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How does corporate social responsibility affect financial performance, financial stability, and financial inclusion in the banking sector? Evidence from Pakistan



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ABSTRACT

This paper examines the impact of corporate social responsibility (CSR) on the financial performance, financial inclusion, and financial stability of the banking sector, focusing on annual data for 20 Pakistani commercial banks for the period 2008–2017. The results suggest that CSR, as well as age and size, has a positive impact on all three factors. However, high levels of leverage reduce financial inclusion and financial stability, while financial inclusion is also negatively associated with the tangibility of assets.

1. Introduction

Corporate social responsibility (CSR) is a strategic decision by which organizations committed to repaying society can help solve environmental and social issues (Ness, 1992), aiming to have a positive effect on people outside the organization. Business organizations acknowledge the importance of financial as well as nonfinancial performance (e.g., corporate social performance) in the overall outcome of their business (Akisik and Gal, 2011). Whereas traditional finance focuses on the profit maximization theory of the firm, a CSR approach introduces a modern, stakeholder-oriented notion of organizations (Paltrinieri et al., 2020).

The traditional view of the firm notes that its main responsibility is the maximization of shareholder wealth and that CSR activities are not the responsibility of commercial organizations but, rather, that of the community and individuals (Friedman, 1970). Any activity that does not contribute to the profitability of the firm should be eliminated. On the other hand, Carroll (1979) argues that the responsibility of any organization is not merely to meet economic expectations, but also to participate in philanthropic and ethical activities, since businesses are part of society. Margolis et al. (2009) states that CSR gives firms a competitive edge by enhancing their financial strength, which implies CSR has a positive impact on financial performance (FP) that is related to stakeholder theory (Freeman, 1984). Hammann et al. (2009), explaining stakeholder theory, state that the success of a company depends on its management's relationships with all stakeholders. Benlemlih (2019) points out that high-CSR firms manage agency problems by offering higher dividends to shareholders. Wibisono (2007) suggests that CSR should be treated as an investment tool, and not as a cost. Hence, business organizations are expected to spend more on CSR activities. However, unlike in the developed world, emerging countries such as Pakistan lag behind in CSR practices.

In developed economies, firms are very involved in activities that contribute not only to the economy, but also to education, the workplace, and building customer relationships. Firms report CSR information to gain both financial and nonfinancial returns. Financial returns can be reflected in better FP, financial stability (FS), financial inclusion (FI), and better access to financing because of positive word of mouth about the organization. In Pakistan, most firms have no written CSR policy, but some firms, especially multinationals,

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are nonetheless involved in CSR practices, which they disclose in their annual reports. Only a few studies have examined the relation between CSR and FP in Pakistan (e.g., [Bagh et al., 2017](#); [Iqbal et al., 2012](#); [Malik and Nadeem, 2014](#)). However, in developing countries such as Pakistan, the effect of CSR investment does not appear to have a clear-cut effect on performance.

Financial inclusion is another important objective of financial sector organizations. Research on FI is still in the nascent stage. [Raddatz \(2006\)](#) finds that FI helps to close the gap between the rich and poor and contributes toward social stability. [Beck et al. \(2007\)](#) point out that, with the help of FI, users can access more financial services. [Han and Melecky \(2013\)](#) add that FI provides a pathway to FS, since a larger number of bank deposits is expected to increase the stability of the banking sector. Hence, FI contributes toward increasing economic growth and reducing poverty.

At the macroeconomic level, FS has long been a concern of both academia and governments. Recently, researchers have realized that a country's FS cannot exist in the absence of stable financial firms. Since the banking sector plays an important role in financing and development activities by acting as an intermediary between depositors and borrowers, CSR contributes to its bottom line both directly and indirectly, through the integration of social and environmental concerns and the firm's function as a true corporate citizen. CSR can thus lead to long-term stability in the financial sector. Many firms engage in CSR activities after realizing that firms that do so are more resilient and have much longer lifetimes compared to firms that do not invest in CSR activities.

The majority of previous studies on CSR highlight its impact on profitability. Very little literature is available in the emerging market context, especially in terms of FI and FS. To fill this gap, this study therefore attempts to determine the impact of CSR on the profitability of the banking sector, as well as FI and FS, in the context of Pakistan.

