DETERMINANTS OF ACQUIRER RETURNS IN SWEDEN

EVIDENCE FROM PRIVATE-TARGET M&A

FILIP SIMON

WALDEMAR STAXÄNG

Bachelor Thesis

Stockholm School of Economics

2025

Evidence from Private-Target M&A

Abstract:

We examine how deal payment method and deal size influence the acquisition announcement returns for Swedish listed firms between 2010 and 2022. Focusing on acquisitions of private firms conducted by frequent acquirers, we find that bidders on average earn significantly positive returns. Deal size emerges as the only variable that consistently explains variation in returns, with acquisitions of larger firms generating higher bidder gains. Stock financing is rare in Sweden, and payment methods do not exhibit explanatory power. In addition, returns remain consistent across sequential acquisitions, indicating that repeated deal activity does not erode value creation. These findings highlight the size of the target firm, the firm being acquired, as the main determinant behind announcement period acquisition returns in Sweden.

Keywords:

M&A, Private Targets, Announcement Returns

Authors:

Filip Simon (26111)
Waldemar Staxäng (26093)

Tutor:

Pehr Wissén, Professor Emeritus of Practice, Swedish House of Finance

Examiner:

Ramin Baghai, Professor, Department of Finance

Acknowledgements:

We would like to express our gratitude to our tutor, Pehr Wissén, for his guidance and support throughout the writing of this thesis.

Bachelor Thesis
Bachelor Program in Business and Economics
Stockholm School of Economics

1 Introduction

In this paper, we examine how payment method and deal size in acquisitions of private companies affect acquirer returns in Sweden between 2010 and 2022.

This setting is particularly interesting because private acquisitions dominate the Swedish acquisition landscape, yet the determinants of investor reactions are not yet extensively studied.

Corporate acquisitions, their value, and the possible explanations for such realized value have been studied extensively over a prolonged period. Bradley, Desai, and Kim (1983) conclude that firms attempting to purchase another firm intend to exploit potential synergies, rather than attempting to profit from acquiring an undervalued company. Chang (1998) investigates how payment methods influence acquirer returns when acquiring privately held firms. Fuller, Netter, and Stegemoller (2002) conduct a comprehensive examination on how the company type of the entity being acquired and method of payment influence acquirer returns. Among other discoveries, they demonstrate how American acquirers generally gain when purchasing private firms, and that the magnitude of this reaction increases with relative deal size and with stock financing.

A similar assessment is missing in Sweden. While Fuller et al. (2002) investigate acquirer returns of acquisitions of subsidiaries with a public parent and public companies in addition to private companies, our examination centers on private companies. Furthermore, Sweden is financially sophisticated, yet fundamentally different from the United States, rendering it a suitable environment to examine the extent to which Fuller et al.'s (2002) findings continue to apply in different institutional environments and more recent time periods.

Stockholm specifically is considered a financial center of Northern Europe by the Swedish Chamber of Commerce. In The Future of European Competitiveness, Mario Draghi further establishes that Sweden has a developed capital market relative to its GDP, particularly due to its high retail participation and strong pension-fund ownership. These factors have been important for the Swedish capital market's outperformance against other indexes. The Swedish M&A environment is also strong, confirmed by EY's Swedish M&A update for the second quarter of 2025, reporting 463 completed transactions with an average disclosed deal value of 214 MUSD.

Another notable difference between the United States and Sweden is ownership structure. Dual-class shares are prevalent among Swedish firms, allowing founders and families to maintain control over companies, despite them being minority shareholders. Furthermore, ownership is profoundly concentrated in Sweden. According to the OECD's report on the Swedish equity market (2025), the five largest family-owned investment firms own 8% of the Swedish market capitalization. As a result, blockholders play an important role in corporate decisions.

Fuller et al. (2002) analyze deals undertaken by frequent acquirers and have therein created a natural experiment that strips out acquirer-specific information. Consequently, it can be revealed how deal characteristics specifically impact acquirer announcement returns. We adopt an analogous approach while adjusting it to the Swedish context.

Cumulative abnormal returns (CARs) for a (−2, +2) window were computed for each deal made by a frequent acquirer listed on the Stockholm Stock Exchange and incorporated in Sweden. Frequent acquirers were defined as those firms having completed 3 or more acquisitions of private targets within a 5-year rolling window. A payment method was assigned to each deal and relative deal size, industry relatedness and cross-country were created as control variables. A cross-sectional regression was then implemented to observe which factors significantly impacted post-announcement acquisition returns. Lastly, we test whether returns decrease with subsequent acquisitions.

Mean CAR was significantly positive at 2,47%, and greater than the CAR for acquisition of private companies by frequent acquirers incorporated in the United States shown by Fuller et al. (2002) at 2,08%. We hypothesize that this discrepancy could be the result of fewer value-destroying deals being realized in Sweden, due to tighter blockholder monitoring.

Our results further indicate that larger relative deal size is associated with higher acquirer returns. Stock financing is rarely used by frequent acquirers, and payment method does not explain variation in returns of Swedish acquirers. Furthermore, we can observe that returns do not decrease with subsequent acquisitions. These patterns partially align with US evidence, particularly the importance of relative deal size and the positive acquirer gains, but differ in that payment method is not a significant determinant of returns in our setting.

2 Related Literature

The most important contribution to this study is Fuller et al. (2002), which examines the returns of frequent acquirers. They analyze how the method of payment, target status, the relative size of the target and industry relatedness influences the stock returns at the date around an acquisition announcement. Among their findings, they present evidence that acquirers earn significant positive returns purchasing private firms. The returns are larger when the target is sizable in comparison to the acquirer, and in cases where the purchase is financed by stock. However, the environment is characterized by dispersed ownership and frequent stock financing, which make it uncertain whether their results apply in other institutional environments. Sweden's institutional environment is different, with more concentrated ownership, frequent use of dual-share structure and different time periods.

Faccio and Masulis (2005) investigate corporate governance and payment choices of acquisition in Europe. They show that in a European and Swedish context, where ownership is frequently highly concentrated, owners are inclined to not finance acquisition by stock as it dilutes ownership and threatens control. They demonstrate that ownership influences payment choice. This stands in contrast to the US environment, where dispersed ownership does not present the same incentives to hold on to control over firms. These insights that ownership concentration can limit the use of stock financing. Their findings are important for understanding how the role of payment methods can differ between markets, and it highlights the relevance of investigating its role in a different setting.

3 Hypotheses

Given Sweden's mature financial environment and prevalent ownership concentration, the CARs of Swedish frequent acquirers are expected to be comparable to those of American frequent acquirers. Thus:

H1: Acquisitions of private companies by Swedish listed acquirers generate positive and statistically significant cumulative abnormal returns (CARs) around the announcement date.

Fuller, Netter, and Stegemoller (2002) find that acquirer gains increase with relative target size. Although the Swedish market differs from the United States, the underlying mechanism that larger acquisitions have greater valuation impact should apply in both settings. Thus:

H2: Larger relative deal size is associated with higher bidder announcement-period returns in Swedish private-target acquisitions.

Given prior studies documentation of a relationship between payment method and acquirer returns, it is investigated whether a similar relationship exists in the Swedish M&A context. Thus:

H3: The method of payment affects acquirer announcement-period returns in Swedish private-company acquisitions.

