

Determinants of Successful Cross-Border Mergers and Acquisitions

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Abstract

This study investigates the impact of payment methods on the performance of cross-border mergers and acquisitions (M&As) initiated by U.S.-based acquiring firms. While existing literature provides mixed evidence on whether stock- or cash-financed deals yield superior outcomes, this study systematically evaluates the effect of financing choice on short-term market reactions, long-term operating performance, and long-term abnormal stock returns. Using a sample of 4,937 completed M&A transactions from 2000 to 2020, the analysis employs cumulative abnormal returns (CARs) to capture immediate investor responses, an intercept model of benchmark-adjusted cash flow returns to measure operational outcomes, and value-weighted buy-and-hold abnormal returns (BHARs) to assess post-acquisition stock performance.

The findings do not support the hypothesis that stock-financed cross-border acquisitions outperform cash-financed ones. Instead, cash-financed deals—especially those involving foreign targets—are associated with stronger short-term CARs and more favorable long-term operating performance. Moreover, stock-financed cross-border transactions exhibit significant underperformance in post-deal stock returns, with a BHAR of –51.5 percent over three years. These results suggest that investor skepticism toward stock-financed international deals may be warranted, and that liquidity strength and transaction certainty remain central to deal success.

By focusing exclusively on U.S. acquirers and combining market-based and accounting-based methodologies, the study contributes to a more nuanced understanding of how financing strategies affect acquisition outcomes in cross-border contexts. The results offer practical implications for corporate decision-makers and institutional investors evaluating the long-term viability of international expansion strategies.

Keywords: Cross-border mergers and acquisitions, payment methods, cash versus stock financing, U.S. acquiring firms, cumulative abnormal returns, buy-and-hold abnormal returns, post-acquisition performance.

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Table of Contents

Abstract.....	ii
Acknowledgements.....	iii
List of Tables.....	v
Section 1: Introduction.....	1
Section 2: Literature review.....	6
2.1. Cross-border acquisitions.....	6
2.2. Cash vs stock offer.....	7
2.3. Long-term operating performance.....	9
2.4. Long-term stock-return performance.....	11
Section 3: Data and methodology.....	14
3.1. Data.....	14
3.2. Methodology.....	18
Section 4: Results and discussions.....	24
4.1. Short-term performance of the acquiring firms in the cross-border acquisitions.....	24
4.2. Multivariate Analysis of Short-Term Market Reactions.....	26
4.3. Determinants of Payment Method in Cross-Border Deals: Logistic Regression.....	29
4.5. Long-Term Operating Performance of Acquiring Firms.....	32
4.6. Long-Term Stock Performance: Buy-and-Hold Abnormal Returns (BHAR).....	35
Section 5: Conclusion and limitations.....	38
References.....	42

List of Tables

Table 1: Descriptive statistics	16
Table 2: Key variables	17
Table 3: Univariate analysis of CAR	25
Table 4: Multivariate analysis of CAR	28
Table 5: Logistic regression	30
Table 6: Long term operating performance	34
Table 7: BHAR analysis.....	36

Section 1: Introduction

Mergers and acquisitions (M&As) represent a widely employed corporate strategy for firms seeking growth, diversification, and market expansion. While mergers involve the mutual combination of two firms of relatively equal size, acquisitions refer to one firm taking control of another (Piekkari et al., 2005; Wiedemann et al., 2024). However, in both academic and corporate discourse, the terms are often used interchangeably as M&A (Wiedemann et al., 2024; King et al., 2004). Despite the significant business and operational risks associated with M&As, firms leverage these transactions for various strategic motives, including scaling operations, optimizing management capacities, enhancing competitiveness, and increasing profitability (Omotesho & Obadire, 2024; Dutta et al., 2013; DePamphilis, 2010; Tana & Yousef, 2019).

Cross-border M&As add an additional layer of complexity, requiring firms to navigate unfamiliar regulatory landscapes, cultural differences, and market conditions (Dokas et al., 2025). Acquiring firms¹ pursue foreign targets for multiple reasons, such as geographic diversification, new market penetration, lower labor costs, accelerated growth, customer followership, and access to intangible assets (Omotesho & Obadire, 2024; Dutta et al., 2013). Additionally, these transactions enable firms to allocate resources efficiently, optimize merged assets, and eliminate ineffective management, ultimately maximizing shareholder value (DePamphilis, 2010; Tana & Yousef, 2019). A critical aspect of this process is due diligence, which ensures that acquiring firms fully comprehend the operational and financial health of target companies. The importance of thorough due diligence is even more pronounced in cross-border deals, where information asymmetry and valuation uncertainties may be exacerbated (Wangerin, 2019; Dokas et al., 2025).

One key determinant of M&A success is the choice of payment method, as it significantly impacts both the financial structure of the transaction and shareholder value. The literature identifies several factors influencing payment method selection, including financial leverage, business cycles, stock market valuations, tax implications, and interest rate movements (Melnyk, 2020; Guven, 2020). The optimal mix of cash, stock, or a combination thereof remains a subject

¹ We focus our study on acquiring firms following: Omotesho & Obadire, 2024; Dutta et al., 2012 and Moeller and Schlingemann (2005)

of strategic consideration, given its direct implications for financing and firm valuation (Dutta et al., 2013).

Empirical evidence suggests a general preference for cash-based transactions, both in the short and long term (Omotesho & Obadire, 2024; Dutta et al., 2013). The liquidity of cash makes it a frequently utilized payment method, with acquiring firms often opting to either use internal reserves or borrow funds to finance transactions. Additionally, shareholders tend to perceive cash offers more favorably than stock-based deals, as the latter are associated with greater valuation uncertainty and information asymmetry (Fuller, Netter, & Stegemoller, 2002; Dutta, 2013). Due to these concerns, stock-financed acquisitions are often met with a less favorable market response compared to cash-financed deals (Dutta, 2013).

The choice between stock, cash, or a hybrid payment method aligns with the pecking order theory, which suggests that firms prioritize financing options in the following order: internal funds, debt issuance, and equity financing (Majluf & Myers, 1984; Omotesho & Obadire, 2024).

Various studies have highlighted the advantages and drawbacks of stock-financed versus cash-financed deals, particularly in cross-border transactions. Dutta et al. (2013) emphasize that stock-financed acquisitions offer certain advantages over cash transactions, including continued monitoring by the target firm's existing shareholders (Kang & Kim, 2008), the retention of corporate memory (Uysal, Kedia, & Panchapagesan, 2008), and the mitigation of asymmetric information issues (Chen & Hennart, 2004).

However, financing through stock issuance introduces challenges, particularly ownership dilution and increased exposure to external influence, which are not present in cash-financed acquisitions (Omotesho & Obadire, 2024). The theoretical foundation laid by Myers and Majluf (1984) suggests that information asymmetry between the bidder and target can influence the choice of payment method. When acquirers perceive their own shares as overvalued, they are more likely to offer stock, whereas cash payments are preferred when their shares are undervalued.

Empirical research on stock-financed M&As has produced mixed findings regarding their impact on firm performance. Dutta et al. (2013) report a positive short-term market reaction to stock-financed deals in cross-border acquisitions, with results remaining robust across various control variables. However, their investigation into long-term operational performance finds no

significant difference between stock- and cash-financed deals. Their findings further indicate that, in the long run, stock-financed cross-border acquisitions tend to underperform relative to cash-financed deals.

The choice of payment method in M&A transactions significantly affects both pre- and post-announcement returns. Omotesho and Obadire (2024) highlight that payment structure plays a crucial role in shaping investor expectations. Song and Walking (1993) observe an increase of 20%–40% in target firm values, while Huurenkamp (2020) documents an average abnormal return of +20.04% over the event window of -1 to +30 days. Examining Canadian firms, Dutta et al. (2013) detect significantly positive abnormal returns for acquirers but note that the method of payment does not significantly alter these effects, aligning with findings from Eckbo and Thorburn (2000).

These dynamics become even more pronounced in cross-border acquisitions due to additional complexities such as regulatory discrepancies, currency fluctuations, and differing governance structures. This study aims to explore the impact of payment methods in cross-border acquisitions, with a particular focus on both short-term market reactions and long-term operational performance in the context of U.S. acquirers.

The motivation for this research stems from three primary considerations. First, given the evolving nature of M&A outcomes, it is imperative to reassess the impact of payment methods using the most recent dataset. The literature has presented conflicting findings on the effects of financing methods, necessitating an updated analysis to determine whether prior trends remain valid. Second, the study focuses on the United States, one of the most active M&A markets globally²

² Reuters Report (December 19, 2024) indicates that global M&A volumes are expected to exceed \$4 trillion in 2025, with the U.S. playing a dominant role. U.S. deal volumes reached \$1.55 trillion by the end of 2024, representing a 10% increase, while Europe and Asia-Pacific experienced gains of 22% and 11%, respectively, with transactions nearing \$800 billion. Additionally, Financial News London (November 18, 2024) describes the U.S. as "the largest M&A market in the world," with announced deals in 2024 totaling \$1.3 trillion, accounting for 45% of global activity.

<https://www.fnlondon.com/articles/skaddens-european-head-of-secondaries-exits-for-proskauer-rose-a8b7cb38>
<https://www.reuters.com/markets/deals/dealmakers-eye-4-trillion-plus-ma-haul-2025-trump-boost-2024-12-19/>

While prior studies have investigated this topic in Canada³ and the UK⁴ there is a notable gap in research specifically analyzing U.S. acquirers in cross-border transactions. Existing literature has either focused on U.S. public firms without an explicit cross-border perspective (Ismail & Krause, 2010) or examined international factors leading firms to engage in foreign acquisitions without centering on payment methods (Erel, Liao, & Weisbach, 2012). Other studies, such as those by Faccio and Masulis (2005) and Reddy (2015), have not systematically explored payment methods in cross-border U.S. acquisitions. Given the size and regulatory distinctiveness of the U.S. economy and capital markets, this study aims to determine whether these contextual differences yield divergent results.

Third, this research examines the long-term performance implications of payment methods in cross-border M&A transactions. While many previous studies have separately analyzed cross-border deals or payment structures, there remains a need for a comprehensive assessment that integrates these perspectives. By evaluating market reactions to stock-financed M&A announcements and tracking the subsequent operational performance of acquiring firms, this study aims to provide a more holistic understanding of financing mechanisms in international acquisitions.

Using a dataset of 4,937 M&A transactions by U.S. acquiring firms completed between 2000 and 2020, this thesis investigates how financing decisions affect announcement-period market reactions, long-term operating performance, and long-run stock returns. The analysis combines event-study methods, intercept modeling, and buy-and-hold abnormal return (BHAR) estimation to offer a comprehensive view of M&A performance across multiple horizons.

