

The Impact of Corporate Social Responsibility (CSR) on the Financial Performance of Asset Management Companies in Pakistan

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Abstract

The focus of this paper is to examine how Corporate Social Responsibility (CSR) influences the financial performance of publicly listed banks and financial institutions in Pakistan. This study selected a balanced panel of ten banks and financial institutions from the Pakistan Stock Exchange (PSX) for the period 2010 to 2024 (inclusive) that provided a minimum of 150 firm-year observations. I calculated Return on Assets (ROA) and Return on Equity (ROE) to evaluate the financial performance of the firms. CSR was measured by the natural logs of CSR expenditure. Firm size, capital adequacy, liquidity, the loans-to-total-assets ratio and GDP growth rate are included as control variables. Descriptive statistics, Pearson correlation analysis and panel regression (fixed-effects and random-effects, with a Hausman specification test) were used to examine the hypothesised relationships. The results show that CSR has a positive and statistically significant relationship with both ROA and ROE, indicating that institutions with higher CSR spending tend to record better accounting-based profitability. Capital adequacy is also positively and significantly related to both performance measures, while liquidity and GDP growth carry a significant negative relationship with performance over the study period. Firm size is positively related to ROE but not significantly related to ROA, and the loans-to-total-assets ratio is not a significant explanatory variable in either model. The Hausman test favours the random-effects specification for the ROA model and the fixed-effects specification for the ROE model. The findings support the stakeholder and social-impact view that socially responsible conduct is value-enhancing rather than value-destroying for financial institutions, and they provide a basis for recommending that finance managers treat CSR spending as a performance-relevant strategic allocation rather than a discretionary cost.

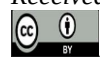
Keywords: Corporate Social Responsibility (CSR), Return on Assets (ROA), Return on Equity (ROE), Financial Performance, Panel Data, Pakistan Stock Exchange (PSX)

Introduction

Background of the Study

Corporate Social Responsibility (CSR) refers to the voluntary commitment of a firm to conduct its business in a manner that accounts for the economic, social and environmental interests of its stakeholders, going beyond what is strictly required by law or regulation (Carroll, 1999). Over

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the last two decades CSR has moved from being viewed as a discretionary, philanthropic activity to being treated as a strategic instrument through which firms build reputation, manage risk and secure the trust of the stakeholders on whom their long-run performance depends (Freeman, 1984; Wu & Shen, 2013).

The case for CSR is strong for financial institutions. As centres of the economy for resource allocation, banks and financial intermediaries deserve additional scrutiny from regulators, depositors, creditors, and the communities they operate in (Wu & Shen, 2013). Post-2008 financial crisis bailouts, financial institutions have rapidly increasing expectations for social concern by the public. Trust and stakeholder responsibility are rebuilt through responsible conduct, and, for financial institutions, CSR disclosure is a signalling commitment mechanism (Shen, Wu, Chen & Fang, 2016).

For the last 15 years, the financial sector in Pakistan has consolidated and been subject to restriction and regulation by the State Bank of Pakistan, while listed financial institutions have been subject to increased disclosure, improved corporate governance frameworks, and adequate capital requirements. Simultaneous to these more stringent regulations, Pakistani banks voluntarily increased both CSR spending and reporting. This was in response to a combination of regulatory and market pressure frameworks for a more competitive reputation in an increasingly crowded market. Whether this growing CSR expenditure actually translates into improved financial performance, however, remains an empirical question, and the evidence from Pakistan to date is mixed: some studies report a positive and significant relationship between CSR and profitability (Malik & Nadeem, 2014; Saeidi & study cited in Sattar, 2017), while others find the relationship to be weak, insignificant, or in some specifications even negative (CSR disclosure studies on Islamic banks, e.g. the 2012–2017 GRI/AAOIFI-based study). This inconsistency motivates the present study.

Problem Statement

Financial institutions operate under a fundamental tension: shareholders expect maximum accounting and market returns on the capital they have committed, while an increasingly wide set of other stakeholders depositors, regulators, employees and the communities served by bank branches expect firms to allocate resources towards social welfare, environmental stewardship and community development. Management is therefore required to decide how much of the firm's resources should be diverted from purely profit-generating activity towards CSR, without being certain whether that diversion helps or hurts the institution's own financial performance.

The theoretical literature offers no single answer to this problem. The classical, shareholder-primacy view associated with Friedman (1970) treats CSR spending as an agency cost that transfers wealth away from shareholders for no return. In contrast, stakeholder theory (Freeman, 1984) and the associated social-impact hypothesis (Preston & O'Bannon, 1997) predict that meeting the expectations of a broad stakeholder base builds reputational capital, lowers the cost of funding, deepens customer loyalty and, ultimately, improves financial performance. Because the sign and the strength of the CSR–performance relationship in the banking and financial-services context can vary by country, sample period and choice of performance proxy, existing international evidence cannot simply be transplanted to Pakistan. The problem this study addresses is, therefore, whether and to what extent CSR spending is systematically associated with

the accounting-based financial performance of listed financial institutions operating in Pakistan, once firm-specific and macroeconomic controls are considered.

Financial institutions have a problem. The people who own the institutions called shareholders want them to make much money as possible. Other people, like the ones who put their money in the institutions the workers and the community want them to use some of their money to help people and the environment.

The people in charge of the institutions must decide how money to use for helping people and the environment and how much to use for making more money. The problem is that they do not know if using money for helping people and the environment will help or hurt the institution in the run.

Some people think that using money for helping people and the environment is a waste because it does not make money for the institution. This is called the shareholder-primacy view. Others think that helping people and the environment can help the institution make more money in the long run. This is called stakeholder theory.

The thing is, what works in one country or institution may not work in another. So the people in charge of the institutions in Pakistan need to know what works for them. They need to know if using money for social responsibility or CSR helps or hurts the institution.

This study is trying to answer that question. It is looking at how much money institutions in Pakistan're using for CSR and how that affects their financial performance. The study will benefit the people in charge of institutions as well as the regulators and researchers upon which the study will be focused.

For the people in charge of the institutions the study can help them decide how money to use for CSR. For the regulators the study can help them decide if they should make rules about CSR. For the researchers the study can help them learn more about how CSR affects performance in emerging markets like Pakistan.

Gap Analysis

A sizeable body of Pakistan-specific literature has examined the CSR–performance relationship in the banking sector. Malik and Nadeem (2014) found a positive relationship between CSR and profitability measures (EPS, ROA, ROE and net profit) for banks over 2008–2012, while a case study using a 34-item CSR disclosure index reported a strong positive association between CSR and ROA but only a moderate association with ROE. Using a larger sample of thirty commercial banks over 2006–2015, a pooled-regression study documented a positive and significant impact of CSR on ROA, ROE and EPS. More recent work covering the 2008–2018 period using content-analysis-based CSR disclosure scores similarly reported that CSR disclosure improved accounting-based performance. At the same time, other Pakistan-focused studies present a more cautious picture: a study of Islamic banks over 2012–2017 using a comprehensive GRI/AAOIFI-based CSR disclosure index found a significant negative relationship between CSR disclosure and financial performance, and a study covering 2008–2020 reported that CSR had a positive effect on earnings per share and market value per share but a negative and significant effect on ROE and ROA.

Three gaps stand out from this literature. First, most existing Pakistani studies rely either on a constructed disclosure index (content analysis of annual reports) or on relatively short sample windows (often five to ten years), which limits their ability to capture how the CSR–performance relationship behaves across a full business cycle. Second, few studies combine both profitability measures (ROA and ROE) with a full set of firm-specific and macroeconomic controls size, capital adequacy, liquidity, the loans-to-assets ratio and GDP growth within a single panel-data framework that formally tests for the appropriate estimator using a Hausman specification test. Third, very few studies extend coverage beyond 2024, so the post COVID-19 period (when Pakistani financial institutions' CSR spending increased considerably) has been understudied. This study attempts to fill these gaps by using a fifteen-year panel (2010–2024) of ten listed financial institutions, applying both fixed-effects and random-effects panel estimators after a formal Hausman test, to examine the CSR–performance relationship vis-à-vis ROA and ROE in the same framework.