Prior research documents that announcement-period returns may vary across successive acquisitions by the same firm. This study investigates whether announcement-period returns systematically change as firms engage in additional acquisitions, with a particular focus on whether returns decline for later acquisitions in an acquisition sequence. Thus:

H4: Announcement-period returns decline as frequent acquirers make additional acquisitions.

4 Data

4.1 Deal-Level Data and Sample Construction

Deal-level data was collected from S&P Capital IQ. The initial sample consisted of all closed, majority-stake mergers and acquisitions announced between 1 January 2010 and 1 January 2022. The acquirer was required to be incorporated in Sweden and listed on the OMX Nordic Exchange Stockholm at the time of the announcement. Transactions with a total disclosed deal value below USD 1 million were excluded from the initial sample. Furthermore, no deals where either the acquirer or the target's primary industry was real estate, financial, or utilities were included to avoid acquisitions whose objective differed from traditional M&A. A similar approach was taken by Fuller et al.

The initial sample consists of 1038 transactions. 922 were acquisitions of private companies, 106 acquisitions were of assets/products, specific company resources or product lines, and 10 acquisitions were of public companies. Close to 90% of the

acquisitions in the initial sample were of private firms, justifying the concentration on acquisitions of private companies. The sample was subsequently restricted to acquisitions of private companies only, leaving 922 observations.

4.2 Target Type and Private Firm Classification

Contrary to Fuller et al. (2002), no distinction is made between stand-alone private targets and subsidiaries of public companies. Capital IQ does not consistently identify whether a private target is a subsidiary, and manually separating them would introduce substantial misclassification risk. Since manually distinguishing between stand-alone private firms and subsidiaries risks introducing more bias than accepting CIQ's own categorization, all CIQ-classified private targets are treated as private firms without further reclassification. The potential inclusion of some subsidiaries may add random variation to the sample but is unlikely to bias the results systematically or materially affect the findings.

4.3 Stock Return Data

Daily stock prices for Swedish listed firms were obtained from the Swedish House of Finance FinBas database. FinBas was a suitable database given that it adjusts prices for corporate actions. The following is explicitly stated: "The LAST price is adjusted for corporate actions making the prices in a time series comparable over time"

4.4 Exchange Coverage and Market Matching

The OMX Nordic Exchange Stockholm includes various alternative trading venues such as First North that differ substantially from the main regulated market in liquidity, disclosure requirements, and investor composition. Consequently, the dataset was filtered to include only observations pertaining to the Stockholm Stock Exchange to ensure consistency with the return data and improve comparability across firms. When later matching these prices with the deals data, deals including a buyer listed on a trading venue different from the Stockholm Stock Exchange would not have a price counterpart and be filtered out in the process.

5 Methodology

5.1 Event-study Design

To examine how deal characteristics affect bidder returns in private-target acquisitions, this study employs an event-study framework combined with cross-sectional regression analysis. Event-study methods are standard in the mergers and acquisitions literature for capturing the stock market's assessment of transaction value at the announcement date, when new information about the deal is incorporated into prices. Focusing on serial acquirers follows Fuller, Netter, and Stegemoller (2002) and allows acquirer-specific

factors to be differenced out, thereby isolating the role of deal characteristics such as payment method and relative size. The short announcement window minimizes contamination from unrelated news and provides a clean measure of market reactions. These methods together are well suited to testing the hypotheses developed above. Announcement-period abnormal returns are estimated using a standard event-study methodology. The event date is defined as the acquisition announcement date reported by S&P Capital IQ. If the announcement occurs on a non-trading day, the event date is set to the trading day closest to the calendar announcement date.

$$R_{i,t} = \frac{P_{i,t}}{P_{i,t-1}} - 1$$

$$R_{m,t} = \frac{I_t}{I_{t-1}} - 1$$

$$AR_{i,t} = R_{i,t} - R_{m,t}$$

Daily stock returns are computed as the percentage change in the closing price, adjusted for corporate actions. Market returns are measured using the OMXS30GI total-return index. Abnormal returns are calculated as the difference between the firm-level return and the corresponding market return on each trading day.

Cumulative abnormal returns (CARs) are obtained by summing abnormal returns over a five-day event window spanning from two trading days before to two trading days after the announcement (−2, +2). Abnormal returns are defined as the difference between the firm's daily stock return and the corresponding market return. This window captures potential information leakage prior to the announcement as well as delayed market reactions following the event and is consistent with standard practice in the mergers and acquisitions event-study literature. To avoid confounding effects from overlapping events, acquisitions announced by the same firm within five calendar days of each other are excluded. Only transactions for which return data are available for the full event window are retained.

$$CAR_i(-2,+2) = \sum_{t=-2}^{+2} AR_{i,t}$$

After applying these data-cleaning procedures and filters, the final estimation sample consists of approximately 370 acquisitions undertaken by 65 frequent acquirers. A detailed description of the data-cleaning and sample-construction steps is provided in Appendix A.

5.2 Identification of Frequent Acquirers

Frequent acquirers are identified following an adapted version of the approach in Fuller, Netter, and Stegemoller (2002). For each acquiring firm, transactions are ordered chronologically by announcement date, and a rolling five-year window is applied. Firms that complete at least three acquisitions of private targets within any such five-year period are classified as frequent acquirers.

Once a firm meets this criterion, all its private-target acquisitions during the sample period are retained in the analysis, regardless of whether individual transactions fall within the specific five-year window used for classification. This approach ensures a consistent definition of frequent acquisition activity while allowing for firm-level dependence across multiple transactions in subsequent analyses. The threshold for frequent acquirer classification is lower than that used by Fuller et al. (2002), who require at least five acquisitions within a three-year period. Applying such a definition to the Swedish market would substantially reduce the number of qualifying firms and transactions, thereby limiting statistical power.

5.3 Variable Construction

The dependent variable in the empirical analysis is the cumulative abnormal return (CAR) around the acquisition announcement.

The method of payment is constructed using detailed information on the composition of transaction consideration obtained from S&P Capital IQ. All payment components are converted into numeric form. Following Fuller, Netter, and Stegemoller (2002), cash and debt are treated as economically equivalent forms of consideration and are aggregated into a single cash-like component.

Each transaction is classified into one of three mutually exclusive payment categories. Cash offers are transactions financed entirely with cash or debt, containing no equity component. Stock offers are transactions financed exclusively with common equity; deals involving equity-linked instruments such as rights, warrants, or options are also classified as stock offers. Combination offers include both a positive cash-like component and a positive stock component.

Transactions consisting solely of hybrid securities, preferred equity, or option-based instruments without any cash-like or common-stock component are classified as “Other” and excluded from analyses involving payment methods.

The main analysis is based on the remaining 370 observations across 65 frequent acquirers, 327 being labeled as “Cash”, 34 as “Combination” and 9 as “Stock”.

Relative deal size is measured as the ratio of the transaction value to the acquiring firm’s market capitalization one trading day prior to the announcement. Market capitalization data are obtained from Capital IQ. For regression analyses, relative deal size is included in logarithmic form to reduce skewness and mitigate the influence of very large transactions, consistent with prior M&A studies.

$$Relative\ Size_i = \frac{Deal\ Value_{i,t}}{Acquirer\ Market\ Capitalisation_{i,t-1}}$$

Industry relatedness is captured by a binary indicator equal to one when the acquirer and the target share the same primary industry classification, as reported by Capital IQ, and zero otherwise. This variable controls for potential differences in synergy prospects and strategic fit between related and unrelated acquisitions.

