



Merger and Acquisition Impact on Shareholder Wealth: Evidence from Pakistan

Safi Ullah^{a*}, Muhammad Faizan Malik^b, Wisal Ahmad^c

^aMs Scholar, Department of Accounting & Finance, Abdul Wali Khan University Mardan. ^bAssociate Professor, Department of Accounting & Finance, Abdul Wali Khan University Mardan. ^cLecturer, Department of Accounting & Finance, Abdul Wali Khan University Mardan.

*Email: safiullahmueez@gmail.com

Abstract: This research examines the implications of M&A's on shareholder's wealth of the Acquire banks in Pakistan. The basic objective of this research study is to analyze the shareholder wealth at the corporate, economic, and national levels. By using event study, the current study looks at any unusual returns for the shareholders of the acquired banks during the M&A announcement phase. The current study analyses 60 acquirer banks that are listed on the Pakistan Stock Exchange (PSX) between n 2002 and 2022 using a census sample method. Additionally, to estimate the link among dependent and independent variables, the present investigation makes use of estimators such regression analysis, paired sample t-test, diagnostic tests. By using the event study approach, the study searched for any anomalous returns for the shareholders of the acquire banks during the announcement of the M&A, which helped to explain how M&As affected the wealth of the acquire banks' shareholders in Pakistan. The study, which used a market model, discovered that the announcement of M&A deals significantly affects shareholder worth. During the M&A announcement phase, the shareholders of the acquired banks got considerable abnormal. In terms of significant determinants for shareholder's wealth of CAR, the study found that the significant determinants based on OLS models are Capital adequacy, Inflation, Exchange rate, Regularity quality, Control of Corruption, Rule of law. This study support the information asymmetry and signaling hypothesis in explaining the shareholder's wealth of the Acquire banks at country-level.

Key words: Mergers and acquisitions, Capital adequacy ratio, Pakistan Stock Exchange, Inflation, Exchange rate.

1. Introduction

The corporations' principal goal is to perform better every year so they may increase shareholder wealth by giving them big dividends. Every business employs a distinct combination of tactics and tools to increase performance in instruction to succeed in the ever growing market. Businesses sometimes need to take swift action to make the most of certain circumstances. Examples include entering new markets, launching new items, increasing their product lines, and growing their product portfolios. To achieve their objective of gaining a market monopoly, the enterprises must then have the necessary financial resources. Smaller or less profit-driven businesses have little alternative except to quit the market, combine with reputable financial businesses, or be bought. Since merger and acquisition are generally straightforward and the only method for small or less lucrative businesses to survive and grow in the developing market (Krishna Kumar & Sethi, 2012).

In fact, academic study and industry analysis have been interested in the performance of financial institution

included in merger and acquisition (M&A) operations. Through numerous transactions, including mergers, acquisitions, and takeovers, M&A operations include the consolidation or combining of firms. Through the provision of finance, consulting services, and other financial services, banks play critical roles in supporting these transactions (Ramakrishnan, 2008).

Due to the fact that the trend of M&A's in Pakistan has only lately begun to gain traction, it is also less researched than other global markets. Empirically, very few studies have been done to determine if M&A's add value to the acquire businesses in Pakistan or detract from their worth. There are several outcomes. Some research (Haider et al., 2015; Kouser & Saba, 2011; Nadeem & Ahmad, 2015) showed a decline in performance as a result of M&A activity, however other studies showed an improvement (Ahmed, 2015; Ahmed & Ahmed, 2014; Nadia, 2014).

However, Pakistan has only employed mergers and acquisitions over the previous 20 years, making them a fairly new phenomenon. Between 2000 and 2009, Ahmed and Ahmed, 2019 investigated Pakistan's industrial sector and discovered that Pakistan's mergers and acquisitions findings were very comparable to those of studies done in other nations. Mahmood, et al. looked into Pakistan's banking and pharmaceutical industries and found a variety of findings. They claimed that the phenomena of mergers and acquisitions in the nation had good effects on certain firms' share prices while having negative, or even no, effects on other companies' share prices.

When banks are involved in M&A transactions, the question of whether the acquired or merged bank would ultimately improve and maximize Market performance and shareholder value emerges. By utilizing the event study approach, the current study seeks to provide solutions to these questions. The approach is simultaneously used in the study to evaluate how M and A affect shareholder worth. Earlier M and A research has looked at how M and A affect Market performance. Therefore, the study acknowledges the necessity to take into account firm-level, economic-level, and country-level characteristics to adequately classify the M and A problem. As a result, our study adds something special to the corpus of literature already in existence. Given the relative significance of whole-level variables, we pay attention to them (firm, economic and country). Only a few studies, according to the literature, have concentrated on the banking sector in emerging countries like Pakistan. The current analysis addresses this gap by examining the result of Mergers & Acquisition on the shareholder wealth of Pakistani Acquiring banks. The determination of this paper is to decide how Merger and acquisition affect the shareholder wealth of Pakistan's competing banks. The current research measures the impact of M and A's thought firm-level, economic-level and country level. Firm-level is capital adequacy non-performing loan and method of payment, Economic Level (GDP Inflation Exchange rate), Country Level (Control of Corruption(COC), Regulatory Quality(RQ), Rule of Law(ROL)) have significant effect on shareholder wealth. This study is importance for each level of factors (firm-level ,Economic-level and country-level) that explain shareholder wealth in M and A's

The important conclusion of the current paper may be broadly categorized into two groups: policy implications and empirical development. When compared to the industrialized nations, Pakistan is a unique market because of its unique political and economic environment. M&A's are not well understood in Pakistan, particularly when it comes to shareholder wealth. One of the performance measurement methods employed in the current study is the event study methodology for shareholder wealth. That spoke about how mergers and acquisitions affect shareholders of Acquiring banks' wealth both immediately and over time.

2. Literature Review

Both mergers and acquisitions can modify the functions of business entities and pave the way for business transformation (Eliasson & Melander, 2011). The acquisition procedure involves buying the company's all significant assets (Okonkwo, 2004), which entitles the acquiring company to oversee all business-related activities from then onward. Literature elaborates that the consolidation achieved through acquisition implies that another party now purchases the company in exchange for money, and the shareholders of the procured company will not be able to exercise any power (Ahmed et al., 2022).

