Earnings Surprises and Takeover Targets [☆]

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ABSTRACT

We investigate the connection between the earnings surprises posted by a given firm and its chances of becoming a takeover target. We find that meeting or beating analysts forecast seems to significantly reduce the chance of becoming a target during the subsequent year; the larger the positive surprise, the less likely the firm will become a target. Consistent with Skinner and Sloan (2002), firms that miss the analysts' forecast by even a small amount seem to be the most attractive targets for potential acquirers. These results are consistent with the idea that large earnings surprises are driven by economic performance while small earnings surprises are driven by managerial myopia. Furthermore, we show that firms that received a takeover threat are more likely to miss/beat expectations by larger amounts rather than by smaller amounts in the period following the threat. While the large positive surprises could be a sign of rapid improved performance after a takeover threat, our additional analysis supports the hypothesis that managers engage in a one period window dressing behavior to influence the magnitude of the deal premium.

Introduction

Anecdotal evidence and academic research have long acknowledged the importance that managers place on meeting earnings benchmarks set by analysts' forecasts. The literature on earnings surprises to date is extensive, incorporating important questions such as the incentives for and the consequences of meeting or beating analysts' forecasts, or the relevance of earnings surprises for future performance. A special place in this literature is given to small earnings surprises, i.e. meeting or beating analysts' forecasts by a small amount (henceforth MBE). MBE can be interpreted as an active attempt of managers to either manipulate earnings or manipulate expectations (see, for example, Bartov et al. (2002)) in order to avoid the high costs of missing the benchmark. In general, prior work documents that a premium exists for a firm's ability to beat this target and serious repercussions follow if a firm misses it.[1]

The current study focuses on a relatively unexplored area within the context of earnings surprises. Specifically, we investigate the connection between the earnings surprises posted by a certain firm and its chances of becoming a target in a merger or takeover attempt. We also investigate the more specific role of posting small earnings surprises for the chances of becoming a target in a corporate deal. Our empirical investigation is motivated by several considerations.

First, acquirers attempt to take over a potential target to the extent that they expect to generate additional value, either through (1) realizing potential synergies[2] or through (2) eliminating inefficiencies in target's management (which is why mergers and acquisitions activity

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[1] Bartov et al. (2002) find that firms that 'just meet or beat' current analyst earnings expectations enjoyed a higher stock return. Similar results were reported by both Kasznik and McNichols (2002) and Lopez and Rees (2002). Failure to meet or beat forecasts was associated with significant adverse consequences. Matsunaga and Park (2001) found a significant negative incremental effect on the CEO's bonus where managers failed to meet quarterly earnings forecasts. These are just some representative examples from the rich "meet or beat" literature – we provide a more detailed account of this literature in Section 2.

[2] Synergies created through a merger will either reduce costs (economies of scale in research and development, manufacturing, sales and marketing, distribution, administration etc) or enhance revenues (cross-selling of products, expanded market share, or higher prices arising from reduced competition).

is generally viewed as a managerial discipline mechanism). Earnings surprises would thus be a useful signal for acquirers to the extent that they provide information about either one of the two routes identified above. While there is no a priori reason to believe that earnings surprises are informative about sources of potential synergies between target and acquirer, there are plenty of reasons to argue that earnings surprises do provide useful information related to the quality of the management team of a given firm.[3] If that is indeed the case, the sign and magnitude of earnings surprises could be interpreted by potential acquirers as a signal about the validity of a given firm as a possible target.

The question then becomes what exactly do earnings surprises signal to potential acquirers? Given that earnings surprises are a function of realized and expected earnings, we identify at least three distinct possibilities. First, if the surprise is the result of unexpected realized earnings, then the magnitude and direction of earnings surprises can be a signal of legitimate firm performance. Given that good performance eliminates the need for disciplining, we would then expect that high earnings surprises (i.e. high performance) make it less likely for the firm to become a takeover target.[4] Second, acquirers may use earnings surprises as a signal if there is a large asymmetry between the firm and analysts when analysts form earning expectations. In this case a large surprise could signal poor quality of information management by the target firm, and thus large information asymmetry between the firm and the analysts. This could attract potential acquirers as it indicates potential inefficiency that could be mitigated. Under this scenario we expect large (positive or negative) surprises to indicate inefficiency and thus increase the chance of becoming a takeover target. Finally, earnings surprises (especially small earnings surprises) could be a signal of

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[3] See Section II for a more detailed review of many of those reasons.

[4] This argument particularly applies to positive earnings surprises, which signal good performance.

managers attempting to manipulate either earnings or expectations (engaging in MBE, for example). Conditional on MBE being value destroying, we expect small earnings surprises to signal management inefficiency and attract potential acquirers.[5]

Our results provide support to the argument that earnings surprises are a useful signal for acquirers. Specifically, we document that the larger the magnitude of the earnings surprise in the current period, the less likely the firm will receive a threat (i.e. become a target) during the next period. The direction (sign) of the earnings surprise has an incremental effect on the probability of becoming a target – firms that beat the analysts' forecast are less likely to become a target than firms that miss, regardless of the magnitude of their earnings surprise. These results are consistent with the hypothesis that earnings surprises are a signal of legitimate firm performance.

We also show that, ceteris paribus, firms that post a small positive earnings surprises are less likely to become a takeover target during the next period. While we do not investigate whether engaging in MBE in this context is value increasing, our results support the idea that engaging in MBE is a successful strategy for managers hoping to deter the realization of the immediate takeover threats. When we repeat our analysis by separating the group of firms into positive and negative earnings surprises, several differences emerge. For firms with positive surprises, the magnitude of the surprise is what matters most - posting a small positive earnings surprise within this group (i.e. engaging in MBE) does not have a significant effect on deterring or attracting potential takeover bids. This is consistent with the idea that positive earnings surprises act as legitimate signals of firm performance. The better the performance of a given firm, the less likely it is that this firm will become a target in the near future. Hence, firms that post small positive

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[5] Of course, the opposite is true to the extent that MBE is value creating (and the potential acquirers can differentiate between these different objectives). The literature provides mixed results related to the overall reasons that managers have for engaging in MBE (see section II for a more detailed discussion on this topic).

earnings surprises are more likely to be the target of a takeover attempt relative to firms with large positive earnings surprises (because of the magnitude effect), regardless of whether this small surprise is the result of manipulation (MBE) or not.

However, within the group of firms with negative earnings surprises, we find that it is the firms with small negative earnings surprises that are most likely to become takeover targets. Firms that miss the analysts' forecasts by a lot (either because they take a big bath or because they have abysmal performance) do not attract or deter the attention of potential bidders in the near future in any way. But firms that post small negative surprises significantly increase the likelihood of becoming a target. In summary, within this group, it is no longer the magnitude of the negative surprise that matters, but instead the act of posting a small negative earnings surprise.

Our results imply that on the one hand, managers who are trying to deter a takeover and who are facing earnings that will barely miss the forecasts have every reason to try to manipulate these earnings in order to hit or barely beat the target. On the other hand, managers that are looking to be bought out have a successful tool at their disposal to attract potential buyers (i.e. they would manage earnings in order to barely miss the forecast). To the extent that posting a small negative earnings surprise is at the manager's discretion,[6] we can infer that looking for a potential buyer incentivizes the manager to barely miss the forecast.

We also investigate whether receiving a takeover threat influences subsequent managerial behavior, as manifested in the earnings surprises immediately following the threat. *Large positive surprises* following the threat would be consistent with the disciplining role of takeover threats, and would indicate that management of the target has either (1) increased performance and eliminated inefficiencies in response to the threat or (2) manipulated earnings (in what is likely to

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[6] An alternative interpretation is that acquirers interpret the small negative surprises as a signal of inefficient management, and thus a chance for them to come in and create value by eliminating the inefficiencies.

be a myopic, window dressing, one-period game behavior) in order to report large unexpected performance and deter the threat. Given the short time between the takeover threat and the following earnings announcement, the first mechanism appears to be harder to obtain than the second. We provide results that are indeed indicating that the large positive surprises following a takeover threat are the result of manipulated earnings rather than increased performance. The question remains as to why managers would engage in this one period window dressing behavior. While the obvious answer may be a desperate attempt to deter the threat, it is possible that managers attempt to influence/negotiate certain deal characteristics by their post-threat behavior (such as the magnitude of the deal premium). Our results support this hypothesis – specifically, we show that the ratio of offer price to EPS (which can be interpreted as a measure of deal premium) is increasing in the magnitude of the preceding earnings surprise.

Similarly, *large negative surprises* following the threat could be a sign of cooperative managers taking a "big bath" to facilitate an impending takeover. Existing research shows that bidders and targets often engage in private negotiations before bids are made. For example, Boone and Mulherin (2007) trace 400 deals in which the target discloses information about the private-takeover process. Takeover attempts are classified as either auctions or negotiations, depending on whether bidders were contacted by the target and signed a confidentiality agreement (auction) or not (negotiation). Around 50% of their takeover attempts were classified as negotiations. This result suggest that, about 50% of the time, if managers are sympathetic to shareholder concerns they would be willing to indulge in some sort of cooperative behavior in the face of a takeover attempt. In this case, managers may engage in 'big bath' earnings behavior in order to facilitate the takeover.

On the other hand, to the extent that managers can manipulate earnings surprises to barely meet or beat, they might engage in this type of manipulation in response to takeover threats (in an attempt to repel the takeover). In this scenario, we would also expect to observe a connection between lagged takeover threats and current earnings surprises. This type of association makes sense particularly in the context of *small earnings surprises* (MBE), which are more likely to be the result of an active attempt of managers to either manipulate earnings or manipulate expectations.

