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Role of Financial Performance of Global Islamic and Conventional Microfinance Institutions in Sustainable Development Goals Achievement

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ABSTRACT

The achievement of sustainable development goals is a challenge for United Nations Development Programme member countries. Therefore, the purpose of this research was to explore and compare the role that the financial performance of global Islamic and conventional microfinance institutions playing achieving sustainable development goals by using non-traditional indexes. Further, the study also checked the moderating role of institution size in this relationship. Results indicate that the financial performance of both Islamic and conventional microfinance institutions is important to achieving sustainable development goals. Institution size as a moderator has a negative impact on the financial performance of conventional microfinance institutions in achieving sustainable development due to the possibility of commercialization. In terms of policy recommendations, the results of this study present several policy directions for both Islamic and conventional institution managers for both developed and developing countries. Both Islamic and conventional MFIs managers should focus on financial performance to achieve sustainable development goals. The managers should realize that in the case of increasing the institution's size, financial performance can be improved, but it also creates commercialization, making the main objective of serving the poorest customers difficult. This study also gives directions to the government, central bodies, and other regulatory authorities to develop policies for improving the financial performance of both Islamic and conventional microfinance institutions to achieve sustainable development goals. This study has taken two indicators of financial performance that are extensively discussed in the literature. For future studies, other financial performance indicators can be included in the study.

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1. Introduction

1.1. Financial Performance and Sustainable Development Goals

Sustainable development goals revolve around global social, economic, and environmental issues; therefore, for progress, achievement of sustainable development goals (SDGs) is very important, while the financial sector plays a huge role in the economic activities of a country's progress as this sector provides finances for achieving SDGs (Nourani, Kader Malim, & Mia, 2021).

1.1.1. Sustainable Development Goals and Microfinance

Previously, many studies have linked Millennium Development Goals (MDGs) with microfinance (Abashidze, Solntsev, Kiseleva, Koneva, & Kruglov, 2016). In those studies, different indexes were considered to find out the role of microfinance in achieving MDGs (Montgomery & Weiss, 2011). There are 17 Sustainable Development Goals of the United Nations and 169 universal targets at the global level for the year 2030. Sustainable Development Goals are the aims of "eradicating poverty and zero hunger, health improvement, environmental protection, gender equality, clean water, economic growth, life on land and under water, responsible consumption, and partnerships for goals. Till 2030, US$ 5–7 trillion is needed yearly to achieve the Sustainable Development Goals. There is a yearly US $3 trillion gap for fulfilling these goals (Micro-Finance Barometer, 2019). Out of these 17 Sustainable Development Goals, the first goal, "End poverty in all its forms everywhere," is directly linked with microfinance, which is included in the United Nations Agenda 2030. The SDGs' second goal is "no hunger." Out of 169 universal targets, eight are included in goal 2. Microfinance is providing loans to farmers, vendors, and women for their businesses to earn money. The third goal is basically to provide low-income populations with investment opportunities for the improvement of their health and well-being. Microfinance institutions provide financial services, including health, life, and business insurance, to low-income individuals. A fourth goal is quality education. The fifth goal is gender equality. Gender equality creates economic growth and opportunism for society. Microfinance has as one of its aims providing loan services to women for their empowerment, education improvement, lifestyle, and health. The sixth goal is to ensure the availability and sustainable management of water and sanitation for all. The poor are suffering directly because of the high cost of water. The seventh goal is linked to access to affordable, reliable, sustainable, and modern energy for all. In remote areas, people don't have access to affordable and clean energy resources. Microfinance is playing its role here to fill this gap. The eighth goal is sustainable economic growth and productive work for all. By providing productive work to the "bottom of the pyramid, we will lead towards sustainable economic growth. The final goal that this research connects to the objectives of microfinance institutions is the reduction of inequalities, which is the tenth goal of the SDGs. Microfinance helps to reduce social inequalities by improving the lives of the "bottom of the pyramid." Other goals like clean water and sanitation, affordable housing, and clean energy are indirect aims of microfinance (Sustainable Development Report 2021).

1.1.2. Social Progress Index

There are many indexes that calculate the progress of development, i.e., SDG indexes and gender inequality indexes (Carlsen, 2020). There is another index, the social progress index, which was developed in 2013. The social performance index covers basic sustainable development goals. It can be a valuable addition to measuring sustainable development goals. Studies indicate that using measures of economic achievement such as gross domestic product and the unemployment rate provides an overall overview of the country. But how the wealth is distributed and reaches the end users' needs a new index, such as social progress. Like global indices, social indices are also based on health, shelter, education, equality, freedom, sustainability, and inclusion. To measure the social and environmental needs of the citizen, the

social progress index is divided into three dimensions: human necessities, well-being, and opportunity for growth (Social Progress Imperative, 2020).

