Corporate Governance and Performance of Financial Institutions: Case Study of Mergers and Acquisitions in Pakistan

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Abstract
The present study analyzed the impact of board decisions on the performance of financial institutions after mergers and acquisitions. The data envelopment analysis technique analyzed the 11 mergers and acquisitions deals made in Pakistan's financial sector from 2002 to 2018. For analysis purposes, three years post mergers and acquisition data were collected. The data analysis is made in two stages. In the first stage, the efficiency score is computed by excluding the corporate governance variables. In the second stage, the efficiency score is calculated using corporate governance variables, and the results are compared. The merged commercial banks attained technical and scale efficiency after mergers and acquisitions with the change of code of corporate governance practices. However, the pure efficiency of merged commercial banks in Pakistan is insignificant. The study's results significantly contribute to the economic shock theory, and all M&As are categorized as forced legislative mergers.

Keywords: Mergers, Commercial Banks, Data Envelopment Analysis, Corporate Governance.

Introduction
For the last three decades, improving corporate governance practices has become a key research area in corporate finance. The reason is that the board of directors monitors the business's overall activity and makes growth, retention, or exit decisions from the sector. The board's decision directly affects the performance of the organization. The board's decision in the financial industry plays a vital role in achieving financial performance goals (Azofra & Olalla, 2008a; Darayseh & Alsharari, 2023; Srinivasa Reddy et al., 2013a). The financial institutions are considered the backbone of the country's economy. To establish a strong, strengthened financial sector, governments of all nations make laws and procedures to develop a financial industry that significantly impacts the economy's GDP. One hundred twenty-five years of history of mergers and acquisitions with five waves in all sectors of the economy, especially in the financial industry (Awan et al., 2020; Kolaric & Schiereck, 2013a; Reddy et al., 2019a). There were different purposes attached to all the mergers and acquisitions activity, and the extensive literature explored the objectives linked to each deal; in Pakistan, mergers and acquisitions activity in the financial institutions had more excellent intentions after the shifting of controlling rights of the financial sector from the institutes of Banker Pakistan to the State Bank of Pakistan in 1997 (Darayseh & Alsharari, 2023; Ullah et al., 2017; Y.W. et al., 2013a). The researchers and academicians from

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Pakistan analyzed the profit performance, market monopoly power, product differentiation, and diversification in the mergers and acquisitions deals. They also find the impact of corporate governance variables on the performance of merged financial institutions. However, from the available literature, researchers need help finding a study that captures the effects of boars' decisions on the financial performance of financial institutions in Pakistan. The present study aims to analyze the impact of board decisions on mergers and acquisitions deals. The significance of the study is to find out whether financial institutions go into mergers and acquisitions to achieve stated goals or whether these are results of economic shock (Legislative changes in the financial sector in Pakistan).

The State Bank of Pakistan made legislative changes in Pakistan's financial sector after getting the authority to monitor and control the financial sector to build a solid financial sector. The State Bank of Pakistan first implemented BASE I in 1997, establishing a minimum capital requirement for financial institutions (banks and non-banking). This was the first step towards developing a solid financial sector in Pakistan. Afterward, the State Bank of Pakistan implemented BASE II in 2008 and BASEL III from 2013 to 2019.

The Securities and Exchange Commission of Pakistan (SECP) also makes policies. It implements new laws for companies registered under the Companies ACT / Ordinance, promulgated occasionally in the country. In 2002, the SECP formed The Institute of Corporate Governance and implemented the corporate governance code for all the listed companies in Pakistan. 2009, corporate social responsibilities were implemented (Qamar et al., 2016).

The financial institution is involved in mergers and acquisitions to meet the legislative requirements implemented by the State Bank of Pakistan (SBP) and the Securities and Exchange Commission of Pakistan (SECP). Mergers and acquisitions are a way to avoid liquidation and to protect the investment of the investors of the particular organization (Muhammad et al., 2019).