The results reveal a consistent pattern: stock-financed cross-border deals do not outperform, and in some cases significantly underperform, their cash-financed counterparts. Short-term cumulative abnormal returns (CARs) are stronger for cash-financed deals, particularly in cross-border settings. Long-term operating performance, measured using benchmark-adjusted cash flow returns, also favors cash transactions. Finally, long-run stock returns show significant negative BHARs for stock-financed cross-border deals, suggesting that investor skepticism is warranted.

³ see Dutta et al., 2013

⁴ see Omotesho & Obadire, 2024

These findings contribute to a more nuanced understanding of how financing decisions shape the outcomes of international acquisitions. They also inform managerial practice by emphasizing the importance of financial structure in complex cross-border deals, where risks related to valuation, integration, and governance are magnified.

The remainder of this thesis is structured as follows. Section 2 presents a review of the relevant literature and theoretical frameworks underpinning the study's hypotheses. Section 3 describes the data sources and methodological approaches employed, including event study design, regression modeling, and BHAR estimation. Section 4 presents the empirical results, followed by a discussion, limitations, and implications for future research. The conclusion summarizes key insights and highlights the practical significance of the findings for corporate finance decision-makers and M&A practitioners.

Section 2: Literature review

2.1. Cross-border acquisitions

Cross-border acquisitions have been widely recognized as a strategic approach for firms seeking inorganic growth. Such transactions allow companies to expand into new markets and strengthen their financial position through mergers, acquisitions, and external takeovers (Bhattacharya et al., 2021). Moeller and Schlingemann (2005) suggest that cross-border acquisitions provide acquiring firms with access to an expanded set of investment opportunities, potentially leading to synergies and efficiency gains.

Several empirical studies have examined the value creation associated with cross-border acquisitions. Datta and Puia (1995), for instance, investigated shareholder value creation in 112 major U.S.-based cross-border acquisitions conducted between 1978 and 1990. Their findings indicate that cultural fit plays a crucial role, as acquisitions involving significant cultural distance tend to yield lower wealth effects for acquiring firm shareholders. Similarly, Rossi and Volpin (2004) highlight that cross-border acquisitions are more prevalent when the acquiring firm is based in a country with stronger shareholder protections than the target country, suggesting that regulatory advantages can contribute to deal value.

While the fundamental premise of mergers is that the combined entity will be more valuable than its individual components (Erel, Jang, & Weisbach, 2022), the principle of conservation of value suggests that the mere act of merging does not inherently generate additional worth. Levine, Lin, and Shen (2019) provide empirical evidence that firms located in countries with lenient labor regulations tend to be more attractive acquisition targets, emphasizing the importance of institutional factors in cross-border M&As.

Various studies have explored the determinants influencing the success of these deals. For instance, Yin and Tian (2023) analyze the impact of mismatches between Chinese firms' learning capacities and their knowledge-seeking objectives on post-acquisition innovation performance. Their study, based on a sample of 239 firms between 2014 and 2018, applies a quasi-Poisson model to assess these relationships. The results indicate that firms engaging aggressively in cross-border acquisitions often experience a decline in innovation performance. However, when host countries have stringent legal frameworks, innovation performance tends to improve.

Industry- and country-specific factors also shape acquisition strategies. Brouthers and Brouthers (2000) and Hennart and Reddy (1997) argue that market growth—whether high or low—affects firms’ entry strategies through acquisitions. Additionally, Kogut and Singh (1988) identify that reduced cultural distance between home and host nations, coupled with low uncertainty avoidance in the acquiring firm's country, increases the likelihood of entry via acquisitions.

Despite these potential advantages, cross-border acquisitions present inherent risks. Moeller and Schlingemann (2005), based on a study of 4,430 acquisitions between 1985 and 1995, found that U.S. firms acquiring cross-border targets experience lower announcement returns and operational performance compared to those acquiring domestic targets. Similarly, studies on European bank mergers indicate lower stock return performance for cross-border deals relative to domestic transactions (Beitel & Schiereck, 2001; Cybo-Ottone & Murgia, 2000). Ellis, Moeller, Schlingemann, and Stulz (2017), who analyzed stock price reactions to over 37,000 cross-border acquisitions from 1990 to 2007, found that acquirers tend to achieve higher gains when targets originate from countries with weaker governance structures.

Given the evolving nature of cross-border M&A returns and the conflicting outcomes reported in the literature, it is essential to continuously update and refine these findings. This study aims to assess the short- and long-term return performance of cross-border acquisitions involving U.S. acquirers and to evaluate the extent to which these outcomes align with existing literature.

2.2. Cash vs stock offer

The role of payment method in mergers and acquisitions (M&A) remains a critical area of debate in finance literature, particularly concerning stock-financed transactions. A growing body of research has examined whether stock-financed acquisitions erode shareholder value, given that they simultaneously function as both a takeover mechanism and an equity issuance event. By analyzing stock price reactions to seasoned equity offerings, Golubov, Petmezas, and Travlos (2016) assess the share price decline that acquirers experience due to their financing choice. Their findings indicate that stock-financed acquisitions, once adjusted for this effect, do not inherently lead to value destruction, and that payment method lacks additional explanatory power in determining acquirer returns.

The informational asymmetry hypothesis, as proposed by Myers and Majluf (1984), suggests that managers opt to issue equity primarily when they believe their stock is overvalued. This premise aligns with empirical evidence indicating that seasoned equity offering announcements typically result in a 2–3% decline in stock prices (Golubov, Petmezas & Travlos, 2016; Asquith & Mullins, 1986; Masulis & Korwar, 1986; Mikkelsen & Partch, 1986). In the context of M&A, overvalued firms may seek to leverage their inflated stock to finance acquisitions, potentially securing assets at a lower relative cost. However, recent research questions the validity of this strategy, revealing that overvalued acquirers frequently overpay for targets, leading to acquisitions that fail to generate anticipated synergies (Golubov, Petmezas & Travlos, 2016; Fu, Lin, & Officer, 2013). Instead of benefiting shareholders, such transactions often correlate with governance issues and executive compensation incentives rather than value creation (Golubov, Petmezas & Travlos, 2016; Fu et al., 2013).

Further supporting the misvaluation hypothesis, Ben-David, Drake, and Roulstone (2014) employ short interest as a measure of market mispricing, demonstrating that firms with high short interest are significantly more inclined to engage in stock-financed acquisitions. Their findings indicate that misvaluation plays a central role in merger decisions, with firms in the highest short interest quintile being 54% more likely to opt for stock transactions while being 22% less inclined to pursue cash acquisitions. Moreover, stock acquirers consistently exhibit higher short interest than their targets, suggesting that previously observed underperformance of stock-financed deals, and the relative outperformance of cash acquisitions, can be attributed to valuation discrepancies (Ben-David et al., 2014).

While substantial evidence highlights the negative impact of stock-financed acquisitions, Alexandridis, Petmezas, and Travlos (2010) present a more nuanced perspective. Their global M&A study reveals that abnormal returns associated with public acquisitions generally hover around zero, while stock-financed transactions often yield negative abnormal returns.

Empirical studies as discussed in our introduction indicate a prevailing preference for cash-based transactions in mergers and acquisitions, both in immediate and long-term contexts (Omotesho & Obadire, 2024; Dutta et al., 2013). The ease of liquidity associated with cash makes it a commonly chosen financing method, with acquiring firms frequently relying on internal reserves or external borrowing to fund such deals.

However, Dutta et al. (2013), in their study on Canadian firms, provide evidence that stock-financed acquisitions yield positive outcomes, even when controlling for widely recognized financial variables. While their findings do not reveal a statistically significant distinction in long-term operational performance between cash- and stock-financed deals, they suggest that stock-based transactions may elicit a more favorable market response. This reaction stems from the fact that in cash-financed acquisitions, target firm management is often replaced, a shift that can significantly disrupt post-merger integration, particularly in cross-border settings. In contrast, stock-financed deals typically allow target shareholders to maintain a considerable ownership stake, which enhances their oversight capabilities and fosters post-merger synergies. Moreover, stock transactions reduce information asymmetry, further contributing to a positive market perception (Dutta et al., 2013; Dennis and Dennis, 1995; Kang and Kim, 2008; Chen & Hennart, 2004; Reuer, Shenkar, & Ragozzino, 2004).

Building on the findings of Dutta et al. (2013), this study anticipates a favorable market reaction surrounding the event window for stock-financed cross-border acquisitions. This leads to the formulation of the first hypothesis:

Hypothesis 1: The market likely views cross-border acquisitions financed with stock more favorably than those paid for with cash.

2.3. Long-term operating performance

The long-term performance of acquiring firms following mergers and acquisitions (M&As) has been extensively analyzed in corporate finance literature, yielding mixed findings. Some studies suggest that firms engaging in M&As experience performance gains, while others indicate a decline in profitability post-transaction. Huijie and Sidney (2020) investigate the role of managerial ability in determining the post-M&A success of U.S. firms between 2000 and 2012. Their findings indicate that firms with higher managerial ability achieve superior long-term performance, as reflected in industry-adjusted return on assets, operating cash flows, and market-to-book ratios over one-, two-, and three-year periods.

The literature on post-M&A performance remains divided, with some scholars identifying positive long-term effects and others documenting negative outcomes. Several empirical studies

report that acquiring firms realize performance improvements post-M&A. For instance, Khan and Kalisz (2024) analyze French firms from 2000 to 2022 using the generalized method of moments (GMM) approach and conclude that firms engaging in cross-border acquisitions demonstrate enhanced long-term performance. They further find that serial acquirers tend to outperform their counterparts, suggesting that acquisition experience contributes positively to operational success (Cui & Leung, 2020; Haiyue & Manzoor, 2019; Carline et al., 2009; Powell & Stark, 2005).

Similarly, Linn and Switzer (2001) report that U.S. firms engaging in cash-financed acquisitions between 1967 and 1987 exhibit stronger long-term performance than those using stock-based payments. Their findings align with Kumar and Bansal (2008), who assess Indian M&A deals between 2000 and 2006, concluding that such transactions generate synergies through improved cash flows, business expansion, and operational efficiency. Carline et al. (2009) also provide evidence that acquiring firms experience a positive long-run performance following M&As, based on an analysis of 81 deals executed between 1995 and 1996 using the GMM method.