Cross-border transactions are identified by comparing the country of incorporation of the acquirer and the target. A binary indicator is assigned a value of one for cross-border acquisitions and zero for domestic transactions. This control accounts for potential differences in information asymmetry, regulatory environments, and integration complexity across domestic and international deals.

To account for variation in market conditions across time, the announcement year is included as a control variable in the regression analyses. This ensures that broader macroeconomic cycles or shifts in investor sentiment are not attributed to transaction-specific characteristics.

5.4 Regression Specification

The cross-sectional determinants of announcement-period abnormal returns are examined using ordinary least squares regressions in which CARs serve as the dependent variable. All regressions are estimated at the transaction level and are restricted to acquisitions undertaken by frequent acquirers.

Two related regression specifications are employed to examine the role of payment method and relative deal size in explaining announcement-period returns.

The first specification estimates a baseline model relating CARs to the method of payment, relative deal size, and a set of control variables. This baseline regression is specified as:

$$CAR_i = \beta_0 + \beta_1 Stock + \beta_2 Combination_i + \beta_3 RelativeSize_i + \beta_4 SameIndustry_i + \beta_5 Year_i + \beta_6 CrossBorder_i + \varepsilon_i$$

where CAR_idenotes the cumulative abnormal return associated with acquisition i. $Stock_i$ and $Combination_i$ are dummy variables capturing the method of payment, with cash-financed acquisitions serving as the omitted category. $RelativeSize_i$ measures the transaction value relative to the acquiring firm's market capitalization prior to the announcement. This variable is included in logarithmic form, following the approach of Fuller et al (2002). $SameIndustry_i$ is an indicator equal to one when the acquirer and target share the same primary industry classification, and $Year_i$ controls for announcement year. $CrossBorder_i$ equals one for cross-border transactions. εi is an error term.

The second specification extends the baseline model by allowing the effect of relative deal size on announcement-period abnormal returns to vary across payment methods. This is achieved by including interaction terms between relative deal size and the payment-method indicators. The interaction model is specified as:

$$CAR_i = \beta_0 + \beta_1 Stock + \beta_2 Combination_i + \beta_3 RelativeSize_i + \beta_4 (Stock_i \times RelativeSize_i) + \beta_5 (Combination_i \times RelativeSize_i) + \beta_6 SameIndustry_i + \beta_7 Year_i + \beta_8 CrossBorder_i + \varepsilon_i$$

In this specification, the coefficient on $RelativeSize_i$ captures the marginal effect of deal size for cash-financed acquisitions (the omitted category). The interaction terms indicate how the size effect differs for stock-financed and combination-financed transactions relative to cash. This framework permits heterogeneous market responses to larger acquisitions across financing structures, without imposing a common effect of deal size across all payment methods.

All regressions are estimated with standard errors clustered at the acquirer level to account for potential dependence in abnormal returns arising from repeated acquisition activity by the same firm. The results corresponding to these specifications are presented and discussed in the Results section.

5.5 Acquisition Sequence

As an extension, the analysis examines whether announcement-period abnormal returns vary across successive acquisitions undertaken by the same firm. To this end, an acquisition sequence variable is constructed to capture the order of acquisitions within each frequent acquirer's transaction history.

For each acquiring firm, all qualifying acquisitions are ordered chronologically by announcement date. Each transaction is then assigned a sequence number reflecting its

position in the firm's acquisition history. Based on this ordering, a binary indicator is constructed that equals one for transactions representing the third or subsequent acquisition undertaken by the firm and zero otherwise.

The acquisition-sequence analysis compares announcement-period cumulative abnormal returns between early acquisitions and later acquisitions within the same firm. This analysis is conducted separately from the main regressions and is intended to assess whether value creation changes systematically as firms engage in repeated acquisition activity.

5.6 Hypothesis mapping

The empirical methods described above are used to test the hypotheses developed in Section 3. Hypothesis 1, which concerns the existence of positive announcement-period abnormal returns for acquisitions of private targets, is examined using the event-study framework and one-sample t-tests of mean cumulative abnormal returns.

Hypothesis 2, which concerns the relation between relative deal size and announcement-period abnormal returns, is tested using both the baseline regression model and the interaction specification that allows the effect of deal size to vary across financing structures. Finally, the acquisition-sequence analysis constitutes an extension and is used to examine whether announcement-period returns differ systematically across successive acquisitions undertaken by the same firm.

Hypothesis 3, which relates announcement-period returns to the method of payment, is first examined using univariate comparisons across payment categories and formal tests of equality of means, and is subsequently evaluated in a multivariate setting using the baseline regression specification.

6 Empirical results and analysis

6.1 Baseline CARs and Sample Characteristics (H1)

After cleaning the dataset, the final sample consists of 370 acquisitions. The average CAR was approximately 2,5%, significant at the 1% level. These results are aligned with the significantly positive returns documented by Fuller, Netter and Stegemoller (2002) for acquisitions of private firms. The same positive effect is observed in a Swedish and European context in Returns to Acquirers of Listed and Unlisted Targets (2006) by Faccio, McConnell and Stolin. As can be observed from Figure 1, CARs are roughly normally distributed. Despite CARs seeming normally distributed, a Wilcoxon test was employed for robustness, as it does not rely on distributional assumptions, reporting similar results. For exact numbers, see Appendix.

