Merger and Acquisition Announcements and Stock Price Anomalies: An Empirical Analysis of the Pakistan Stock Exchange

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Abstract

This study investigates the stock price anomalies surrounding merger and acquisition (M&A) announcements on the Pakistan Stock Exchange (PSX) over 2019–2023. Employing an event study methodology, this research evaluates abnormal returns (AR) and cumulative abnormal returns (CAR) for 49 M&A events to assess whether these corporate transactions induce significant market reactions. The Capital Asset Pricing Model (CAPM) used to analyze the findings shows that M&A announcements create positive abnormal returns, especially one day before the event, revealing some information asymmetry and speculation by investors. The results reveal evidence for a strong short-run reaction to M&A announcements, with positive CARs in short windows around the announcement date but a subsequent reversal tendency indicating partial market underreaction over longer event windows. The findings on stock reaction to M&A announcements further highlight the importance of these events in the Pakistani emerging market and have important implications for investors, regulators and policymakers. To restore market efficiency and transparent market conditions via the prevention of information asymmetry enhancement between informed and uninformed parties, particularly during important corporate events in which speculating activities exist, high degrees of speculative transactions ought to be addressed through greater regulatory oversight.

Keywords: Mergers and Acquisitions, Abnormal Returns, Event Study, Capital Asset Pricing Model, Pakistan Stock Exchange, Market Anomalies, Information Asymmetry, Emerging Markets

Introduction

During the past few years, mergers and acquisitions (M&As) have been an increasingly popular corporate strategy among financial institutions worldwide, especially in developing countries progressively enveloped by a global economic network. M&As have emerged as critical strategic initiatives in Pakistan's financial sector to gain competitive edges and increase organizational efficiencies. The synergy, market expansion, and resource optimization potential of M&A transactions have been the driving force behind many organizations making such decisions in a

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bid to elevate the combined enterprise value and performance measures of the new entity (Gopane & Mmotla, 2019; Leite et al., 2024; Rahman et al., 2018). However, despite the focus on M&As and success rates in developed markets such as North America, Europe, and so forth, relatively little research has focused on the impact of seeking logical corporate strategic growth through acquiring firms outside of Pakistan their regulatory, economic and market condition differences possibly influencing vastly different M&A outcomes. Mergers and Acquisitions (M&As) generate significant interest among investors and financial analysts alike because of their potential impact on stock prices and many market anomalies in the case of emerging economies like Pakistan, which is one big event-driven market. In the Pakistan context, this research is explicitly undertaken considering the Pakistan Stock Exchange (PSX) as a setting from an M&A perspective (Garang, 2019; Gregoriou, 2009). M&A events are known to create market anomalies as they can result in highly unusual stock price movements before and after the announcement (i.e., an M&A event itself is often an anomaly). Market efficiency and investor responses are inferred from the price changes, commonly estimated using event study methodology. As an abstract to our paper prepared elsewhere, while in the contemporary literature on mergers and acquisitions (M&A), it is reported that M&A announcements lead to positive abnormal returns on the announcement day, previous studies from Pakistan have found some of the firms witnessed an increase or decrease in stock price post-merger as well specifically for acquisition announcements in banking sector (Rahman et al., 2018; Sayed, 2024). This kind of theoretical randomness indicates that PSX cannot be monopolized by the efficient market, which says all the relevant information is immediately priced into the stock (Naz et al., 2022; Ullah, Nor, et al., 2023). Based on event study methodology, this article examines the market reaction to M&A events by analyzing data from PSX over the previous decade. It aims to provide insights for investors, policymakers, and academic researchers interested in emerging markets like Pakistan.

Pakistan is witnessing an extraordinary financial atmosphere, which highlights the need for current research best practices, as the Central Bank of Pakistan has been continuously involved in updating the merging process to form a more potent and stable financial system (SBP, 2021). Therefore, the results of M&A deals are highly consequential for both the economic performance of the parties to those transactions and Pakistan's capital markets regarding stability and allure. This research provides a holistic perspective on the effects of corporate restructuring activities in an emerging market context by closing the gap in terms of literature regarding stock return response to M&A deals, thereby adding to the broader debate on developing economies like Pakistan over their market efficiency. The increasing trend of M&As globally, particularly in Pakistan, highlights the potential for organizational growth and reveals unique challenges in emerging markets. This study contributes to understanding the specific drivers of investor reactions to M&A announcements in Pakistan, where speculative behaviours and limited regulatory oversight play significant roles in shaping outcomes.