Conversely, other studies suggest that M&As can lead to a decline in firm performance. Martynova et al. (2007) document a significant reduction in profitability among European firms post-M&A. Moeller and Schlingemann (2006) similarly report that U.S. acquirers witness performance deterioration after acquisitions. Further corroborating these findings, Clark and Ofek (2006) and Hogarty (2002) observe a downward trend in post-merger performance. While Andrade et al. (2001) and Heron and Lie (2007) initially identify performance improvements for U.S. firms, their subsequent analyses indicate that factors such as industry relatedness and acquisition experience do not consistently influence post-M&A success. Moreover, their research finds no significant differences in performance outcomes based on payment method. Ghosh (2001) also argues against performance-related gains, contending that cash transactions yield better results than stock-based deals, a position that aligns with Linn and Switzer (2001).

Given these conflicting results, researchers have sought explanations for the variability in post-M&A performance. Khan and Kalisz (2024) argue that prior studies have largely focused on direct transaction characteristics, such as deal size, leverage, and payment method, while neglecting the influence of institutional factors. Although our study does not primarily examine institutional determinants, we aim to contribute by refining existing research on U.S. firms, particularly concerning payment methods—a topic that remains underexplored. While many

studies address general M&A determinants, they either fail to specifically investigate payment mechanisms or focus predominantly on cross-border acquisitions at a global level rather than within the U.S. context.

The impact of payment methods on post-acquisition performance remains a subject of debate. While some scholars highlight the benefits of cash-financed deals, others suggest that stock-financed transactions elicit positive market reactions due to expectations of synergy gains. Dutta et al. (2013) examine Canadian firms and find that while stock-financed cross-border acquisitions receive favorable market responses at announcement, these deals do not necessarily translate into superior long-term operating performance⁵. This raises an important question about whether the observed optimism regarding stock-financed deals translates into tangible performance improvements over time.

Hypothesis 2: The long-term operating performance of acquirers is superior in cross-border stock-financed deals compared to cross-border cash-financed deals.

2.4. Long-term stock-return performance

Unlike other financial metrics such as firm productivity or labor earnings, stock prices encapsulate not only current financial conditions but also market expectations regarding future performance (Malmendier, Moretti, & Peters, 2012). This forward-looking nature makes stock returns a crucial indicator for assessing the long-term impact of acquisitions on acquiring firms.

The post-acquisition performance of bidding firms is influenced by a variety of factors, making it difficult to isolate the direct effect of the transaction on profitability (Grinblatt & Titman, 2002, p. 708). Empirical research suggests that as firms engage in successive acquisitions, their stock returns tend to diminish, implying that the benefits of acquisitions may decline over time (Al Rahaleh & Wei, 2012). One potential explanation for this trend is the Hubris Hypothesis, which posits that overconfident acquirers make suboptimal decisions in subsequent deals, leading to underperformance (Roll, 1986).

⁵ Dutta et al. (2013) observe that the market reaction to such acquisitions is significantly positive at announcement, largely due to optimistic expectations of synergy gains. However, their long-term analysis of operating performance finds no substantive improvement for acquirers, suggesting that initial market enthusiasm may overestimate the actual benefits of these transactions.

Evidence from international acquisitions further illustrates the complexities of long-term stock performance. Hazelkorn et al. (2004) observed that U.S. firms demonstrated greater success when acquiring foreign companies compared to domestic acquisitions. Over extended periods, foreign acquisitions yielded stronger financial outcomes, reinforcing the notion that geographical diversification may contribute to better post-merger performance.

Analyzing the long-term consequences of mergers, Malmendier, Moretti, and Peters (2012) examined post-merger abnormal returns by leveraging detailed data on competitive bidding contests. Their findings indicate that bidders and losing firms exhibit similar stock performance leading up to the merger contest; however, a significant divergence occurs afterward. Over the following three years, winning bidders underperformed their losing counterparts by approximately 50%. Similarly, prior research suggests that mergers financed with stock tend to generate subpar long-term returns relative to comparable firms matched by size and market-to-book ratio, whereas cash-financed deals generally perform better (Loughran & Vijh, 1997). Expanding on this evidence, Malmendier et al. (2012) confirmed that stock-based acquirers underperformed relative to the firms they outbid, while cash acquisitions displayed relatively stronger results. Although these patterns were not individually significant across all subsamples, the overall cross-sample discrepancy was statistically meaningful at the five percent level.

Short-term market reactions to acquisitions have also been documented, with announcement returns for acquirers typically exhibiting modest but statistically significant increases of approximately 0.5–1% (Moeller, Schlingemann, & Stulz, 2004; Betton, Eckbo, & Thorburn, 2008). However, in the longer term, the picture is less favorable. Gugler et al. (2003) reported that nearly half of U.S. mergers resulted in negative cumulative abnormal returns (CAR) over time, aligning with earlier findings by Meeks (1977) and Salant et al. (1983), who noted that a substantial proportion of merged firms failed to outperform their non-merged counterparts. Further research supports the view that stock-financed mergers and acquisitions by firms with high valuations are often followed by weaker long-term performance (Loughran & Vijh, 1997; Rau & Vermaelen, 1998). Dutta and Jog (2009, p. 1402) highlighted that a majority of studies, particularly those based on U.S. data, indicate negative long-term abnormal returns.

Several additional factors contribute to declining post-merger stock performance. A scarcity of high-quality acquisition targets, integration challenges, and the learning curve

associated with managing acquired firms all impose constraints on the effectiveness of acquisitions (Conn et al., 2004; Aktas et al., 2007). Furthermore, excessive diversification can erode shareholder value, as illustrated by Berger and Ofek (1995), who documented an average 13–15% decline in the value of acquiring firms between 1986 and 1991 due to inefficiencies such as cross-subsidization and overinvestment. On a broader scale, merged entities often report lower profitability compared to their standalone counterparts.

Expanding on these themes in the Canadian context, Dutta et al. (2013) conducted a buy-and-hold abnormal return (BHAR) analysis to assess the long-term stock performance of acquiring firms. Their results indicate that cross-border mergers financed with stock significantly underperformed relative to cash-financed deals over the long run⁶. These findings lead to the formulation of the following hypothesis:

Hypothesis 3: Acquiring firms engaged in cross-border mergers will not exhibit significant long-term abnormal stock returns, regardless of the payment method used in the transaction.

⁶ Dutta et al. (2013) found that cross-border transactions funded with stock exhibited substantially weaker long-term stock performance than those financed with cash.

Section 3: Data and methodology

3.1. Data

This study investigates cross-border mergers and acquisitions (M&As) involving U.S.-based acquiring firms over the period 2000 to 2024. The primary dataset is sourced from the Securities Data Company (SDC) Platinum Mergers & Acquisitions Database, a widely utilized resource in corporate finance research. To ensure sample consistency, we exclude firms that are privately held, state-owned, investor groups, joint ventures, mutually owned entities, subsidiaries, and those for which SDC lacks definitive classification. These selection criteria align with standard M&A literature, albeit with slight variations in deal value thresholds applied across studies (Alexandris et al., 2017; Tana & Yousef, 2019; Dutta et al., 2013; Omotesho & Obadire, 2024; Fuller et al., 2002; Moeller et al., 2004; Erel, Jang, & Weisbach, 2022).

To refine the dataset further, financial institutions are excluded due to their distinct regulatory frameworks and accounting standards (SIC codes 6000–6999). Additionally, transactions valued below USD 1 million are removed to eliminate small deals that may be classified as outliers. Only completed acquisitions where the acquiring firm secures a controlling interest—defined as ownership of at least 50% of the target's equity—are considered. These methodological filters ensure that the final dataset focuses on substantial corporate transactions with meaningful strategic and financial implications.

To enhance the dataset with firm-level financial and market performance indicators, multiple complementary sources are integrated. Compustat provides financial statement information such as firm size, profitability, cash reserves, and leverage. The Center for Research in Security Prices (CRSP) contributes stock price and return data, facilitating assessments of both short-term and long-term market performance. Additionally, the Wharton Research Data Services (WRDS) Event Study Module is employed to compute short-term abnormal returns and cumulative abnormal returns (CARs) following M&A announcements.

The final sample consists of cross-border M&A transactions initiated by publicly traded U.S. acquirers. The inclusion criteria stipulate that acquiring firms must be headquartered in the United States and listed on major stock exchanges (NYSE, NASDAQ, AMEX), while target firms must be based in foreign jurisdictions. Deals must involve disclosed payment methods—cash, stock, or a combination—to facilitate analysis of financing decisions. Furthermore, availability of

stock return data in CRSP is a prerequisite for computing performance metrics, ensuring consistency across empirical analyses.

Sample comparisons

To construct our sample, we begin by extracting 301,396 firm-year observations from Compustat. These are subsequently merged with CRSP, resulting in 103,869 matched observations containing both accounting and market data. To ensure that only pre-acquisition financial information is considered, we restrict the dataset to retain only firm-year records that precede the M&A announcement date, which leads to a reduction of 71,275 observations. An additional screening criterion is applied to enforce a minimum lag of 540 days⁷ (approximately 1.5 years) between the fiscal date of the financial data and the deal announcement date, eliminating a further 23,250 observations. This temporal buffer is introduced to mitigate potential reverse causality and ensure exogeneity of firm fundamentals to the transaction.

After these filtering steps, the final merged dataset combining SDC deal-level information with Compustat-CRSP financials contains 9,028 observations. We then integrate this sample with the output of our event study analysis conducted through WRDS to obtain a final regression-ready dataset consisting of 4,937 acquiring-firm-level M&A events. This sample size is consistent with precedent in the M&A literature. For instance, Klitzka, He, and Schiereck (2022) analyze 1,155 deals, Alexandridis et al. (2017) work with 3,811 observations, and Moeller and Schlingemann (2005) use a sample of 4,430 acquisitions.

Descriptive Statistics

The key descriptive characteristics of our sample are summarized in [Tables 1 and 2](#). Our initial breakdown reveals that the majority of deals are domestic (4,027), with 910 transactions involving cross-border targets. Merger transactions dominate the sample, accounting for 4,827 deals compared to only 110 tender offers. Consistent with the broader literature, pure cash deals are the most common payment method (1,599 observations), while pure stock swaps are relatively rare (160 observations). Regarding acquirer valuation profiles, growth firms—defined as firms with a

⁷ The 540-day buffer between financial data and M&A announcement is consistent with best practices in longitudinal corporate finance research, as it minimizes the risk that acquirer fundamentals are endogenous to the transaction itself. This lag also accounts for potential reporting delays and year-end adjustments – Dutta et al. 2013 used 365 days.

price-to-book ratio above one—represent the majority (4,274), compared to value acquirers (648). Finally, unrelated acquisitions (3,729) significantly outnumber related transactions (1,208), based on 2-digit SIC code matching.

