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Market reactions to hostile & friendly corporate takeovers: an empirical analysis

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Abbreviations

M&A	Mergers and Acquisitions
AR	Abnormal Returns
CAR	Cumulative Abnormal Returns
OLS	Ordinary Least Squares

1 Introduction

Mergers & Acquisitions represent a central mechanism through which firms pursue growth, efficiency and strategic repositioning. Among them, the distinction between friendly and hostile takeovers remains a highly debated topic in M&A. While friendly takeovers are characterized by cooperation between the acquiring firm and the target firm's management, hostile takeovers occur when the acquirer attempts to gain control without the support of the targets board. These contrasting dynamics come with different implications for firm governance, market perception, and shareholder value. The relevance of this topic remains evident in today's corporate landscape. For instance, Musk's acquisition of Twitter underscored the complexities of hostile acquisitions, including board resistance, strategic defenses and investor backlash. However, despite practical importance, the empirical evidence on how financial markets respond differently to hostile & friendly takeovers remain inconclusive. Many studies rely on older datasets or generalize the effect of hostility on target gains, without looking deeper into what factors play a role in shareholder value creation. This paper addresses this research gap by first defining how literature views characteristics of hostile & friendly takeovers, what theoretical underpinnings are present, as well as market reaction differences in target and acquiring firms. Next to that, this paper analyzes an updated dataset of M&A transactions and using an event study methodology to examine cumulative abnormal returns over a short-term event window, followed by a regression analysis that controls for factors such as payment method and relative deal size. Through this, the study contributes to a more detailed understanding of how the nature of a takeover influences perceived value creation and investor behavior.

2.1 Corporate takeovers

Characteristics of hostile vs friendly takeovers

Takeovers are typically motivated by synergy, agency, or hubris, each affecting the dynamics and outcomes of acquisitions. Synergy-based takeovers aim to create value for both the acquirer and target, while agency-driven ones reflect managerial self-interest, often leading to value destruction for shareholders. The hubris hypothesis suggests that managers may overpay for targets due to overconfidence, resulting in mixed outcomes depending on the presence of actual synergies (Berkovitch & Narayanan, 1993, pp. 350–351).

These motives help in understanding backgrounds of takeover motivations, affecting bargaining dynamics and value distribution between target and acquirers later discussed in this paper.

Depending on the level of consent by the target company's management, the acquisition process is characterized as either hostile or friendly.

Schwert (1999, p. 1) describes hostility in takeovers as an aggressive rejection by the target firm of a public offer by the bidder. It is perceived that hostile bidders pose a threat to at least some stakeholders in target firms. Schwert (1999) argues that public announcements of takeover attempts are part of negotiation tactics, and these are becoming increasingly more complex (p. 2).

Yadav (2011, p. 5) theoretically explains two primary hostile methods for one company to acquire another.

A tender offer is a public bid for the majority of shares in a target company, typically at a premium price. The acquirer submits a fixed-price bid, which exceeds the current market value of the stock, with the objective of persuading the target company's shareholders to divest their shares.

In a proxy fight, the buyer seeks to replace the target company's management or board by persuading shareholders to vote for a new team that supports the takeover, using their voting rights by proxy.

As these bidders act in opposition to the target's management, it follows that the management of the target firm may apply certain defense techniques. Chirag Shah (1996) lists some of these strategies.

A poison pill involves granting shareholders the right to purchase additional shares at a large discount if the takeover attempt reaches an ownership threshold set by the target company (p. 19). Poison pills reflect strong bargaining power by the target and thus in enhanced shareholder value. Market reactions for poison pills will be elaborated in section 2.2.

Shah also notes in his work the White Knight strategy, which involves a third-party company acquiring the target before the completion of a hostile takeover by the bidder (p. 18). The white knight provides more favorable terms, such as a higher purchase price or improved contractual conditions, that protects the management of the target firm. However, this defensive tactic may be detrimental to the targets shareholders, as it potentially precludes them from realizing greater financial gains that could have resulted from a higher competing bid by the hostile acquirer. Shah concludes that although these defensive strategies, especially when used in combination prove to be highly effective, come at a cost for shareholders. Markets tend to balance the potential upside of higher bids with the downside of reduced firm value (p. 34). Therefore, understanding the role of defensive strategies is essential to interpreting different market reactions.

