Economic Growth, Income Inequality, Government Integrity, and Spending towards SDG 1 on Poverty Eradication: An Empirical Study from Twenty Muslim-Majority Countries

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Abstract
The objective of the study is to experimentally investigate the link between economic development, wealth disparity, governmental integrity, and spending on eradicating poverty, in line with Sustainable Development Goal (SDG) 1, in twenty Muslim-majority countries. This study employs pooled OLS, fixed effects, and random effects in its static panel data model analysis. According to empirical research, government expenditure, government spending integrity, and economic growth all significantly affect the rate of poverty reduction. Additionally, inequality of income contributes to rising poverty in nations with Muslim majorities. This study supports the notion that governments promote increasing per capita income in order to achieve economic growth, even though population growth has no bearing on the eradication of poverty. In fact, the two most crucial policy recommendations for the government are to carry out its duties as a government of integrity and distribute funds to sectors necessary for economic and social development, such as infrastructure, health, and education. To ensure fair economic distribution in Muslim communities, governments must also maximize the capacity of Islamic social funds such as zakat and waqf.

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1. Introduction

In realizing the Sustainable Development Goals (SDGs) by 2030, a country's government authorities need to pay attention to and resolve every social and economic problem. In other words, the government should not only be focused on increasing economic growth but also pay attention achieving maximum prosperity. One component of this is solving the problem of poverty (Todaro & Smith, 2006). According to Todaro (1994), the socioeconomic issues that many nations, including developing nations, face include issues with extreme poverty levels, income inequality, unemployment rates, and ensuring that all citizens have equal access to services for their basic needs, including health care, education, clothing, and a healthy place to live.

Poverty eradication is a major concern for developing and developed countries around the world, highlighted by its positioning as SDG 1 within the SDG framework. It is also the driving force for nations' economic and social development (Azhar & Mohd, 2020). Apergis, Dincer, & Payne (2011) note that a high level of poverty is not a problem faced only by developing countries, but that developed countries as well, such as the United States, are still facing serious challenges with poverty. The problem of poverty is also faced by countries with majority Muslim populations (Fatoni et al., 2019), such as Indonesia (231 million), Pakistan (212 million) and Bangladesh (153.7 million), as well as many countries in the African region (World Population Review, 2021).

The goal of poverty alleviation is one of the biggest challenges the world faces. It will require optimal efforts to achieve. To do so, policymakers need to know the main factors influencing poverty and its reduction. One way is through research that can assist in formulating government policies to reduce and even end extreme poverty. Studies which have already been carried out, such as Baloch, Danish, Khan, Ulucak, & Ahmad (2020); Chotia & Rao (2017); Dhrifi, Jaziri, & Alnahdi (2020); Erlando, Riyanto, & Masakazu (2020); Inoue (2018); Masron & Subramaniam (2018); Sulaeman & Sukmana (2023); and Zhang & Naceur, 2019), have conducted research on the determinants of factors that affect poverty rates in various countries. However, this research has not focused on samples from Muslim-majority countries. In addition, the factor of government integrity is rarely discussed and empirically researched.

The authors of this study are motivated to carry out further research related to factors that influence poverty alleviation in Muslim-majority countries. Therefore, the purpose of this study is to empirically determine the effect of economic growth, income inequality, government integrity, and spending on poverty alleviation (especially in the context of SDG 1) in twenty Muslim-majority countries. This study makes a significant contribution to the literature on factors influencing poverty alleviation. The originality of this article is that it uses a sample of twenty Muslim-majority countries and includes the factor of government integrity in efforts

relating to poverty alleviation under SDG 1. Furthermore, this research is expected to produce a more comprehensive analysis and contribute to policy, especially in Muslim-majority countries.

The research structure is as follows. The next section presents a literature review of existing research. Section 3 presents the types and sources of data, research variables, model specifications, and estimation approaches. Empirical results and discussion are presented in Section 4, while Section 5 presents conclusions, recommendations, and limitations of the research.

