Nexus between Islamic investment, Musyarakah Financing, Islamic Microfinance and Achieving SDGs in Indonesia

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Abstract: Islamic Finance Transformation through analysing the role of musyarakah financing and Islamic microfinance in enhancing Islamic investments in Indonesia has become an important focus to achieve the Sustainable Development Goals (SDGs). This study explores the role of Islamic financial instruments in facilitating investments that not only prioritise financial returns but also social and environmental outcomes. The method used is Fully Modified Ordinary Least Squares (FMOLS) to analyse time series data from 2015 to 2023. The research variables used are Islamic investment, musyarakah financing and Islamic microfinance. The results showed that musyarakah financing has a significant influence on the growth of Islamic investment, thus contributing to poverty alleviation (SDG 1) and increasing financial inclusion (SDG 8). In addition, Islamic microfinance is proven to be effective in empowering the local economy and creating jobs. These findings confirm the importance of Islamic finance integration in sustainable development strategies and offer innovative solutions to complex global challenges.

Keywords: Islamic Financial Transformation, Islamic Investment, Musyarakah Financing, Islamic Microfinance, SDGs, FMOLS

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1. Introduction

Achieving the Sustainable Development Goals (SDGs) has become a global priority in addressing fundamental issues such as poverty, inequality, climate change, and economic resilience. The SDGs require a holistic and innovative approach, including financial sector integration that emphasises the importance of collaboration between the private sector, government and society in supporting sustainable development that covers economic, social and environmental aspects. To achieve the SDGs, significant financing efforts are needed, one approach is impact investing, which combines the goal of financial returns with social and environmental outcomes [36].

In this context, Islamic finance offers solutions that are in line with sharia principles of justice, balance and social responsibility. The transformation of Islamic finance that focuses on impact investing not only offers an ethical approach to financial management, but also creates instruments capable of effectively supporting the achievement of SDGs [4]. Islamic financial instruments such as sukuk, musyarakah financing, and Islamic microfinance have great potential in creating significant social impact through financing sustainable projects [38].

Sukuk has become one of the main instruments in supporting sustainable development financing in many countries, including Indonesia and member countries of the Organisation of Islamic Cooperation (OIC) [29]. Sukuk offers a financing alternative that complies with sharia principles, where investors participate in real and sustainable projects, not speculation which is against the principles of Islamic finance [25]. State sukuk outstanding data shows significant growth, reflecting investor confidence. In addition, green sukuk, specifically designed to finance

environmentally friendly projects, are becoming an important part of SDG-compliant impact investing [10]. With the growing interest in sukuk instruments, Islamic investments can act as a key catalyst in supporting the SDGs agenda, especially in Muslim-majority countries [35]. Musyarakah financing is another important instrument in the Islamic finance ecosystem that focuses on partnerships and risk sharing between the parties involved [45]. Musyarakah financing in particular fosters a closer relationship between investors and project managers, resulting in greater transparency and fairer risk management. The musyarakah model is particularly relevant in supporting ventures that aim to achieve broad social impact, such as social infrastructure, education, and healthcare projects.

Musyarakah financing supports the creation of a more inclusive economic ecosystem by actively involving all parties in sharing both profits and risks [33]. This is in accordance with sharia principles that promote social justice, and supports the achievement of SDGs targets related to reducing inequality and economic inclusion. The superiority of musyarakah financing in financing socially orientated projects contributes significantly to sustainable development goals, both on a national and international scale [11].

Islamic microfinance also has a strategic role in promoting financial inclusion, especially among communities underserved by formal financial institutions [26]. The loans from Islamic microfinance institutions have increased significantly which reflects an important role in empowering the local economy and supporting small and micro businesses [1]. Islamic microfinance can provide social and economic benefits to underserved communities [17].

