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Adoption of Sustainable Development Goals and Financial Performance of Banks

Saba Iqbal[1]* | Safia Nosheen[2]

[1]*University of Management and Technology, Department of Banking and Finance, Lahore, Pakistan*
[2]*University of Management and Technology, Department of Banking and Finance, Lahore, Pakistan*

*Correspondence to: Saba Iqbal, University of Management and Technology, Department of Banking and Finance, Lahore, Pakistan
E-mail: iqbalsaba@outlook.com

Abstract: This paper aims to find out the impact of the adoption of sustainable development goals on the performance of banks in the Asia Pacific region. The major hypothesis of this work assumes that banks adopting sustainable development goals get high financial performance. To measure the SDGs, an ESE index is designed which includes 21 indicators of SDGs. Regression analysis and GMM technique have been used to analyze the impact of the ESE index on the profitability of banks. A separate analysis of economic, social, and environmental indicators has also been done. The findings show that the adoption of SDGs has a positive and significant impact on the financial performance of the banks. This analysis has the following important contributions. First, it gives an insight into the banking sector that the adoption of SDGs is important for increasing profits in the long run. Second, it signals that banks should concentrate on economic, social, and environmental performance also to make this earth a worthy place to live in. This study has novelty in designing the ESE index based on 21 indicators of SDG's set by the UN's statistical division.

Keywords: ESE index, performance, sustainability, sustainable development goals, United Nations.

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INTRODUCTION

After the financial crisis of 2008, it has been proved that traditional financial system is not able to address the problems of current banking system and the impact of social, economic and environmental impact on the modern finance. This financial crisis proved that the traditional finance model has been failed due to the lack of management of funds, debt, risk and sustainability practices. This model is based on the efficient market hypothesis (EMH) while the contemporary finance requires a rational behavior approach (Sun et al., 2011). This rational approach is characterized by the three-dimension including not only economical but also the social and environmental factors. Any business that does not take into account the economic, social and environmental practices into its operations is not sustainable. This type of business does not ensure the enough funding for sustainable development goals which are highly emphasized since 2015 when United Nations first time proposed these goals and asked business to immediately start incorporating these goals to remain sustainable in the long run.

Now the question arises how to adopt these sustainable development goals to make the businesses more sustainable. The representatives of United Nations after proposing these 17 sustainable development goals (SDGs) in its 2030 agenda are developing the governance framework in order to engage the diverse stakeholders towards these SDGs (Avrampou et al., 2019). The goals can be achieved by engaging the government authorities, changing the industrial rules and regulations, broadening the accounting and reporting mechanisms, transforming the societies, making the technological sectors more sustainable and innovative. Despite the proposal of these goals in 2015, businesses are lagging behind towards the adoption of these goals. An analysis of 700 firms showed that only small proportion has adopted these goals into their business strategies (Ramos et al., 2022). Firms are disinclined to adopt these goals as it might negate the vision of shareholder's value maximization.

If the firms do not implement sustainability practices, their survival is endangered in the long run. This is the reason that now economic, social and environmental sustainability reporting is becoming a requirement for the firms to operate (Ikpor et al., 2022). With the agenda of SDGs, awareness about the sustainability practices have been increased and it is believed that business might get vanished from the world map in the long if they do not incorporate these practices (Jan et al., 2018). Among the different businesses around the world who are adopting these SDGs banks are of great importance as the endorsement of these goals requires a lot of cash outflows and investment (Figge et al., 2002). The banking industry is very important for economy because banks are the providers of funds for different investments. Banks are emphasizing on the SDGs in order to achieve corporate sustainability (Avrampou et al., 2019). We can say that the aim of SDGs is in line with the basic objective of banks.

Banks are the money takers and providers, so they operate to maximize the profit and contribute towards economic growth. With the advent of CSR theory many businesses focused on the social aspects of business. After the proposal of SDGs, organizations around the world are eager to contribute towards these goals. Banks are lagging because of the nature of their business. Businesses including banks are focusing on corporate sustainability practices and assuming them as contributions towards SDGs. This contribution not only includes the social aspect, rather economic and environmental aspect also which is considered as the contribution towards sustainable development goals (Kolk et al., 2018). The essential plotline is in short is to integrate the sustainability practices into the banking system by adopting these sustainable development goals through the economic, social, and environmental indicators to make the banking industry a sustainable footprint on the earth. Banks adopting the sustainability practices can increase their profitability because corporate sustainability is essential for the success (Tawfik et al., 2021).