We find no evidence that a takeover threat increases the incentives for managers to manipulate earnings in order to post small earnings surprises. On the contrary, we show that firms that received a takeover threat are more likely to miss/beat expectations by larger amounts rather than by smaller amounts – i.e. receiving a takeover threat increases the likelihood of posting (in absolute value) large earnings surprises than small earnings surprises. We also show that the magnitude of the deal premium is, ceteris paribus, increasing in the magnitude of earnings surprises, which is consistent with the hypothesis that managers might engage in window dressing in order to negotiate a larger premium for their shareholders.

Our results add to the literature related to the benefits and costs of engaging in MBE, by identifying consequences of posting small earnings surprises for the market for corporate control. Our results suggest that, faced with the possibility of negative earnings surprises, managers that engage in MBE to meet or barely beat expectations, successfully deter the chance of an immediate takeover threat. However, managing earnings down, in order to smooth, may increase the chance of becoming a target. In the same time, managing earnings to barely miss the target is a valid tool for managers that are trying to attract the attention of potential acquirers. In documenting these consequences, our paper adds to a number of other studies of small earnings surprises that

investigate incentives/consequences of MBE from the capital markets perspective. Bhojraj et al. (2009) provide evidence that firms that barely meet or beat analysts' expectations engage in myopic behavior. Ayers et al. (2006) provide empirical results that manipulators usually meet or narrowly beat analysts' forecasts. Harris et al. (2010) show that firms that meet or narrowly beat analysts' expectations are more likely to commit fraud. Keung et al. (2010) suggest that small earnings surprises are associated with smaller earnings response coefficients and the markets perceive small earnings surprises as a red flag. We add to this line of research by explicitly linking takeover threats to small earnings surprises and investigating whether managers' choice to engage in MBE has any effect on the likelihood of their firm becoming a target.

This study also adds to the large literature on earnings management. Prior research has discussed the theoretical motivations for earnings management during corporate control contests (DeAngelo (1986), Erickson and Wang (1999)). While the mere threat of a takeover can serve as a mechanism for disciplining self-serving/entrenched management (see Grossman and Hart (1980), Stein (1988), it can also lead managers to opportunistically focus on short term-profits rather than long-term objectives, in an attempt to deter the immediate takeover threat. However, we differ from the aforementioned literature in at least two important aspects. First, the focus of our paper is on MBE (i.e. posting small earnings surprises), rather than earnings management per se (it is important to note though that earnings management is one of the potential sources of earnings surprises). Second, the approach taken in most of the previous literature is to condition on a sample of firms that are takeover targets and then investigate whether the managers of these firms engage in earnings management.[7] We take a more holistic approach, looking at the complete

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[7] In general, research in this area suggests that managers of takeover targets may have incentives to increase reported earnings either to convince shareholders to reject the offer since they are performing their jobs efficiently or to raise the asking price Easterwood (1998); DeAngelo (1986); Erickson and Wang (1999). The studies that have directly investigated whether earnings management occurs during mergers and acquisitions have reported mixed results. For

universe of firms for which we can calculate earnings surprising and attempt to differentiate between the timing of the takeover threat and that of the earnings surprise.

The remainder of the paper is organized as follows: In Section II, we discuss the related literature and present our hypotheses. Section III describes our sample, data and research design. In Section IV, we present our main empirical results. Section V summarizes and concludes the paper.

II. Background and Hypotheses Development

In this section, we provide a brief review of the literature related to takeovers and earnings surprises, and discuss how earnings surprises in general (and small earnings surprises in particular) can be associated with takeover threats and the premiums on takeover bids.

A. Takeovers

Several possible explanations have been proposed why mergers and acquisitions occur. Two economic based explanations are synergy gains from economy of scale, and market discipline from removing inefficient management team.[8] In this paper, we focus on the disciplining mechanism of takeovers.

Corporate takeovers can be classified as either friendly or hostile. A friendly takeover requires the approval of the target firm's board of directors as well as voting approval of the stockholders (Jarrell (1993)). On the other hand, a hostile takeover frequently consists of a tender offer which is a public offer of a specific price (usually in excess of the current market price) that

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example, Easterwood (1998), and Wright and Guan (2004) document that target firms conducted earnings management. However, other studies such as Erickson and Wang (1999) were unable to conclude that target firms conducted earnings management.

[8] Other explanations include empire building by the acquiring firm, to capture perceived benefit of diversification, and to ride along with the wave of unexpected industry shocks. See Andrade et al. (2001) and Betton et al. (2008) for a detailed survey of the literature on corporate takeovers.

can be paid either in cash or in a percentage of the target firm's stock. This type of takeover thus circumvents the approval of the target's management and directors, and it is used as a market disciplining mechanism for an inefficient management team (see, for example, Weisbach (1993)). But how do acquirers know whether the target firm is run inefficiently? In the next subsections, we argue that when managers engage in shareholder value destroying earnings management/manipulation, the acquiring firm use this as a signal to determine whether a target firm is run inefficiently.

Whether successful or not, a takeover threat has wide implications for the welfare of the incumbent management team. More specifically, if the reason for the takeover threat is due to the poor performance of the firm, management will most likely experience turnover following the successful takeover. Along these lines, Martin and McConnell (1991) document that the turnover rate for the top manager of target firms in tender offer-takeovers significantly increases following the completion of the takeover.[9] Numerous studies show that managers of target firm use different approaches to deter the threat. For example, Hong and Kubik (2003), Bowen et al. (1995), Harris and Raviv (1991) and Hirshleifer and Thakor (1992) model how firms issue debt and use the proceeds to repurchase shares to deter takeovers. In more recent papers, Comment and Schwert (1995) find that firms with higher takeover probability are more likely to adopt poison pills, repurchase more stocks Billett and Xue (2007), or engage in earnings management (Braga-Alves et al. (2009)). However, to the best of our knowledge, no study has looked at whether managers of a target firm use earnings surprises to attract or deter potential acquirers.

B. *Earnings Surprises*

Recent papers (Burgstahler and Dichev (1997); Degeorge et al. (1999); Brown (2001);

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[9] Braga-Alves et al. (2009) point out that in addition to turnover fears, incumbent managers have an incentive to engage in practices to signal good performance to increase the premium.

Burgstahler and Eames (2006) report that a disproportionate number of firms meet or beat analysts' expectations by a small margin. Related studies (Abarbanell and Lehavy (2003); Brown and Caylor (2005); Keung et al. (2010)) document a rising trend in the number of firms meeting or narrowly beating analysts' earnings forecasts relative to the number of firms narrowly missing their forecasts in the period of 1992-2006.[10] The disproportionate number of firms that post small earnings surprises suggests that managers use earnings management techniques to meet short-term earnings benchmarks, such as analysts' forecast or posting a profit. In a survey of over 400 managers, Graham et al. (2005) found that a surprising 78 percent of managers use earnings management techniques that lower shareholder value to benefit from achieving these types of benchmarks. Using empirical data, Degeorge et al. (1999) and Zhao et al. (2012) provide evidence that firms manage accounting earnings and real earnings to achieve these benchmarks, and Bhojraj et al. (2009) provide evidence that firms that barely meet or beat (small earnings surprises) analysts' expectations engage in myopic behavior.[11]

Other studies (e.g., Degeorge et al. (1999), Ayers et al. (2006), Burgstahler and Eames (2006)) provide empirical results indicating that manipulators usually meet or narrowly beat analysts' earnings forecasts. Harris et al. (2010) provide further evidence that firms that barely meet or beat earnings benchmarks are more likely to commit fraud and that myopic managers

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[10] Abarbanell and Lehavy (2003) find that the higher frequency of small positive forecast errors relative to small negative errors disappears after the reported earnings component of the earnings surprise is stripped of discretionary accruals. Brown and Caylor (2005) provide evidence that the number of firms reporting small negative earnings surprises declined in the period from 1985-2002, suggesting that there is a rising prevalence of firms playing the numbers game.

[11] Other studies have also focused on the use of accounting earnings management by firms to measure up to analysts' expectations and these studies provide evidence that these firms suffer long-term consequences (e.g., Bartov et al. (2002). However, evidence is also emerging that suggests that firms increasingly resort to real earnings management to achieve performance targets (Darrough and Rangan (2005); Roychowdhury (2006); Gunny (2010)). In this paper, we focus on the managers' opportunistic behavior and do not differentiate between accounting manipulations and real earnings manipulations because both can be value-reducing decisions made to meet short-term earnings targets. We also argue that anti-takeover provisions are correlated with those aspects of the firm's performance that can be observed by external observers (Cohen and Zarowin (2010)).

adjust the magnitude of earnings manipulation to coincide with small earnings surprises. Consistent with these arguments, Keung et al. (2010) show that the earnings response coefficients (ERC) for small earnings surprises are significantly lower than the ERCs for earnings surprises in adjacent ranges. The authors also provide evidence that the relationship between future and current earnings surprises is more negative for current small earnings surprises. Taken together, the results of these papers suggest that small earnings surprises are often achieved through earnings manipulation and that the markets perceive meeting or beating forecasts by a small margin as a red flag when valuing firms.