1.2. Conventional Microfinance at a Glance

In the modern era, developed countries are also working on providing financial services through microfinance. Microfinance is divided into individual and group credits. The individual credit process is similar to traditional banking. The borrower has to submit a low-value tangible asset for credit collection or, due to the guarantor's guarantee, has to pay back the loan if the borrower fails (La Torre, Vento, & Trezza, 2006). In micro-venture capital, entrepreneurs receive initial investment for their microbusinesses, usually in rural areas. In cases of loss, donors do not charge any penalty, and in cases of profit, part of that profit is provided as capital to other entrepreneurs (Goldberg & Varada, 2008). The purpose of MFIs is to remove poverty. Saving is a sign of improving economic conditions for an individual using microcredit. These savings as deposits help families use them in emergencies and further utilize them in their business activities to become independent from incubation levels. Many microfinance institutions have "compulsory saving products" and voluntarily saving products" (Dowla & Alamgir, 2003). Microfinance can help cover many natural disasters, such as health problems and business losses. In the event of the death of a family member, microinsurance can provide financial support. Money transfer services are used to transfer money at a national or international level to family members, friends, or businesses. MFIs such as Grameen Bank transfer millions of dollars on a weekly basis. The two examples of money transfer companies are Western Union and Money Gramme. These millions of small transactions transfer money around the world (Laureti & Hamp, 2011).

There are many global issues such as poverty eradication, serving refugees, reducing gender inequality, education, health, and climate change in which microfinance can play its role. Approximately 1.7 billion people do not use financial services, of which 980 million are women (World Bank Global Findex (2021), 24 August 2021). Approximately 54 percent of the population has only 1.4% of the world’s wealth. Poverty includes the deprivation of the necessities of life. It includes lack of access to required food nutrition, medical treatment education, no or poor shelter, no water access or unclean drinking water, and poor sanitation. There are 10 key indicators of multidimensional poverty. Child mortality, school attendance, clean water, hygiene, availability of toilets, cooking oil, electricity, nutrition, assets, and household education until the 5th grade are included in multidimensional poverty. According to the 2017 World Bank poverty rate report, in the 33 lowest-income countries, a person earns under $1.90 per day. In 32 countries, the average per-person income is $3.20 per day. Thirty-two countries have an income under $5.50 per day, and there are only 29 countries, where the per-person daily income is $21.70 (Min, Lin, Duan, Jin, & Zhang, 2021). It is necessary for the financial industry to play its fundamental role in overcoming the refugee crisis (Sylvester, 2011). In 2021, approximately 82.4 million people have been forcibly displaced and developing countries hosted eight-six percent of these refugees, and thirty-nine were hosted in only five countries (UNHCR Global Report, 2021). Gender equality means providing equal access to rights, opportunities, and resources to all human beings, irrespective of gender. According to the Gender Inequality Index, microfinance can reduce gender inequality by half if women are given access to microfinance in developing countries (Zhang & Posso, 2017). According to the World Economic Forum's Global Risk Report 2021, over the last few years, terrorism, human-made environmental crises, cybercrimes, a biodiversity crisis, and extreme temperatures have destroyed forests and animal habitats. The COVID-19 pandemic has increased unemployment and mental tensions, especially for the lower pyramid of the world's population. To overcome these situations, the microfinance industry has to play a vital role.

1.3. Islamic Microfinance at a Glance

Islamic microfinance concepts work on Islamic finance principles. Islamic finance provides credit services according to the guidelines of the Quran and Sunnah. Islamic microfinance transactions should be free from riba, gharar, and other prohibited elements. Gharar means uncertainty. Another concept of gharar is deceit, fraud, and unjustified advantage. Riba is totally prohibited in Islam, but some degree of uncertainty is allowed, which is called risk. There are some conditions that are included in gharar. These are when the price of the subject matter is not cleared, ownership of the subject matter is not clear, there is a condition in the contract, proper inspection is not allowed to the potential buyer, and the sale contract is considered final only by touching the product (Mansori, Chin, & Safari, 2015). The origin of Islamic microfinancing is connected with the history of Islam. The Caliph Abu Bakr was the first to introduce a statutory zakat system after the Holy Prophet. Islamic countries are following Islamic microfinance as religious obligations in the form of zakat and other charity modes such as waqf, Qard-e-hasan, and sadqaat. In the modern era, after the introduction of Islamic Banking and Finance concepts, Islamic Banking officially started through the Mit-Ghamr Savings Bank, which was established in 1963 in Egypt. It was the first bank to offer a profit-sharing business model for investments. In 1963, "Lembaga Urusan dan Tabung Haji Malaysia," in short Tabung Haji Malaysia, started its operation to assist in the financial expenses for rural Muslims to perform Hajj (Ishak, 2011). Islam is the fastest-growing religion. There are 50 Muslim-majority countries out of 195 countries. There are 1.8 billion Muslims, or 24.1% of the world's population. By 2060, 31.1% of the world's population will consist of Muslims (PEW Research, 2015). On the other hand, 50% of the world's poorest population lives in Muslim countries. One out of five Muslims is facing extreme poverty. In the top ten poorest countries, seven are Islamic countries. The largest Islamic country is Indonesia, with an estimated 229 million Muslims, or 87.2% of its population. Indonesia has 13% of the world's Muslim population. Pakistan is the second-most populous Muslim country in the world. Pakistan has 200 million Muslims, which are 96.4 percent of its population. While the other 10 countries with the highest Muslim population are Mauritania, Somalia, Tunisia, Afghanistan, Iran, Western Sahara, Turkey, Yemen, Algeria, and Morocco. These countries have a minimum of 99% Muslim populations. 10% of the world's Muslim population lives in Pakistan. Bangladesh has 90.40 percent Muslim population. Bangladesh has 153 million Muslims, accounting for 9.20% of the world's Muslim population, and India has the world's third-highest percentage Muslim population. India is not a Muslim country, but Muslims make up 199 million of its 1.3 billion population. Approximately 10.90% of the world's Muslim population lives in India (World Population Review, 2021).

