premium and time of completion with and without three levels of media coverage (degree of media, positive media, and negative media). ATT is the difference between the outcomes of treated and the outcomes of the treated observations if the outcomes had not been treated.

$$ATT = \frac{\Sigma_{i:\,Media\ Coverage=1}\{Media\ Coverage_i(lower\ MC) - Media\ Coverage_i(Higher\ MC)}{N} \quad (8)$$

where ATT is the mean difference between the media coverage (degree of media, positive media and negative media) lower than median and media coverage (degree of media, positive media and negative media) higher than median. *N* is the total number of media coverage for each of the dependent variables (MOP.CASH, Premium and Time of Completion). I follow the method and estimate the propensity score with convert my independents variables to dummy

variable with regards that those targets whose degree of media coverage, positive and negative media coverage are above the median of the sample are the treatment group and below median of the sample are control group. I repeat these steps for methods of payment, premium and time of completion. Following previous literature, I use two-step approach (Adra & Barbopoulos, 2018, 2019; Gomes, 2019). Using logit model, I estimate the propensity score in table 8 (panel A). First, with probability of target to receive low rather than high media coverage, it is sufficient to eliminate the bias due to observed covariates (Adra & Barbopoulos, 2019; Rosenbaum & Rubin, 1983). I restrict the sample of target methods of payment, premium and time of completion and I estimate a logit model based on the target, I control for target market-to-book ratio, target leverage, target analyst coverage, target sales growth, target size and industry effect. In the second step, I divide the predicted probability from the logit model from panel A of table 8 and match the propensity treated with a one-to-one nearest neighbor methodology without replacement and the caliper is set equal to 0.01 (Rosenbaum & Rubin, 1983). After matching treated and control observations, the result in table 8 (panel B) of each table, show the estimation of ATT for MOP.CASH and degree of media 0.48 percent and statistically significant at 5% level, MOP.CASH and positive media 0.46 percent and statistically significant at 5% level and MOP.CASH and negative media 0.48 percent and statistically significant at 5% level.

[Insert Table 11]

The results on sensitivity analyses offer great support to the initial examination on MOP.CASH and media coverage in different levels. The results suggests that degree of media coverage is positively associated with cash offer, positive media coverage is positively associated with cash offer and negative media is negatively associated with cash offer. My evidence from PSM test on premium and media is robust with my previous analyses. The ATT for premium and degree of media is 0.39 percent and statistically significant at 5% level,

premium and positive media 0.42 percent and statistically significant at 5% level and premium and negative media 0.39 percent and statistically significant at 5% level. The results on time of completion and media coverage support my previous analyses with premium and degree of media is 30.35 percent and highly significant at 1% level, premium and positive media 29.10 percent and highly significant at 1% level and premium and negative media 21.90 percent and highly significant at 1% level. Table 8 (panel C) reports the assessment of the effectiveness of the PSM and calculate the propensity scores before and after the matching for each of the key variables. Eventually, my results from MOP.CASH, premium and time of completion support my conjecture regarding the role of degree of media, positive media and negative media in different aspects of corporate takeover.

## 6. Conclusion

Media is one of the most important sources of information for firms, especially when they are in the decision-making process, and the effect of media on M&A is of considerable interest in the field of finance. Drawing from agency theory, this paper argues that the neutral, positive, and negative information that acquirer receives from media coverage of the target impacts on different levels of the acquisition process, from pre-merger to interim and post-merger. While previous studies examined the relationship between media coverage and mergers and acquisitions, I discuss in depth how media coverage with neutral, positive, and negative information influences methods of payments, the premium paid, and time of completion in the pre- and interim-merger process.

The findings in my study suggest many contributions to the literature. First, I provide robust evidence on the relationship between information from media and how it impacts on methods of payment if the mean of payment is cash. I find that the degree of media coverage is positively related to the cash method of payment in the acquisition process, and this aligns

with my hypothesis. Next, the finding on second hypothesis *H1b* shows that the positive media coverage of the target is negatively associated with the acquirer paying cash to the target and this does not align with my hypothesis. Furthermore, the findings on third hypothesis suggest that negative media coverage is significantly associated with cash methods of payment. As expected, both results from *H1a* and *H1c* are in line with my hypotheses but the second result suggests a negative relationship between positive news and cash payment, which rejects my *H1b* hypothesis. The possible reason on this phenomenon is that even though the acquirer receives positive news about the target, sometimes positive information overload has reverse reaction and this could be plausible explanation for the result (Andrejevic, 2013). Another explanation would be that the perception of the news depends on the audience of that news and for one person, the same news with a positive weight might have a different meaning and concept for another. That is why the degree of positive news is somehow negatively correlated to negative news.

My results on *H2a* and the relationship between media coverage and premium paid suggest that the degree of media coverage is negatively associated with premium and leads the acquirer to pay less to the target for the premium. Conversely, the results on *H2b* and positive media coverage and premium is negatively significant and associates with less premium paid in the deal. Similarly, the results on negative media coverage and premium shows there is negative association between them and confirm the *H2c* hypothesis.

Finally, the results on time of completion and media coverage suggest that the degree of media coverage *H3a* and positive media coverage *H3b* are positively associated with time of completion, however, negative media is positively associated with time of completion which reject my *H3c* hypothesis. To explain the rejection third hypothesis, I refer to the study from Soroka, (2006) that studies the relevance of news with response of an individual from the news and suggests that there is asymmetric response to the information. He further proposes

alongside with political science and psychology perspective that to measure the effect of the news, it is unlikely that an individual has symmetric response (prospect theory)[8] to different types of news meaning that an increase of 1-unit of negative media coverage is not equal to a decrease of 1-unit t of the same unit. This means that an individual may respond differently to financial news and relatively negative news may affect differently than what is supposed to be in the deal ahead. Accordingly, the responsiveness of the media and public information is an evident that the positivity and negativity of news may lead to different types of deals in the takeover process.

This paper's contribution to the prior literature is fivefold. First, my paper infers that different types of news results to different types of behavior by the acquirer in the process of acquisition, from payment methods and how much premium will be paid to the target, to the time that the acquisition will take to complete in the pre and interim-merger period. Second, this paper's contribution lies in the examination of how media coverage as a source of information has both constructive and destructive interference in the acquisition process. Third, I present the taxonomy for the degree of media coverage. Fourth to the best of my knowledge, this paper is the first to document the effect of the degree of media coverage, and positive and negative media coverage on different aspects of M&A. Lastly, by uncovering some evidence, I show that the impact of media coverage works in part through information asymmetry.

[8] "In economics, prospect theory is built upon an asymmetric response to negative and positive information: people are risk-averse facing gains and risk-seeking facing losses"(Fournier et al., 2020)

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# APPENDICES

## Appendix A

**BUSINESS BRIEFING**

The Washington Post

September 20, 2008 Saturday, Suburban Edition



The Washington Post
washingtonpost.com

**Distribution:** Maryland

**Section:** FINANCIAL; Pg. D02

**Length:** 815 words

**Body**

**STUDENT LENDING**

**Sallie Mae President Leaving**

Sallie Mae, the biggest U.S. educational lender, said C.E. Andrews, the company's president and former chief executive, will leave at the end of the month.

Andrews will receive a $500,000 bonus for "year-to-date achievement of individual performance goals" and a cash payment of $2.5 million in recognition of five years of service, Reston-based Sallie Mae said in a filing with the Securities and Exchange Commission.

Andrews became chief executive in May 2007 after the resignation of Tim Fitzpatrick, and left the role in December when Fitzpatrick's predecessor, Albert Lord, took back the post.

**REGULATORS**

**More Funds Sought for DTV Shift**

Costs to run a coupon program that is helping people shift to digital television are about to exceed a congressionally mandated cap and the Bush administration is asking for more money.

Screenshot of news data from NexisUni®
https://www.lexisnexis.com/en-us/professional/academic/nexis-uni.page

# Appendix B

| VARIABLES | DESCRIPTIONS AND DEFINITIONS | SOURCE OF DATA |
|---|---|---|
| *ln.DGMCT* | Degree of media coverage of target (no specification of the type of media coverage) = Natural logarithm of total number of target news media coverage | LexisNexis |
| *ln. PMCT* | Natural logarithm of number of positive media coverage of target | LexisNexis |
| *ln.NMCT* | Natural logarithm of number of negative media coverage of target | LexisNexis |
| *A.FCF* | Acquirer free cash flow is earnings before interests, taxes, amortizations and depreciations over to book value of total asset | Eikon |
| *A.MTB* | Acquirer market value of stock is acquirer No. of common share outstanding × share price / book value of equity [from Compustat] | Compustat |
| *REL.SIZE* | Relative size = ratio of the target's market value of equity to the acquirer's market value of equity as of the end of the fiscal year prior to the M&A announcement date. | Compustat |
| *A.LEV* | Acquirer Leverage is firm total long-term financial debt divided by book value of total assets at the end of the year prior to the announcement of acquisition [from Compustat] | Compustat |
| *A.STOCK.RE* | Acquirer stock return = over 28 trading days before the announcement deal - acquirer share price 154 trading days before the deal announcement divided by acquirer share price 154 trading days before the deal announcement. | Eikon |
| *A.ANALYST.C* | Acquirer Analyst Coverage = acquirer stock analysts issuing earnings forecasts in the year before the takeover announcement. | I/B/E/S |
| *T. ANALYST.C* | Target Analyst Coverage = target stock analysts issuing earnings forecasts in the year before the takeover announcement. | I/B/E/S |
| *T.SALES.GR* | Target sales Growth = percentage change in sales from the previous year. | Compustat |
| *T.MTB* | Target market value of stock is market Value of Stock= Target No. of Common share outstanding × share price / Book value of equity [from Compustat] | Eikon |
| *T.LEV* | Acquirer Leverage is firm total liability over book value of total assets at the end of the year prior to the announcement of acquisition [from Compustat] | Compustat |
| *T.R&D* | Target R&D = investment over total assets and expenditure scaled by sales. | Eikon |
| *T.SIZE* | Target Size = Logarithm of total assets of target for the fiscal year before the takeover announcement. | Eikon |
| *MOP.CASH* | Methods of payment as cash if the primary payment is cash = 1 and 0 otherwise. | Eikon |
| *T.O.C* | Time of completion = number of days from the M&A deal's announcement date to completion date. | Eikon |
| *4W. PREMIUM* | Four weeks premium = offer Price Per Share – Closing Price Four Weeks Before the Announcement Date / the Closing Price Four Weeks Before the Announcement Date. The four-week time lag is used to ensure the baseline of the stock price is not affected by potential information leakage prior to the official announcement date. | Eikon, CRSP |
| *1W. PREMIUM* | one week premium = offer Price Per Share – Closing Price one Week Before the Announcement Date / the Closing Price Four Weeks Before the Announcement Date. | Eikon, CRSP |
| *T.ROA* | Target return on assets = net income of Target over shareholders' total assets. | Compustat |
| *5D.CAR* | 5 Days Cumulative abnormal return = the [-2, +2] window around merger announcement date. | Authors' Estimations |
| *3D.CAR* | 3 Days Cumulative abnormal return = the [-1, +1] window around merger announcement date. | Authors' Estimations |
| *4W.Stock.Price* | Four weeks stock price = stock price runup is equity return over 11-month period ending 1 month prior to M&A announcement. | CRSP |
| *T.HI.TECH* | Target high tech industry = indicator variable that takes the value of 1 if the target firm is in the high-tech industry. | Eikon |