However, prior research (e.g., Ziebart (1990); Freeman and Tse (1992); Doyle et al. (2006)) provides evidence that firms that post large earnings surprises have larger subsequent earnings surprises and returns that persist for a much longer duration. These firms also have stronger growth in cash flows and earnings when compared to firms with smaller surprises. These findings suggest that large earnings surprises are driven by economic performance while small earnings surprises are driven by manipulation. Consistent with these findings, prior research also provides evidence that the magnitude of the surprise affects the behavior of both the managers and the analysts. For example, Stickel (1989) reports that analysts issue more forecasts after relatively large surprises and Barron et al. (2008) complements this finding by providing evidence that large forecast errors motivate analysts' to acquire more information. In addition, the firms that are more likely to have large earnings surprises issue fewer voluntary public disclosures (Waymire (1985); Miller (2002)). All of these studies provide evidence that the magnitude of the earnings surprise is an important factor both in managerial decisions and in the reaction of analysts to earnings.

Taken together, the literature on earnings surprise suggests that managers sometimes engage in value destroy earnings manipulation, and we show in this paper that the bidding firm

can use this to identify a target firm.

C. *Hypotheses Development*

Accepting the paradigm of mergers and acquisitions acting as an external disciplining mechanism for inefficient management, one has to ask the general question of how acquirers identify potentially good targets. More specifically, the current study asks whether acquirers use earnings surprises as a useful signal to identify inefficient management and instances where they could generate value by eliminating these inefficiencies. If earnings surprises constitute a useful signal, one would expect to observe a connection between the earnings surprise posted by a given firm, and the given firm's chances of becoming the target of a takeover threat. The type of connection one would expect to find depends of what kind of signal earnings surprises send to the potential acquirers.

There are several reasons why earnings surprises may constitute a useful signal for acquirers about the quality of the management of a given firm. First, earnings surprises could be indicative of firm performance (to the extent that they are the result of legitimately unexpected realized earnings). Since how well a firm performs is inversely related with the firm's need for external disciplining, we would expect a negative relation between the earnings surprises posted by a given firm and its chances of becoming a target in the nearest future. We would thus expect that both the magnitude and the sign of earnings surprises matter for potential acquirers. We refer to this as the *performance signal hypothesis* henceforth.

Second, large earnings surprises could be the result of high information asymmetry between analysts and the firm (i.e. analysts cannot interpret the numbers released by the firm correctly, which results in large deviations between the forecasted and the realized earnings). This could be the result of managers' manipulation, but also the result of managers' or analyst' inability

to handle the information flow process (Doyle et al. (2006); Barron et al. (2008)). In this case, large surprises (either positive or negative) do not help market participants distinguish between good firms and bad firms, but rather signal more information asymmetry and more opportunity for the acquirer to create value by eliminating inefficiencies. In the extreme scenario this would generate an Akerlof (1970) type lemons-market effect Keung et al. (2010), where the stock market becomes desensitized to the earnings numbers. Potential acquirers can then generate value by fulfilling the role of the third party with the requisite skill to differentiate between the good and bad firms. Basically, the manager makes accounting choices which lead to either high quality earnings reports or low quality earnings reports to maximize the sum of his cash flow claims and the realized private benefits. The acquirer, given the scope of his/her investment, conducts considerable research to determine the probability with which the manager releases the low quality earnings report, and then decides whether to implement the costly takeover and possibly replace the manager. Since, a low quality earnings report is harder to interpret, we would observe larger surprises (either positive or negative) associated with low quality earnings. In this case we would expect that it is the magnitude of the earnings surprise, and not the sign that matters. We refer to this as the *low quality earnings signal hypothesis* henceforth.

It is an open empirical question whether acquirers do interpret earnings surprises as signals in the first place, and whether they look at them as signals of performance or signals related to earnings quality. Accordingly, our first hypothesis (stated in the null) is as follows:

H1: There is no association between the magnitude/sign of earnings surprise posted by a given firm and the chance of this firm becoming a target in the immediate future.

As briefly reviewed in section 2.2, small earnings surprises have a special role since there are reasons to believe that posting a small earnings surprise is an important manifestation of earnings management (Degeorge et al. (1999); Bhojraj et al. (2009); Keung et al. (2010)). Regardless of the

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intention behind it, posting small earnings surprises signals that managers have exercised their discretion to manage earnings or manage expectations. Whether exercising this discretion results in deterring possible takeover threats remains an open empirical question which we try to address in this study. While large earnings surprises are likely to signal future performance or large information asymmetry, small earnings surprises are not a clear predictor of either (but are instead a sign of managers exercising their discretion). Whether acquirers interpret this signal as a good signal or bad signal (or whether they even care about this signal at all) can be answered empirically. A significant association between the two would imply that managers exercising their discretion influence (intentionally or not) the characteristics that make their firm a potential target for a takeover. Hence, our second hypothesis (stated in the null) is as follows:

H2: Posting a small (positive/negative) earnings surprise does not affect the chance of the firm becoming a target in the immediate future.

Rejecting the above null and finding a positive association between small earnings surprises and the probability of a takeover would be consistent with the argument that the market interprets this clear sign of earnings management as a weakness, and thus managers inadvertently reveal this weakness to potential acquirers. On the other hand, a negative association between small earnings surprises and the probability of a takeover can be open to two interpretations - either (1) the reason behind the earnings manipulation is value enhancing/smoothing, thus the small earnings surprise signals positive future performance which naturally decrease the chance of the firm becoming a target, or (2) foreseeing/experiencing the threat, managers fixate on short term results (myopically) and thus intentionally use earnings management in an attempt to deter it.

The second interpretation above opens the door to the natural question of whether our results are not a manifestation of takeover threats influencing management behavior (rather than earnings surprises being a signal of management behavior which in turn affects the chance of

becoming a takeover target). Our methodology carefully disentangles the timing of the threat relative to the earnings announcement (see discussion in Section 3), thus allowing us to also investigate whether receiving a takeover threat influences subsequent managerial behavior, as manifested in the earnings surprises immediately following the threat. Accordingly, our third hypothesis (stated in the null) is as follows:

H3: Being a takeover target does not influence the likelihood of posting a certain magnitude of earnings surprises in the period immediately following the threat.

Testing H3 can result in several outcomes. To the extent that managers manipulate earnings surprises to barely meet or beat and feel that this type of manipulation may deter the threat, we might observe that firms that have already received a threat are more likely to post small earnings surprises relative to firms that have not received a threat. Large negative surprises following the threat could be a sign of cooperative managers taking a "big bath" to facilitate an impending takeover. Existing research shows that bidders and targets often engage in private negotiations before bids are made. For example, Boone and Mulherin (2007) trace 400 deals in which the target discloses information about the private-takeover process. Takeover attempts are classified as either auctions or negotiations, depending on whether bidders were contacted by the target and signed a confidentiality agreement (auction) or not (negotiation). Around 50% of their takeover attempts were classified as negotiations. This result suggest that, about 50% of the time, if managers are sympathetic to shareholder concerns they would be willing to indulge in some sort of cooperative behavior in the face of a takeover attempt. In this case, managers may engage in 'big bath' earnings behavior in order to facilitate the takeover.[12]

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[12] This, of course, assumes that rival bidders for the target will not also see through management's 'window dressing' behavior. In fact, a number of papers provide evidence appearing to support this contention. For example, extant research provides evidence of high information asymmetries between competing bidders. In general, this research suggest that bidders with more accurate information bid more because they (correctly) surmise that the takeover has good synergistic prospects.

Finally, large positive earnings surprises following a threat could be interpreted at first sight as a sign of improved performance as a result of the threat. Alternatively, to the extent that the magnitude of the earnings surprise affects other deal characteristics (such as, for example, the deal premium), large positive surprises could be the result of window dressing, which would essentially be a myopic one period game behavior on the side of the manager attempting to negotiate advantageous terms for the impending takeover. In order to differentiate between these two alternatives, we need to investigate if ceteris paribus, there is any relation between the takeover premium and the magnitude of the earnings surprises. Our final hypothesis (also in the null) is therefore:

H4: There is no association between the deal premium and the magnitude of the preceding earnings surprise for a given target.

III. Data and Methodology

We draw our data for this analysis from three sources: Compustat, IBES, and the SDC Platinum databases. We obtain the annual forecast data for each firm from I/B/E/S detail data files. Actual earnings and earnings announcement dates are obtained from Compustat, and any forecast issued after the earnings announcement data is deleted. Takeover threats are taken from SDC platinum. The intersection of the three databases identifies the firms that were subject to takeover threats, have financial information available, and for which we are able to calculate earnings surprises. We obtain the sample at the intersection of these three databases by first getting all firms from SDC that were subject to a takeover threat from 1989 to 2009. Second, we identify the SDC firms that are also included the IBES database. Next we merge this data set with the Compustat database. We exclude firms in the financial and utility industries. The final merged sample that

exists in all three databases includes 6,165 firm-year observations. Panel A of Table 1 provides details of our sample selection procedures.

[Insert Table 1 here]

Panel B of Table 1 provides the descriptive statistics for the main variables used in our tests.[13] The majority of our sample firms are highly profitable with mean (median) income before extraordinary items of $69.35 ($8.99) million, mean (median) earnings of $.96 ($.57) million, mean (median) ROA of 1.19 (.05), and mean (median) book value of equity of $541.14 ($124.78) million respectively. Firms that are subject to takeover threats seem to disappoint the consensus analyst on average, as given by the mean (median) earnings surprise of -.10 (-.02). The typical firm in our sample is fairly large (mean/median assets of $1.2/.2 Billion) with a significant number of analysts following (14 analysts following the average firm and 9 analysts following the median firm). Finally, we note that about 77% of the takeover bids in our sample are ultimately successfully – note that we do not restrict our sample to only those bids that were successful, since our general research question pertains to the probability of becoming a target (rather than the successful completion of a takeover attempt).