The main objective of the study is to examine and compare the impact of financial performance of Islamic and conventional microfinance institutions in achieving sustainable development goals. Further this study will also assess the moderating effect of institution size on the role of financial and social performance of Islamic and conventional microfinance institutions in achieving sustainable development goals. The novality in this study is both conventional and Islamic microfinance institutions are linked with social progress index and compared their roles.

2. Theoretical Background and Literature Review

2.1. Theoretical Underpinning

The literature review includes theories and case studies relevant to this research. The theories of sustainable development and Maqasid Al Shariah are linked with respect to the research. Development is considered a social condition in which the population is satisfied with the sustainable usage of natural resources and systems Development is a multi-dimensional process including social progress, economic growth, reduction in inequality, and poverty alleviation (Todaro & Smith, 2006). The other theory is Maqasid ul Shariah, which means the objectives of Shariah. Shariah provides the guidelines to individuals to regulate their way of

living for the benefit of society. It forbids all harmful actions (Ashur, 2006). The Holy Quran has emphasized the need to follow the objectives of Shariah. Allah says in the Quran, "Then We put thee on the (right) Way [Shariah] of Religion; so follow thou that (Way)." (Surah Al-Jasiah 45:18). Public interest (Al Maslahah) is one of the components of Maqasid Al Shariah, which has a link with Islamic microfinance.

According to Muslim scholars, all activities included in Maqasid Al Shariah are used to generate, accumulate, preserve, and distribute the wealth in a just and fair manner for the religious, social, economic, physical, occupational, environmental, emotional, and psychological wellbeing of the public. Islamic microfinance has the essence to fulfil Maqasid ul Shariah for the well-being of stakeholders. This includes the concepts of Zakat and the utilization of Murdarbah, Musharkah, Salam, and Istisna modes for the alleviation of poverty, women's empowerment, education, health, the improvement of standards of living, and economic growth that brings social justice and welfare (Siddiqi, Jan, & Ullah, 2019). Islamic economics advocates financial inclusion for poverty alleviation, empowerment, and need fulfilment for the needy (ADJAR et al., 2021). It is important to understand the correlation between Maqasid al Shariah and Sustainable Development Goals. The Sustainable Development Goals revolve around human well-being and its surroundings, i.e., food, water, sanitation, gender equality, empowerment, and environment protection. Similarly, on the other hand, Maqasid Al Shariah also focuses on the well-being of religion, life, linkage, intellect, and property (Dariah, Salleh, & Shafiai, 2016).

According to welfareism, resources are used to the greatest extent possible for well-being; moral theory and utilitarianism are intertwined. The development of welfare theory owes a great deal to Adam Smith (1776). Stakeholder theory is the theory providing theoretical bases for this study. R. Edward Freeman established the intellectual foundation for stakeholder theory in 1984. A group of people known as stakeholders are those who can affect how an organization achieves its goals. Shareholders own shares in a firm, whereas stakeholders are interested in aspects of the business's performance other than share prices and earnings (Friedman & Miles, 2006). The researcher here connects welfareism with microfinance since the former promotes public well-being and the later can be connected to stakeholder theory because stakeholders' goals can be achieved through microfinance.

2.2. Literature on SDGs and Financial Performance

The United Nations (UN) goals of improving the lives of the poorest people necessitate the mobilization of resources to combat poverty, hunger, sickness, and mortality rates. However, several external circumstances, such as government contributions, economic growth, and security, are major roadblocks to accomplishing these objectives. Microfinance can aid in poverty eradication, child education, women's and children's health, and women's empowerment (Littlefield, Morduch, & Hashemi, 2003).