In line with Dutta et al. (2013), we also disaggregate cross-border deals by payment method. Notably, over 81% of cross-border acquisitions are cash-financed, highlighting a continued preference for more definitive and less contingent deal structures when acquiring firms operate in foreign jurisdictions.

Table 1: Descriptive statistics

summarizes the composition of the final sample of 4,937 M&A transactions by U.S. acquiring firms over the period 2000 to 2020. The table reports frequencies and percentages for key deal characteristics, including transaction scope (domestic vs. cross-border), payment method (cash, stock, or mixed), offer type (merger vs. tender), acquirer valuation (growth vs. value), and industry relatedness (related vs. unrelated). The final panel details the payment method distribution within cross-border deals.

Panel A. Number of acquisitions over 2000-2023 and transaction value

	# of transactions	# of acquirer	# of single acquirer	# of multiple acquirer	Total transaction value (in \$ mil. USD)	Avg. transaction value (in \$ mil. USD)
2000	30	30	30	0	1,131.0	59.5
2001	245	229	220	9	21,584.7	145.8
2002	235	212	194	18	12,128.9	77.7
2003	199	187	177	10	18,303.5	148.8
2004	242	217	199	18	34,738.4	211.8
2005	234	207	189	18	24,423.0	158.6
2006	232	211	201	10	34,504.5	225.5
2007	250	204	183	21	42,749.2	240.2
2008	225	197	188	9	38,148.3	238.4
2009	125	107	100	7	16,927.1	222.7
2010	150	121	109	12	59,705.6	678.5
2011	198	162	145	17	48,043.8	387.5
2012	128	115	106	9	15,261.8	195.7
2013	141	119	110	9	29,316.1	340.9
2014	200	146	125	21	159,885.4	1,258.9
2015	214	176	156	20	60,224.4	452.8
2016	190	154	135	19	52,037.1	437.3
2017	168	140	125	15	22,596.8	256.8
2018	208	167	148	19	78,344.9	576.1
2019	127	110	99	11	127,160.6	1,532.1
2020	150	126	118	8	50,455.3	531.1
2021	299	245	221	24	86,229.1	489.9
2022	375	299	263	36	139,557.7	614.8
2023	372	307	278	29	131,806.0	601.9
Total	4937	4188	3819	369	1,305,263.5	419.6

Panel B. Transactions by primary SIC code

SIC	# of transactions	# of acquirer	# of single acquirer	# of multiple acquirer	Total transaction value (in \$ mil. USD)	Avg. transaction value (in \$ mil. USD)
10 minerals	310	266	240	26	100,051.7	457
20-39 manufacturing	2060	1841	1719	122	641,223.6	467
40 communications	439	399	374	25	204,249.0	714
50 trades	587	474	428	46	116,745.0	335
70-89 services	1541	1208	1058	150	242,994.2	275
Total	4937	4188	3819	369	1,305,263.5	420

To complement the overall deal characteristics presented in Table 1, Table 2 provides further detail on the acquirers' firm-level financial and valuation metrics, capturing the heterogeneity of pre-transaction fundamentals that may influence deal structuring and performance outcomes.

Table 2: Key variables

presents summary statistics for key continuous variables associated with acquiring firms, including firm size (market capitalization), valuation ratios (price-to-book), profitability (return on equity), liquidity (cash-to-assets), and deal-specific factors such as relative size and transaction value. These variables form the core set of controls used in the regression models that follow.

		Obs.	%
Deal size (Transaction value)	Less than 10 m	565.00	11.4
	10 to 100m	1,416.00	28.6
	More than 100 m	2,956.00	59.8
Tender or Merger	Tender	110.00	2.2
	Merger	4,827.00	97.7
Target type	Public	1,369.00	27.7
	Private	2,355.00	47.7
	Other (Sub., JV)	1,213.00	24.5
Related/unrelated target	Related	1,208.00	24.4
	Unrelated	3,729.00	75.5
Methods of payment	Cash	1,599.00	32.3
	Stock	160.00	3.24
	Other/mixed	336.00	6.8
Growth or value acquirers	Growth	4,274.00	86.8
	Value	648.00	13.1
	n/a	15.00	0.1
Domestic/ cross-border targets	Domestic	4,027.00	81.5
	Cross-border	910.00	18.4
Cross-border and payment method	Cross-border: cash	136.00	57.6
	Cross-border: stock	30.00	12.7
	Cross-border: mixed	70.00	29.6
Relative size	Less than 5%	56.00	1.1
	5 to 25%	1,694.00	34.3
	More than 25%	3,187.00	64.55

3.2. Methodology

3.2.1. Abnormal returns around the announcement dates

To assess our first hypothesis (whether stock-financed acquisitions are perceived more favorably by the market compared to those financed with cash.), we employ the standard event-study methodology widely used in financial research (Dutta et al., 2013; Brown & Warner, 1985; Pettengill & Clark, 2001; Omotesho & Obadire, 2024). By applying this approach, we analyze abnormal returns (ARs) and cumulative abnormal returns (CARs) surrounding acquisition announcements to measure investor response.

The event-study methodology can be divided into short-term and long-term approaches. MacKinlay (1997) and Brown and Warner (1985) define short-term event windows as spanning up to 40 days, while Lyon et al. (1999) suggest that long-term studies may analyze abnormal returns over periods ranging from one to eight years. In this study, we focus on short-term market reactions, computing CARs over event windows of varying lengths, such as (-1 to +1), (-2 to +2), and (-5 to +5) (Omotesho & Obadire⁸, 2024; Krivin et al., 2003; Erel, Jang, & Weisbach, 2022). Also, varying the number of event windows enhances the robustness of our results (Kalaiganam et al., 2013).

To estimate daily abnormal returns, we utilize the market model, which expresses ARs as:

$$AR_{jt} = R_{jt} - (\alpha_j + \beta_j R_{mt}) \quad (\text{Dutta et al., 2013; MacKinlay, 1997})$$

where R_{jt} and R_{mt} represent the observed returns for security j and the market portfolio, respectively, at time t , relative to the acquisition announcement. The cumulative abnormal return (CAR) for security i over the event window $[\tau_1, \tau_2]$ is computed as:

$$CAR_{i, [\tau_1, \tau_2]} = \sum_{t=\tau_1}^{\tau_2} AR_{it} \quad (\text{Klitzka, He, \& Schiereck, 2022}).$$

For a sample of N firms, the average cumulative abnormal return (CAAR) is determined using:

⁸ Omotesho & Obadire, 2024 also did a (-30, +7) event window which we will not do as per Dutta & al., 2013 suggestions, who posited that longer estimation windows, such as $t-41$ to $t-240$ days, increase the likelihood of external events influencing results. Given that many acquirers engage in multiple acquisitions, we opt for a shorter estimation window to minimize contamination. Consequently, our analysis relies on a more constrained window selection.

$$CAAR_{[\tau_1, \tau_2]} = \frac{1}{N} \left(\sum_{i=1}^N CAR_{i, [\tau_1, \tau_2]} \right)$$

The statistical significance of CARs is tested using a z-test, while univariate and multivariate regression models are employed to assess the impact of payment method and acquisition characteristics on CARs.

The regression model used to analyze CARs is structured as follows:

$$CAR_{i, [\tau_1, \tau_2]} = \alpha_i + \sum_{j=1}^m \beta_{j,i} VAR_{j,i} + \epsilon_i^9$$

VAR represents our control variables and from our review, several key variables influence market reactions to acquisition announcements. These factors are categorized into acquirer-specific, deal-specific, and market-related characteristics:

- Acquirer Valuation Measures: Price-to-value ratios (Bi & Gregory, 2011) and market-to-book ratios (Smith & Watts, 1992; Martin, 1996) provide insights into the acquirer's financial health and potential overvaluation.
- Information Asymmetry Proxies: Indicators such as cross-industry transactions (Drees et al., 2013), cross-border deals (Faccio & Masulis, 2005), and unlisted target status (Eckbo et al., 2018) help assess the level of asymmetric information in mergers.
- Deal-Specific Characteristics: Relative deal size (Raudszus et al., 2014), tender offers, and the classification of targets as related or unrelated to the acquirer (Dutta et al., 2013) are significant determinants of abnormal returns.
- Acquirer Financial Metrics: Key financial indicators include return on equity (ROE), leverage (total debt-to-assets), and collateral availability (property, plant, and equipment to total assets) (Jensen, 1986; Denis et al., 1994).
- Control Variables: Additional variables may be introduced based on dataset exploration¹⁰.

⁹ (Klitzka, He, & Schiereck, 2022) used a modified version with scores calculated.

¹⁰ Dutta et al., 2013 employed the following regression model to assess the impact of acquisition characteristics on abnormal return : $CAR = \alpha + \beta_1 \times Cross\text{-border target} + \beta_2 \times Payment\ method$

To further examine whether the acquiring firm's characteristics influence the choice of payment method, we implement a logistic regression model, focusing on cross-border acquisitions. The probability of cash payment serves as the dependent variable, while the primary independent variable is the acquirer's return on assets (ROA). The regression equation is formulated as follows:

$$\text{Logit}(\pi(\text{cash})) = \alpha + \beta_1 \times \text{ROA} + \beta_2 \times \text{Cash-flow to total assets} + \beta_3 \times \text{Price-to-book value} + \beta_4 \times \ln(\text{Market value}) + \beta_5 \times \ln(\text{Relative size}) + \beta_6 \times \text{Public target firm} + \beta_7 \times \text{Tender offer} + \beta_8 \times \ln(\text{Related/unrelated target}) + \beta_9 \times \text{Year dummy} + \beta_{10} \times \text{Industry dummy} + \varepsilon \text{ (Dutta \& al. 2013)}$$

The various equations will be adapted in consequence, depending on our analysis of the data relevant to our study.

3.2.2. Long-term operating performance

To examine Hypothesis 2— which posits that acquirers engaged in cross-border stock-financed transactions experience superior long-term operating performance compared to those utilizing cash financing— we adopt a methodological framework based on Dutta et al. (2013), consistent with Ghosh (2001). This approach measures operating performance using the ratio of cash flow to total assets. While originally applied to Canadian firms, this study adapts the methodology to assess U.S. firms.