| | | |
|---|---|---|
| *SAME.STATE* | Same state = Indicator dichotomous variable that takes the value of 1 of both acquirer and target firm share identical states in the US and zero otherwise pursuant to according to Thomson Financials' EIKON database M&A database. | Eikon |
| *RELATED* | Indicator dichotomous variable that takes the value of 1 of both acquirer and target firm share identical two-digit SIC codes and zero otherwise. | Eikon |
| *PROPENSITY SCORE MATCHING* | The propensity scores estimated from the logit model in Table 8.1, 8.2 and 8.3. Dummy = 1 if more than 50% of the media (degree of media, positive media and negative media) is above median, and 0 otherwise. | Authors' Estimations |

## TABLE 1. SAMPLE DISTRIBUTION OF CASH METHODS OF PAYMENT, PREMIUM AND TIME OF COMPLETION

| Year | # Deals | % Deals | # MOP.Cash | # Other Payments | # Premium | # Time of Completion |
|---|---|---|---|---|---|---|
| 2000 | 55 | 6% | 14 | 41 | 0.489 | 55 |
| 2001 | 48 | 5% | 18 | 30 | 0.638 | 48 |
| 2002 | 35 | 4% | 15 | 20 | 0.548 | 35 |
| 2003 | 39 | 4% | 13 | 26 | 0.432 | 39 |
| 2004 | 53 | 6% | 23 | 30 | 0.315 | 53 |
| 2005 | 53 | 6% | 25 | 28 | 0.325 | 53 |
| 2006 | 55 | 6% | 35 | 21 | 0.321 | 55 |
| 2007 | 60 | 7% | 28 | 32 | 0.306 | 60 |
| 2008 | 39 | 4% | 18 | 21 | 0.501 | 39 |
| 2009 | 40 | 4% | 16 | 24 | 0.509 | 40 |
| 2010 | 54 | 6% | 34 | 20 | 0.561 | 54 |
| 2011 | 29 | 3% | 8 | 21 | 0.372 | 29 |
| 2012 | 51 | 6% | 30 | 21 | 0.472 | 51 |
| 2013 | 46 | 5% | 26 | 20 | 0.386 | 46 |
| 2014 | 61 | 7% | 20 | 41 | 0.415 | 61 |
| 2015 | 70 | 8% | 30 | 40 | 0.381 | 70 |
| 2016 | 69 | 8% | 35 | 33 | 0.395 | 69 |
| 2017 | 45 | 5% | 23 | 22 | 0.329 | 45 |
| Total | 902 | 100% | 411 | 491 | 0.422 | 902 |

Table 1 represents the distribution for the number of all sorts of payments methods (Cash and other forms of payment), premium and time of completion for all the firms in the sample with degrees of media coverage, positive and negative media coverage. The vertical axis also represents the numbers of the deals and percentage of the deals and horizontal axis represent the years of the sample from 2000-2017.

# TABLE 2. SAMPLE DISTRIBUTION OF MEDIA COVERAGE

**Panel A: Summary Statistics of Media Coverage Categorized by Degrees of Media Coverage, Positive and Negative Media Coverage**

| | Total Number of Media Coverage | | | Degree of Media Coverage | | | | | Positive Media Coverage | | | | | Negative Media Coverage | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | DGMCT | PMCT | NMCT | Mean | Std. | P25 | Median | P75 | Mean | Std. | P25 | Median | P75 | Mean | Std. | P25 | Median | P75 |
| 2000 | 2740 | 2433 | 307 | 48,07 | 116,03 | 2874,50 | 11,00 | 8859,25 | 42,68 | 100,14 | 2504,25 | 11,00 | 7554,75 | 5,39 | 16,69 | 466,50 | 0,00 | 1304,50 |
| 2001 | 3167 | 2718 | 449 | 64,63 | 138,72 | 3326,50 | 14,00 | 11771,00 | 48,59 | 107,22 | 2830,75 | 12,50 | 9545,25 | 7,13 | 20,14 | 529,25 | 0,50 | 1571,00 |
| 2002 | 984 | 810 | 174 | 27,33 | 36,37 | 3805,00 | 10,50 | 12545,00 | 48,53 | 111,50 | 3169,00 | 13,00 | 10023,00 | 6,55 | 17,77 | 560,00 | 1,00 | 1649,00 |
| 2003 | 1714 | 1397 | 317 | 40,81 | 100,27 | 3948,25 | 10,00 | 12735,25 | 39,99 | 90,65 | 3369,25 | 11,00 | 10241,25 | 6,78 | 19,42 | 617,00 | 1,00 | 1796,25 |
| 2004 | 2334 | 2077 | 257 | 42,44 | 135,42 | 4580,50 | 10,00 | 12925,50 | 39,48 | 100,83 | 3913,00 | 10,00 | 10459,50 | 6,29 | 17,60 | 639,50 | 1,00 | 1943,50 |
| 2005 | 5165 | 4390 | 775 | 93,91 | 170,75 | 5170,75 | 19,00 | 13115,75 | 47,02 | 112,10 | 4399,75 | 12,00 | 10677,75 | 7,75 | 20,33 | 676,00 | 1,00 | 2090,75 |
| 2006 | 9449 | 8112 | 1337 | 180,18 | 927,91 | 5188,00 | 14,00 | 13306,00 | 61,97 | 222,75 | 4429,00 | 12,00 | 10896,00 | 10,21 | 36,92 | 643,00 | 1,00 | 2238,00 |
| 2007 | 3805 | 3169 | 636 | 58,54 | 217,60 | 4890,00 | 14,00 | 13454,25 | 59,92 | 216,23 | 4180,75 | 12,00 | 11087,25 | 10,15 | 37,39 | 641,25 | 1,00 | 2499,25 |
| 2008 | 13306 | 10023 | 3283 | 309,44 | 1383,05 | 5222,50 | 10,00 | 13602,50 | 76,04 | 370,82 | 4487,00 | 11,50 | 11278,50 | 16,29 | 120,36 | 735,50 | 1,00 | 2760,50 |
| 2009 | 13899 | 11661 | 2238 | 339,00 | 1033,51 | 5205,25 | 18,00 | 13560,50 | 93,02 | 433,92 | 4458,00 | 12,00 | 11469,75 | 19,42 | 125,96 | 689,25 | 1,00 | 2090,75 |
| 2010 | 2777 | 2258 | 519 | 47,07 | 95,10 | 5188,00 | 11,00 | 12545,00 | 87,27 | 411,52 | 4429,00 | 12,00 | 10896,00 | 18,30 | 119,40 | 643,00 | 1,00 | 1649,00 |
| 2011 | 5600 | 4716 | 884 | 164,71 | 522,49 | 5239,75 | 6,50 | 14359,25 | 90,21 | 413,68 | 4516,00 | 11,00 | 11752,00 | 18,74 | 117,22 | 781,75 | 1,00 | 2607,25 |
| 2012 | 5188 | 4545 | 643 | 101,73 | 207,02 | 5222,50 | 26,00 | 16173,50 | 90,12 | 400,43 | 4487,00 | 12,00 | 12608,00 | 18,26 | 112,69 | 735,50 | 1,00 | 3565,50 |
| 2013 | 3996 | 3436 | 560 | 79,92 | 171,86 | 5715,25 | 10,00 | 17987,75 | 88,59 | 387,92 | 4792,50 | 12,00 | 13464,00 | 17,75 | 108,76 | 922,75 | 1,00 | 4523,75 |
| 2014 | 5257 | 4429 | 828 | 77,31 | 198,28 | 7090,00 | 13,00 | 19802,00 | 86,50 | 373,60 | 5883,00 | 12,00 | 14320,00 | 17,25 | 104,28 | 1207,00 | 1,00 | 5482,00 |
| 2015 | 19802 | 14320 | 5482 | 244,47 | 1172,50 | 11181,25 | 13,00 | 44556,00 | 95,15 | 423,65 | 9642,75 | 12,00 | 35058,25 | 22,08 | 169,40 | 1538,50 | 1,00 | 9497,75 |
| 2016 | 7090 | 5883 | 1207 | 86,46 | 324,32 | 9817,50 | 10,50 | 65681,50 | 93,08 | 411,68 | 8389,50 | 12,00 | 54084,50 | 21,43 | 162,97 | 1428,00 | 1,00 | 11597,00 |
| 2017 | 12545 | 10896 | 1649 | 250,90 | 983,44 | 39113,25 | 13,50 | 92249,75 | 99,46 | 444,34 | 32490,25 | 11,50 | 75678,75 | 22,02 | 161,78 | 6623,00 | 1,00 | 16571,00 |
| Total | 118818 | 97273 | 21545 | 2256,91 | 7934,65 | 118818,00 | 234,00 | 118818,00 | 1287,62 | 5132,97 | 97273,00 | 211,50 | 331094,50 | 251,80 | 1489,06 | 20076,75 | 16,50 | 75436,75 |