2. Literature review

2.1. Relationship between CSR and FP

CSR has been a popular area of research in the finance literature for decades. Most previous studies have focused on exploring the impact of CSR on firm performance. It is important to note, however, that, although the impact of CSR on profitability is found to be positive by the majority of studies, some have also found an inverse relation between CSR and profitability.

[Zhou et al. \(2015\)](#) examine the impact of CSR in China's context and show it has a positive relation with firm FP. [Cavaco and Crifo \(2014\)](#) find CSR to have a positive impact, using CSR dimensions as independent variables and the return on assets (ROA) as a dependent variable. [Flammer \(2013\)](#) analyzes shareholder reactions to company involvement in CSR activities and finds a positive relation between CSR and FP and that shareholders react positively to eco-friendly initiatives. [Sheikh \(2019\)](#) also finds CSR to have a positive impact on firm value in the presence of high levels of competition.

[Mwangi and Jerotich \(2013\)](#) finds CSR has a positive impact on FP. [Torugsa et al. \(2012\)](#) study the effect of CSR on FP in small and medium-sized enterprises in the Australian manufacturing industry, measuring CSR in terms of manager perceptions, and FP by ROA and the net profit margin (NPM). They find CSR has a positive impact on FP and firm size has a significantly positive effect on FP. [Uadiale and Fagbemi \(2012\)](#) analyze the impact of CSR in developing nations and find a positive and significant relationship between CSR and FP.

Similarly, [Chen and Wang \(2011\)](#) find that CSR activities have a positive effect on FP in Chinese firms. [Lin et al. \(2009\)](#) analyze the impact of CSR on FP by using the ratio of donations to corporate pre-tax profits to measure CSR and the ROA to measure FP and conclude that CSR has a positive impact on FP. [Karagiorgos \(2010\)](#) explores the relationship between CSR and the FP of Greek companies and suggests that it is affected by firms' risk, size, and type of industry. [Samy et al. \(2010\)](#) investigate CSR as a successful business strategy and find a weak but positive relationship between CSR and earnings per share (EPS). [Yang et al. \(2010\)](#) find mixed results regarding the relationship between CSR and FP. [Aras et al. \(2010\)](#) uses content analysis to measure CSR and its relation to FP measurement in terms of the ROA, the return on equity (ROE), and the return on sales, respectively, with size, risk, and research and development expenditures as control variables. Although they find CSR has no effect on FP in an emerging market, they find a positive relationship between firm size and corporate philanthropy.

[Rettab et al. \(2009\)](#) explore the relationship between CSR with FP in emerging economies, using firm size and age as control variables, since these have a significant effect on FP. The authors find that the impact of CSR on FP is positive. [Brammer and Millington \(2008\)](#) examine the impact of CSR on FP by using charitable donations as a measurement of CSR and market performance as a measurement of FP, with firm size as a control variable. Using regression analysis, the authors find a positive relationship between CSR and FP. [Mallin et al. \(2014\)](#) use a CSR index as a proxy measure of CSR, and lagged values of the ROA and ROE to measure FP. They determine a positive relationship between CSR and FP. [Adewale and Rahmon \(2014\)](#) examine the Nigerian banking sector and find CSR has a positive impact on the FP of firms in the banking sector. [Islam et al. \(2012\)](#) study the banking sector in Bangladesh, using a CSR index as a proxy measure of CSR, and the ROA, EPS, and the price-earnings ratio for FP. They conclude that CSR has a positive effect on the performance of banks.

Legitimacy theory is presumably the oldest and the most extensively practice mechanism in revealing firms' CSR activities and disclosure practices ([Deegan and Gordon, 1996](#); [Milne and Patten, 2002](#); [Murthy and Abeysekera, 2008](#); [Uwuigbe and Uadiale, 2011](#); [Wilmshurst and Frost, 2000](#)). This theory is occupied commonly on the grounds that organizations will signal their legitimacy through the satisfactory disclosure of their initiatives and activities ([Gray et al., 1995](#)). In relation to CSR studies, legitimacy theory is not distinct from stakeholder theory, since they overlap and are integral to inferences of the political economy ([Sinclair, 2001](#)). In line with legitimacy theory, [Uwuigbe and Uadiale \(2011\)](#) suggest that any business operating in a society must follow the social contract, since it is necessary for the survival and growth of the business. According to [Patten \(1992\)](#), there is a positive correlation between the disclosure of CSR practices and the legitimacy of an organization, which suggests that firms become more legitimized the more they engage in CSR.