2. Literature Review

2.1. Theoretical study

The World Bank defines poverty as the inability to fulfill fundamental necessities in order to live at an acceptable level of living (Dhrifi *et al.*, 2020). The common definition of poverty refers to individuals or nations, including Muslim-majority nations, where low wages do not cover even the most basic demands of daily consumption (Sadeq, 1997). Girsang (2011) offers another definition of poverty: the inability to meet a family's fundamental consumption demands, such as their need for food and/or other necessities. People are categorized as impoverished when they are unable to meet their fundamental requirements (Dhrifi *et al.*, 2020). Moreover, Sadeq (1997) outlines how halal and thayyib demands for food, clothes, shelter, education, health care, and even a companion are considered basic needs in the Islamic tradition. Poverty, therefore, if defined broadly as a situation of economic shortage that poses a threat to one's survival, is a multifaceted phenomena (Suryawati, 2005).

Todaro and Smith (2012) explain that low levels of national income, slow economic growth, low income per capita, inequality in income distribution, absolute poverty, a lack of educational opportunities, and limited access to health care are the main causes of poverty, particularly in developing nations. In accordance with Duraesa (2016), there are three types of poverty: (1) poverty with an economic dimension, which is connected to basic needs such as food, clothing, shelter, health, and education; (2) poverty with socio-cultural dimensions, which is connected to the socio-culturally poor with a poor culture, meaning that community weaknesses are brought on by ingrained negative traits like being apathetic, apolitical, or fatalistic; and (3) poverty with a political dimension, which affects how persons with the lowest social ranks are able to live. Therefore, it is reasonable to anticipate that if the poor lack political influence, this will have an impact on their level of material or economic poverty.

There are two international standard measurements of poverty defined by the World Bank (2020). The first is based on per capita income, with people deemed to be below the poverty line if they are surviving on US$1.90 or less per day.

The extreme poor fare worse, earning only US$1.25 or less per day, while those whose income is US$3.10 or above per day are included in the moderate poverty category. The World Bank (2020) also measures the level of poverty using the poverty gap index. This is the ratio showing that the average income of the poor is below the poverty line; this line is defined as half the average household income of the total population.

2.2. Theoretical study

Numerous studies have examined the elements that determine poverty reduction using various samples, methodology, and considerations. However, there are few studies which empirically investigate these elements, particularly when it comes to factors affecting government integrity and a sample of nations with majority Muslim populations. In order to create policies that would successfully aid in the achievement of SDG 1 in countries with Muslim majorities, it is crucial to identify the key factors that determine how to end poverty. The summary of prior research is provided below.

Sulaeman and Sukmana (2023) studied poverty rates in 16 Organisation of Islamic Cooperation (OIC) member countries. They discovered that foreign investment, economic growth, open trade, inflation, and government spending all have a major impact on poverty levels. The findings of this study suggest that in order to address the issue of poverty, the government must take into account all internal and external factors, particularly in OIC member nations.

Emara and Mohieldin (2020) examined the variables that affected the eradication of extreme poverty between 1990 and 2017 in 23 emerging markets and 11 Middle Eastern and North African (MENA) nations. According to the findings of their study, there is a substantial correlation between extreme poverty in the region and gross domestic product (GDP) per capita, trade openness, population size, and mobile subscriptions per 100 people.

The causes of poverty were empirically examined by Fatoni *et al.* (2019) in nine OIC member nations between 2010 and 2016. Their study found a substantial correlation between poverty levels in these nations and government spending on the health sector, income inequality, economic growth, and unemployment. Government expenditure on areas such as inflation, human development, and education were not found to significantly affect the poverty rate.

Erlando *et al.* (2020) examined empirical data to determine poverty alleviation. Their research has concluded that the variable financial inclusion has a significant negative relationship with poverty levels. Additionally, the authors demonstrated that the macroeconomic variables of GDP per capita and education have been shown to be able to reduce poverty rates in eastern Indonesia between 2010 and 2016.

The ordinary least squares (OLS) method was used in empirical testing

by Zhang and Naceur (2019). They used actual evidence to demonstrate a connection between 143 nations' poverty rates, income inequality, and financial progress. According to their research, these countries' levels of financial growth has a big impact on lowering poverty. However, macroeconomic factors like trade and economic growth have a detrimental impact on the poverty rate, whereas inflation and government consumption were found to have little effect.