| Panel B: Distribution of Media Coverage across Industry | | | | | | |
|---|---|---|---|---|---|---|
| | (Degree of Media Coverage) Overall News | | Positive Media Coverage | | Negative Media Coverage | |
| | N | % | N | % | N | % |
| Consumer Products and Services Energy and Power | 8722 | 0,06 | 7726 | 0,069 | 996 | 0,042 |
| Consumer Staples | 3368 | 0,02 | 2828 | 0,025 | 540 | 0,023 |
| Energy and Power | 5481 | 0,04 | 4578 | 0,041 | 903 | 0,038 |
| Financials | 9329 | 0,07 | 7801 | 0,070 | 1527 | 0,065 |
| Healthcare | 13732 | 0,10 | 11784 | 0,105 | 1948 | 0,083 |
| High Technology | 32785 | 0,24 | 24911 | 0,223 | 7868 | 0,334 |
| Industrial | 14613 | 0,11 | 11496 | 0,103 | 3117 | 0,132 |
| Materials | 2167 | 0,02 | 1916 | 0,017 | 251 | 0,011 |
| Media and Entertainment | 21234 | 0,16 | 17971 | 0,161 | 3263 | 0,138 |
| Real Estate | 382 | 0,00 | 343 | 0,003 | 39 | 0,002 |
| Retail | 4225 | 0,03 | 3691 | 0,033 | 534 | 0,023 |
| Telecommunications | 2780 | 0,02 | 2228 | 0,020 | 552 | 0,023 |

Table 2 reports the summary statistics of 902 news for all target firms during the period of 2000 to 2017 from 4 journals of *Wall Street Journal Abstracts (WSJ Abstract), New York Times (NYT), USA Today (USAT),* and *Washington Post (WP)*. Panel A tabulates the yearly number of media coverage categorized by degrees of media coverage, positive and negative news. The column "Total MC of all papers" refers to the mean, standard deviation and median of the total numbers of media coverage news presented. Panel B reports the distribution of media coverage across industries. The panel represents the fraction of degrees of media coverage, positive and negative news for target publicly traded firms. In addition, the Panel A reports the mean, median, standard deviation, and 25th and 75th percentiles of the main independent variables.

**FIGURE 1. DEGREE OF MEDIA, POSITIVE MEDIA, NEGATIVE MEDIA, METHODS OF PAYMENT, PREIUM AND TIME OF COMPLETION**

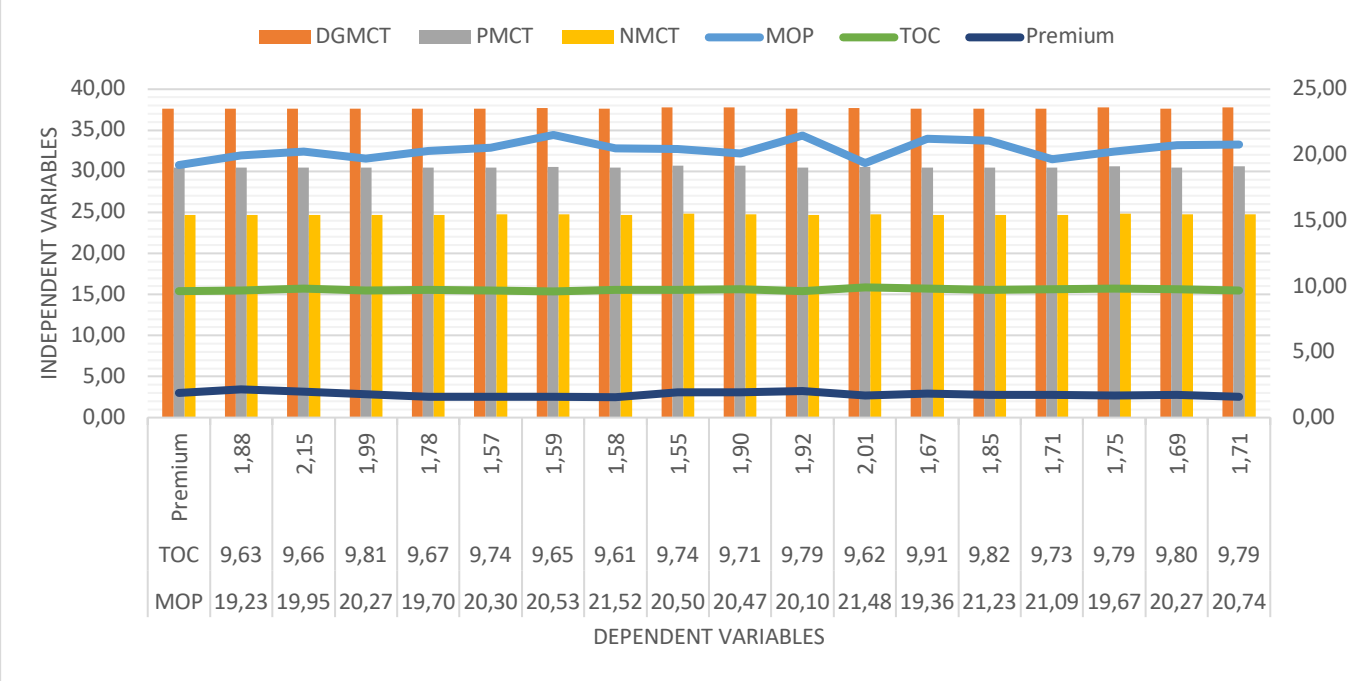


Figure 1 plots all the independent and dependent variables using stacked line over the period of 2000 to 2017. For premium, methods of payment and positive media coverage, the average for each variable is presented on the left and for time of completion, and negative media coverage, the average for each variable is presented on the right. The average of each variable is calculated sorted by each year and the total number is divided to 1000 for feasible comparison.

## TABLE 3. DESCRIPTIVE STATISTICS

| Variable | Obs | Mean | Std. Dev. | Min | Pctl(25) | Median | Pctl(75) | Max |
|---|---|---|---|---|---|---|---|---|
| ln DGMCT | 902 | 131.73 | 611.53 | 1 | 5 | 16 | 57 | 10000 |
| ln PMCT | 902 | 107.84 | 461.72 | 0 | 4 | 13.50 | 50 | 6426 |
| ln NMCT | 902 | 23.88 | 168.33 | 0 | 0 | 2 | 7 | 3960 |
| MOP.CASH | 902 | 0.46 | 0.50 | 0 | 0 | 0 | 1 | 1 |
| 4W.PREMIUM | 902 | 0.42 | 0.40 | -.38 | 0.19 | 0.35 | 0.55 | 2.97 |
| T.O.C | 902 | 132.07 | 97.73 | 0 | 70 | 108.50 | 165 | 1161 |
| A.FCF | 902 | 0.05 | 0.10 | -.62 | 0 | 0.60 | 0.10 | 0.28 |
| A.MTB | 902 | 4.28 | 9.47 | -13.05 | 1.63 | 2.43 | 3.91 | 107.68 |
| REL.SIZE | 902 | 0.24 | 0.35 | 0 | 0.03 | 0.10 | 0.33 | 3.94 |
| A.LEV | 902 | 0.17 | 0.17 | 0 | 0.03 | 0.13 | 0.25 | 0.90 |
| A.STOCK.RE | 902 | 0.08 | 0.26 | -.56 | -0.05 | 0.05 | 0.19 | 1.30 |
| A.ANALYST.C | 902 | 14.25 | 9.90 | 0 | 6 | 12 | 21 | 54 |
| T.MTB | 902 | 2.86 | 5.77 | -24.62 | 1.17 | 1.91 | 3.30 | 45.99 |
| T.SIZE | 902 | 2.70 | 0.76 | .88 | 2.11 | 2.69 | 3.18 | 4.79 |
| T.R&D | 902 | 0.07 | 0.13 | 0 | 0 | 0 | 0.09 | 0.98 |
| T.SALES.GRO | 902 | 0.22 | 0.90 | -.93 | -0.01 | 0.07 | 0.21 | 10.26 |
| T.LEV | 902 | 0.16 | 0.24 | 0 | 0 | 0.06 | 0.22 | 3.23 |
| T.ANALYST.C | 902 | 6.82 | 6.96 | 0 | 2 | 5 | 9 | 44 |
| T.HI.TECH | 902 | 0.23 | 0.41 | 0 | 0 | 0 | 0 | 1 |
| SAME.STATE | 902 | 0.27 | 0.45 | 0 | 0 | 0 | 0 | 1 |
| RELATED | 902 | 0.70 | 0.46 | 0 | 0 | 1 | 1 | 1 |

Table 3 reports the summary statistics of variable used in the regressions. The sample includes 902 M&A public completed deals of target from 2000 to 2017 drawn from Thomson Financials' EIKON mergers and acquisitions database. The table reports number of observations, mean, standard deviation, min and max. All variables are defined in Table 1 of Appendix B.