Islamic microfinance provides a relevant solution for the achievement of SDGs related to poverty alleviation (SDG 1), increasing access to financial services (SDG 8), and reducing inequality (SDG 10). With a model based on social responsibility and transparency, Islamic microfinance ensures that the financing provided can have a direct impact on improving people's welfare [21]. Moreover, through economic empowerment, Islamic microfinance also supports job creation and promotes inclusive economic growth [9].

2. Literatur Review

2.1 Sukuk

Islamic Finance Transformation has a role to play in the achievement of SDGs in Indonesia. Through sukuk as an Islamic bond which is an important instrument in financing sustainable projects, especially in Muslim-majority countries. In the context of SDGs, sukuk can fund environmentally friendly projects, such as renewable energy, green infrastructure, and climate change mitigation. The sukuk has great potential in accelerating the energy transition in developing countries, with more sustainable and environmentally friendly capital [20].

Besides the environmental aspect, sukuk also has a significant impact on the achievement of other SDGs, such as poverty alleviation (SDG 1) and sustainable infrastructure development (SDG 9). Sukuk allows the government and private sector to access financing that is not only sharia-compliant but also encourages public participation through fair and transparent financial instruments. Several studies have found that sukuk contribute to the reduction of economic inequality (SDG 10) through participation in projects that benefit all segments of society [5].

2.2 Musyarakah Financing

Musyarakah financing, which is based on the principles of partnership and risk sharing, is one of the most relevant Islamic investment models in supporting social impact projects. In the context of achieving the SDGs, this model offers a fair financing solution by actively involving both parties in sharing profits and risks. The musyarakah model provides room for more efficient risk management, especially in socially orientated projects, such as health and education infrastructure [22].

Highlights the relevance of musyarakah financing in supporting projects aimed at reducing inequality (SDG 10) and promoting economic inclusion (SDG 8) [16]. For example, musyarakah is used extensively in social housing development projects in Indonesia, where collaboration between investors and the government results in positive social

impacts through job creation and economic empowerment of low-income communities [40].

2.3 Islamic Microfinance

Islamic microfinance is an important instrument in empowering local economies and creating broad social impact, especially among communities underserved by formal financial institutions. The Islamic microfinance sector in Indonesia has experienced significant growth, with tangible contributions to poverty alleviation (SDG 1) and increased financial inclusion (SDG 8). In contrast to the conventional financial system, Islamic microfinance offers a usury-free solution, ensuring that access to finance is not limited to the wealthy but also open to marginalised communities.

The importance of Islamic microfinance in supporting financial inclusion in Indonesia, especially for small and micro enterprises [2]. Programmes such as Baitul Maal wat Tamwil (BMT) play an important role in providing financing for small rural entrepreneurs, who are often overlooked by conventional banks. With the growing demand for Islamic microfinance services, the sector is projected to continue to play an important role in supporting the SDGs agenda, particularly in relation to reducing inequality (SDG 10) and job creation (SDG 8) [44].

3. Research Method

3.1 Research Scope

This study uses the Fully Modified Ordinary Least Squares (FMOLS) method as an econometric approach to analyse long-term relationships [41]. Islamic investment as the dependent variable measured through sukuk outstanding and two independent variables namely musyarakah financing and Islamic microfinance. This study uses secondary data in the form of time series from 2015 to 2023. The research data source comes from the Financial Services Authority (OJK). By applying FMOLS, this study aims to provide an efficient and unbiased estimation and robust analysis of the contribution of Islamic financial instruments to impact investment in line with the achievement of Sustainable Development Goals (SDGs) [7].

3.2 Classical Assumptions

The classical assumption test is a series of tests conducted to ensure that the regression model used fulfils the basic assumptions to obtain an unbiased, consistent, and efficient estimate of the model parameters through normality and multicollinearity tests. The Fully Modified Ordinary Least Squares (FMOLS) method is designed to overcome some of the problems that arise in regression analysis of time series data that have cointegration properties. One of the main advantages of FMOLS is its ability to correct the problems of autocorrelation and heteroscedasticity in the residuals, which are two other classical assumptions in regression analysis [31].