The purpose of implementing these legislative requirements by the SBP is to develop large financial institutions in terms of capital and branch structure to attain efficiencies. According to the efficiency theory, when a business unit expands its production capacities, it achieves the economy of scale (technical, scale efficiency, and pure efficiency). The purpose of implementing the corporate governance code by SECP is to first attract foreign investors by providing security to their investment and, secondly, protect minority rights. In this way, the agency problems arising between management and investors of the financial institutions are reduced(Akmal & Saleem, 2008).

On the instructions provided by the government, SBP and SECP develop new legislations, rules, policies, and procedures to attain the stated goal of economic development through efficiency gains and reducing agency problems. The management of the said financial institution (bank) is involved in convincing its stockholders and stakeholders by explaining the benefits of adopting these legislative requirements. Financial institutions are involved in mergers and acquisitions to fulfill these requirements for survival and future growth (Sajid Nazir, 2012).

Literature Review

Since 1960, the Clayton Act prohibited mergers and acquisitions because it reduced the competition in the market and created monopolies, which reduced the bargaining power of customers and increased the bargaining power of suppliers. Mergers and acquisition activities induce higher prices of goods, leading to inflation. In 1960, academicians and researchers explained the act and gave remarks favoring mergers and acquisitions. The researchers established the argument that mergers and acquisitions helped reduce the cost of products by attaining

economies of large scale. Secondly, through mergers and acquisitions, large corporates developed, which provides significant contributions to the Gross Domestic Product of the economy and is also helpful in reducing unemployment. The third argument was that large corporations can access significant funds and spend them on research and product development. Through research and development, quality products are attained (Posner, 2023). The last efficiencies achieved increased the performance of the business units. The researchers established the arguments. From 1970, the efficiency analysis of organizations became the intense interest of the researchers of corporate finance. In the last three decades, if 150 publications were collected, 100 plus publications would be written on efficiency score. The researchers argued that those organizations that achieved frontier efficiency were considered the best-performing organizations. The efficiency theory is tested and established for all economic sectors, especially banking (Kitto, 2023).

Literature on mergers and acquisitions proves that those business units that combined their activity attained efficiencies by creating synergy. There were different reasons why the business was motivated to be involved in this activity. The first reason was the need for funds to purchase new technology to compete in the market by providing quality goods and services. In 1997, after the Asian financial institution crisis, most countries adopted BASEL I to develop a solid financial sector, contributing to a strong economy (Bala Shanmugam, n.d.-a). This phenomenon was tested in European mergers and acquisitions from 1995 to 2001. The results proved that the date of the financial institutions was a matter for attaining targeted performance. Otherwise, the survival of the financial institutions took time due to regulations and technological advancement (Azofra & Olalla, 2008b).

Understanding the concept of globalization was a factor of technological advancement. The financial institutions that support the business in international trade became attractive. This support encouraged the company to deal with those banks. However, it became a significant need for funds (capital and retained earnings) at less cost. The business increases income by expanding business operations and market size (Srinivasa Reddy et al., 2013b). The benefits of mergers and acquisitions were different; they changed from country to country. When the results of India's, Pakistan's, and Bangladesh's mergers and acquisitions were compared, it showed that Indian merger performance was better than Bangladesh's and Pakistan's. It means that the size of the economy affects the performance of financial institutions.

The size of the Indian economy was significant as compared to Bangladesh and Pakistan (Tang & Metwalli, 2013b). However, when the researchers compared the results of two giant economies of South Asian countries (India and China), they found an insignificant impact on the market value of shares before and after the mergers and acquisitions activity (Reddy et al., 2019b). Mergers and acquisitions created not only overall synergy but also synergy in all the departments and components of the balance sheet item. A study of mergers and acquisitions analyzed the impact on the asset's turnover. The results proved that the assets turnover ratio improved after the mergers and acquisitions (Yusuf & Raimi, 2019a). In the case of Middle East mergers and acquisitions, the purpose was to attain growth in incomes, market shares, operations, and product development and provide security from the risk shocks and implementations of regulations (Darayseh & Alsharari, 2022). Mergers and acquisitions have yet to provide an immediate response toward growth and profit performance. In the short run, their effect was not significant, but in the long run, it provided a significant impact on the overall growth of financial institutions (Kolaric & Schiereck, 2013b; Napitupulu, 2020; Sharma & Kumar, 2011; Vishnani & Shah, 2007).