[Oyewumi et al. \(2018\)](#) study the relationship between corporate philanthropy and the FP of firms in the banking industry. They use FP as a dependent variable and spending on CSR as an independent variable, with firm size and tangibility as control variables.

They conclude that CSR has a negative impact on the FP of banks. Nobanee and Ellili (2016) examine disclosures of corporate sustainability in United Arab Emirates banks and find that conventional banks disclose more sustainability information than Islamic banks. The authors also conclude that there is a significant positive relationship between sustainability disclosure and FP.

Since the results on the relationship between CSR and FP in the literature are mixed, the following hypothesis is tested in the context of Pakistan.

H1. There is a significant relationship between CSR and FP among banks in Pakistan.

2.2. Relationship between CSR and the FS of banks

In the finance literature, financial stability has been discussed a great deal as a macroeconomic indicator of a country's FP. Chollet and Sandwidi (2018), for example, explore the FS of the banking sector, examining the relationship between CSR and financial risk. Using proxies such as firm-specific, systematic, and total risk for the measurement of financial risk, they conclude that a firm's positive social performance reduces its financial risk. Hassan et al. (2019) show that bank stability is negatively associated with credit risk and liquidity risk. Jin et al. (2017) explore the relationship between social capital and bank stability, using a social capital index as a proxy measure of social capital. They conclude that banks with more social capital are less prone to failure and are in less financial trouble. Lev et al. (2010) find that firms involved in more charitable contributions have higher future revenues. They therefore suggest that economic performance is enhanced by corporate philanthropy.

The current study thus proposes the following hypothesis to study the relationship between the FS of banks and their CSR activities.

H2. There is a significant relationship between CSR and FS among banks in Pakistan.

2.3. Relationship between CSR and FI

Limited studies have been conducted on the CSR–FI nexus. Kim et al. (2018) explore the relationship between FI and economic growth. Measuring FI with proxies such as the numbers of ATMs, bank branches, deposits accounts, and borrowers, they conclude that there is a positive relationship between FI and economic growth. Haldar et al. (2016) examine the relationship between FI and CSR practices in the Bangladeshi banking sector. They find that commercial banks engage in more CSR practices and provide better FI compared to state-owned banks. Ullah (2013) notes that the nature of CSR initiatives in Bangladesh varies within commercial banks. Different banks have different areas of involvement, with some involved in community investment while others in environmental banking. Van der Werff et al. (2013) examine the relationship between social factors and FI and conclude that high levels of support from the government and financial institutions enhance levels of FI.

The above-mentioned literature thus leads to the following hypothesis regarding the relationship between CSR and FI.

H3. There is a significant relationship between CSR and FI among banks in Pakistan.

3. Research methodology

3.1. Data

This study employs annual panel data collected from 20 banks listed on the Pakistan Stock Exchange over 10 years, from 2008 to 2017. Since most organizations in Pakistan do not report their CSR activities separately, the data is collected from the reports of the Pakistan Stock Exchange and the banks' annual reports. The annual reports are downloaded from the banks' websites, and the data are verified with the annual reports issued by the State Bank of Pakistan.

3.2. Model

The following models are developed based on the literature, using CSR as the independent variable and banks' leverage, tangibility, age, and size as control variables, with FP, FI, and FS as dependent variables. To examine the relationship between the dependent and independent variables, the data are analyzed through pooled ordinary least squares regression analysis. The following econometric models are developed:

$$FP_{it} = \alpha + \beta_1 \log CSR_{it} + \beta_2 Leverage_{it} + \beta_3 Tangibility_{it} + \beta_4 Age_{it} + \beta_5 Size_{it} + \mu_{it} \quad (1a)$$

$$FI_{it} = \alpha + \beta_1 \log CSR_{it} + \beta_2 Leverage_{it} + \beta_3 Tangibility_{it} + \beta_4 Age_{it} + \beta_5 Size_{it} + \mu_{it} \quad (1b)$$

$$FS_{it} = \alpha + \beta_1 \log CSR_{it} + \beta_2 Leverage_{it} + \beta_3 Tangibility_{it} + \beta_4 Age_{it} + \beta_5 Size_{it} + \mu_{it} \quad (1c)$$

Table 1
Variables Description and Measurement.