3.3 Stationary Test (Unit Root Test)

The stationarity test is used to determine whether the data under study is stationary or not. For time series data, stationarity is a crucial requirement [42]. Augmented Dickey-Fuller (ADF) testing can be used to detect whether the data is stationary or not by comparing the ADF statistical value to its critical value, namely the statistical distribution [32]. MacKinnon is a method used to evaluate whether or not data are stationary [32]. Data is said to be stationary if the absolute value of the ADF statistic exceeds its crucial value [42].

If the time series data is not stationary at zero order I(0) or level when tested by ADF testing, then the stationarity of the data can be sought with the following orders until it is stationary at the nth order, first difference or I(1), second difference or I(2), and so on [12]. If the test findings reject the hypothesis that all variables have a unit root, it means that all variables are stationary at level, or the variables are cointegrated at I (0), so linear regression is used for estimation [14].

The hypotheses of this test are:

H0 = 0, there is a unit root (not stationary)

Ha ≠ 0, there is no unit root (stationary)
If the test results reject the hypothesis that all variables have a unit root, it means that all variables are stationary at the level, or in other words, the variables are cointegrated at I (0), so linear regression is used for estimation.

3.4 Fully Modified OLS (FMOLS) Test

Fully Modified OLS (FMOLS) was introduced by Phillips and Hansen in 1990 to provide a robust estimation technique for time series data, especially when there is cointegration among the variables. This method corrects for autocorrelation and heteroscedasticity, which commonly arise in long-run economic models, thus ensuring unbiased and consistent parameter estimates.

The FMOLS model for this study can be formulated as follows:

$$Yt=\alpha+\beta1X1t+\beta2X2t+\epsilon t$$

Where:
Yt : Islamic investment (sukuk outstanding),
X1t : Musharakah financing,
X2t : Islamic microfinance,
α : Intercept
β1 and β2: Independent variable coefficients
ϵt: Error term

3.5 Statistical Test t (Partial Test)

In research, the significance of the influence of the independent variable on the dependent variable is seen through the t statistical test (Widarjono [42]). In its use, if t-count> t-table or significance is less than (α) 5%, this indicates that there is a partially significant effect between the independent variable and the dependent variable [15].

The hypothesis in this test is:
H0: βi < 0 There is no significant effect between the independent variable and the dependent variable partially
Ha: βi > 0 There is a significant influence between the independent variables on the dependent variable partially
The test criteria are as follows:
1. If t-statistic > t-table then $H0$ is rejected. The independent variable has a significant effect on the dependent variable.
2. If t-statistic < t-table then $H0$ is accepted. The independent variable does not have a significant effect on the dependent variable.

3.6 F-Statistik Test

The F-statistic test is used to show how the independent variables interact with each other and have an impact on the dependent variable [43]. If the F-count exceeds the F-table in the test, then simultaneously the independent variables have a considerable influence on the dependent variable, or the data are consistent with the research hypothesis [27].
H0: βi < 0 There is no significant influence between the independent variables on the dependent variable together
Ha: βi > 0 There is a significant influence between the independent variables on the dependent variable jointly
The test criteria are as follows:
1. If F-statistic > F-table then $H0$ is rejected. The independent variable on the dependent variable has a statistically significant effect together.
2. If F-statistic < F-table then $H0$ is accepted. The independent variable on the dependent variable does not have a statistically significant effect together.

3.7 Test Coefficient of Determination (R^2)

The coefficient of determination (R^2) is used to measure the proportion of the contribution of the independent variable in explaining the dependent variable. An R^2 value close to one indicates that the regression model has a good ability to explain data variability, while an R^2 value close to zero indicates limited ability. However, R^2 has the disadvantage that it tends to increase with the addition of independent variables, even though these variables do not

necessarily increase the predictive power of the model. Therefore, adjusted R-square is used which corrects for the addition of irrelevant independent variables, so that the adjusted R-square value will not exceed R-square and may decrease or become negative if the addition of independent variables does not improve the quality of the model or if the model shows a low level of fit [42].