The aim of this study is to examine the profitable banking system through the adoption of sustainable development goals. The major hypothesis assumes that banks incorporating the SDGs into their decision-making process can become profitable in the long run. The originality of idea is to see the banks that have started adopting SDGs in the form of ESE (economic, social, and environmental) indicators and reported their adoption in their annual reports or sustainability reports have high financial performance. In this way this study proposes the banks that have not started to implement this UN's agenda an insight that lagging the adoption of SDGs can endanger their financial profits.

This research has been conducted in the Asia Pacific region. This region has more than 60% of the world's population. This region has 10 of the largest cities in the world. As this is the most disaster-prone area of the world according to United Nation ESCAP and UN Habitat, sustainability practices are highly required in this area. This area lacks research on sustainability practices so far. Because adoption of SDGs can provide the banking sector a unique opportunity to create value addition for the customers and employees to

increase their wellbeing in the long run, this study sees the impact of adoption of SDGs on the profitability of the banks.

Banks operate to earn the profits, but it can forgo the interest of society. So banks in addition to maximize their profit should act to obtain the social benefits so that the long run sustainability can be achieved (Karim et al., 2003; Asmeri et al., 2017). Many empirical studies have been conducted on the social purpose of banks. Banks should not always demand too high profit on the loan given to customers. In this way the burden of customers will be lighten and they will be able to invest more and more in the real growth sector (Ghoniyah & Hartono, 2020). However, profits are still very crucial for banks in order to give good returns to customers which can increase the tendency of customers to save more and more funds in the banks (Klein & Weill, 2022).

Banks stimulates the economic growth because good banking policies can encourage the investors to invest more and more in the real sector business (Baruah & Panda, 2022). If the profits of banks are improving, it encourages the banks to provide a good return on the customer's deposits. Customers are highly encouraged to place their money within the banks because of the high return. Increased customer's deposits increase the capital of banks which enable the banks to provide the financial services and increase the economic growth (Ghoniyah & Hartono, 2020). Banks act as supplier of funds between those who wants to invest money and those who are in the need of money. They play social role by disbursing the money and improving the life of people. Providing the credit to people stimulates the economic growth specially if the funding is for manufacturing and production sector (Sassi & Goaied, 2011; Mukhtaruddin et al., 2019).

In addition to social and economic growth, businesses are becoming much aware of environmental sustainability. There is need to make decisive policy on the climate change (Nieto, 2017). International agreements are done to increase the awareness on climate change and gas emission. Banking policies and regulations are now recognized as important source of transition to low carbon economy (Khan et al., 2022). Including the green guidelines and standards into the banking operations like financing, trading and investing are the important mandates of international monetary funds (IMF) (Adam et al., 2015). A work done by (Russo & Fouts, 1997) has proved that there is positive relation between bank's environmental and financial performance. Similar research is done by (Klassen & McLaughlin, 1996) and they proposed a model to show change in the firm's performance by adopting environmental measures.

According to a study, Chinese enterprises have tried to increase their ESG performance in their foreign direct investments by complying with environmental standards of host country. They believe that compliance with the host country's regulation is the main step of defense against environmental instability (Zhang et al., 2022). With the emergence of the phenomenon of sustainable development in 1970, many other concepts like green economy and green finance were developed. The importance of a green economy was embraced by many organizations like UN and OECD. European environmental agency has defined the green economy in 2013 and also given the 225 indicators to monitor the environmental progress and green sustainability (Adamowicz, 2022).

Banks and the customers have now recognized that environment is very important for the long-term survival of banks. Now a days firms have recognized that going green is the source of competitive advantage (Lee et al., 2022). It means that banks should promote the environmental friendly practices and reduce the carbon footprints (Yadav & Pathak, 2013). Li et al. (2017) studied the impact of environmental responsibility on the corporate financial performance based on institutional theory and agency theory and found a positive relationship.