The analysis begins by identifying U.S. firms that have not engaged in acquisitions between 1995 and 2024. Following this, an ordinary least squares (OLS) regression is conducted incorporating acquirers, targets, and corresponding matched firms. Specifically, firms' return on equity is regressed against firm size and market-to-book value, following the approach of Loughran and Vijh (1997). The nearest propensity score, derived from estimated coefficients of firm size and price-to-book value, is then utilized to identify matching firms (Dutta et al. 2013).

$$+ \beta_3 \times \text{Cross-border target} \times \text{Payment method} + \beta_4 \times \text{Public target firm} + \beta_5 \times \ln(\text{Market capitalization}) + \beta_6 \times \ln(\text{Price to book value}) + \beta_7 \times \ln(\text{Cash flow to total assets}) + \beta_8 \times \ln(\text{Related/unrelated target}) + \beta_9 \times \ln(\text{Relative size}) + \beta_{10} \times \text{Tender offer} + \beta_{11} \times \text{Year dummy} + \beta_{12} \times \text{Industry dummy} + \varepsilon.$$

Once benchmark cash flows are determined, the matching firm-adjusted cash flow return is calculated as follows:

Matching Firm Adjusted Cash Flow return

$$= \text{Acquiring Firm's Cash Flow to Total Assets} - \text{Matching Firm's Cash Flow to Total Assets}$$

Hence, the matching firm-adjusted profitability is computed for each acquiring firm over a period spanning three years before and three years after the acquisition event (Dutta et al. 2013). Instead of directly comparing mean pre- and post-acquisition profitability, the study employs a "change model" to assess variations in long-term operating performance. However, Dutta et al. (2013) advocate for the "intercept model" over the simple change model. In this approach, post-acquisition benchmark-adjusted cash flows are regressed on pre-acquisition benchmark-adjusted cash flows, with the intercept (alpha) capturing acquisition-induced changes (Healy et al., 1992). A positive and statistically significant intercept would indicate an improvement in post-acquisition operating performance.

Building on the frameworks established by Ghosh (2001), Moeller and Schlingemann (2005), and Dutta et al. (2013), this study employs the intercept model to examine the influence of deal characteristics and firm-specific factors on long-term operating performance. The empirical investigation adapts this methodology to test whether cross-border stock-financed transactions generate more favorable long-term outcomes than their cash-financed counterparts.

One rationale for the anticipated superior performance of stock-financed cross-border transactions lies in the expectation of stronger synergistic gains. Such deals may facilitate enhanced monitoring by former target shareholders and preserve corporate memory more effectively (Chen & Hennart, 2004; Kang & Kim, 2008; Uysal et al., 2008; Dutta et al., 2013). To rigorously test these dynamics, the following regression model is estimated:

$$\begin{aligned} \text{MMFCT}_{\text{post}} = & \alpha + \beta_1 \times \text{MMFCT}_{\text{pre}} + \beta_2 \times \text{Cross - border target} + \beta_3 \times \text{Payment method} \\ & + \beta_4 \times \text{Crossborder target} \times \text{Payment method} + \beta_5 \times \text{Public target firm} + \beta_6 \times \ln(\text{Market} \\ & \text{capitalization}) + \beta_7 \times \ln(\text{Price to book value}) + \beta_8 \times \ln(\text{Cash flow to total assets}) + \beta_9 \\ & \times \ln(\text{Related/unrelated target}) + \beta_{10} \times \ln(\text{Relative size}) + \beta_{11} \times \text{Tender offer} + \beta_{12} \times \text{Year} \\ & \text{dummy} + \beta_{13} \times \text{Industry dummy} + \varepsilon. \end{aligned} \quad (\text{Dutta \& al. 2013})$$

the dependent variable is *MMFCTpost*, defined as the average matching firm-adjusted cash flow to total assets over the post-acquisition period (years +1, +2, and +3). This metric represents the annual differential in cash flow to total assets between the acquiring firm and its matched counterpart relative to the acquisition year. Similarly, *MMFCTpre* denotes the acquiring firms' pre-acquisition operating performance.

3.2.2. Long-term stock return performance

For our Hypothesis 3— which states that acquiring firms engaged in cross-border mergers will not exhibit significant long-term abnormal stock returns, irrespective of the payment method used—we employ the buy-and-hold abnormal return (BHAR) methodology, a widely recognized estimator of long-term abnormal performance (Ritter, 1991; Barber & Lyon, 1997; Lyon et al., 1999). The BHAR approach calculates the average multiyear return of firms that complete an event, compared to a similar strategy involving firms not experiencing the event (Mitchell & Stafford, 2000).

However, previous research highlights potential biases in the BHAR estimation process. Barber and Lyon (1997) and Kothari and Warner (1997) provide simulation evidence demonstrating that common estimation techniques may introduce biases due to new listings, portfolio rebalancing, and skewness in multiyear abnormal returns. Additionally, Fama (1998) critiques the BHAR methodology, arguing that systematic errors arise when expected return proxies are imperfect (Mitchell & Stafford, 2000). Moreover, methodologies that disregard cross-sectional dependence among event-firm abnormal returns overlapping in calendar time tend to overstate test statistics (Mitchell & Stafford, 2000).

In alignment with Dutta et al. (2013), this study conducts a detailed long-term stock return analysis using the BHAR methodology to investigate whether market adjustments account for overreactions around acquisition announcement dates. Prior studies suggest that reported long-term abnormal returns stem from the market's gradual reassessment of acquiring firms as post-acquisition results become clearer (Rau & Vermaelen, 1998).

Following the approach of Dutta et al. (2013) and Mitchell and Stafford (2000), we calculate BHAR as follows:

$$BHAR_{it} = \prod_{t=1}^T (1 + R_{it}) - \prod_{t=1}^T (1 + E(R_{it}))$$

where the expected return $E(R_{it})$ is estimated using two alternative methods: (i) a reference portfolio return (such as a market index return) and (ii) a control firm return (determined by matching firms based on size and book-to-market value ratio). Dutta et al., 2013 posits that the reference portfolio approach is susceptible to biases related to new listings, skewness, and rebalancing (Barber and Lyon, 1997). To mitigate skewness bias, they applied the methodology of Lyon, Barber, and Tsai (1999) when computing BHAR using a reference portfolio.

The control firm approach, by contrast, effectively eliminates the new listing bias by selecting appropriate matching firms. However, neither method fully addresses cross-sectional dependence among acquisition events, which can distort test statistics (Dutta et al., 2013). To correct for this, we apply the adjustment technique proposed by Mitchell and Stafford (2000) and Dutta et al., (2013), ensuring robust BHAR test statistics that account for cross-sectional dependence in event-firm abnormal returns.

Section 4: Results and discussions

4.1. Short-term performance of the acquiring firms in the cross-border acquisitions

This section examines market reactions to M&A announcements using cumulative abnormal returns (CARs) over three event windows: [-1, +1], [-2, +2], and [-5, +5]. The results, reported in Table 3, assess both unconditional average effects and differences across payment methods, transaction geographies, and financing structures. These analyses are intended to empirically test Hypothesis 1, which posits that stock-financed cross-border M&As generate more favorable short-term market reactions than cash-financed ones.

Panel A presents the unconditional average CARs across all M&A events. The results indicate a statistically significant and positive market reaction around announcement dates, with a CAR of 1.4 percent over the [-1, +1] window ($Z = 9.384$). This is consistent with the broader M&A literature, including Dutta et al. (2013), who also document significant positive returns in response to deal announcements. The effect diminishes as the window expands but remains significant at conventional levels, with CARs of 0.3 percent over [-2, +2] and 1.4 percent over [-5, +5].

Panel B disaggregates these results by payment method. Cash-financed deals exhibit strong and statistically significant CARs across all windows, with an average CAR of 2.4 percent in the [-1, +1] window ($Z = 11.494$), whereas stock-financed deals yield economically similar but statistically insignificant returns (CAR = 2.2 percent, $Z = 1.383$). Importantly, the mean difference between cash and stock deals is not statistically significant, suggesting no differential market preference for payment method in the aggregate sample. This result echoes Dutta et al.'s (2013) finding that payment method alone is not a significant determinant of market reaction in the Canadian context.

Panel C compares domestic and cross-border acquisitions. Domestic deals generate significantly positive CARs, with a peak of 1.6 percent over [-1, +1] ($Z = 9.333$). In contrast, cross-border acquisitions are met with muted market responses, with CARs of only 0.3 percent, and not statistically significant at conventional levels. The mean difference of 1.2 percent between domestic and cross-border deals is highly significant ($t = 3.235$). This result suggests that investors may perceive cross-border acquisitions as riskier or less likely to deliver immediate synergies, consistent with prior literature highlighting the challenges of foreign integration (for example, Moeller and Schlingemann, 2005).

Panel D narrows the analysis to cross-border deals only, comparing cash- versus stock-financed transactions. Cross-border cash deals (N = 136) show statistically significant short-term returns of 1.2 percent over [-1, +1] (Z = 2.21), whereas cross-border stock deals (N = 30) yield a higher average CAR of 2.1 percent, though this difference is not statistically significant. The mean difference between stock and cash within the cross-border subsample is 0.8 percent (t = 0.612), which fails to support Hypothesis 1 at conventional levels. While the direction of the effect aligns with the expectation that stock deals may convey strategic or signaling advantages in foreign contexts (for example, Chen and Hennart, 2004), the small sample size for stock-financed cross-border deals reduces statistical power and may obscure true effects.

In sum, while M&A deals overall are associated with significant positive short-term returns, particularly for domestic and cash-financed deals, there is limited evidence to suggest that cross-border stock-financed deals uniquely outperform other structures in the short run. Therefore, Hypothesis 1 receives only partial support: the direction of the effect aligns with theoretical expectations but lacks consistent statistical significance across models. These findings suggest that investor enthusiasm around deal announcements may be driven more by deal familiarity and execution certainty (such as domestic scope and cash payments) than by hypothesized signaling effects embedded in stock-financed cross-border structures.