## TABLE 4. CORRELATION MATRIX

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (1) ln_DGMCT | 1.00 | | | | | | | | | | | | | | | | | | | | |
| (2) ln_PMCT | 0.99*** | 1.00 | | | | | | | | | | | | | | | | | | | |
| (3) ln_NMCT | 0.92*** | 0.85*** | 1.00 | | | | | | | | | | | | | | | | | | |
| (4) MOP.CASH | 0.01 | 0.01 | 0.01 | 1.00 | | | | | | | | | | | | | | | | | |
| (5) 4W.SPREMIUM | -0.04 | -0.04 | -0.07 | 0.12*** | 1.00 | | | | | | | | | | | | | | | | |
| (6) T.O.C | 0.07* | 0.08* | 0.04 | -0.35*** | -0.08* | 1.00 | | | | | | | | | | | | | | | |
| (7) A.FCF | 0.02 | 0.03 | 0.01 | 0.32*** | -0.02 | -0.14*** | 1.00 | | | | | | | | | | | | | | |
| (8) A.MTB | 0.07* | 0.07* | 0.05 | 0.00 | 0.04 | -0.01 | 0.08* | 1.00 | | | | | | | | | | | | | |
| (9) REL.SIZE | 0.07* | 0.08* | 0.05 | -0.27*** | -0.19*** | 0.22*** | -0.09** | 0.03 | 1.00 | | | | | | | | | | | | |
| (10) A.LEV | 0.11** | 0.11*** | 0.09** | 0.10** | -0.04 | 0.00 | 0.11*** | 0.23*** | 0.13*** | 1.00 | | | | | | | | | | | |
| (11) A.STOCK.RE | -0.06 | -0.06* | -0.05 | -0.06 | -0.11** | -0.03 | 0.02 | 0.04 | 0.00 | 0.01 | 1.00 | | | | | | | | | | |
| (12) A.ANALYST.C | 0.10** | 0.11*** | 0.08* | 0.24*** | 0.02 | -0.06 | 0.26*** | 0.04 | -0.26*** | 0.06 | -0.03 | 1.00 | | | | | | | | | |
| (13) T.MTB | -0.02 | -0.02 | -0.02 | -0.01 | -0.07* | -0.07* | 0.07* | 0.06 | 0.03 | 0.01 | 0.08* | 0.09** | 1.00 | | | | | | | | |
| (14) T.SIZE | 0.21*** | 0.22*** | 0.15*** | -0.27*** | -0.21*** | 0.43*** | 0.00 | 0.00 | 0.29*** | 0.11*** | -0.02 | 0.19*** | -0.10** | 1.00 | | | | | | | |
| (15) T.R&D | -0.05 | -0.05 | -0.04 | 0.18*** | 0.26*** | -0.24*** | -0.05 | 0.03 | -0.15*** | -0.07* | 0.00 | 0.13*** | 0.20*** | -0.46*** | 1.00 | | | | | | |
| (16) T.SALES.GRO | -0.02 | -0.02 | -0.01 | -0.02 | 0.04 | -0.09** | -0.04 | 0.25*** | -0.01 | 0.04 | 0.05 | 0.01 | 0.07* | -0.14*** | 0.07* | 1.00 | | | | | |
| (17) T.LEV | 0.05 | 0.05 | 0.03 | 0.00 | 0.05 | 0.12*** | 0.09** | 0.09** | 0.14*** | 0.38*** | 0.00 | 0.05 | -0.04 | 0.24*** | -0.06 | -0.02 | 1.00 | | | | |
| (18) T.ANALYST.C | 0.22*** | 0.24*** | 0.15*** | 0.01 | -0.07* | 0.10** | 0.18*** | 0.08* | 0.14*** | 0.15*** | 0.00 | 0.54*** | 0.07* | 0.51*** | 0.00 | -0.01 | 0.18*** | 1.00 | | | |
| (19) T.HI.TECH | 0.02 | 0.01 | 0.04 | 0.18*** | 0.03 | -0.22*** | 0.09** | 0.05 | -0.04 | -0.08* | 0.11*** | 0.12*** | 0.11*** | -0.28*** | 0.26*** | 0.07* | -0.16*** | 0.09** | 1.00 | | |
| (20) SAME.STATE | 0.02 | 0.01 | 0.03 | -0.17*** | -0.02 | 0.09** | -0.15*** | -0.06 | 0.10** | -0.07* | -0.02 | -0.10** | -0.02 | 0.07* | -0.06 | -0.05 | -0.06 | -0.03 | -0.02 | 1.00 | |
| (21) IND.RELATED | -0.04 | -0.04 | -0.04 | -0.18*** | 0.01 | 0.14*** | -0.07* | -0.01 | 0.03 | -0.03 | 0.04 | -0.07* | 0.03 | 0.11** | 0.06 | 0.06 | 0.02 | -0.04 | -0.06 | 0.05 | 1.00 |

T-statistics in parentheses * p < 0.05, ** p < 0.01, *** p < 0.001

Table 4 represents the Pearson Correlation coefficient for the dependent and independent variables in this study. The sample consists of 902 observations of publicly traded target firms, and the sample period spans 2000 through 2017. *ln.DGMCT* is the total number of media coverage for target firms. *ln.PMCT* refers to the media coverage of target with positive news and *ln.NMCT* refers to the media coverage for target firms with negative news. *A.FCF* is acquirer free cash flow. *A.MTB* is acquirer book-to-market ratios, *A.LEV* is leverage of the acquirer, A.STOCK.RE is the stock return of the acquirer and *A.ANALYST.C* is the acquirer analyst coverage. These refer to target firms: *T.MTB* target book-to-market ratios, *T.SIZE* target size, *MOP.CASH* is an indicator variable with the value of one if the target firm has media coverage, otherwise zero. 4W.Premium is the excess priced offered to the target one month (4 weeks), *T.R&D* target R&D, *T.SALES.G* target sales growth, *T.LEV* is target leverage, T.ANALYST.C is target analyst coverage. In addition, other dummy variables in this study are *T.HI.TECH* which is target high tech industry, *Related* as industry relatedness of both acquirer and target firms and *SAME.STATE* as both firms being in the same state. All variables are winsorized at the 1% and 99% levels and used Bonferroni adjustment to adjust the significance level. *T*-statistics are referred on standard errors adjusted for the autocorrelation and ∗, ∗∗, and ∗∗∗ represent statistical significance at the 10%, 5%, and 1% level, respectively.

## TABLE 5. MULTIPLE REGRESSION OF M&A METHODS OF PAYMENT

| ***Probit Regression*** | | | | |
|---|---|---|---|---|
| ***Dependent variable: Methods of Payment (Cash)*** | | | | |
| | *Model (1)* | *Model (2)* | *Model (3)* | *Model (4)* |
| *Intercept* | -7.2137*** | -6.9206*** | -6.9873*** | -7.2128*** |
| | (0.000) | (0.000) | (0.000) | (0.000) |
| *ln.DGMCT* | | 0.001* | | |
| | | (0.053) | | |
| *ln.PMCT* | | | -0.0001* | |
| | | | (0.032) | |
| *ln.NMCT* | | | | -0.0006*** |
| | | | | (0.000) |
| *A.FCF* | 5.1032*** | 4.6902*** | 4.6825*** | 4.7371*** |
| | (0.000) | (0.000) | (0.000) | (0.000) |
| *A.MTB* | -0.0142** | -0.0135* | -0.0135* | -0.0134* |
| | (0.003) | (0.020) | (0.031) | (0.021) |
| *REL.SIZE* | -0.6170* | -0.6177* | -0.6154*** | -0.6304 |
| | (0.022) | (0.039) | (0.000) | (0.054) |
| *A.LEV* | 0.9270** | 0.7651* | 0.7625* | 0.7897 |
| | (0.003) | (0.034) | (0.018) | (0.086) |
| *A.STOCK.RE* | -0.4045* | -0.3801 | -0.3799* | -0.4086 |
| | (0.031) | (0.057) | (0.044) | (0.056) |
| *A.ANALYST.C* | 0.0225** | 0.0245** | 0.0244*** | 0.0247** |
| | (0.001) | (0.003) | (0.000) | (0.009) |
| *T.ANALYST.C* | -0.0084 | -0.0068 | -0.0067 | -0.0081 |
| | (0.378) | (0.471) | (0.472) | (0.358) |
| *T.SALES.GR* | -0.0807 | -0.0934 | -0.0932 | -0.0938 |
| | (0.099) | (0.095) | (0.094) | (0.095) |
| *T.MTB* | -0.0194** | -0.0221** | -0.0221* | -0.0221** |
| | (0.010) | (0.005) | (0.011) | (0.005) |
| *T.LEV* | 0.0601 | 0.1533 | 0.1558 | 0.1446 |
| | (0.754) | (0.491) | (0.503) | (0.563) |
| *T.R&D* | 0.1848 | 0.2957 | 0.2851 | 0.3161 |
| | (0.657) | (0.516) | (0.535) | (0.532) |
| *T.SIZE* | -0.4834*** | -0.5191*** | -0.5214*** | -0.5102* |
| | (0.000) | (0.000) | (0.000) | (0.012) |
| *T.HI.TECH* | 0.2757* | 0.3006* | 0.3032* | 0.3001* |
| | (0.021) | (0.014) | (0.015) | (0.022) |
| *SAME.STATE* | -0.2514* | -0.3241** | -0.3251** | -0.3269 |
| | (0.013) | (0.005) | (0.003) | (0.073) |
| *RELATED* | -0.3331*** | -0.2792* | -0.2777* | -0.2909 |
| | (0.001) | (0.019) | (0.011) | (0.071) |
| *YR.EF* | Yes | Yes | Yes | Yes |
| *IND.EF* | Yes | Yes | Yes | Yes |
| *Observation* | 902 | 902 | 897 | 594 |
| *F- Statistics* | 1.9588 | 1.8939 | 2.2215 | 1.8870 |

Table 5 reports the result of Probit regression for the dependent (methods of payment) and independent variables (Total number of media coverage, Positive media coverage and Negative media coverage) in this study. The sample consists of 902 observations of publicly traded target firms, and the sample period spans 2000 through 2017. *MOP.CASH* is an indicator variable with the value of one if the target firm has media coverage, otherwise zero. *ln.DGMCT* is the degree of media coverage and equal to total number of media coverage for target firms. *ln.PMCT* refers to the media coverage of target with positive news and *ln.NMCT* refers to the media coverage for target firms with negative news. All control variables are defined in Appendix B. All variables are winsorized at the 1% and 99% levels and used Bonferroni adjustment to adjust the significance level. *T*-statistics are referred on standard errors adjusted for the autocorrelation and ∗, ∗∗, and ∗∗∗ represent statistical significance at the 10%, 5%, and 1% level, respectively. The table presents coefficients and t-statistics, and all the standard errors and *Z-statistics* are adjusted for heteroscedasticity-Consistent. *P-values* are reported in parentheses.