The main focus of this study is to find out if the banks are adopting the United Nation's sustainable development goals, and how it can impact the profitability of the banks. If these SDGs significantly affect profitability, the banks should include these goals in their practices to remain sustainable in the long run.

United Nations is an organization that works to prevent conflict and crisis and advance the global corporation between its member states (De Coning, 2018). Recently a hot topic of discussion is the adoption of sustainable development goals by the world organizations through the indicators of these goals (Iamandi et al., 2019). In 2016 the 2030 agenda of these UN goals came into existence which includes 17 SDGs and 169 targets (United Nations, 2015). There are three categories of these goals in which category 1 includes the extension millennium development goals (SDG1–7), category two includes SDG8–10 which focus on the social inclusiveness and category three focus on the urban planning includes SDGs 11–17 (Kumar et al., 2016). It is expected from all the businesses to adopt these goals in their business operations in order to achieve the sustainability (United Nations, 2015).

The main purpose of this study is to find out if banks adopt sustainable development goals, how it will affect the financial performance of the banks. To find out the adoption of SDGs, this study will construct an ESE index comprising the economic, social and environmental pillars. The formation of this index consists of 21 indicators (7 economic indicators, 7 social indicators and 7 environmental indicators). Only those indicators have been selected that are related to the banking industry. The index calculation is based on disclosure frequency method. If the banks have disclosed the adoption of indicator of economic, social and environmental index, a score of 1 is allocated to that indicator. The total index scores out of 21 gives an insight of the adoption of sustainable development goals by the banks.

A bank's profitability means how the bank has performed and what level of profits they are earning. It indicates how much banks' are earning the return by using their resources (Kohlscheen et al., 2018). The profitability of banks can encourage the business growth and improves economy. It also increases the employment opportunities and leads towards stability of economy (Lee & Hsieh, 2013).

Banks have certain responsibilities towards society and they must run to fulfill these obligations (Shakil et al., 2019). Stakeholder theory assumes that fulfilling the expectations of all stakeholder can lead towards the success of product and services which ultimately increases profitability (Freeman, 2010). Profitability reflects whether the management is performing effectively or not. The profitability of banks also increases the welfare of society as banks try to contribute towards society in addition to maximizing the returns. Stakeholders are more concerned about the social performance of the banks as this performance can increase the financial performance (Velte, 2017).

Stakeholders are now concerned whether the banking sector is engaging in environmental activities or not. Protection of the environment is responsibility of every business organization and banking industry is not lagging behind. Banks are now engaging themselves to preserve the environment. Many international organizations like World bank are pressurizing the banking sector to do environmental friendly operations (Rajput et al., 2013). Carbon emission is also negatively related to economic performance. Banks must play a role in the preservation of environment through waste reduction, clean environment and spreading awareness about the climate change (Ong et al., 2022). Several studies have shown that these environmental measures can increase the profitability of the banking sector.

METHODS

The population of this research is banking industry. Eight countries have been selected from the Asia Pacific Region based on high GDP. Five banks have been selected from each country. Total selection of banks is based on their ranking in THE ASIAN BANKER in 2021. Sample comprised of total 40 banks. The countries include South Korea, Malaysia, Pakistan, Bangladesh and Thailand, China, Brunei, and Indonesia.

The data has been collected from the annual reports of banks from 2017 to 2021 because SDGs are proposed in 2015 and were started to get implemented by the organizations in 2016. Banks disclose the adoption of sustainable development goals in the annual report directly or in the annual sustainability report by showing the indicators of economic, social, and environmental sustainability. The 21 indicators will make the score of ESE Index as this index contains the indicators of economic, social and environmental contribution of banks towards sustainable development goals. If the banks have disclosed in the annual report about the adoption of these indicators, a score of 1 will be given to that indicator otherwise a zero score will be given.