The acquisition can result in two possible scenarios; a merger of a newly acquired company with the already established one, or it is permitted to work as an independent entity under the supervision of a new hierarchy (Das & Mariappan, 2021). Company's owner's decision to merge may result in asset sharing. In contrast, the shareholders of both the involved companies can still exercise some power on the matters of their respective companies. However, acquisition causes a greater change in ownership, or the new entity takes full control of the company's

matters(B. A. Shah & Khan, 2017). The acquisition also comes with more critical changes, and such ones as changing the entity's structure and readjustment of the personnel on duty. "*Organizational Justice Theory*" provides the necessary theoretical sensitivity about the impact of this decision on the morale and work ability of the remaining workers(Yousif & Mohammed, 2022). Workers get cautious during mergers to assess the effectiveness of the decisions in addressing technical and distributive malpractices Usually, it is only the hierarchy and the top management of the involved companies which oversee negotiations, but sometimes, the organizational hierarchy allows the flow of information to other employees(Fiza Quareshi,Mukhtiar Ali, 2021).

2.1 Capital Adequacy (CA) and Market Performance

An indicator of a bank's capacity to bear the risk involved with any credit or profitable transaction is the Capital Adequacy Ratio (CAR).The greater the CAR, the more risk that bank can accept the more dangerous an asset. Buffer Theory of Capital Adequacy states that banks might decide to hold back on surplus capital to lessen the likelihood of falling short of legal capital requirements, particularly if their capital adequacy ratio is very high and sends a positive signal to investors (Chandrasegaran, 2020). Examples of research studies which have demonstrated a positive relationship between capital adequacy and performance of banks, (Ani, Ugwunta & Imo (2012); Adeusi, Kolapo & Aluko (2014); Hafez (2018), while (Ayaydin & Karakaya, 2014; Oladeji, Ikpefan & Olokoyo, 2015; Ugwuanyi & Ewah, 2015) have reported a negative association among bank performance & it's capital adequacy Ratio. The current analysis suggests that capital adequacy has a negative (-) effect on Acquire banks' Market performance in Pakistan based on the conversation and findings of historical literature. Pakistan's banking sector was established as a result of the state bank of Pakistan's legislative mandate that commercial banks uphold a specific level of capital adequacy ratio. Banks need to keep their financial assets at a healthy level.

H₁: The performance of a bank is Negative impacted by capital adequacy.

2.2 Non-Performing Loans and Market Performance

Non-Performing Loans, or NPLs, are a sign of how well a financial institution is managing its assets. The NPL has a parameter in the form of a fundamental financial ratio that can give information about the capital condition evaluation. Non-performing loans are impacted by three variables: bank internal factors, debtor internal factors, non-bank and debtor external factors, and provisions are viewed as a control measure for expected loan losses. Previous practices have shown that loan default circumstances result in provisions, and higher provisioning rates are associated with higher levels of nonperforming loans Hasan and Wall, (2004). According to the present estimate, non-performing loans will have a negative financial influence on Pakistan's. Political upheaval and poor administration have had a significant role in lowering investor trust in the nation and encouraging corruption and unethical business activities that are bad for the country's finances.

H₂: The performance of the bank is negatively impacted by non-performing loans.

2.3 Method of Payment

Due to the fact that the purchases are funded by cash, stock, or a mix of both. Investors will recognize the overvaluation of the purchasing firm if solely stock is used as payment (Travlos, 1987). According to Moeller et al. (2004) suggest that Method of payment have negative influence on market performance. Martynova & Renneboog (2011) are just a few more that provide evidence in favour of the acquirer experiencing materially negative anomalous returns in equity-related transactions during the announcement period. Based on the discussion and result of past literature, the current study assumes negative effect of method of payment on bidder bank financial performance in Pakistan. If a nation is unable to finance It must achieve this by using up reserves in order to pay for its purchases through capital exports.

H₃: Method of payment have negative and substantial impact on bank's performance.

2.4 GDP and Market Performance

In 1988, Pakistan introduced changes intended to design policies for economic stabilization and structural reforms as the country attempted to reduce its domestic financial imbalances and external deficits. Another objective of these initiatives was to encourage trade liberalization, fewer capital controls, more flexible investment policies, and

the adoption of such monetary policies that are maker oriented (M. A. Hussain, 2014). However, the country could not achieve the growth targets as poor governance, corruption, and political instability paved the way for further chaos. Higher tax percentages on a shrinking tax base resulted in more contraction because of evasion and incredible growth in the underground economy which led to further tax hikes (Ahmed & Ahsan, 2011). The economy of Pakistan is mired in a vicious circle of underdevelopment, slow growth, poor investment, and low savings (Sehrawat & Giri, 2016).

The relationship between GDP growth and market performance remains complicated due to the complex interactions of numerous, varying, and time-varying factors, each of which affects countries differently. Based on the discussion and result of past literature, the current study assumes negative effect of GDP on bidder bank financial performance in Pakistan.

H₄: The performance of banks is negatively impacted by GDP.

2.5 Inflation and Market Performance

Scholars worldwide have documented a highly positive correlation between overall economic performance and measures of financial market development. As a whole, countries with extremely efficient financial systems have a higher level of growth as compared to countries with traditional financial markets. Development of equity markets and the banking sector demonstrate this extremely positive correlation with real performance (Howe, 1978). 1. Simultaneously, studies have suggested an extremely negative correlation between inflation and overall market performance. Based on the discussion and result of past literature, the current assessment predicts that Pakistan's acquire banks' Market performance would be negatively impacted by inflation. The structural issues in Pakistan include: disproportionately higher government involvement in economic activities; a sizable informal economy; the continued importance of agriculture as a major employer of labor; a focus on activities related to the production of cotton; and policies that are biased toward import substitution. Pakistan's central bank has monetary policy tools at its disposal, such as regulating the money supply and interest rates, to combat inflation.

H₅: Inflation has a negative impact on banks' performance.