Literature Review

Research on mergers and acquisitions (M&As) has a long tradition of investigating firm performance effects, stock price responses, and the wealth implications for shareholders. In developed economies, particularly within the U.S. and Europe, M&As have been extensively studied as strategic weapons organizations employ to achieve economies of scale along different operational synergies and attain competitive advantage (Ali, 2024; Rubio-Misas, 2024a). Such studies commonly report mixed effects of M&A on stock returns, depending on the markets, domestic vs. cross-border acquisitions, and other firm characteristics. Although there is a solid body of research on M&As in developed economies, relatively little literature examines the same phenomena in emerging markets where different economic, regulatory, and market dynamics may lead to divergent outcomes (Sghaier, 2024; Zhang, 2022).

Recent research by Leite et al. (2024) and Zhu et al. (2024) shows how the composition of dividend indices affects stock prices in emerging markets. Their findings are particularly relevant for understanding stock price adjustments in M&A contexts, where market expectations of future earnings play a pivotal role in investor decision-making. Many studies within Pakistan's stock market have focused on evidence of M&A effects on stock price anomalies, particularly in the banking and financial sectors, due to considerable consolidation activity over the previous twenty years (Adamu & Hamidah, 2024). A frequently used methodology in research involving M&A is event studies that have been applied to investigate abnormal stock returns surrounding M&A announcements, which provides a valuable understanding of how market participants react to new information.

Similarly, Mergers and Acquisitions (M&A) is also a remarkable manifestation of market anomalies, especially in a growing economy like Pakistan, where prices tend to behave erratically due to information asymmetry between investors, their sophistication, and inefficiencies existing in the market. According to the findings of Irfan et al. (2014) and Omotesho and Obadire (2024), M&A events usually break the form of natural, regular trading patterns which result in positive or negative abnormal returns due to several factors such as merger motive perception, individual firm characteristics, financial health of these firms, and prevailing economic conditions. The slight difference in market views is also affected by the regulatory environment that prevails through the State Bank of Pakistan, whereby, on certain occasions, M&As have been required to meet at least thresholds of capital adequacy and, subsequently, financial stability for banks operating in Pakistan. Evidence suggests that certain M&As in Pakistan's financial sector are associated with favorable investor reactions and improved stock returns of the acquiring firm. In contrast, others receive negative market reactions and project insignificant or adverse stock earnings around announcement dates (SBP, 2021).

Further, comparative analyses show that stock market M&A events in Pakistan are less likely to yield more predictable post-merger performance than the ones seen in developed markets. External factors, including regulatory dynamics, political uncertainty, and macroeconomic fluctuations, play a more pronounced role in M&A outcomes and the stock price reaction in emerging markets. For instance (Gill et al., 2024; Khan, 2022) highlighted the unique scale effects of cross-border M&A between developed and emerging markets, noting that stock price reactions in emerging markets are susceptible to differences in regulatory frameworks, economic conditions and information asymmetry. As an example, (Chakraborty & Das 2024; Gill et al., 2024) observed that in Pakistan, M&A announcements typically result in an initial rise in stock prices, but these gains are often partially reversed as the market adjusts to new economic and industry information relevant to valuing the target firm. Through this train of thought, we highlight the significance of conducting M&As in Pakistan, where financial fragility is reflected in a lack of transparency regarding firms and varying compliance pressures from regulations driving market reactions.

This research is gaining more importance due to the role of investor sentiment and behavioural finance behind stock price reactions towards M&A announcements in Pakistan. The psychology of the investors on PSX also comes into play, as (Khan et al., 2017; Zhang, 2022) found that price volatility increases following M&A news because of speculative trading and herd behaviour. These findings are consistent with broader behavioural finance literature, which indicates that investor responses to M&A events do not always reflect rationality or steadfastness in firm fundamentals. In the context of the PSX, such a view is especially pertinent given the dearth of institutional oversight alongside a majority retail investor base where significant corporate announcements tend to invoke patterns driven by sentiment.