$$P = \alpha + \beta_1(ESE)_{i,n} + \beta_2(CR)_{i,n} + \beta_3(NPL)_{i,n} + \beta_4(BS)_{i,n} + e$$

$$P = \alpha + \beta_1(ECO)_{i,n} + \beta_2(CR)_{i,n} + \beta_3(NPL)_{i,n} + \beta_4(BS)_{i,n} + e$$

$$P = \alpha + \beta_1(SOC)_{i,n} + \beta_2(CR)_{i,n} + \beta_3(NPL)_{i,n} + \beta_4(BS)_{i,n} + e$$

$$P = \alpha + \beta_1(ENV)_{i,n} + \beta_2(CR)_{i,n} + \beta_3(NPL)_{i,n} + \beta_4(BS)_{i,n} + e$$

Where P is profitability measured by ROA and ROE, ESE is total index, ECO is abbreviation of economic indicators, SOC is abbreviation of social indicators and ENV is abbreviation of environmental indicators.

The two main measures of a bank's profitability are return on assets (ROA) and return on equity (ROE). Return on assets indicates how well a bank is performing by comparing a bank's net income to its assets. It shows how efficiently a company is using its assets to generate profits. It shows the operational performance of banks.

The second measure of profitability of banks is return on equity (ROE). ROE is ratio of profitability which shows ability if bank to earn profits from shareholder's wealth. It shows the financial performance of banks.

ROA and ROE are used as proxy for the profitability of the banks as they are the strong indicators of profitability and are also use in many prior studies (Petersen & Schoeman, 2008; Rachdi, 2013; Hirigoyen & Poulain-Rehm, 2014).

To assess how much the banks have adopted SDGs; we have developed our own index. This index is comprised of 21 indicators of sustainable development goals. Seven are economic indicators, the next seven are social indicators and the rest of the seven are environmental indicators. The score has been given on the basis of whether a bank has adopted that indicator in the concerned year or not (Wang et al., 2019). To measure the SDGs, United Nations has proposed several indicators like GDP, Equal employment opportunity, local investment, tourism, equal wages, health and education financing, carbon emission, renewable energy and energy efficiency, clean environment etc. More than 241 global indicators are available out of which 21 have been selected to find out the relationship between adoption of sustainable development goals and the profitability of banks of Asia Pacific Region.

From 241 indicators, our study will consider those indicators that are related to banking sector (Inter-agency and Expert Group on SDG Indicators (IAEG-SDGs), 2019). For this research 21 indicators have been selected to make an ESE index. The ESE index contains three pillars economic pillar, social pillar, and environmental pillar. Of the 21 indicators 7 indicators belong to economic pillar, 7 indicators belong to social pillar and the rest of 7 belongs to environmental pillar. This index is based on the disclosure of adoption of these indicators.

Economic indicators indicate that developing nations will adopt the SDGs if their economic conditions are good. So to adopt these goals they try to improve the GDP, industry innovation and local investment, equal employment opportunity, foreign tourism and try to reduce the inflation and unemployment (Zougheib, 2022). Social indicators indicates that SDGs can be adopted by engaging the firms in social activities like gender equality, wage protection, social works in collaboration NGOs, health and education financing and alleviation of epidemics (Dalevska et al., 2019; Azapagic & Perdan, 2000).

Environmental indicators are most commonly used indicators to show the sustainable development (Kiss, 2015). The significance of environmental indicators lies in the fact that they directly measure the impact of activities of firms on the quality of life. How the banks are related to the environmental aspect of sustainability is an important question. Shareholders are the key stakeholders of the firm and their value may decrease if the firms are producing environmentally unfriendly products. Relationship between environmental performance and banking sector is an emerging topic which includes whether the banks finance those companies who are environment friendly and also covers the domain of how banks are engaged in the environment protection activities (Kumar & Prakash, 2018; Gallego, 2006). The environmental indicators include affordable energy, energy efficiency, clean environment, waste reduction, CO_2 emission, Climate change awareness and investment in energy efficiency.

The separate score for economic, social, and environmental indicators is 7 (Table 1). In the individual analysis of these indicators, score given out of seven will be taken to see the impact of individual indicator of economic, social and environmental sustainability.

Banks can achieve sustainable development goals by adopting the indicators of these goals. On 6th March 2015, UN's statistical division created the Inter-Agency and Expert Group on SDG Indicators (IAEG-SDGs) which includes its member states and the national and international agencies (Geng et al., 2018). The main purpose of the IAEG-SDGs was to make a global indicator framework of the 2030 SDG agenda.

