INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN PUBLIC POLICY & GOVERNANCE
www.kwpublications.com
ISSN: 2312-4040

The Impacts of Government Expenditure on Poverty Alleviation in Arab Spring Countries

Mustafa S Almajdob, Osama Albashir Shtewi

To Link this Article: http://dx.doi.org/10.6007/IJARPPG/v9-i1/7436 DOI:10.6007/IJARPPG/v9-i1/7436

Received: *08* January 2023, ***Revised:*** *10* February 2023, ***Accepted:*** *28* February 2023

Published Online: *16* March 2023

In-Text Citation: (Almajdob & Shtewi, 2023)

To Cite this Article: Almajdob, M. S., & Shtewi, O. A. (2023). The Impacts of Government Expenditure on Poverty Alleviation in Arab Spring Countries. *International Journal of Academic Research in Public Policy and Governace*, *9*(1), 57–70.

Vol. 9, No. 1, 2023, Pg. 57 - 70

http://kwpublications.com**/index.php/pages/detail/IJARPPG** | **JOURNAL HOMEPAGE**

INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN PUBLIC POLICY & GOVERNANCE
www.kwpublications.com
ISSN: 2312-4040

The Impacts of Government Expenditure on Poverty Alleviation in Arab Spring Countries

Mustafa S Almajdob, Osama Albashir Shtewi
Elmergib University
Email: msalmajdob@elmergib.edu.ly, obshtewi@elmergib.edu.ly

Abstract
Examining in this study the effects of macroeconomic factors, particularly health and education, on poverty in particular Arab Spring nations over a 15-year from (2000-2014). Finding out how these factors affect poverty is the goal. Panel data analysis is used to gather annual data from 2000 to 2014 for the chosen Arab nations. According to the analysis, in the sample nations, government spending on health (GEH)has a positive relationship and government expenditure on education (GEE) has negative relationships with poverty during the same time period. The findings reveal that between 2000 and 2014, government spending on health had a favorable impact on poverty in the Arab Spring countries, according to the fixed-effects model, as shown by the Hausman test at a 5% level of confidence. Government spending on education, on the other hand, has had a negative, although insignificant, impact on poverty.
Keywords: Poverty, Macroeconomics, Pooled OLS, FEM, REM, Arab Spring Countries

Introduction

In general, poverty is defined as having insufficient money to cover one's basic necessities"(Purwanda, 2022). The United Nations set a new goal in September 2015 to end extreme poverty among those earning less than $1.25 per day by 2030. According to the findings of recent studies, economic growth will be necessary to achieve this universal goal. Despite optimistic viewpoints regarding the pace of economic growth (Bank, 2015; Lakner et al., 2014; Yoshida et al., 2014), The global $1.25 per day headcount will continue between 5% and 7% This statistic shows that in 2013, there was no change in the way that revenue was distributed among nations. This worldwide goal cannot be achieved alone through economic growth. Nonetheless, it appears that a combination of distributional adjustments and growth can lessen poverty.

There are some disagreements over how economic growth affects the reduction of poverty. (Ravallion, 2001; Son & Kakwani, 2008). The amount and distribution of money that governments spend on this issue are the major determinants. Nothing, however, is about to happen to support this viewpoint. Many cross-country econometric studies have looked at the government spending and income poverty, and they have produced some fascinating results. Concerning this matter, (Mosley et al., 2004) believe that poor countries spend just a little and this has no influential impact on poverty. In addition, to (Kwon & Kim, 2014) , Health

spending does not significantly affect outcomes. On the other hand, occasionally it has a detrimental impact. Similarly, according to (Kraay, 2006) , while spending on the "redistribution" component has a considerable impact on the "growth" component, it has little effect on reducing $1-a-day poverty. Yet, depending on the sample and specification used, the amount and significance of government spending on income poverty varies (Wagle, 2012)

A government uses a variety of tactics to spend money and assist the underprivileged. For instance, increasing the amount spent on agricultural research will raise agricultural output. As a result, it aids in lowering poverty. Therefore, as agricultural productivity grows, so does the non-agricultural economy. Then, through the so-called linking effect, rural wages will rise. Together with the above-mentioned causes, government spending on housing, health care, education, and transportation may boost the number of jobs and wages in non-farm sectors, which lowers the poverty rate.

These countries reversed the achievement. Poverty can be caused by a variety of factors. Inability to meet necessary consumption needs is one of the causes. The other is a lack of commercial opportunities that might be seen in more general terms like ethical or social concerns. A UNDP research claims that between 2010 and 2012, the percentage of persons earning less than US$1.25 per day increased from 4.1 to 7.4 percent. Prior to that, the nations, however, had greater success in eliminating poverty. After that, various things, such the political unrest in those nations, caused the improvement to go backwards.