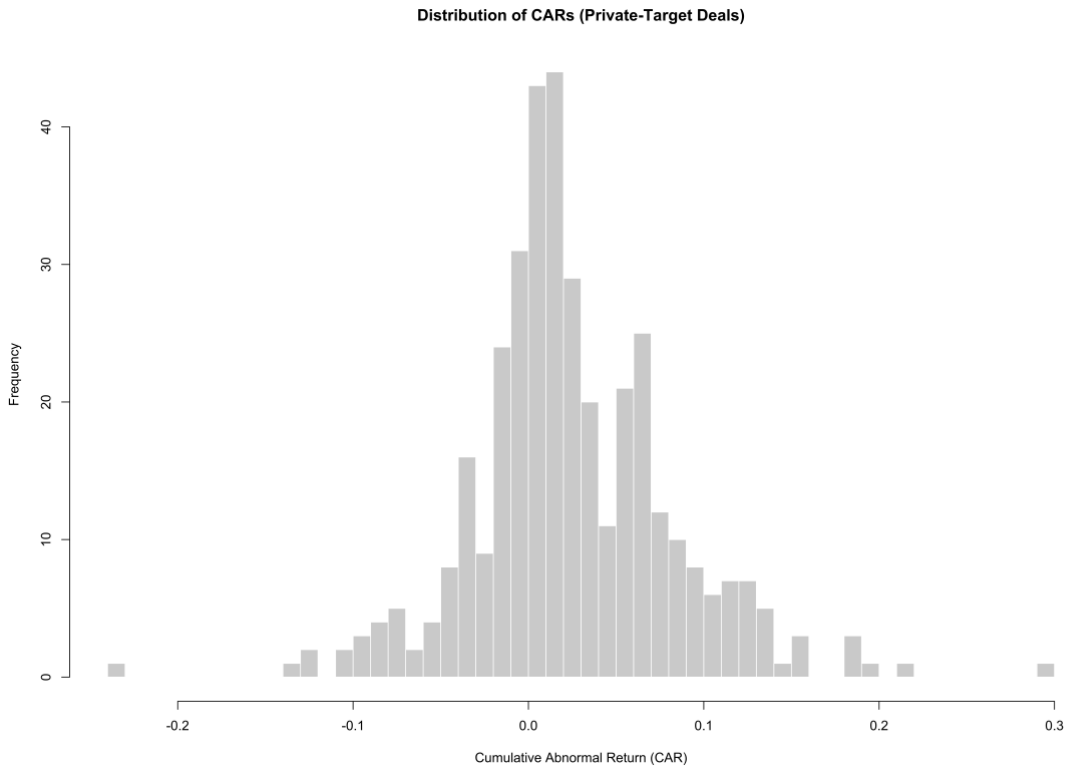

Figure 1. Distribution of cumulative abnormal returns (CARs). The figure plots the distribution of cumulative abnormal returns over a (–2,+2) event window surrounding acquisition announcements.

Existing research explains the positive and significant returns through a combination of liquidity and listing effects. Private targets are less liquid than public firms, therefore allowing the bidder to capture a discount that compensates for liquidity risk. In addition, private targets typically disclose less public information, face fewer competing bidders, and lack observable market prices. These features of informational asymmetry increase the chance that the acquisition price falls below fundamental value (Fuller et al. 2002) (Faccio et al. 2006).

6.2 Time Variation in Deal Activity and CARs

Time variation in deal activity and CARs. Figures 2 and 3 display the annual number of acquisitions undertaken by frequent acquirers in the sample and the corresponding mean announcement CARs, respectively. The number of deals increases over time and peaks in 2020–2021, followed by a decline in 2022.

Mean announcement CARs are positive in most years, indicating that the market does not, on average, react negatively to acquisition announcements by Swedish frequent acquirers. At the same time, there is substantial year-to-year variation in the average CAR, with somewhat lower or even negative values toward the end of the sample. These fluctuations should be interpreted cautiously, since the number of observations

differs across years and individual years' means may be influenced by a relatively small set of transactions. The patterns in Figure 3 are therefore best viewed as descriptive and are complemented by the multivariate analysis in the next section.

All patterns documented in Figures 2 and 3 are descriptive in nature and do not control for deal-level characteristics or firm-specific heterogeneity, which are accounted for in the multivariate analysis below.

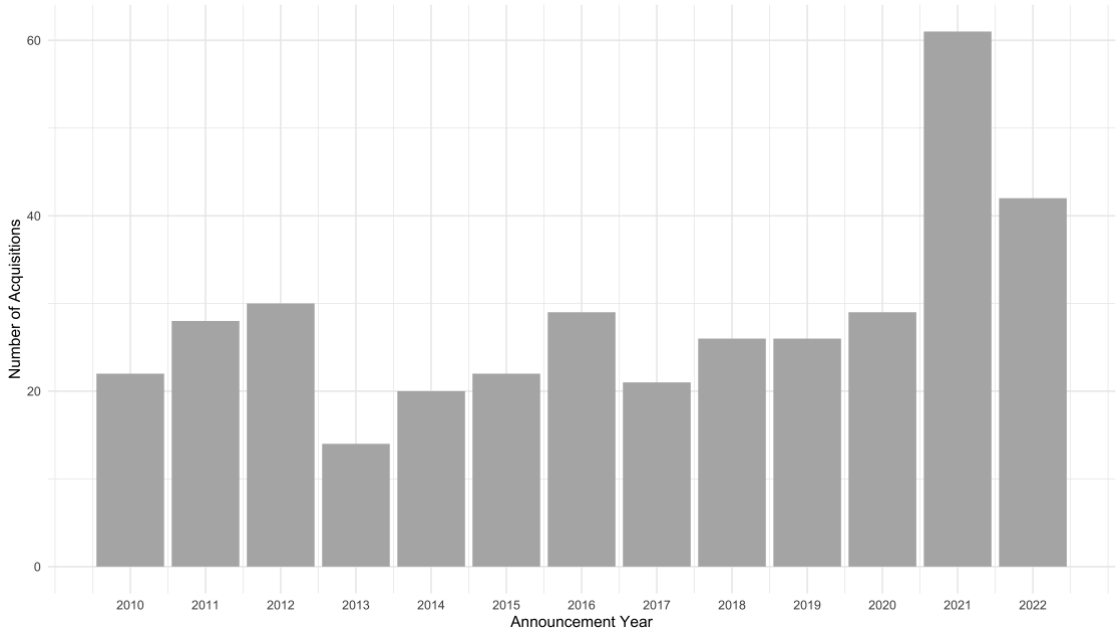

Figure 2. Acquisition activity over time. The figure shows the annual number of acquisitions undertaken by Swedish listed frequent acquirers over the sample period.

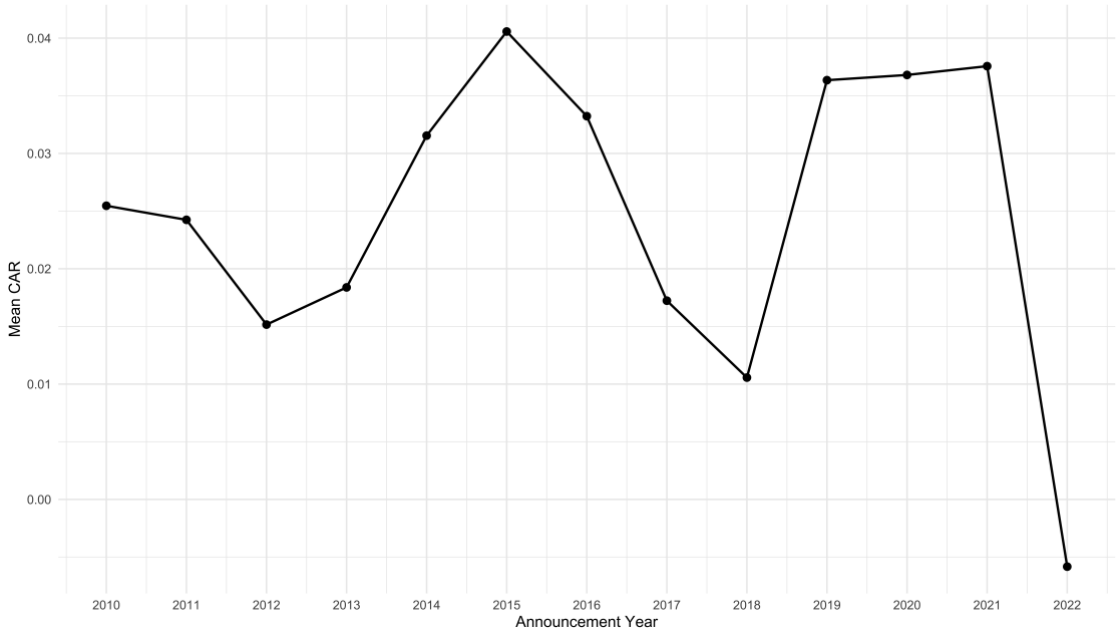

Figure 3. Mean cumulative abnormal returns over time. The figure displays the annual mean cumulative abnormal returns (CARs) associated with acquisition announcements by Swedish listed frequent acquirers over the sample period.