Table 3: Univariate analysis of CAR

*presents the results of the short-term market reaction to M&A announcements, measured by cumulative abnormal returns (CARs) over three event windows: [-1, +1], [-2, +2], and [-5, +5]. The analysis uses a sample of 4,937 completed M&A transactions by U.S. acquiring firms between 2000 and 2020. Abnormal returns are computed using the standard market model: $AR_{jt} = R_{jt} - (\alpha_j + \beta_j R_{mt})$, where R_{jt} is the return on security j , and R_{mt} is the return on the market index. Parameters α_j and β_j are estimated over an event-free window prior to the deal announcement. CARs are reported in decimals (e.g., 0.014 = 1.4 percent), and significance is assessed using Z-statistics and t-tests for mean differences. Panel A reports average CARs across all events. Panel B splits results by payment method (cash vs. stock), while Panel C contrasts domestic versus cross-border deals. Panel D focuses on cross-border deals only, comparing cash- and stock-financed transactions. Key variables include the number of deals per category (N), average CARs, Z-statistics for significance, and differences in means with corresponding t-statistics. Note: * (Significance at 10% level) ** (Significance at 5% level) *** (Significance at 1% level)*

Scenarios	CAR1 (-1, +1)	CAR (-2, +2)	CAR (-5, +5)
<i>Panel A. Cumulative abnormal returns for all M&A events</i>			
Avg. CAR	0.014***	0.003***	0.014**
Z-stat	9.384	4.71	2.415
<i>Panel B. Methods of payment and cumulative abnormal returns</i>			
1. Cash (N = 1599)			
Avg. CAR	0.024***	0.006***	0.002**
Z-stat	11.494	5.985	2.23
2. Stock (N = 160)			
Avg. CAR	0.022	0.0006	0.0003
Z-stat	1.383	0.123	0.08
Mean diff(2-1)	-0.002	-0.005	-0.001
t-stat	-0.1525	-1.02	-0.4
<i>Panel C. Domestic and cross-border acquisitions and cumulative abnormal returns</i>			
1. Domestic (N = 4026)			
Avg. CAR	0.016***	0.003***	0.0013**
Z-stat	9.333	4.798	1.98
2. Cross-border (N = 910)			
Avg. CAR	0.003	0.001	0.0018
Z-stat	1.616	0.835	1.578
Mean diff(1-2)	0.012***	0.002	-0.0004
t-stat	3.235	1.34	-0.299
<i>Panel D. Cross-border cash financed and stock financed deals</i>			
1. Cross-border cash financed deals (N = 136)			
Avg. CAR	0.012**	0.0007	0.004*
Z-stat	2.21	0.33	1.73
2. Cross-border stock financed deals (N = 30)			
Avg. CAR	0.021	0.008	0.006
Z-stat	1.114	0.918	0.523
Mean diff(2-1)	0.008	0.007	0.002
t-stat	0.612	1.13	0.275

4.2 Multivariate Analysis of Short-Term Market Reactions

To complement the univariate results presented earlier, Table 4 reports the results from multivariate regressions examining the determinants of short-term market reactions to M&A announcements, using cumulative abnormal returns (CARs) over the [-1, +1] event window as the dependent variable. The goal is to assess whether announcement returns are influenced by the cross-border nature of the deal, the method of payment, and the interaction between the two. This analysis directly tests Hypothesis 1, which proposes that stock-financed cross-border deals produce stronger short-term positive reactions than other deal structures.

Model 1 includes only two main deal characteristics: whether the transaction is cross-border and whether it is stock-financed. Both variables are statistically insignificant, suggesting that neither deal type nor financing method alone explains CARs when controls are included. Model 2 adds the interaction term between cross-border status and stock financing, but again the result is not significant. The interaction coefficient is effectively zero, and its standard error is large, indicating no meaningful effect.

Model 3 introduces a dummy variable for pure cash offers, with mixed-payment deals serving as the reference category. The coefficient on pure cash is positive and statistically significant at the 1 percent level (0.031), suggesting that cash offers generate significantly higher announcement returns compared to mixed-financed deals. The coefficient on stock remains positive but statistically insignificant.

Model 4 adds a second interaction term: cross-border combined with pure cash. In this fully specified model, the coefficient for pure cash remains positive and significant (0.025), and the cross-border x pure cash interaction term is also positive and weakly significant at the 10 percent level (0.035), suggesting that cross-border cash deals may enjoy slightly stronger announcement returns than their domestic counterparts. The interaction between cross-border and pure stock remains statistically insignificant throughout all specifications.

Among the control variables, several show consistent patterns across the four models. *PublicTargetFirm* is negative and statistically significant at the 1 percent level, indicating that deals targeting public firms are associated with lower CARs, possibly reflecting greater acquisition premiums or integration challenges. *Log of Market Capitalization* is negative and significant in all models, suggesting that smaller acquirers experience larger market reactions, in line with size-related signaling effects. *RelatedTarget* is positive and significant, implying that acquisitions of firms within the same or adjacent industries are better received by the market. *Log of Relative Size* is weakly significant and positive in Models 3 and 4, suggesting that larger deal sizes relative to the acquirer size are associated with modestly higher CARs. The *Price-to-Book* ratio, *Cash Flow to Assets*, and *TenderOffer* dummy are not statistically significant in any specification.

The R-squared values across the four models are relatively low (ranging from 0.058 to 0.073), which is consistent with the literature given the typically high noise-to-signal ratio in short-term

event windows. Nevertheless, the inclusion of robust controls and interaction terms enhances the model's explanatory depth.

Overall, the results do not support Hypothesis 1. While cash-financed deals show a consistent positive effect on short-term returns, there is no evidence that stock-financed cross-border transactions produce superior CARs. If anything, the positive and weakly significant interaction between cross-border and pure cash in Model 4 suggests that certainty of payment and reduced asymmetry may be more valued by investors in cross-border contexts than signaling mechanisms embedded in stock offers. These findings partially diverge from Dutta et al. (2013), who reported positive stock-deal effects in the Canadian setting and instead align more closely with U.S.-focused studies highlighting investor preference for deal certainty.

Table 4: Multivariate analysis of CAR

presents the results of ordinary least squares (OLS) regressions where the dependent variable is the cumulative abnormal return (CAR) measured over the [-1, +1] event window. The analysis includes four model specifications incorporating key explanatory variables: a dummy for cross-border transactions, indicators for payment method (pure cash and pure stock), and their interactions. Mixed-payment deals serve as the reference category. Control variables include firm size (log of market capitalization), valuation (price-to-book), profitability (cash flow to assets), relative transaction size (log of relative size), target type (public vs. private), relatedness of the deal, and offer structure (tender vs. merger). All models include year and industry fixed effects. Robust standard errors are reported in parentheses, and CARs are expressed in decimal form.

Dependent variable : CAR (-1, +1)	Model 1	Model 2	Model 3	Model 4
	<i>β and std. err.</i>	<i>β and std. err.</i>	<i>β and std. err.</i>	<i>β and std. err.</i>
(Intercept)	0.105*** (0.040)	0.105*** (0.040)	0.068* (0.035)	0.075** (0.035)
CrossBorderTarget	-0.008 (0.007)	-0.008 (0.007)	-0.007 (0.007)	-0.030* (0.016)
PureStock	0.005 (0.012)	0.005 (0.014)	0.022 (0.014)	0.017 (0.016)
PureCash			0.031*** (0.010)	0.025** (0.010)
CrossBorder x PureStock		0.000 (0.027)		0.026 (0.029)
CrossBorder x PureCash				0.035* (0.018)
PublicTargetFirm	-0.033*** (0.012)	-0.033*** (0.012)	-0.037*** (0.012)	-0.039*** (0.012)
LogMarketCap	-0.003** (0.002)	-0.003** (0.002)	-0.004** (0.002)	-0.004** (0.002)
Price_to_Book_value	0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
CashFlowToAssets	-0.061 (0.064)	-0.061 (0.063)	-0.076 (0.072)	-0.077 (0.072)
RelatedTarget	0.026** (0.012)	0.026** (0.012)	0.023** (0.011)	0.026** (0.011)
Log (RelativeSize)	0.002 (0.002)	0.002 (0.002)	0.005* (0.003)	0.005* (0.003)
TenderOffer	-0.003 (0.013)	-0.002 (0.013)	-0.002 (0.013)	-0.003 (0.013)
Year dummy	Yes	Yes	Yes	Yes
Industry dummy	Yes	Yes	Yes	Yes
F	2.28	2.24	2.41	2.35
Observations	1,550	28	1,516	1,516
R-squared	0.058		0.070	0.073

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

The positive and statistically significant coefficients for pure cash financing, particularly in Model 3 and Model 4, suggest that markets continue to reward deal structures that convey financial certainty. This aligns with the findings of Travlos (1987) and Andrade et al. (2001), who document stronger investor reactions to cash offers, especially when asymmetric information or valuation risk is high. The weakly significant interaction between cross-border status and cash offers in Model 4 supports the argument that investors may perceive cash deals in foreign contexts as a signal of confidence and commitment, mitigating the perceived risks associated with geographic and institutional distance (Erel et al., 2012; Chari et al., 2010).

On the other hand, the lack of a significant premium for stock-financed cross-border deals contrasts with the theoretical argument that such offers can serve as a signaling mechanism or reduce financing constraints in complex foreign environments (Shleifer and Vishny, 2003; Reuer et al., 2004). It also diverges from the evidence in international samples such as Moeller and Schlingemann (2005), who find that U.S. acquirers tend to destroy value in cross-border deals, particularly when payment is not in cash. Similarly, Faccio and Lang (2005) report that European markets penalize stock-financed international deals, potentially due to heightened information asymmetry or misalignment of interests.

In summary, the results do not confirm Hypothesis 1. Instead, they reinforce a broader empirical pattern: markets respond more favorably to deals that maximize certainty and minimize valuation ambiguity, particularly in the context of international transactions.

4.3 Determinants of Payment Method in Cross-Border Deals: Logistic Regression

To further investigate the drivers behind the use of cash versus stock in cross-border acquisitions, we estimate a series of logistic regressions where the dependent variable is a binary indicator equal to 1 if the deal is cash-financed, and 0 otherwise. This analysis builds on our earlier finding that the market favors cash-financed cross-border transactions, and aims to assess whether specific firm- and deal-level characteristics predict this financing choice. Table 5 presents the results across three model specifications.

Model 1 includes both return on assets (ROA) and cash flow to assets as proxies for firm performance and liquidity. The coefficient on cash flow to assets is positive and significant at the 10 percent level, suggesting that cash-rich acquirers are more likely to use cash as the method of payment. ROA, by contrast, is insignificant, indicating that overall profitability does not influence

payment choice. Model 2 drops the cash flow variable and finds that ROA becomes statistically significant at the 1 percent level, reinforcing the idea that well-performing firms tend to favor cash when other liquidity indicators are not included. Model 3 reintroduces cash flow to assets and confirms its significance at the 1 percent level, while ROA becomes insignificant once again. These results echo Dutta et al.'s observation that internal financial strength, rather than accounting profitability alone, plays a central role in payment choice.

Across all models, the log of relative size is consistently negative and highly significant, indicating that larger deals relative to the acquirer's size are less likely to be cash-financed. This is intuitive, as firms may face financing constraints or risk aversion when undertaking disproportionately large transactions. Similarly, the dummy for related targets is positive and strongly significant, suggesting that firms acquiring targets in related industries are more likely to use cash. This may reflect higher familiarity and strategic confidence in related acquisitions. Public target status and firm size (market capitalization) do not appear to affect payment method decisions in a statistically meaningful way. The tender offer dummy is negative across all models but remains statistically insignificant.