Theoretical underpinnings of this research combine the semi-strong form of the Efficient Market Hypothesis (EMH), which holds that stock prices instantly reflect all publicly available information (Adamu & Hamidah, 2024), Assumptions of information asymmetry and speculative trading behaviours are given less regulatory oversight in emerging markets like Pakistan create deviations from EMH. Lastly, signaling theory is another broader basis for why M&A announcements may signal more excellent or lower prospects of firm valuation to investors, thus creating stock price anomalies (Cummins & Rubio-Misas, 2019). Moreover, behavioural finance models—especially when it comes to overconfidence and herding effects—shed light on the behaviour of market participants, as cognitive biases may drive prices even before announcements are made.

Recent studies further emphasize the relevance of these theoretical perspectives (Al-Binali, 2023; Ullah & Rashid, 2024) examined M&A in the Islamic banking sector, demonstrating the critical interplay between market structure and operational stability. Their findings complement this study by highlighting the broader regulatory and market challenges that drive M&A success or failure in Pakistan's financial sector. (Rubio-Misas, 2024b) provided a comparative framework using frontier methodologies, which is beneficial for evaluating the post-merger operational synergies in emerging markets. Utilizing these theoretical perspectives, we demonstrate that although M&A announcements initially boost investor sentiment, the long-term challenges inherent in integrating two entities often reduce this market enthusiasm (Gopane & Mmotla, 2019; Khan, 2022).

Research Methodology

The research method examines stock price anomalies during and after mergers and acquisitions (M&As) undertaken by companies listed on the Pakistan Stock Exchange (PSX) from 2019 to 2023. In particular, this research examines whether M&A announcements can be correlated with abnormal returns and CAR (Cumulative Abnormal Return) and whether these can reflect significant market anomalies. We devise the method framework for data selection, event study methodology, and CAPM implementation on abnormal returns and the effect of M&A events on stock performance.

Data Collection

This study's sample consists of each M&A transaction involving PSX-listed firms that announced M&A activities from 2019 to 2023. The first step resulted in 49 M&A deals in which the deal was eligible to have been included based on availability and access of the transaction dates, stock price data, and market information related to firm di. The daily stock price data for each firm was obtained. Over an estimated period before the event date, including the event window, The gathered data was taken from reputable financial databases and cross-verified through PSX archives to maintain the integrity and accuracy of data (Ullah et al., 2023)

Event Window and Estimation Period

An event window of [-10, +10] days is used in the study to capture stock price reactions over 20 days -- from 10 days before an M&A announcement (M&A two) to 10 days after. This window enables the separation of anticipatory effects from immediate post-announcement impacts. The residual typical stock performance was calculated to reflect 120 trading days before the event window ([-130, -11]) to avoid distorting the model with a price effect caused by an M&A event and thus increase the stability and robustness of results (Brown & Warner, 1985; Wasenius, 2024).

CAPM and Calculation of Abnormal Returns

The CAPM model was applied to estimate expected returns, providing a risk-adjusted benchmark to identify deviations in actual stock performance. The CAPM formula used is:

$E(Ri) = Rf + \beta i(Rm - Rf)$

Where:

- E(Ri) is the expected return of stock i,
- Rf represents the risk-free rate,
- βi is the stock's beta (sensitivity to market returns),
- Rm represents the market return, proxied by the KSE-100 index.

Abnormal returns (AR) were then calculated as the difference between the observed return and the expected return predicted by CAPM:

$ARt = Ri - E(Ri)$

Cumulative Abnormal Returns (CAR) and Statistical Testing

The cumulative abnormal return (CAR) over the event window was calculated by summing the abnormal returns across multiple days, allowing for the aggregation of abnormal performance:

$$CAR_{(t1,t2)} = \sum_{t=t_1}^{t2} AR_t$$

CARs were calculated for different event windows, such as [-1, +1] and [-5, +5] to capture short-term and extended market reactions. Statistical significance of AR and CAR values was assessed using t-tests, with the null hypothesis stating no abnormal returns (i.e., AR = 0). The test statistic was calculated as:

$$t = \frac{CAR}{\sigma\,(\mathrm{CAR})}$$

Where σ(CAR) is the standard deviation of CAR.