6.3 Payment Method and Announcement Returns

To assess whether abnormal returns differ across payment structures in private-target acquisitions, observations were grouped by method of payment. Descriptive statistics are calculated for each payment category, including the mean and median CAR, the standard deviation, and the proportion of positive abnormal returns.

A one-way analysis of variance (ANOVA) is then applied to test whether the mean CAR varies systematically across payment methods. The ANOVA evaluates the null hypothesis that the mean abnormal return is identical across cash, stock, and combination offers. Because CARs in the sample exhibit approximate normality and group sizes are generally sufficient for parametric inference, albeit with a relatively small stock-financed subsample, the ANOVA serves as an appropriate test of cross-group differences.

To complement the cross-sectional test, one-sample t-tests are conducted within each payment category. These tests assess whether the mean CAR for a given payment type differs significantly from zero, thereby evaluating whether acquisitions financed with cash, stock, or combination consideration generate positive or negative abnormal returns for acquiring shareholders.

Payment Method and Acquirer Announcement Returns

Payment method	Number of deals	Mean CAR	t-statistic	p-value
Cash	327	0.0232	7.173	0.0000
Combination	34	0.0373	4.059	0.0003
Stock	9	0.0327	1.675	0.1325

Table 1. Payment method and acquirer announcement returns. The table reports the number of deals, mean cumulative abnormal returns (CARs), t-statistics, and p-values by method of payment for acquisitions of private firms by Swedish listed frequent acquirers.

Examining average announcement-period returns by method of payment, we find that cash and combination financing generate significant positive returns, while the effect for stock financing is insignificant. Cash-financed acquisitions have a mean CAR of 2,32% and combination payments yield 3,73%. By comparison, Fuller et al. (2002) report positive and significant returns for all payment types in a U.S. sample. In our sample 9 out of 370 deals were stock financed whereas Fuller et al. detail 506 stock financed deals out of 2060. The limited use of stock financing in Sweden compared with the United States is an intriguing pattern that may reflect differences in ownership concentration and control considerations. Specifically, given the Swedish environment where voting rights are concentrated, it may be the case that owners are discouraged from issuing stocks as it progressively leads to them losing control, an effect documented by Faccio and Masulis (2005). Examining this mechanism in greater depth is beyond the scope of the present study, and we leave a more detailed analysis of the determinants of financing choice in Sweden for future research.

6.4 Deal Characteristics: Relative Size, Industry, Cross-Border

For descriptive purposes, relative size is grouped into four categories: <5%, 5–9.99%, 10–19.99%, and ≥20%. Differences in mean CARs across size categories are evaluated using one-way ANOVA, while two-sample t-tests assess differences between related and unrelated acquisitions and between domestic and cross-border deals.

CAR by relative deal size

relative_size_cat	Number of deals	Mean CAR	Median CAR	Std. dev. CAR
10–19.99%	46	0.0413	0.0370	0.0744
5–9.99%	51	0.0292	0.0236	0.0468
<5%	246	0.0133	0.0107	0.0504
≥20%	27	0.0913	0.0852	0.0599

Table 2. Cumulative abnormal returns by relative deal size. The table reports the number of deals, mean cumulative abnormal returns (CARs), median CARs, and standard deviations of CARs across categories of relative deal size.

CAR by relative deal size and payment method

relative_size_cat	method_of_payment	Number of deals	Mean CAR
10–19.99%	Cash	39	0.0383
10–19.99%	Combination	5	0.0509
10–19.99%	Stock	2	0.0755
5–9.99%	Cash	40	0.0287
5–9.99%	Combination	10	0.0339
5–9.99%	Stock	1	0.0019
<5%	Cash	227	0.0123
<5%	Combination	13	0.0277
<5%	Stock	6	0.0235
≥20%	Cash	21	0.1024
≥20%	Combination	6	0.0524

Table 3. Cumulative abnormal returns by relative deal size and payment method. The table reports the number of deals and mean cumulative abnormal returns (CARs) across categories of relative deal size and methods of payment.

Table 3 reports mean announcement-period CARs by relative deal size and by relative deal size interacted with the method of payment. The results reveal a strong and monotonic relationship between deal size and abnormal returns. Acquisitions representing less than 5% of the acquirer's market capitalization generate mean CARs of approximately 1.3%, while deals exceeding 20% generate mean CARs above 9%. Both mean and median CARs increase with deal size, suggesting that the pattern is not driven by outliers.

When conditioning on deal size, differences across payment methods are not systematic. While some stock-financed acquisitions exhibit relatively high CARs, these observations are based on very small subsamples. Across size categories, no payment method consistently dominates, indicating that relative deal size, rather than financing choice, is the primary determinant of announcement returns. These univariate patterns are consistent with the multivariate regression results, where relative deal size remains statistically significant while payment method does not.

When distinguishing between acquisitions made within the same industry and those made across industries, the average return is 2.45% for same-industry deals and 2.42%

for cross-industry deals. The t-test shows that this difference is not statistically significant, with a p-value of approximately 0.96.

CAR by industry relatedness

Industry relatedness	Number of deals	Mean CAR
Different industry	214	0.0244
Same industry	156	0.0250

Table 4. Cumulative abnormal returns by industry relatedness. The table reports the number of deals and mean cumulative abnormal returns (CARs) for acquisitions involving targets in the same industry and in different industries.

Therefore, industry relatedness does not have explanatory power in this sample, which is consistent with the findings in Fuller et al. (2002). Although the average CAR is slightly higher for acquisitions within the same industry, the lack of significance indicates that industry relatedness adds little explanatory power.

CAR by domestic vs cross-border deals

Deal type	Number of deals	Mean CAR	Median CAR	Share CAR > 0
Domestic	72	0.0221	0.0204	70.8%
Cross-border	298	0.0253	0.0175	69.5%

Table 5. Cumulative abnormal returns by deal type. The table reports the number of deals, mean and median cumulative abnormal returns (CARs), and the share of deals with positive CARs for domestic and cross-border acquisitions.

Although cross-border acquisitions exhibit a slightly higher mean CAR than domestic deals, the difference is not statistically significant. Nevertheless, given the large proportion of cross-border transactions in the sample, the results suggest that Swedish frequent acquirers may benefit from undertaking acquisitions outside Sweden, making this an interesting avenue for future research aimed at understanding the underlying drivers of such gains.

6.5 Multivariate Regression Results (H2 & H3)

To evaluate the joint influence of payment method and the control variables, a multivariate ordinary least squares (OLS) regression is estimated with CAR as the

dependent variable. The independent variables include method of payment, the logarithm of relative deal size, industry relatedness, announcement year, and cross-border status. Standard errors are clustered at the acquirer level. This accounts for the fact that frequent acquirers may share unobserved firm-level characteristics, such as acquisition experience or integration ability, which can induce correlation in announcement returns across multiple deals

Regression results for acquirer CARs (clustered by acquirer)

Variable	Estimate	Std Error	t-statistic	p-value
(Intercept)	0.2098	1.7939	0.117	0.9070
Combination (vs cash)	-0.0014	0.0101	-0.135	0.8929
Stock (vs cash)	0.0097	0.0144	0.672	0.5018
log(relative size)	0.0125	0.0020	6.384	0.0000
Same industry	0.0002	0.0055	0.029	0.9768
Year	-0.0001	0.0009	-0.078	0.9381
Cross-border	0.0025	0.0056	0.457	0.6480

Table 6. Regression results for acquirer cumulative abnormal returns.
The table reports coefficient estimates, clustered standard errors at the acquirer level, t-statistics, and p-values from regressions of cumulative abnormal returns (CARs) on deal characteristics and control variables.