Table 1, Panel C shows the distribution of earnings surprises as well as the number of takeover threats from 1989 to 2009. The 6,165 total takeover threats are fairly evenly distributed across most of the sample period with each year producing more than a hundred takeover threats. However, similar to existing research, (e.g. Dimopoulos and Sacchetto (2013)) we observe a sharp upward trend in takeover activity from the period 1993 to 2000, which increases to highs of 557 unique targets in 1998,520 unique targets in 1999 and 472 unique targets in 2000, before dropping sharply in 2001 and 2002. While describing this trend is outside the scope of our paper, it is

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[13] The variable descriptions are summarized in the Data Appendix section for quick reference.

interesting that the trend reversal seems to coincide with the effective implementation of Regulation Fair Disclosure (Reg FD), which became law on October 23 of 2000 (Mohanram and Sunder (2006)). The 2001 and 2002 time periods also coincide with a number of well publicized high level corporate scandals and the resulting legislation, such as the watershed Sarbanes Oxley act of 2002. Interestingly, Table 1, Panel C suggests that the number of deals with negative earnings surprises outnumber the deals with positive earnings for all but two years in our sample (the exceptions are 1995 and 2006). This is in sharp contrast to existing research, such as Brown (2001) which documents that the median earnings surprise shifted rightward from small negative (barely miss analyst estimates) surprises to zero (no surprise) to small positive (beat analyst estimates) during the time period from 1984 to 1999. Given that a number of studies have since shown this relationship has continued (e.g. Matsumoto (2002)), our results provide some evidence that takeovers are more likely to be present in the face of negative earnings surprises.

Similarly, Table 1, Panel D documents a significant and negative correlation between the magnitudes of the earnings surprise and whether a firm is a takeover target (correlation values are -0.02). We also observe that the magnitude of the earnings surprise is significantly and positively correlated with *OFFERPRICETOEPS* (our proxy for the deal premium) and *SUCCESS* (whether the takeover bid is successful or not) with correlation values of 0.05 and 0.03 respectively. The latter two results support the perspective that positive earnings surprises are more likely to increase both the probability of the successful completion of the takeover bid and the deal premium.

IV. Main Empirical Results

A. *Earnings Surprises and Subsequent Takeover Threats*

Our first hypothesis focuses on the association between the magnitude of the earnings

surprise and the likelihood of a firm becoming a takeover target in the immediate future (the following year). Specifically, we are interested in whether posting a certain magnitude/direction for earnings surprises affects the chance of becoming a target in the near future. To test this hypothesis, we employ the following model:

$$Prob\big(TARGET_{i,t} = 1\big) = logit(\beta_0 + \beta_1 SURPRISE_{i,t-1} + \Theta_{i,t-1} X_{i,t-1} + \varepsilon_i) \qquad (1)$$

where the dependent variable, *TARGET*, is a dummy variable that takes a value of 1 if a firm is the subject to a takeover threat at time t, and 0 otherwise. Our main variable of interest is *SURPRISE* and all explanatory variables are measured at time t-1 (i.e., before the threat occurred).

We test this hypothesis on three samples: 1) *all firms* for which we were able to calculate earnings surprises, 2) only those firms that posted *positive earnings surprises*, and 3) firms that posted *negative earnings surprise*. We separate the sample into positive and negative surprises because we want to investigate whether the direction/sign of surprise affects the probability of takeover differently. In Table 2 we provide the results.

[Insert Table 2 here]

The table shows an inverse relation between the earnings surprise and the likelihood of a takeover, suggesting that firms that post a smaller earnings surprise are more likely to be takeover targets. This negative correlation is present in all the three samples we consider. For all the firms in our sample (Model 1), the regression coefficient on the *SURPRISE* variable is -1.29 with a p-value of 0.01. Similarly for the negative earnings surprise sample (Model 2) and the positive earnings surprise sample (Model 3), the coefficients on the *SURPRISE* variable are -1.07 and -1.05, respectively, with a p-value of 0.01 in both models. Our results are economically significant as well. For example, for all the firms in our sample (Model 1), the negative regression coefficient on the *SURPRISE* variable (-1.29, with a p-value of 0.01) suggests that if *SURPRISE* increases by

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one cent, then the log odds of becoming a takeover target decreases by 1.29. Equivalently, if *SURPRISE* increases by one cent, then the odds of becoming a takeover target decrease by 27.5%.[14]

Following existing literature, we control for analyst following (*FOLLOW*), the magnitude of outstanding equity (*EQUITY*), firm size (*SIZE*), firm performance (*ROA*), actual earnings per share (*ACTUAL*) and earnings before extraordinary items and taxes (*INCOME*) (see data appendix for detailed variable descriptions). All the variables are lagged in relation between the announcement dates of the takeover threat as obtained from SDC platinum database. The results here suggest that takeover threats are more likely for firms with high analyst following, high book value of equity, small size, high accounting performance and high *EPS*. Turning to goodness of fit statistics, both the Pseudo *R*-Squared and Log-Likelihood results suggest the appropriateness of the model (pseudo *R*-squared of approximately 50% and 0.01 log-likelihood *p*-values).

Overall, the results in Table 2 provide strong evidence that posting smaller earnings surprise increases the likelihood of becoming a takeover target. This is consistent with the earnings surprise literature that show healthy/profitable firms are more likely to post a positive earnings surprise.

Next, we investigate whether meeting and beating analyst forecast deters or attracts potential bidders using the following model:

$$Prob(TARGET_{i,t} = 1) = logit(\beta_0 + \beta_1 SURPRISE_{i,t-1} + \beta_2 BEAT_{i,t-1} + \beta_3 SURPRISE_{i,t-1} *$$
$$* BEAT_{i,t-1} + \Theta_{i,t-1} X_{i,t-1} + \varepsilon_{i,t}) \qquad (2)$$

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[14] This is not to say, for example, that four cents increase in *SURPRISE* eliminates a takeover threat. Rather, we should interpret it as a change in the odds ratio. For example, if the unconditional odds of a typical firm receiving a takeover threat is 1 in 100, then our result will imply that a one cent decrease in *SURPRISE*, increases the odds to 1.28 in a 100.

Similar to equation 1 above, the dependent variable (*TARGET*) equals 1 if a firm was subject to a takeover threat, and 0 otherwise. Here, in addition to *SURPRISE* (the difference between the last annual forecast and the corresponding actual earnings) we also include *BEAT* (takes the value of 1 if the firm meets or beats expectations and 0 otherwise) to investigate whether meeting or beating the benchmark per se provides any additional information for potential bidders. Additionally, we also interact *BEAT* and *SURPRISE*, to test whether the effect of the earnings surprise magnitude on the chance of becoming a takeover target is significantly different for positive earnings surprises relative to negative ones. The results are presented in Table 3.

[Insert Table 3 here]

We find negative and significant coefficients on the *SURPRISE* and *BEAT* variables, and an insignificant coefficient on the interaction term. This supports the conclusion from Table 2 that the larger the magnitude of the earnings surprise in the current period, the less likely a firm will receive a takeover threat during the next period. Furthermore, the direction (sign) of the earnings surprise has an incremental effect on the probability of becoming a target – firms that beat the analysts' forecast are less likely to become a target than firms that miss, regardless of the magnitude of their earnings surprise.

B. Small Earnings Surprises and Subsequent Takeover Threats

Our next question of interest relates to whether the relation between earnings surprises and takeover threats is in anyway different for the group of firms that posts small earnings surprises, which are likely to be the results of managers' manipulation. Specifically, we are interested in whether posting small earnings surprises deters/attracts the attention of potential acquirers in the next period.

We employ a similar framework to examine the effects of posting small earnings surprises on the likelihood of takeover – we consider the dependent variable (TARGET) at time t, and all explanatory variables are measured at time t-1, as follows:

$$Prob(TARGET_{i,t} = 1) = logit(\beta_0 + \beta_1 SURPRISE_{i,t-1} + \beta_2 SMALL_{i,t-1} + \beta_3 SURPRISE_{i,t-1} *$$

$$* SMALL_{i,t-1} + \Theta_{i,t-1} X_{i,t-1} + \varepsilon_i) \tag{3}$$

Where *SMALL* is a dummy variable that takes value of 1 if the firm posted small earnings surprise and 0 otherwise. We define small earnings surprise as a surprise that is equal or larger than 0 and smaller than 5 cent. We test this within three samples: (1) *all firms* in our sample, (2) firms that post *positive surprise*, and (3) firms that post a *negative surprise* (for the negative earnings surprises sample, *SMALL* is defined as a surprise between -5 and 0 cents.) The results are presented in Table 4.

[Insert Table 4 here]

For each one of the models, we are interested in the effect of posting a *SMALL* earnings surprise on the probability of receiving a subsequent threat (the coefficient on the *SMALL* dummy), as well as on whether engaging in MBE changes the relation between the magnitude of surprise and the probability of an upcoming threat (the coefficient on the interaction term *SURPRISE*SMALL*).