#	Variable Name	Proxy	Measurement Formula
<i>Dependent variables</i>			
1	Financial Performance	1-Return on Assets (ROA) 2-Return on Equity (ROE) 3-Earnings per Share (EPS) 4-Net Profit Margin (NPM)	ROA = Net Income/Total Assets ROE = Net Income/Total Equity EPS = Net Earnings/Total Number of Shares Outstanding NPM = Net Income/Total Revenue
2	Financial Inclusion	1-number of bank branches per 100,000 population 2-number of ATMs per 100,000 population	
3	Financial Stability	Z-Score	$((ROA + Equity) / Assets) / \text{Standard Deviation (ROA)}$
<i>Independent variables</i>			
4	Corporate Philanthropy	The natural log of the actual amount spent on CSR activities	
5	Leverage	Leverage	= Total Debt/ Total Assets
6	Tangibility	Tangibility	= Noncurrent Assets/Total Assets
7	Age	Number of operating years	
8	Size	The natural log of Total Assets	

These are all reasonable proxies, based on the prior literature, for the measurement of the variables in this study (see Table 1). In model (1a) ROA, ROE, EPS and NPM are used to measure Financial Performance as ROA is used as a proxy variable by Oyewumi et al. (2018), and the ROA, ROE, and EPS are used to measure FP (Cavaco and Crifo, 2014; Iqbal et al., 2012; Nobanee and Ellili, 2016; Torugsa et al., 2012; Uadiale and Fagbemi, 2012; Zhou et al., 2015). Flammer (2013) uses the NPM for the measurement of FP. In model (1b) financial inclusion is measured by the number of bank branches (NOBB) and the number of bank ATMs (NOBA) per 100,000 population as proxy measures for FI, following Kim et al. (2018). The model (1c) uses financial stability as a dependent variable, which is calculated by using the Z-Score, as measured by Beck et al. (2013) and Dwumfour (2017).

Different proxies are used for the measurement of CSR in the literature. La Rosa et al. (2017) uses a social score as a proxy measure of CSR. Jin et al. (2017) use a social capital index for CSR. Some use the MSCI KLD 400 Social Index for the measurement of CSR (Lee and Park, 2010; Tang et al., 2012; Zhou et al., 2015), while others use corporate donations and actual spending on CSR activities as a proxy variable for CSR measurements (Brammer and Millington, 2008; Joseph et al., 2016; Oyewumi et al., 2018).

This study also uses corporate donations and actual spending on CSR activities as proxy variables for CSR measurement. Four control variables are also used, including firm size, age, tangibility, and leverage, where size is measured as the logarithm of total assets, tangibility is measured by the ratio of noncurrent assets to total assets (Oyewumi et al., 2018), and leverage is measured as total debt divided by total assets (Ye and Zhang, 2011). A firm's size, age, tangibility, and leverage affect its FP, FS, and FI (Feng et al., 2018).

This table presents the variable names and the proxies used for their measurement.

4. Empirical results

To verify the stationarity of the data, a unit root test is conducted and the results show that all the variables in this study are stationary at level.

4.1. Descriptive statistics

This section analyzes the data and computes descriptive statistics (see Table 2). Based on 200 observations, ROA is found to have a mean of 0.005798, ranging from -0.0541 to 0.0347; ROE varies from -1.9894 to 2.3471, with a mean of 0.065872; EPS has a mean of 4.87665 and varies from -19.02 to 24.47, NPM, ranging from -0.5881 to 0.3839, has a mean of 0.078634; FS, ranging from -2.247798 to 63.21544, has a mean of 20.46573; the average number of bank branches (NOBB) are 491.4 and ranges from 33 to 1,751; and the mean number of bank ATMs (NOBA) per 100,000 population are 346.325, ranging from three to 2,007.

The independent variable CSR has an average value of 11.61585, ranging from zero to 15.13089. The banks in the sample are somewhat leveraged, with a mean debt level of 90 %; their tangibility ranges between zero and 0.1154, with a mean value of 0.028949; the average firm age is 27.85 years, and the average bank size is 19.35453.

4.2. Correlation analysis

Table 3 shows the Pearson correlation matrix of the variables and their probabilities. CSR is significantly and positively correlated with all the other variables, except for tangibility, with which it is negatively correlated. Leverage is negatively correlated with tangibility and positively correlated with bank size. On the other hand, tangibility has a significant negative correlation with all the other variables. A bank's age has a strong significant correlation with its EPS. The results also show that a bank's size has a strong significant correlation with its CSR level, age, and the numbers of branches and ATMs.