In addition, research by Chotia and Rao (2017) revealed a substantial correlation between the infrastructure development index and a decline in India's poverty rate between 1991 and 2015. Additionally, both in the short and long terms, GDP growth is significantly related to India's ability to reduce poverty. Another study by Chotia and Rao (2017b), which used the dynamic panel approach, found there is a connection between the infrastructure development index and the reduction of poverty in BRICS nations—Brazil, Russia, India, China, and South Africa.

In nine OIC nations between 2003 and 2013, Putra and Indra (2016) used the Ibnu Khaldun multidisciplinary approach to explore empirical poverty causes. Their empirical research demonstrates a negative correlation between individual income and poverty levels. The unemployment factor has a substantial role in the rise in poverty rates in these nations. Government investment on human development, education, economic disparity, and corrupt practices, on the other hand, has little impact on reducing poverty.

Affandi and Astuti's studies from 2013 and 2014 focused on the factors that influence poverty rates in Muslim-majority countries, such as Indonesia, Pakistan, and Malaysia and Muslim-minority countries, namely India during the period 1995 to 2010. According to their findings, foreign direct investment, human development, and corruption all have a major impact on India's poverty levels, while human development is the only element that affects poverty in Pakistan. In contrast, there are no significant factors that have an impact on poverty rates in other nations (Affandi & Astuti 2013, 2014).

Apergis *et al*. (2011) undertook an empirical investigation of the real causes of income disparity and poverty rates in 50 US states between 1980 and 2004. According to their findings, poverty and income disparity are related throughout both the long and short term. Additionally, there is a connection between short-term unemployment and income disparity. While the corruption variable does not contribute to an increase in poverty, other factors like real per capita income and education level significantly lower the poverty rate.

These studies emphasize macroeconomic factors including inflation, economic expansion, and unemployment. In addition to looking at economic variable variables, our follow-up research also takes into account other aspects like government institutions or government role factors like government spending and honesty. As a result, this study examines both the economic and

governmental aspects of how to solve economic difficulties in nations with Muslim majorities.

3. Method

3.1. Data and Variable Construction

The annual panel data used in this empirical study covers the years 2009 to 2018 for twenty Muslim-majority nation: Albania, Algeria, the Arab Republic of Egypt, Bangladesh, Cameroon, Chad, Comoros, Gabon, Gambia, Guinea, Indonesia, Jordan, Malaysia, Mauritania, Morocco, Mozambique, Pakistan, Turkey, Uganda, and Uzbekistan. This study constrained the data by concentrating on the chosen twenty countries because there was a dearth of information during the study period studied for nations with majority-Muslim populations. The World Development Indicator (World Bank), PovcalNet (World Bank), and the Heritage Foundations Report provided secondary data.

3.1.1. Dependent Variables

Poverty Eradication (POV)

Reduction of poverty is the dependent variable in this study. According to statistics from the World Bank (2021), the percentage of the poor who make less than US$1.25 per day is used to determine the poverty reduction rate. The variable percentage of the poor population is also widely used as a proxy for poverty reduction, referring to previous research, such as Affandi and Astuti (2013, 2014); Emara and Mohieldin (2020); Fatoni *et al*. (2019); Inoue (2018); Mariyanti & Mahfudz (2016); Putra & Indra (2016), and Sulaeman & Sukmana (2023).

3.1.2. Dependent Variables

This study uses five independent variables: real GDP per capita as a proxy for economic growth; Gini index as a proxy for income inequality; government integrity index as a proxy for government integrity; variable government expenditure in general as a proxy for government expenditure; and variable percentage of population growth as a proxy for population growth.

GDP Per Capita (GDPPC)

GDP per capita is the sum of income divided by population as of 2010 (World Bank, 2021c). A natural logarithm is created from the data. The actual variable GDP per capita is used as a proxy variable for economic growth in this study, as in previous studies (Apergis *et al*., 2011; Baloch *et al*., 2020; Emara & Mohieldin, 2020; Erlando *et al*., 2020; Fatoni et al., 2019; Mariyanti & Mahfudz, 2016; Masron & Subramaniam, 2018; Sulaeman & Sukmana, 2023; Zhang & Ben Naceur, 2019). The relationship between economic growth and poverty reduction is negative.