Model 1 shows that posting a small positive earnings surprise (i.e. engaging in MBE) significantly reduces the chance of becoming a takeover in the immediate future. The coefficient on the SMALL dummy is negative and significant, and this effect is present after we control for the magnitude of the earnings surprise. However, engaging in MBE does not significantly affect the relation between the magnitude of the earnings surprise and the chance of becoming a takeover (i.e. the coefficient on the interaction term *SURPRISE*SMALL* is not significant).

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Results do not show the same pattern when we condition our sample based on the direction of the earnings surprise. Interestingly, within the group of firms that post positive earnings surprises, the magnitude of the surprise affects the probability of the takeover threat, but engaging in MBE (i.e. posting a small earnings surprise) does not. The coefficient on the dummy variable *SMALL* is not significantly different from zero. This is consistent with the idea that positive earnings surprises act a legitimate signals of firm performance – the better the performance of a firm, the less likely it is for the firm to become a target. However, conditional on posting a positive surprise, posting small earnings surprises (i.e. engaging in MBE), does not seem to have a significant effect on deterring or attracting potential takeover bids. Taken together with the results from Model 1, our overall conclusion is that in general, managers that engage in MBE significantly reduce the chance of becoming takeover targets in the immediate future; however, managers that engage in downward earnings management (for smoothing, maybe) to barely meet or beat do not significantly affect the chance of becoming a target in the near future.

The story seems to be starkly different for the group of firms that post negative earnings surprises. First of all, these firms are in general much more likely to become takeover targets, relative to their positive earnings surprises counterparts (see results in Table 2 and 3). However, within this group, it is not the magnitude of the earnings surprise that matters, but whether or not the managers posted a small negative earnings surprise. Model 3 shows that engaging in MBE has a significant effect on the likelihood of takeover for the sample of firms that post a negative surprise. The coefficient on the dummy variable *SMALL* is positive and significantly different from zero (0.49 with a p-value of 0.01.) In fact, Model 3 shows that for the negative surprises sample, coefficient on the *SURPRISE* variable is not significant, suggesting that the negative correlation between *SURPRISE* and the likelihood of takeover we documented in Table 2 is due to small

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earnings surprises. That is, after we control for whether or not the managers posted a small negative earnings surprise, the correlation between *SURPRISE* and the likelihood of takeover is flat.

These results suggest that the actual magnitude of the negative surprise is irrelevant in this case. To the extent that posting a small negative earnings surprise is the result of managers engaging in MBE, barely missing the benchmark constitutes a signal that attracts potential buyers (i.e. increases the chance of becoming a takeover in the near future). One the one hand, for managers that are trying to deter takeovers, this could be one potential reason for taking a big bath when negative earnings surprises are very likely, rather than allowing for a small negative earnings surprise. On the other hand, for managers that are trying to attract potential bidders, this could be a reason for engaging in earnings manipulations to barely miss the benchmark.

C. *Earnings strategy after a takeover threat*

To fully investigate the relation between earnings surprises and takeover threats, we need to consider the other side of the coin – does receiving a takeover threat influence the probability of a firm posting a certain magnitude of earnings surprises? This question makes sense particularly in the case of small earnings surprises, where it basically translates into whether the threat of being taken over incentivizes the manager to engage in earnings manipulations (i.e. post small earnings surprises in the period immediately following the threat).

In order to investigate this question, we have to change the timing of our variables of interest. Specifically, we now have to model the probability of posting a certain magnitude of surprise in the period after having received a takeover threat. To do this, we adjust the methodology of Barton and Simko (2002), and use a generalized ordered logit model of the following form:

$$\frac{PROB(SURPRISE_{i,t+1} \geq k)}{PROB(SURPRISE_{i,t+1} < k)} = \exp(\beta_{0,k} + \beta_{1,k}TARGET_{i,t} + \beta_k'CONTROLS_t) \qquad (4)$$

where the left hand side expression is the odds of reporting an earnings surprise of at least k cents (a predetermined benchmark) and our interest is in the effect of receiving a threat in the previous period on the odds of reporting this earnings surprise (i.e. the $\beta_{1,k}$ coefficient). CONTROLS is a vector of control variables, βs are allowed to vary with k, and i and t denote firm and timing of the variables, respectively. The results from running this test are presented in Table 5.

[Insert Table 5 here]

Panel A of Table 5 presents results when the benchmark k identifies small earnings surprises around 0 (specifically, k varies from -5c to 5c). The first takeaway from Panel A comes from the negative and significant coefficient on *TARGET* when k=0, which implies that the likelihood of meeting or beating analysts' forecasts decreases in the period after the firm received a takeover threat. In terms of controls, the likelihood of meeting or beating the forecast also seems to be decreasing with the *SIZE* of the assets of the firm. As expected, performance (income) increases the likelihood of beating the forecast. These results are consistent with previous literature (see for example Barton et al. (2002)).

The second interesting observation based on Panel A and Panel B in Table 5 is that the coefficient on *TARGET* is not the same across all benchmarks k. Specifically, the pattern for the target variable coefficient switches signs around positive eranings surprises of 2c. The percentage change in odds for *TARGET* is positive when k is higher than 2c (and becomes significant at 6c as shown in Panel B) and is negative and significant when k is lower than 2c. These results suggest that firms that already received a takeover threat are more likely to miss/beat expectations by larger amounts rather than by smaller amounts. In other words, we observe that receiving a takeover threat is more likely to result in extreme earnings surprises rather than small earnings surprises (which would likely be the sign of managers' manipulation).

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These results are particularly interesting in light of previous literature investigating managers reporting behavior around takeover attempts. For example, Easterwood (1998) tests for earnings management among targets of takeovers and show that managers of target firms systematically adopt income-increasing accounting accruals in the quarters immediately preceding the attempt, but not in the quarter immediately following the initiation of the takeover attempt. The author concludes that the adoption of income-increasing accounting procedures and accruals seems to be a successful takeover defense – managers believe they can convince shareholders that they are performing efficiently early on in the takeover attempt; however, as the takeover attempt progresses, they feel they can no longer benefit from adopting income-increasing accruals.[15] To the extent that we interpret small earnings surprises as a likely sign of earnings management, our results support the argument outlined in the aforementioned paper.

The question remains on whether the extreme earnings surprises that are likely to happen after a takeover threat are the result of management manipulation. On the one hand, the threat of a takeover may discipline the manager to increase the performance of the firm in spite of low expectations. Large positive earnings surprises are consistent with increased performance, albeit it might be difficult to believe that managers can turn things around and step up their performance during such a short period. On the other hand, large negative earnings surprises could be the result of managers taking a big bath in the face of the impending takeover. This may be in the interest of the acquirer to the extent that it affects the premium that will result in the deal.

In an attempt to formally differentiate between legitimate performance and a one period, myopic manipulation from the target management's side, we adjust the methodology used by Rees et al (1996) in the context of asset write-downs. Specifically, the aforementioned study uses a

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[15] Easterwood (1998) makes an argument for differentiating between hostile and friendly attempts. While this certainly makes sense, we leave this avenue open for future research.

model of abnormal accruals to investigate whether firms recognizing permanent asset impairments in their financial statements systematically manage earnings in the year of the write-down. We adjust this methodology to assess whether firms that post extreme earnings surprises systematically manage earnings in the year in which they received a takeover threat.[16] Specifically, we use the Jones (1991) model for nondiscretionary accruals and calculate nondiscretionary accruals for all firms at the intersection of COMPUSTAT and IBES. We define discretionary accruals as the difference between total accruals and the non-discretionary accruals calculated above. We then attempt to identify whether firms that post extreme earnings surprises in the year in which they received a takeover threat have larger discretionary accruals than their respective counterparts, by running the following model:

$$DACC_{i,t} = \alpha_0 + (\beta_1\ PPE_{i,t}) + \alpha_2\ (CFO_{i,t}) + \alpha_3\ (PART_i) + \varepsilon_{it} \tag{5}$$

where *DACC* are the discretionary accruals calculated as described above; PPE is gross property, plant and equipment and *CFO* is cash flow from operations. All variables are deflated by beginning of the year total assets. *PART* is a dummy variable that takes value of 1 for the group of firms that post extreme earnings surprises. We run two separate models, one where *PART* identifies large positive earnings surprises (Surprise > 0.05) and one where *PART* identifies large negative earnings surprises (Surprise < -0.02). We estimated these models allowing for two way clustering by firm and year. Results are presented in Table 6.

[Insert Table 6 here]

As we can see from Table 6, firms that post large positive earnings surprises (model 1) have significantly higher discretionary accruals than the rest of the firms. In the same time firms that

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[16] While this test does not necessarily show opportunistic behavior on the management's side, it would identify whether earnings management (i.e. abnormal discretionary accruals) are more likely to happen for firms that receive a takeover threat.

post significantly negative earnings surprises (model 2) have a significant and negative coefficient on *PART*, indicating that this group has significantly lower discretionary accruals. On the positive side, the evidence supports our initial conjecture that the large positive earnings surprises following a takeover threat are not the result of increased performance as the result of the threat, but rather the result of manager's one period earnings manipulation. The potential reasons why managers might choose to engage in such manipulation are investigated in the following section.

D. Earnings surprises and the offer price

So far, our results show that that takeover threats influence subsequent earnings surprises (Table 5) and that firms that have been subject to a takeover attempt are more likely to produce discretionary accruals (Table 6). Our interpretation is that these results support the notion that the large earnings surprises following a threat are the result of a one-period, myopic manipulation on the side of target's management. The next logical question is what motivates target management to engage in this type of manipulation. One alternative is that the manager engages in earnings manipulation in order to increase the premium the target firm will receive. We investigate this in Tables 7 and 8 by looking at the relationship between deal premium and earnings surprise.