According to (Ravallion, 2001), poverty has various aspects, including political, economic, social, and psychological aspects. In reality, poverty is viewed as hunger, when there is a pain but no money to heal it and people have nowhere to dwell. Because they have no access to educational opportunities, persons in poverty lack literacy. They are unemployed, and the future is terrifying for them. They can be concerned about losing their kids to disease. When people do not feel free, they are helpless and experience poverty.

The extent of communal inefficiency and slow economic growth in the Arab Spring countries will reflect the severity of poverty. Statistics show that around one-third of the people living in these nations are considered to be poor. The degree of poverty in the Arab spring nations is depicted in Figure 1. Yemen has the largest percentage of poor people, according to this.

One of the key reasons for the rise in poverty since the revolution (2010) has been the security turmoil that has come to characterize these nations. As a result, these countries' major economic pillars—oil production and tourism—have decreased, which promotes the growth of terrorism.

The General People's Committee (Prime Minister) established the poverty line in Libya in 2006 at 400 dinars per month (314 dollars). The country's current situation has been taken into account when making the economic improvements. As a result, Libya should reassess its poverty levels, rates, and classifications. People in impoverished nations like Libya may experience the pain of travel and expensive medical costs. Also, there aren't enough heart patients' vaccines and medications. The hospitals are also havinga sugar shortage.

Schools have become displaced zones and are the scene of fights. Long-lasting power outages have a negative impact on communication, and the internet is extremely slow. The streets flood in the winter because sewage channels are being depleted. There are some extremely unsanitary locations. The cost of oil has decreased in Libya. As a result, the production has been disrupted and many people who had been enjoying the "generosity of the state" have fallen into poverty.

The bank points a UN study stating that 435 000 people are internally displaced within the nation. Over 1.3 million people lack access to food. In 2014, about 2.4 million individuals required humanitarian aid. Hence, Libya's instability was a result of the high unemployment rate. A new civil war broke out in May 2014 as a result of significant bloodshed in 2011, and as a result, one-third of Libya's 6.3 million people—2.4 million of whom were poor—were added to the country's population in 2014. There are a variety of factors contributing to Libya's poverty, particularly since the revolution in February 2011. These factors included a weak economy, rising unemployment and inflation, a decline in governmental spending, and a widespread corruption problem.

Following the Tunisian revolution in 2011, the poverty rate decreased. Around 2.46 million individuals in Tunisia were living below the poverty line in 2000, making up about 15.5 percent of the country's total population of 9.699 million. In 2014, the poverty rate was low, making up just 12.7 percent of the overall population. Moreover, Tunisia's income inequality may be seen in the fact that the top 20 percent of earners account for around 46.3% of the country's total revenue. The income of the bottom 20% of the population, in contrast, is only 5.9 percent.

The people who live in the center of Tunisia are more affected by poverty than the people who live on the outskirts of Libya. Egypt now has 24.13 million people living in poverty, up from 10.66 million in 2000. The government spends about ten billion each year on food, water, energy, and fuel subsidies for the underprivileged.

Thee prolonged violence in Yemen has resulted in a terrible humanitarian situation. In 2014, the percentage of people living in poverty nearly reached 60%. Hence, 13.4 million people needed humanitarian aid since they were destitute. 7.3 million people were considered to be in poverty in 2000. Over 26.8 million Yemenis, or about half of the country's total population, were directly impacted by the conflict, and 2.8 million Yemenis were internally displaced.

The amount of poverty increased noticeably when Daesh seized power in the northern areas. The number of displaced persons also increased. Since oil is a major source of revenue for the state budget, the economy was stressed as a result of the drop-in oil prices. Lastly, in just two years, the percentage of the people living in poverty rose sharply from 19.6% in 2012 to 22.5% in 2014.

Although this region's poverty rate is lower than that of other nations like South Asia or Sub-Saharan Africa, it appears that the issue of poverty in this area has not received much attention. Nonetheless, the substantial pockets of hardship are hidden by the great accumulation of wealth. The number of individuals living below the poverty line has increased since the Arab Spring in the least developed nations, including Yemen, Libya, Iraq, Tunisia, and Egypt, which are among the poorest nations in the world. Overall, there was minimal evidence of rising poverty in the nation in 2011. Also, following the Arab Spring, the growth rates in these nations were the lowest. The growth of terrorism and the civil conflict in this region are the primary causes of the poor progress compared to other stable Arab nations.