According to Morck, Schleifer and Vishny (1988, pp. 104-107), acquisitions are classified as friendly if there is no evidence of resistance by the target, or if the management implemented a management buyout with no evidence of a hostile threat. The findings suggest that the primary motivation for these management buyouts is likely to be tax-related or related to the acquisition of undervalued shares. Whereas the targets of hostile takeovers are usually older, slowly growing firms, friendly takeovers are motivated by corporate diversification and synergies. Furthermore, Morck, Schleifer and Vishny found that in friendly takeovers, highly ranked officers in the management board owned a larger

percentage of the company than the management of hostile targets (p.109). This can be attributed to the fact that managements with greater ownership have a stronger financial incentive to accept a tender offer at a premium. Consequently, increased ownership in such cases carry greater potential losses in the event of an acquisition, making them more sensitive to financial incentives.

The authors emphasize that targets of friendly takeovers are typically younger and faster-growing firms with more synergistic characteristics, while the converse is true of hostile takeovers, which are more disciplinary and occur in firms with poor performance (p. 103). A closer look at these points suggests that the nature of a takeover often reflects the company's broader governance environment. The theories that explain this relationship will be analyzed in the following.

Theoretical underpinnings

Research suggests that the most relevant theory in the context of corporate takeovers is that of the agency theory, consisting of the agent (the company's management) and the principal (the company's shareholders), whose interests may diverge in the event of a takeover. Walkling & Long (1984) distinguish two prominent repeatedly cited hypotheses on how the reaction of the targets management influences whether or not a takeover can be classified as hostile or friendly (p. 55).

First off, the shareholder welfare hypothesis indicates that the targets management only acts in the best interest of the shareholder and carefully reviews the tender offer by taking appropriate actions. If the management perceives the tender offer as inadequate for all relevant stakeholders, the agent is inclined to reject the offer. Under this view, the market may interpret resistance as a protective measure, which could lead to neutral or even positive abnormal returns. Secondly, the managerial welfare hypothesis in contrast implies that managers face a conflict of interest when a tender offer is made. On the one hand, they have a fiduciary duty to their current shareholders and to get the best value

out of a deal, on the other hand stands their self-interest and the fear of lower compensation or job loss. This conflict can lead to acts of self-preserving ways, resulting in possible negative or less favorable market reactions. Therefore, the agency theory partially explains the dimensions of managerial motives and governance environments that culminate in how markets perceive and react to takeover announcements.

Another relevant theory in the context of hostile takeovers is the free-rider problem, analyzed by Grossman & Hart (1980). The basis for this theory is the assumption that poorly managed firms are automatically disciplined by takeovers: “he [the raider] can buy the company at a low price, manage it well, and then sell it back at a high price.” (Grossman & Hart, 1980, pp. 42-43). The authors refute this statement by arguing that the free-rider problem in corporate takeovers prevent efficient acquisitions (pp. 42-43). Should the shareholders of the target firm believe that the raider will enhance its value, they may rationally choose not to tender their shares and benefit from the post-takeover value increase. If a firm is owned by a multitude of individual shareholders who hold similar goals, the raider cannot achieve the required amount of ownership, thus the takeover process fails. Grossman & Hart (1980) argue that in order to succeed, the acquirer must offer the shareholders a price equal to the anticipated takeover value. Consequently, takeovers which should take place, fail, because from an economic standpoint it is not profitable for the raider to execute the takeover. Grossman & Hart (1980, pp. 44-47) propose a solution that allows the bidder to dilute non-tendering shareholders after a successful takeover, through e.g. asset transfers or a merger with unfavorable terms to remaining shareholders. These measures enable the acquirer to appropriate a portion of the perceived value, thereby discouraging free riding in corporate takeovers. Understanding the theory at hand helps us to further understand market reactions, as the free-rider problem in hostile takeovers explains why target firm stock prices often increase

following a bid announcement, reflecting the expected management control premium.

2.2 Market reactions

Announcements in financial markets typically trigger immediate responses in terms of stock price variations, reflecting investors' reassessment of firms concerning possible value creation or depletion. This is especially relevant in merger & acquisition announcements, in light of expected synergies, control changes or strategic realignments. With the help of scholarly articles, this section will dive into how M&A announcements are interpreted and trigger varying market reactions.

General market reactions to M&A announcements

Frequently, literature discusses whether or not takeovers result in net gains to society. "Critics argue any gains to a given party are simply redistributions resulting from losses to someone else […]" (Jarrell, Brickley & Netter, 1988, p. 50). Jarrel, Brickley & Netter (1988), found that from a study of 663 successful takeovers between 1962 and 1985, premiums of target shareholders averaged 19% in the 1960s, 35% in the 1970s, and 30% in the 1980s (p. 51). A detailed definition of what the CAR is and how it is derived, will be explained in section 2.3, methodology. Similar gains are observed for leveraged buyouts (the acquisition is made with a significant amount of borrowed money), with an average of 27% gain in the 1970s. Premiums in this study are measured by "comparing the price per share offered by the bidder to the trading price of the stock one month before the offer, not adjusting for changes in the market index" (Jarrell, Brickley & Netter, 1988, p. 52). Many redistributive theories have been examined in the 1980s and have been reviewed in this study to find the source of takeover gains. While large premiums are being paid to target shareholders for

tender offers, acquirer gains are as common as stock declines (p. 66). The authors concluded that the disparity in gains between targets and acquirers can be traced back to improved defensive strategies such as poison pills, as outlined in chapter 2.1, which effectively delay bid executions. This delay creates opportunities for bidding wars between acquirers, allowing the target to receive higher bids (p. 66).