Income Inequality (GINI)

The Gini index is a measure used to assess the degree of total income disparity

in a community (World Bank, 2021a). The Gini index has been used as a proxy for income disparity in previous studies, including work by Apergis *et al.*, 2011; Erlando *et al.*, 2020; Fatoni *et al.*, 2019; Inoue, 2018; Masron & Subramaniam, 2018). The relationship between income inequality and poverty reduction is positive.

Government Integrity (GII)

The government integrity index is a gauge that assesses issues with systemic corruption in government institutions, including the use of bribes. A country's systemic corruption problem is worse when the index value is lower (Terry Miller *et al.*, 2021). As a result of internal issues, the government is therefore said to have low integrity. The relationship between government integrity and poverty reduction is negative.

Government Spending (GS)

Government spending is the amount a government spends as a percentage of total government final consumption expenditures (World Bank, 2021d). National authorities contribute significantly to the welfare of citizens through governmental spending on service such as health and education. Using government consumption variables in research (Zhang & Naceur, 2019). The relationship between government spending and poverty alleviation is negative.

Population Growth (POP)

The annual percentage rise in the population is known as population growth (World Bank, 2021d). The burden on the government will increase along with the population, which includes the number of people living below or close to the poverty line. There are several researchers who have used the variable population growth as one of the factors that influence the poverty rate such as Baloch *et al.* (2020); Dhrifi *et al.* (2020); Emara and Mohieldin (2020). The relationship between population growth and poverty alleviation is positive.

3.2. Model Specifications

The first stage of this study examines the impact of economic growth, income disparity, government spending, and government integrity on poverty reduction rates in Muslim-majority nations using annual panel data from 2009 to 2018. In order to check the consistency of the analytical results from the first stage, we conducted tests based on income groups starting from low income, lower medium income, and upper middle income. The calculated model is shown in the following way:

$$POV_{it} = \beta 0 + \beta 1 lnGDPPC_{it} + \beta 3 GII_{it} + \beta 4 GS_{it} + \beta 5 POP_{it} + \mu_{it}$$

Where POV is a dependent variable related to eradicating poverty; i describes

the 20 cross-sectional Muslim-majority countries; t is the estimation period from 2009-2018; and the other nine variables in the model are independent or explanatory ones for the determination of eradicating poverty. These are lnGDPPC, the log of real GDP per capita; GINI, the Gini index; GII, the government integrity index; GS, government spending; and POP, population growth.

3.3. Model Estimation

This study employs pooled OLS, random effects, and fixed effects techniques for static panel data (Gujarati, 2003; Gujarati & Porter, 2009). Static panel data analysis has a number of benefits, including the ability to manage individual heterogeneity, foresee issues with data multicollinearity, and generate precise estimates of micro-relationships. A unit root test for serial data is run in order to check for stationarity before estimating a panel data model. The second phase involves using static panel data regression, specifically pooled OLS, fixed effects, and random effects, to analyze the impact of economic growth, income disparity, government spending, population growth, and government integrity on the poverty rate. As a result of being unable to draw appropriate conclusions, heterogeneity bias may have developed through a collection of OLS forms. In this case, random and fixed effects models are utilized to describe the unique characteristics of the units.

The Breusch-Pagan LM test is used to determine if conclusions may be formed based on the combined OLS model or the random effects model when choosing the optimal model from static panel data. The effect model is still assessed against the random model using the Hausman test to decide which is most appropriate if the random effects model is determined to be more appropriate than the prior one.

The diagnostic test is used for analysis after choosing the best model in the following order: The correlation matrix and the variance inflation factor (VIF) are employed in the initial analysis to check for multicollinearity. The absence of multicollinearity is shown by the average VIF value being less than 10. In the event that the proper fixed effect model is chosen, the second stage, heteroscedasticity identification, will be carried out. If the probability value for the modified Wald test is less than 0.05, heteroscedasticity becomes an issue. Third, serial correlation was investigated using a Wooldridge test for autocorrelation in panel data. If the probability value is less than 0.05, there may be a correlation issue and the parameter may not be working properly.