We use the following model to investigate whether earnings surprises affect the offer premium conditional on the firm receiving a takeover threat:

$$OFFERPRICE/EPS_{i,t} = \beta_0 + \beta_1 SURPRISE_{i,t-1} + \beta_2 SMALL_{i,t-1} + \beta_3 SURPRISE_{i,t-1} *$$

$$SMALL_{i,t-1} + \Theta_{i,t-1} X_{i,t-1} + \varepsilon_i \qquad (6)$$

where the ratio of the offer price to earnings per share $OFFERPRICE/EPS_{i,t}$ is our proxy for deal premium. The results are presented in Table 7.

[Insert Table 7 here]

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Model 1 of Table 7 shows that there is a positive and significant correlation between earnings surprise and deal premium. The estimated coefficient on the SURPRISE variable is 0.68 with a p-value of 0.01, suggesting that firms that post a higher earnings surprise receive a higher deal premium. Additionally, the negative (but not significant) estimated coefficient on the dummy variable SMALL (-0.39 with a p-value of 0.41) suggests that posting a small earnings surprise does not affect the deal premium. These results show that target firms receive higher valuation if the management reports higher earnings surprise. This supports our finding in table 5 that management reports higher earnings surprise following a takeover threat.

Model 2 shows a similar result for the *positive earnings surprise* sample. The coefficient on the *SURPRISE* variable is positive and significant (0.33 with a p-value of 0.01), but the coefficient on the dummy variable *SMALL* is negative but not significant (-0.57 with a p-value of 0.99). For the *negative earnings surprise* sample, Model 3 shows that the relationship between the deal premium and the variables SURPRISE and SMALL is flat. The estimated coefficient on the variable *SURPRISE* is 0.08 with a p-value of 0.27, suggesting that the magnitude of earnings surprise (as long as it is negative) does not affect the deal premium. Similarly, the estimated coefficient on the dummy variable *SMALL* is -0.04 with a p-value of 0.70, suggesting that missing the earnings estimate by a small amount does not affect the deal premium. Overall, the results from Table 6 show that posting large positive earnings surprises increase the deal premium whereas missing the earnings surprise (by any amount) will not affect the deal premium.

Next, we turn our attention to the firms with completed takeover deal and study the relationship between deal premium and earnings surprises. We employ the same model as Table 7 above (equation 5) but we restrict our sample to the firms with successful takeover deals.

[Insert Table 8 here]

The results from Table 8 tell a similar story as Table 7 above. Whereas the *SURPRISE* variable is positive and significant in both Models 1 and 2 (i.e., for the whole sample and the positive earnings surprise sample), it is not significant in Model 3 (i.e., the negative surprise sample.) The estimated coefficient on the *SURPRISE* variable is 0.91 with a p-value of 0.01 for the *whole* sample, 0.57 with a p-value of 0.01 for the *positive earnings surprise* sample, and 0.03 with a p-value of 0.61 for the *negative earnings surprise* sample. This suggests that posting a large positive earnings surprise increases the offer premium but relationship between is flat for negative surprises.

However, posting a small surprise (in absolute value) does not have any effect on the deal premium. The estimated coefficients on the dummy variable *SMALL* is -0.38 with a p-value of 0.56 for the *whole* sample (Model 1), 0.43 with a p-value of 0.69 for the *positive earnings surprise* sample (Model 2), and 0.02 with a p-value of 0.97 for the *negative earnings surprise* sample (Model 3). Overall, the results from Table 8 suggest that posting a positive a large earnings surprise increases the deal premium where as missing earnings surprise does not affect the deal premium.

Overall, the results from Tables 7 and 8 suggest that earnings surprises affect the premium a target firm will receive, thus offering a potential explanation for our finding in Table 5 that firms report large positive earnings surprises following a takeover threat.

V. Conclusions

This study investigates the connection between the earnings surprises posted by a given firm and its chances of becoming a takeover target. Our results provide support to the argument that earnings surprises are a useful signal for potential acquirers. Specifically, we document that the larger the magnitude of the earnings surprise in the current period, the less likely the firm will

receive a threat (i.e. become a target) during the next period. Additionally, firms that beat the analysts' forecast are less likely to become a target than firms that miss, regardless of the magnitude of their earnings surprise. These is consistent with the hypothesis that earnings surprises are a signal of legitimate firm performance. Within the group of firms with negative earnings surprises, we find that firms that post small negative surprises significantly increase the likelihood of becoming a target. Managers that are in search of a potential acquirers thus potentially have a reason to manager earnings in order to barely miss the analysts' forecast.

We also show that managers of firms that have received a takeover threat are more likely to post extreme (large) earnings surprises in the year in which they received the threat, and that these surprises are likely to be the result of earnings management. We argue that managers might be choosing to manipulate earnings in an attempt to influence/negotiate certain deal characteristics (such as the magnitude of the deal premium).

Our results merge the literature on earnings surprises with the takeover literature, showing that the magnitude of earnings surprise is a characteristic that influences the probability of a firm becoming a target. Most studies in this area treat takeover threats as exogenous and study their effects on managements' behavior/accounting choices. However, the literature recognizes that reality is much more complex, since managements' behavior clearly influences the likelihood of becoming a target. For example, Armstrong et al. (2010) note that most studies explore the implications of takeover targets' financial reporting quality from the perspective of the acquirer and call for more research examining the endogenous role of the takeover target's financial reporting on target firm characteristics. Our study responds to this call by investigating the general association between firms' posting earnings surprises and their chance of being a corporate target.

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DATA APPENDIX

Variables	Definition
ACTUAL	Actual Earnings per share for the firm reported by IBES.
BEAT	Takes the value of 1 if the firm meets or beats expectations and 0 otherwise.
EQUITY	Is the magnitude of the equity reported in the balance sheet obtained from COMPUSTAT.
FOLLOW	Number of forecasts issued to the firm by the end of the fiscal year.
INCOME	Earnings before extraordinary items and taxes reported by COMPUSTAT.
OFFERPRICETOEPS	Log of Offer price per share divided by the last earnings per share.
ROA	Return on assets is income before extra-ordinary items divided by total assets.
SIZE	Is the log of Total Assets
SUCCESS	Takes the value of 1 if the takeover has been successfully completed and has an effective date and 0 otherwise.
SURPRISE	The difference between actual earnings per share and the last annual mean forecast before the takeover date for target firms. The difference between actual earnings per share and the annual mean forecast for non-target firms.
TARGET	Takes the value of 1 if the firm has been targeted by a firm and is disclosed in SDC platinum data base, 0 otherwise.

Table 1. Descriptive Statistics on Earnings Surprises and Takeover Threats

This table gives information about the sample that is used in our models. We investigate our hypothesis based on a sample created by all the deals in SDC platinum database and then merge this data with IBES data base to compile the forecast data. To identify the last annual forecast issued by the firm, we investigate the year of or the prior year announcement date obtained from the SDC data base. All the firm years reported in the table are remaining firm year observations with all the needed data items after trimming at the 1 and 99%. The sample spans from 1989 to 2009.

PANEL A: Firm Year Observations	
Firm Year Observations in SDC Platinum	10,295
Missing Observations in IBES or COMPUSTAT	4,130
Merged Sample	6,165

PANEL B: Descriptive Statistics				
	Mean	N	Median	Std. Deviation
ACTUAL	0.96	29,740	0.57	6.95
BEAT	0.43	30,820	0.00	0.49
EQUITY	541.14	29,655	124.78	883.89
SURPRISE	-0.10	30,820	-0.02	0.40
FOLLOW	23.83	30,820	14.00	29.05
INCOME	69.35	30,005	8.99	144.18
OFFERPRICETOEPS	457.19	5,368	53.180	513.55
ROA	1.19	29,342	0.05	107.73
SIZE	1221.47	29,342	200.61	374.92
TARGET	0.20	30,820	0.00	0.40

PANEL C: Distribution of Targets and Surprises Across Years					
Year	Number of Unique Targets	Number of deals with positive Surprises	Number of deals with negative surprises	Number of deals with small positive surprise	Mean Surprise
1989	199	77	122	38	-0.17
1990	165	55	110	29	-0.23
1991	159	53	106	24	-0.22
1992	151	46	105	20	-0.24
1993	207	71	136	42	-0.13
1994	355	145	210	90	-0.11
1995	369	192	177	99	-0.04
1996	427	186	241	110	-0.08
1997	500	214	286	115	-0.13
1998	557	242	315	123	-0.10
1999	520	206	314	91	-0.15
2000	472	213	259	88	-0.10
2001	346	129	217	44	-0.11
2002	231	74	157	29	-0.13
2003	218	103	115	40	-0.11
2004	216	105	111	50	-0.05
2005	231	111	120	41	-0.03
2006	242	138	104	50	0.01
2007	248	115	133	37	-0.08
2008	187	77	110	21	-0.07
2009	165	61	104	13	-0.19

PANEL D: Correlations between takeover targets, Offer price to EPS, Success Rate and Earnings Surprises				
	SURPRISES	TARGET	OFFERPRICETOEPS	SUCCESS
SURPRISES	1.00	**-0.02**	**0.05**	**0.03**