2.6 Exchange Rate and Market Performance

Several factors can significantly impact the market value of firms and stock prices. Among these factors, the primary change is in the currency rate. According to financial theory, the value of a firm should remain under interest rates and currency rates' impact. The stock prices of the firm may well be decided by the increase and decrease of the exchange rates. Investors at home are inclined to invest in the domestic market when asset prices increase which consequently increases local currency demand and the behavior of selling foreign assets. Demand for local currency will boost interest rates, which will encourage international investors to invest and increase profitability (Shaheen, 2013).

Pakistan has been operating under a market-based flexible exchange rate regime since May 1999. The local interbank foreign exchange market's supply and demand dynamics affect the exchange rate. Government supply-side initiatives to boost competitiveness and lower manufacturing costs will need to be tested in order to increase the currency's long-term worth. For example, deregulation and privatized might increase the export industry's competitiveness in the long run. Exchange Rate at the bank is higher than Banks and other currency exchange businesses set different rates for buying and selling currency in order to make a profit. Banks naturally also charge a commission on the transaction to be safe. Based on discussion and result of past literature, the current study assumes negative effect of Exchange rate on Acquire bank market performance in Pakistan.

H₆: Exchange rate has a negative effect on bank's performance.

2.7 Regulatory Quality and Market Performance

In market economies, economic theory explains the importance of state regulation where there are appreciable externalities, incomplete markets, or public benefit elements in economic businesses. The objective of regulation is to reduce the risks of market failures by ensuring growth and efficiency. In some cases, governments decide to

intervene for correcting the functions where the wealth distribution by market transactions is unjustified (Kamran, Arshad, & Omran, 2019). Regulations are critical to the functioning of modern markets because regulations ensure to offer social, economic, and environmental benefits (Savari, Reza, Fallah, & Jamali, 2022). Because organizations are accountable to stakeholders for their actions, institutionalisms argue that the function of institutions is vital without taking the market into account. (Campbell, 2007), et al. (2016) contend that the government's position, whose supervisory pressure influences the enterprises' positive point of view, has a significant impact on how businesses operate in economies. The improved regulatory pressures, according to Berrone et al. (2013), increase a firm's incentive to engage in more ethical behavior. The performance of securities enterprises is examined in relation to government regulation and ownership structure by Chen et al. (2005) in Chinese. They contend that performance and government ownership have a negative relationship, but regulation and performance have a favorable one. They discovered that the requirements for company entrance improve security firm performance. It is also clear that regulatory restraint restricts business competition. Their findings demonstrated that governmental regulations permit businesses to be classified positively and raise qualifications for superior performance and competitive advantages over competitors.

H₇: Regulatory Quality a negative effect on bank's performance.

2.8 Rule of Law (ROL) and Market Performance

The concept of the rule of law revolves around the idea of the absolute supremacy of the ordinary law contrary to arbitrary power that the government possesses, making it mandatory for every citizen to respect the law and making it certain that the rights of the individuals are protected by the remedies of private laws instead of formal guarantees (Dicey, Citation 1960; Marshall, Citation 1971; Wade and Bradley, Citation 1985)

In relation to the situation in Pakistan, a good rule of law environment provides a better platform for investors and innovators to take part in profitable economic endeavors without constant worry of rent-seeking behavior's and to establish an environment of equality where no economic player benefits from special privileges. The Global Justice Report (2022) stated that Pakistan has a low level of investment and innovative business activities because of Pakistan's weak rule of law, which causes investor mistrust and anxiety about their future earnings, which has an impact on the Market performance of the enterprises. According to the current value of the rule of law index, which was published by the global economy.com in 2021 using data from the World Bank, Pakistan's rule of law is (-2.5 weak; 2.5 strong). According to the 2022 Global Justice Report, Pakistan is placed 129th out of 140 nations for having an unsatisfactory state of the rule of law. By impeding creative activity, Pakistan's lax rule of law may have a negative impact on shareholder value there.

H₈: Rule of Law has a negative effect on bank's performance.

2.9 Control of Corruption and Market Performance

"Corruption" is an international phenomenon at the regional and micro levels affecting the performance of firms, industries, and other financial institutions. Corruption is prevalent in almost all developing and developed countries and it does not matter how big the company is and what is the size of the country's economy, the intensity of corruption does not depend on these factors. Corruption harms the performance at the political, social, and economic fronts (Nam, Nguyen, Nguyen, & Luu, 2020) which subsequently affects people's trust in financial institutions and creates obstacles in the way of sustainable growth (Kazmi, Imran, Farooqi, & Shahid, 2022) distorts government spending's. It also negatively influences the production process in a firm and investment decisions because of confusion and higher cost. Furthermore, it does not allow the investment to grow and limits the ability to innovate (Imran, Rehman, & Khan, 2019).

Countries' growth and development are hampered by the legal system's corruption and lax enforcement of the law. Because of the rise in transaction costs and uncertainty, the misallocation of production components, and ineffective investment, corruption also lowers economic performance (kaufmann & wei, 2000; shleifer & vishny, 1993). Everything that can make Pakistan's access to accountability more real should be implemented, especially what other nations with similar socioeconomic structures have learned. Devolving authority to the Districts' local communities is one of the key goals of the current Pakistani government. A mechanism must be developed for ongoing monitoring of this system's performance and operations, as well as periodic evolution of the

system's general functioning, in order to ensure the smooth operation of the devolution plan. Through better financial management and resource utilization at the district level, this will help to prevent the abuse of authority and power

H₉: Control of corruption has a negative effect on banks's performance.