Table 2
Descriptive Statistics.

Variable	Obs.	Mean	Median	Std. Dev	Min.	Max.	Jarque-Bera	Prob.
ROA	200	0.005798	0.0087	0.013812	-0.0541	0.0347	368.42	0.00
ROE	200	0.065872	0.13255	0.346976	-1.9894	2.3471	4706.92	0.00
EPS	200	4.87665	2.315	7.387546	-19.02	24.47	40.95	0.00
NPM	200	0.078634	0.1233	0.169998	-0.5881	0.3839	190.74	0.00
Fin. Stability	200	20.46573	19.50433	13.65481	-2.2478	63.2154	10.97	0.004
NOBB	200	491.4	273	485.4704	33	1751	41.15	0.00
NOBA	200	346.325	249	368.5201	3	2007	346.77	0.00
CSR	199	11.61585	11.72904	1.302163	0	15.13089	8063.53	0.00
Leverage	200	0.908717	0.92065	0.070604	0.0911	0.9842	67432.48	0.00
Tangibility	200	0.028949	0.0259	0.016941	0	0.1154	448.52	0.00
Age	200	27.85	20	21.34374	2	75	33.91	0.00
Size	200	19.35453	19.52941	1.262013	15.80389	21.71061	8.97	0.011

4.3. Regression analysis

4.3.1. Effect of CSR on FP

Table 4 shows the results of the regression of CSR on ROA, ROE, EPS, and NPM, where CSR is the independent variable and the rest are dependent variables, with bank leverage, tangibility, age, and size as the control variables. The first column shows a significant relationship between ROA and CSR at the 1% level. This finding means that banks that invest more in CSR activities will gain greater financial benefits, in line with the findings of Jie and Hasan (2016) and Fu and Shen (2015). Leverage and tangibility have a significant but negative relationship with ROA at the 5% and 1% levels, respectively, which means that highly levered banks with tangible assets have a lower ROA. The age and size of banks have a significant and positive relationship with ROA at the 1% and 5% levels, respectively, which means that the ROA is higher for mature or older banks and for larger banks.

The second column of Table 4 shows the results of the regression of ROE on all the independent variables, including CSR. There is a significantly positive relationship between ROE and CSR at the 1% level, suggesting that a bank will perform better financially in terms of earnings if it invests in CSR activities, supporting the findings of Ofori et al. (2014) and Fu and Shen (2015). Like the ROA, the ROE also has a significant but negative relationship with leverage and tangibility and a significant positive relationship with bank age and size.

The third column of Table 4 shows the results of the regression of EPS on all the independent variables. The results show that CSR has a highly significant and positive relationship with EPS at the 1% level, and the value of the coefficient is also higher compared to other performance indicators. This finding implies that, as a bank's investment in CSR activities increases, its image improves and its shareholders' earnings increases. These results are in line with earlier studies (Fu and Shen, 2015; Kiran et al., 2015; Ofori et al., 2014). The coefficient of leverage also shows a significant but negative relationship between leverage and EPS at the 5% level, because the probability of default increases as the debt ratio increases, which decreases the trust of shareholders, whose EPS also decreases. Tangibility has a non-significant relationship with EPS. The age and size of a bank have a highly significant and positive relationship with EPS at the 1% level.

The fourth column of Table 4 shows the results of the regression of NPM on CSR, leverage, tangibility, and bank age and size. The results show a significant and positive relationship between NPM and CSR at the 1% level, which implies that the bank's NPM will increase as its investment in CSR activities increases, consistent with the previous studies of Flammer (2013) and Reverte et al. (2016). Leverage and tangibility have a significant but negative relationship at the 5% and 1% levels, respectively. Like the other performance measures, bank age and size have a significant and positive relationship with NPM, which means that mature and larger banks have a higher NPM because of their larger setup and resources.

All the results indicate that CSR positively effects the FP of banks, supporting H1, that there is a significant relationship between CSR and FP among banks in Pakistan. Our results are also consistent with the findings of seminal studies on CSR such as those of Islam et al. (2012); Torugsa et al. (2012); Uadiale and Fagbemi (2012); Mwangi and Jerotich (2013); Mallin et al. (2014), and Adewale and Rahmon (2014).