Mergers were the focused area of research in under-developed, developing, and developed countries. Mergers and acquisitions became the focused area of research with context to Pakistan.

The researchers analyze the impact of mergers on the performance of merged firms concerning profit, efficiency gain, market share, knowledge sharing, human resource practices, and product differentiations (Bashir & Sajid, 2011).

Mergers are when two or more firms join and form a new business entity after mergers. For example, A limited company and B limited company joined and formed C limited company, which is known as a merger. Suppose both firms belong to the same sector stage of product value addition, a horizontal merger. For example, A limited company and B limited company are both cotton-waving firms that merged and formed C cotton-waving company. Suppose the firms belong to the different stages of product value addition called vertical mergers. For example, A limited company is a cotton-waving company, and B limited is a cotton-ginning or spinning company. This type of merger is considered vertical (Edward et al., 2019a; Salma & Hussain, 2020)

However, according to the Pakistan Stock Exchange, a merger is known as a merger when two or more firms join and form a third business entity or when one entity is eliminated, and another firm carries on business with its previous name. An example is the merger of Standard Chartered Bank (Pakistan) Limited with Union Bank Limited in December 2006. The Union Bank entity was liquidated, but Standard Chartered Bank (Pakistan) Limited continues its operation under its old name. *Acquisitions* are defined as only the acquisition of shares of the target firm, and both units carry on their business with their names. For example, JS Bank Limited acquired a share of JS Investment Limited in 2012. However, after this acquisition, both banks worked separately (Ahmad & Nadeem, 2015a).

Broadly, the performance is defined in the literature according to the unit of analysis of the research study in the context of marketing performance, which is defined as an increase in market shares and sales growth. In the human resource prospect, *performance* is defined as employee satisfaction, motivation, and low employee turnover. In finance, *performance* is defined as the increase in profits, efficiencies, and value addition of the firms (Kouser & Saba, 2012).

In this study, the performance is defined in terms of efficiency gains. In literature, *efficiencies* are defined as technical efficiency, pure efficiency, and scale efficiency. Technical efficiency or *cost efficiency* is defined as the firm inputs minimum resources to produce maximum output. Pure efficiency or aggregate efficiency is defined as the firm ability to generate profit even if the prices increase from the control price level. *Scale efficiency* is defined as the firms operating at their minimum level, and any increase in the size of activity reduces its ability to perform efficiently (Tauseef & Nishat, 2014a).

The mergers and acquisitions performance in the context of Pakistan by using ratio analysis. The result of the study showed that mergers and acquisitions hurt the performance of the banking sector in Pakistan (Ahmad & Nadeem, 2015; Tauseef & Nishat, 2014; Tang & Metwalli, 2013). Abbas et al. (2014) examined Pakistan's financial sector performance from 2006 to 2011 before and after mergers and acquisitions. The study results showed that mergers and acquisitions had no significant impact on performance pre- and post-analysis of Pakistan's financial sector. Salma and Hussain (2020) examined the wealth enhancement of mergers and acquisitions in Pakistan's financial sector.

The study used the share prices of forty-five mergers and acquisitions from 2006 to 2010. The results of the study showed that mergers and acquisitions did not create value for shareholders during and after the mergers and acquisitions deals (Tauseef & Nishat, 2014a).