In our multivariate regression of CARs on method of payment, relative deal size, industry, and announcement year, relative size is the only variable that proves statistically significant. Its coefficient is significant at the 1% level. In contrast, method of payment, industry, and year show no statistical significance.

The method of payment becoming insignificant may be attributed to omitted variable bias occurring when implementing the univariate test, where relative size captures the underlying variation in returns. If the insignificance of stock in the multivariate regression is purely a sample-size issue, then a larger dataset could potentially lead to explanatory power. But with the available evidence, relative size is the only significant determinant of returns in the Swedish setting.

The positive effect of relative size on bidder returns is consistent with Fuller et al. (2002). Furthermore, our findings indicate that this pattern suggests that the size effect may be consistent across markets rather than market-specific.

Chang (1998) explains the positive effect of stock financing as a result of creating new blockholders that are involved in monitoring management and reducing agency problems. Hertzel and Smith (1993) instead argue that it is a result of the stock financing signaling the target companies' confidence in the acquirer.

We hypothesize that this signaling mechanism may be weaker in Sweden due to the country’s concentrated ownership. Swedish listed firms frequently use dual-class share

structures, enabling families and founders to retain control despite minority cash-flow ownership, creating numerous and significant blockholders. In such a setting, the marginal value of adding an additional blockholder through stock payment potentially decreases. The signal of stock financing, which plays an important role in the US context, might carry less weight in Sweden. However, our data does not allow us to test this theory.

6.6 Interaction Effects: Payment Method × Relative Deal Size

To examine whether the relationship between relative deal size and announcement-period abnormal returns depends on the method of payment, an interaction specification is estimated. While the baseline regression in Section 5.6 constrains the effect of deal size to be identical across financing structures, this assumption may be restrictive if market participants evaluate large acquisitions differently depending on whether they are financed with cash, stock, or a combination thereof. Allowing for interactions between payment method and relative deal size therefore makes it possible to test whether the economic magnitude of the acquisition amplifies or attenuates the market response differently across payment structures.

Interaction regression: payment method × log(relative size) (clustered by acquirer)

Variable	Estimate	Std Error	t-statistic	p-value
(Intercept)	0.2693	1.7987	0.150	0.8811
Combination (vs cash)	-0.0014	0.0267	-0.054	0.9569
Stock (vs cash)	-0.0074	0.0606	-0.122	0.9029
log(relative size)	0.0125	0.0021	6.042	0.0000
Same industry	0.0003	0.0056	0.049	0.9608
Year	-0.0001	0.0009	-0.110	0.9121
Cross-border	0.0028	0.0057	0.494	0.6216
Combination × log(relative size)	0.0000	0.0072	-0.001	0.9991
Stock × log(relative size)	-0.0043	0.0151	-0.286	0.7752

Table 7. Interaction regression of acquirer cumulative abnormal returns. The table reports coefficient estimates, clustered standard errors at the acquirer level, t-statistics, and p-values from regressions of cumulative abnormal returns (CARs) including interactions between method of payment and log(relative deal size).

Table 7 reports the results from the interaction regression. The coefficient on relative deal size remains positive and statistically significant. The interaction terms between relative deal size and the payment-method indicators are not statistically significant.

This indicates that the positive association between deal size and announcement-period abnormal returns does not vary systematically across payment methods.

These findings are consistent with the results from the baseline regression in Section 5.6, where relative deal size is the only variable that is statistically significant once all controls are included jointly. Introducing interaction terms does not materially change the estimated effect of relative deal size, nor does it provide additional explanatory power for the payment-method variables.

The lack of significant interaction effects suggests that the market response to larger acquisitions by Swedish frequent acquirers is similar across different financing structures.

These findings are robust to alternative event windows as documented in the Appendix.

6.7 Regression Diagnostics and Robustness

A series of regression diagnostics is conducted to assess the validity of the baseline specification.

Breusch–Pagan test for heteroskedasticity

	Statistic	df	p-value
BP	14.30008	6	0.026458

Table 8. Breusch–Pagan test for heteroskedasticity.
The table reports the test statistic, degrees of freedom, and p-value from the Breusch–Pagan test for heteroskedasticity.

First, the Breusch–Pagan test rejects the null hypothesis of homoscedastic errors at the 5% level, indicating the presence of heteroskedasticity in the residuals. To address this issue and ensure valid inference, all reported standard errors are clustered at the acquirer level. Clustering allows for heteroskedasticity as well as arbitrary correlation in abnormal returns across multiple acquisitions undertaken by the same firm, which is particularly relevant in a sample of frequent acquirers.

Variance inflation factors (multicollinearity diagnostics)

Variable	GVIF	Df	Adjusted.GVIF
Payment method	1.087	2	1.021
log(relative size)	1.052	1	1.026
Same industry	1.013	1	1.006
Year	1.025	1	1.013

Variable	GVIF	Df	Adjusted.GVIF
Cross-border	1.010	1	1.005

Table 9. Variance inflation factors (multicollinearity diagnostics).
The table reports generalized variance inflation factors (GVIFs), degrees of freedom, and adjusted GVIFs for the explanatory variables included in the regression model.

Second, multicollinearity is assessed using variance inflation factors. All adjusted GVIF values are close to one and well below commonly used thresholds, indicating that the explanatory variables are not highly correlated. This suggests that coefficient estimates are not distorted by linear dependence among regressors.

Influential observations (Cook's distance summary)

Cook.s.distance.cutoff	Number.above.cutoff
0.01081	27

Table 10. Influential observations (Cook's distance).
The table reports the Cook's distance cutoff value and the number of observations exceeding this threshold for the regression model.

Third, influential observations are examined using Cook's distance. A limited number of observations exceed the conventional cutoff of 4 / n, reflecting the presence of some high-influence deals. This is not uncommon in event-study settings, where a small number of transactions may generate unusually large announcement returns. To assess robustness, the model is re-estimated after excluding these high-influence observations. The results remain qualitatively unchanged, in particular with respect to the sign, magnitude, and statistical significance of the main explanatory variables. See Appendix for the full regression output.

Overall, these diagnostics indicate that the baseline results are not driven by heteroskedasticity, multicollinearity, or a small set of influential deals. The use of clustered standard errors and robustness checks confirms that the main findings are stable and not sensitive to violations of standard OLS assumptions.

6.8 Acquisition Sequence (H4)

Acquirer announcement returns: first deal versus subsequent deals (3+)

Deal type	Number of deals	Mean CAR	Median CAR	Share CAR > 0
Deals 3+	244	0.0231	0.0161	68.4%
First deal	65	0.0319	0.0217	72.3%

Table 11. Acquirer announcement returns by acquisition sequence. The table reports the number of deals, mean and median cumulative abnormal returns (CARs), and the share of deals with positive CARs for first acquisitions and subsequent acquisitions undertaken by frequent acquirers.