4. Results and Discussion

4.1. Descriptive Statistics

Table 1 displays the outcomes of variable descriptive statistics. Observation is the number of valid observations for a variable; Mean is the sum of the variable

values divided by the total number of values and is the most common measure of central tendency; Standard Deviation (St. Dev.) is the square root of variance and measures the spread of a set of observations; Minimum (Min.) is the smallest value of the variable; and Maximum (Max.) is the largest value of the variable. The data was tabulated using STATA software

Table 1. Descriptive statistics of variables

Variables	Observation	Mean	Std. Dev.	Min.	Max.
Poverty Eradication	200	6.903	10.682	0.000	47.070
Real GDP per capita	200	7.664	0.924	6.120	9.620
Gini Index	200	37.615	6.423	27.616	53.997
Government integrity index	200	30.148	9.074	13.400	54.800
Government spending	200	12.718	4.492	3.603	26.471
Population growth	200	2.245	1.046	-0.674	5.432

4.2. Unit Root Test

Testing the panel unit's root is the first step in estimation. To investigate a stationary series or vice versa, the unit root test is mostly used. A variety of panel data unit root tests are available in STATA. The most popular test is the Levin, Lin, and Chu (LLC) test, in which the common stationary root serves as the alternative and the unit root as the null. An alternate step is to run a test that combines the p-values from each individual unit root test using Fisher's (1932) results. Maddala & Wu (1999) and Choi (2001) first proposed such a test, in which the null hypothesis is that the panel has unit roots and the alternative is that the panel does not have unit roots. An asymptotic Chi-square distribution with 2N degrees of freedom can be used to explain the test. The imbalanced handling of the panels was the test's high point. Additionally, the duration of the wait differs throughout different ADF tests. Table 2 lists the outcomes of the panel unit root test, Levin test, Lin Chu test, and ADF-Fisher chi-square. According to these findings, the data is stationary and the statistically significant test at the 0.05 or 5 percent level reveals no unit roots, allowing regression to run the analysis with empirical results.

Table 2. Unit root test results

Variables	Levin, Lin & Chu	ADF- Fisher Chi-square	Final Result
Poverty eradication	-6.71505	68.515	I (0)
	0.000	0.003	
Government integrity index	-3.28534	34.708	I (0)
	0.001	0.707	
Gini index	-7.66272	35.767	I (0)
	0.000	0.096	
Real GDP per capita	-6.72818	54.601	I (0)
	0.000	0.062	
Government spending	-8.24450	57.342	I (0)
	0.000	0.037	
Population growth	-36.5959	221.222	I (0)
	0.000	0.000	

Notes: The test statistics' probability is shown by the figures in parentheses. The ADF-Fisher chi-square assumes an individual unit root process, but the Levin, Lin, and Chu t-null test's hypothesis assumes a common unit root process.

4.3. Correlation Matrix

This study attempts to conduct a correlation test to make sure there are no multicollinearity issues before moving on to the next phase. Based on Table 3, the matrix correlation test findings indicate that there are no significant multicollinearity issues because the correlation between the different variables employed is not very strong.

Table 3. Correlation matrix

	POV	GII	GINI	GDPPC	GS	POP
POV	1.0000					
GII	-0.4129	1.0000				
GINI	0.6948	-0.0297	1.0000			
GDPPC	-0.6433	0.6854	-0.2066	1.0000		
GS	0.1684	0.2887	0.1749	0.2093	1.0000	
POP	0.3381	-0.0821	0.2937	-0.3029	0.0797	1.0000

Note: GDPPC stands for real GDP per capita, GS for government spending, GINI for Gini index, POV for poverty gap index, and POP for population rate.

4.4. Discussion of Static Panel Data Model Findings

To assess the accuracy and robustness of the findings, static panel data techniques such as pooled OLS, random effects, and fixed effects models were used. The estimation of the three models listed in equation 1 is shown in Tables 4 and 5.

Table 4 presents the estimation outcomes of the three different models on static panel data on the influence of the five independent variables on the level of poverty reduction. The following conclusions are drawn from the results of the Breusch-Pagan LM test, F test, and Hausman test: Breusch-LM Pagan's test favors random effects over pooled OLS because its probability value is less than 0.01 (1%). Conversely, pick a fixed effect model for the F-test for the same reason. The next step is to use the Hausman test to determine which of the random and fixed effects models is best. The results of this test often favor the fixed effects model over the random effects model, where the p-value denotes a value lower than 0.01 (1%). To provide a thorough explanation, we will cover all of the findings from evaluating the three static panel data models in this study.