2.10 Capital Adequacy Ratio

To compute the AR using the market return model, Karamanos et al. (2015) analyse the wealth effect of 14 M&A banks in Greece from 1996 to 2013. With a 1% significance level, the study finds a positive cumulative abnormal return (CAR) of 2.91 percent. Similarly, Selcuk (2015) applies the event research technique to four separate event windows spread over 21 days surrounding the event to analyze 67 Merger and Acquisition announcements made by Turkish corporations between 2000 and 2014. Their research reveals a positive CAR of 5.25-8.53 percent with a 1 and 5% significant level using a sample of 218,957 agreements from 47 countries, Yilmaz and Tanyeri (2016) explore how the value created by mergers was allocated between bidder and target organizations. Their findings demonstrate the value addition of M&A activities. The results of the investigation showed that target CARs averaged 8.14%, whereas bidder CARs averaged 1.514%. They find that the bidder and target CAR magnitudes of mature market nations were higher than those of developing market nations. News of M&A transactions in Latin American nations denotes the development of wealth for shareholders (Simes et al. 2012). According to Pandey and Kumari (2020), news of M&A transactions in the banking industry caused some abnormally poor returns for the bidder around the time of the announcement. According to Yilmaz & Tanyeri (2018), their investigation of 263 461 transactions in 47 countries revealed favourable short-term CARs for both the target and the acquirer. According to Campa & Hernando (2004), takeovers in Europe benefit target company shareholders more than they benefit the bidders.

2.11 Conceptual Framework

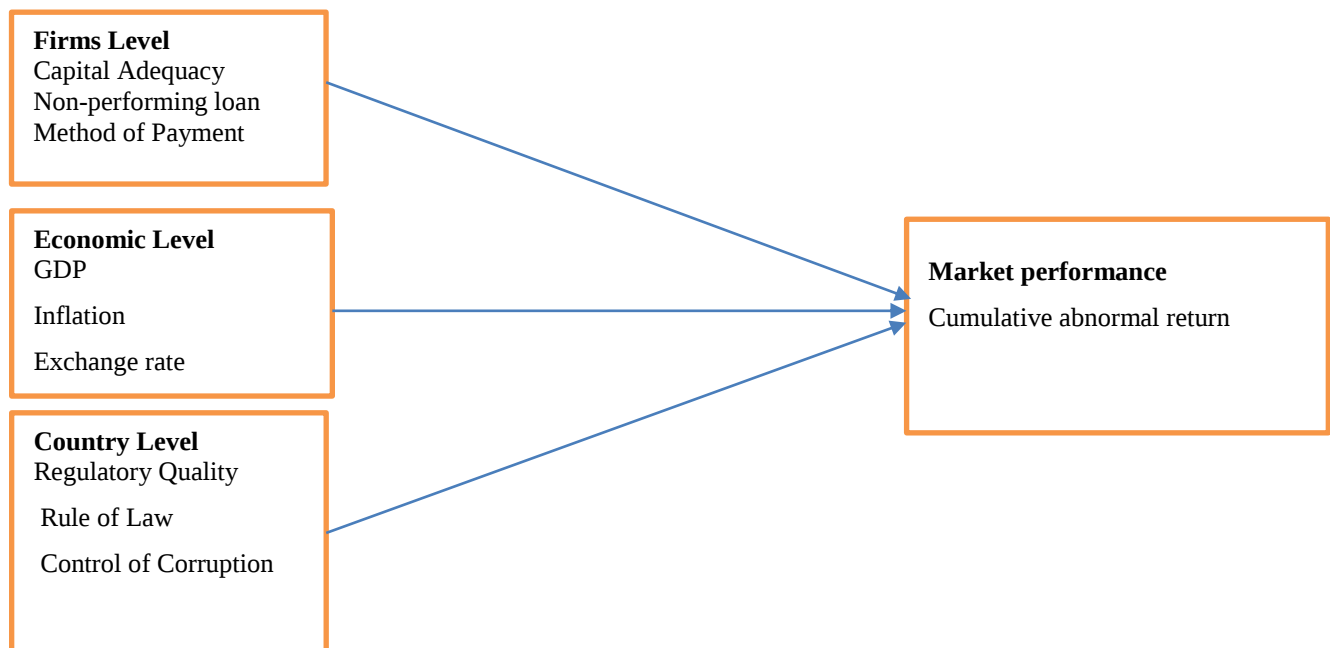


Figure 1: Conceptual framework

3. Methodology

Data can be considered in the terms of numbers, numerical methods and can be analyze and interpret the results.

Quantitative technique is greater in acquiring better comprehension of the study subject using numerical data, according to Mertens (2003) and Puunch (2013). The current study is used event study.

3.1 Population and Sample

The following analysis is based on all M&A transactions disclosed in Pakistan's banking industry between the years of 2002 and 2022. From 2002 until 2022, PSE and CCP's websites provided information on merger and acquisition activities in Pakistan. The M&A activity that has place between 2002 and 2022 is used to gauge market performance. The current study employed 20 years of data from 2002-2022 is selected. The first M and A deal was announced in the financial institution in 2002. For the event study technique, the present study considers 60 days event window to see any abnormal return during announcement of M & A.

3.2 Data and Sources of Data Collection

All the deal of M and A's during 2002-2022 are taken from Competition commission of Pakistan and Pakistan Stock Exchange. The financial information is gathered from the annual reports and financial statements of chosen institutions. For shareholder wealth the data taken from PSX website. Data about country level factor is taken from the World Bank

3.3 Variables

The current study's independent variables are divided into firm-level, economic-level, and country-level variables. The firm-level include capital adequacy, Non-performing loan and Method of payment. The economic level includes GDP, Inflation and Exchange rate. The country level includes Control of Corruption, Rule of law and Regularity quality. Cumulative abnormal returns is the dependent variables for shareholder wealth. The current study performs regression analysis against the CAL derived from the event window [30] on the sample period starting from 2002-2022.

3.4 Computation of Abnormal Returns

Remaining is the term used to describe the uncommon return in each business day during the M and A announcement. According to the formula, the uncommon return on equity "I" for the period "t" is determined.

$$AR = R_{i,t} - \alpha - \beta_{mt}$$

The market model coefficients are where, and. Each acquire firm's return is represented by $R(it)$, and an abnormal return is shown by AR.