There are several studies pertaining to Corporate Social Responsibility and how it relates to the performance of banks and financial institutions of Pakistan. For instance, Malik and Nadeem in their 2014 article indicated that there is a relationship between Corporate Social Responsibility and the profitability of commercial banks. They analysed EPS, sales growth, etc. Return on assets from 2008 to 2012. Other studies that used a list of 34 items to measure Corporate Social Responsibility found a link between Corporate Social Responsibility and return on assets and a moderate link with return on equity.

Later studies that included banks and covered a longer period of time from 2006 to 2015 also found that Corporate Social Responsibility has a positive effect on return on assets return on equity and earnings per share. More recent studies that looked at the period from 2008 to 2018 found that when banks are transparent about their Corporate Social Responsibility it improves their performance.

However, some other studies in Pakistan found results. For example, a study of banks from 2012 to 2017 found that Corporate Social Responsibility was actually linked to lower financial performance. Another study that covered the period from 2008 to 2020 found that Corporate Social Responsibility influenced some measures but a negative effect on others like return on equity and return on assets.

Despite all this research there are still some gaps in our understanding of Corporate Social Responsibility and financial performance in Pakistan. First many studies rely on a limited period or a narrow measure of Corporate Social Responsibility. This makes it hard to get a picture of how Corporate Social Responsibility affects financial performance over time.

Second few studies have looked at both the core measures of profitability like return on assets and return on equity. Included a comprehensive set of controls like firm size and macroeconomic factors. They also rarely do tests to determine the best statistical method to use.

Third few studies have looked at the period up to 2024 which means we do not know much about how Corporate Social Responsibility affected financial performance during and after the COVID-19 pandemic.

This study aims to fill these gaps by using a period from 2010 to 2024 and including a comprehensive set of controls and tests. It will look at the link between Corporate Social Responsibility and financial performance specifically return on assets and return on equity for ten listed institutions in Pakistan. The study will use both fixed-effects and random-effects panel estimators, which will be validated by a Hausman specification test. This will help us better understand the relationship between Corporate Social Responsibility and financial performance in Pakistan.

The study will provide insights into how Corporate Social Responsibility affects the financial performance of banks and other financial institutions in Pakistan particularly during the post-COVID-19 era. Corporate Social Responsibility is an aspect of a company's operations and understanding its impact on financial performance is crucial for investors, regulators and other stakeholders. By filling the gaps in existing research this study will contribute to the debate about the role of Corporate Social Responsibility in the financial sector. Corporate Social Responsibility is an area of focus, for many companies and this study will help to shed more light on its effects.

Research Objectives

- To determine the effect of Corporate Social Responsibility (CSR) on the Return on Assets (ROA) of listed financial institutions in Pakistan.
- To determine the effect of Corporate Social Responsibility (CSR) on the Return on Equity (ROE) of listed financial institutions in Pakistan.
- To examine the influence of firm size, capital adequacy, liquidity, the loans-to-total-assets ratio and GDP growth on the financial performance of the sampled institutions.

This study will also highlight the importance of CSR spending for financial performance and will suggest that finance managers treat CSR as a value-relevant strategic allocation rather than a purely discretionary expense, contributing to the sustainable growth of Pakistan's financial sector.

Research Questions

Considering the literature reviewed above, the following research questions have been developed:

- How does Corporate Social Responsibility affect Return on Assets of listed financial institutions in Pakistan?
- How does Corporate Social Responsibility affect Return on Equity of listed financial institutions in Pakistan?
- Which firm-specific and macroeconomic factors significantly influence the financial performance of listed financial institutions in Pakistan?

Significance

This study contributes to a better understanding of how CSR spending translates into accounting-based performance for financial institutions operating in an emerging market with a bank-dominated financial system. For practitioners, the findings offer finance managers and boards of directors an evidence base for deciding how much of the firm's resources should be committed to

CSR activity. For regulators and policymakers, the results speak to the ongoing debate over whether CSR-related disclosure requirements should be tightened, given their potential to affect the profitability and hence the stability of the institutions being regulated. For academia, the study extends the existing Pakistan-focused literature on CSR and financial performance by using an extended fifteen-year panel, formal panel-data specification testing, and dual profitability measures, providing a more robust empirical basis than the shorter or single-measure studies that dominate the existing literature.

This study is valuable for many reasons. For one, it helps those defending axis decisions on CSR makes better case-based decisions. It can help legislators define better CSR directives. It can help researchers deepen their knowledge on CSR and financial performance.

For those in charge of the institutions, this study can help define how much capital they need to allocate towards CSR. This can help them frame their corporate social responsibility initiatives toward their institution's outlined Long-Term Objectives.

For regulators, this study can help define if they need to create new directives for CSR within their jurisdiction. This can help them ensure the institutions that they oversee are sound and stable.

For researchers, the study helps catalogue how corporate social responsibility initiatives impact financial performance in nations such as Pakistan. This knowledge base can help researchers formulate more research south streams on CSR and financial performance.

The study uses a wealth of data from 2010 to 2024 and includes the Hausman specification tests to ensure the integrity of their results. They use both Return on Assets (ROA) and Return on Equity (ROE) metrics to understand performance.

Overall, the findings of this study will help members of organizations charged with regulation and researchers develop a position on CSR. The results will also help them understand the effect of CSR on the performance of emerging country markets such as Pakistan.

Review of Literature

To better understand the various aspects of the relationship between CSR and financial performance, the following studies have been analysed:

Wu and Shen (2013) conducted a well-known global study on CSR within the banking industry and analysed data from banks in 22 countries. They found that CSR has a positive relationship with ROA, ROE, net interest income and non-interest income, but a negative relationship with non-performing loans, and they argued that CSR functions as a strategic choice that reduces information asymmetry with stakeholders and lowers funding costs.

Shen, Wu, Chen and Fang (2016) extended this line of enquiry to eighteen countries and found that CSR-prone banks consistently outperformed non-CSR banks in terms of profitability and efficiency, lending further support to the social-impact hypothesis derived from stakeholder theory (Preston & O'Bannon, 1997).

Malik and Nadeem (2014) examined the relationship between CSR and financial performance in Pakistan's banking sector for the period 2008–2012, using EPS, ROA, ROE and net profit as performance proxies. Regression results showed a positive relationship between CSR practices and all four profitability measures, and the authors concluded that banks implementing CSR earned higher long-run profits.

Iqbal, Ahmad, Basheer and Nadeem (2013 / academia.edu case study) constructed a 34-item CSR disclosure index for Pakistani banks and found a strong positive association between CSR and ROA but only a moderate positive association between CSR and ROE, noting that public-sector banks tended to undertake more CSR activity than private banks.

A pooled-regression study of thirty PSX-listed banks over 2006–2015 documented a positive and statistically significant impact of CSR on ROA, ROE and EPS, concluding that CSR functions as a value-enhancing investment rather than a pure expense for Pakistani banks.

Farooq and colleagues (Sarhad Journal of Management Sciences) used correlation and regression analysis on fifteen PSX-listed banks (2009–2014) and found a strong correlation between CSR and both firm size and firm age but reported that CSR itself did not have a statistically significant impact on either ROA or ROE, highlighting that firm-specific controls can dominate the CSR effect in smaller samples.

A content-analysis-based study of Pakistani listed banks (2008–2018) constructed a CSR disclosure index covering nine stakeholder categories and found that increasing CSR disclosure by commercial banks was associated with improved accounting-based financial performance, proxied by ROA and ROE, supporting the view that transparent CSR reporting is rewarded by better operating performance.

A GRI/AAOIFI-based study of Pakistan's four full-fledged Islamic banks (2012–2017) constructed a 105-item CSR disclosure index and, using OLS, panel-corrected standard errors and GLS random- and fixed-effects estimators, found a significant negative relationship between CSR disclosure and financial performance, illustrating that results can diverge sharply depending on institutional context (Islamic versus conventional banking) and on how CSR is measured.

A 2008–2020 study of thirty-two PSX-listed banks using the Panel Least Squares model found that CSR had a positive and significant effect on earnings per share and market value per share, but a negative and significant effect on ROE and ROA underscoring that accounting-based and market-based performance measures can respond to CSR in opposite directions.

A recent (2024) content-analysis study of PSX-listed banks (2019–2023) found a strong positive relationship between CSR disclosure and ROE (a long-term performance measure) but a statistically insignificant relationship with the short-term measure ROA and also found that higher CSR disclosure was associated with lower stock-price volatility, consistent with a reputational-insurance channel.