4. Results and Discussion

4.1 Classical Assumptions

Normality Test

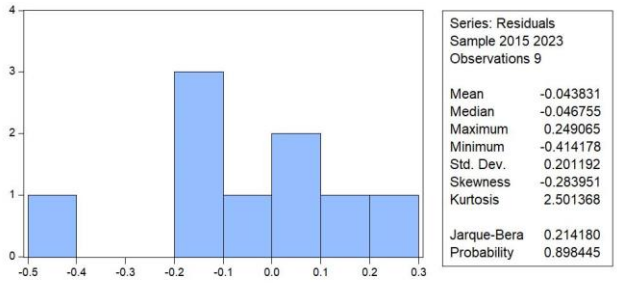

Figure 1. Normality Test Results
Source: Results of Data Analysis, 2024

Based on the normality test from the histogram above, the probability value is 0.898445> 0.05. Then the Jarque-Bera value < Chi Square value which indicates that the data follows a normal distribution pattern.

Multicollinearity Test

Table 1. Multicollinearity Test

	X1	X2
X1	1,000000	1,378550
X2	1,378550	1,000000

Source: research results Year 2024

Based on the multicolonierity test results, it is found that there are no variables with a relationship that exceeds the correlation value of 8. Therefore, it can be concluded that there is no significant multicollinearity between the independent variables used in this study. This means that the variables do not show a strong linear relationship or lack of significant interrelationships among others, so there is no significant interdependence.

4.2 Stationary Test (Unit Root Test)

Table 2. Unit Root Test Results at the Second Difference Level

Variables	Probability	Description	Decision
D (X1,2)	0,0057	Stationary	Stationary at Second level Difference
D (X2,2)	0,0045	Stationary	
D (Y,2)	0,0385	Stationary	

Source: research results Year 2024

The results of the data stationarity test using the Augmented Dickey Fuller (ADF-Test) method conducted at the second difference level unit root test can be seen in Table 2, it can be seen that in the ADF test the musyarakah financing variable (X1), Islamic microfinance (X2), and Islamic Investment (Y) show a probability value of less than α = 5% (0.05) so that the data tested are stationary at the second difference level.

4.3 Fully Modified OLS (FMOLS) Test

Table 3. Fully Modified OLS (FMOLS) Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
X1	0.017655	0.005769	3.060342	0.0222
X2	0.548865	0.065864	8.333281	0.0002
C	4.344346	0.411818	10.54920	0.0000

R-squared	0.855172	Mean dependent var	6.613420
Adjusted R-squared	0.806895	S.D. dependent var	0.542600
S.E. of regression	0.238438	Sum squared resid	0.341117
Long-run variance	0.015537		

Source: research results Year 2024

4.4 Statistical Test t (Partial Test)

The coefficient of Musyarakah Financing (X1) of 0.017655 indicates that each 1 unit increase in Musyarakah Financing will increase Islamic

Investment (Y) by 0.017655, assuming other variables remain constant. The t-count value of 1.943 is greater than the t-critical at the 5% significance level, and the probability value (0.0222) is smaller than 0.05. Therefore, it can be concluded that Musyarakah Financing has a positive and significant effect on Islamic Investment partially.

The coefficient of Islamic Microfinance (X2) of 0.548865 indicates that every 1 unit increase in Islamic Microfinance will increase Islamic Investment (Y) by 0.548865, assuming other variables remain constant. The t-count value of 1.943 is greater than the t-critical at the 5% significance level, and the probability value (0.0002) is smaller than 0.05. This means that Islamic Microfinance (X2) has a positive and significant effect on Islamic Investment partially.