3.5 Cumulative Abnormal Return (CAR)

By averaging all anomalous returns over all acquire banks, the study derives cumulative abnormal returns for a range of -30 and 30 days. The average abnormal return (Avg-AR) since all day beginning with day minus 30 towards day 30 of the formula is added up to get the CAR.

$$CAR_{i,k,l} = \sum_{t=l}^{t=k} AR_{it}$$

Here, the term cumulative abnormal return (CAR) is employed. Days K and I are the beginning and closing days of the event timeframe. As stated before, k denotes the thus -30 days prior to the announcement and I denotes the thus 30 days after the announcement of M and A's. The atypical return for firm I on day t is referred to as the AR.

4. Data Analysis

4.1 Abnormal Return(AR) and Cumulative Abnormal Return (CAAR)

Table 4.1 show the summary of the abnormal returns(ARs) and Cumulative abnormal returns for the period of starting from -30 to +30days across all Acquire banks during the sample period. The average CARs on a portfolio of "N" number of firms for the event is calculated by totaling the average abnormal returns (Avg-AR) from each day starting from -30 to 30 days. However, the average abnormal returns are calculated by subtracting actual return

from expected returns from each day starting from -30 to 30days across all Acquire banks during the sample period. The average abnormal return and cumulative abnormal returns are shown in table 4.9 along with their t-statistics and significance level.

Table 4.1: Abnormal Returns (AR) and Cumulative Abnormal Returns (CAR) for M&A Announcement Period Across Sixty Days Event Window

Days	N	AAR	T-stat	P-value	CAAR	T-stat	P-value
-30	60	0.007062	-0.2492	0.8041	0.48826	1.029	0.9346
-29	60	0.001905	0.3148	0.754	0.47074	1.6968	0.172
-28	60	0.000698	3.5804**	0.05638	0.45307	2.7409***	0.0081
-27	60	0.015236	3.1182***	0.0028	0.43034	4.6122***	0.000
-26	60	-0.01287	-0.9146	0.3641	0.41996	8.2196***	0.000
-25	60	0.002964	-0.746	0.4586	-0.40222	1.0967	0.2771
-24	60	0.006233	0.2952	0.7688	-0.38265	-12.0212***	0.000
-23	60	0.003918	6.0267***	0.000	0.36431	-0.7393	0.4626
-22	60	0.00938	1.8941	0.145	0.3433	-0.3312	0.20231
-21	60	-0.00126	85.7472***	0.000	0.32758	-6.0222***	0.0001
-20	60	-0.00417	-0.1536	0.8784	0.31315	7.4041***	0.000
-19	60	0.027161	-0.3809	0.7046	-0.28317	7.6791***	0.000
-18	60	0.009266	14.9829***	0.000	-0.26215	-2.6612**	0.01
-17	60	0.012308	3.8078***	0.0001	0.23959	0.4975	0.6207
-16	60	0.000548	2.735	0.0253	0.22293	39.4378***	0.000
-15	60	-0.00804	-0.2327	0.8168	0.21052	5.2457***	0.000
-14	60	0.00182	-0.923	0.3597	0.1931	1.644*	0.1054
-13	60	0.004272	0.5804	0.5638	0.17492	1.8882**	0.0638
-12	60	0.00021	2.7151***	0.0086	0.15823	26.0383***	0.000
-11	60	0.009925	-1.6005*	0.1047	0.1369	18.7989***	0.000
-10	60	0.010803	1.261	0.125	0.11994	-0.9954	0.3235
-9	60	-0.02116	-5.2606***	0.004	-0.11434	-1.0497	0.298
-8	60	0.021492	-14.7211***	0.007	-0.08932	-1.3289	0.1889
-7	60	-0.02509	-2.2526**	0.028	0.08217	16.3497***	0.000
-6	60	0.018731	-1.1099	0.2715	0.05722	-14.1588***	0.000
-5	60	0.003439	-0.9577	0.342	-0.03934	-1.5088	0.380
-4	60	-0.00965	-9.3895***	0.0002	-0.02762	-8.8311***	0.000
-3	60	0.018016	-0.9829	0.3296	0.00265	-1.4818	0.2630
-2	60	0.00263	2.711***	0.0087	0.012374	24.4574***	0.000
-1	60	0.019492	-2.8531***	0.0059	0.039579	17.0783***	0.000
0	60	0.022961	1.3164	0.193	0.066398	18.3703***	0.000
1	60	0.00775	2.2569**	0.0277	0.079305	18.1525***	0.000
2	60	0.00543	1.8928*	0.0632	0.092679	9.2516***	0.000
3	60	0.001479	0.0559	0.9556	0.109959	7.2993***	0.000
4	60	0.004449	-1.0293	0.3075	0.12871	6.4493***	0.000

5	60	-0.00667	-4.9637***	0.000	0.140256	-17.6008***	0.000
6	60	-0.00582	-0.4966	0.6213	0.155882	17.9113***	0.000
7	60	0.001472	0.1164	0.9078	0.171695	1.085	0.3001
8	60	-0.03276	-2.6471**	0.0104	0.172026	-10.6319***	0.000
9	60	0.02502	-1.4125	0.163	0.200746	21.1228***	0.000
10	60	-0.00274	-0.1988	0.8431	0.216192	4.0658***	0.0001
11	60	0.02379	-0.9772	0.3324	0.244264	16.5867***	0.000
12	60	-0.01285	-0.2911	0.772	0.25448	3.9759***	0.0002
13	60	0.00637	-3.5088***	0.0009	-0.273861	-37.2514***	0.000
14	60	0.006282	-0.9698	0.3361	0.293511	11.5589***	0.000
15	60	0.004141	29.8043***	0.000	0.312336	0.4969	0.6211
16	60	-0.02737	-21.3631***	0.000	-0.314718	-1.5777	0.1199
17	60	-0.01529	-6.2864***	0.000	-0.323159	-1.4463	0.326
18	60	-0.00472	-0.4037	0.6879	0.337521	11.8697***	0.000
19	60	0.001236	-0.7436	0.46	-0.354572	-23.4874***	0.000
20	60	0.011367	-2.8335***	0.0063	-0.376721	-19.4003***	0.000
21	60	-0.0141	-0.0269	0.9787	0.385216	3.9676***	0.000
22	60	-0.00975	3.8309***	0.0003	0.396082	9.1721***	0.000
23	60	0.012289	24.4574***	0.000	-0.420326	-1.617	0.4087
24	60	-0.00082	-6.4493***	0.000	-0.436377	-1.0293	0.3075
25	60	0.006554	-1.0497	0.298	0.455805	5.2606***	0.001
26	60	-0.00195	-0.923	0.3597	0.47139	1.644	0.1054
27	60	0.012518	0.4975	0.6207	0.493608	3.8078***	0.000
28	60	-0.00767	1.3164	0.193	0.506075	18.3703***	0.008
29	60	-0.0183	0.2952	0.7688	0.514216	1.0057	0.2339
30	60	-0.01049	0.1122	0.911	-0.544422	-27.2278***	0.009