With the aid of their development partners, national governments in the Arab Spring countries aim to foster sustainable growth and decrease poverty, but specific procedures are needed to do so. To fulfill their growth goals, the governments utilized a number of interventions, including fee, tax, financial, and expenditure laws. Another objective that contributes to economic progress and the eradication of poverty is public spending, particularly on health and education. The effectiveness of the public expenditure goal, however, is crucial and has been abandoned in the modern era as a result of macroeconomic reforms. As a result of growing deficits, governments were under pressure to cut back on

overall spending. Ultimately, the goal won't be able to achieve its objectives if it is not properly centered.

Economic growth as well as increased investment in human capital are required to lower the poverty rate and inequality (Heltberg et al., 2004). The healthcare and education sectors are two crucial ones that can assist Arab Spring nations in achieving their aims. If spending on health care and education can help improve welfare, it is important to consider who is benefiting the most from these expenditures in order to be fair. Together, these objectives can simplify financial transactions and aid in reaching broad objectives and equity between various groups, locations, and genders.

Most governments like enhancing their citizens' well-being and searching for financial resources. Investments in education and research and development may help the economy prosper. Spending on social security and health programs can meet the immediate needs of the poor while ignoring investments in profitable ventures. Equity as well as economic progress are required to lower the poverty rate. So, the government's investment has as its main goal the expansion of these purposes.

The objective of the current study is to investigate the relationship between poverty and government spending on healthcare and education. This relationship in Arab spring countries is investigated by taking advantage of panel data. The organization of this study is as follows: Section 2 includes Literature review, section 3 discusses the model specification and methodology, section 4 comprises empirical evidence and their interpretations, and finally, section 5 is the conclusion.

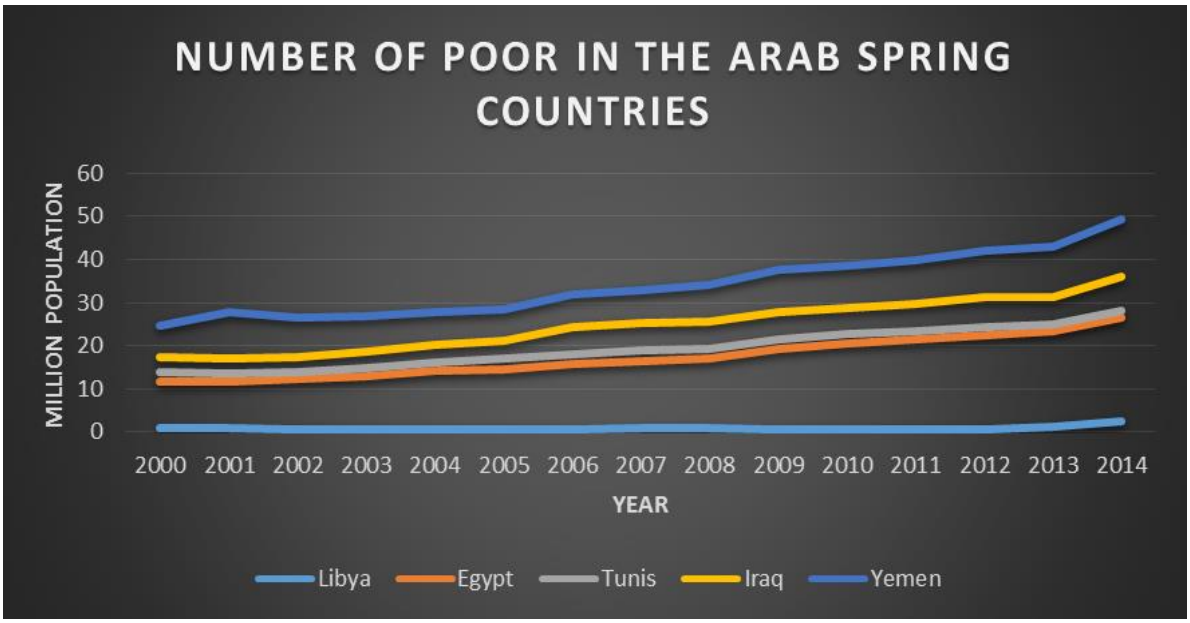

Figure 1: Amount of the poor in the nations of the Arab Spring (2000-2014)
Sources: The World Bank and Arab Monetary Fund

There is no doubt as to who will benefit most from investment on healthcare and education. In order to reduce poverty, spending must be prioritized. Better targeting is needed, nevertheless, to lessen disparity.