Table 1 Indicators of ESE Index

Sr.	Economic	Score	Social	Score	Environmental	Score
1	GDP per capita	1	Adoption of wage and social protection policies	1	Access to affordable energy services	1
2	full and productive employment and decent work without gender in equality	1	Gender equality	1	Renewable energy and energy efficiency	1
3	Foreign tourist	1	Poverty alleviation	1	Clean environment	1
4	Inflation rate	1	Social work collaboration with NGOs	1	Waste reduction through recycling	1
5	Unemployment rate	1	Health financing	1	Climate change and co2 emission	1
6	Local investment	1	Upgrade education facility	1	Education and awareness on climate change mitigation	1
7	Industry innovation and infrastructure	1	Alleviation of epidemics	1	Investment in energy efficiency	1

Control variables include Capital ratio, non-performing loan, and Bank size. Bank size is measured by taking the log of total assets. Many previous studies like (Atan et al., 2018; Cho et al., 2010) have used bank size as control variable because this variable impact the corporate profitability. The next control variable is capital ratio that examines the relationship between bank profitability and capitalization. Banks that are well capitalized tend to be more profitable (Kawshala & Panditharathna, 2017). This ratio is measured by equity to total assets. The third control variable is non-performing loans. It has also been used as control variable in the study of profitability of banks (Purboastuti et al., 2015). This ratio is taken directly from the annual reports of the banks.

RESULTS AND DISCUSSION

To meet the requirement of regression, Durbin Watson test is conducted to check the autocorrelation assumption and resulted value is 1 which indicates the absence of auto correlation as a value greater than 1 is acceptable. Furthermore, to check the heteroscedasticity, Breusch-Pagan test was run, and it showed absence of heteroscedasticity.

Descriptive statistics summarize the data set that is derived as sample (Table 2). It gives information about the central tendency and deviations from average values. It facilitates presenting the data in an understandable way. Central tendency is measure of central value and it summarizes the data by using single value that is known as center. Mean is the widely used measure of central tendency. Standard deviation is the variability which shows how far the point is from their central value. It gives information about the dispersion of the data. The mean values of ROA, ROE and ESE are satisfactory. Mean values of ROA, ROE show the full employment of assets and equity. While the minimum values show the underutilization of assets and equity.

Table 2 Descriptive Statistics

Variable	Mean	Standard Deviation	Min	Max
ESE	11.14	3.93	1	20
ROA	.789	0.594	-3.51	2.7
ROE	7.83	15.35	-126.64	34.6
CR	13.82	6.07	-6.5	25.2
NPL	2.49	2.93	-.8	18.2
Bank Size	14.39	4.53	5.659	26.59

The value of ESE depends on disclosure of economic, social and environmental indicators of SGDs. ROA and ROE is return on assets and return on equity respectively which represents bank's profitability; CR is the capital ratio; NPL is non-performing loan ratio and Bank Size is the logarithm of total assets.

The correlation table (Table 3) gives us insight into the correlation coefficients between the variables. The correlation table gives us insight into direction and degree of relationship between variables. It helps us to make predictions about the relationship between variables and also helps us to validate the relationship.

Table 3 Correlation Table

	ESE	ROA	ROE	CR	NPL	Bank Size
ESE	1.0000					
ROA	0.1533	1.0000				
ROE	0.0969	0.7125	1.0000			
CR	-0.1878	0.5305	0.4830	1.0000		
NPL	-0.1966	0.2118	0.1547	0.3235	1.0000	
Bank Size	-0.1684	0.1717	0.1503	0.2036	0.1340	1.0000

The findings of regression analysis are presented in Table 4, 5, 6, and 7. Table 4 represents the effect of overall ESE index on the profitability of the banks. This index contains the combined effect of economic, social and environmental indicators of SDGs. ESE has been regressed both with ROA and ROE. We find that the ESE index has a positive and significant effect on the profitability of the banks. ESE is significant at 0.05 confidence level which accepts our first main hypothesis. While in the separate regression analysis economic, social indicators do not significantly affect the profitability of banks while the environmental indicators positively and significantly affect the return on equity at 10 percent confidence interval. This result is consistent with our prior studies that if the banks will adopt the social and environmental sustainability along with the economic sustainability, the combine effect of these three dimensions will lead towards the achievement of sustainable development goals. These goals will lead the firms to achieve a competitive advantage and make a good reputation in the market which will enhance the financial performance (García-Meca & Martínez-Ferrero, 2021; Muhmad & Muhamad, 2021).