The above-cited literature debates the mergers and acquisitions activity in the context of the USA, EU, India, Bangladesh, Malaysia, Taiwan, and Pakistan (Ahmad & Nadeem, 2015b; Bala Shanmugam, n.d.-b; Edward et al., 2019b; Kolaric & Schiereck, 2013a; Reddy et al., 2019a;

Tauseef & Nishat, 2014b; Thi & Daly, 2016; Yusuf & Raimi, 2019b). The research concludes that every merger and acquisition intention differed from similar deals. Some mergers attained scale economies, profit performance, market diversification, product diversification, and production efficiencies. The mergers in Pakistan's financial sector have the same phenomenon. All mergers and acquisitions deals attained different objectives. Some mergers and acquisitions deals cannot attain performance improvement goals (Ashfaq et al., 2014; Tauseef & Nishat, 2014b). The researchers also analyzed the impact of corporate governance variables on the performance of financial institutions. However, from the available literature, researchers need help finding a single study that captures the impact of boards of governance decisions on the performance of financial institutions in Pakistan. The present study fills this gap and analyzes the impact of boards' decisions on the financial performance of merged financial institutions in Pakistan.

Mergers and acquisitions became the focus area of research in the last four decades. The ultimate goal of the mergers and acquisition activity was to improve the business unit's performance. Whether the performance is attained in increasing the market share, enhancing production capacity, accessing the capital at minimum cost, or getting efficiencies in reducing production cost and the profit-maximizing organization. The cement industry's cross-border mergers and acquisitions study analyzed the data from 2000 to 2018 firms. It inferred that the firms attained efficiencies in material, cost of labor, and total factors productivity after mergers and acquisitions (Savović & Mimović, 2022a). The same was the case with the study of retailers' mergers and acquisitions in the context of India. Retailers with access to significant capital at lower costs and adding new product lines attain profit efficiencies (Gandhi & Shankar, 2014a).

A study was conducted about US insurer firms' mergers and acquisitions using the DEA analysis technique to estimate efficiency scores. The study concludes that the US insurer firms attained profit efficiencies through abnormal returns but attained inefficiencies in maintaining the Capital adequacy ratio (Cummins & Xie, 2009). Another study was conducted in the context of the USA wireless communication sector mergers and acquisitions, and the data was analyzed using the DEA analysis technique. The study concluded that mergers and acquisitions increased efficiency in the wireless communications industry (Kwon et al., 2008a) in the case of airline company mergers and acquisitions, analyzing the data from 2008 to 2013. The data envelopment technique was used to conclude that not only merged airline firms attained efficiencies, but also non-merged airline companies enjoyed efficiency gains during the study period (Greer, 2016).

H1: The financial institutions attained efficiency gains after the mergers and acquisitions.

The importance of corporate governance was widely explored in the literature concerning the performance analysis of banks in terms of efficiency gain. Corporate governance also plays a crucial role in reducing agency problems because all the shareholders' and stakeholders' trust is built with the authentic practice of a corporate governance code. A study based on corporate governance and firm performance accountability was conducted using DEA analysis techniques in the pharmaceutical industry of data from multiple countries. The study results make inferences that the complex structure of the corporate governance code has changed the ranking of firms in profit performance. The study also suggested adopting the corporate governance code but not making it complex to attain profit efficiencies (Feroz et al., 2008). Gender and board diversity affect the efficiency of banks working in Ghana. The study found that women's diversity, board size, ownership structure, firm age, and loan-to-deposit ratio positively affect Ghana's banking sector's efficiency (Ofoeda et al., 2016).

The country's economic development and growth also affect the banking sector's performance. The country's poor economic growth leads to the poor performance of its banking sector. A study

in the context of the Nigerian banking sector supports the results that corporate governance has increased shareholders' values. However, poor economic growth of the country hurts the attainment of desired performance goals (Suberu & Aremu, 2010). To analyze the efficiency gains in the context of the Taiwan banking industry in the presence of corporate governance variables, managerial ownership, and board size. The results showed that managerial ownership has a positive impact, but board size hurts efficiency gains after mergers and acquisitions in Taiwan. However, the shareholders' wealth increased after the mergers and acquisitions (Chu et al., 2016). In the UK, mergers and takeovers proved that poor corporate governance affected profit performance in the banking sector during the period of analysis from 1990 to 1993 (Weir, 1997).
H2: Corporate governance has a positive effect on the efficiencies of financial institutions.