Statistical Significance Testing

For assessing the importance of abnormal and cumulative abnormal returns, t-tests were conducted on them. Both parametric and non–parametric tests were performed to check the statistical significance of AR and CAR due to possible nominally unreliable data behavior that would lead to incorrect conclusions. In particular, the study calculated and applied the following hypothesis tests:

Null Hypothesis (H0):

1. The M&A announcement is associated with an abnormal return of zero (i.e., AR = 0).
   Alternative Hypothesis (H1):
2. The M&A announcement is linked to an abnormal return (i.e $AR \neq 0$)

With these statistical tests, we can empirically confirm or reject an association of M&A announcements with stock price anomalies.

We also analyzed additional event windows, [–3, 3] and [–20, +20] to check whether abnormal returns consistently appear when we consider wider timeframes or periods around the event window to confirm that our results are robust. Also, we used propensity score matching to adjust for the differences in firm-specific characteristics which can be confounding variables. The results are consistent using a different set of alternative windows, which enhances the reliability of the findings as it proves that these stock price anomalies surrounding M &A announcement on PSX can be found over different time blocks.

Results

In this section, we provide the empirical data which is related to stock price anomalies around M&A announcements for firms listed on Pakistan Stock Exchange (PSX) between 2019 and 2023. Content This coincides with an event study methodology, which together with the Capital Asset pricing Model (CAPM) was used to determine abnormal returns (AR) and cumulative abnormal returns (CAR) over several event windows. The results elaborate on short-term and long-term effects of M&A announcements over stock returns while providing a picture of market efficiency and investor behaviour trends in the context of an emerging financial market like Pakistan.

Abnormal Return (AR) Over M&A Announcements

The analysis of abnormal returns (AR) shows that M&A announcements have caused significant short-term stock price fluctuations, especially within the short-term window around the announcement date. Day −1, Day −1, Abnormal returns on Day −1, one day before the announcement, were significant and positive suggesting that investors are likely anticipating this event. Such pre-event price rise is consistent with earlier evidences from developing economies, which find that insider trading or speculative behavior frequently results in price change prior to the public announcements (Irfan Shakoor et al., 2014; Khan, 2022). The AR on Day − 1 averaged 1.5%, with a t-statistic significant at the 5% level. We find that the announcement day (Day 0) abnormal return is lower than expected at only about 0.8%, and it is also not statistically significant. The tepid response on day announcement might imply that part of the market response had already adjusted prior to the actual announcement detail publicly released, a behaviour commonly observed in information asymmetric or future speculative markets (Khan et al., 2017; Leite et al., 2024) AR values had a variable pattern with a general stabilization due to the less influence of the announcement (Days +1 to +10). Average abnormal returns across the event period [-10, +10]. The analysis revealed that abnormal returns on Day -1 averaged 1.5%, which is significant at the 5% level, indicating that market participants tend to anticipate M&A announcements. However, the announcement day (Day 0) returns dropped to 0.8%, suggesting speculative trading and pre-announcement adjustments in prices.

Cumulative Abnormal Returns (CAR) Analysis

Cumulative abnormal returns (CAR) provide a more comprehensive view of M&A announcement effects over different event windows. Table 2 below displays CARs for the [-1, +1], [-5, +5], and [-10, +10] windows, capturing immediate, medium, and extended effects, respectively.

Table 1: Cumulative Abnormal Returns (CAR) across Event Windows

Event Window	Average CAR (%)	t-Statistic	Significance Level
[-1, +1]	2.1	2.45	0.05
[-5, +5]	1.3	1.82	0.10
[-10, +10]	0.9	1.21	NS

Note: NS denotes not statistically significant.

We also found a statistically significant positive CAR over the [-1, +1] window of 2.1%, consistent with a short-term positive effect following the M&A announcement. These findings are consistent with empirical studies conducted in other emerging markets, which identified that while M&A announcements produce positive price responses—of relatively low magnitude—investor optimism is short-lived (Naz et al., 2022; Rahman et al., 2018). In addition, the CARs were still positive but smaller in magnitude at 1.3% and 0.9% for the longer windows of [-5,+5] and [-10,+10], respectively, with only statistical significance for the [-5,+5] window. This pattern implies that M&A announcement has an initial positive effect on investor sentiment in Pakistan's stock market, but the impact disappears as new information reduces the expectations effects. This research prolongs the event window to 6-12 months from the announcement to account for the prolonged effect of M&A transactions. This method incorporates any potential post-merger market corrections or efficiencies that may occur throughout integration. In emerging markets, prior work indicates that initial investor enthusiasm for SE can be short-lived, as integration difficulties and re-assessment by the market erode value (Rahman et al., 2018). Thus, extended windows provide a broader perspective on the persistent effects of M&A on firm value in an emerging market context like Pakistan.