## TABLE 6. MULTIPLE REGRESSION OF M&A PREMIUM

| ***Ordinary least squares Regression*** | | | | |
|---|---|---|---|---|
| ***Dependent variable: 4W.Premium*** | | | | |
| | *Model (1)* | *Model (2)* | *Model (3)* | *Model (4)* |
| *Intercept* | 1.0712 | 1.0337* | 1.0417* | 1.0982 |
| | (0.037) | (0.045) | (0.043) | (0.066) |
| *ln.DGMCT* | | -0.0000347 | | |
| | | (0.112) | | |
| *ln.PMCT* | | | -0.0211** | |
| | | | (0.007) | |
| *ln.NMCT* | | | | -0.0296** |
| | | | | (0.003) |
| *A.FCF* | -0.1707 | -0.173 | -0.170 | 0.0890 |
| | (0.239) | (0.232) | (0.242) | (0.575) |
| *A.MTB* | 0.0025 | 0.00261 | 0.00263 | 0.00276 |
| | (0.082) | (0.069) | (0.068) | (0.058) |
| *A.LEV* | -0.1981* | -0.187* | -0.173 | -0.0158 |
| | (0.025) | (0.034) | (0.051) | (0.875) |
| *A.STOCK.RE* | -0.1567** | -0.162** | -0.158** | -0.104 |
| | (0.003) | (0.002) | (0.003) | (0.092) |
| *A.ANALYST.C* | 0.0013 | 0.00146 | 0.00185 | 0.00172 |
| | (0.371) | (0.299) | (0.195) | (0.269) |
| *T.MTB* | -0.0051* | -0.00518* | -0.00541* | -0.00335 |
| | (0.029) | (0.026) | (0.020) | (0.164) |
| *T.LEV* | 0.1421* | 0.143* | 0.151* | -0.0182 |
| | (0.020) | (0.019) | (0.014) | (0.802) |
| *T.HI.TECH* | 0.0571 | 0.0584 | 0.0611 | 0.00596 |
| | (0.087) | (0.080) | (0.068) | (0.874) |
| *SAME.STATE* | -0.0279 | -0.0260 | -0.0344 | -0.0178 |
| | (0.353) | (0.387) | (0.257) | (0.623) |
| *RELATED* | 0.0147 | 0.0134 | 0.00843 | 0.0169 |
| | (0.615) | (0.647) | (0.774) | (0.599) |
| *YR.EF* | Yes | Yes | Yes | Yes |
| *IND.EF* | Yes | Yes | Yes | Yes |
| *Observation* | 902 | 902 | 897 | 594 |
| *Adjusted R-squared* | 0.0363 | 0.0380 | 0.0430 | 0.0177 |

Table 6 reports the result of Ordinary least squares (OLS) regression for the dependent variable (4W.Premium) and independent variables (Total number of media coverage, Positive media coverage and Negative media coverage). The sample consists of 902 observations of publicly traded target firms, and the sample period spans 2000 through 2017. 4W.Premium is excess offer price over stock price four weeks prior the announcement of takeover. *ln.DGMCT* is the degree of media coverage and equal to total number of media coverage for target firms. *ln.PMCT* refers to the media coverage of target with positive news and *ln.NMCT* refers to the media coverage for target firms with negative news. All control variables are defined in Appendix B. All variables are winsorized at the 1% and 99% levels and used Bonferroni adjustment to adjust the significance level. *T*-statistics are referred on standard errors adjusted for the autocorrelation and ∗, ∗∗, and ∗∗∗ represent statistical significance at the 10%, 5%, and 1% level, respectively. The table presents coefficients and t-statistics, and all the standard errors and *P-values* are reported in parentheses.

## TABLE 7. MULTIPLE REGRESSION OF M&A TIME OF COMPLETION

| ***Ordinary least squares Regression*** | | | | |
|---|---|---|---|---|
| ***Dependent variable: Time of Completion (TOC)*** | | | | |
| | *Model (1)* | *Model (2)* | *Model (3)* | *Model (4)* |
| *Intercept* | 18.2075** | 16.5689* | 16.2201* | 81.8104 |
| | (0.010) | (0.019) | (0.022) | (0.374) |
| *ln.DGMCT* | | 0.0234* | | |
| | | (0.037) | | |
| *ln.PMCT* | | | 0.0262* | |
| | | | (0.022) | |
| *ln.NMCT* | | | | 0.0338* |
| | | | | (0.035) |
| *A.FCF* | -0.6341** | -0.6167** | -0.6213** | -.7844988** |
| | (0.001) | (0.002) | (0.002) | (0.001) |
| *A.MTB* | 0.0021 | 0.0021 | 0.0021 | 0.0008 |
| | (0.296) | (0.287) | (0.295) | (0.734) |
| *REL.SIZE* | 0.2339*** | 0.2312*** | 0.2341*** | 0.2124** |
| | (0.000) | (0.000) | (0.000) | (0.002) |
| *A.LEV* | -0.1829 | -0.2011 | -0.1948 | -0.1585 |
| | (0.115) | (0.084) | (0.095) | (0.287) |
| *A.STOCK.RE* | 0.0151 | 0.0182 | 0.0242 | -0.1121 |
| | (0.826) | (0.789) | (0.722) | (0.187) |
| *A.ANALYST.A* | -0.0026 | -0.0023 | -0.0021 | -0.0011 |
| | (0.271) | (0.330) | (0.416) | (0.734) |
| *T.MTB* | 0.0039 | 0.0043 | 0.0043 | 0.0042 |
| | (0.210) | (0.170) | (0.162) | (0.258) |
| *T.SIZE* | 0.4662*** | 0.4618*** | 0.4641*** | 0.4703*** |
| | (0.000) | (0.000) | (0.000) | (0.000) |
| *T.R&D* | -0.2233 | -0.2127 | -0.2148 | -0.0974 |
| | (0.267) | (0.289) | (0.285) | (0.709) |
| *T.SALES.GR* | -0.02451 | -0.0241 | -0.0237 | -0.0089 |
| | (0.213) | (0.231) | (0.238) | (0.770) |
| *T.LEV* | 0.0847 | 0.0901 | 0.0922 | 0.0903 |
| | (0.299) | (0.269) | (0.258) | (0.406) |
| *T.ANALYST.C* | 0.0007 | -0.0007 | -0.0008 | -0.0019 |
| | (0.866) | (0.867) | (0.852) | (0.693) |
| *T.HI.TECH* | -0.1545** | -0.1629*** | -0.1639*** | -0.1353* |
| | (0.001) | (0.001) | (0.001) | (0.027) |
| *SAME.STATE* | 0.0486 | 0.0601 | 0.0573 | 0.0354 |
| | (0.214) | (0.129) | (0.148) | (0.507) |
| *RELATED* | 0.0774* | 0.0823* | 0.0826* | 0.0868 |
| | (0.047) | (0.035) | (0.035) | (0.073) |
| *YE.EF* | Yes | Yes | Yes | Yes |
| *IND.EF* | Yes | Yes | Yes | Yes |
| *Observation* | 902 | 902 | 897 | 594 |
| *Adjusted R-squared* | 0.3518 | 0.3543 | 0.3551 | 0.3329 |

Table 7 reports the result of Ordinary least squares (OLS) regression for the dependent variable (Time of completion) and independent variables (Total number of media coverage, Positive media coverage and Negative media coverage). The sample consists of 902 observations of publicly traded target firms, and the sample period spans 2000 through 2017. T.O.C is the number of the days between deal announcement and actual day of completion. *ln.DGMCT* is the degree of media coverage and equal to total number of media coverage for target firms. *ln.PMCT* refers to the media coverage of target with positive news and *ln.NMCT* refers to the media coverage for target firms with negative news. All control variables are defined in Appendix B. All variables are winsorized at the 1% and 99% levels and used Bonferroni adjustment to adjust the significance level. *T*-statistics are referred on standard errors adjusted for the autocorrelation and ∗, ∗∗, and ∗∗∗ represent statistical significance at the 10%, 5%, and 1% level, respectively. The table presents coefficients and t-statistics, and all the standard errors and *P-values* are reported in parentheses.