All of the models utilized in this study will also undergo diagnostic testing as part of the ongoing analysis. According to the results of the VIF test, the average VIF value is less than 10, which suggests there is no multicollinearity issue. As a result, the findings of this study demonstrate that the null hypothesis is rejected, which means that the probability value is less than 0.01 (1%), while the results of the tests for heteroscedasticity and autocorrelation suggest that there are heteroscedasticity and autocorrelation issues. Therefore, heteroscedasticity

and autocorrelation issues are fixed using the fixed effects model with a robust standard error.

4.4.1. Main points of findings

Economic growth, as measured by real GDP per capita, has a significant negative impact on the rate of poverty reduction, with a significance threshold of 1% (0.01), according to the findings of the three test models in Table 4. Thus, it can be stated that reductions of poverty are greater in nations with Muslim majorities as GDP per capita increases. These results are consistent with Kuncoro (2000, in Fatoni et al., 2019; Putra & Indra, 2016), who theorizes that rising poverty is caused by low income. Additionally, per capita income is frequently used to gauge a nation's economic development or performance. The welfare of the community can also be indicated via economic growth. The results obtained in this study are in line with the results of previous studies (Apergis *et al.*, 2011; Baloch *et al.*, 2020; Chotia & Rao, 2017a, 2017b; Dhrifi *et al.*, 2020; Emara & Mohieldin, 2020; Inoue, 2018; Mariyanti & Mahfudz, 2016; Masron & Subramaniam, 2018; Putra & Indra, 2016; Sulaeman & Sukmana, 2023; Zhang & Ben Naceur, 2019), which found that there is a significant relationship between income per capita and poverty. As a result, increasing one's income can help to lower the rate of poverty, which can ultimately improve people's welfare.

Additionally, Table 4's results from the pad pooled OLS estimation and the random effect reveal that the income inequality variable, represented by the Gini index, has a positive and statistically significant impact on how much poverty is reduced at a 1% level (0.01). In light of this, it may be said that Muslim-majority countries have higher rates of poverty when there are higher rates of income inequality. These results support the idea advanced by Todaro and Smith (2006), that poverty is a result of a variety of factors, including an unequal distribution of income. These results are also consistent with earlier research that demonstrates that inequality can exacerbate poverty (Apergis et al., 2011; Erlando *et al.*, 2020; Fatoni et al., 2019; Inoue, 2018; Masron & Subramaniam, 2018). High levels of inequality may result in decreased welfare for individuals. According to Masrizal, Mujahidah, Millatina, & Herianingrum (2019), income distribution is essential for attaining community wellbeing, which includes lowering poverty rates. As a result, wealth inequality is a social injustice that has an impact on the number of the poor in developing nations with Muslim majorities.

The estimation findings on pooled OLS and random effects are also shown in Table 4, where the government integrity variable, as measured by the government integrity index, has a significant negative impact on the amount of poverty reduction with a significance threshold of 1% (0.01) to 5% (0.05). In other words, improving governmental integrity can aid in lowering poverty in Muslim majority nations. According to Chapra (2008), government conduct must adhere to shariah

principles, one of which is to refrain from acting dishonestly or from doing things that compromise the integrity of the government. Integrity is the cornerstone of social life since it enables the development of social and economic equilibrium as well as the wellbeing of the populace. Poor human conduct, such as acts of corruption perpetrated by authorities or government agencies, can lead to economic decline and social issues like poverty, and can, in turn, be harmful to society. This result is a new finding because we use the government integrity index variable as a government integrity variable that has a negative and significant effect on the level of poverty. So that this finding is a new finding that is different from the findings conducted by Apergis *et al*. (2011); Fatoni *et al*. (2019); Putra and Indra (2016) who found that there is no significant relationship between government integrity using the corruption perceptions index on poverty level. Therefore, improving government integrity can lower poverty rates in Muslim-majority nations.