In their research, A. Roy and Goswami (2013) analyzed 73 research papers on MFIs by analyzing world reports, conferences, publications, and MFI reports. From the literature, a model was developed based on different parameters such as financial, social, and economic profitability, outreach, productivity, governance, efficiency, and sustainability. The study by Ifionu & Keremah (2016) used the Human Development Index as a proxy for economic growth. Loans and deposits at microfinance institutions were used as independent variables. Data was taken for the years 2005–2014 in Nigeria. Results indicated that deposit mobilization has a positive impact on HDI, while loans have a negative impact. The paper by S. Roy and Mohanty (2020) examined the impact of conventional microfinance institutions on the Human Development Index (HDI) of India by using SEM, and the results indicated a positive impact of CMFIs on HDI.

Microfinance plays a significant role for the low-income population in achieving sustainable development goals(Anwar, Kamarudin, Hussain, Tan, & Zainal, 2021). Islamic

microfinance is an emerging industry in Muslim countries, especially in Indonesia, Pakistan, Bangladesh, and the MENA region. The emergence of Islamic microfinance can improve the standard of living of the poorest (Azmi & Thaker, 2020). It is important for MFIs to realize efficiency in order to achieve sustainable development goals through financial inclusion of the unbanked population (Nourani et al., 2021). The aim of sustainable development goals is to reduce half of the world's poverty by 2030. Mukhlisin, Tamanni, Azid, and Mustafida (2020) highlighted Islamic microfinance contributions to SDG achievements through qualitative study. Islamic microfinance has been a niche market. Muslim countries such as Indonesia, Pakistan, Yemen, Bangladesh, Sudan, and Lebanon are taking rapid initiative for the IMF. Academic research helps with innovation and growth. This chapter of the book examined the impact of Islamic microfinance on achieving sustainable development goals by reviewing previous research. Between 1997 and 2017, 89 research papers regarding the IMF and SDGs were written. Fifteen research papers were based in Bangladesh, and sixteen research papers were from Malaysia. Studies indicate that the main objective of MFIs is the alleviation of poverty. In analyzed that ROA, ROE. ROI, ROS, ERR and Net profit margins were the mostly used financial performance indicators in conventional banking (Bătae, Dragomir, & Feleagă, 2021; Muhmad & Muhamad, 2021). As firm size, there are many studies used logasset as moderator (Buallay & Hamdan, 2019; Khattak, 2021).

2.3. Literature on Economic Growth

There are some studies in the literature regarding the impact of conventional microfinance on poverty alleviation, economic growth, the SME sector, and entrepreneurship on a country basis. The study by Bangoura 2, Khary Mbow 3, Lessoua 4, and Diaw 5 (2016) analyzed the relationship between microfinance and poverty in developing countries. Panel data was used for the study. The results showed that countries with a strong microfinance system are less likely to have income inequality. Further, different countries have different results for MF and poverty, so there is a need for country-specific policies. In their paper, Chowdhury, Ghosh, and Wright (2005) examined the impact of microcredit on poverty in Bangladesh. For this purpose, survey data on 954 respondents was collected from Grameen Bank. Results showed that microfinance banks are working to reduce both lower-level poverty and subjective poverty. Microfinance was developed in the 1970s to control poverty and help the low-income population. MFIs gained huge popularity, but their outcome was questionable. This dissertation by Alimukhamedova (2014) explored the impact of microfinance on economic growth and income inequality. Panel vector auto regression was used for the analysis of MF data for Uzbekistan. Real GDP was used for macroeconomic growth, and financial depth was calculated by the debt given to the private sector as a percentage of GDP. Portfolio and borrowers were used to represent microfinance; economic growth, poverty, and financial development were used to represent macro-economic; foreign direct investment, the corruption index, political stability, and industry share were used to represent institutions at all levels. Microfinance is providing financing services to the low-income sector for economic growth. Microfinance can have an impact on achieving energy development goals for energy poverty (Manko & Watkins, 2022).