Another reason for target shareholder gain can be attributed to improved post-merger operating performance. According to Healy, Palepu & Ruback (1992), reason for this improved operating performance is the increased asset productivity that results from a merger (p. 156). Merged firms sell poorly performing assets, hence there is an increase in book value of assets sales, explaining improvements in cash flow operating returns.

Healy, Palepu & Ruback (1992) empirically confirm the hypothesis that these operating cash flows are anticipated by the market by correlating the merger-related stock market performance and the post-merger cash flow performance. The authors findings indicate that stock price gains at merger announcements are indeed related to post-merger performance (p. 160).

Differences in target vs bidder firm reactions

As briefly noted in the previous chapter, the disparity in gains between acquiring and target firms represents a significant research area, relevant to this paper as it sheds light on how market participants perceive and respond to differing dynamics of hostile & friendly takeovers.

Research's consensus on target and acquirer gain is that there is a significant synergistic gain and a more efficient allocation of resources between the two market participants, as outlined by Bradley, Desai & Kim (1988, p. 13). Regulation in North America requires a minimum number of days that a tender offer must remain open, while also stating that the bidder must disclose information on how the tender offer will be financed. This so called 'disclosure and delay' requirement allows the target to receive higher bids, since the bidding

process can be seen as an open auction. To further elaborate this argument, Bradley, Desai & Kim (1988) hypothesize two main findings. In single-bidder contests, the rate of return to acquirers will be greater than in multiple-bidder contests, and vice versa (p. 19). This is because in bidding-wars, rivals drive up the returns paid to targets (as higher bids means more money for the targets shareholders), which in turn reduces the abnormal return earned by acquirers. Thus, bidder competition increases target returns and depresses acquirer returns. In some cases, subsequent to a takeover announcement, shareholders of the acquiring firm incur substantial losses. Especially in the 1990s, acquiring firms' shareholders lost a cumulative $216 billion, 50 times more than in the 1980s (Moeller et. al., 2001, p. 1). This was due to a number of very few acquisitions that incurred substantial losses, categorized as 'large loss deals', averaging an abnormal return of -10.6% 10 days post takeover announcement, and -15% 60 days post takeover announcement (pp. 3, 15). Moeller, Schlingemann & Stulz (2001) analyze how firm- and deal characteristics play a role in explaining these substantial loss cases. The authors found that most large loss deals are from public firms with a large equity component, while heavy competition and hostile takeover characteristics also affect a small number of large loss deals (p. 16). This finding suggests a notable contradiction to the arguments presented thus far, particularly the view that competition and hostility typically increases market performance. The fact that these factors explain some of the large loss deals suggests that the relationship between takeover characteristics and market reactions underscores the relevance for further research in this area.

Contrary to the widely held belief that targets capture the majority of merger gains, Ahern (2012) provides empirical evidence showing that target shareholders only earn slightly more than acquirers. Analyzing mergers from 1980 to 2002, he finds that targets receive just 3.5 cents more per dollar in abnormal announcement returns, and in over a quarter of the deals, acquirers

actually gained more in dollar terms (p. 531). When both firms' stock prices rose, acquirers captured an average of 56% of total gains (p. 547).

This variation is explained by the bargaining power hypothesis, where product market relationships, such as supplier-customer dependence and firm scarcity play key roles. Scarcity, measured by market-to-book ratios and the lack of substitutes, increases a firm's negotiating leverage. Targets with unique products and little dependence on the acquirer tend to command higher premiums, particularly in forward integrations (target = supplier, acquirer = customer). Conversely, when targets are more dependent, acquirers secure a larger share of the gains (pp. 536-542, 547-548). Ahern (2012) concludes that the division of merger gains depends on relative bargaining strength, shaped by firm-specific and industry-level factors (p. 547).