4.3.2. Effect of CSR on FS

Table 5 shows the results of the regression of CSR on FS, where CSR is the independent variable and FS is a dependent variable, with leverage, tangibility, age, and size as the independent and control variables.

The results show a significant positive relationship between FS and CSR at the 1% level, implying that banks become more financially stable as their investment in CSR activities increases. Leverage has a significant but negative relationship with the FS of banks at the 10% significance level, which indicates that higher debt levels result in lowering performance—as found in our performance results as well—which could lead to a decline in the FS of banks. Tangibility has a non-significant relationship with FS, which means it does not matter whether banks hold more fixed assets compared to current assets. The age and size of banks show a highly significant and positive relationship with FS at the 1% level, which means that, with increasing age and size, in terms of greater economic resources, banks become more financially stable. Thus, H2 is also supported, that is, there is a significant relationship between CSR and the FS of banks among banks in Pakistan, consistent with the findings of Chollet and Sandwidi (2018).

Table 3
Correlation matrix.

Variables	ROA	ROE	EPS	NPM	Stability	NOBB	NOBA	CSR	Leverage	Tangibility	Age	Size
ROA	1											
ROE	0.695***	1										
EPS	0.740***	0.470***	1									
NPM	0.976***	0.676***	0.748***	1								
Stability	0.504***	0.356***	0.410***	0.497***	1							
NOBB	0.511***	0.264***	0.829***	0.550***	0.225***	1						
NOBA	0.417***	0.253***	0.716***	0.480***	0.207***	0.805***	1					
CSR	0.321***	0.189***	0.415***	0.356***	0.207***	0.477***	0.618***	1				
Leverage	-0.048	-0.066	-0.084	-0.02	-0.03	0.007	0.089	0.236***	1			
Tangibility	-0.320***	-0.201***	-0.145***	-0.368***	-0.036	-0.159**	-0.172**	-0.243***	-0.174**	1		
Age	0.551***	0.287***	0.811***	0.574***	0.253***	0.904***	0.717***	0.377***	-0.072	-0.235***	1	
Size	0.534***	0.307***	0.658***	0.594***	0.311***	0.806***	0.746***	0.602***	0.302***	-0.358***	0.689***	1

***, **, and * denotes significance at 1 %, 5 %, and 10 % levels, respectively.

Table 4
Effect of CSR on Financial Performance.

Variables	Financial Performance			
	ROA	ROE	EPS	NPM
Corporate Social Responsibility	0.00342 *** (0.00072)	0.05784*** (0.01915)	2.52793*** (0.38065)	0.04113*** (0.00865)
Leverage	-0.02572** (0.01349)	-0.68954** (0.35019)	-21.06734*** (6.89736)	-0.36200** (0.15670)
Tangibility	-0.22709*** (0.05460)	-3.741475*** (1.46351)	-31.30433 (28.82489)	-3.19432*** (0.65487)
Age of the Bank	0.00029*** (0.000042)	0.003320*** (0.00123)	0.264412*** (0.01574)	0.00368*** (0.00049)
Size of the Bank	0.00359** (0.00110)	0.075253** (0.03004)	1.47139*** (0.41501)	0.054680*** (0.01286)

Standard errors are in parentheses. ***, **, * denote significance of coefficients at 1 %, 5 %, 10 % levels, respectively.

Table 5
Effect of CSR on Financial Stability.

Variables	Financial Stability		
	Coefficient	Standard Error	Probability
Corporate Social Responsibility	2.38672***	0.77031	0.0000
Leverage	-25.60163*	14.9959	0.0621
Tangibility	61.92962	58.3488	0.2136
Age of the Bank	0.12915***	0.04904	0.0001
Size of the Bank	3.75891***	1.30651	0.0023

***, **, * denote significance of coefficients at 1 %, 5 %, 10 % levels, respectively.

This result is also consistent with the work of [Lev et al. \(2010\)](#), who state that social performance decrease the financial risks of firms, which can ultimately lead to the FS of banks.