Table 4 Effect of overall ESE index on the profitability of banks

	ROA as dependent variable	ROE as dependent variable
Variables	**Coefficients**	**Coefficients**
ESE	.0433***	.814***
CR	.0526***	1.257***
NPL	.0163	.124
Bank Size	.0130*	.273
No of Obs	200	
Prob>F	0.0000	
R-squared	0.3636	

*Correlation is significant at 0.1 level. ***Correlation is significant at 0.01 level.

Table 5 Effect of economic sustainability on the profitability of banks

	ROA as dependent variable	ROE as dependent variable
Variables	**Coefficients**	**Coefficients**
ECO	-.001	.44
CR	.001***	1.18***
NPL	.0082	-.072
Bank Size	.0083	.179
No of Obs	200	
Prob>F	0.0000	
R-squared	0.28	

***Correlation is significant at 0.01 level.

Table 6 Effect of social sustainability on the profitability of banks

	ROA as dependent variable	ROE as dependent variable
Variables	**Coefficients**	**Coefficients**
SOC	-.0134	.308
CR	.049***	1.19***
NPL	.0102	-.07
Bank Size	.008	.179
No of Obs	200	
Prob>F	0.0000	
R-squared	0.288	

***Correlation is significant at 0.01 level.

Table 7 Effect of environmental sustainability on the profitability of banks

	ROA as dependent variable	ROE as dependent variable
Variables	**Coefficients**	**Coefficients**
ENV	0.204	0.744*
CR	.048***	1.15***
NPL	.008	-.002
Bank Size	.009	0.239
No of Obs	200	
Prob>F	0.0000	
R-squared	0.292	

*Correlation is significant at 0.1 level. ***Correlation is significant at 0.01 level.

The banks which are just focusing on anyone dimension cannot properly adopt the sustainable development goals. To gain long-term sustainability and to meet the United Nations' 2030 agenda all the dimensions of sustainability including economic, social and environmental aspects must be put into practice. Environmental and social practices are gaining more importance in building reputation in the market. Integrating the sustainable development goals will lead towards creating long term shareholder value. Focusing on the combined economic, social, and environmental aspects of sustainable development goals will lead towards the long-term survival of the banking industry.

Our results have practical implications for regulators, policy makers and board of directors to ensure the implementation of SDGs into their business practices and to satisfy all the stakeholders in order to build a good reputation in the market. Fair business practices and environmentally friendly business in addition to economic performance can lead towards an increase in the long-term profitability of the banks. As far as our control variables are concerned, CR positively and significantly effects profitability while Bank size and NPL are insignificant which are consistent with previous studies (Al Lawati & Hussainey, 2022).

This study employs two techniques for analyzing data. First is OLS (ordinary least square) regression to see the significance of model. But studies have found that simple regression do not cater for the endogeneity problem like causality and omitted variables in which the values of variables over the time might disturb the following year's value. To solve the problem of endogeneity, two step GMM techniques have been used which can overcome this problem. Two step GMM is considered more efficient than one step GMM. This technique gives consistent findings of relationship between profitability and adoption of SDGs after controlling for endogeneity and omitted variable problem.

Table 8 Effect of overall ESE index on the profitability of banks Two Step System GMM

	ROA as dependent variable	ROE as dependent variable
Variables	**Coefficients**	**Coefficients**
Lag (ROA/ROE)	0.512***	1.128***
ESE	0.022***	0.119***
CR	0.03***	0.204***
NPL	0.006**	0.017
Bank Size	-0.0004	0.14**
Prob> chi2		
No of obs	160	
No of Instruments	26	
No of Banks	40	
Sargan Test(p-value)	0.06	0.2
Arellano-Bond test AR(2) (p-value)	0.858	0.306