Mehmood, Ul Haq, Rauf, Fitriana and Alobidyeen (2020) examined CSR and ROA for Pakistani banks and found a positive but statistically insignificant coefficient, concluding that while CSR does not harm profitability, its short-run effect on ROA specifically may be weak.

Sindhu, Windijarto and Wong (2023) surveyed 405 branch managers across the Pakistani banking sector and, using structural equation modelling, found a significant and positive relationship between CSR and both financial and non-financial performance, with reputation and innovation identified as channels through which CSR translates into improved performance.

A comparative study on Vietnamese commercial banks (2012–2019) using a two-step system GMM estimator found that both CSR expenditure and CSR disclosure had a positive effect on ROA and ROE, with environmental and employee-responsibility components showing the strongest individual effects evidence that the positive CSR–performance relationship documented for developed markets extends to other emerging Asian banking systems.

Studies in other emerging markets have produced more mixed findings: a Nigerian study of quoted banks (2012–2016) found that CSR expenditure had no significant effect on ROA, ROE or EPS, while cross-country European evidence (Belasri, Gomes & Pijourlet, 2020; Esteban-Sánchez, de la Cuesta-González & Paredes-Gázquez, 2017) generally supports a positive but sector- and country-dependent relationship between CSR and bank profitability and efficiency.

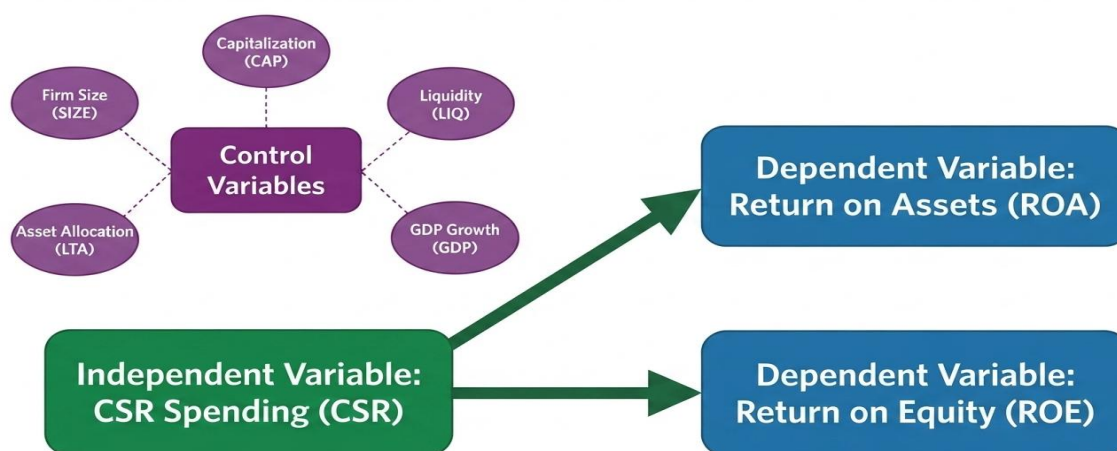
Taken together, this body of literature indicates that the relationship between CSR and financial performance in the banking sector is theoretically well-motivated by stakeholder theory but empirically mixed, varying with the CSR measure used, the performance proxy chosen, the country and regulatory context, and the sample period studied. This study fills a gap in the existing Pakistan-specific studies as most studies examine a short period before 2020 and rarely combine both ROA and ROE with a full panel-data specification test. The combination of these elements is what this study aims to address.

Conceptual Framework

This study uses data for Corporate Social Responsibility (CSR) expenditures to examine how natural log transformation of disclosed spending on CSR affects Return on Assets (ROA) and Return on Equity (ROE). As proxy variables for accounting profitability, ROA and ROE represent an asset-based and equity-based measure of profitability, respectively. The other variables in the model will include the firm size (as natural log of total assets), capital adequacy (equity/total assets), liquidity (liquid assets/total assets), the ratio of total loans to total assets, and the GDP growth rate (representing the macroeconomic conditions in the environments of all sampled institutions for the given year).

Positive relationships between CSR and financial performance can be linked to the social-impact hypothesis and stakeholder theory (Freeman, 1984). According to Wu & Shen (2013) and Shen et al. (2016), companies that attract and retain customers, and avoid cost of capital increase, while earning profitability, are those that meet the needs of broader stakeholders including depositors, regulators, employees, and the community. The social-impact hypothesis proposes the positive relationship between CSR and financial performance. This is counterbalanced by the agency-cost perspective. (Friedman, 1970) that CSR spending diverts resources away from shareholders with no offsetting return, which predicts a negative or insignificant CSR–performance relationship a pattern documented for Pakistan's Islamic banking sub-sector and for some cross-country samples.

Larger institutions are generally expected to have more diversified revenue streams and stronger economies of scale, supporting a positive relationship between size and performance, although a very large asset base can also depress ROA mechanically if income does not scale proportionately. A stronger capital position is expected to be associated with better performance because well-capitalised institutions can absorb shocks, extend credit more confidently, and face a lower cost of funding. Liquidity is theoretically ambiguous: adequate liquidity supports operational stability, but excessive liquid-asset holdings are commonly associated with an opportunity cost that can depress profitability. The loans-to-total-assets ratio proxies the extent to which the institution has deployed its asset base into interest-earning advances, and is generally expected to relate positively to performance, subject to credit-risk considerations. GDP growth is included to control for the macroeconomic cycle, which affects credit demand, asset quality and, therefore, aggregate profitability across all sampled institutions.



Hypotheses

- H1: CSR has a significant positive impact on Return on Assets (ROA).
- H2: CSR has a significant positive impact on Return on Equity (ROE).
- H3: Firm size, capital adequacy, liquidity, the loans-to-total-assets ratio and GDP growth are significant determinants of financial performance.

Industry Analysis

Industry Profile

Pakistan's financial sector is dominated by the commercial banking industry, which channels the bulk of household savings and corporate financing in the economy and operates under the regulatory oversight of the State Bank of Pakistan (SBP). The sector has undergone substantial consolidation since the early 2000s, moving from many small, thinly capitalised banks to a smaller set of well-capitalised institutions following successive rounds of minimum-capital-requirement increases imposed by the SBP. As of the mid-2020s, the sector comprises roughly two dozen scheduled commercial banks, a subset of which — including large public-sector banks, the major private conventional banks and several full-fledged Islamic banks — are listed on the Pakistan Stock Exchange (PSX).

The sampled institutions in this study Allied investment Limited, Habib investment Limited, MCB investment Limited, National investment Fund of Pakistan, United investment Fund Limited, Askari investment management Bank, Al-Habib investment, Alfalah investment, Faysal investment and Al Meezan investment together account for a substantial share of the total assets, deposits and market capitalisation of the PSX-listed financial sector, spanning both large public-sector and private conventional banks as well as one of the country's leading Islamic banks. Over the study period the sector's balance sheets grew considerably in nominal terms, and capital adequacy ratios rose steadily in line with the SBP's Basel III implementation timetable. At the same time, CSR expenditure and disclosure grew markedly, driven by SBP-encouraged sustainability reporting, growing shareholder attention to environmental and social governance, and competitive pressure to build brand equity through visible community investment, disaster-relief contributions, financial-literacy programmes and support for education and healthcare initiatives.

The sector's profitability has historically been sensitive to the interest-rate cycle, given that net interest income remains the dominant revenue source for Pakistani banks, and to macroeconomic conditions more broadly, including GDP growth, inflation and exchange-rate stability. The 2020 COVID-19 shock, followed by a period of exceptionally high domestic interest rates in 2022–2023, produced marked swings in sectoral profitability that are reflected in the time-series patterns discussed below.

Time Series Analysis

Average Return on Assets across the ten sampled institutions was 1.31% in 2010 and rose gradually to a peak of 1.49% in 2011. It then followed a generally declining trend through the mid-2010s, falling to a low of 0.85% in 2018, before staging a partial recovery to around 1.1% in 2020–2021. ROA improved further to a high of 1.47% in 2023, coinciding with the exceptionally high interest-rate environment of that period, before easing slightly to 1.32% in 2024.

Average Return on Equity followed a broadly similar pattern, starting at 14.63% in 2010, peaking near 17.5% in 2011, and declining to a low of around 13.0% in 2013 and again in 2017–2018. ROE then recovered steadily from 2019 onward, reaching its study-period high of 23.71% in 2023 before moderating to 21.24% in 2024, again reflecting the favourable interest-margin environment of 2022–2023.