Betton, Eckbo & Thorburn (2008) summarize several overall conclusions consistent with prior statements. Virtually all studies in their analysis find significantly positive target CARs, suggesting that the target benefits from takeover bids in both the runup period and the announcement period (p. 65). Next to that, the combined bidder target CAR for the runup and announcement period is modest but positive (1.79%), supporting the hypothesis that takeovers create synergies. While the average CAR for acquirers is close to 0, bidder gains differ in certain scenarios, e.g. the bidders CAR is significantly positive when acquiring private firms, and smaller firms. This underlines the broader conclusion stated above, that merger outcomes are shaped by deal-specific factors rather than a fixed division of gains.

Moderating factors that shape market reactions

Scholars present mixed findings on how hostility and friendliness in corporate takeovers affect market reactions. We remember that hostility is defined as management resistance to a takeover bid by the acquirer, leading to varied investor responses depending on the motivations behind the deal.

Schwert (1999) identifies two possible outcomes in response to a hostile takeover bid. If the target's resistance is aimed at preventing the acquisition, it should lower the probability of a successful takeover. Conversely, if the resistance is intended to negotiate better terms, it may lead to a higher premium for target shareholders. The outcome of both successful and unsuccessful bids is relevant to the present study, as each can result in significant premiums for target shareholders (Schwert, 1999, pp. 20-23). Analyzing takeover bids among exchange-listed firms from 1975 to 1996, Schwert finds that unnegotiated bids have a 33.8% lower success rate than pre-negotiated ones (p. 21). Moreover, in unnegotiated bids, the premiums received by target shareholders are lower in both successful and unsuccessful cases. On the other hand, Schwert's regression shows that deals that are generally classified as hostile, result in slightly higher premiums (p. 25).

Newer research focuses on long-term value creation in corporate takeovers and based on different types of acquiring methods discussed in this paper and contradicts the conclusion that hostile takeovers only result in 'slightly' higher premiums. Based on research in the US and UK market, Sudarsanam and Mahate (2006) analyze short- and long-term stock performance of acquirers in hostile and friendly acquisitions. The data shows both friendly acquirers and single-hostile acquirers (no bidding-war) incur shareholder losses, -1.5% and -1.9% respectively. This suggests that initial reactions to bid announcements from acquiring shareholders is negative, due to possible reasons like overpayment risk, agency risk, or synergy concerns. During a period of +40 to +750 days, single hostile acquirers range in between -1% to -6% and friendly acquirers range from

-10% to -16% (p. 17). Important to note here is that during the first-year post-acquisition, single-hostile acquisitions generate about 6% more returns than friendly acquisitions (p. 21). This suggests that the market may initially undervalue the potential for value creation, only to revise expectations as post-performance emerges.

The last moderating factor that we will look at is called the Tobin's Q. It is a proxy for investment opportunities and used to assess whether a company is valued appropriately. From a study of 704 completed takeovers during 1972 and 1987, Servaes (1991) empirically found a strong inverse relationship between target Q and abnormal returns, and a positive relation between bidder Q and returns. When a low-Q (underperforming or undervalued) firm is acquired by a high-Q (growth-oriented) firm, both target and bidder shareholders gain larger abnormal gains than other combinations (p. 409). From this we can deduct that high-Q acquirers generate value from managing low-Q targets, so markets react more favorably to these takeovers. This view is also supported by Lang, Stulz & Walkling (1989) who find that shareholders of high-Q bidders gain significantly more than low-Q bidders.
From both studies we can conclude that many takeovers seem driven by the acquirer's ability to run the target more effectively, which is reflected in the Q-ratios and positive stock reactions.

2.3 Methodology in literature

So far, this paper has covered various theoretical explanations on why and how the market reacts to takeovers under different managerial motives, as well as empirical findings regarding the value effect of mergers & acquisitions. To assess whether takeovers create or destroy shareholder value, researchers must apply and infer from reliant event study methodologies, interpreting abnormal returns. How this is done will be discussed in the following section.

In order to measure the effect of an economic event on the value of firms and shareholders, almost all research is conducted using an event study. An event study uses financial market data to measure the economic impact on security prices over different periods of time. MacKinlay (1997) comprehensively outlines steps from defining the event window to measuring abnormal returns. First, the event of interest must be clearly defined, followed by the identification of the event window, the period over which stock prices are examined. Next, researchers establish firm selection criteria and noting biases that can come from filters or sample restrictions. Abnormal returns are then calculated as the difference between a firm's actual ex post return during the event window and its expected normal return, estimated using a benchmark model. A testing framework is designed to evaluate whether these abnormal returns are statistically significant, requiring a stated null hypothesis. Finally, empirical results are presented based on the underlying methodology and assumptions. While understanding the theoretical concept, it is of value to include underlying equations and the statistical framework, used to estimate and test for abnormal returns.