4.5 F Statistical Test

Table 4. F Statistical Test Results

Test Statistic	Value	df	Probability
F-statistic	72.74420	(2, 6)	0.0001
Chi-square	145.4884	2	0.0000

Source: research results Year 2024

The F test is a statistical test conducted to determine how much influence the independent variables together have on the dependent variable. In the long-term estimation, the probability value of F-count is 0.0001 and significant at the 5% level. Based on the results of simultaneous testing with the F test, it is known that the F-count probability of 0.0000 < α = 5% (0.05), it can be concluded that Musyarakah Financing (X1) and Islamic Microfinance (X2) together or simultaneously have a significant effect on Islamic Investment (Y).

4.6 Result of the Coefficient of Determination (R2)

The coefficient of determination is used to measure how much variation in the dependent variable can be explained by variations in the independent variables. In this study, the coefficient of determination was carried out to determine how much the percentage of Musyarakah Financing (X1) and Islamic Microfinance (X2) variables together or simultaneously had a significant effect on Islamic Investment (Y). Based on the results of the long-term analysis, the coefficient of determination (R2) is 0.855172. This means that the influence of the variation of the independent variable on the variation of the dependent variable is 85.51% while the remaining 14.49% is explained by variables outside the model.

The results of this study indicate that Islamic financial instruments such as musyarakah financing and Islamic microfinance have a significant influence on increasing Islamic investment that supports the achievement of Sustainable Development Goals (SDGs) in Indonesia. These two instruments play an important role in channeling funds to sectors that support sustainable development, with a direct impact on various aspects of the SDGs.

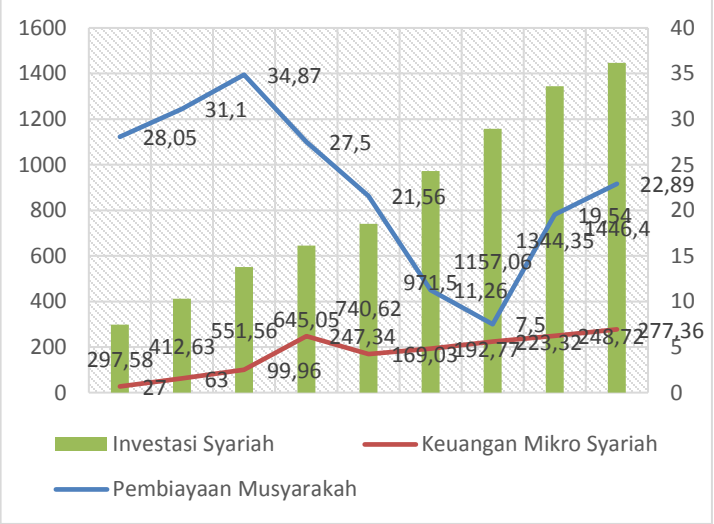

Figure 1: Transformation of Islamic Finance in Supporting Investment

Based on the data presented, the growth trend of Islamic investment from 2015 to 2023 shows a significant increase, with the value jumping from 297.58 trillion in 2015 to 1,446.4 trillion in 2023. This increase indicates a positive dynamic in the Islamic finance ecosystem, which is increasingly integrated with other financial instruments, particularly musyarakah financing and Islamic microfinance. However, there are interesting fluctuations in the contribution of these two independent variables to the growth of Islamic investment. From a macro

perspective, fluctuations in musyarakah financing can be interpreted as a response to dynamic market conditions and structural challenges faced by Islamic financial institutions in absorbing demand for profit-sharing-based investments. On the other hand, the growth of Islamic microfinance indicates a more equitable expansion of access to finance, especially in the informal sectors, which plays a role in encouraging productive economic activities. This not only impacts the growth of Islamic investment, but also supports the achievement of sustainable development goals (SDGs), especially those related to poverty alleviation, financial inclusion, and strengthening the inclusive economy [6].