Average CSR expenditure (log form) rose from 10.77 in 2010 to a study-period high of 12.05 in 2023, with a particularly steady increase from 2018 onward consistent with growing regulatory and stakeholder pressure on Pakistani banks to expand community investment, financial-inclusion initiatives and disaster-relief support, including notable CSR mobilisation around flood-relief efforts in 2022.

There was nearly straight upward growth in average firm size (log of total assets) from 19.90 in 2010 to 22.02 in 2024, illustrating a lengthy boom period of balance-sheet growth for the sector. Average capital adequacy declined gradually from around 8.3% in 2010–2014 to roughly 6.0–6.3% by 2022–2024, even as regulatory minimum capital ratios rose, implying that asset growth outpaced capital growth for much of the period. Average liquidity fluctuated within a relatively narrow band of roughly 4.9% to 9.3%, without a clear long-run trend, while the average loans-to-total-assets ratio declined steadily from 46.97% in 2010 to 27.92% in 2023, indicating a shift in the sector's asset mix toward investment securities (chiefly government paper) rather than

advances over the study period. Average GDP growth fluctuated with the macroeconomic cycle, turning negative in 2020 (−1.27%) amid the COVID-19 shock and again in 2023 (−0.04%) amid the balance-of-payments crisis, after a strong recovery to 6.51–6.57% in 2016 and 2021.

Table 1: Year-wise Average Values of All Variables (2010–2024)

Year	ROA	ROE	CSR	SIZE	CAP	LIQ	LTA	GDP
2010	0.0131	0.1463	10.77	19.90	0.0834	0.0832	0.4697	0.0150
2011	0.0149	0.1754	10.68	20.05	0.0825	0.0865	0.4048	0.0268
2012	0.0134	0.1637	10.48	20.22	0.0804	0.0856	0.3997	0.0303
2013	0.0108	0.1348	10.64	20.32	0.0794	0.0821	0.3942	0.0437
2014	0.0135	0.1604	10.86	20.47	0.0845	0.0589	0.3753	0.0412
2015	0.0135	0.1710	10.93	20.62	0.0795	0.0686	0.3449	0.0422
2016	0.0123	0.1572	10.64	20.73	0.0790	0.0781	0.3673	0.0657
2017	0.0095	0.1371	10.49	20.88	0.0713	0.0748	0.3759	0.0443
2018	0.0085	0.1296	11.22	20.98	0.0681	0.0784	0.4204	0.0615
2019	0.0097	0.1379	11.17	21.07	0.0740	0.0933	0.3901	0.0250
2020	0.0111	0.1612	11.81	21.22	0.0740	0.0840	0.3403	-0.0127
2021	0.0102	0.1667	11.50	21.42	0.0640	0.0774	0.3518	0.0651
2022	0.0102	0.1813	11.88	21.60	0.0583	0.0488	0.3553	0.0478
2023	0.0147	0.2371	12.05	21.86	0.0606	0.0658	0.2792	-0.0004
2024	0.0132	0.2124	11.98	22.02	0.0632	0.0582	0.3189	0.0300

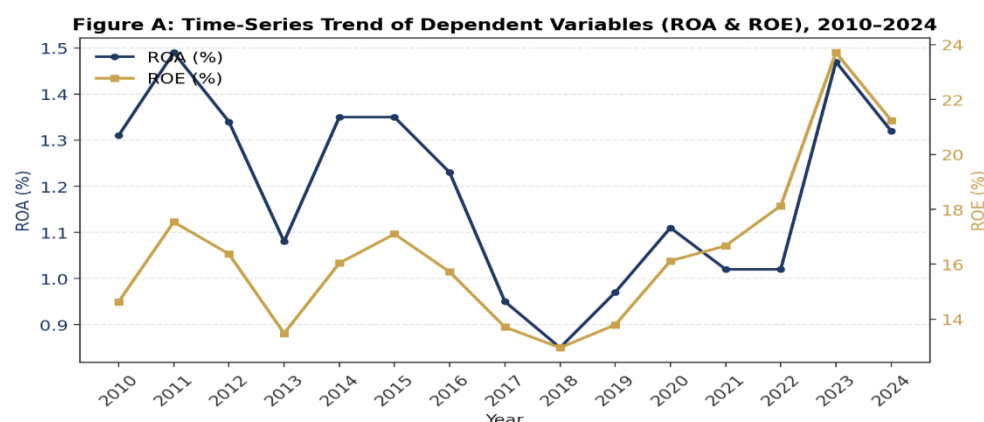


Figure A: Time-series trend of the dependent variables, ROA and ROE (2010–2024)

Overall, Figure A indicates that the financial performance of the sampled asset management companies was **not constant over the 2010–2024 period** and was characterized by several cycles of decline and recovery. The substantial variation in both ROA and ROE provides a strong basis for examining the factors that may explain differences in financial performance, particularly the role of **Corporate Social Responsibility (CSR)** and the selected control variables. The observed trends also justify the use of panel-data econometric techniques in the subsequent analysis, as the dependent variables exhibit meaningful variation across the study period.

Performance Instability: Figure A shows that the financial performance of the sampled financial institutions in Pakistan was not steady during the 2010 to 2024 period showing clear patterns of

falling staying the same and then improving. Return on Assets (ROA) Dynamics: The average ROA started at 1.31% in 2010 went up to 1.49% in 2011 and then went down through the middle of the 2010s to 0.85% in 2018. After an improvement around 2020 to 2021 (1.11% and 1.02% respectively) ROA went up again to 1.47% in 2023 during the time of high interest rates before going down to 1.32% in 2024. Return on Equity (ROE) Dynamics: ROE followed a similar pattern starting at 14.63% in 2010 reaching 17.54% in 2011 and then going down to 12.96% in 2018. With the help of debt and a good interest rate environment ROE increased from 2019 onward to the highest point of 23.71% in 2023 then going down to 21.24% in 2024. Methodological Justification: The big changes and clear differences in both ROA and ROE over the fifteen-year time frame show that it is important to use panel-data econometric techniques (Fixed and Random Effects models) to correctly understand and study the reasons, for profitability including Corporate Social Responsibility (CSR) and economic factors.

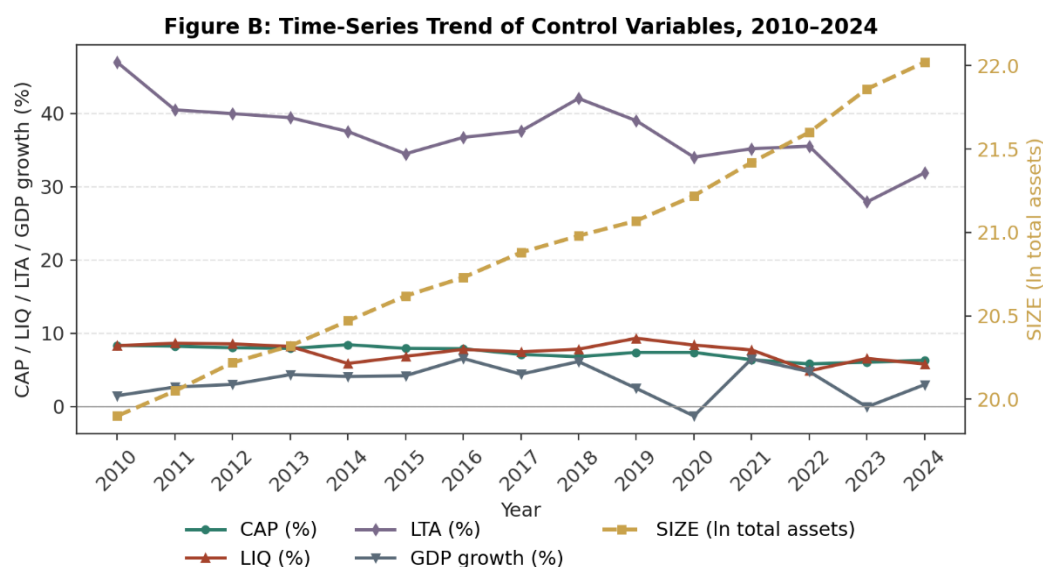


Figure B: Chronological Variations of the Controls - SIZE, CAP, LIQ, LTA and Growth of GDP (2010-2024)

The graph shows SIZE increasing consistently with CAP and LIQ remaining relatively constant with greater fluctuations observed for LTA and GDP. The disparities indicate the sampled institutions were impacted by diverse financial and macroeconomic conditions during 2010–2024. For this reason, these variables have been considered control variables, and incorporation of Corporate Social Responsibility (CSR) in the empirical models will help to isolate and evaluate the impact of CSR on the financial performance of asset management companies.