This event study methodology measures the impact of an event on firm value by estimating abnormal returns (ARs), defined as the difference between observed returns and expected (normal) returns. For firm i at time t, the abnormal return is:

$$AR_{\{i,t\}} = R_{\{i,t\}} - E\left[R_{\{i,t\}} \mid X_t \right] \qquad (1)$$

where $R_{\{i,t\}}$ is the actual return for firm i at time t and $E\left[R_{\{i,t\}} \mid X_t \right]$ is the expected return conditional on information X_t, estimated using the market model:

$$E\left[R_{\{i,t\}}\right] = \alpha_i + \beta_i R_{\{m,t\}} \qquad (2)$$

where $R_{\{m,t\}}$ is the return on a market index like the S&P 500 and α_i and β_i are firm specific parameters estimated over an estimation window prior to the event. The abnormal returns are aggregated over an event window (τ_1, τ_2) to compute the cumulative abnormal return (CAR):

$$CAR_{i(\tau_1,\tau_2)} = \sum_{\{t=\tau_1\}}^{\{\tau_2\}} AR_{\{i,t\}} \qquad (3)$$

To assess whether the event had a systematic effect across a sample of N firms, the average CAR is computed:

$$\overline{CAR_i}(\tau_1, \tau_2) = \frac{1}{N}\sum_{i=1}^{N} CAR_i(\tau_1, \tau_2) \qquad (4)$$

Under the null hypothesis $H_0: \overline{CAR} = 0$, the test statistic is:

$$t = \frac{\overline{CAR}}{\sqrt{\frac{1}{N^2}\sum_{i=1}^{N} \mathrm{Var}(CAR_i)}} \qquad (5)$$

If this statistic is significantly different from zero, it implies that the event had a non-zero average impact on the firms' value.

The fundamental input of measurements, namely the daily stock returns, have raised concerns regarding statistical properties, such as non-normality, bias in OLS estimates, variance estimation, or capturing properties by simulation. Brown & Warner (1985) demonstrate that CARs computed from daily data are statistically reliable measures of an events impact. They find that explicitly adjusting for these daily data issues can improve the power in some cases, but ignoring these issues doesn't invalidate results (pp. 16-19). This further supports the use of the statistical framework at hand to infer value effects of market events. The implication of data screens in methodology allows us to further discuss the validity of statistical frameworks in M&A analyses, by explaining how common data filters might skew empirical conclusions. Netter, Stegemoller & Wintoki (2011) demonstrate this by conducting a sample analysis of over 250,000 from 1992 to 2009 transactions, including many small and non-public deals, showing that restrictive sample screens can lead to incomplete inferences. For instance, if private deals are left out, results might understate acquirer success rates and mischaracterize M&A deals (pp. 9-10). Overall, Netter et al. (2011) show that

their findings contrast with previous studies using smaller samples, emphasizing for a more inclusive empirical research approach in M&A (pp. 29-30).

Following the establishment of methodology for the measurement of M&A announcements, the final section of Chapter 2 in this paper is dedicated to formulating a hypothesis derived from the consensus of further literature and research findings presented in this Chapter.

Market reactions to M&A announcements vary significantly depending on multiple deal characteristics explained in this chapter. Literature shows that target firms generally benefit in all scenarios, often receiving significant premiums (Jarrell et al., 1988; Schwert, 1999). Hostile bids, while more difficult to succeed, may result in higher premiums due to increased bidder competition and negotiation leverage. In contrast, acquirer returns differ. Sudarsanam & Mahate (2006) find that both friendly and hostile acquirers face initial negative returns due to concerns of overpayment and integration risk, but hostile acquirers outperform in the long run. Schwert (1999) and Ahern (2012) suggest that deal dynamics, such as resistance motives and bargaining power, critically shape outcomes. Firm characteristics like Tobin's Q further moderate these reactions, with high-Q bidders doing better in acquiring low-Q targets (Servaes, 1991; Lang et al., 1989). This lets us propose a hypothesis on the market reactions to hostile and friendly corporate takeovers.

H_A: Acquirer returns:

H_0: There is no significant difference in acquirer returns in hostile and friendly corporate takeovers.

H_1: There is a significant difference in acquirer returns in hostile and friendly corporate takeovers.

H_B: Target returns:

H_0: There is no significant difference in target returns in hostile and friendly corporate takeovers.

H_1: There is a significant difference in target returns in hostile and friendly corporate takeovers.