According to Apere (2016) examined the effect of MFB on the economic growth of Nigeria. The data was collected from 1992 through 2013. Secondary data was taken from Central Bank of Nigeria (CBN) bulletins. Data was analyzed through different tests such as the Error Correction Model (ECM), the Augmented Dickey-Fuller Unit Root Test, and integration. The results indicate that microfinance banks have the capacity to impact the economy. Loans are given to entrepreneurs for the growth of the Nigerian economy. Wachukwu, Onyema, and Amadi (2018) examined the impact of MFIs on the economic growth of Nigeria. Per Capita Income was taken as economic growth. Time series data was taken for the years 1992–2016. Bank credit, deposit, investment, and asset growth were used as independent variables. The data was collected from Nigerian bulletins and World Bank reports. The Cochran-Rao-Test regression model was used to analyze the data. Per capita income and MFB credit growth showed negative results. Per capita

income and bank deposit growth showed a significant positive relationship. There was no relationship between MFB's assets and PCI. Asset growth and per-capital income showed a positive and significant relationship. So credits are needed in industrial areas for economic growth. The study by (Irfan, 2020) performed META analysis on IMFIs in India. IMFIs provide social and economic benefits, religious satisfaction, and assistance in achieving SDGs, poverty alleviation, and business cooperation.

2.4. Literature on Macroeconomic Variables

The research by Iqbal, Nawaz, and Ehsan (2019) analyzed the relationship between financial performance and governance of MFIs. Data was taken from 173 MFIs in Asia for the years 2007–2011. The corporate governance index, return of assets, return of equity, human development index, size, age, and operating expenses were taken as variables, and regression analysis was performed for results. The paper by Saeed (2014) examined the relationship between the performance of MFIs and corporate governance. Data was taken for the years 2005–2009 for 215 MFIs. Data was taken from MIX Market for six South Asian countries. Dependent variables for financial and social performance include return on assets, operational self-sufficiency, operational cost, portfolio yield, number of borrowers, and average loan. Independent variables include bank regulations, individual lending, the urban market, Coe duality, and board size. Control variables include age, size, portfolio risk below 30 percent, and the Human Development Index. The study examined the government's and laws impacts on MFIs in Thailand, the Philippines, Malaysia, Indonesia, and Cambodia for the years 2011–2018. The data was analyzed using the DEA method. Pooled least squares and generalized least squares methods were applied. Multiple-panel regression was applied. Two approaches intermediate and production were used for efficiency. MFIs serve as intermediaries between surplus and deficit in the intermediary approach. As production approaches, MFI uses its assets for the provision of financing. Financial performance was high as compared to social performance, which indicates that MFIs main focus is profitability. For rule and governance, property rights, government integrity, government size, government spending, and tax burden relationships were examined with financial performance.

In their study, Sseruyange and Klomp (2021) examined the impact of MFIs on macro-level issues such as natural disasters. In the vast majority of developing countries, MFIs can help during natural disasters. This study examined how MFIs can respond in this situation. Unbalanced panel data was used for the study. The ordinary least squares, fixed method was applied for the research. Data was taken from 80 developing countries. Annual growth rate (agriculture, services, and industry) and number of active borrowers were used. Results indicate that MFIs reduce the impact of natural disasters on agriculture to a great extent. Most of the literature is based on impact of SDGs on MFIs. The literature cited above indicates that we should find out the role of financial performance in achieving sustainable development goals for both IMFIs and CMFIs by using new indicator. Further, the study also checked the moderating role of institution size in this relationship.

Based on the above problem, following hypotheses are formulated below.

Hypothesis 1 (H_1): There is significant impact of financial performance of conventional and Islamic microfinance institutions in achieving sustainable development goals

Hypothesis 2 (H_2)**:** Moderating effect of institution size significantly impact on the relationship between financial and social performance of conventional and Islamic microfinance Institutions in achieving Sustainable Development Goals

Hypothesis 3 (H_3): There is significant difference in financial performance of conventional and Islamic microfinance institutions in achieving sustainable development goals

2.5. Conceptual Framework

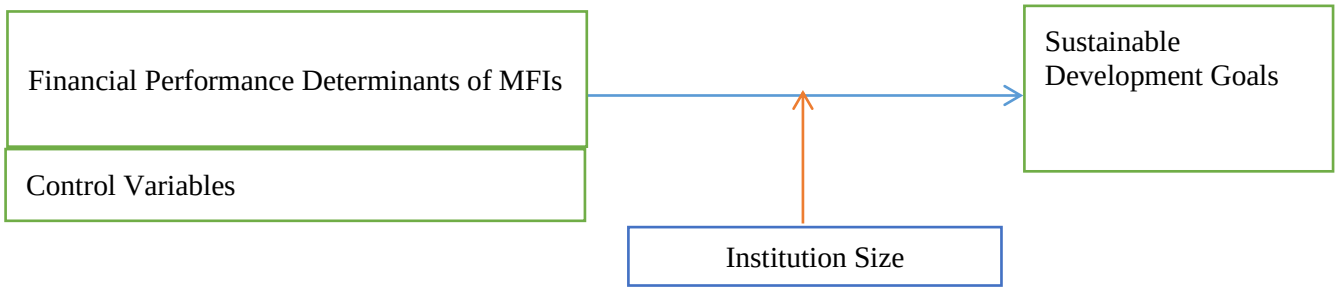

Figure 1: Conceptual Framwork

3. Methodology

3.1. Data Sources and Estimation Techniques

This study used unbalanced data of 70 global microfinance institutions (including 45 CMFIs and 30 IMFIs) for the period 2015-19 by applying fixed effect model. As this study has covered panel data, therefore most suitable technique for panel data is panel regression containing fixed and random effect models specifically when panel data is unbalanced (Semykina & Wooldridge, 2010). Similar model has been used by (Ahmad, Lensink, & Mueller, 2020).