Overall, the explanatory power of the models is moderate, with R-squared values ranging from 0.29 to 0.34, which is consistent with similar specifications in the literature. The results reinforce the interpretation that cash-financed cross-border deals are not randomly distributed but are instead systematically linked to the acquirer's financial condition and the nature of the target.

Table 5: Logistic regression

presents the results from logistic regressions examining the determinants of payment method in cross-border M&A transactions. The dependent variable is a binary indicator equal to 1 if the deal is cash-financed, and 0 otherwise. The models assess whether firm-level performance (return on assets and cash flow to assets), valuation (price-to-book ratio), and size (log of market capitalization) influence the probability of choosing cash as a payment method. Deal-specific controls include transaction size relative to the acquirer (log of relative size), public versus private target status, relatedness of the target industry, and deal structure (tender offer vs. merger). Year and industry fixed effects are included in all specifications. Standard errors are robust and reported in parentheses¹¹. The analysis is based on a sample of 862 cross-border transactions.

¹¹ The *R-squared* in logistic regressions refers to the pseudo R-squared (McFadden's or Nagelkerke's), which measures model fit based on the improvement over a null model with no predictors.

Dependent variable: Dummy (Cash-financed = 1)	Model 1	Model 2	Model 3
(Intercept)	-2.056*** (0.584)	-1.979*** (0.585)	-2.067*** (0.578)
ROA	0.120 (0.720)	1.209*** (0.448)	
CashFlowToAssets	1.616* (0.844)		1.717*** (0.558)
Price_to_Book_value	0.024 (0.017)	0.026 (0.017)	0.023 (0.017)
LogMarketCap	0.057 (0.062)	0.069 (0.061)	0.058 (0.061)
Log (RelativeSize)	-0.514*** (0.084)	-0.512*** (0.083)	-0.514*** (0.084)
PublicTargetFirm	0.044 (0.435)	0.053 (0.431)	0.040 (0.436)
TenderOffer	-1.210 (1.157)	-1.173 (1.179)	-1.207 (1.152)
RelatedTarget	3.730*** (0.507)	3.753*** (0.506)	3.731*** (0.507)
Year dummy	Yes	Yes	Yes
Industry dummy	Yes	Yes	Yes
R-squared	0.29	0.34	0.29
Observations	862	862	862

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Taken together with our earlier findings, these results suggest that investors may respond positively to cash-financed cross-border acquisitions not merely because of payment certainty, but also because these transactions are undertaken by financially strong firms in strategically aligned contexts¹². While Dutta et al. (2013)¹³ interpret the use of stock as a positive signal in cross-border settings, our findings point in the opposite direction: in our sample, cash usage is both a credible

¹² The absence of a consistent relationship between *ROA* and payment method contradicts the prediction of signaling models (e.g., Myers and Majluf, 1984), which suggest that more profitable firms should favor stock to signal undervaluation. Instead, our findings support the idea that liquidity, not profitability, drives payment choice in cross-border settings.

¹³ The absence of a consistent relationship between *ROA* and payment method contradicts the prediction of signaling models (e.g., Myers and Majluf, 1984), which suggest that more profitable firms should favor stock to signal undervaluation. Instead, our findings support the idea that liquidity, not profitability, drives payment choice in cross-border settings.

signal of financial strength and a driver of market approval. Thus, firm characteristics do help explain why cash-financed deals receive favorable investor reactions in cross-border M&A activity.

4.5 Long-Term Operating Performance of Acquiring Firms

To assess the impact of M&A deals on the long-term operating performance of acquiring firms, we estimate the following regression model:

$$\begin{aligned} \text{MMFCT}_{\text{post}} = & \alpha + \beta_1 \times \text{MMFCT}_{\text{pre}} + \beta_2 \times \text{Cross - border target} + \beta_3 \times \text{Payment method} + \beta_4 \times \\ & \text{Crossborder target} \times \text{Payment method} + \beta_5 \times \text{Public target firm} + \beta_6 \times \ln(\text{Market capitalization}) \\ & + \beta_7 \times \ln(\text{Price to book value}) (7) + \beta_8 \times \ln(\text{Cash flow to total assets}) + \beta_9 \times \ln(\text{Related/unrelated} \\ & \text{target}) + \beta_{10} \times \ln(\text{Relative size}) + \beta_{11} \times \text{Tender offer} + \beta_{12} \times \text{Year dummy} + \beta_{13} \times \text{Industry dummy} \\ & + \varepsilon. \text{ (Dutta \& al. 2013)} \end{aligned}$$

To test Hypothesis 2, which posits that acquirers engaged in cross-border stock-financed transactions exhibit superior long-term operating performance relative to cash-financed deals, we employ an intercept model adapted from Dutta et al. (2013), Ghosh (2001), and Healy et al. (1992). This model assesses whether acquisitions produce sustained improvements in firm-level profitability relative to matched non-acquiring firms, with a focus on how deal characteristics—particularly cross-border scope and payment method—mediate this relationship.

The dependent variable is $\text{MMFCT}_{\text{post}}$, defined as the average benchmark-adjusted cash flow to total assets in the three years following the acquisition. This measure captures operating efficiency after accounting for firm-level effects through a matched sample. The key independent variable is $\text{MMFCT}_{\text{pre}}$, representing the pre-acquisition benchmark-adjusted performance. The coefficient on $\text{MMFCT}_{\text{pre}}$ captures persistence in performance, while the intercept (α) reflects acquisition-induced shifts. A significantly positive intercept indicates long-term value creation beyond pre-existing trends.

As shown in Table 6, the intercept is positive but not statistically significant across all model specifications. This suggests that, on average, there is no strong evidence of value creation across the full sample of M&A transactions. This finding contrasts with prior work by Healy et al. (1992) and Ghosh (2001), which found significantly positive intercepts in corporate mergers, but

is consistent with more recent large-sample U.S. studies (Moeller and Schlingemann, 2005) that document limited post-deal performance gains.

The coefficient on `MMFCT_pre` is large and highly significant across all models, ranging from 0.442 to 0.448. This confirms strong performance persistence, and validates the use of the intercept model, since pre-deal performance remains a dominant determinant of post-acquisition outcomes.

Regarding the core variables of interest, the `PureStock` dummy is negative and statistically significant in Models 1 and 2 (-0.070 and -0.094)¹⁴, suggesting that stock-financed acquisitions underperform relative to mixed-payment deals. This directly contradicts Hypothesis 2 and the theoretical expectation that stock-financed deals facilitate synergistic integration, particularly in cross-border contexts. In contrast, `PureCash` is statistically insignificant, but its interaction with `CrossBorderTarget` is positive and weakly significant in Models 2 and 3 (coefficients around 0.125–0.127). This indicates that cross-border cash-financed deals may yield better operating outcomes than either domestic deals or cross-border stock-financed ones.

These findings contrast with the Canadian evidence in Dutta et al. (2013), who found positive performance effects for cross-border stock-financed transactions. In the U.S. context, however, our results align more closely with Kang and Kim (2008) and Moeller and Schlingemann (2005), who highlight the risk of value erosion in complex international transactions, particularly when stock is used as a currency. Moreover, the negative association between stock-financed deals and post-acquisition performance challenges theories that link equity financing with higher monitoring or superior target integration (Chen and Hennart, 2004; Uysal et al., 2008).

Among control variables, `CashFlowToAssets` is positive and highly significant across all models, confirming that firms with strong internal liquidity tend to perform better post-acquisition. Firm size (`LogMarketCap`) is negative and significant, consistent with the idea that larger acquirers may face scale diseconomies or lower marginal gains. Relative size is weakly positive in Models 2 and 3, suggesting that bolder acquisition strategies may yield slightly better integration

¹⁴ The negative coefficient on `PureStock` suggests that stock-financed deals may reflect overvaluation or integration difficulties, echoing concerns from Loughran and Ritter (1997) and Travlos (1987).

outcomes. Other controls, including target relatedness and deal type, show no consistent or statistically significant patterns.

Table 6: Long term operating performance

reports the results from the intercept model regression used to assess long-term operating performance following M&A transactions. The dependent variable, *MMFCT_post*, represents the average difference in cash flow to total assets between the acquiring firm and a matched non-acquiring firm over the three-year post-acquisition period (years +1, +2, and +3). Matching firms are identified using a propensity score approach: for each acquiring firm, a control firm is selected from a pool of U.S. firms that did not undertake any acquisitions between 1995 and 2024. Propensity scores are estimated using a logit model regressing return on equity on firm size (log of market capitalization) and valuation (log of price-to-book ratio), following Loughran and Vijh (1997). The nearest-neighbor match is selected based on estimated scores. The key explanatory variable, *MMFCT_pre*, captures the acquiring firm's pre-acquisition operating performance (years -3 to -1) adjusted for the same matched benchmark. The intercept from this model reflects the average acquisition-induced shift in benchmark-adjusted profitability, controlling for deal and firm characteristics. Robust standard errors are reported in parentheses, and all specifications include year and industry fixed effects unless otherwise noted.

Dependent variable: <i>MMFCT_post</i>	Model 1	Model 2	Model 3
	<i>β</i> and std. err.	<i>β</i> and std. err.	<i>β</i> and std. err.
(Intercept)	0.043 (0.048)	0.080 (0.049)	0.063 (0.053)
<i>MMFCT_pre</i>	0.444*** (0.060)	0.448*** (0.066)	0.442*** (0.062)
CrossBorderTarget	-0.043 (0.035)	-0.124* (0.068)	-0.123* (0.067)
PureStock	-0.070* (0.042)	-0.094* (0.053)	-0.084 (0.052)
PureCash		-0.013 (0.039)	-0.002 (0.038)
CrossBorder x PureStock	0.048 (0.079)	0.133 (0.097)	0.134 (0.098)
CrossBorder x PureCash		0.125* (0.073)	0.127* (0.073)
PublicTargetFirm	-0.036 (0.036)	-0.030 (0.033)	-0.038 (0.036)
LogMarketCap	-0.010* (0.005)	-0.008* (0.005)	-0.012** (0.005)
Price_to_Book_value	0.005 (0.003)	0.006 (0.004)	0.006 (0.003)
CashFlowToAssets	0.351*** (0.078)	0.275*** (0.080)	0.324*** (0.076)
RelatedTarget	0.046 (0.037)	0.070* (0.036)	0.059 (0.037)
Log (RelativeSize)	0.010 (0.008)	0.015* (0.008)	0.015* (0.008)
TenderOffer	-0.005 (0.062)	-0.041 (0.063)	-0.014 (0.065)
Year dummy	Yes	No	Yes
Observations	801	768	768
F	8.47***	14.2***	7.93***
R-squared	0.418	0.413	0.440

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Taken together, the findings do not support Hypothesis 2. Instead of delivering superior long-term performance, stock-financed cross-border acquisitions are associated with weaker benchmark-adjusted outcomes. The intercept model confirms that value creation does not systematically arise from these transactions. The results also point to a more favorable performance trajectory for cash-financed deals, especially in cross-border settings—suggesting that certainty in deal structure and liquidity strength matter more than theoretical synergy potentials in driving long-run outcomes.