Data and Methodology

It is an empirical study based on the historical data taken from the financial statements of the merged commercial banks in Pakistan. The population frame consists of 17 mergers from 2002 to 2018 in commercial banks in Pakistan. The sample consists of 11 merged commercial banks selected for analysis according to the sample selection criteria defined below,
1. Mergers take place during the period from 2002 to 2018.
2. The surviving firm is the commercial bank.
3. The three-year post-merger financial statements data is available for analysis purposes.
4. If the merged commercial bank is again involved in the merger activity during the analysis period, then the latest merger is included for analysis.
The study was conducted three years after the merger analysis of the merged commercial banks in Pakistan. The data envelopment analysis technique is used to analyze the impact of mergers on the efficiency (technical efficiency, Scale efficiency, and pure efficiency) of commercial banks after mergers. It is a linear programming technique. In this study, researchers intend to analyze the efficiency of financial institutions after a merger with and without the effect of corporate governance.

Table 1 Variables Definition

Variables	Estimation	Authors and Publications
Cost (C)	Operating and Interest Expenses	(Darayseh & Alsharari, 2023; Kolaric & Schiereck, 2013a; Kwon et al., 2008b; Reddy et al., 2019c; Savović & Mimović, 2022b; Srinivasa Reddy et al., 2013a; Yusuf & Raimi, 2019b)
Input prices (W)	The Local Market Prices of Purchased Funds, Core Deposits, And Labor	(Darayseh & Alsharari, 2023; Kolaric & Schiereck, 2013a; Kwon et al., 2008b; Reddy et al., 2019c; Savović & Mimović, 2022b; Srinivasa Reddy et al., 2013a; Yusuf & Raimi, 2019b)
Output prices (Y)	Consumer Loans, Business Loans, Real Estate Loans, And Securities	(Darayseh & Alsharari, 2023; Kolaric & Schiereck, 2013a; Kwon et al., 2008b; Reddy et al., 2019c; Savović & Mimović, 2022b; Srinivasa Reddy et al., 2013a; Yusuf & Raimi, 2019b)

Economic environment (V)	The ratio of total nonperforming loans to total loans in the bank's state	(Darayseh & Alsharari, 2023; Kolaric & Schiereck, 2013a; Kwon et al., 2008b; Reddy et al., 2019c; Savović & Mimović, 2022b; Srinivasa Reddy et al., 2013a; Yusuf & Raimi, 2019b)
Quantities of input-output (Z)	The Quantities of Any Fixed Net Put [Inputs Or Outputs (Physical Capital And Financial Equity Capital)]	(Darayseh & Alsharari, 2023; Kolaric & Schiereck, 2013a; Kwon et al., 2008b; Reddy et al., 2019c; Savović & Mimović, 2022b; Srinivasa Reddy et al., 2013a; Yusuf & Raimi, 2019b)
Corporate governance (CG)	Board Size, Board Independence, Duality, Gender Diversity, and Board Meetings	(Arshad et al., 2013; Aziz & Saeed, 2016; Irshad et al., 2015; Shah, 2014; Udin et al., 2017)

Methodology

The data envelopment analysis is a linear programming technique used by researchers to estimate the efficiency score of any organization from its financial data. In this technique, minimum and maximum values are calculated. Researchers widely use this technique to estimate the efficiency score of the merged and acquired financial institutions before and after the mergers and acquisitions. The base model for DEA analysis techniques is given below (Al-Sharkas et al., 2008; Gandhi & Shankar, 2014b),

$$\ln C = g(w, y, z, v) + \ln uC + \ln \varepsilon C \quad (1)$$

where C Cost (operating and interest expenses), W= Input prices, Y= Output prices, V= Economic environment, Z= input-output quantities.