*** Correlation is significant at 0.01 level. ** Correlation is significant at 0.05 level

Table 9 Effect of Economic sustainability on the profitability of banks

	ROA as dependent variable	ROE as dependent variable
Variables	**Coefficients**	**Coefficients**
Lag (ROA/ROE)	0.538***	19.34***
ECONOMIC	0.007	0.089
CR	0.303***	0.466***
NPL	0.004**	-0.282***
Bank Size	-0.026***	0.605***
Prob> chi2		
No of obs	160	
No of Instruments	26	
No of Banks	40	
Sargan Test	0.23	0.21
Arellano-Bond test AR(2)	0.819	0.321

*** Correlation is significant at 0.01 level. ** Correlation is significant at 0.05 level.

Table 10 Effect of Social sustainability on the profitability of banks

	ROA as dependent variable	ROE as dependent variable
Variables	**Coefficients**	**Coefficients**
Lag (ROA/ROE)	0.488***	1.16***
SOCIAL	0.005	0.264***
CR	0.033***	0.054
NPL	0.002	-0.035
Bank Size	-0.037***	0.119
Prob> chi2		
No of obs	160	
No of Instruments	26	
No of Banks	40	
Sargan Test	0.06	0.22
Arellano-Bond test AR(2)	0.754	0.306

*** Correlation is significant at 0.01 level.

Table 11 Effect of Environmental sustainability on the profitability of banks

	ROA as dependent variable	ROE as dependent variable
Variables	**Coefficients**	**Coefficients**
Lag (ROA/ROE)	0.496***	1.14***
ENVIRONMENTAL	0.011***	0.182**
CR	0.029***	0.132**
NPL	-0.001	0.0002
Bank Size	-0.011**	0.013
Prob> chi2		
No of obs	160	
No of Instruments	26	
No of Banks	40	
Sargan Test	0.314	0.22
Arellano-Bond test AR(2)	0.717	0.306

*** Correlation is significant at 0.01 level. **Correlation is significant at 0.05 level.

Table 8 represents the impact of overall ESE index on the profitability of banks and results show that ESE is significantly and positively correlated with return on assets and return on equity which confirms the main findings of our research. So, the banks can have increased profitability in the long run if they adopt the economic, social and environmental indicators of sustainable development goals. Sargan test is used for over

identifying the instrument restriction which validate the utilization of system GMM approach and gives the support of utilization of instruments. Arrelano Bond autocorrelation AR_2 is used to check the autocorrelation of error term and the value of AR_2 ensure that autocorrelation is not a problem. AR_2 is more important in detecting the autocorrelation in levels (Rachdi, 2013).

Table 9 represents the impact of economic sustainability on the profitability of banks, and we find that alone economic indicators do not have any significant effect on the profitability of banks. Table 10 represents the impact of social sustainability on the profitability of the banks and our results show that social indicators of SDGs alone have no impact on return on assets while they positively and significantly affect the return on equity. Table 11 represents the impact of environmental indicators of SDGs on the profitability of banks and the results show that environmental indicators significantly and positively affect the return on assets and return on equity of the banks.

The main findings of the paper indicate that adoption of sustainable development goals is very important for the sustainability of the banking sector in Asia as it can increase the financial performance of the banks in the long run. The higher the adoption of SDGs, the higher the financial performance. It becomes evident in this study that adoption of SDGs which are measured by the indicators related to economic, social, and environmental aspects plays a vital role in increasing the financial returns. Adoption of economic indicators, social indicators and environmental indicators can lead the banks to sustain in the long run. Adopting economic sustainability helps to improve GDP, local investment, productivity and making overall a strong economy. Adopting social sustainability helps to alleviate poverty, upgrade the education facility, alleviate the epidemics, and improve the health financing to make the social contribution in the society. Not only social inclusion can increase the living standards of marginalized people of society but also it increases the reputation of the banks and attract good investors. Adopting environmental sustainability can help to make businesses energy effective, to reduce the carbon emissions and to promote the businesses to recycle the waste thus making the environment clean. Often, a sustainable banking system attracts more sophisticated investments exert the pressure on the governing bodies to implement more and more sustainable practices. In turn, the regulatory bodies are compelled to make strategies to adopt the sustainable development goals to effectively safeguard the long-term sustainability of the banking system, attracting the more and more investors who are putting more interest in the banks which are economically, socially and environmentally sustainable and doing efforts for the betterment of the world.