## TABLE 8. ROBUSTNESS TEST FOR MEDIA COVERAGE

***Robustness test (Multiple regression)***

| | *Model (1)* | | | *Model (2)* | | | *Model (3)* | | | *Model (4)* | | | *Model (5)* | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Dep: Other Payments | | | Dep: 3D.CAR | | | Dep: 5D.CAR | | | Dep: 4W.Stock.Price | | | Dep: T.ROA | | |
| *Intercept* | 3124 | 3674 | 3.909* | -2.294*** | -2.314*** | -2.980*** | -2.431** | -2.477** | -3.650*** | -48.42*** | -48.35*** | -46.10** | 1.308 | 1.259 | 0.985 |
| | (0.301) | (0.216) | (0.030) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.000) | (0.001) | (0.001) | (0.010) | (0.104) | (0.096) | (0.324) |
| *ln.DGMCT* | 0.0901* | | | 0.00201* | | | 0.00285** | | | 0.0185 | | | 0.00329** | | |
| | (0.050) | | | (0.018) | | | (0.004) | | | (0.299) | | | (0.001) | | |
| *ln.PMCT* | | 0.086* | | | 0.00243* | | | 0.00352** | | | 0.0229 | | | 0.00347** | |
| | | (0.048) | | | (0.025) | | | (0.005) | | | (0.256) | | | (0.001) | |
| *ln.NMCT* | | | -0.0803** | | | -0.00321* | | | -0.00513** | | | -0.0582* | | | -0.00375* |
| | | | (0.003) | | | (0.041) | | | (0.005) | | | (0.038) | | | (0.018) |
| *A.FCF* | 0.542 | 0.448 | -0.0058 | 0.0989*** | 0.0955*** | 0.166*** | 0.107*** | 0.107*** | 0.107*** | -0.106 | -0.118 | -0.134 | 0.338*** | 0.341*** | 0.343*** |
| | (0.637) | (0.459) | (0.988) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.721) | (0.748) | (0.758) | (0.000) | (0.000) | (0.000) |
| *A.MTB* | 0.0024 | 0.0015 | 0.00328 | 0.00024 | 0.00020 | -0.000029 | 0.00017 | 0.00019 | -0.00041 | -0.0037 | -0.0037 | -0.0044 | -0.00031 | -0.00029 | -0.00023 |
| | (0.713) | (0.675) | (0.378) | (0.137) | (0.267) | (0.894) | (0.231) | (0.356) | (0.115) | (0.398) | (0.323) | (0.287) | (0.121) | (0.146) | (0.314) |
| *A.LEV* | -0.0024 | -0.00590 | 0.215 | 0.0198 | 0.0204 | 0.0237 | 0.0218* | 0.0249* | 0.0260 | 0.402* | 0.477* | 0.680* | 0.0298* | 0.0251* | 0.0129 |
| | (0.997) | (0.980) | (0.420) | (0.048) | (0.062) | (0.098) | (0.046) | (0.050) | (0.121) | (0.048) | (0.041) | (0.017) | (0.050) | (0.041) | (0.421) |
| *T.MTB* | 0.0087 | 0.0072 | 0.0139* | 0.000 | -0.00009 | -0.0004 | -0.0001 | -0.0002 | -0.0006 | 0.0094 | 0.0080 | 0.0033 | 0.00121*** | 0.00147*** | 0.000941* |
| | (0.314) | (0.282) | (0.042) | (0.923) | (0.735) | (0.228) | (0.561) | (0.457) | (0.111) | (0.211) | (0.191) | (0.628) | (0.000) | (0.000) | (0.016) |
| *T.R&D* | -0.256 | -0.386 | -0.630 | 0.0098 | 0.0073 | 0.0037 | 0.0201 | 0.0179 | -0.0157 | 0.102 | 0.142 | 0.506 | -0.438*** | -0.447*** | -0.449*** |
| | (0.512) | (0.335) | (0.171) | (0.574) | (0.634) | (0.853) | (0.298) | (0.318) | (0.501) | (0.698) | (0.604) | (0.138) | (0.000) | (0.000) | (0.000) |
| *T.LEV* | 0.253 | 0.253 | 0.253 | 0.0028 | 0.0033 | 0.0080 | 0.00186 | 0.00111 | 0.00595 | -0.078 | -0.071 | 0.20 | -0.0696*** | -0.0668*** | -0.0424*** |
| | (0.163) | (0.163) | (0.170) | (0.724) | (0.662) | (0.442) | (0.972) | (0.900) | (0.628) | (0.689) | (0.652) | (0.325) | (0.000) | (0.000) | (0.000) |
| *YR.EF* | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| *IND.EF* | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| *Obs* | 902 | 896 | 590 | 902 | 896 | 594 | 902 | 896 | 594 | 902 | 897 | 594 | 902 | 897 | 594 |
| *Adj-R2/Chi2* | 36.15 | 38.22 | 42.93 | 0.074 | 0.088 | 0.139 | 0.076 | 0.082 | 0.086 | 0.020 | 0.023 | 0.045 | 0.831 | 0.620 | 0.588 |

Table 8 reports the result of Ordinary least squares (OLS) regression. The dependent vaiables are Other payment which is 1 if the methods of payment is stock or combination of stock and cash and 0 if it is cash, cumulative abnormal return *(3D.CAR), (5D.CAR)* and *(4W.Stock.Price)*. The *(3D.CAR)* is the cumulative abnormal return over the window [-1,+1] i.e. three days prior and three day subsequent to the date of announcement and the *(5D.CAR)* is the cumulative abnormal return over the window [-5,+5] i.e. five days prior and three day subsequent to the date of announcement. The third model is targets' stock price four weeks prior to the announcement stock price *(4W.Stock.Prive)*. The fifth model is return on assets *(T.ROA)* of the target firm to measure the profibilitay and performance of the firm. The sample consists of 902 observations of publicly traded target firms, and the sample period spans 2000 through 2017. *ln.DGMCT* is the target degree of media coverage, *ln,PMCT* refers to the media coverage of target with positive news and *ln.NMCT* refers to the media coverage for target firms with negative news. All control variables are defined in Appendix B. *T*-statistics are referred on standard errors adjusted for the autocorrelation and ∗, ∗∗, and ∗∗∗ represent statistical significance at the 10%, 5%, and 1% level, respectively. The table presents coefficents and t-statisitics and all the standard errors and *P-values* are reported in parantheses.

## TABLE 9. ROBUSTNESS TEST FOR M&A PREMIUM

| ***Robustness Test Regression*** | | | | |
|---|---|---|---|---|
| ***Dependent variable: 1W.Premium (Log)*** | | | | |
| | *Model (1)* | *Model (2)* | *Model (3)* | *Model (4)* |
| *Intercept* | 10.17 | 8.753 | 11.21 | 21.37 |
| | (0.359) | (0.429) | (0.309) | (0.112) |
| *ln.DGMCT* | | 0.0000993 | | |
| | | (0.061) | | |
| *ln.PMCT* | | | -0.0399* | |
| | | | (0.018) | |
| *ln.NMCT* | | | | -0.0564* |
| | | | | (0.011) |
| *A.FCF* | -0.101 | -0.107 | -0.103 | -0.445 |
| | (0.743) | (0.727) | (0.737) | (0.210) |
| *A.MTB* | 0.000 | 0.000 | 0.001 | 0.001 |
| | (0.907) | (0.743) | (0.613) | (0.656) |
| *A.LEV* | 0.131 | 0.166 | 0.186 | 0.286 |
| | (0.487) | (0.379) | (0.324) | (0.202) |
| *A.STOCK.RE* | -0.406*** | -0.426*** | -0.418*** | -0.242 |
| | (0.000) | (0.000) | (0.000) | (0.091) |
| *A.ANALYST.C* | -0.00149 | -0.000870 | -0.000261 | 0.00140 |
| | (0.623) | (0.774) | (0.932) | (0.690) |
| *T.MTB* | 0.00448 | 0.00394 | 0.00339 | 0.00763 |
| | (0.384) | (0.442) | (0.506) | (0.164) |
| *T.LEV* | -0.00790 | 0.00179 | 0.00783 | -0.142 |
| | (0.952) | (0.989) | (0.952) | (0.382) |
| *T.HI.TECH* | 0.0189 | 0.0252 | 0.0281 | -0.0587 |
| | (0.791) | (0.723) | (0.693) | (0.486) |
| *SAME.STATE* | 0.0238 | 0.0256 | 0.00759 | -0.0853 |
| | (0.714) | (0.692) | (0.907) | (0.296) |
| *RELATED* | -0.0340 | -0.0378 | -0.0561 | -0.0633 |
| | (0.589) | (0.548) | (0.373) | (0.382) |
| *YR.EF* | Yes | Yes | Yes | Yes |
| *IND.EF* | Yes | Yes | Yes | Yes |
| *Obs* | 902 | 902 | 847 | 561 |
| *Adjusted R2* | 0.0091 | 0.0136 | 0.0163 | 0 .0118 |

Table 9 reports the result of Ordinary least squares (OLS) regression for the dependent vaiable (*1W.Premium*) and independent variables (Degree of media coverage, Positive media coverage and Negative media coverage). The sample consists of 902 observations of publicly traded target firms, and the sample period spans 2000 through 2017. *1W.Premium* is excess offer price over stock price one day prior the announcement of takeover. Premium calculated as the natural logarithm of offer premium 1 day prior to the announcement of takeover transaction. *ln.DGMCT* is the total number of media coverage for target firms. *ln.PMCT* refers to the media coverage of target with positive news and *ln.NMCT* refers to the media coverage for target firms with negative news. All control variables are defined in Appendix B. All variables are winsorized at the 1% and 99% levels and used Bonferroni adjustment to adjust the significance level. *T*-statistics are referred on standard errors adjusted for the autocorrelation and ∗, ∗∗, and ∗∗∗ represent statistical significance at the 10%, 5%, and 1% level, respectively. The table presents coefficents and t-statisitics and all the standard errors and *P-values* are reported in parantheses.