Table 1
Description of the Variables

Independent Variables				
Variable	**Proxy**	**Abbreviation**	**Formula**	**Source of Data**
Financial Performance	Return on Asset	ROA	Net Income/Total Assets	World Bank MIX Report
	Portfolio Yield	PFY	Financial revenue from loans / Average gross loan portfolio	World Bank MIX Report
Dependent Variable				
Sustainable Development Goals	Social Progress Index	SPI	Social Progress Collective Index	Social Progress Imperative Reports
Moderator				
Institution Size	Asset Size	InZ	Log of Total Assets	MIX and Annual Reports
Control Variable				
GDP	Gross Domestic Product Per Capita	GDP	Monetary value of good bought by final user in a country in a specific time period	World Bank Database
Inflation	Consumer Price Index	CPI	Change of price of products and services in a specific time period	
Institutional Quality	Regulatory Quality	RQ	Score of quality of regulations by a government for private sector	World Governance Indicator Database
Dummy Variable				
Institution Type Inst. TYP		Inst. TYP	"0" is taken for Islamic microfinance intuitions and "1" is taken for conventional microfinance institutions	

Social Progress Index (SPIn) represented the dependent variable For SDGs. Even though SPI was developed in 2013,but mostly Islamic counties were not included in year 2013 and 2014 index therefore time period was selected from 2015 to onward. Financial performance was measured through return on assets (ROA) and portfolio yield (PY) as independent variables.

Gross domestic product (GDP), consumer price index (CPI) and regulatory quality (RQ) were used as control variables. World Bank Microfinance Information Exchange and annual reports databases are used for financial performance data collection. Control variables data is taken from world bank database, regulatory quality data is taken from world governance indicator database. Social progress index data is collected from social progress imperative reports.

3.2. Empirical Equations

$$SDG_{it} = \alpha o + \beta_1 FP_{it} + \beta_2 CVS_{it} + \beta_3 \text{Inst. TYP}_{it} + \in_{it} \quad (1)$$

In Eq1, SDG_{it} indicates social progress index as dependent variable while "it" indicates institutions and time period for panel data. FP_{it} indicates financial performance variables including Return on Assets (ROA) and Portfolio Yield (PFY). X_{it} indicates the control variables including gross domestic product per capita (GDP per capita), consumer price index (CPI), and regulatory quality (RQ). Inst. TYP_{it} as dummy variable where "0" is taken for Islamic microfinance institutions and "1" is taken for conventional microfinance institutions.

$$SDG_{it} = \alpha o + \beta_1 FP_{it} + \beta_2 InZ_{it} + \beta_3 InZ_{it} * FP_{it} + \beta_4 X_{it} + \beta_5 \text{Inst. TYP}_{it} + \in_{it} \quad (2)$$

In Eq2 SDG_{it} indicates social progress index as dependent variable. FP_{it} indicates financial performance variables including Return on Assets (ROA) and Portfolio Yield (PFY). InZ_{it} is indicating the moderating variable. InZ_{it}* FP_{it} indicates log asset multiplication with financial performance variables Return on Asset (ROA) and Portfolio Yield (PFY). X_{it} indicates the control variables gross domestic product per capita (GDP per capita), consumer price index (CPI), and regulatory quality (RQ). Inst. TYP_{it} as dummy variable where "0" is taken for Islamic microfinance institutions and "1" is taken for conventional microfinance institutions.

As the model specification is linear, stated variables are converted into natural logarithm to generate robust and comparative estimates (Bibi, Balli, Matthews, & Tripe, 2018; Cameron & Trivedi, 2010). Now the equations can be written as:

$$lSDG_{it} = \alpha o + \beta_1 lFP_{it} + \beta_2 lCVS_{it} + \beta_3 \text{Inst. TYP}_{it} + \in_{it} \quad (3)$$
$$lSDG_{it} = \alpha o + \beta_1 lFP_{it} + \beta_2 InZ_{it} + \beta_3 InZ_{it} * lFP_{it} + \beta_4 lX_{it} + \beta_5 \text{Inst. TYP}_{it} + \in_{it} \quad (4)$$

4. Data Analysis

4.1. Descriptive Evaluation

Table 2 describes statistics of all the variables including number of observations, mean, standard deviation, minimum and maximum values