Table 11 compares announcement returns from the first acquisition in a firm's sequence, with those from the third or later acquisitions. Although the first acquisition exhibits a slightly higher mean return, the difference is small and statistically insignificant. A Welch two-sample t-test yields a p-value of approximately 0.95 and there is thus no evidence that suggests any significant difference in returns for earlier acquisitions compared to later ones.

In comparison, Fuller et al. (2002) document a decline in CARs as U.S. acquirers conduct deals beyond the fourth acquisition. Our data observes deals beyond two acquisitions, whereas Fuller et al. (2002) examines sequences extending beyond the fourth acquisitions, and decline is perhaps not observed until then. Conducting a similar test as in Fuller et al. (2002), we still find that there is no significant decline in CARs. In Fuller et al. (2002), they argue that bidder returns decline because the most attractive targets are acquired early, leaving fewer opportunities for value creating deals later on. As firms conduct several acquisitions, the marginal benefit of additional deals declines, and the remaining targets are less likely to be purchased at favorable prices. However, we cannot find evidence of this effect in Sweden. We hypothesize, although we cannot test for this, that the absence of this effect could be a result of ownership being more concentrated in Sweden, and blockholders monitoring managers more closely, implying them being less likely to undertake acquisitions when prospects are weak.

7 Limitations

Given that only 9 out of 370 deals of our sample were financed entirely with stock, definitive conclusions cannot be drawn as the statistical power is not strong enough. Similarly, when splitting the data by both financing method and relative size, multiple groups do not have enough observations to provide statistical power.

Our study has been conducted in a time period fundamentally different from the time period on which Fuller et al. conduct their study. There are institutional differences between these periods concerning interest-rate regimes, market cycles, growth periods and overall macroeconomic conditions. As a result, differences in results compared to Fuller et al. (2002) cannot be solely attributed to our proposed causes.

8 Conclusion

This study investigates the determinants of acquisition announcement returns for Swedish listed firms acquiring private companies between 2010 and 2022. Motivated by the unique features of the Swedish capital markets as a northern European financial center with distinct ownership structure, the analysis examines whether deal

characteristics highlighted in international research also persist in a Swedish setting. By focusing exclusively on frequent acquirers, we focus on deal specific determinants.

Across 370 acquisitions, Swedish bidders earn significantly positive mean returns of approximately 2,5%. This magnitude is higher than the level documented in a United States context in Fuller et al. (2002).

Among the examined determinants, relative deal size emerges as the only consistently significant predictor of bidder returns. This highlights the greater economic relevance of larger deals. This pattern aligns with well-established international evidence and indicates that deal size remains a robust determinant of acquisition gains across markets and time-periods. In contrast, the payment method does not explain return variation once deal size is controlled for. However, due to the limited amount of stock deals in the sample, we cannot exclude the possibility that a larger sample could have led to discovering a significant effect.

We discover that within the sequence of a firm's acquisitions, there is no significant difference between returns for early and later deals. This finding contrasts with the international evidence documented by Fuller et al. (2002).

Overall, the results suggest that in Sweden's institutional environment, deal size is the central determinant of acquisition returns, while payment method does not play a significant role. Further research could examine the underlying factors behind the limited use of stock financing in Sweden.

References

Bradley, M., Desai, A, and Kim, E.H, 1983. The rationale behind interim tender offers: information or synergy?. *Journal of Financial Economics* 11(4), 183-216

Chang, S., 1998. Takeovers of privately held targets, methods of payment, and bidder returns. *Journal of Finance* 53(2), 773–784.

EY, 2025, Transaction Trends: Swedish M&A Update Q2 2025, EY Publishing, Stockholm. URL: https://www.ey.com/content/dam/ey-unified-site/ey-com/sv-se/campaigns/strategy-transactions/documents/ey-transaction-trends-2025-q2.pdf

Faccio, M., and Masulis, R.W., 2005. The Choice of Payment Method in European Mergers and Acquisitions. *Journal of Finance* 60(3), 1345-1388.

Faccio, M., McConnell, J.J., Stolin, D., 2006. Returns to Acquirers of Listed and Unlisted Targets. *Journal of Financial and Quantitative Analysis* 41(1), 197-220.

Fuller, K., Netter, J., and Stegemoller, M., 2002. What Do Returns to Acquiring Firms Tell Us? Evidence from Firms that Make Many Acquisitions. *Journal of Finance* 57(4), 1764–1787.

Hagströmer, Björn, 2025, *Liquidity in the Swedish Stock Market – An International Perspective*, SNS Research Brief. URL: https://www.sns.se/en/articles/sns-research-brief-112-liquidity-in-the-swedish-stock-market-an-international-perspective/

Hertzel, M., and Smith, R.L., 1993. Market Discounts and Shareholder Gains for Placing Equity Privately. *Journal of Finance* 48(2), 459–485.

OECD, 2025, *The Swedish Equity Market: Institutional Framework and Trends*, OECD Publishing, Paris. URL: https://www.oecd.org/en/publications/the-swedish-equity-market_0640a75c-en.html

Stockholms Handelskammare, 2023, *Stockholm – Capital of Finance: Ett blomstrande finanscentrum?*, Stockholm. URL: https://stockholmshandelskammare.se/capital-of-finance/

Appendix

Appendix A

Data Cleaning and Sample Construction

This Appendix describes the technical procedures used to clean the data and construct the final estimation sample. These steps are mechanical in nature and are therefore separated from the main methodology to preserve clarity and focus in the main text.

A.1 Return Data Cleaning

Firm-level daily stock prices were obtained from the Swedish House of Finance FinBas database. Daily returns were computed as the percentage change in the adjusted closing price from one trading day to the next. Observations with implausible daily returns exceeding +100% or falling below −100% were removed, as these likely reflect data errors rather than genuine price movements.

Market returns were calculated analogously using the OMXS30GI total-return index. Observations with missing prior-day index values, resulting in infinite or undefined returns, were set to missing and subsequently excluded. Market return observations outside the −100% to +100% range were also removed.

Firm-level return data and market return data were merged by trading day to compute abnormal returns. Observations with missing firm returns, market returns, or abnormal returns were excluded prior to the construction of cumulative abnormal returns.

A.2 Ticker Standardization and Data Merging

The deal-level data from S&P Capital IQ and the daily stock return data from FinBas did not share a clean, unified stock ticker variable. To merge the datasets, a standardized ticker identifier was constructed separately for each dataset. This involved removing exchange-specific suffixes, harmonizing ticker formats, and resolving inconsistencies in firm naming conventions.

Only deals for which a matching ticker could be identified in the return data were retained. Deals involving acquirers listed on alternative trading venues not covered by FinBas were excluded due to the lack of corresponding return data. This procedure reduced the sample to acquisitions for which reliable stock return data were available.

The full ticker construction procedure and matching logic are documented in detail in the replication code.

A.3 Identification of Frequent Acquirers: Algorithmic Implementation

Frequent acquirers were identified using an automated procedure implemented in R. For each acquiring firm, transactions were sorted chronologically by announcement date. A rolling five-year window was then applied, and for each transaction, the number of qualifying acquisitions completed by the same firm within the preceding five years, including the current deal, was counted.