## TABLE 10. PROPENSITY SCORE MATCHING ANALYSES

**Table 10.1A**

| **Panel A: Logit Model** | | | | | | | |
|---|---|---|---|---|---|---|---|
| Outcome Variable: Methods of payment | | Treatment Variable: Degree of Media | | | | | |
| Intercept | T.MBT | T.LEV | T.ANALYST.C | T.SALES.GRO | IND.EFF | N | Pseudo R-Squared |
| 0.4324*** | - 0.0134 | 0.2275 | 0.0740*** | - 0.0300 | - 0.0016 | 902 | 0.1021 |
| (0.001) | (0.088) | (0.217) | (0.000) | (0.537) | (0.643) | | |

| **Panel B: Matching Outcome** | |
|---|---|
| Matching algorithm | Caliper matching |
| Caliper | 0.1 |
| Matched observations per treated deal | 1:1 |
| Total original number of observations | 902 |
| Total original number of treated observations | 451 |
| Total matched observations | 433 |
| ATT (%) (Abadie & Imbens, 2006) | 0.4850% * |
| Standard Errors) | 0.0491 |

| **Panel C: Covariates' Balancing** | | | | | | |
|---|---|---|---|---|---|---|
| | Before matching | | | After matching | | |
| | Treatment group | Control group | p-value | Treatment group | Control group | p-value |
| T.MBT | 2.6865 | 3.04 | 0.358 | 2.6865 | 3.7424 | 0.008 |
| T.LEV | 0.1849 | 0.1323 | 0.001 | 0.18491 | 0.1995 | 0.421 |
| T.ANALYST.C | 9.2284 | 4.4169 | 0.000 | 9.2284 | 9.2217 | 0.990 |
| T.SALES.GRO | 0.1893 | 0.2423 | 0.376 | 0.18931 | 0.2515 | 0.329 |
| IND.EFF | 26.767 | 27.993 | 0.131 | 26.767 | 27.244 | 0.582 |

**Table 10.1B**

| **Panel A: Logit Model** | | | | | | | |
|---|---|---|---|---|---|---|---|
| Outcome Variable: Methods of payment | | Treatment Variable: Positive Media | | | | | |
| Intercept | T.MBT | T.LEV | T.ANALYST.C | T.SALES.GRO | IND.EFF | N | Pseudo R-Squared |
| 0.4368*** | - 0.0153* | 0.2118 | 0.0713*** | - 0.0369 | - 0.0032 | 902 | 0.0972 |
| (0.004) | (0.051) | (0.250) | (0.000) | (0.449) | (0.367) | | |
| **Panel B: Matching Outcome** | | | | | | | |
| Matching algorithm | | | | | | | Caliper matching |
| Caliper | | | | | | | 0.1 |
| Matched observations per treated deal | | | | | | | 1:1 |
| Total original number of observations | | | | | | | 902 |
| Total original number of treated observations | | | | | | | 451 |
| Total matched observations | | | | | | | 434 |
| ATT (%) (Abadie & Imbens, 2006) | | | | | | | 0.4659% * |
| Standard Errors) | | | | | | | 0.0155 |
| **Panel C: Covariates' Balancing** | | | | | | | |
| | Before matching | | | | After matching | | |
| | Treatment group | Control group | p-value | | Treatment group | Control group | p-value |
| T.MBT | 2.6352 | 3.0912 | 0.235 | | 2.6352 | 3.8414 | 0.002 |
| T.LEV | 0.1842 | 0.1330 | 0.001 | | 0.1842 | 0.1970 | 0.480 |
| T.ANALYST.C | 9.1619 | 4.4834 | 0.000 | | 9.1619 | 9.1951 | 0.948 |
| T.SALES.GRO | 0.1858 | 0.2459 | 0.315 | | 0.1858 | 0.2569 | 0.264 |
| IND.EFF | 26.632 | 28.129 | 0.065 | | 26.632 | 27.395 | 0.378 |

**Table 10.1C**

| **Panel A: Logit Model** | | | | | | | |
|---|---|---|---|---|---|---|---|
| Outcome Variable: Methods of payment | | Treatment Variable: Negative Media | | | | | |
| Intercept | T.MBT | T.LEV | T.ANALYST.C | T.SALES.GRO | IND.EFF | N | Pseudo R-Squared |
| 0.4345*** | -0.0018 | 0.1619 | 0.0796*** | - 0.0156 | - 0.0031 | 902 | 0.1090 |
| (0.000) | (0.807) | (0.379) | (0.000) | (0.739) | (0.403) | | |
| **Panel B: Matching Outcome** | | | | | | | |
| Matching algorithm | | | | | | | Caliper matching |
| Caliper | | | | | | | 0.1 |
| Matched observations per treated deal | | | | | | | 1:1 |
| Total original number of observations | | | | | | | 902 |
| Total original number of treated observations | | | | | | | 451 |
| Total matched observations | | | | | | | 439 |
| ATT (%) (Abadie & Imbens, 2006) | | | | | | | 0.4852%* |
| Standard Errors) | | | | | | | 0.0255 |
| **Panel C: Covariates' Balancing** | | | | | | | |
| | Before matching | | | | After matching | | |
| | Treatment group | Control group | p-value | | Treatment group | Control group | p-value |
| T.MBT | 2.9719 | 2.7546 | 0.572 | | 2.9719 | 3.3885 | 0.410 |
| T.LEV | 0.18336 | 0.13381 | 0.002 | | 0.18336 | 0.2081 | 0.140 |
| T.ANALYST.C | 9.3215 | 4.3237 | 0.000 | | 9.3215 | 9.2106 | 0.833 |
| T.SALES.GRO | 0.20052 | 0.23108 | 0.609 | | 0.20052 | 0.23949 | 0.538 |
| IND.EFF | 26.639 | 28.122 | 0.068 | | 26.639 | 28.381 | 0.041 |

Tables 10.1A, 10.1B and 10.1C report the outcome of the Propensity Score Matching analysis that estimates the effect of degree of media, positive and negative media on methods of payment, premium and time of completion in corporate takeover. The treatment variable are degree of media, positive media and negative media which is discussed in Appendix 1. The outcome variable are methods of payment, premium and time of completion. Panel A of tables 10.1A estimates the propensity scores via the Logit Model. Variables are included in Logit regression provided that such an inclusion modification the balance of the key covariates in the sample that is matched. Panel B of tables 10.1B indicates the matching outcome with caliper 0.01 which is used in the matching algorithm, the number of treated and control observations in the matched sample, and the Average Treatment Effect ATT with standard errors. Panel C of tables 10.1C indicates the covariates' balancing of propensity scores and the some of the important variables in this study. It also represents the mean value of key empirical variables in wo groups of treated control and indicates the bootstrapped p-value from the t-test of the null hypothesis that the difference is statistically equal to 0 are reported before and after the matching. Please refer to Appendix for an accurate description of the variables.
Please refer to Appendix B for an accurate description of the variables.
*** Represents significance at the 1% levels.
** Represents significance at the 5% levels.
* Represents significance at the 10% levels.

**Table 10.2A**

| **Panel A: Logit Model** | | | | | | | |
|---|---|---|---|---|---|---|---|
| Outcome Variable: Premium | Treatment Variable: Degree of Media | | | | | | |
| Intercept | T.MBT | T.LEV | T.ANALYST.C | T.SALES.GRO | IND.EFF | N | Pseudo R-Squared |
| 0.4452*** | - .00141 | 0.2247 | 0.0736*** | - 0.0291 | - 0.0023 | 902 | 0.1024 |
| (0.001) | (0.070) | (0.188) | (0.000) | (0.550) | (0.520) | | |

| **Panel B: Matching Outcome** | |
|---|---|
| Matching algorithm | Caliper matching |
| Caliper | 0.1 |
| Matched observations per treated deal | 1:1 |
| Total original number of observations | 902 |
| Total original number of treated observations | 451 |
| Total matched observations | 432 |
| ATT (%)(Abadie & Imbens, 2006) | - 0.3969% |
| Standard Errors) | (0.0611) |

| **Panel C: Covariates' Balancing** | | | | | | |
|---|---|---|---|---|---|---|
| | Before matching | | | After matching | | |
| | Treatment group | Control group | p-value | Treatment group | Control group | p-value |
| T.MBT | 2.6865 | 3.04 | 0.358 | 2.6865 | 3.0635 | 0.290 |
| T.LEV | 0.1849 | 0.1323 | 0.001 | 0.1849 | 0.1841 | 0.964 |
| T.ANALYST.C | 9.2284 | 4.4169 | 0.000 | 9.2284 | 9.0976 | 0.795 |
| T.SALES.GRO | 0.1893 | 0.2423 | 0.376 | 0.1893 | 0.1672 | 0.579 |
| IND.EFF | 26.767 | 27.993 | 0.131 | 26.767 | 24.257 | 0.004 |

**Table 10.2B**

| **Panel A: Logit Model** | | | | | | | |
|---|---|---|---|---|---|---|---|
| Outcome Variable: Premium | Treatment Variable: Positive Media | | | | | | |
| Intercept | T.MBT | T.LEV | T.ANALYST.C | T.SALES.GRO | IND.EFF | N | Pseudo R-Squared |
| 0.4401*** | -0.0158 | 0.2243 | 0.0711*** | -0.0363 | 0.0037 | 902 | 0.0974 |
| (0.029) | (0.042) | (0.226) | (0.000) | (0.458) | (0.302) | | |

| **Panel B: Matching Outcome** | |
|---|---|
| Matching algorithm | Caliper matching |
| Caliper | 0.1 |
| Matched observations per treated deal | 1:1 |
| Total original number of observations | 902 |
| Total original number of treated observations | 451 |
| Total matched observations | 345 |
| ATT (%) (Abadie & Imbens, 2006) | -0.4201%* |
| Standard Errors) | 0.1298 |

| **Panel C: Covariates' Balancing** | | | | | | |
|---|---|---|---|---|---|---|
| | Before matching | | | After matching | | |
| | Treatment group | Control group | p-value | Treatment group | Control group | p-value |
| T.MBT | 2.6865 | 3.04 | 0.358 | 2.3922 | 1.2719 | 0.005 |
| T.LEV | 0.1849 | 0.1323 | 0.001 | 0.1659 | 0.1893 | 0.142 |
| T.ANALYST.C | 9.2284 | 4.4169 | 0.000 | 5.843 | 3.6582 | 0.000 |
| T.SALES.GRO | 0.1893 | 0.2423 | 0.376 | 0.1968 | 0.0337 | 0.001 |
| IND.EFF | 26.767 | 27.993 | 0.131 | 25.483 | 25.45 | 0.973 |