Table 2
Descriptive Statistics Summary

Variables	SPI	ROA	PFY	GDP	CPI	RQ
Islamic microfinance institutions						
Obs	160	160	160	160	160	160
Mean	4.202855	-3.74524	-1.581301	8.859879	.8758246	-.4903306
Std. Dev	.2028063	1.146997	.707597	1.431123	1.058337	1.19963
Min	3.702782	-9.21034	-5.472671	5.411034	-3.249583	-13.56612
Max	4.493009	.3526268	2.158231	12.15208	5.947555	.8156051
Conventional Microfinance Institutions						
Obs	201	201	201	201	201	201
Mean	68.3613	-3.761668	-1.572943	8.810852	.8456633	-.5040009
Std. Dev	13.29022	1.1433	.676313	1.404945	1.303782	1.290379
Min	3.702782	-9.21034	-5.472671	5.411034	-3.249583	-13.56612
Max	4.493009	.3526268	.5013812	12.15208	5.947555	.8156051

Here microfinance institutions SPI middle value (4.49-3.702)/2= 0.394, which is less than mean value of 4.20, which indicates distribution is skewed to the right. The standard deviations of most variables are greater than their mean values, which indicate that the data is homogeneous while ROA and PFY data is relatively heterogenous.

Table 3
Correlation Matrix for Explanatory Variables

Islamic Microfinance Institutions	**SPI**	**ROA**	**PFY**	**GDP**	**CPI**	**RQ**
SPI	1.0000					
ROA	0.0128	1.0000				
PFY	0.0167	0.0721	1.0000			
GDP	-0.0271	-0.0253	0.0476	1.0000		
CPI	-0.0502	0.0062	0.0242	0.0047	1.0000	
RQ	-0.0452	-0.0171	-0.0466	0.0155	0.052	1.0000
Conventional Microfinance Institutions	**SPI**	**ROA**	**PFY**	**GDP**	**CPI**	**RQ**
SPI	1.0000					
ROA	0.5508	1.0000				
PFY	0.0430	0.2758	1.0000			
GDP	-0.0256	0.2018	0.5620	1.0000		
CPI	-0.1762	-0.2661	0.2427	-0.0066	1.0000	
RQ	0.4942	0.5058	0.3623	-0.5702	-0.2401	1.0000

Correlation matrix indicates degree of correlation between two variables irrespective of independent and dependent roles. Every variable has perfect relationship with itself as 1. The value between two variables close to 1, indicates strong relationship and is considered multicollinearity and close to 0 indicates weak relationship or nonexistence of multicollinearity. Positive value indicates relationship in same direction while negative value indicates opposite direction relationship. Rule of thumb is coefficient values equal to or more than 0.8 is considered multicollinearity (Kennedy, 2008). Table 2 all variables coefficient are less than 0.8 so there is no multicollinearity between variables.

Table 4
Fixed Effect Model Estimates

DV -SPI	**IMFIs**	**CMFIs**
/ROA	.2443391	50.30261
	(0.056)**	(0.084)***
/PFY	.1954944	14.5278
	(0.0345)*	(0.061)***
/GDP	-.000046	-.0077032
	(0.071)**	(0.078)***
/CPI	-.1288693	-2.009675
	(0.001)*	(0.098)***
/RQ	-.3409219	.7446687
	(0.093)***	(0.001)*
Constant	69.3817	93.52
	(0.000)*	(0.042)*
F-Statistics	0.000	0.000
Hausman Test	0.000	0.000

P-values in parentheses *Significant=p <0.01, **Significant= p <0.05, ***Significant= p <0.1

In table 4, model results are indicating the relationship of independent variables of financial performance on social progress index, which is used as dependent variable for sustainable development goals. Here both ROA and PFY as independent variables for financial

performance and control variables are showing positive significant relationship with SPI. These results are consistent with the (Apere, 2016; Ziolo, Bak, & Cheba, 2021) GDP and CPI are showing negative relationship with SPI for both type of institutions. There is the possibility of in case of high GDP; MFIs customers move towards traditional banking and due high inflation, their inclusion in banking sector reduces (S. Roy & Mohanty, 2020). While for IMFIs, RQ is also showing negative relationship. This indicates gap of regulation for IMFIs.

4.2. Diagnostic Tests

To assess the model's validity for the specific data, to select out of fixed and random effect models, the Durbin-Wu-Hausman test is applied. Here P-value of Hausman test is less than 0.05, therefore reject Ho and apply the fixed effect model (Dougherty, 2011). For normal distribution of data, more than 30 observations rule is applied. As according to (Cleff, 2019) there are more than 30 observations in this case, it is assumed that the data is normally distributed.