This table shows the abnormal returns (AR) and cumulative abnormal returns (CAR) along with t-statistics for sixty days event window starting from -30 to +30 based on market model. Given that, N is the no of firms, the significance level of t-statistics as follows, *** significance at 1% level, ** significance at 5% level significance at 10% level.

Table 4.1 indicated fluctuations in the average abnormal returns and cumulative abnormal returns on equities of the Acquire banks in Pakistan. The series 1 in table 4.1 represents the returns of the Acquire banks based on abnormal returns while series 2 signifies the returns for the Acquire banks based on cumulative abnormal returns. by looking at the results of series 1, the values of abnormal returns show irregular trends before the announcement of M&A in the period started -30 to -12. the results show random and instable trend in returns wherein Acquire banks experienced a mixture of positive and negative returns.

4.2 Descriptive Statistics for Shareholder Wealth

The different description of the data is displayed via descriptive statistics. It includes the whole set of observations, as well as the standard deviation, maximum, minimum, and mean. Table 4.4 presented descriptive statistics of shareholder wealth during the announcement period for Acquire banks. The current study calculated data from 60 banks for the period of 20 years. Shareholder wealth is calculated by CAR. The current study's independent variables are divided into firm-level, economic-level, and country-level variables. The firm-level include capital adequacy (CA), Non-performing loan (NPL) and Method of payment (MOP). The economic level includes GDP, Inflation rate (InR) and Exchange rate (ExR). The country level includes Control of Corruption (COC), Rule of law

(ROL) and Regularity quality (RQ).

Table 4.2: Descriptive Summary for Shareholder Wealth

Variable	N	Mean	Std. Dev.	Median	Min	Max
CAR	60	.0323	.2986	0.052	-.4882	05142
CA	60	.381	.473	0.113	.015	1.21
NPL	60	1.621	3.142	0.701	.011	8.708
MOP	60	.55	.502	1	0	1
GDP	60	.119	.07	0.94	.006	.216
InR	60	.362	.158	0.338	.118	.662
ExR	60	3.733	1.423	3.113	2	6.13
RQ	60	24.692	3.413	25.96	19.718	29.216
ROL	60	19.219	4.207	20.63	13.81	24.594
COC	60	27.901	1.654	27.88	25.962	30.144

This Table presents the descriptive statistics of shareholder wealth for Acquire banks of Pakistan. Shareholder wealth is calculated by CAR. The firm-level include capital adequacy (CA), Non-performing loan (NPL) and Method of payment (MOP). The economic level includes GDP, Inflation rate (IR) and Exchange rate(ER). The country level includes Control of Corruption (COC), Rule of law (ROL) and Regularity quality (RQ).

4.3 Collinearity

Eliminating the need to check for multicollinearity is a crucial presumption when doing multiple regression analysis. The term "multicollinearity" describes the linear interactions between the independent factors. Regression coefficients are indeterminate and have infinite standard errors when complete multicollinearity is present (Gujrati and Porter 2009). Any result more than 70% should be cause for concern as it suggests a multicollinearity problem.

Table 4.3: Correlation Matrix for Shareholder Wealth

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) CAR	1.000									
(2) CA	-0.062 (0.636)	1.000								
(3) NPL	0.029 (0.828)	0.590*** (0.000)	1.000							
(4) MOP	-0.136 (0.302)	0.047 (0.719)	0.035 (0.792)	1.000						
(5) GDP	-0.055 (0.676)	0.386*** (0.002)	0.380* (0.003)	-0.009 (0.943)	1.000					
(6) InR	0.014 (0.916)	-0.029 (0.827)	-0.178 (0.175)	-0.035 (0.793)	-0.059 (0.657)	1.000				
(7) ExR	-0.160 (0.223)	0.002 (0.989)	0.029 (0.826)	-0.081 (0.538)	0.167 (0.203)	0.332* (0.010)	1.000			
(8) RQ	-0.142 (0.278)	0.008 (0.953)	0.027 (0.841)	0.046 (0.726)	0.072 (0.586)	0.346** (0.007)	0.669* (0.000)	1.000		
(9) ROL	-0.170 (0.195)	0.327** (0.011)	0.373*** (0.003)	-0.067 (0.612)	0.429*** (0.001)	-0.082 (0.534)	0.652* (0.000)	0.367* (0.004)	1.000	

(10) COC	0.088**	-0.183	-0.277	0.079	-0.199	0.231	-	-0.064	-	1.00
							0.517*		0.484**	0
							**		*	
	(0.05)	(0.161)	(0.032)	(0.550)	(0.128)	(0.076)	(0.000)	(0.624)	(0.000)	

The statistical importance of the relationships detected is shown by the Pearson correlation coefficients between variables and their accompanying "significance levels," which are displayed in this table. Shareholder wealth is calculated by CAR. The firm-level include capital adequacy (CA), Non-performing loan (NPL) and Method of payment (MOP). The economic level includes GDP, Inflation rate (IR) and Exchange rate(ER). The country level includes Control of Corruption (COC), Rule of law (ROL) and Regularity quality (RQ). *, **, *** represents statistically significant at 10%, 5% and 1% respectively.

Table 4.5 shows that there is no issue of multicollinearity among variables both in pre and post M&A period. The correlation coefficient of all the variables in both Tables is less than 0.7 which clarify that variables are not extremely interrelated with each another.