3 Empirical analysis

3.1 Data analysis

The following empirical section investigates market reactions to hostile and friendly corporate takeover announcements using the event study methodology previously elaborated. The analysis relies on a comprehensive dataset that includes M&A deal information from SDC with financial returns derived from CRSP, Compustat (for U.S. firms) and Datastream (for Canadian firms). Each observation represents a deal in which either the acquiring or the target firm is headquartered in the U.S. or Canada. The dataset has undergone filtering to ensure reliability, specifically, it excludes: recapitalizations, share repurchases, and rumored deals; deals where the acquirer already held more than 50% of the target; transactions with a deal value below 1 million USD, or relative size outside the 5-200% range for listed acquirers; acquiring firms with a market capitalization of under 10 million USD; transactions where the acquirer gained less than 50% ownership post-transaction; and domestic deals, retaining only cross-border transactions. In addition, variables have been winsorized at the 1st and 99th percentiles separately for each country to mitigate the influence of extreme outliers. The dataset provides company ARs and CARs for both acquiring and target firms over event windows of 1-day, 3-day and 5-day segments. To further prevent data errors, the data from Datastream was cleaned using the rules: returns over 100% that reverse within one day were excluded; returns exceeding 200% were excluded; returns of 0% reported after the delisting of a stock were deleted; balance sheet and income statement data reported after the "inactive date" were deleted; and observations where all balance sheet and income statement values were missing simultaneously were deleted.

Finally, the sample consists of 10,694 deal observations starting from 1977 to 2020.

3.2 Methodology

To assess how financial markets respond to hostile and friendly takeover announcements, the methodology section of this paper tests whether CARs differ significantly between hostile & friendly corporate takeovers for both targets and acquirers. The analysis uses pre-calculated CARs from the given dataset and compares their behavior across deal characteristics using statistical testing and multivariate regression. The goal is to test two core hypotheses:

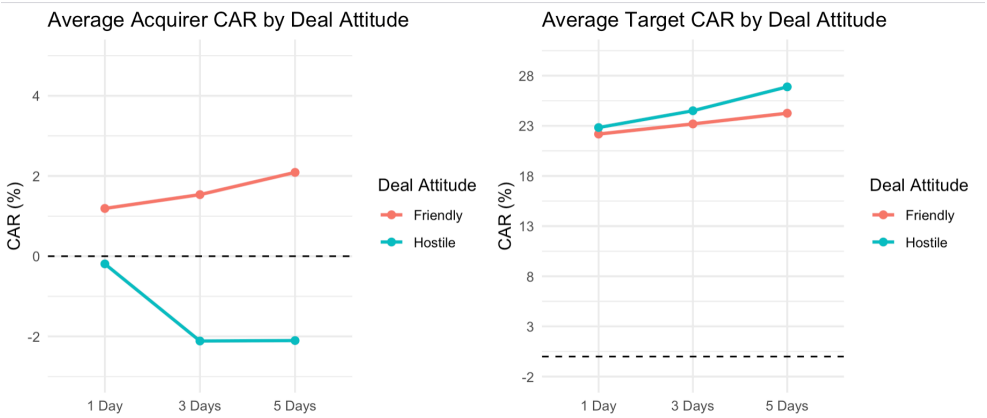
H_0: There is no significant difference in acquirer returns between hostile & friendly takeovers.

H_0: There is no significant difference in target returns between hostile & friendly takeovers.

To test these hypotheses, we will conduct mean comparison tests and regression analysis controlling for certain deal characteristics.

The dataset uses CARs over 1-day, 3-day, and 5-day windows around the announcement date, these will serve as the dependent variables. In the regression analysis, we will exclusively look at the 3-day CARs. The main variable of interest, or the independent variable, is deal hostility, defined as a binary variable $hostile = 1$ for hostile takeovers and $hostile = 0$ for friendly takeovers. To give a broad overview of average acquirer and target CARs, Figure 1 plots the average CARs in hostile & friendly takeovers. Acquirers in friendly deals receive a higher CAR on the 1-day, 3-day, and 5-day window than in hostile deals. As for targets, they receive on average more in hostile deals than in friendly ones.

Figure 1: Average acquirer and target CARs in hostile & friendly takeovers



To isolate the effect of hostility on CARs, the following control variables are included:

- Stock/cash: cash deals are often viewed as more favorable due to high liquidity of the firm.
- Relative size: controls for the firm's size, as smaller firms may experience more volatile CARs.

The following linear regression models are estimated separately for acquirer and target firms:

$$CAR_i = \beta_0 + \beta_1 \cdot hostile_i + \beta_2 \cdot Stock_i + \beta_3 \cdot Size_i + \varepsilon_i \qquad (6)$$

3.3 Regression

A two-sample t-test was conducted to compare mean CARs between hostile & friendly deals.

Acquirer CARs:

- Mean CAR (hostile): -3.02%
- Mean CAR (friendly): +0.88%
- p-value 0.2166

Although the average return for acquirers in hostile deals is lower than in friendly deals, the difference is not statistically significant.