Table 2. Earnings Surprises and the Probability of a Takeover Threat

This table provides estimated coefficients (P-values) and odds ratios from the logit model that investigates the association between the magnitude of earnings surprises and takeover probability. All the variables are lagged in relation between the announcement date of the takeover threat as obtained from SDC platinum data base. The dependent variable TARGET takes the value of 1 if the firm was subject to a takeover threat. SURPRISE is the difference between the last annual forecast and the corresponding actual earnings.

$$\text{Prob}(TARGET_{i,t}=1)=\text{Logit}(\beta_0 +\beta_1 FOLLOW_{i,\,t-1} + \beta_2\, SURPRISE_{i,t-1} + \beta_3\, EQUITY_{i,t-1} + \beta_4\, SIZE_{i,t-1} + \beta_5\, ROA_{i,t-1} + \beta_6\, ACTUAL_{i,\,t-1} + \beta_7\, INCOME_{i,t-1} + \varepsilon_i)$$

	All Surprises			Positive Earnings Surprises			Negative Earnings Surprises		
	Predicted Sign	Coefficient (P-Value)	Change in the Odds	Predicted Sign	Coefficient (P-Value)	Change in the Odds	Predicted Sign	Coefficient (P-Value)	Change in the Odds
Intercept	?	0.03 (0.84)		?	-0.06 (0.80)		?	0.18 (0.37)	
Hypothesized Variables									
SURPRISE	-	-1.29 (0.01)***	0.275	-	-1.07 (0.01)***	0.345	-	-1.05 (0.01)***	0.350
Control Variables									
FOLLOW	+	0.02 (0.01)***	1.017	+	0.02 (0.01)***	1.021	+	0.01 (0.01)***	1.013
EQUITY	+	0.07 (0.01)***	1.001	+	0.01 (0.01)***	1.001	+	0.001 (0.01)***	1.001
SIZE	-	-1.197 (0.01)***	0.302	-	-1.21 (0.01)***	0.297	-	-1.12 (0.01)***	0.323
ROA	+	15.964 (0.01)***	1.082	+	15.05 (0.01)***	1.085	+	15.95 (0.01)***	1.075
ACTUAL	+	0.399 (0.01)***	1.483	+	0.42 (0.01)***	1.521	+	0.25 (0.01)***	1.296
INCOME	-	-0.002 (0.01)***	0.998	-	-0.02 (0.01)***	0.998	-	-0.01 (0.01)***	0.999
Number of Observations			29,347			12,691			16,498
TARGET=1			4,692			1,941			2,721
TARGET=0			24,655			10,750			13,777
Pseudo R-Squared			51.36%			49.58%			52.88%
Log-Likelihood (P-Value)			21150.48 (0.01)***			8,690.94 (0.01)***			12,414.72 (0.01)***

Table 3. Meeting and Beating Analysts' Expectations and the Probability of a Takeover Threat

This table provides the estimated coefficients (P-values) and odds ratios for the Logit model that investigates the association between meeting and beating analysts' expectations and takeover probability. While the first model investigates the change in the odds of takeover probability for firms that meet or beat analysts' expectations, the second model investigates the ratio for firms that miss analysts' expectations. All other variables have been identified before.

$$\text{Prob(TARGET=1)=Logit}(\beta_0 + \beta_1 \text{FOLLOW}_{i,t-1} + \beta_2 \text{ SURPRISE}_{i,t-1} + \beta_3 \text{ BEAT}_{i,t-1}$$
$$+ \beta_4 \text{ SURPRISE}_{i,t-1} *\text{BEAT}_{i,t-1} + \beta_5 \text{ EQUITY}_{i,t-1} + \beta_6 \text{ SIZE}_{i,t-1} + \beta_7 \text{ INCOME}_{i,t-1} + \beta_8 \text{ ROA}_{i,t-1}$$
$$+ \beta_9 \text{ ACTUAL}_{i,t-1} + \varepsilon_i)$$

	Coefficient (P-Value)	Change in the Odds
Intercept	0.22 (0.14)	
Hypothesized Variables		
SURPRISE	-1.06 (0.01)***	0.346
BEAT	-0.55 (0.01)***	0.575
SURPRISE*BEAT	0.17 (0.53)	1.196
Control Variables		
FOLLOW	0.02 (0.01)***	1.017
EQUITY	0.079 (0.01)***	1.01
SIZE	-1.18 (0.01)***	0.305
INCOME	-0.002 (0.01)***	0.998
ROA	16.29 (0.01)***	1.80
ACTUAL	0.36 (0.01)***	1.442
Number of Observations		29,347
TARGET=1		4,692
TARGET=0		24,655
Pseudo R-Squared		51.42%
Log-Likelihood		21186.27
(P-Value)		(0.01)***

Table 4. Small Earnings Surprises and the Probability of a Takeover Threat

This table provides the estimated coefficients (P-Values) and odds ratios for the Logit model that investigates the association between meeting and beating analysts' forecasts with a small earnings surprise and takeover probability. We define small earnings surprise as a surprise that is equal or larger than zero and smaller than five cent. In our negative earnings surprises tests small is defined as a surprise that is smaller than zero but larger than negative five cent.

Prob(TARGET=1)=Logit (β_0 +β_1 FOLLOW$_{i,t-1}$ +β_2 SURPRISE$_{i,t-1}$ +β_3SMALL$_{i,t-1}$ +β_4 SMALL$_{i,t-1}$ *SURPRISE$_{i,t-1}$ +β_5 EQUITY$_{i,t-1}$ +β_6 SIZE$_{i,t-1}$ +β_7 INCOME$_{i,t-1}$ +β_8 ROA$_{i,t-1}$ +β_9 ACTUAL$_{i,t-1}$ +ε_i)						
	All Surprises		Positive Surprises		Negative Surprises	
	Coefficient (P-Value)	Change in the Odds	Coefficient (P-Value)	Change in the Odds	Coefficient (P-Value)	Change in the Odds
Intercept	0.12		-0.12		-0.17	
	(0.41)		(0.61)		(0.52)	
Hypothesized Variables						
SURPRISE	-1.25	0.286	-1.009	0.368	4.45	0.005
	(0.01)***		(0.01)***		(0.51)	
SMALL	-0.38	0.679	0.13	1.145	0.49	1.64
	(0.01)***		(0.47)		(0.01)***	
SURPRISE*SMALL	2.66	1.43	-2.42	0.088	4.45	1.020
	(0.65)		(0.69)		(0.51)	
Control Variables						
FOLLOW	0.02	1.017	0.02	1.02	0.01	1.01
	(0.01)***		(0.01)***		(0.01)***	
EQUITY	0.07	1.001	0.07	1.001	0.07	1.001
	(0.01)***		(0.01)***		(0.01)***	
SIZE	-1.19	0.301	-1.21	0.298	-1.12	0.324
	(0.01)***		(0.01)***		(0.01)***	
INCOME	-0.02	0.998	-0.02	0.998	-0.01	0.999
	(0.01)***		(0.01)***		(0.01)***	
ROA	16.02	1.065	15.19	1.045	16.09	1.040
	(0.01)***		(0.01)***		(0.01)***	
ACTUAL	-1.19	1.454	0.42	1.518	0.24	1.277
	(0.01)***		(0.01)***		(0.01)***	
Number of Observations		29,342		12,691		16,498
TARGET=1		4,692		1,941		2,721
TARGET=0		24,655		10,750		13,777
Pseudo R-Squared		51.38%		49.58%		52.92%
Log-Likelihood		21161.92		8,691.48		12427.12
(P-Value)		(0.01)***		(0.01)***		(0.01)***

This table provides the estimated the coefficients (P-Values) and odds ratios for the logit model that investigates the association between the probability of posting a surprise in the next year after having received an ongoing takeover threat. In this table, we model the probability of posting a certain magnitude of surprise given the takeover threat.

Panel A: Small (Negative and Positive) Earnings Surprises

$$Pr(SURPRISE_{i,t} \geq k)/Pr(SURPRISE_{i,t} < k) = Logit(\beta_0 + \beta_1 TARGET_{i,t-1} + \beta_2 EQUITY_{i,t-1} + \beta_3 INCOME_{i,t-1} + \beta_4 SIZE_{i,t-1} + \beta_5\ ROA_{i,t-1} + \beta_6\ ACTUAL_{i,t-1} + \varepsilon_{I,t})$$

					k					
	-4¢	-3¢	-2¢	-1¢	0¢	1¢	2¢	3¢	4¢	5¢
Intercept	0.44	0.29	0.08	-0.11	-0.33	-0.72	-1.04	-1.26	-1.50	-1.71
		(0.01)***	(0.16)	(0.05)**	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***
Hypothesized Variables										
TARGET	-0.60	-0.611	-0.54	-0.46	-0.39	-0.26	-0.17	-0.11	0.006	0.07
	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.001)***	(0.06)*	(0.24)	(0.94)	(0.49)
Control Variables										
EQUITY	0.25	0.243	0.23	0.21	0.19	0.16	0.14	0.11	0.09	0.07
	(0.01)***	(0.001)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***
INCOME	0.001	0.001	0.001	0.001	0.004	0.005	0.002	0.002	0.001	0.006
	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.03)**
SIZE	-0.23	-0.22	-0.20	-0.17	-0.15	-0.08	-0.05	-0.01	0.01	0.04
	(0.01)***	(0.01)	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.06)*	(0.64)	(0.62)	(0.18)
ROA	-0.001	-0.002	-0.01	-0.002	-0.006	0.001	-0.006	-0.004	-0.003	-0.003
	(0.77)	(0.52)	(0.63)	(0.85)	(0.98)	(0.78)	(0.37)	(0.48)	(0.56)	(0.65)
ACTUAL	0.005	0.001	0.001	0.002	0.008	0.002	-0.001	-0.001	-0.001	-0.002
	(0.67)	(0.68)	(0.61)	(0.54)	(0.46)	(0.34)	(0.60)	(0.64)	(0.65)	(0.69)
Number Of Observations	19,427	19,427	19,427	19,427	19,427	19,427	19,427	19,427	19,427	19,427
Pseudo-R Squared	2.19%	2.09%	1.88%	1.75%	1.49%	1.17%	1.15%	1.06%	1.11%	1.17%
Log-Likelihood (P-Value)	316.76	305.17	275.65	257.18	217.43	168.55	163.86	147.33	149.63	153.46
	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***