4.4 Ordinary Least Square (OLS) to Explain Shareholder Wealth

Using a statistical technique known as the ordinary least square model (OLS) or linear least square model, one can ascertain the unknown parameters in a linear regression model. The objective is to minimize the sum of squares of differences between the predicted values of the variable being predicted (the observed responses) in the given data set and those predicted in a linear function of a set of explanatory variables.

4.4.1 Regression Analysis for Shareholder Wealth

The present research investigation looks at the linear relationship between shareholder wealth and its drivers using multivariate analysis.

$$CAR = \alpha + \beta_1 CA + \beta_2 NPL + \beta_3 MOP + \beta_4 GDP + \beta_5 InR + \beta_6 ExR + \beta_7 RQ + \beta_8 ROL + \beta_9 COC + \epsilon_{i,t}$$

Above Model provides the association between dependent and independent variable. Shareholder wealth is calculated by CAR (cumulative abnormal return). The firm-level include capital adequacy (CA), Non-performing loan (NPL) and Method of payment (MOP). The economic level includes GDP, Inflation rate (IR) and Exchange rate(ER). The country level includes Control of Corruption (COC), Rule of law (ROL) and Regularity quality (RQ). α is intercept and β is slope while ϵ is error term.

Table 4.4: Regression Analysis for Shareholder Wealth

CAR	Coef.	St.Err.	p-value
CA	.063	.102	.054*
NPL	-.091	.072	.209
MOP	-.003	.019	.894
GDP	.039	.074	.605
InR	-.2	.069	.005***
ExR	.183	.009	0***
RQ	-.026	.005	0***

ROL	.006	.004	.095*
COC	-.006	.002	.011**
Constant	-.559	.102	0***
R-squared	0.954	Number of obs	60.000
F-test	114.702	Prob > F	0.000

This Table shows the OLS regression results for shareholder wealth. CAR30 is the dependent variable. In statistical analysis, significance levels are denoted by asterisk, with,*** representing significance at 1% level,**at the 5% level, and * at the 10% level.

Table 4.6 presents the regression result for shareholder wealth. The number of observation is 60. R-squared and the F-value, which show how well the independent variables explain the variability in the dependent variable, are used to evaluate the model's fitness. The R-squared for M&A period is 0.95, representing that 95% of the total variation in the performance of Acquire banks is accounted by independent variables. The total model's statistical significance at the 1% level is indicated by the F-value values, indicating its suitability for more investigation. NPL, MOP and GDP show insignificance relationship with CAR15. CA, ExR, and ROL show significance positive relationship with CAR30. InR, COC and RQ show significance negative relationship with CAR30.it means that CA, ExR and ROL increase while InR, RQ and COC decrease the shareholder wealth.

5. Discussion and Conclusion

This research looks at how the news of a merger or acquisition affects the wealth of the acquirer banks in Pakistan. According the results, announcement of a merger or acquisition benefits the shareholders of the acquired Pakistani banks. The findings demonstrated that, throughout the period of M&A announcement, the Acquirer bank's shareholder wealth was positively impacted by the news, with an increasing trend. The empirical data demonstrates that the market was too enthusiastic about the acquirer banks' expected profits throughout the M&A announcement period, which spanned from -3 to +4. This data does support the possibility that, following the announcement of the M&A, the acquirer banks in Pakistan might outperform the market. Furthermore, while the profits for the acquirer banks start to increase on the third day prior to the M&A announcement day (day -3), the current analysis discovered some indications of knowledge leaking. According to Ghufuran et al. (2016), this suggests that Pakistan's stock markets are likewise extremely volatile because of their heightened sensitivity to unexpected shocks and news and their laxer restrictions. As a result, there is a good probability that rumors, conjecture, and news may leak, which might trigger sudden changes in share prices. Additionally, the data supported the signaling theory of M&As by confirming that the market was becoming more positive about the returns that acquirer banks would receive and responding favorably to the announcement (Dilshad, 2013; Myers & Majluf, 1984).

The current study's findings add significantly to the body of knowledge already available about mergers and acquisitions (M&A) and their effects on shareholder wealth of the acquired banks. The present study's results might aid academics in identifying M&A-related problems by taking into account country-level variables, such as rule of law, regularity quality, and corruption control, along with economic-level variables, such as GDP, inflation, and exchange rate. This is the main contribution of the current study to the body of literature. According to the study, the company may choose to pursue further options for the development of organizational value, like expanding its market share, bringing on skilled employees, implementing new technologies, and so on, all of which have an effect on corporate value. However, the government can also enact beneficial laws pertaining to the issue, which improves the functioning of the organization. The performance of the merged or acquired companies may be enhanced by the favorable change in these policies. Further investigation is required to fully understand the motivations behind bank mergers and acquisitions.in addition to the goals of increasing profitability, increasing market value, and reducing leverage ratios. Future studies might be helpful in extending this period of time, as the

relationship between M&A transactions and company success over the long run might be more nuanced. A relationship that has not been disclosed by this study may emerge with a longer sample period.

5.1 Conclusion

Among the best strategies for business growth and expansion are mergers and acquisitions. By the late 1800s, M&A activity had begun to trend. While these tactics are frequently used in underdeveloped nations like Pakistan, they have been widely embraced in industrialized economies. Although it's commonly believed that M&A transactions are mostly carried out in the hopes of generating financial advantage, scholarly research reveals otherwise. Therefore, the paper's objective was to ascertain the impact of M&As on the wealth generation of acquire banks' shareholders in Pakistan as well as its drivers. First, using event study, the current study looks at any unusual returns for the shareholders of the acquired banks during the M&A announcement phase. The current study analyses 60 acquirer banks that are listed on the Pakistan Stock Exchange (PSX) between 2002 and 2022 using a census sample method. Additionally, to estimate the link among dependent and independent variables, the present investigation makes use of estimators such regression analysis, paired sample t-test, diagnostic tests. By using the event study approach, the study searched for any anomalous returns for the shareholders of the acquire banks during the announcement of the M&A, which helped to explain how M&As affected the wealth of the acquire banks' shareholders in Pakistan. The study, which used a market model, discovered that the announcement of M&A deals significantly affects shareholder worth. During the M&A announcement phase, the shareholders of the acquired banks got considerable abnormal. In terms of significant determinants for shareholder's wealth of CAR, the study found that the significant determinants based on OLS models are Capital adequacy, Inflation, Exchange rate, Regularity quality, Control of Corruption, Rule of law.