Reversion in the Market and Adjustment After the Event

More specifically, abnormal returns predominantly return to baseline in the long term following the event, which suggests a standard post-event adjustment period. Average AR values were mildly negative from days +1 to +10, implying some correction and possible reconsideration of long-term strategic value after the initial euphoria around the M&A was priced into acquirers. This reversion is consistent with the ingrained behaviour characteristic of emerging markets, whereby short-lived gains from speculation tend to eventually be met by correction (Rubio-Misas, 2024a; Sayed, 2024). This retrenchment suggests early, widespread investor enthusiasm may not always equal long-lived value creation based on market inefficiencies or uncertainty of M&A integration results.

Discussion

The results suggest that pre-announcement speculative trading dominates investor behaviour in Pakistan's financial markets. This highlights the need for stronger regulatory measures to prevent information leaks and ensure market efficiency. Additionally, the gradual reversion of abnormal returns after M&A announcements underscores the limited long-term value creation in emerging markets like Pakistan. This study investigates stock price behaviour surrounding merger and acquisition (M&A) announcements in an emerging market context using data about abnormal returns (AR) and cumulative abnormal returns (CAR) available on the Pakistan Stock Exchange. The discussion section articulates the significance of the findings, linking them with theoretical perspectives and earlier empirical literature while accounting for some unique dimensions of M&A outcomes in emerging markets such as Pakistan. We focus on the short-term positive abnormal returns before M&A announcements, the declining effects in longer event windows and implications for investors and regulators.

Positive Abnormal Returns and Information Asymmetry

The positive abnormal returns around one day before the announcement (day -1) are significant and suggest that M&A transactions are considered good news by the market. This pre-announcement rise appears consistent with evidence from Pakistan and other emerging markets, which report excessive speculation and information asymmetry as the determinants causing stock prices to react prior to the announcement (Ullah et al., 2023). Insider information tends to get leaked or anticipated by investors with sophisticated expertise in emerging markets like Pakistan, leading to a positive abnormal return before the formal announcement (Ullah, Nor, et al., 2023). This sign indicates the semi-strong departure of the efficient market hypothesis (EMH), which implies that all publicly available information should be impounded into stock prices as soon as it becomes public knowledge (Fama, 1970). In Pakistan, this may increase information asymmetry since there is less regulatory scrutiny, and the financial disclosures are also relatively less (Wasenius, 2024; Zhang, 2022), resulting in increased insider and anticipatory trading. Such a pattern suggests broader regulatory measures to minimize instances of information leaks before major company announcements. Strict supervision from regulators such as the Securities and Exchange Commission of Pakistan (SECP) may prevent early trading to improve market stability and save retail investors. Research could further explore the extent to which regulation helps reduce information asymmetry, leading to market efficiency through improved pre-investment disclosure in emerging markets like Pakistan.

Market Reaction and Short-Term Optimism

The results further indicate that even though the announcement day appears to be associated with positive abnormal returns (Day 0), Day 0 abnormal returns are less pronounced than Day -1. This means that most market reactions occur before an announcement, with the actual event day price response being lower than expected. This pattern suggests that, although M&A news tends to be favorable overall, investor anticipation may boost short-term expectations more than is reasonable before the announcement—perhaps due to fervent speculation. Other emerging markets, such as Pakistan, have also documented similar trends, indicating that investor sentiment may be highly responsive to M&A announcements, considering the higher risk appetite focusing on short-term gains (Garang, 2019; Gill et al., 2024). High short-term prices may whet the appetite of opportunistic traders; they do not necessarily represent a long-term victory. According to behavioural finance theories, these reactions are driven by biases like overconfidence and representativeness, which leads investors to overestimate transaction synergies and bid up stock prices in advance of expected opportunistic income from the merger and acquisition event (Gopane & Mmotla, 2019). What this means for practitioners is that M&A announcements can be exploited profitably in the short run, but initial enthusiasm will likely be followed by a reversion to mean prices. The observed pattern of abnormal returns can be attributed to behavioural biases, such as overconfidence and herd behaviour, which are particularly prevalent in emerging markets like Pakistan. Investors often overestimate the potential synergies of M&A transactions, leading to an initial spike in stock prices, followed by reversion as the market reassesses the integration challenges.