Musyarakah financing, as a form of cooperation contract with a profit-sharing scheme, has proven to be an effective instrument to encourage Islamic investment in various sectors, especially in infrastructure that supports the achievement of SDGs [39]. The musyarakah scheme allows investors to participate in strategic projects with more distributed risks, where profits and losses are shared proportionally [3]. One example is the Solar Power Plant (PLTS) project in eastern Indonesia, where musyarakah-based financing plays a role in providing access to clean energy for remote communities. The project supports SDG 7 (Clean and Affordable Energy) and SDG 13 (Addressing Climate Change) by reducing dependence on fossil fuels and lowering carbon emissions in the region [13].

This phenomenon indicates that musyarakah financing is not only attractive to the private sector seeking financial returns, but also to governments and international institutions seeking to contribute to the achievement of sustainable development targets. Investments in renewable energy through musyarakah financing show that the scheme can create both economic and social impacts. In Indonesia, the growth of the clean energy sector through this scheme has also contributed to the creation of new jobs, which supports SDG 8 (Decent Work and Economic Growth) [28].

Islamic microfinance, which includes institutions such as Baitul Maal wat Tamwil (BMT) also occupies a strategic position and has an important role in achieving the SDGs. Research shows that Islamic microfinance has a significant positive impact on improving the welfare of marginalized communities, which is directly related to the goals of poverty alleviation (SDG 1) and reducing inequality (SDG 10) [34]. Through a financing approach based on the principles of justice and social responsibility, Islamic microfinance not only improves people's access to financial services, but also empowers people to create new economic opportunities. This finding is in line with the research results [37] which show that Islamic microfinance contributes significantly to local economic growth and job creation, which supports inclusive economic growth (SDG 8).

BMTs in various regions in Indonesia have succeeded in increasing access to finance for the poor who were previously unreachable by conventional banks. BMT's success in promoting financial inclusion has also contributed to increasing the economic capacity of rural communities, particularly in sectors such as agriculture, small trade, and cottage industries [25]. An interesting phenomenon of Islamic microfinance is its flexible nature and compliance with sharia principles, where both the giver and receiver of capital share risks and profits. For example, in the practice of qard al-hasan, the capital provided by the financial institution is interest-free, thus minimizing the burden on the recipient of the financing. This allows the poor to start micro-enterprises without being burdened by high installments, which is often a problem in the conventional financial system [8].

The impact of Islamic microfinance is evident in case studies in the West Java region, where BMTs have successfully helped thousands of micro-entrepreneurs to thrive and create jobs. The Islamic finance approach based on the principle of social justice helps to create a more inclusive economic ecosystem, where profits are not only enjoyed by a few parties, but are spread widely across all levels of society. Thus, Islamic microfinance is an important instrument in reducing economic and social inequality, which is the main goal of SDG 10 [18].

In the context of achieving SDGs in Indonesia, musyarakah financing and Islamic microfinance can be considered as strategic instruments that support various aspects of sustainable development [19]. Musyarakah financing contributes directly to the development of sustainable and environmentally-friendly infrastructure, while Islamic microfinance

plays a key role in alleviating poverty and creating financial inclusion for the poor and marginalized. Both are important pillars in achieving SDG 1 (No Poverty), SDG 7 (Clean and Affordable Energy), and SDG 10 (Reduced Inequality).

5. Conclusion

Through empirical analysis, it is found that Islamic financial instruments such as musyarakah financing and Islamic microfinance play a key role in strengthening the responsible investment ecosystem as well as providing sharia-compliant financing alternatives and encouraging active participation from investors in sustainable development projects. Musyarakah financing, strengthens collaboration between investors and project managers which contributes to better transparency and risk management. Islamic microfinance as a strategic instrument demonstrates its effectiveness in enhancing financial inclusion and empowering marginalized communities. Overall, the transformation of Islamic finance has great potential to contribute to the achievement of the SDGs in Indonesia, and proactive steps should be taken to optimize that role in the context of sustainable development.

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