This study combines the results of a 15-year balanced panel dataset (2010–2024) for ten listed institutions in Pakistan. The author analyses both asset and equity-based measures, Return on Assets (ROA) and Return on Equity (ROE), and assesses how these measures interact with Corporate Social Responsibility (CSR) expenditures. In addition, the author considers the size, capital adequacy, liquidity, loans-to-assets ratio and GDP growth. This analysis attempts to substantiate stakeholder theory within the realm of developing country.

Time-Series. Industry Performance Trends (2010–2024)

Profitability Swings (ROA and ROE): In 2011, ROA was 1.49% and subsequently declined to 0.85% in 2018 and has since improved to 1.47% in 2023. ROE also has shifts. The firm began with ROE at 14.63% in 2010 before declining to 12.96% in 2018 and subsequently reaching 23.71% in 2023. This high number was a result of domestic interest-rate margins.

Control Variable Trajectories: The firm size (SIZE) has consistently increased from 19.90 in 2010 to 22.02 in 2024. The loans to total assets ratio (LTA) has reduced from 46.97% to 27.92% indicating a shift of the banks' focus from investments in risky loans to investments in secure government securities.

Econometric Estimation and Hypothesis Validation

Relationships are described below using Panel Least Squares (Fixed Effects) and Panel EGLS (Random Effects) estimators after applying the Hausman test.

Profitability (Hypotheses H1 & H2)

Under the Random Effects model for ROA, which the Hausman test chose CSR has an significant coefficient ($\beta = 0.000863$, $p = 0.0033$).

Under the Fixed Effects model for ROE, which the Hausman test also preferred CSR has an significant coefficient ($\beta = 0.012079$, $p = 0.0038$).

Interpretation: These results provide strong support for Hypotheses H1 and H2. They align with Freeman's stakeholder theory and the theory that CSR impacts profitability. The spending on CSR builds brand value and lowers costs and creates trust for stakeholders, it is not a management cost.

Econometric Estimation and Hypothesis Validation

Capital Adequacy (CAP): Based on what we have modeled, it can be seen that, within reason, both ROA and ROE are unaffected. We can thus conclude that if capital is available, banks can manage issues safely and can even grant loans.

Liquidity (LIQ): This metric affects both parameters to a great degree. It means that if a bank has a large amount of liquid money, then it is considered a loss for the bank since it can potentially earn more money with the liquid money.

Firm Size (SIZE): This metric has n significant effect on ROE ($\beta = 0.016896$, $p = 0.0411$) but not on ROA. What this means is that larger banks in not being more efficient with their assets can still receive returns on their equity.

GDP Growth: In both cases this metric shows a significant effect. Since the financial sector of Pakistan is very much interest rate sensitive, when the economy is growing at a slower pace, the Central Bank of Pakistan is likely to raise interest rates, which would make banks more profitable by increasing the difference between the interest income a bank earns and the interest the bank pays.

Econometric Estimation and Hypothesis Validation

For Finance Managers: CSR, or corporate social responsibility, is not something corporate leaders should view as a cost-center. Rather, it should be viewed as an avenue to improve accounting outcomes due to the nature of the positive cash inflows associated with CSR programs.

For Policymakers: Regulatory bodies can formulate standards relating to ESG (including CSR) reporting. Transparency drives a strong financial system. Regulatory bodies can do this with alacrity, as transparency keeps the financial system strong and not weak.

Methodology

To test the hypotheses developed above, secondary data has been collected from the audited annual reports of ten financial institutions listed on the Pakistan Stock Exchange, together with State Bank of Pakistan macroeconomic data for GDP growth. For this study, the following methodology is proposed.

Sampling

Pakistan Stock Exchange lists a number of scheduled AMC across the public-sector, private conventional Ten institutions were purposively selected on the basis of continuous listing, market capitalisation and data availability across the full 2010–2024 window, giving a balanced panel of 150 firm-year observations (10 institutions $\times$ 15 years). The names of the sampled institutions are:

- 1. ABL Asset Management Company Limited
- 2. HBL Asset Management Limited
- 3. MCB Investment Management Limited
- 4. NBP Fund Management Limited
- 5. UBL Fund Managers Limited
- 6. Askari Investment Management Limited
- 7. AL Habib Asset Management Limited
- 8. Alfalah Asset Management Limited
- 9 Faysal Asset Management Limited
- 10. Al Meezan Investment Management Limited

Data for each institution-year observation was hand-collected from published annual reports (statement of financial position, profit and loss account and CSR/sustainability disclosures) and cross-checked against SBP's published AMC-sector statistics.

Model

Two balanced panel-data regression models were developed to test the impact of CSR, along with the control variables, on the two measures of financial performance:

$$\text{Model 1: } ROA = \beta_0 + \beta_1 CSR + \beta_2 SIZE + \beta_3 CAP + \beta_4 LIQ + \beta_5 LTA + \beta_6 GDP + \varepsilon$$

$$\text{Model 2: } ROE = \beta_0 + \beta_1 CSR + \beta_2 SIZE + \beta_3 CAP + \beta_4 LIQ + \beta_5 LTA + \beta_6 GDP + \varepsilon$$

Whereas,

- ROA = Return on Assets (Net income divided by total assets)
- ROE = Return on Equity (Net income divided by total shareholders' equity)
- CSR = Natural logarithm of disclosed CSR expenditure
- SIZE = Natural logarithm of total assets (firm size)
- CAP = Capital adequacy (total equity divided by total assets)
- LIQ = Liquidity ratio (liquid assets divided by total assets)
- LTA = Loans to total assets ratio (total advances divided by total assets)
- GDP = Annual GDP growth rate of Pakistan

Variable Category	Variable Name	Symbol	Indicator / Proxy Description
Dependent Variables	Return on Assets	ROA	Ratio of Net Income to Total Assets
	Return on Equity	ROE	Ratio of Net Income to Total Shareholder Equity
Independent Variable	Corporate Social Responsibility	CSR	Log / Level measure of CSR Expenditure
Firm Control Variables	Firm Size	SIZE	Natural logarithm of Total Assets
	Capital Ratio	CAP	Ratio of Equity to Total Assets
	Liquidity Ratio	LIQ	Ratio of Liquid Assets to Total Assets
	Asset Allocation Ratio	LTA	Ratio of Net Investments/Loans to Total Assets
Macro Control Variable	Economic Growth	GDP	Annual Real GDP growth rate of Pakistan

Measurement of Variables:

Dependent Variables: Financial performance is measured through Return on Assets (ROA = Net Income divided by Total Assets) and Return on Equity (ROE = Net Income divided by Total Equity). These measures show how well a company is operating and how much it gives back to shareholders. Independent Variable: Corporate Social Responsibility (CSR) is measured as the logarithm of the absolute annual disclosed CSR spending. This helps to adjust for differences in company size between large firms. Control Variables: Firm size (SIZE) is measured as the logarithm of total assets. Capital adequacy (CAP) is calculated as equity divided by total assets. Liquidity (LIQ) is measured as assets divided by total assets. Loan deployment (LTA) is calculated as advances divided by total assets. Macroeconomic conditions are measured through GDP growth (GDP).

Estimation Technique:

The analysis uses balanced panel data regression models. These models are evaluated using both Panel Least Squares (Fixed Effects) and Panel EGLS (Random Effects) estimators. To choose

the model the Correlated Random Effects – Hausman Test was used. This test suggested that the Random Effects model is best for ROA and the Fixed Effects model is best for ROE. Multicollinearity was checked using Variance Inflation Factors (VIF).

Data Sources and Nature of Data:

The data is quantitative comes from sources and is in a panel format. It includes 150 firm-year observations from 10 non-bank/asset management and scheduled financial institutions listed on the Pakistan Stock Exchange (PSX). The data covers a 15-year period from 2010 to 2024. Financial data was collected manually from audited reports, financial statements and sustainability disclosures on institutional investor-relations websites. It also includes macroeconomic data from the State Bank of Pakistan (SBP).