The current study's conclusions demonstrated that the country and economic conditions in which the banks operate have an impact on the acquirer banks' shareholders' wealth during the M&A announcement phase. The empirical evidence regarding the country-level variables (i.e. control of corruption, rule of law and Regularity quality) confirmed that country-level variables do influence the shareholder's wealth of the Acquire banks in Pakistan. Besides, the study recognized information asymmetry and signaling hypothesis in explaining the shareholder's wealth of the Acquire banks at country-level.

References

- Ahmad, F., Abbas, Z., & Bashir, T. (2013). Explanatory power of macroeconomic variables as determinants of non-performing loans: Evidence from Pakistan. *World Applied Sciences Journal*, 22(2), 243–255.
- Ahmed, A., & Ahsan, H. (2011). Contribution of services sector in the economy of Pakistan. *PIDE Working Papers*, (79), 1–18.
- Ali, A., Jan, F. A., & Khan, S. U. (2015). Relationship between Inflation and other Macro Economic Variables in Pakistan. *Journal of Management Info*, 2(4), 6–15.
- Almazari, A. A. (2013). Capital Adequacy, Cost Income Ratio and the Performance of Saudi Banks (2007-2011). *International Journal of Academic Research in Accounting*, 3(4), 284–293.
- Anwar, S., Abbas, Q., & Ashfaq, M. (2017). Introduction to the Economy of Pakistan. *Introduction to the Economy of Pakistan: Chapter 10*, (November), 211–231.
- Ayub, H., & Javed, A. (2016). Impact and implications of capital adequacy ratio on the financing behaviour: Evidence from Islamic banks in Pakistan. *Journal of Islamic Business and Management Vol.*
- Bansal, A., & Almalki, M. A. I. (2020). The perception of the impacts of mergers and acquisitions on shareholders' value in the banking sector. *International Journal of Scientific and Technology Research*, 9(4), 2829–2839.
- Bashir, A., Sajid, M. R., & Sheikh, S. F. (2011). The Impact of Mergers and Acquisitions on Shareholders Wealth : Evidence from Pakistan, 8(1), 261–264.
- Czarnota, Z. (2020). Mergers and acquisitions in Greece. *Open Political Science*, 2(1), 197–199.
- Das, A., & Mariappan, V. (2021). SBI Merger and Shareholders Wealth Creation: Who Gains in Short-Run? *Prajnan*, XLX(4), 445–459.
- DiMaggio, P. J., & Powell, W. W. (1983). *The Iron Cage Revisited Institutional Isomorphism and Collective*

- Rationality. Administrative Science Quarterly* (Vol. 47).
- Hussain, M. A. (2014). Economic Growth, Exports and Imports in Pakistan: Granger Causality Analysis. *The Journal of Business in Developing Nations*, 13, 31–62.
- Imran, S. M., Rehman, H. U., & Khan, R. E. A. (2019). Determinants of corruption and its impact on firm performance: Global evidence. *Pakistan Journal of Commerce and Social Science*, 13(4), 1017–1028.
- Irfanshakoar, M., & Zulfarnainasab, M. (2014). Do Mergers and Acquisitions Vacillate the Banks Performance ? (Evidence from Pakistan Banking Sector), 5(6), 123–137.
- Kazmi, S. M. A. K., Imran, S. M., Farooqi, K. F., & Shahid, M. (2022). The Effect of Corruption and Political Instability on Firm's Performance: Evidence from Low Income Economies. *Pakistan Journal of Humanities and Social Sciences*, 10(1), 298–303.
- Kiesel, F., Ries, J. M., & Tielmann, A. (2017). The impact of mergers and acquisitions on shareholders' wealth in the logistics service industry. *International Journal of Production Economics*, 193(March 2015), 781–797.
- Maheen, M. (2013). Impact of Foreign Exchange rate on stock prices. *IOSR Journal of Business and Management*, 7(3), 45–51.
- Mehzabin, S., Shahriar, A., Hoque, M. N., Wanke, P., & Azad, M. A. K. (2022). The effect of capital structure, operating efficiency and non-interest income on bank profitability: new evidence from Asia. *Asian Journal of Economics and Banking*.
- Nam, V. H., Nguyen, M. N., Nguyen, D. A., & Luu, H. N. (2020). The impact of corruption on the performance of newly established enterprises: Empirical evidence from a transition economy. *Borsa Istanbul Review*, 20(4), 383–395. Elsevier Ltd. Retrieved from <https://doi.org/10.1016/j.bir.2020.05.006>
- OECD. (2009). Corporate Governance and the Financial Crisis: Key Findings and Main Messages. *OECD Steering Group on Corporate Governance*, (June), 1–60.
- Qureshi, M. U., Azeem, M., & ... (2020). Impact of Merger and Acquisitions on Firm value in Financial Sector Firms of Pakistan. ... *Asian Review of Business* ..., 2(2), 129–146. Retrieved from <https://journals.iub.edu.pk/index.php/sabas/article/view/452>
- Savari, Z., Reza, M., Fallah, M., & Jamali, J. (2022). Regulatory quality , rule of law and stock market performance : A system GMM approach, 6822(May), 1–10.
- Sultan, K. (2022). Determinants of capital adequacy ratio in banking sector : An empirical analysis Determinants of Capital Adequacy Ratio in Banking Sector : An Empirical Analysis from Pakistan, (December 2020).
- Waqas, M., & Khan, A. (2017). Determinants of Non-performing Comparative Study of Pakistan , Loans : A. *Journal of Finance & Banking Studies*, 6(1), 51–68.
- Yousif, N. S., & Mohammed, S. A. (2022). The Role of Internal Auditing in Governance of Strategic Operations and Its Reflection on Management Decisions. *Res Militaris*, 12(2), 4910–4920.