Table 4. The impact of all variables on poverty eradication

Variables	Pooled OLS	Random Effect	Fixed Effect
Real GDP per capita	-5.6572***	-6.6727***	-7.7571***
	(0.0000)	(0.0000)	(0.0000)
Gini index	0.9203***	0.4194***	0.1566
	(0.0000)	(0.0000)	0.1870
Government integrity index	-0.1431**	-0.1282***	-0.1385
	(0.0110)	(0.0090)	0.0050
Government spending	-0.4971***	-0.2269**	-0.3965***
	(0.0000)	(0.0390)	(0.0010)
Population growth	0.0078	0.0174	0.0641
	(0.9830)	(0.9700)	(0.8910)
Constant	13.6152***	48.9804***	69.5383***
	(0.0030)	(0.0000)	(0.0000)
Breusch-Pagan LM test		445.11***	
		(0.0000)	
F-test (fixed effects)			11.83***
			(0.0000)
Hausman test		80.74***	
		(0.0000)	
R-squared	0.7848	0.5650	0.3906
Observations	200	200	200
Diagnostic Check			
Multicollinearity (Mean VIF)	1.55		
Heteroscedasticity (x2-stat)		2919.72 (0.000)	
Serial Correlation (F-stat)		88.735 (0.000)	

Notes: Standard errors are denoted by numbers in parentheses. At the 1 percent, 5 percent, and 10 percent levels, ***, **, and * denote significance.

On the basis of estimation results on pooled OLS and random effects, additional

findings are shown in Table 4, where the government spending variable, represented by the percentage of annual government spending rate, exhibits a favorable and significant relationship with the poverty reduction rate at a significance level of 1% (0.01) to 5% (0.05). In other words, lowering poverty in Muslim-majority nations can benefit from higher government investment. Government expenditure is required in order to ensure peace and order, create social and economic infrastructure, and provide access to quality healthcare for all citizens (Chapra, 2008).. According to Todaro & Smith (2006), insufficient access to public resources, such as community health services, can result in poverty. This study is a compelling argument for optimizing government budget allocations for various sectors in order to lower poverty rates in Muslim-majority nations. Therefore, we draw the conclusion that in this study, government spending has a favorable effect on lowering poverty rates in Muslim-majority nations.

Based on the estimation outcomes of three static panel data sets, Table 4 demonstrates that there is no significant relationship between population growth and the poverty rate in Muslim-majority nations. In other words, there is no correlation between population growth and increases in the proportion of the impoverished. This result is consistent with the findings of Dhrifi et al. (2020), who showed that population growth was not a significant factor in the reduction of poverty. These empirical results are most likely to be explained by the fact that Muslim-majority nations are able to manage their population growth so as to have less of an impact on poverty levels.

4.5. Robustness Check

This research also conducted a test based on the classification of income groups, namely the lower income group, the low-middle income group, and the upper-middle income group (See Table 5). We did this test to test the consistency of the previous test results presented in Table 4. Based on the results of testing the static panel data in Table 5, the factors that affect the level of poverty reduction in Muslim-majority countries are economic growth, income inequality, and government integrity.

The amount of poverty reduction in countries with Muslim majorities is found to be significantly influenced by all factors for the group of nations with lower middle incomes. All criteria, with the exception of government spending, are found to have substantial impact on the extent of poverty reduction in Muslim-majority nations for the group of nations with upper-middle incomes. As a result, it can be said that the estimation results based on the classification of income categories are typically consistent with the findings of the study in the previously discussed sub-chapter. We affirm that the study's findings are robust.

Table 5. The Impact of All Variables on Poverty Eradication by Income Group Classification