Panel B: Large Positive Earnings Surprises

$$Pr(SURPRISE_{i,t} \geq k)/Pr(SURPRISE_{i,t} < k) = Logit(\beta_0 + \beta_1 TARGET_{i,t-1} + \beta_2 EQUITY_{i,t-1} + \beta_3 INCOME_{i,t-1} + \beta_4 SIZE_{i,t-1} + \beta_5\ ROA_{i,t-1} + \beta_6\ ACTUAL_{i,t-1} + \epsilon_{I,t})$$

	k									
	6¢	7¢	8¢	9¢	10¢	11¢	12¢	13¢	14¢	15¢
Intercept	-1.90	-2.072	-2.24	-2.39	-2.52	-2.65	-2.80	-2.92	-3.01	-3.10
	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***
Hypothesized Variables										
TARGET	0.17	0.20	0.31	0.35	0.42	0.43	0.47	0.51	0.49	0.57
	(0.09)*	(0.04)**	(0.001)***	(0.01)***	(0.01)***	(0.001)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***
Control Variables										
EQUITY	0.05	0.02	-0.06	-0.02	-0.04	-0.04	-0.05	-0.06	-0.07	-0.10
	(0.10)	(0.55)	(0.87)	(0.60)	(0.30)	(0.29)	(0.17)	(0.10)	(0.08)*	(0.01)***
INCOME	0.001	0.001	0.003	0.004	0.009	0.008	0.009	0.009	0.009	0.00
	(0.04)**	(0.04)**	(0.03)**	(0.02)**	(0.09)*	(0.10)*	(0.10)*	(0.10)	(0.10)	(0.07)*
SIZE	0.07	0.10	0.13	0.15	0.17	0.17	0.19	0.20	0.22	0.25
	(0.02)**	(0.001)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***
ROA	-0.003	-0.001	-0.02	-0.009	-0.002	0.005	0.006	0.004	0.009	0.006
	(0.67)	(0.83)	(0.83)	(0.88)	(0.97)	(0.96)	(0.92)	(0.95)	(0.88)	(0.94)
ACTUAL	-0.009	-0.007	-0.006	-0.005	-0.005	-0.004	-0.003	-0.0002	-0.001	-0.001
	(0.71)	(0.76)	(0.78)	(0.81)	(0.83)	(0.87)	(0.90)	(0.92)	(0.95)	(0.96)
Number Of Observations	19,427	19,427	19,427	19,427	19,427	19,427	19,427	19,427	19,427	19,427
Pseudo-R Squared	1.21	1.28%	1.42%	1.54%	1.46%	1.45%	1.61%	1.64%	1.64%	1.69%
Log-Likelihood (P-Value)	155.27	157.94	169.81	178.73	163.93	157.33	168.43	165.95	160.88	160.27
	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***

Table 6. Analysis of Discretionary Accruals and Earnings Surprises after a Takeover Threat

This table provides the estimated coefficients (P-Values) for a regression model that investigates the association between the magnitude of earnings surprise and earnings management after receiving a takeover threat. The sample consists of firms that received a takeover threat that is still outstanding. The regression models are clustered by firm and year. PART takes the value of 1 for portfolio of surprises and 0 for others. We use two portfolios 1) Earnings surprises larger than 0.05. 2) Earnings surprises smaller than -0.02.

$DACC_{i,t}= \alpha_0 + (\beta_1\ PPE_{i,t}) + \alpha_2\ (CFO_{i,t}) + \alpha_3\ (PART_i) + \varepsilon_{it}$		
	Surprise>=0.05	Surprise<=-0.02
Intercept	5.53	22.64
	(2.20)***	(6.16)***
Hypothesized Variable		
PART	20.41	-27.55
	(5.60)***	(-7.80)***
CFO	-0.47	-0.48
	(-15.52)***	(-15.61)***
PPE	0.14	0.138
	(24.60)***	(24.66)***
Number of Observations	8,565	8,565
PART=1	2,310	3,563
PART=0	6,255	5,002
Clusters (Firm, Year)	Yes	Yes

Table 7. Target Valuation Premium and Earnings Surprises

This table provides the estimated coefficients (P-Values) for the regression model that investigates the association between the ratio of offer price to EPS and the magnitude of the earnings surprises. The independent variable is Offer price/EPS. All other variables are identified before in the Data Appendix.

$$\text{OFFERPRICE/EPS} = \beta_0 + \beta_1 \text{FOLLOW}_{i,t-1} + \beta_2 \text{SURPRISES}_{i,t-1} + \beta_3 \text{SMALL}_{i,t-1} + \beta_4 \text{SMALL}_{i,t-1}*\text{SURPRISE}_{i,t-1}$$
$$+ \beta_5 \text{EQUITY}_{i,t-1} + \beta_6 \text{SIZE}_{i,t-1} + \beta_7 \text{ROA}_{i,t-1} + \varepsilon_i$$

	Surprises		Positive Surprises		Negative Surprises	
	Predicted Sign	Coefficient (P-Value)	Predicted Sign	Coefficient (P-Value)	Predicted Sign	Coefficient (P-Value)
Intercept	?	0.45	?	0.49	?	0.277
		(0.03)**		(0.40)		(0.66)
Hypothesized Variables						
SURPRISE	+	0.68	+	0.33	-	0.08
		(0.01)***		(0.01)***		(0.27)
SMALL	?	-0.39	?	-0.57	?	-0.04
		(0.41)		(0.99)		(0.70)
1.6SMALL*SURPRISE	?	2.06	?	1.30	?	2.22
		(0.90)		(0.96)		(0.56)
Control Variables						
FOLLOW	?	-0.16	?	-0.32	?	-0.30
		(0.67)		(0.71)		(0.01)***
EQUITY	+	0.01	+	0.01	+	-0.01
		(0.01)***		(0.01)***		(0.16)
SIZE	+	-0.04	+	-0.21	+	0.45
		(0.40)		(0.11)		(0.01)***
ROA	+	-0.02	+	-0.45	+	-0.01
		(0.58)		(0.35)		(0.16)
Number of Observations		4,800		1,998		2,802
R-Squared		88.50%		80.51%		88.30%
F-Value		5274.47		1177.81		56506.7
(P-value)		(0.01)***		(0.01)***		(0.01)***

Table 8. Success Premium and Earnings Surprises

This table provides the estimated coefficients (P-Values) for a regression model that investigates the association between the magnitude of earnings surprises and the success rate of a takeover threat. The Sample consists of all the takeover targets that resulted in a merger. All of the remaining variables have been identified in the Data Appendix.

$$\text{OFFERPRICE/EPS} = \beta_0 + \beta_1 \text{FOLLOW}_{i,t-1} + \beta_2 \text{SURPRISE}_{i,t-1} + \beta_3 \text{SMALL}_{i,t-1} + \beta_4 \text{SMALL}_{i,t-1} * \text{SURPRISE}_{i,t-1} + \beta_5 \text{EQUITY}_{i,t-1} + \beta_6 \text{SIZE}_{i,t-1} + \beta_7 \text{ACTUAL}_{i,t-1} + \beta_8 \text{ROA}_{i,t-1} + \varepsilon_{i,t}$$

	All Surprises		Positive Surprises		Negative Surprises	
	Predicted Sign	Coefficient (P-Value)	Predicted Sign	Coefficient (P-Value)	Predicted Sign	Coefficient (P-Value)
Intercept		0.62		0.51		-0.08
		(0.02)**		(0.53)		(0.04)**
Hypothesized Variable						
SURPRISE	+	0.91	+	0.57	-	0.03
		(0.01)***		(0.01)***		(0.61)
SMALL	?	-0.38	?	0.43	?	0.02
		(0.56)		(0.69)		(0.97)
SURPRISE*SMALL	?	2.09	?	-1.06	?	0.28
		(0.92)		(0.97)		(0.90)
Control Variables						
FOLLOW	?	-0.02	?	-0.05	?	-0.11
		(0.96)		(0.60)		(0.10)
EQUITY	+	0.01	+	0.01	+	0.01
		(0.01)***		(0.01)***		(0.01)***
SIZE	+	-0.11	+	-0.36	+	0.06
		(0.17)		(0.06)**		(0.01)***
ACTUAL	+	0.02	+	0.01	+	-0.03
		(0.98)		(0.96)		(0.85)
ROA	+	-0.02	+	-0.06	+	-0.008
		(0.69)		(0.75)		(0.10)
Number of Observations		3,664		1,545		2,119
R-Squared		68.03%		55.89%		80.35%
F-Value		975.41		245.57		40554.3
(P-Value)		(0.01)***		(0.01)***		(0.01)***