Relationship between Public Expenditure and Poverty

The issue of poverty, which is directly related to insufficient public incomes, should always be a top concern in a nation's development. According to Ayoo (2022) claims that the

accessibility issue is the core of the poverty problem. Accessibility refers to a person's or a group's ability to attain or develop a desire to obtain the fundamental necessities that they are entitled to as citizens. Public investments in education and health will provide access to educational opportunities and health services for all members of the community, resulting in a steady increase in the number of healthy human resources (HR).

Theoretical Background

The findings of empirical studies are still up for question, despite the fact that many theoretical studies have maintained that there is a significant association between government spending and the alleviation of poverty. For instance, according to (Sasana & Kusuma, 2018) government spending helps to eradicate poverty. However, Nursini (2019), demonstrated that government expenditure has no impact on reducing poverty.

For a variety of valid reasons, research examining the relationships between income poverty and government spending can be quite challenging. The kind of spending is the first and most important aspect. Government spending on transfers and subsidies will directly reduce the poverty rate. It will decrease as the earnings of low-income families rise. Additionally, it can be subtly diminished if people's nutrition, health, and education improve (McKay, 2002; Mosley et al., 2004; Paternostro et al., 2007) assert that raising low-income families' productivity and earning capacity can aid in eradicating poverty. The government's investments in areas like infrastructure or services like health and education also help to eliminate poverty. (e.g., rural roads, water and sanitation, housing). Given that they lessen income poverty, these characteristics are frequently referred to as "pro-poor."

Because of insufficient targeting, government transfers do not reach the impoverished households in emerging countries. For instance, in Indonesia, more than 80% of the profits from gasoline sales go to the top half of the income distribution (Rhee et al., 2014). Government expenditure on health and education also considerably helped the bulk of urban middle class citizens (Castro-Leal et al., 1999). This suggests that the impact of spending on transfers and other pro-poor initiatives differs by country and is correlated with the goals of expenditure for poor households. On the labor supply or on private transfers that lessen their effects on income poverty, transfers and subsidies have a variety of unexpected repercussions (Cox et al., 2004; Cox & Jiminez, 1993). But, when spending is determined by suitable criteria, the overall effect of transfers and subsidies on income poverty is insignificant.

Poverty may be influenced by how government expenditure is financed (McKay, 2002) The direct income taxes appear to have a direct effect on poverty because those families that are below the poverty threshold are excluded. Yet, indirect taxes are a significant source of income in many different nations. VAT accounts for over 60% of all tax revenue in Latin America. While it is around 40% in OECD nations (Goni et al., 2011) Such taxes can exacerbate poverty given the rising costs of products and services utilized by low-income families. Government spending on money can have the reverse effect on poverty, which drives up inflation (Easterly & Fischer, 2001).

There are many reasons why government expenditure has an impact on poverty, including the manner it is targeted. However, because differing spending patterns have direct, immediate effects on poverty, the outcome may vary depending on the precise moment of investigation. In contrast, certain forms of expenditure only have longer-term, more indirect consequences (e.g., health, education, and infrastructure spending). The severity of poverty can also affect which expenditure patterns are more important for very poor households.

Several researchers have looked into how different government funding categories affect poverty and economic position. Several academics have concentrated on government funding because it has been discovered that gains in health and greater education are strongly connected with economic growth (Bloom & Canning, 2000; Jung & Thorbecke, 2003; Triest, 1997). Several research' findings indicate a connection between mental health problems, drug and alcohol usage, and poverty. As a result, the funding of programs that assist those with these issues should have an impact on poverty (Baingana et al., 2006). Other groups, such as state welfare programs (such as the Temporary Assistance to Needy Families (TANF) program), which focus on low-income families with children, their parents, and carers, may have an impact on poverty (e.g., the Temporary Assistance to Needy Families (TANF) programmer) (Lower-Basch, 2011). The findings of these research suggest that funding programming should target concerns of poverty through the public welfare budget. It might be said that the majority of research on poverty in developing nations concentrated on different sorts of government spending rather than the significant political transformation in some of these nations.

By examining the influence of public spending on healthcare and education on poverty in nations that have seen a total political change, such as Libya, Yemen, Iraq, Tunisia, and Egypt, the current study aims to close a knowledge gap in the literature (Arab spring countries). The researchers also want to know whether public spending in these sectors is comparative progressive, regressive, or neutral.

Study Design

Goaling the study's objectives and providing answers to the research questions is the goal of the research design. A precise specification of the procedures utilized in data collecting, comprehension, and Transportation General Management analysis is required to give a research foundation. The primary goals must to be mentioned as well in order to gather the correct data while resolving the issue. So, picking the right research design is crucial. The current study is supposed to investigate the effects of government expenditure on poverty in Arab Spring Countries. To answer the research questions posed, quantitative data and panel data will be used. Panel data for the period of 2000 to 2014 will be used for the components of government expenditure, namely: government expenditure on health, government expenditure on education.