For the estimation of technical efficiency, researchers find the first difference of the base model, and to estimate pure efficiency, they take the second difference of the same. Divide the technical efficiency score into the pure efficiency score for scale efficiency.

Results and Discussion

To complete the task using fewer resources and time and following standard procedures to maintain the quality of a product (service) is known as efficiency. Technical efficiency is called technical efficiency if the organization maintains the proper mix of input and outputs to deliver the highest values to the customers. *Pure efficiency* is the total operational and production efficiency attained in all the organization's departments. Scale efficiency is to meet the required standard by the organization compared with the competitors.

Table 1 shows the efficiency score of merged commercial banks in Pakistan three years after the merger without the corporate governance effect. The results show that Allied Bank Limited, Standard Chartered Bank (Pakistan) Limited, and Askari Bank Limited are technically efficient (cost-efficient) in the 1st, second, and third years after the merge, The Faysal Bank Limited, Atlas Bank Limited, KASB Bank Limited and Summit bank limited gain pure efficiency (profit Efficiency) in 2nd and 3rd year after the mergers—the NIB Bank Limited's technical efficiency in 1st year and 3rd year after the merger. The JS Bank Limited attained technical efficiency in 2nd year of the merger. The Mashreq Bank Limited's technical efficiency in 3rd year after the merger. Crescent Bank Limited is not technically efficient after the merger.

The pure efficiency (Profit Efficiency) score of merged commercial banks three years after the merger without the effect of corporate governance. The results show that Askari Bank Limited attained profit efficiency (profit efficiency) in the merger's 1st, second, and third years.
The Allied Bank Limited and Summit Bank Limited pure efficiency score shows the bank is profit efficient in 1st and 3rd year of the merger. Standard Chartered Bank (Pakistan) Limited attained profit efficiency in 2nd and third years of the merger. The other banks were not profit-efficient after the merger activity.
Three years after the merger, the scale efficiency results of merged commercial banks without corporate governance. Askari Bank Limited is scale efficient in the first, second, and third years after the merger. Standard Chartered Bank (Pakistan) Limited and Summit Bank Limited are scale efficient in the 2nd and 3rd year after the merger. The Allied Bank Limited is scale efficient in 1st and 3rd year after the merger.
Table 2 shows the efficiency score of merged commercial banks three years after mergers with the effect of corporate governance. The results indicate that Faysal Bank Limited, Allied Bank Limited, Standard Chartered Bank (Pakistan) Limited, and Askari Bank Limited are technically efficient in the first, second, and third years after the mergers. The JS Bank Limited was technically efficient in the 2nd year, and the Summit Bank Limited was technically efficient in the 3rd year after the merger. The other banks could be more technically efficient after the mergers with the change in corporate governance practices.
The pure efficiency (profit efficiency) of merged commercial banks three years after the merger with the effect of corporate governance. Allied Bank Limited, Standard Chartered Bank (Pakistan) Limited, and Askari Bank Limited are profit-efficient in the first, second, and third years of mergers. The Faysal Bank Limited is profit efficient in 3rd year after the merger. The other commercial banks could have been more profit-efficient after the merger with the change in corporate governance practices.
The results of the scale efficiency of merged commercial banks after the merger with the change in corporate governance practices. Allied Bank Limited, Standard Chartered Bank Limited, and Askari Bank Limited are scale efficient in the 1st, second, and third years after the merger. The Faysal Bank Limited was scale-efficient in the 3rd year after the merger, and the rest of the commercial banks needed to be scale-efficient with the change in corporate governance practices.

