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Security analyst target prices as reference point and takeover completion

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ABSTRACT

Based on prospect theory, we posit that security analysts' target prices function as a reference point for takeover bids and affect deal completion. Using a sample of US takeovers from 1999 to 2014, we find a negative relation between target prices for a takeover target and the chances for successful deal completion. High degrees of target price dispersion indicate high reference points for some investors. Accordingly, we find low completion rates when target price dispersion is high. Our results hold for both ultimate deal completion and implied completion probability measured shortly after bids were announced as an alternative measure for completion likelihood.

1. Introduction

In corporate mergers and acquisitions,[1] the acquiring company usually offers a premium on top of the target company's share price, because target shareholders are unlikely to accept a bid for their shares which is lower than or equal to the prevailing market price.[2] Nevertheless, not all attempted takeovers lead to successfully completed takeover offers. Bid prices play a prominent role in the acceptance of takeover bids (e.g., Walkling, 1985; Holl and Kyriazis, 1996; Baker et al., 2012; Malmendier et al., 2016).[3]

The perception of the adequacy of an offer can be important in merger negotiations, because "valuing a company is subjective [...and ...] real-life considerations mean the appropriate target price cannot be set with precision" (Baker et al., 2012: 49). The absence of indisputable takeover prices allows for the emergence of psychologically rooted decisions by the takeover target's board and its shareholders. Prospect theory (Kahneman and Tversky, 1979) suggests that the utility derived from transactions also depends on the difference between the realized price and a reference point. The reference point results from an anchoring-and-adjustment process (Tversky and Kahneman, 1974), which means that investors use initially available information which they adjust based on new information. However, these adjustments are usually relatively small, resulting in a relatively high importance of the initial 'anchor'. For individual investors, the purchasing price of their shares may function as a reference point, but other prices can function as reference points as well. For example, Baker et al. (2012) reported that recent high stock prices can act as a reference point in takeover bids.

In this paper, we propose that security analysts' stock price expectations (i.e., target prices) can also function as a reference point for shareholders of a target company. A target price is an analyst's estimate of the price level that a stock is expected to reach within – usually – 12 months. Target prices are widely available to

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[1] Despite different definitions, we follow the convention in the M&A literature and use the terms 'mergers', 'acquisitions', and 'takeovers' interchangeably.

[2] For an exception to this rule, see Weitzel and Kling (2014).

[3] An example of a deal in which the bid was deemed to be to low is the $16.4 bln takeover bid by US-based Kraft for the UK company Cadbury in November 2009. Cadbury's chairman stated in his recommendation to the targeted shareholders that "*Kraft's offer fails to recognize the value we have built in your company*". The initial offer was rejected by the management. A subsequent offer of $18.9 bln was accepted in January 2010. (The full statement can be accessed on http://online.wsj.com/public/resources/documents/CadburyDefenceDocument2009-part1.pdf.)

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investors and are freely available via numerous investor websites such as Yahoo Finance. In addition to the availability, target prices are perceived to be useful. For example, the designated investor website Investopedia referred to them as "the key to sound investing" (Wayman, n.d.). Accordingly, revisions of target prices by analysts are associated with short-term abnormal stock returns (e.g., Brav and Lehavy, 2003; Asquith et al., 2005; Kerl and Walter, 2008). Target shareholders may resort to these expert opinions in forming their opinion on a takeover bid, because they may not have the resources available to conduct a discounted cash flow analysis themselves. Given the broad exposure of investors to target price publications, we argue, analogously to Baker et al. (2012), that these price expectations have an impact along the lines of prospect theory and reference points.

We expect that takeover bids will be consummated less frequently when a bid price is below analyst target prices if investors use the latter as a reference point for the stand-alone value of the target firm. Conversely, when a bid exceeds analyst target prices, we expect investors to be more willing to sell their shares and complete the merger. In addition to the average level of analyst target prices, the divergence of these prices may also play a role. Strong divergence of analyst target prices may indicate that at least some shareholders of the target company have a high reference point.[4] On a related note, Chatterjee et al. (2012) found a positive relationship between analysts' opinion divergence and takeover premiums. We extend this argument to takeover completion and expect that deal consummation will be lower for higher levels of opinion divergence, because a given bid is more likely to be rejected by a larger number of target shareholders who have a high reference point.