Research Methods

a. Research Variable

There are two types of variables employed in this study: dependent and independent. The independent variable is the kind of variable that describes or impacts another variable, whereas the dependent variable is the kind of variable that does the opposite. The research's independent variable is the government's budget for education and health care, while the dependent variable is the number of people living in poverty.

1. Government expenditure on education (GEE), measured in billions of dollars for the years 2000 to 2014, is the total amount of government spending that has been realized in Arab Spring nations.
2. The amount of actual government spending on health (GEH) over the 2000–2014 time period in the Arab Spring countries is measured in billions of dollars.

3. The inability to provide for basic needs is referred to as poverty (POV). The data used in this study pertains to poverty in five nations in the Arab Spring Countries (ASC) Province in 2000 – 2014.

b. Types and Data Sources

Due to the use of secondary data, this study employs a multiple regression method using panel data. Data from many sources were used in the analysis. Data for this study were gathered from the World Bank, UNESCO, Arab Monetary Fund, Central Bank of Libya (CBL), Ministry of Planning of Libya, and Ministry of Finance of Libya. These statistics are based on benchmark data that includes information on poverty, government spending on health care, and spending on education. Libya, Yemen, Iraq, Egypt, and Tunisia are the five countries that made up the Arab Spring. Data on the aforementioned variables for each nation are collected for the years 2000 to 2014 in order to conduct the study. There will be 15 time periods and 5 cross-sectional units as a result. 75 observations in all are included in the study. Several panel data model types are used to process the aforementioned data. These three models are the random effects model, the fixed effects model, and the least squares dummy variable (LSDV) model.

COUNTRY	SOURCE
LIBYA	Ministry Planning of Libya, Ministry of Finance Libya, Central Bank of Libya (CBL)and Arab monetary fund
YEMEN	World bank, UNESCO,and Arab monetary fund
IRAQ	World bank, UNESCO,and Arab monetary fund
EGYPT	World bank ,UNESCO,and Arab monetary fund
TUNISIA	World bank, UNESCO,and Arab monetary fund

C. Data Analysis Method

Different individual behaviors across time can be documented by panel data analysis to produce estimation parameters. The following are the details of panel data regression models with individual-specific effects:

$$\boldsymbol{y_{it}=\beta_{1i}} + +\boldsymbol{\beta_2 x_{it}} + \boldsymbol{\varepsilon_{it}} \qquad \mathbf{1}$$

Where y_{it} and x_{it} are respectively independent variable variables for each individual i in period t where i = 1,2, ..., N and t = 1,2, ..., T. ε_{it} is an error term on the panel data regression model. In $\boldsymbol{x_{it}}$ there is as much as K slope (excluding intersept) indicating the number of free variables used in the model. $\boldsymbol{\varepsilon_{it}}$ Individual effects that can be of constant value throughout the period t or even vary for each i-th person. From the model design that has been described previously, then the model to be used in this research is formulated as follows:

$$\boldsymbol{POV_{it}=\beta_{1i}} + +\boldsymbol{\beta_2 GEH_{it}} + \boldsymbol{\beta_3 GEE_{it}} + \boldsymbol{\varepsilon_{it}} \qquad 2$$

In this equation, the terms "POV" stand for "Poverty in Arab Spring Countries," "GEH" refers for "Government Spending on Health," "GEE" stands for "Government Expenditure on Education," and I and "t" respectively.

Result and Discussion

Research

This part is divided into many sections that provide more information on the analysis, discussion, and testing of the study hypothesis as well as the results.

Several test kinds are used in the study to accomplish the analysis. These tests include the Hausman test, the Breusch-Pagan test, Fixed Effects Models, and Random Effects Models. Using Eviews 9, the data is analyzed. Eviews is the best analysis tool for looking at time series data when compared to Statistical Package for Social Science (SPSS).

a. Stationarity test

The initial step is to conduct the stationarity test and this is achieved by running Levin, Lin and Chu (LLC) panel unit root test due to nature of the data as shown in table(1).