4.6 Long-Term Stock Performance: Buy-and-Hold Abnormal Returns (BHAR)

To assess whether market participants systematically misprice M&A transactions in the long run, we test Hypothesis 3, which posits that acquiring firms involved in cross-border M&A do not exhibit significant long-term abnormal stock returns, irrespective of the payment method used. The analysis employs the buy-and-hold abnormal return (BHAR) methodology, a widely accepted measure of post-event stock performance (Ritter, 1991; Barber and Lyon, 1997). Following the approach of Dutta et al. (2013), BHAR is computed over a multi-year horizon as :

$$BHAR_{it} = \prod_{t=1}^T (1 + R_{it}) - \prod_{t=1}^T (1 + E(R_{it}))$$

Table 7 presents value-weighted BHARs over the long-term post-acquisition window, segmented across three panels: (A) cross-border vs. domestic deals, (B) cash vs. stock-financed deals, and (C) cross-border deals by payment method.

Panel A shows that cross-border acquirers experience a significantly negative BHAR of –10.1%, with a t-statistic of –4.59, suggesting value destruction over the long run. In contrast, domestic acquirers show a smaller and statistically insignificant loss of –2.1%. These results mirror findings by Moeller and Schlingemann (2005) and Chari et al. (2010), who attribute long-run underperformance in international M&A to over-optimism, integration difficulties, and informational disadvantages faced by acquirers abroad.

Panel B splits the sample by payment method, regardless of geographic scope. Stock-financed acquisitions yield a large and statistically significant loss of –28.0%, with a t-statistic of –5.06. In contrast, cash-financed deals show no significant abnormal return (BHAR = 0.2%, t =

0.14). These findings are consistent with earlier studies by Loughran and Ritter (1997) and Rau and Vermaelen (1998), which highlight post-deal underperformance as being especially pronounced in stock deals, where acquirers may be overvalued or signaling adverse selection.

Panel C provides the most direct test of Hypothesis 3, isolating cross-border deals by payment method. Cash-financed cross-border acquisitions show a moderately negative BHAR (–10.2%) that is statistically insignificant, while cross-border stock-financed acquisitions experience a sharp and highly significant decline of –51.5% ($t = -6.84$)¹⁵. This result is striking in both magnitude and significance, and directly contradicts Hypothesis 3. Contrary to the claim that long-run returns do not differ by payment method in cross-border deals, the data suggest that stock-financed cross-border M&As are especially penalized by the market over time.

The underperformance of stock-financed cross-border deals may reflect both misvaluation at the time of issuance and persistent integration challenges in foreign markets. These results are in line with Faccio et al. (2006), who document that firms using equity to finance acquisitions are often perceived as overvalued, particularly in markets where asymmetric information is high. Furthermore, the market may revise its expectations downward as post-acquisition results fail to meet optimistic forecasts.

Taken together, the BHAR analysis does not support Hypothesis 3. Instead, the findings reveal that long-term market penalties are concentrated in cross-border, stock-financed acquisitions, reinforcing the importance of deal structure in shaping investor reassessment. The results complement our earlier findings on short-term reactions and operating performance, painting a consistent picture: cash-financed deals are more favorably perceived and perform better over time, especially when executed in foreign markets.

Table 7: BHAR analysis

presents value-weighted buy-and-hold abnormal returns (BHARs) for acquiring firms over a 36-month post-acquisition horizon. Abnormal returns are computed using matched control firms based on size and book-to-market ratio, following the methodology of Barber and Lyon (1997) and Dutta et al. (2013).

¹⁵ The extreme underperformance of cross-border stock-financed deals (–51.5%) supports earlier critiques of stock-financed growth strategies in high-asymmetry environments (Loughran and Ritter, 1997; Faccio and Masulis, 2005).

Panel A. Cross-border and domestic deals

	Cross-border deals (N = 694)	Domestic deals (N = 2983)
Value weighted BHAR	-0.101***	-0.021
robust std. errors	0.021	0.014
t-stat	-4.59	-1.56

Panel B. Cash and stock financed deals

	Cash-financed deals (N = 1245)	Stock-financed deals (N = 106)
Value weighted BHAR	0.002	-0.28***
robust std. errors	0.018	0.056
t-stat	0.14	-5.06

Panel C. Cross-border cash and stock financed deals

	Cross-border cash financed deals (N = 107)	Cross-border stock-financed deals (N = 18)
Value weighted BHAR	-0.102	-0.515***
robust std. errors	0.064	0.075
t-stat	-1.59	-6.84

Note

*(Significance at 10% level)

**(Significance at 5% level)

*** (Significance at 1% level)

Section 5: Conclusion and limitations

Conclusion

This study set out to explore how payment methods shape the outcomes of cross-border mergers and acquisitions (M&As) initiated by U.S.-based acquiring firms. Specifically, it examined whether stock-financed cross-border transactions generate more favorable short-term market reactions and long-term financial performance compared to their cash-financed counterparts. Through a combination of event study techniques, intercept modeling of operating performance, and adjusted buy-and-hold abnormal return (BHAR) methodologies, the analysis provided new empirical insights into a long-standing debate in the M&A literature.

The results did not support Hypothesis 1, which predicted superior short-term market reactions for stock-financed cross-border acquisitions. Instead, both the univariate and multivariate CAR analyses demonstrated that cash-financed deals—particularly in cross-border contexts—were associated with stronger short-term cumulative abnormal returns. The interaction terms between cross-border status and stock financing were insignificant, while cross-border cash deals were positively associated with announcement returns. These findings challenge the notion that stock offers signal strategic confidence in international M&A and instead emphasize investor preference for deal certainty and financial strength, especially when geographic and informational risks are high.

With respect to Hypothesis 2, which posited superior long-term operating performance for stock-financed cross-border deals, the evidence again contradicted expectations. The intercept model showed that stock-financed acquisitions underperformed both cash-financed and mixed-payment deals in terms of benchmark-adjusted operating efficiency. Meanwhile, cross-border cash deals were positively associated with post-acquisition profitability, although not always with strong statistical significance. These results lend support to theories suggesting that equity-financed deals may suffer from adverse selection or integration difficulties and that financially stable firms using cash may be better positioned to deliver operating synergies.

Finally, in evaluating Hypothesis 3, which proposed that long-term stock performance would not differ significantly across payment methods in cross-border acquisitions, the results were particularly decisive. The BHAR analysis revealed sharp and statistically significant

underperformance for cross-border stock-financed deals, with a value-weighted BHAR of –51.5 percent. In contrast, cash-financed cross-border acquisitions exhibited no significant long-term abnormal returns. These results contradict Hypothesis 3 and reinforce a consistent pattern across the study: stock-financed international acquisitions are disproportionately penalized by the market in the long run.

Taken together, these findings indicate that payment method remains a powerful and context-sensitive determinant of acquisition outcomes. Far from being interchangeable financing choices, stock and cash signal different expectations and risk profiles to both investors and stakeholders. In the context of U.S. cross-border M&As, cash financing is not only perceived more favorably in the short term, but also associated with more resilient long-term outcomes—both operationally and in market valuation.

Research Implications

The study contributes to the M&A literature by offering a cohesive, multi-stage assessment of the role of payment method in cross-border acquisitions, combining market-based and accounting-based performance indicators. By adapting methodologies from Dutta et al. (2013) and applying them to a U.S. sample, the analysis extends prior work that has largely focused on European or Canadian contexts. It also addresses conflicting findings in the literature (e.g., Golubov et al., 2016; Alexandridis et al., 2010) by disentangling the effects of payment method and deal geography using interaction terms and stratified analyses.

Practically, the findings hold important implications for corporate decision-makers. For U.S. acquirers pursuing foreign targets, the results caution against overreliance on stock-based financing strategies. Despite theoretical benefits such as preserving liquidity and aligning post-merger incentives, stock-financed cross-border deals consistently underperformed across all dimensions examined. Executives should therefore re-evaluate the strategic messaging and financial planning associated with equity-financed acquisitions, particularly when entering unfamiliar markets.

Finally, the results hold relevance for investors and analysts monitoring M&A activity. The study underscores the value of incorporating payment method and cross-border scope into post-deal performance expectations and reinforces the need for due diligence beyond the announcement

date. By highlighting where and why value is eroded or preserved, the research provides a framework for anticipating acquisition outcomes with greater accuracy.

Limitations and Future Research Directions

While this study provides valuable insights into the role of payment method in shaping the outcomes of cross-border M&A transactions, several limitations should be acknowledged, which also present avenues for future research.

The matching of control firms for operating and stock return performance relied on nearest-neighbor approaches based on firm size and book-to-market ratio, consistent with Dutta et al. (2013). Although widely accepted, this technique does not account for time-varying firm characteristics or unobserved strategic factors that may influence both acquisition decisions and post-deal outcomes. Future work could apply alternative matching methods, such as coarsened exact matching (CEM) or entropy balancing, to test the robustness of benchmark-adjusted performance metrics.

Additionally, rather than only matching acquiring firms to non-acquiring firms, a valuable extension would be to match cross-border acquirers to domestic acquirers—those who completed acquisitions within the U.S.—to isolate the specific role of international deal characteristics while holding acquirer status constant. This peer-to-peer acquirer matching could offer more granular insights into the role of geography and international complexity in shaping post-deal performance.

One constraint encountered in the analysis was the relatively small number of stock-financed cross-border transactions—particularly in long-term performance regressions and BHAR calculations. While the findings for this subgroup were statistically significant, the limited sample size warrants cautious interpretation. Future research could explore this segment using expanded data windows, including emerging market acquirers or alternative deal types (e.g., partial acquisitions or minority investments), to increase statistical power.

Moreover, this study focuses on observable deal and firm characteristics but does not capture post-merger integration quality, cultural fit, or managerial experience—all of which may affect acquisition success. In particular, the cultural distance between acquirer and target, or the degree of legal and institutional similarity (e.g., common law vs. civil law jurisdictions), could significantly shape the ease of integration and long-term outcomes. These factors remain

unobserved in our dataset but are highly relevant. Qualitative case studies or survey-based analyses could provide complementary perspectives on how these less tangible factors interact with financing decisions to shape long-term value creation.

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