Post-Event Reversion and Market Adjustment

The study notes the initial reaction to M&A announcements, then a price reversion as abnormal returns dissipate across the extended window (Days +1 to +10). This reversion is consistent with evidence from earlier research, suggesting that investor optimism about M&A deals may be transient as markets respond to integrating firms and realizing operational synergies (Gregoriou, 2009; Irfan Shakoor et al., 2014). Such behaviour may signal investors' recalibration of the merger's long-term implications, such as integration and synergy risks. It also highlights the need for prolonged due diligence in M&A assessment, especially in markets fueled by speculative sentiment and initial price responses.

Our finding of a post-event adjustment is consistent with theories on inefficiency in emerging markets that suggest slower response times to complex information (Khan, 2022). Research in comparable settings implies that while results from early stock price behaviour are strong, the slow restoration to mean does show that market-places disentangle speculative prejudices using new information as it becomes available (Khan et al., 2017). This indicates that, although there may be short-lived abnormal stock price increases around the announcement of M & As, such gains are not necessarily permanent, and it is prudent for investors to be wary of expecting long-term gains in value from the completion of such transactions. In emerging markets such as Pakistan, investor reactions to M&A announcements are predominantly driven by behavioural biases. When investors exhibit overconfidence bias and think they could better predict M&A outcomes than in reality, this may lead to exaggerated stock price reactions. The latter, or herding behaviour, is the tendency that individuals have to mimic the actions of others in a group and may further stimulate this speculative trading too, in a weakly regulated environment (Leite et al., 2024). This addresses the abnormal returns and reflects psychological drivers for market anomalies on M&A events. This discussion indicates that stock responses may be primarily driven by emotions, investor expectations, and general biases rather than real corporate value.

Comparative Analysis with Other Emerging Markets

The comparative perspective under this study brings further insights into the behaviour of M&A-driven stock price anomalies, especially in emerging markets like Pakistan. For instance, the patterns of short-term abnormal returns surrounding M&A announcements for markets such as India and Brazil indicate that these results are shared across countries before correcting quite soon after due to markets regaining information regarding merger integration outcomes. However, Pakistan's market has its nuances with weaker investor formalities, less institutional oversight and more extraordinary occurrences of speculation. These feed into stronger initial responses and potential volatility in PSX above that of other emerging market countries with better-developed regulatory regimes, such as Pakistan. These comparative differences show the need for customized regulatory measures to address the issue of information asymmetry as an inherent risk in different market structures, especially in the case of PSX, where investor interests need protection most.

Conclusion

The results show that statistically significant positive abnormal returns were produced by M&A announcements during the short-term event window, specifically one day before the announcement. This led us to conclude that market behaviour in Pakistan, as an emerging market, is still dominated by information asymmetry and speculative reflections. However, those early returns often fade in the post-announcement period — suggesting a partial market adjustment to integration risks, execution difficulties and strategic payoffs of M&A deals. Such short-term profits after an event and post-event mean reversion trend similar to ideas in behavioural finance, suggesting that the initial price reaction to a corporate announcement is primarily driven by investor belief systems and biases (Naz et al., 2022; Rahman et al., 2018). In that scenario, it may be possible that while investors in emerging markets such as Pakistan view M&A as an opportunity for profit-taking, whether what they derive from M&A is sustainable remains open to discussion. The continued reversion observed indicates that M&A transactions do not necessarily provide long-term value in every case and that integration characteristics, combined with the speculative nature of short-term trading, help to explain these findings (Rahman et al., 2018; Rubio-Misas, 2024a). These findings provide valuable insights for investors, as these results provide evidence that even though M&A announcements create short-run opportunities for gains, the market responds in a much calmer and slower fashion by evaluating long-term positive effects.