Table 1 The Efficiency of Merged Commercial Banks (without the Change in Corporate Governance Practices)

S. No	Name of Merged Bank	Technical. Efficiency			Pure Efficiency			Scale Efficiency		
		t+1	t+2	t+3	t+1	t+2	t+3	t+1	t+2	t+3
1	Faysal Bank Limited	0.910	1	1	0.657	0.871	0.740	0.721	0.871	0.740
2	Mashreq Bank Pakistan Limited	0.745	0.671	1	0.572	0.651	0.544	0.768	0.970	0.544
3	Crescent Commercial Bank Limited	0.459	0.564	0.841	0.423	0.341	0.675	0.921	0.605	0.803
4	Atlas Bank Limited	0.810	1	1	0.756	1	0.927	0.933	1	0.927
5	Allied Bank Limited	1	1	1	1	0.982	1	1	0.982	1

6	Standard Chartered Bank (Pakistan) Limited	1	1	1	0.976	1	1	0.976	1	1
7	JS Bank Limited	0.675	1	0.604	0.222	0.342	0.231	0.329	0.329	0.382
8	NIB Bank Limited	1	0.657	1	0.435	0.555	0.987	0.435	0.845	0.987
9	KASB Bank Limited	0.983	1	1	0.675	0.321	0.452	0.687	0.321	0.452
10	Askari Bank Limited	1	1	1	1	1	1	1	1	1
11	Summit Bank Limited	0.908	1	1	1	0.872	1	0.960	1	1

Table 2 The efficiency of Merged Commercial Banks (with the Change in Corporate Governance Practices)

S. No	Name of Merged Bank	Technical. Efficiency			Pure Efficiency			Scale Efficiency		
		t+1	t+2	t+3	t+1	t+2	t+3	t+1	t+2	t+3
1	Faysal Bank Limited	1	1	1	0.983	0.887	1	0.983	0.887	1
2	Mashreq Bank Pakistan Limited	0.672	0.987	0.714	0.590	0.701	0.343	0.877	0.710	0.480
3	Crescent Commercial Bank Limited	0.556	0.870	0.653	0.533	0.411	0.439	0.958	0.472	0.672
4	Atlas Bank Limited	0.666	0.543	0.483	0.544	0.221	0.340	0.816	0.407	0.704
5	Allied Bank Limited	1	1	1	1	1	1	1	1	1
6	Standard Chartered Bank (Pakistan) Limited	1	1	1	1	1	1	1	1	1
7	JS Bank Limited	0.811	1	0.899	0.562	0.233	0.760	0.693	0.233	0.845
8	NIB Bank Limited	1	1	1	0.511	0.560	0.751	0.511	0.560	0.751
9	KASB Bank Limited	0.888	0.561	0.761	0.540	0.410	0.725	0.608	0.730	0.953
10	Askari Bank Limited	1	1	1	1	1	1	1	1	1
11	Summit Bank Limited	0.856	0.495	1	0.551	0.303	0.591	0.690	0.612	0.591

Conclusion

The present study investigates the impact of mergers on the technical efficiency, pure efficiency, and scale efficiency of commercial banks three years after the mergers. The DEA technique is used

to analyze the data. The study results explained that Faysal Bank Limited, Allied Bank Limited, Standard Chartered Bank (Pakistan) Limited, and Askari Bank Limited were efficient after the merger, with and without the change in corporate governance practices. Atlas Bank Limited, KASB Bank Limited, and Summit Bank Limited reduce efficiency due to the inclusion of corporate governance practices. Faysal Bank Limited and Allied Bank Limited improve the efficiency score. The other commercial banks needed to be more technical, profitable, and scale-efficient after the mergers, even with changes in corporate governance practices.
The study is helpful for the management of acquirers as well as the target commercial banks in Pakistan to implement the effective code of corporate governance, which will help in the attainment of target performance after mergers (Adeabah et al., 2019; Cortés et al., 2017; Srinivasa Reddy et al., 2013b). This study provides the base for further research in the financial sector and other sectors of the economy in the context of Pakistan. The study is helpful for policymakers to develop an effective code of corporate governance that will make a significant contribution to performance after mergers.

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