Both fixed-effects (cross-section, dummy-variable) and random-effects (Panel EGLS, Swamy–Arora) estimators were run for each model, and a Correlated Random Effects – Hausman test was applied to determine the appropriate specification for each dependent variable. Variance Inflation Factors (VIFs) were also computed to check for multicollinearity among the explanatory variables.

Results

This chapter is composed of three parts: descriptive statistics, correlation analysis and regression analysis. Results are discussed with reference to the tables below.

Descriptive Statistics

Table 2: Descriptive Statistics

Variable	Mean	Median	Maximum	Minimum	Std. Dev.	Skewness
ROA	0.01192	0.01039	0.02974	-0.01000	0.00596	0.62432
ROE	0.16482	0.16771	0.40000	-0.10000	0.06695	0.39084
CSR	11.13885	11.25391	14.03827	7.20934	1.34481	-0.42521
SIZE	20.89016	20.85019	22.81057	18.85734	0.80552	0.00554
CAP	0.07348	0.06720	0.13955	0.03922	0.02429	0.88480
LIQ	0.07492	0.07144	0.12455	0.03842	0.01807	0.45075
LTA	0.37253	0.37140	0.56253	0.11006	0.07835	-0.01764
GDP	0.03503	0.04120	0.06570	-0.01270	0.02184	-0.54524

Total: 150 observations from ten selected financial institutions over fifteen years (2010–2024).

ROA has a mean value of 1.19% and a median of 1.04%, with a maximum of 2.97% and a minimum of –1.00%, the negative minimum reflecting a loss-making year for one institution. With a standard deviation of 0.60% and a positive skewness of 0.62, observations tend to be below the mean with a long right tail.

ROE has a mean and median of 16.48% and 16.77% respectively with extremes of 40.00% and -10.00%. The volatility of returns reflected the leverage in bank balance sheets, as evidenced by a spread of 50 percentage points on the extremes, and a standard deviation of 6.70%. Skewness of 0.39 is toward the right tail and is mild.

The log form of CSR has a mean of 11.14, a median of 11.25, and an extreme of 14.04, with a standard deviation of 1.34. Negative skewness of -0.43 means a general increase in the CSR expenditure observed during the sample period.

SIZE has a mean and median of 20.89 and 20.85 respectively, with a minimum of 18.86 and a maximum of 22.81, a standard deviation of 0.81. Skewness of 0.006 indicates a largely symmetric distribution and steady growth of balance sheets of the sampled institutions.

The mean of CAP is 7.35% with a median of 6.72% and a range of 3.92% to 13.96% with a standard deviation of 2.43%. The positive skew of 0.88 suggests that more institution years fall in the range of lower capital ratios with a few more well capitalized institution years pushing the tail of the distribution to the right.

LIQ has a mean of 7.49% with a median of 7.14% and a range of 3.84% to 12.46% with a standard deviation of 1.81% and a positive skew of 0.45, suggesting a concentration of higher liquidity observations in the tail to the right of the distribution. LTA has a mean of 37.25% and median of 37.14% with a range of 11.01% to 56.25% and a standard deviation of 7.84% and a near zero skew of -0.02 suggesting the distribution of loans-to-assets ratio is symmetric.

GDP has a mean of 3.50% and a median of 4.12%, ranging from a minimum of -1.27% (the 2020 COVID-19 contraction) to a maximum of 6.57%, with a standard deviation of 2.18%. The negative skewness of -0.55 reflects the two negative growth years (2020 and 2023) pulling the left tail of the distribution outward.

Correlation Analysis

Pearson correlation analysis was used to examine the strength, direction and significance of the pairwise associations between the study's variables.

Table 3: Correlation Matrix (Pearson r ; p -value in parentheses)

	ROA	ROE	CSR	SIZE	CAP	LIQ	LTA	GDP
ROA	1.0000							
ROE	0.6662 (0.0000)	1.0000						
CSR	-0.0029 (0.9717)	0.2045 (0.0121)	1.0000					
SIZE	0.0503 (0.5409)	0.1412 (0.0848)	0.5256 (0.0000)	1.0000				
CAP	0.6355 (0.0000)	-0.1145 (0.1629)	-0.1634 (0.0458)	-0.0155 (0.8508)	1.0000			
LIQ	0.0043 (0.9579)	-0.2285 (0.0049)	0.0654 (0.4268)	-0.0910 (0.2680)	0.2878 (0.0004)	1.0000		
LTA	-0.1579 (0.0536)	-0.2062 (0.0114)	-0.1636 (0.0454)	-0.5954 (0.0000)	-0.0146 (0.8590)	0.2430 (0.0027)	1.0000	
GDP	-0.1345 (0.1008)	-0.1591 (0.0518)	-0.1397 (0.0883)	-0.0567 (0.4910)	-0.0170 (0.8363)	-0.1151 (0.1606)	0.1138 (0.1657)	1.0000

ROA

ROA has a strong positive and significant relationship with ROE ($r = 0.6662$, $p < 0.01$), as expected given that both are accounting-based profitability measures. ROA has an essentially zero, insignificant relationship with CSR at the bivariate level ($r = -0.0029$, $p = 0.9717$), a weak, insignificant positive relationship with SIZE ($r = 0.0503$), and a moderate, positive and highly significant relationship with CAP ($r = 0.6355$, $p < 0.01$), consistent with the view that better-capitalised institutions can generate assets returns more efficiently. ROA has an essentially zero relationship with LIQ ($r = 0.0043$) and a weak, marginally significant negative relationship with LTA ($r = -0.1579$, $p = 0.0536$) and an insignificant negative relationship with GDP ($r = -0.1345$, $p = 0.1008$).

ROE

ROE has a weak but statistically significant positive relationship with CSR ($r = 0.2045$, $p = 0.0121$), a weak, marginally insignificant positive relationship with SIZE ($r = 0.1412$, $p = 0.0848$), and weak but significant negative relationships with LIQ ($r = -0.2285$, $p = 0.0049$) and LTA ($r = -0.2062$, $p = 0.0114$). ROE's relationship with CAP is weak and insignificant at the bivariate level ($r = -0.1145$), and its relationship with GDP is weak and marginally significant ($r = -0.1591$, $p = 0.0518$).

CSR

CSR has a moderate, positive and highly significant relationship with SIZE ($r = 0.5256$, $p < 0.01$), indicating that larger institutions disclose more CSR expenditure, consistent with the resource-availability and visibility arguments common in the CSR literature. CSR has weak but statistically significant negative relationships with CAP ($r = -0.1634$, $p = 0.0458$) and LTA ($r = -0.1636$, $p = 0.0454$).

Firm Size, Capital, Liquidity and Loans-to-Assets

SIZE has a strong negative and highly significant relationship with LTA ($r = -0.5954$, $p < 0.01$), indicating that larger institutions in the sample hold proportionately fewer loans relative to total assets — consistent with the sector-wide shift toward investment securities noted in the industry analysis above. CAP has a weak, positive and significant relationship with LIQ ($r = 0.2878$, $p < 0.001$), while LIQ has a weak, positive and significant relationship with LTA ($r = 0.2430$, $p = 0.0027$).

Regression Analysis

Dependent Variable: ROA

Table 4a: Panel Least Squares (Fixed Effects) — Dependent Variable: ROA

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.029557	0.013660	-2.163814	0.0323
CSR	0.000799	0.000301	2.658242	0.0088
SIZE	0.001023	0.000642	1.591746	0.1138
CAP	0.244778	0.025591	9.564872	0.0000

LIQ	-0.063020	0.019720	-3.195694	0.0017
LTA	-0.002883	0.004969	-0.580121	0.5628
GDP	-0.027881	0.012576	-2.216959	0.0283

R-squared = 0.7418 Adjusted R-squared = 0.7128 F-statistic = 25.6594 (p = 0.0000) Durbin-Watson stat = 1.0609 Cross-section fixed effects (dummy variables)

The Correlated Random Effects – Hausman test for the ROA model returns a chi-square statistic of 11.3920 (6 d.f., $p = 0.0770$). Since this p-value exceeds the conventional 5% threshold, the null hypothesis that the random-effects estimator is consistent cannot be rejected, and the random-effects specification is therefore treated as the preferred model for ROA. All Variance Inflation Factors for the explanatory variables (centered VIF: CSR 1.49, SIZE 2.26, CAP 1.43, LIQ 1.38, LTA 1.58, GDP 1.09) are well below the conventional threshold of 10, indicating no material multicollinearity problem.