CONCLUSION

The main objective of this paper was to find out the impact of adoption of SDGs on the financial performance of the banks. This study finds the positive and significant impact of ESE index on the profitability of banks. These findings indicate that banks should take the initiative of adopting the sustainable development goals suggested by the United Nations to remain sustainable. This result is consistent with previous studies (Al Lawati & Hussainey, 2022). Although the separate impact of each component of ESE index is also studied, adopting economic, social, and environmental indicators of sustainable development goals can lead towards increasing the profitability of banks. The adoption of these indicators can enhance the interests of all the stakeholders and increase the reputation in the market as well. The second objective of this study was to find out the impact of economic indicators of SDGs on the financial performance of the banks. Results find that economic performance alone has no significant impact on the profitability of the banks as it does not lead towards long-term sustainability of the banking sector. Just increasing GDP, and economic gains alone in not sufficient to remain sustainable in

the long term. This finding is consistent with previous studies (Klein & Weill, 2022). Kumar & Bird (2020) found that economic growth and profitability are positively related only in developed economies while in large and small emerging economies this relationship is still insignificant. The third objective of this study was to find out the impact of social indicators of SDGs on the financial performance of the banks. Our results show that social indicators have a positive and significant impact on the return on equity and insignificant impact on the return on assets. These findings support previous studies (Aboud & Diab, 2018; Buallay, 2019). This positive impact is due to the interest of different stakeholders on the banks' social performance. These stakeholders not only want profit maximization but also social work that can increase the reputation of banks in the overall market. The positive and significant relationship of social sustainability with ROE while the insignificant relationship with ROA is consistent with previous studies (Liu et al., 2021). Zhou et al. (2021) found that corporate social responsibility has negative impact on the profitability of banks in the short term but positive and significant impact on the profitability of banks in long term. This is the reason that social indicators first make a reputation of banks in the market thus increasing their ROE and then in the long term they can impact the return on assets as well. The fourth objective of this study was to find out the impact of environmental indicators of SDGs on the financial performance of the banks. The results show that as green banking is increasing day by day and environmental performance of the banks can significantly increase the profitability of the banks, banks should adopt the practices to finance those businesses which are environmentally friendly. Banks should play a part to let this business reduce pollution, carbon emission, become energy efficient and increase the awareness about environmentally friendly activities. These findings are consistent with the previous studies (Wellalage & Kumar, 2021; Galletta et al., 2021; Hardiyansah et al., 2021). The 2030 agenda of sustainable development goals should be recognized by the banks as the benefit and an opportunity for increasing the long-term profits. Making this understanding as the part of banking strategies and asserting the adoption of SDGs in the long-term objective by the top management can make the sustainability process more effective. The agendas of SDGs are multidimensional, and it demands the efforts, changes, investment initiatives from all the stakeholders including regulators, central banks of the countries, policy makers, government bodies and the investors in the banking industry. Adopting SDGs requires strong banking systems which can free some funds for sustainable practices. In addition to this, transparency in the part of government, management and the key stakeholders of the banking industry can free more capital flows to catalyze the adoption of sustainable development goals. Regulatory bodies should make sure of the adoption of SDGs and enforcement of the sustainability practices so that investors build more confidence and put their funds in the banks without any fear of default. This adoption can build a good reputation for the bank in the market and the confidence of enhanced financial performance will make them a loyal customer. Overall, the adoption of SDG agenda encourages the banks to take initiatives related to economic, social, and environmental sustainability. Moreover, the government needs to keep sufficient monitoring and the regulatory system to ensure the adoption of all the indicators of sustainable development goals by the banking system. Sustainability has become the requirement of all businesses including the banks. Banks must incorporate sustainability practices into their operation and the check and balance and positive aftereffects of adopting the sustainable development goals must be measured deeply. The limitation is that this study is implemented with respect to Asian Pacific region and the results cannot be generalized to the banks in other part of the world.

ORCID

Saba Iqbal https://orcid.org/0000-0002-2527-1363

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