Table 5
Fixed Effect Regression Estimates with Moderator

DV-SPI	IMFIs	CMFIs
ROA	4.3172	0.1348
	(0.096)***	(0.043)*
PFY	80.0714	0.1464
	(0.092)***	(0.016)**
InZ.	20.1299	-.00311
	(0.095)***	(0.94)***
InZ.*ROA	2.6173	.0009
	(0.063)***	(0.014)**
InZ.*PFY	54.0202	-0.0008
	(0.043)**	(0.081)***
GDP	-.0066	-0.006
	(0.32)**	(0.038)**
CPI	-1.9869	-0.0049
	(0.09)***	(0.13)**
RQ	-.6855	0.00870
	(0.02)**	(0.0.188)
Constant	43.9708	4.243478
	(0.00)	(0.000)
F-Statistics	0.000	0.000
Hausman Test	0.000	0.000

P-values in parentheses *Significant=p <0.01, **Significant= p <0.05, ***Significant= p <0.1

Table 5 results indicate that institution size of CMFIs as independent variable has negative relationship with social progress index. As moderator institution size also has negative impact on financial performance of IMFIs in achieving sustainable development. Increase in institution size indicates the growth of financial institution. These results are consistent with (Buallay & Hamdan, 2019; Khattak, 2021). While negative relationship of asset size and PFY indicate that there is the possibility of commercialization in CMFIs in case of increasing the institution size (Li, Hermes, & Meesters, 2019). To gain profit from the re-investment, CMFIs may start serving few customers will large loans and neglect the poorest one due to high cost of providing services. This also indicates that CMIFs are moving towards maturity stage while institution size as independent variable for IMFIs is showing positive relationship with SPI. InZ.as moderator between ROA and PFY and SPI is showing positive relationship. This indicates that growth of IMFIs improves the financial performance which leads towards the achievement of SDGs. The results are consistent with stakeholders' theory that both Islamic and conventional microfinance intuitions' financial performance leads towards achieving sustainable development goals.

5. Conclusion

This is one of the pioneer studies to explore the role of both Islamic and conventional microfinance institutions for achieving Sustainable development goals. SDGs achievement is important for social and economic growth for developing countries. This study linked a new index as SPI for SDGs. The results indicated that both ROA and PFY of Islamic and conventional MFIs have positive relationship with SPI. GDP, CPI as control variables have negative relationship with SPI for both institutions. There is the possibility of in case of high GDP, MFIs customers move towards traditional banking and due high inflation, their inclusion in banking sector reduces. While for IMFIs, RQ is also showing negative relationship. This indicates gap of regulation for IMFIs. Institution size of CMFIs as independent variable has negative relationship with social progress index. As moderator institution size also has negative impact on financial performance of IMFIs with SPI. Increase in institution size indicates the growth of financial institution. There is the possibility of commercialization in CMFIs in case of increasing the institutions size. To gain profit from the re-investment, CMFIs may start serving few customers will large loans and neglect the poorest one due to high cost of providing services. This also indicates that CMIFs are moving towards maturity stage while institution size as independent variable for IMFIs is showing positive relationship with SPI. InZ.as moderator between ROA and PFY and SPI is showing positive relationship. This indicates that growth of IMFIs improves the financial performance which leads towards the achievement of SDGs and are at growth stage of business cycle. For diagnostic tests, to overcome heterogeneity and autocorrelation issue, robust fixed method is applied on the sample sets. Further pre and posttest included descriptive analysis, Hausman test and VIF analysis. Finally, the results indicate that financial performance of both IMFIs and CMIFs is important to achieve SDGs. Moderating effect of institution size significantly impact on the relationship between financial and social performance of conventional and Islamic microfinance Institutions in achieving Sustainable Development Goals. There is no significant difference in financial performance of conventional and Islamic microfinance institutions in achieving sustainable development goals and the need is to improve regulations for the growth of IMFIs.

5.1. Policy Implications, Future Research Directions and Limitations

In terms of policy recommendations, the results of this study present several policy directions for the global Islamic and conventional institutions managers. These results can be applied to regional institutions, as both Islamic and conventional MFI managers should focus on financial performance to achieve sustainable development goals. The managers should realize that in the case of increasing the institution's size, financial performance can be improved, but it also creates commercialization, making the main objective of serving the poorest customers difficult. This study also gives directions to the government, central bodies, and other regulatory authorities to develop policies for improving financial performance, i.e., taxation and subsidization, specifically for Islamic microfinance institutions to achieve sustainable development goals. This study has taken two indicators of financial performance that are extensively discussed in the literature. For future studies,t here are other financial performance indicators that can be included in the study.

Authors Contribution

Amat-ul Mateen Noor: Introduction, data collection, methodology, data analysis and interpretation and drafting

Mohammad Ayaz: Discussion, recommendations, revision, proofreading

Conflict of Interests/Disclosures

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