Under the preferred random-effects specification, CSR has a positive coefficient of 0.000863 and is statistically significant ($p = 0.0033$), supporting Hypothesis H1: institutions with higher CSR expenditure record significantly higher ROA. CAP has a large, positive and highly significant coefficient (0.218265, $p = 0.0000$), confirming that better-capitalised institutions generate significantly higher returns on assets. LIQ carries a negative and significant coefficient (-0.065433 , $p = 0.0009$), indicating that institutions holding proportionately more liquid assets record lower ROA, consistent with the opportunity-cost argument that idle liquid assets are less profitable than deployed earning assets. GDP is -0.029313 with $p = 0.0207$. Because ROA is a ratio and GDP growth indicates the broader macroeconomic cycle, this indicates that with sampled institutions, asset returns may not have had a close association with the main economic growth during the mentioned time. Because of the strong growth, it could indicate shifting the asset mix toward lower-yielding government securities. SIZE ($p = 0.4171$) and LTA ($p = 0.5982$) are not strong significant explanatory variables for ROA.

Dependent Variable: ROE

Table 5a: Panel Least Squares (Fixed Effects) — Dependent Variable: ROE

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.507335	0.186584	-2.719069	0.0074
CSR	0.012079	0.004106	2.941995	0.0038
SIZE	0.025323	0.008775	2.885770	0.0046
CAP	1.281397	0.349567	3.665670	0.0004
LIQ	-0.734664	0.269369	-2.727348	0.0072
LTA	-0.048332	0.067880	-0.712022	0.4777
GDP	-0.356965	0.171784	-2.077988	0.0396

R-squared = 0.6182 Adjusted R-squared = 0.5754 F-statistic = 14.4618 (p = 0.0000) Durbin-Watson stat = 1.0158 Cross-section fixed effects (dummy variables)

The Hausman test for the ROE model returns a chi-square statistic of 13.1263 (6 d.f., $p = 0.0411$). Test results show the p-value below 0.05. Thus, the null structure in this case is the assumption of random-effects. The fixed-effect model is thus preferred for the analysis of ROE. The Centered VIFs for the ROE model (CSR 1.49, SIZE 2.30, CAP 1.47, LIQ 1.39, LTA 1.58, GDP 1.10) show no evidence of multicollinearity.

According to the fixed effects model, CSR is 0.012079 and $p = 0.0038$. Thus, it confirms the hypothesis H2: CSR expenditure has a positive and significant relation to ROE. SIZE is also positive and significant (0.025323, $p = 0.0046$). Incumbent larger institutions in the sample demonstrated significantly higher equity returns, compared to the results for ROA where the results were insignificant. This is also in line with the expectations that larger institutions provide a benefit of equity at the institutional level, while at the asset level the benefits are not as pronounced. CAP is positive and highly significant (1.281397, $p = 0.0004$). LIQ is negative and significant (-0.734664 , $p = 0.0072$), mirroring its effect on ROA. GDP is negative and significant (-0.356965 , $p = 0.0396$), consistent with the ROA result. LTA is not a statistically significant explanatory variable for ROE ($p = 0.4777$).

Hausman Test (ROE)

Table 5c: Correlated Random Effects – Hausman Test, ROE Model

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	13.126285	6	0.0411

Table 5d: Hausman Test – Coefficient Comparison, ROE Model

Variable	Fixed	Random	Var(Diff.)	Prob.
CSR	0.012079	0.013324	0.000001	0.2217
SIZE	0.025323	0.016896	0.000010	0.0070
CAP	1.281397	0.847971	0.031796	0.0151
LIQ	-0.734664	-0.771121	0.002972	0.5036
LTA	-0.048332	-0.038221	0.000133	0.3802
GDP	-0.356965	-0.379668	0.000173	0.0847

As Table 5c shows, the overall Hausman chi-square statistic for the ROE model is 13.1263 (6 d.f., $p = 0.0411$), which is significant at the 5% level. The null hypothesis that the random-effects estimator is consistent is therefore rejected in favour of the fixed-effects estimator. The coefficient comparison in Table 5d shows that SIZE ($p = 0.0070$) and CAP ($p = 0.0151$) are the variables driving this rejection, since their fixed- and random-effects estimates diverge significantly; CSR itself does not differ significantly across the two estimators ($p = 0.2217$). Consistent with the overall test result, the fixed-effects specification reported in Table 5a is retained as the preferred model for ROE and is used for hypothesis testing below.

As a further diagnostic, the Cantered VIFs for the ROE model (CSR 1.49, SIZE 2.30, CAP 1.47, LIQ 1.39, LTA 1.58, GDP 1.10) show no evidence of multicollinearity.

According to the fixed effects model, CSR is 0.012079 and $p = 0.0038$. Thus, it confirms the hypothesis H2: CSR expenditure has a positive and significant relation to ROE. SIZE is also positive and significant (0.025323, $p = 0.0046$). Incumbent larger institutions in the sample demonstrated significantly higher equity returns, compared to the results for ROA where the results were insignificant. This is also in line with the expectations that larger institutions provide a benefit of equity at the institutional level, while at the asset level the benefits are not as pronounced. CAP is positive and highly significant (1.281397, $p = 0.0004$). LIQ is negative and significant (-0.734664 , $p = 0.0072$), mirroring its effect on ROA. GDP is negative and significant (-0.356965 ,

$p = 0.0396$), consistent with the ROA result. LTA is not a statistically significant explanatory variable for ROE ($p = 0.4777$).

Hausman Test (ROA)

Table 4c: Correlated Random Effects – Hausman Test, ROA Model

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	11.391974	6	0.0770

Table 4d: Hausman Test – Coefficient Comparison, ROA Model

Variable	Fixed	Random	Var(Diff.)	Prob.
CSR	0.000799	0.000863	0.000000	0.4335
SIZE	0.001023	0.000482	0.000000	0.0303
CAP	0.244778	0.218265	0.000202	0.0622
LIQ	-0.063020	-0.065433	0.000020	0.5901
LTA	-0.002883	-0.002578	0.000001	0.7440
GDP	-0.027881	-0.029313	0.000001	0.1822

As Table 4c shows, the overall Hausman chi-square statistic for the ROA model is 11.3920 (6 d.f., $p = 0.0770$). Because this p-value exceeds the conventional 5% significance level, the null hypothesis that the random-effects estimator is consistent cannot be rejected. The variable-by-variable comparison in Table 4d confirms this: only SIZE shows a statistically significant divergence between the fixed- and random-effects coefficients ($p = 0.0303$), while CSR – the variable of primary interest for Hypothesis H1 – does not differ significantly across the two estimators ($p = 0.4335$), meaning both estimators would support the same substantive conclusion about the CSR–ROA relationship. Given the non-significant overall test statistic, the random-effects specification reported in Table 4b is adopted as the preferred, more efficient model for ROA and is used for hypothesis testing below.

As a further diagnostic, Variance Inflation Factors were computed for the explanatory variables (centered VIF: CSR 1.49, SIZE 2.26, CAP 1.43, LIQ 1.38, LTA 1.58, GDP 1.09); all are well below the conventional threshold of 10, indicating no material multicollinearity problem.

Under the preferred random-effects specification, CSR has a positive coefficient of 0.000863 and is statistically significant ($p = 0.0033$), supporting Hypothesis H1: institutions with higher CSR expenditure record significantly higher ROA. CAP has a large, positive and highly significant coefficient (0.218265, $p = 0.0000$), confirming that better-capitalised institutions generate significantly higher returns on assets. LIQ carries a negative and significant coefficient (-0.065433 , $p = 0.0009$), indicating that institutions holding proportionately more liquid assets record lower ROA, consistent with the opportunity-cost argument that idle liquid assets are less profitable than deployed earning assets. GDP is -0.029313 with $p = 0.0207$. Because ROA is a ratio and GDP growth indicates the broader macroeconomic cycle, this indicates that with sampled institutions, asset returns may not have had a close association with the main economic growth during the mentioned time. Because of the strong growth, it could indicate shifting the asset mix toward lower-yielding government securities. SIZE ($p = 0.4171$) and LTA ($p = 0.5982$) are not strong significant explanatory variables for ROA.