**Table 10.2C**

| **Panel A: Logit Model** | | | | | | | |
|---|---|---|---|---|---|---|---|
| Outcome Variable: Premium | Treatment Variable: Negative Media | | | | | | |
| Intercept | T.MBT | T.LEV | T.ANALYST.C | T.SALES.GRO | IND.EFF | N | Pseudo R-Squared |
| - 0.4434*** | -0.0025 | 0.1762 | 0.0794*** | -.0144 | -.0036 | 902 | 0.1091 |
| (0.001) | (0.737) | (0.342) | (0.000) | (0.757) | (0.320) | | |

| **Panel B: Matching Outcome** | |
|---|---|
| Matching algorithm | Caliper matching |
| Caliper | 0.1 |
| Matched observations per treated deal | 1:1 |
| Total original number of observations | 902 |
| Total original number of treated observations | 451 |
| Total matched observations | 439 |
| ATT (%) (Abadie & Imbens, 2006) | -0.3979%** |
| Standard Errors) | 0.0328 |

| **Panel C: Covariates' Balancing** | | | | | | |
|---|---|---|---|---|---|---|
| | Before matching | | | After matching | | |
| | Treatment group | Control group | p-value | Treatment group | Control group | p-value |
| T.MBT | 2.9719 | 2.7546 | 0.572 | 2.9719 | 4.5687 | 0.000 |
| T.LEV | 0.1834 | 0.1338 | 0.002 | 0.1834 | 0.2377 | 0.020 |
| T.ANALYST.C | 9.3215 | 4.3237 | 0.000 | 9.3215 | 9.2772 | 0.933 |
| T.SALES.GRO | 0.2005 | 0.2311 | 0.609 | 0.2005 | 0.2953 | 0.185 |
| IND.EFF | 26.639 | 28.122 | 0.068 | 26.639 | 26.594 | 0.959 |

Tables 10.2A, 10.2B and 10.2C report the outcome of the Propensity Score Matching analysis that estimates the effect of degree of media, positive and negative media on methods of payment, premium and time of completion in corporate takeover. The treatment variable are degree of media, positive media and negative media which is discussed in Appendix 1. The outcome variable are methods of payment, premium and time of completion. Panel A of tables 10.2A estimates the propensity scores via the Logit Model. Variables are included in Logit regression provided that such an inclusion modification the balance of the key covariates in the sample that is matched. Panel B of tables 10.2B indicates the matching outcome with caliper 0.01 which is used in the matching algorithm, the number of treated and control observations in the matched sample, and the Average Treatment Effect ATT with standard errors. Panel C of tables 10.2C indicates the covariates' balancing of propensity scores and the some of the important variables in this study. It also represents the mean value of key empirical variables in wo groups of treated control and indicates the bootstrapped p-value from the t-test of the null hypothesis that the difference is statistically equal to 0 are reported before and after the matching. Please refer to Appendix for an accurate description of the variables.
Please refer to Appendix B for an accurate description of the variables.
*** Represents significance at the 1% levels.
** Represents significance at the 5% levels.
* Represents significance at the 10% levels.

**Table 10.3A**

| **Panel A: Logit Model** | | | | | | | |
|---|---|---|---|---|---|---|---|
| Outcome Variable: Time of Completion | | Treatment Variable: Degree of Media | | | | | |
| Intercept | T.MBT | T.LEV | T.ANALYST.C | T.SALES.GRO | IND.EFF | N | Pseudo R-Squared |
| - 0.5435*** | - 0.0123 | 0.1771 | 0.0742*** | - 0.0230 | - 0.0030 | 902 | 0.1060 |
| (0.000) | (0.115) | (0.343) | (0.000) | (0.638) | (0.423) | | |

| **Panel B: Matching Outcome** | |
|---|---|
| Matching algorithm | Caliper matching |
| Caliper | 0.1 |
| Matched observations per treated deal | 1:1 |
| Total original number of observations | 902 |
| Total original number of treated observations | 451 |
| Total matched observations | 451 |
| ATT (%) (Abadie & Imbens, 2006) | 30.3503% *** |
| Standard Errors) | 0.000 |

| **Panel C: Covariates' Balancing** | | | | | | |
|---|---|---|---|---|---|---|
| | Before matching | | | After matching | | |
| | Treatment group | Control group | p-value | Treatment group | Control group | p-value |
| T.MBT | 2.6865 | 3.04 | 0.358 | 2.6865 | 2.8481 | 0.641 |
| T.LEV | 0.18491 | 0.13227 | 0.001 | 0.18491 | 0.17504 | 00.581 |
| T.ANALYST.C | 9.2284 | 4.4169 | 0.000 | 9.2284 | 9.2262 | 0.997 |
| T.SALES.GRO | 0.18931 | 0.2423 | 0.376 | 0.18931 | 0.22373 | 0.473 |
| IND.EFF | 26.767 | 27.993 | 0.131 | 26.767 | 24.109 | 0.002 |

**Table 10.3B**

| **Panel A: Logit Model** | | | | | | | |
|---|---|---|---|---|---|---|---|
| Outcome Variable: Time of Completion | | Treatment Variable: Positive Media | | | | | |
| Intercept | T.MBT | T.LEV | T.ANALYST.C | T.SALES.GRO | IND.EFF | N | Pseudo R-Squared |
| - 0.4692*** | - 0.0144 | 0.1652 | 0.0714*** | - 0.0300 | - 0.0044 | 902 | 0.1011 |
| (0.001) | (0.067) | (0.375) | (0.000) | (0.541) | (0.231) | | |

| **Panel B: Matching Outcome** | |
|---|---|
| Matching algorithm | Caliper matching |
| Caliper | 0.1 |
| Matched observations per treated deal | 1:1 |
| Total original number of observations | 902 |
| Total original number of treated observations | 451 |
| Total matched observations | 451 |
| ATT (%) (Abadie & Imbens, 2006) | 29.1065%*** |
| Standard Errors) | 0.000 |

| **Panel C: Covariates' Balancing** | | | | | | |
|---|---|---|---|---|---|---|
| | Before matching | | | After matching | | |
| | Treatment group | Control group | p-value | Treatment group | Control group | p-value |
| T.MBT | 2.6352 | 3.0912 | 0.235 | 2.6352 | 2.7667 | 0.705 |
| T.LEV | 0.1842 | 0.1330 | 0.001 | 0.1842 | 0.1836 | 0.977 |
| T.ANALYST.C | 9.1619 | 4.4834 | 0.000 | 9.1619 | 8.8492 | 0.540 |
| T.SALES.GRO | 0.1858 | 0.2459 | 0.315 | 0.1858 | 0.2131 | 0.571 |
| IND.EFF | 26.632 | 28.129 | 0.065 | 26.632 | 23.681 | 0.001 |

**Table 10.3C**

| **Panel A: Logit Model** | | | | | | | |
|---|---|---|---|---|---|---|---|
| Outcome Variable: Time of Completion | | Treatment Variable: Negative Media | | | | | |
| Intercept | T.MBT | T.LEV | T.ANALYST.C | T.SALES.GRO | IND.EFF | N | Pseudo R-Squared |
| - 0.5470 | - 0.0011 | 0.1222 | 0.0770 | - 0.0092 | - 0.0042 | 902 | 0.1120 |
| (0.000) | (0.888) | (0.512) | (0.000) | (0.846) | (0.258) | | |

| **Panel B: Matching Outcome** | |
|---|---|
| Matching algorithm | Caliper matching |
| Caliper | 0.1 |
| Matched observations per treated deal | 1:1 |
| Total original number of observations | 902 |
| Total original number of treated observations | 451 |
| Total matched observations | 451 |
| ATT (%) (Abadie & Imbens, 2006) | 21.9069%*** |
| Standard Errors) | 0.001 |

| **Panel C: Covariates' Balancing** | | | | | | |
|---|---|---|---|---|---|---|
| | Before matching | | | After matching | | |
| | Treatment group | Control group | p-value | Treatment group | Control group | p-value |
| T.MBT | 2.9719 | 2.7546 | 0.572 | 2.9719 | 4.0829 | 0.016 |
| T.LEV | 0.1834 | 0.1339 | 0.002 | 0.1834 | 0.1891 | 0.755 |
| T.ANALYST.C | 9.3215 | 4.3237 | 0.000 | 9.3215 | 9.7339 | 0.443 |
| T.SALES.GRO | 0.2006 | 0.2311 | 0.609 | 0.2006 | 0.2057 | 0.923 |
| IND.EFF | 26.639 | 28.122 | 28.122 | 26.639 | 27.614 | 0.254 |

Tables 10.3A, 10.3B and 10.3C report the outcome of the Propensity Score Matching analysis that estimates the effect of degree of media, positive and negative media on methods of payment, premium and time of completion in corporate takeover. The treatment variable are degree of media, positive media and negative media which is discussed in Appendix 1. The outcome variable are methods of payment, premium and time of completion. Panel A of tables 10.3A estimates the propensity scores via the Logit Model. Variables are included in Logit regression provided that such an inclusion modification the balance of the key covariates in the sample that is matched. Panel B of tables 10.3B indicates the matching outcome with caliper 0.01 which is used in the matching algorithm, the number of treated and control observations in the matched sample, and the Average Treatment Effect ATT with standard errors. Panel C of tables 10.3C indicates the covariates' balancing of propensity scores and the some of the important variables in this study. It also represents the mean value of key empirical variables in wo groups of treated control and indicates the bootstrapped p-value from the t-test of the null hypothesis that the difference is statistically equal to 0 are reported before and after the matching. Please refer to Appendix for an accurate description of the variables.
Please refer to Appendix B for an accurate description of the variables.
*** Represents significance at the 1% levels.
** Represents significance at the 5% levels.
* Represents significance at the 10% levels.