Table 1

Stationarity test for Panel Unit Root (Levin, Lin & Chu)

Variables	T.Statistic	P.value	Order **of Integration**
D(POV)	-2.64515	0.0041	FIRST DIFFERENCE
D(GEH)	-3.03464	0.0012	FIRST DIFFERENCE
D(GEE)	-5.23222	0.0000	FIRST DIFFERENCE

Levin, Lin & Chu (LLC) was utilized to assess the stationary of the data in order to empirically confirm that the variables are non-stationary. The outcome shows that all of the variables are non-stationary at all levels; the variables were first differentiated to make them stationary, indicating that they were integrated to order I(1).

b. **Descriptive Statistics (DS)**

In descriptive statistics, raw data had to be transformed into a format that would provide details about a group of circumstances. This is accomplished by arranging and manipulating the gathered raw data. The frequency with which a particular phenomenon occurs, the mean, the median, the maximum and minimum values, the degree of variability in the data set (i.e., standard deviation), and the histograms of the dependent and independent variables are all of great interest at the preliminary stage of a study.

Table 2

POV, GEE, and GEH Descriptive Statistics (DS)

Variables	Obs	Mean	Median	Std.Dv	Maximum	Minimum	Skewness	kurtosis
POV	75	6.780200	6.100000	6.128699	24.13000	0.429000	1.049954	3.327225
GEE	75	2.302348	1.530000	1.954745	8.325540	0.438272	1.640200	4.720912
GEH	75	3.791603	2.320000	3.644728	17.23000	0.399000	1.873499	6.267699

The mean poverty (POV) rate in the Arab Spring countries (ASC) is 6.780200 in the descriptive statistic above. The rate's maximum and minimum values are 24.13000 and 0.429000, respectively. Positive skewing of the data is indicated by the POV's skewness value of 1.049954 and kurtosis value of 3.327225.

The average value of education is 2.302348, which is high compared to its maximum value of 8.325540 and minimum value of 0.438272. Given that skewness is 1.640200 and kurtosis is 4.720912, the data are both normal and positively skewed, indicating that the data is at its peak.

The average government expenditure on health data is 3.791603, with a maximum value of 17.23000 and a lowest value of 0.399000. The data are positively skewed as indicated by the

skewness value of 1.873499, and the kurtosis value indicates that the data is at its highest at 6.267699.

c. Regression Analysis

The chosen macroeconomic variables (GEH, GEE) and poverty (POV) are investigated using the OLS regression model and panel data regression techniques . The null hypothesis for the regression analysis's econometric model states that all macroeconomic variables have an impact on poverty.

$$\boldsymbol{POV_{it=}\beta_{1i} + +\beta_2 GEH_{it} + \beta_3 GEE_{it} + \varepsilon_{it}} \qquad 3$$

The three longitudinal data models—POLS, FE, and RE—are used for estimate after the link between the explanatory variable and the dependent variable has been defined. As a result, the estimation's findings can be condensed using Eviews 9 in the following table:

Table 3
Estimated Effect of GEH and GEE on Poverty in Arab Spring Countries (ASC)

Regressant: POV Regressors:	POLS	FE	RE
GEH	1.459916 (0.0000)	0.842844 (0.0000)	0.859433 (0.0000)
GEE	-1.067615 (0.0002)	-0.373333 (0.2717)	-0.414698 (0.2108)
R-squared	0.587843	0.955209	0.640912
Adjusted R-squared	0.576394	0.951257	0.630938
F-statistic	51.34533	241.6930	64.25404
Prob(F-statistic)	0.000000	0.000000	0.000000
Durbin-Watson stat	0.100403	0.518403	0.502511

1. **F test comparing POLS and FEM**

$$\boldsymbol{POV_{it=}\beta_{1i} + +\beta_2 GEH_{it} + \beta_3 GEE_{it} + \varepsilon_{it}} \qquad 4$$

R^2_{fix}=0.955209, R^2_{pooled}= 0.587843, Independent variables=2, NT=75, N=5

$$F_{groupseffects} = \frac{(0.955209 - 0.587843)/(5-1)}{(1-0.955209)/(75-5-2)}$$

$$F_{groupseffects} = \frac{0.0918415}{6.586911} = 0.01394$$

$\boldsymbol{F_{tabl}(4, 68)} = 2.4472$ And $\boldsymbol{F_{cal}}$ =0.01394

As seen above, Fisher's calculated value is 0.01394, which is less than the value of F table is 2.4472 at the level of 5% means accepting the null hypothesis of the homogeneity of the variables. This shows that the inclusion of the pooled OLS and fixed effect model is more significant in use than the pooled OLS regression model. Thus, the pooled OLS model is suitable.