Discussion

This study set out to examine the impact of Corporate Social Responsibility (CSR) on the financial performance of financial institutions listed on the Pakistan Stock Exchange over the 2010–2024 period, using ROA and ROE as performance proxies and firm size, capital adequacy, liquidity, the loans-to-assets ratio and GDP growth as controls.

CSR is positively and significantly related to both ROA and ROE under the Hausman-preferred specifications, supporting both H1 and H2. This finding is consistent with the stakeholder and social-impact view (Freeman, 1984; Preston & O'Bannon, 1997) and with the majority of Pakistan-specific literature, including Malik and Nadeem (2014), the 34-item disclosure-index study, and the pooled-regression study of thirty PSX-listed banks, all of which reported a positive CSR–profitability relationship. It also aligns with Wu and Shen's (2013) global finding that CSR is positively associated with ROA and ROE in the international banking sector, and with the Vietnamese banking evidence reported by studies using GMM estimation. The result diverges, however, from the negative relationship documented for Pakistan's Islamic banking sub-sector using a GRI/AAOIFI-based disclosure index, and from the 2008–2020 study that found a negative and significant CSR effect on ROE and ROA despite a positive effect on EPS and market value. This divergence is consistent with the broader literature's observation that the CSR–performance relationship is sensitive to how CSR is measured (expenditure versus a constructed disclosure index) and to the specific institutional sub-segment studied (conventional versus Islamic banking).

Policy Implications and Recommendations

Based on the findings that Corporate Social Responsibility (CSR) has an statistically significant impact on both Return on Assets (ROA) and Return on Equity (ROE) the following strategic recommendations and policy directions are provided. Strategic Integration for Management: Finance managers and corporate boards of asset management companies and financial institutions should stop seeing CSR as a optional charity expense. Instead, CSR spending should be considered a part of the companys strategy. This will help build trust with stakeholders improve the companys reputation and support long-term profits. Prudent Capital and Liquidity Alignment: Since capital adequacy (CAP) has a positive effect and liquidity (LIQ) has a significant negative effect on performance due to opportunity costs companies need to find the right balance. Management should ensure they have liquidity but also use their resources effectively without taking unnecessary risks. Regulatory Advances by SBP and PSX: The State Bank of Pakistan and the Securities and Exchange Commission of Pakistan (SECP) are some of the policymakers and top regulators that can issue standard directives regarding sustainability and social reporting. Setting structured reporting formats should narrow gaps in reporting and safeguard investors' confidence and urge truthfulness in Pakistan's financial market.

The results we talked about in sections 6 and 7 have big implications that go beyond just the ideas we tested. We found that spending on Corporate Social Responsibility or CSR is good for a companys Return on Assets or ROA and Return on Equity or ROE. Having capital is also very important for a companys performance. On the hand having too much liquidity and a growing economy can actually be bad for performance. The size of the company matters for ROE. Not for ROA.. The ratio of loans to total assets does not really affect performance.

These findings are important for groups of people including finance managers, corporate boards, people who handle treasury and risk regulators, policymakers, investors and analysts. We will talk about what these findings mean for each of these groups. Give some recommendations.

Finance Managers and Corporate Boards

The fact that CSR is good for ROA and ROE means that finance managers and corporate boards should not just see CSR as something they have to do but as something that can actually help the company. They should make CSR a part of their long-term planning with goals and a budget that is not just based on what they can afford each year. This is in line with the idea that companies have a responsibility to all their stakeholders, not their shareholders. CSR can help build trust and a good reputation, which can lead to costs more customer loyalty and better financial performance.

However corporate boards should not think that just spending more on CSR will automatically make the company more profitable. They should look at how CSR's affecting the companys performance each year and adjust as needed. They should also focus on CSR programs that are closely related to the companys business than just giving money to any cause.

Capital, Liquidity, And Balance-Sheet Management

Having capital is crucial for a companys performance. This means that companies should try to have capital than the minimum required by regulators. This will help them lend money with confidence absorb shocks and get funding on terms.

On the hand having too much liquidity can be bad for performance. Companies should try to find a balance between having liquidity to operate day-to-day and not having so much that it hurts their performance. They should use any liquidity to make investments or give loans.

The fact that economic growth can be bad for performance means that companies should be prepared for economic conditions. They should build up their capital. Make plans for different scenarios, including a possible decrease in interest rates.

Regulators and Policymakers

For the State Bank of Pakistan our findings suggest that they should keep encouraging companies to spend on CSR. One way to do this is to require companies to report their CSR spending in a way so it is easy to compare.

For the Securities and Exchange Commission of Pakistan our findings suggest that they should make companies disclose their CSR spending in a way so investors and analysts can easily see what they are doing.

For the Pakistan Stock Exchange our findings suggest that they should consider creating a segment or index for companies that are doing well on CSR. However, they should be careful not to make rules that're too strict or uniform as different companies may have different needs and priorities.

Investors and Market Participants

For investors and analysts our findings suggest that CSR spending is a factor to consider when evaluating a company's performance. However, they should be careful when comparing CSR spending across companies as the way it is reported can vary.

Summary of Recommendations

Here are our recommendations for groups:

- * Finance managers and corporate boards: treat CSR as a strategic investment with clear goals and a budget.
- * Treasury and risk functions: maintain capital buffers and use extra liquidity to make investments.
- * Regulators: require CSR reporting and encourage CSR activity.
- * Investors and analysts: consider CSR spending when evaluating a companies performance. Be careful when comparing across companies.

These recommendations are based on our findings. We also note that there are some limitations, to our study, including the possibility of reverse causality and the small sample size.

Conclusion

This study assesses the Pakistan Stock Exchange's impact on ten listed firms for the period 2010 to 2024, expending 150 firm-year balanced samples. Financial performance was based on Return on Assets (ROA) and Return on Equity (ROE) while CSR was measured as the natural logarithm of CSR expenditures and was controlled for the size of the firm, capital, liquidity, and the loans to total assets ratio and GDP growth.

Results indicate that both measures of profitability and CSR expenditures rose in the latter part of the sample and continued to grow with an increase in firm balance sheets and shrinking ratio of loans to assets. Correlation analysis shows that CSR is essentially unrelated to ROA at the bi-variate

level but weakly and significantly positively related to ROE, while capital adequacy shows the strongest bivariate association with ROA of any variable in the study.

Panel regression analysis, using the Hausman-preferred specification for each dependent variable (random effects for ROA; fixed effects for ROE), shows that CSR has a positive and statistically significant relationship with both ROA and ROE, supporting Hypotheses H1 and H2. Capital adequacy is positive and highly significant in both models; liquidity and GDP growth are negative and significant in both models; firm size is positive and significant for ROE but insignificant for ROA; and the loans-to-total-assets ratio is not a significant explanatory variable in either model.

In sum, the evidence from this fifteen-year panel supports the view that CSR spending is value-enhancing rather than value-destroying for financial institutions operating in Pakistan, consistent with stakeholder theory and with the weight of the existing Pakistan-focused and international

banking literature. Institutions in Pakistan's financial sector should therefore treat CSR expenditure as a performance-relevant strategic allocation — one that, alongside prudent capital management and efficient liquidity deployment, is associated with materially better accounting-based financial outcomes — rather than as a purely discretionary cost to be minimised.

Limitations of the Study

- The sample is restricted to ten PSX-listed financial institutions for which fifteen consecutive years of CSR and financial data could be obtained; smaller, unlisted or more recently listed institutions are not represented.
- CSR is measured using disclosed expenditure rather than a multi-dimensional disclosure index, which may not fully capture the qualitative breadth of an institution's social responsibility activity.
- The study relies on accounting-based performance measures (ROA, ROE) only; it does not incorporate market-based measures stock returns, which prior literature suggests can respond differently to CSR.
- As with any secondary-data panel study, results may be sensitive to reporting and classification differences across institutions and over time, and to macroeconomic shocks (such as the 2020 pandemic and the 2022–2023 balance-of-payments crisis) that are only partially captured by the GDP growth control.

More complex analysis in the future might include a self-made multi-dimensional index of CSR disclosures, market-based performance metrics, and a larger sample of both listed and unlisted financial institutions. This analysis might also include an investigation into possible disparities of the CSR-performance relationship in conventional and Islamic banks in Pakistan.

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