Target CARs:

- Mean CAR (hostile): +35.06%
- Mean CAR (friendly): +25.75%
- p-value 0.2889

Similarly, while targets in hostile takeovers seem to receive higher average returns, the difference is statistically insignificant.

To isolate the effect of hostility from confounding deal characteristics, we use a multivariate regression approach. This allows to assess the sole contribution of deal hostility to CARs while controlling for the variables mentioned above.

Two separate OLS regression models are estimated, one for acquirer CARs and another for target CARs. Both models include: $hostile$ indicating the hostility, $stock\_all$ to indicate whether the deal was financed entirely with stock and rel_size which measures the size of the deal relative to the acquirer's size. A summary statistics table for all main variables is shown as Figure 1 below. Note that of the sample of 10,694 deals, the sample size n in the table is smaller than the full dataset, because not all deals have available or valid return data for the acquirer and target firms needed to compute CARs over the event windows.

Table 1: Summary statistics of main variables

Variable	n	Mean	SD	Median	Trimmed	MAD	Min	Max	Range	Skew
a_car_1	1263	1.17	10.65	0.58	0.71	5.67	-50.50	162.13	212.63	4.21
a_car_3	1263	1.48	12.50	0.70	0.95	7.80	-45.90	149.73	195.64	2.50
a_car_5	1263	2.03	14.07	1.23	1.29	9.44	-42.26	148.18	190.44	2.45
t_car_1	694	22.21	28.45	17.75	19.18	18.51	-64.10	361.64	425.74	3.90
t_car_3	694	23.25	29.97	19.37	20.33	20.27	-67.94	372.70	440.64	3.55
t_car_5	693	24.37	31.31	20.73	21.53	21.87	-104.29	370.16	474.45	3.03

Model 1: Acquirer CARs

$$a\_car\_3 = \beta_0 + \beta_1 \cdot hostile_i + \beta_2 \cdot stock\_all + cash_{all} + \beta_3 \cdot rel_{size} + \varepsilon_i \qquad (7)$$

Variable	**Estimate**	**Std.error**	**t-value**	**p-value**
Intercept	0.7972	0.5991	1.331	0.1836
Hostile	-3.0621	2.4505	-1.250	0.2118
Stock_all	-1.3867	1.0951	-1.266	0.2058
Cash_all	0.2313	0.9214	0.251	0.8018
Rel_size	1.6607	0.9839	1.688	0.0918

The coefficient on hostile is negative (-3.06), suggesting acquirers in hostile takeovers experience lower abnormal returns on average. However, the result is not statistically significant (p = 0.21). Deals financed entirely with stock are also associated with lower CARs (-1.39) while deals financed with cash only are associated with higher CARs (0.23). Relative size has a positive coefficient (1.66), suggesting larger deals might be rewarded by the market, although the effect is only marginally significant (p = 0.095).

Model 2: Target CARs

$$t\_car\_3 = \beta_0 + \beta_1 \cdot hostile_i + \beta_2 \cdot stock\_all + cash_{all} + \beta_3 \cdot rel_{size} + \varepsilon_i \quad (8)$$

Variable	Estimate	Std.error	t-value	p-value
Intercept	22.158	3.973	5.577	1.21e-07
Hostile	10.389	8.741	1.188	0.2366
Stock_all	-1.132	5.708	-0.198	0.8431
Cash_all	7.885	5.372	1.468	0.1444
Rel_size	-8.556	4.723	-1.812	0.0722

Hostile takeovers are associated with a 10.38 increase in CARs for targets, but the result is not statistically significant (p = 2.89). The coefficient on stock financing is negative but also statistically insignificant. Cash financing has a large effect on targets (7.88), confirming the statement above that cash deals are more favourable. Relative size is almost significantly negative (p = 0.07), indicating that larger deals relative to the acquirer are associated with lower abnormal returns (-8.56) for targets.

3.4 Findings

The empirical results provide insights into how the market to different types of takeover deals. Hostile takeovers do not lead to significantly different acquirer CARs when controlling for payment method and deal size. Market participants may not view hostile acquisitions as value destroying or value creating for acquirers in the short term. Target firms in hostile takeovers receive higher abnormal returns, but this effect is not statistically significant in the regression model. Deal size is close to a statistically significant negative effect on target CARs, possibly reflecting higher execution risk or greater uncertainty in larger transactions.

With these results we can refer back to our hypotheses and fail to reject H_0 for acquirer returns and for target returns. Looking at the dataset, certain limitations could be the reason for not having a significant result, e.g. that hostile takeovers are relatively rare compared to friendly ones, as well as the use of CARs over a 3-day window capturing immediate market reactions but not long-term value creation or destruction.