2. Breusch-Pagan LM Lagrange

The LM test was used to evaluate the POLS model with the Random effects models in order to choose the best model for this study's data analysis (RE).
The table's findings are as follows: (3)

Table 4
Breusch-Pagan LM Lagrange

Test	Statistic	P-value
LM Breusch-Pagan	351.4129	(0.0000)

We reject the null hypothesis in light of the data in the aforementioned table (POLS model is appropriate). Therefore, the decision between the fixed effect model and the random effects model, where we noted that the result of the LM test of the segments was 351.4129, is the suitable model for the examined data.

3. Hausman Test

We ran specification tests to make sure the model was appropriate. The Hausman test first determined if the RE or FE data structure was the most suitable one. If the Hausman test's suggested model was the Random Effect (RE) model.

Table 5
Hausman Test (Fixed Effects Model v/s Random Effects Model)

Null Hypothesis: Random Effects Model is appropriate		
Chi-square statistic	D.F	p-value
0.937553	2	0.6258

The findings of the Hausman test, which was used to decide between the fixed effects model and the random effects model, are shown in the table above (6). The test statistic and p-value make it obvious that the random effects model should be utilized. As a result, the estimation of the model has been done using the random effects model.

Table 6
Random Effects Model Estimation

Dependent Variable: POV				
Variable	Coefficient	Std.Error	t-statistic	Prob
C	4.476350	2.478593	1.806004	0.0751
GEH	0.859433	0.118347	7.261971	0.0000
GEE	-0.414698	0.328460	-1.262553	0.2108

The findings of the random effects model used to estimate the effect of government spending on (health GEH, education GEE) on POV are shown in the table above. POV proxies by POV of the country in current US dollars is one of the model's explanatory variables. Spending by the general government is an explanatory variable. Government health spending has a favorable and large impact on POV. Yet, government expenditures on education (GEE) have a negligible and minor impact on POV.

d. Analysis of the best model estimation results

the equation (5) random effects model results appropriate for study-as shown in the table (5) where are as follows:

$$\mathbf{POV_{it=}} 4.476350 + 0.859433\mathbf{GEH_{it}} - 0.414698\mathbf{GEE_{it}} + \boldsymbol{\varepsilon_{it}} \quad (5)$$

t-Statistic 1.806004 7.261971 -1.262553

R^2=0.640912 ,F-statisitc = 64.25404 , DW = 0.502511, Prob=0.000000

level, the following conclusions can be made

I. Poverty is positively significantly impacted by government health spending (GEH). Accept H_1 The impact of GEH on poverty is favorable.
II. Poverty is negatively impacted in a negligible way by government spending on education (GEE). Accept H_1 GEE has negative effect on poverty.

The equation revealed a positive correlation between the independent variables (GEH) and POV, indicating that each 1% increase in GEH causes an increase in POV of 0.8594%, and a negative correlation between POV and GEE, indicating that any increase by 1% causes a decrease in the percentage of POV of 0.4146%

Because the model has a statistical significance level of 95% and the value of Prob F = 0.00000 less than 0.05, we reject (H0) and accept (H1) based on Table 3. This indicates that at least one independent component (GEH, GEE) can explain the dependent variable.

Table 3 further shows that R^2= 0.640912, which implies that independent variables strongly interpret 64.09% of the dependent variable's value and that 0.36526 of variations in POV are being produced by other variables not included in the model and expressed in $\boldsymbol{\varepsilon_{it}}$.

Conclusions and Policy Implications

a. Conclusion

The relationship between government spending and poverty in developing nations is still up for dispute in the literature. Studies have indicated that government spending reduces poverty (Sasana & Kusuma, 2018), but others showed a negative impact (Nursini, 2019). Moreover, most of the studies conducted in developing countries were focused mostly on factors that affect poverty without taking on consideration specific countries that have experienced the same challenges. No previous to the best of author's knowledge and through search in peer-reviewed databases has empirically explored the important of health and education on poverty in spring Arab countries. Therefore, the present study contributes in a sense that it thoroughly tests the influence of health and education expenditure on poverty by targeting specific countries which experienced huge political change. We believe that the revolution in these countries (Libya, Yemen, Egypt, Tunis and Iraq) has affected the association between government expenditure and poverty. Therefore, based on the results of data analysis and discussion, the conclusion can be drawn as following

1. Government spending on health and education has a combined impact on the poverty rate and can be used to explain the impact of the 64.09% poverty rate.

2. Government spending in the education sector (GEE) has a negative and insignificant effect on poverty rate in Arab spring countries (ASC), Health sector government expenditure (GEH) has a positive relationship to poverty but has the significant effect, this is because very low education budget is allocated by governments in Arab Spring Countries (ASC).

b. Policy Implications

1. Governments must allocate at least 25% of their budgets for education to Arab Spring nations, particularly to the regions with the highest rates of poverty. This will help to hasten the reduction of poverty.
2. Regions with high poverty rates are supposed to by governments to allocate a minimum health not less than 15% of the general budget of Arab Spring Countries each year
3. The community will become more impoverished as a result of wars, particularly those in these nations where oil production has stopped and the so-called Islamic state has begun to appear.