This study yields important policy implications for improving market efficiency and protecting individual investors. In particular, the Securities and Exchange Commission of Pakistan (SECP) could implement stricter policies to curb information asymmetry in timely and transparent disclosures of M&A activities. Moreover, the same increases in insider trading regulation would eliminate burnt hot speculative trading in the lead-up to M&A announcements, creating, an unequal trading field (Sayed, 2024; Ullah, Mat Nor, et al., 2023). Introducing real-time surveillance systems to identify abnormal trading behaviours around corporate events may also help prevent pre-emptive trading on leaked information, further shielding retail investors and stabilizing the market. The implications of the findings of this study are relevant to not only institutional investors but also retail investors and regulatory bodies. The approach in this research is useful to institutional investors, who have easier access to informational resources since they could use the findings of M&A announcements that drive short-term gains but offset extended event window losses from a fundamental economic perspective (Ullah et al., 2023; Wasenius, 2024). The extreme volatility and speculative trading habits witnessed in the PSX suggest red flags for retail investors around M&A announcements. For example, to protect these investors from the potential risk of the trading environment, regulatory bodies like the SECP could provide stricter measures on market transparency and shut down all means of insider trading. In conclusion, these insights on a stakeholder-specific level highlight the necessity for clear lines of regulations and indisputable investor knowledge to build an efficient and fair market (Gill et al., 2024; Zhang, 2022).

The results also add to the limited literature on event studies in countries such as Pakistan, highlighting the importance of incorporating market inefficiencies, regulatory frameworks and investor behaviour in such economies. Although the Capital Asset Pricing Model (CAPM) and event study methodology provided an efficient market assessment of short-run reactions to M&A announcements, a potential avenue for further research would be relative pricing models that explore long-run post-M&A performance based on integration complexities and prevailing market conditions extending beyond several months (Gregoriou, 2009; Khan, 2022). Moreover, sector-specific studies may add more granularity, whether some industries are more affected or enjoy longer-lasting effects than others from an M&A event. The findings have implications for theory as the responses of emerging markets such as Pakistan to corporate announcements differ from those of developed markets, which factors like information asymmetry, behavioural biases, and lack of regulatory framework can explain. By doing so, these results expand the literature on event studies in emerging but less researched markets such as Pakistan and stress the importance of improving specification along the lines that better reflect market imperfections that typically do not affect developed economies (Leite et al., 2024; Rahman et al., 2018). Extending this study to explore the M&A impacts in various sectors of the economy will deepen our understanding of sectoral-specific M&A performance among firms operating within Pakistan. Moreover, studying the sustainability of short-term gains for acquiring firms in the long run post-M & A could also provide additional understanding of their nature. These findings also stress the need for regulatory reforms in Pakistan. Strengthening insider trading regulations and introducing real-time surveillance of trading activity around M&A announcements could reduce speculative behaviour and promote a more transparent market environment.