In our analyses, we studied the ultimate outcome of a bid (i.e., completed or withdrawn) as well as the market's initial estimate of the completion likelihood of a bid. The main reason for studying the initial estimate in addition to the ultimate outcome is that the impact of potential confounding effects is lower. As several months might pass from the takeover announcement to its resolution, eventual completion may be influenced by, for example, adverse market conditions. These confounding effects are isolated when evaluating the market's initial response. We evaluated the initial estimate by studying the bid price, the market response to the bid, and the pre-bid stock price. Brown and Raymond (1986) developed a simple model using the bid price, the stock price prior to the bid, and the market response to the bid, from which a "prediction as to the eventual success of the merger can be inferred" (Brown and Raymond, 1986: 55). We found a positive relation between the relative bid premium (defined as the bid price in excess of the analysts' average target price, both scaled by the stock price) and the probability of merger completion. This suggests that investors are more willing to sell their shares to an acquirer when a bid exceeds target prices as published by security analysts as their presumed reference point. Furthermore, consistent with our expectations, a high measure of divergence between analyst forecasts about the future share price was associated with lower takeover completion rates. Our results are consistent across both measures for takeover completion (i.e., implied completion likelihood and ultimate deal completion).

Our study contributes to and complements the literature on (i) the use of reference points in stock markets, and (ii) analyst forecasts for takeover targets. Our study is connected to a rich literature on prospect theory (e.g., Kahneman and Tversky, 1979) and the anchoring-and-adjustment approach (e.g., Tversky and Kahneman, 1974). In a previous study on takeovers, Baker et al. (2012) showed the importance of historical share price highs as reference points for both deal completion and the level of the takeover bid. Gerritsen (2015) found a positive relation between target prices and takeover bids, but did not study deal completion. Other studies linking security analyst opinions to takeovers predominantly focused on the relevance of analyst opinions which were published *after* a bid was announced. Pound (1988), Brous and Kini (1993) and Sudarsanam et al. (2002) all evaluated revised earnings forecasts for the stand-alone target company in response to a takeover announcement. Becher et al. (2015) studied the relation between analyst recommendations after merger announcements and takeover completion. In contrast, Bradley et al. (2007) studied *ex ante* recommendation levels of tender offer targets and compared these to a broader universe of stocks of non-target companies. They found that analysts *a priori* did not publish higher recommendation levels for companies that were to be acquired, and thus seemed to be unable to identify future takeover targets through their recommendations. Our study is different from Bradley et al. (2007) in that we solely focus on a subsample of targeted companies with announced takeover bids. Within this subsample, we relate analyst opinions to eventual merger consummation. Chatterjee et al. (2012) related analysts' opinion divergence regarding the target company to takeover premiums. They showed that if there is high opinion divergence among analysts prior to the merger announcement, shareholders expect and receive higher takeover offers from interested parties. Our study complements and advances Chatterjee et al.'s (2012) insights into takeover likelihood and premiums by focusing on the effects of analyst opinions on takeover completion.

For the practitioner, this paper adds to the understanding why some takeover attempts fail while others are successful. Importantly, we provide novel indicators for completion likelihood, which may be useful in structuring future takeover offers. Moreover, our results imply that analyst target prices can be interpreted as a very practical benchmark that needs to be surpassed for a bid to be successful.

The paper is structured as follows. After the development of hypotheses in the Section 2, the data and methodology are described in Section 3. Section 4 presents the results and robustness checks. Section 5 provides a discussion and conclusion.

2. Development of hypotheses

2.1. Target price implied expected returns

Security analysts analyze public companies with respect to current and future profitability. They compare the resulting theoretical stock value with current market valuations and publish, among others, a so-called target price. The literature has shown that the publication of target prices has an impact on stock prices. Among others, Brav and Lehavy (2003) documented short-term abnormal returns around target price revisions. The magnitude of these returns was positively associated with the favorableness of the revision. Target price revisions are widely disseminated and known across the investment community. In line with previous studies on takeovers and prospect theory (e.g. Baker et al., 2012), we therefore argue that target prices are well-known public information that can function as a reference point for investors when deciding on accepting takeover bids.

Anecdotal evidence supports our presumption that analyst target prices are related to the reception of the bid by the takeover target company. For example, Lions Gate Entertainment rejected a takeover bid by Carl Icahn in March 2010. Although the bid price of $6.00 per share was nearly 15% above the share price of $5.23 at that time, the bid undervalued the company according to target management, given that the "average price target of analysts is

[4] In support of this rationale, we found a strong positive correlation between the median target price and the opinion divergence of the target price.