Reference

Ayoo, C. (2022). Poverty reduction strategies in developing countries. *Rural Development-Education, Sustainability, Multifunctionality*.

Baingana, F., Alem, A., & Jenkins, R. (2006). Mental health and the abuse of alcohol and controlled substances.

Bank, W. (2015). Global Monitoring Report 2014/2015 : Ending Poverty and Sharing Prosperity.Washington D.C: World Bank.

Bloom, D. E., & Canning, D. (2000). The health and wealth of nations. *Science, 287*(5456), 1207-1209.

Castro-Leal, F., Dayton, J., Demery, L., & Mehra, K. (1999). Public social spending in Africa: do the poor benefit? *The World Bank Research Observer, 14*(1), 49-72.

Cox, D., Hansen, B. E., & Jimenez, E. (2004). How responsive are private transfers to income? Evidence from a laissez-faire economy. *Journal of Public Economics, 88*(9-10), 2193-2219.

Cox, D., & Jiminez, E. (1993). Private transfers and the effectiveness of public income redistribution in the Philippines: Boston College Department of Economics.

Easterly, W., & Fischer, S. (2001). Inflation and the Poor. *Journal of Money, Credit and Banking*, 160-178.

Goni, E., Lopez, J. H., & Serven, L. (2011). Fiscal redistribution and income inequality in Latin America. *World development, 39*(9), 1558-1569.

Heltberg, R., Simler, K., & Tarp, F. (2004). Public spending and poverty in Mozambique. *Debt relief for poor countries*, 209-240.

Jung, H.-S., & Thorbecke, E. (2003). The impact of public education expenditure on human capital, growth, and poverty in Tanzania and Zambia: a general equilibrium approach. *Journal of Policy Modeling, 25*(8), 701-725.

Kraay, A. (2006). When is growth pro-poor? Evidence from a panel of countries. *Journal of development economics, 80*(1), 198-227.

Kwon, H. J., & Kim, E. (2014). Poverty reduction and good governance: Examining the rationale of the Millennium Development Goals. *Development and Change, 45*(2), 353-375.

Lakner, C., Negre, M., Prydz, E. B., & Negre Rossignoli, M. (2014). Twinning the goals: how can promoting shared prosperity help to reduce global poverty? *World Bank Policy Research Working Paper*(7106).

McKay, A. (2002). *Assessing the impact of fiscal policy on poverty*: WIDER Discussion Paper.

Mosley, P., Hudson, J., & Verschoor, A. (2004). Aid, poverty reduction and the 'new conditionality'. *The Economic Journal, 114*(496), F217-F243.

Nursini, N. (2019). Poverty alleviation in the context of fiscal decentralization in Indonesia. *Economics & Sociology, 12*(1), 270-368.

Paternostro, S., Rajaram, A., & Tiongson, E. R. (2007). How does the composition of public spending matter? *Oxford Development Studies, 35*(1), 47-82.

Purwanda, E. (2022). Analysis of the Effect of Government Spending on Development Economy and Poverty Reduction in Indonesia. *Budapest International Research and Critics Institute-Journal (BIRCI-Journal), 5*(2).

Ravallion, M. (2001). Growth, inequality and poverty: looking beyond averages. *World development, 29*(11), 1803-1815.

Rhee, C., Zhuang, J., Kanbur, R., & Felipe, J. (2014). 5 Confronting Asia's rising inequality. *Inequality in Asia and the Pacific*, 79.

Sasana, H., & Kusuma, P. (2018). Government expenditure and poverty in Indonesia. *KnE Social Sciences*, 142–153-142–153.

Son, H. H., & Kakwani, N. (2008). Global estimates of pro-poor growth. *World development, 36*(6), 1048-1066.

Triest, R. K. (1997). Regional differences in family poverty. *New England Economic Review*, 3.

Wagle, U. R. (2012). The economic footing of the global poor, 1980–2005: The roles of economic growth, openness and political institutions. *Journal of International Development, 24*, S173-S197.

Yoshida, N., Uematsu, H., & Sobrado, C. E. (2014). Is extreme poverty going to end? An analytical framework to evaluate progress in ending extreme poverty. *An Analytical Framework to Evaluate Progress in Ending Extreme Poverty (January 1, 2014). World Bank Policy Research Working Paper*(6740).