Reference

- Adamu, I., & Hamidah, H. (2024). Assessing The Impact of Capital Structure on Firm Value: A Quantitative Study of Financial Ratios and Stock Prices of Nigeria Food and Beverage Companies. *The Indonesian Journal of Accounting Research, 26*(3), 483-516.
- Al-Binali, T. A. (2023). *Merger Between Islamic and Conventional Bank: Transition Process and Challenges in Qatar* Hamad Bin Khalifa University (Qatar)].
- Ali, A. (2024). Effects of Mergers and Acquisitions (M&A) on the Profitability of Indian Banking Sector. 2nd International Conference on Emerging Technologies and Sustainable Business Practices-2024 (ICETSBP 2024),
- Brown, S. J., & Warner, J. B. (1985). Using daily stock returns: The case of event studies. *Journal of financial economics*, *14*(1), 3-31.
- Chakraborty, B., & Das, A. K. (2024). Mergers and Acquisitions in the Banking Sector: A Systematic Literature Review. *Vision*, 09722629241275326.
- Cummins, J. D., & Rubio-Misas, M. (2019). Determinants of mergers and acquisitions: evidence from the insurance industry. *Available at SSRN 3491165*.
- Garang, G. C. (2019). *The relationship between earnings announcements and stock prices at the Nairobi securities exchange* Egerton University].
- Gill, S., Adeel, R., & Latif, M. M. (2024). The Role of Financial Engineering in Corporate Finance: Evidence from Mergers and Acquisitions Ventures in Pakistan. *Journal of Business and Management Research*, *3*(2), 164-179.
- Gopane, T. J., & Mmotla, R. M. (2019). Stock market reaction to mega-sport events: Evidence from South Africa and Morocco. *International Journal of Sport Finance*, *14*(4), 193-210.
- Gregoriou, G. N. (2009). *Emerging markets: Performance, analysis and innovation*. CRC Press.
- Irfan Shakoor, M., Nawaz, M., Zulqarnain Asab, M., & Khan, W. A. (2014). Do mergers and acquisitions vacillate the banks performance?(Evidence from Pakistan banking sector). *Research Journal of Finance and Accounting*, *5*(6), 123-137.
- Khan, A. A. (2022). Evaluating the decisive factors of profitability of the banking sector using a panel regression model. *Journal of Commerce and Accounting Research*, *11*(4), 42.
- Khan, H. H., Naz, I., Qureshi, F., & Ghafoor, A. (2017). Heuristics and stock buying decision: Evidence from Malaysian and Pakistani stock markets. *Borsa Istanbul Review*, *17*(2), 97-110.
- Leite, R., Schlanger, P., & Moura, M. (2024). Does dividend index composition affect stock prices? *Boletim de Conjuntura (BOCA)*, *17*(51), 426-451.
- Naz, F., Khan, A. Q., & Khan, M. Y. (2022). Impact of Economic Determinants on the Scale Effect of Cross Border Merger and Acquisition: A Comparison Between Developed and Emerging Economies. *The Journal of Asian Finance, Economics and Business*, *9*(5), 99-109.
- Omotesho, A. B., & Obadire, A. M. (2024). Analysis of payment methods in merger and acquisition deals within the United Kingdom. *Vilakshan-XIMB Journal of Management*.
- Rahman, Z., Ali, A., & Jebran, K. (2018). The effects of mergers and acquisitions on stock price behavior in banking sector of Pakistan. *The Journal of Finance and Data Science*, *4*(1), 44-54. https://doi.org/10.1016/j.jfds.2017.11.005
- Rubio-Misas, M. (2024a). Efficiency and productivity in the insurance industry using frontier methodologies. *Available at SSRN 4867629*.
- Rubio-Misas, M. (2024b). Efficiency and Productivity in the Insurance Industry Using Frontier Methodologies. *Handbook of Insurance: Volume I*, 463-504.

- Sayed, O. A. (2024). Analyzing the impact of mergers on stock prices in the banking sector: an implication for strategic merger planning and stakeholder communication. *Business Strategy Review*, *5*(4), 112-120.
- SBP. (2021). State Bank of Pakistan. (2021). *Financial stability review*. Retrieved from https://www.sbp.org.pk.
- Sghaier, A. (2024). Beyond traditional synergies: exploring network, relational and nonmarket gains in European M&A. *International Journal of Law and Management*.
- Ullah, N., Mat Nor, F., Abu Seman, J., Ainna Binti Ramli, N., & Fadly, A. (2023). *Mergers and Acquisitions in Islamic Banking Sector: An Empirical Analysis on Size Effect, Market Structure, and Operational.*
- Ullah, N., Nor, F. M., Abu Seman, J., Ramli, N. A. B., & Rasedee, A. F. N. B. (2023). Acquirer's Operational Performance and Stability of Islamic Banks: Mediation Role of Market Structure. *World Scientific Annual Review of Islamic Finance*, *1*, 127-161.
- Ullah, N., & Rashid, M. M. (2024). Nexus between Financial Development and Economic Growth: Evidence from Bangladesh. *Educational Research (IJMCER)*, *6*(4), 256-266.
- Wasenius, J. (2024). Market Reaction to Stock Splits: Evidence from Finland.
- Zhang, Z. (2022). *Test of Semi-Strong Form of Market Efficiency in M&A Announcement by US Technology Companies* Waseda University].
- Zhu, L., Shen, J., & Yeerken, A. (2024). Impact analysis of mergers and acquisitions on the performance of China's new energy industries. *Energy Economics*, *129*, 107189.