Firms that reached at least three acquisitions within any such window were classified as frequent acquirers. Once a firm met this criterion, all of its private-target acquisitions

during the full sample period were retained, irrespective of whether individual transactions fell inside or outside the specific window used to establish frequent-acquirer status.

A.4 Event-Window Feasibility and Non-Trading Days

To compute cumulative abnormal returns over a (−2, +2) event window, each acquisition announcement date was aligned with available trading days. If the announcement occurred on a non-trading day, the event date was set to the closest trading day. Deals were retained only if at least two trading days of return data were available both before and after the event date. Acquisitions announced too close to the beginning or end of a firm's available return series were therefore excluded.

A.5 Overlapping Announcement Filter

To avoid confounding effects from overlapping events, acquisitions announced by the same firm within five calendar days of each other were identified as clustered deals. Following the approach of Fuller, Netter, and Stegemoller (2002), such overlapping observations were removed from the sample. This ensures that estimated abnormal returns are attributable to a single acquisition announcement rather than multiple concurrent corporate events.

A.6 Payment Method Cleaning and Classification

Before classifying payment methods, all components of transaction consideration reported in S&P Capital IQ were converted into numeric form. Formatting issues such as commas, missing entries, and non-numeric symbols were resolved. Missing payment component values were set to zero to ensure internal consistency.

Cash and debt components were aggregated into a single cash-like measure. Transactions were classified as cash, stock, or combination offers based on the presence of cash-like and common stock components. Deals financed exclusively with hybrid securities, preferred equity, or option-based instruments without any cash-like or common-stock component were assigned to an "Other" category and excluded from analyses involving payment method.

A.7 Sample Attrition Summary

After applying the return availability requirements, event-window restrictions, overlapping-deal filters, payment-method exclusions, and frequent-acquirer classification, the final estimation sample consists of 370 acquisitions undertaken by 65 frequent acquirers. A step-by-step accounting of sample attrition is available upon request and can be replicated using the provided code.

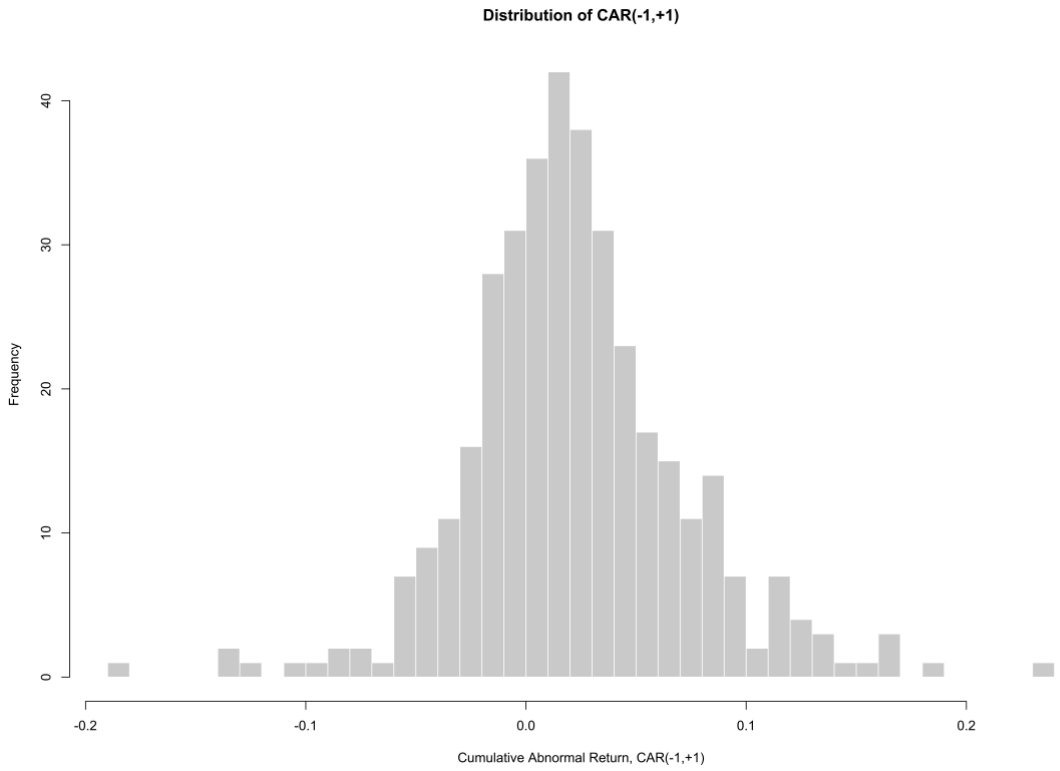

Figure 4. Distribution of cumulative abnormal returns (CARs) over a (–1,+1) event window. The figure shows the distribution of cumulative abnormal returns calculated over the (–1,+1) window surrounding acquisition announcements.

Robustness regression using CAR(-1,+1) as dependent variable (clustered by acquirer)

Variable	Estimate	Std Error	t-statistic	p-value
(Intercept)	-0.8344	1.5290	-0.546	0.5856
Combination (vs cash)	0.0088	0.0104	0.847	0.3973
Stock (vs cash)	0.0092	0.0142	0.646	0.5185
log(relative size)	0.0121	0.0015	8.122	0.0000
Same industry	0.0010	0.0043	0.221	0.8255
Year	0.0004	0.0008	0.588	0.5567
Cross-border	0.0031	0.0057	0.534	0.5937

Table 12. Robustness regression using CAR(–1,+1). The table reports coefficient estimates, clustered standard errors at the acquirer level, t-statistics, and p-values from regressions of cumulative abnormal returns calculated over a (–1,+1) event window.

Interaction robustness regression: payment method × log(relative size) using CAR(-1,+1)

Variable	Estimate	Std Error	t-statistic	p-value
(Intercept)	-0.7663	1.5427	-0.497	0.6197
Combination (vs cash)	0.0126	0.0268	0.468	0.6399
Stock (vs cash)	-0.0094	0.0471	-0.200	0.8413
log(relative size)	0.0121	0.0015	7.875	0.0000
Same industry	0.0010	0.0043	0.241	0.8096
Year	0.0004	0.0008	0.539	0.5904
Cross-border	0.0033	0.0057	0.580	0.5620
Combination × log(relative size)	0.0014	0.0076	0.184	0.8538
Stock × log(relative size)	-0.0047	0.0139	-0.338	0.7358

Table 13. Robustness interaction regression using CAR(–1,+1). The table reports coefficient estimates, clustered standard errors at the acquirer level, t-statistics, and p-values from regressions of cumulative abnormal returns (CARs).

Acquirer announcement returns: first deal versus subsequent deals (5+)

Deal type	Number of deals	Mean CAR	Median CAR	Share CAR > 0
Deals 5+	138	0.0165	0.0137	65.9%
First deal	65	0.0319	0.0217	72.3%

Table 14. Acquirer announcement returns by acquisition sequence (5+ acquisitions). The table reports the number of deals, mean and median cumulative abnormal returns (CARs), and the share of deals with positive CARs for first acquisitions and subsequent acquisitions undertaken by frequent acquirers with at least five prior deals.

Appendix B

AI Disclosure

In the writing of this thesis, artificial intelligence was used to assist with language refinement and coding tasks such as syntax correction and debugging. All research design, data analysis, and interpretation of results were independently carried out by the authors.