Variables	(1) Low Income			(2) Lower Middle Income			(3) Upper Middle Income		
	Pooled OLS	Random Effect	Fixed Effect	Pooled OLS	Random Effect	Fixed Effect	Pooled OLS	Random Effect	Fixed Effect
Government integrity index	-0.6499***	-0.6499***	-0.4533***	-0.3188***	-0.1316**	0.0316	-0.0563***	-0.0563***	-0.0050
	(0.0000)	(0.0000)	(0.0010)	(0.0000)	(0.0160)	(0.2850)	(0.0000)	(0.0000)	(0.5050)
Gini Index	1.1777***	1.1777***	0.5872*	0.6804***	0.3189***	-0.3873***	0.0765***	0.0765***	0.0819***
	(0.0000)	(0.0000)	(0.0890)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Real GDP per capita	-26.9738***	-26.9738***	-16.9299*	1.1772	-1.9072	-8.3166***	-0.2708	-0.2708*	-0.4731
	(0.0000)	(0.0000)	(0.0730)	(0.1210)	(0.1010)	(0.0000)	(0.1020)	(0.0950)	(0.1080)
Government spending	0.0916	0.0916	0.3376	0.2990***	0.0097	0.1509	0.0164	0.0163	0.0196
	(0.4570)	(0.4570)	(0.1440)	(0.0020)	(0.9430)	(0.1740)	(0.1020)	(0.4450)	(0.4530)
Population growth	0.8110	0.8110	-1.6628	1.5771***	1.9558***	1.5381***	0.1470***	0.1470***	0.0025
	(0.3480)	(0.3480)	(0.5530)	(0.0010)	(0.0040)	(0.0030)	(0.0000)	(0.0000)	(0.9950)
Constant	162.4164***	162.4164***	126.7524**	-20.4481***	6.2103	73.5415***	2.0874**	2.0874**	1.4330
	(0.0000)	(0.0000)	(0.0330)	(0.0010)	(0.4760)	(0.0000)	(0.0330)	(0.0000)	(0.5670)
R-squared	0.3345	0.3345	0.0435	0.1460	0.5900	0.0120	0.1458	0.0890	0.1506
Observations	60	60	60	80	80	80	60	60	60

5. Conclusion

One of the primary objectives of sustainable development as a worldwide agenda for 2030, including in nations where the majority of the population is Muslim, is the eradication of poverty, identified as SDG 1. To develop effective solutions to address poverty issues, studies and research are required to determine the reasons of poverty levels. This study aims to experimentally investigate the relationship between poverty reduction rates in Muslim-majority nations and economic growth, income disparity, political stability, public spending, and population growth. Data analysis was performed using data from 20 Muslim-majority nations covering the period 2009 to 2018, using a static panel data model. According to the findings of this empirical study, economic growth, income inequality, government integrity, and general government spending are the four primary variables that significantly influence the amount of poverty reduction. Population growth does not significantly affect poverty rates in Muslim-majority nations. According to the findings of the robustness check, we discovered that the study's findings were reliable and consistent when categorized by income group.

5.1. Recommendations

Based on these findings, economic growth achieved through increased per capita income must continue, especially to reduce rates of poverty. Impoverished people in countries with Muslim majority populations can be economically empowered through education and skill-building initiatives that are either adopted or improved. These programs have the potential to increase per capita income due to increased capacity and education. Individual skills and education can promote economic progress and aid in the eradication of poverty.

Additionally, governments must develop policies to lessen the degree of income inequality. One of the primary causes of increases in poverty rates is the income gap. The position of the impoverished can worsen when there is high inequality. In order to make the best use of Islamic social funds like zakat and waqf funds, as well as other social funds that are thought to be able to lessen the amount of economic disparity between the rich and the poor, strong government policies are required. This indicates that more equitable income distribution can be possible with Islamic social financial instruments.

Since trust in exercising leadership is viewed in Islamic teachings as an obligation, governments – as the custodian of that trust in the management of the nation – are required to uphold the principles of honesty and integrity. Integrity is the cornerstone of social life and is essential to achieving social harmony, economic prosperity, and human wellbeing. This means that the actions of governments must adhere to the principles of sharia. Ineffective governance can prevent the wellbeing of the populace from being realized. The state of poverty in Muslim-majority nations can be negatively impacted by governments that engage in acts

of dishonesty, such corruption. Implementing harsh forms of punishment on those who commit acts of corruption, in line with Islamic principles, is a policy that can be implemented to overcome this challenge.

Additionally, governments are required to devote a portion of state budgets to key areas that can increase welfare and lower levels of poverty, including: (1) education through proper instruction; (2) health through access to wholesome food, clean water, and medical facilities; and (3) infrastructure development, including transportation and telecommunications infrastructure, to support the implementation of economic policies. Increasing government expenditure can therefore help to lower poverty in Muslim-majority nations.

5.2. Limitation

This study's primary limitation is the paucity of data on Muslim-majority nations. The sample size of nations can be increased with additional research. Future studies may also include additional factors that could influence the decline of poverty in Muslim-majority nations. To acquire thorough empirical results, analysis using various quantitative techniques can be used.

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