4 Discussion

The objective of this paper was to examine how the market reacts to hostile and friendly takeover announcements, and whether abnormal returns differ significantly across deal types. By comparing the empirical outcomes presented in Chapter 3 with the theoretical and empirical literature discussed earlier, this section highlights where the results align with previous findings and where they contrast, providing plausible explanations for any contradictions.

The regression analysis shows that hostile takeovers are associated with lower abnormal returns for acquiring firms. Although this is not statistically significant, the negative coefficient is consistent with the theoretical predictions under the agency theory and hubris hypothesis, both of which suggest that value may be destroyed or redistributed unfavorably for acquirers. Specifically, under the hubris hypothesis, managers may overpay due to valuation errors, resulting in wealth transfers to target shareholders. Similarly, the agency motive implies managerial self-interest may lead to unprofitable acquisitions, particularly in the case of hostile bids where board opposition is likely to increase deal complexity and cost. This finding resonates with earlier literature such as Moeller et al. (2001), who document large scale cumulative losses for acquiring firms, particularly when deals are associated with public bidders and large equity financing. The observed negative coefficient on stock-financed deals in this study

further supports this view. Additionally, the marginally significant positive relationship between relative deal size and acquirer CARs diverges from the majority of prior research, such as Ahern (2012) and Bradley et al. (1988), who argue that larger deals are often punished due to higher execution risk and integration challenges. One possible explanation for this contradiction may lie in the characteristics of this dataset, which includes a substantial share of mid-sized and cross-border deals. If such deals are viewed more favorably by the market due to perceived international expansion or strategic synergy, the size effect might be less negative or even positive. However, the lack of statistical significance in the results implies that market participants do not systematically reward or penalize acquirers based on hostility alone. This supports Betton et al. (2008) and Sudarsanam & Mahate (2006), who find that short-term acquirer returns are close to zero on average and that the impact of hostility is limited when accounting for deal-specific factors. It also aligns with the argument made by Jarrell et al. (1988), that acquirer reactions are more heterogeneous and context-dependent than previously assumed.

For target firms, the results are directionally consistent with the literature discussed. Hostile bids are associated with higher abnormal returns than friendly ones. The coefficient of 10.38 suggests a meaningful economic effect, even though it is not statistically significant. This confirms prior findings by Schwert (1999) and Bradley et al. (1988), who suggest that target shareholders benefit from hostile deals due to increased bargaining power, competition between bidders, and the threat of losing the deal. The results also support Ahern's (2012) bargaining power hypothesis, whereby the distribution of gains depends on. The relative leverage of the firms involved. The negative coefficient on deal size, while not strongly significant, implies that larger deals relative to the acquirer are associated with lower target CARs. This result aligns with Moeller et al. (2001) and Lang et al. (1989), who argue that the market penalizes large transactions due to perceived overpayment and greater risk. It may also reflect the market

concern that large deals are harder to execute, involve more regulatory scrutiny, or result in diluted value for existing shareholders. Lastly, the positive coefficient on cash financing for target CARs supports earlier claims that cash offers are generally perceived more favorably by the market. This is consistent with theories related to valuation uncertainty and information asymmetry, where cash bids are seen as more credible signals of value than stock offers.

5 Conclusion

This study set out to empirically assess how financial markets react to hostile and friendly corporate takeover announcements. Using a large dataset spanning over 10,000 deals, it measured the short-term abnormal returns for acquiring and target firms around announcement dates and tested whether these returns differ significantly based on the hostility of a deal. The findings show no statistically significant difference in acquirer returns between hostile and friendly corporate takeovers, even though hostile acquirers tend to underperform on average. For targets, the data shows that hostile bids are associated with higher abnormal returns, yet the effect is not statistically significant in a multivariate context after controlling for payment and relative deal size. These results are consistent with existing literature, which often finds that target shareholders benefit more than acquirers, and that hostile bids can increase target gains due to increased bargaining power and competitive tension. However, the statistical insignificance of hostility in both models suggest that the form of takeover may not independently explain investor reaction once other deal characteristics are considered. Limitations of the study include the relative scarcity of hostile takeovers in the sample, which may reduce statistical power, and the short-term nature of the event window, which shows immediate market reactions but not long-term performance. Nonetheless, the findings contribute to a better

understanding of takeover dynamics and suggest that market reactions are driven more by the specific attributes of the deal, than by the characteristic of hostility alone. Future research incorporating further deal characteristics and broader international comparisons would improve the analysis and clarify the conditions under which hostile takeovers create value.

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