4.3.3. Effect of CSR on FI

[Table 6](#) shows the results of the regression of *CSR* on the number of bank branches (*NOBB*), and the number of ATMs (*NOBA*), where *CSR* is the independent variable and *NOBB* and *NOBA* are the dependent variables, with leverage, tangibility, age, and size as independent and control variables. The first column shows a significant positive relationship between *NOBB* and *CSR* at the 1 % level, implying that the higher the investment in *CSR* activities, the better the firm's level of FI in terms of the number of bank branches. This finding could also indicate that the more branches a bank has, the more it spends on *CSR* activities. The coefficient of leverage indicates leverage has a significant but negative relationship with *NOBB* at the 10 % level, which means that lower levels of debt are associated with more bank branches. A bank's tangibility, age, and size have a highly significant and positive relationship with the number of bank branches at the 1% level, which means that larger and older banks have more physical long-term sources in the form of more bank branches.

The second column of [Table 6](#) shows the results of the regression of *CSR* on *NOBA*, where *CSR* is an independent variable and *NOBA* is a dependent variable, with leverage, tangibility, age, and size as control variables. The results indicate that *NOBA* and *CSR* have a highly significant and positive relationship at the 1 % level, implying that, as a bank's investment in *CSR* activities increases,

Table 6
Effect of CSR on Financial Inclusion.

Variables	Financial Inclusion	
	No. of Bank Branches	No. of ATMs
Corporate Social Responsibility	54.91657*** (11.98659)	83.75564*** (14.04236)
Leverage	-354.6873* (205.7013)	-217.0117 (236.7051)
Tangibility	2611.841*** (856.7086)	2389.798*** (921.0156)
Age of the Bank	19.86146*** (0.71831)	6.611398*** (1.02789)
Size of the Bank	162.9042*** (15.6349)	104.1229*** (20.62274)

Standard errors are in parentheses. ***, **, * denote significance of coefficients at 1%, 5%, 10 % levels, respectively.

the better its inclusion in the form of more bank ATMs. Leverage has a non-significant relationship with *NOBA*. Just as the number of bank branches, the number of bank ATMs also has a highly significant and positive relationship with bank tangibility, age, and size at the 1% level, which implies that larger and older banks have more physical resources and, to better serve their clients, they install more ATMs at different popular locations such as shopping malls, hospitals, and universities etc.

Finally, H3, that was there is a significant relationship between CSR and FI among banks in Pakistan, is also supported, since banks that spend more on CSR activities have better FI in terms of more branches and ATMs. Our results are also consistent with the findings of Haldar et al. (2016); Ullah (2013), and Van der Werff et al. (2013), who reported that high levels of social participation by financial institutions result in high levels of FI in terms of customer's engagement and service. The results are also consistent with the findings of Gupta (1969), who explain that larger firms have more resources and are thus better able to invest in CSR activities (Campbell, 2000) than smaller firms.

5. Conclusion

This study examines the impacts of CSR on FP, FI, and FS in the banking sector in Pakistan over 10 years. Our findings suggest a significant positive relationship between the CSR and FP of banks, which indicates that CSR activities create a positive perception in the minds of potential customers, which helps to attract them, ultimately leading to an increase in the banks' FP. This is evidenced by the results showing that banks that spend more on CSR activities build a strong relation with their clients that helps reduce their financial risk and increases their FS. Moreover, the results suggest a positive link between FI and CSR initiatives, implying that, as banks boost their investment in CSR initiatives, their FI in terms of the numbers of branches and ATMs will increase. In other words, to better reach and serve larger numbers of customers, banks must establish large networks of branches and ATMs.

This study suggests that banks should emphasize CSR activities to enhance their profitability and market performance. The central bank and other regulators should incentivize them in this direction. Investors should examine CSR reports before investing in stocks to ensure society's betterment, as well as to earn higher returns. The government should encourage banks to engage in CSR activities to achieve higher levels of FI, especially in deprived communities. Regulators should monitor the stability of banks regularly and encourage CSR activities by offering different types of rewards and certificates to, for instance, socially responsible banks.

CRedit authorship contribution statement

Muhammad Ramzan: Conceptualization, Methodology, Validation, Visualization, Writing - original draft, Writing - review & editing, Supervision. **Muhammad Amin:** Conceptualization, Data curation, Investigation, Writing - original draft. **Muhammad Abbas:** Software, Formal analysis, Validation, Writing - review & editing.

Appendix A. Supplementary data

Supplementary material related to this article can be found, in the online version, at doi:<https://doi.org/10.1016/j.ribaf.2020.101314>.

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