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AN EMPIRICAL INVESTIGATION INTO THE CONTRIBUTION OF FOREIGN AID TO ECONOMIC GROWTH IN DEVELOPING COUNTRIES: EXPLORING THE ROLE OF DEMOCRACY

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ABSTRACT

The significance of the study lies in the fact that this study will enable developing countries to find the benefits that they can get by establishing and strengthening democratic institutions in order to augment the positive effects of foreign aid for their economic growth. This study aims to explore the role of democracy in determining the effectiveness of foreign aid in economic growth. This study utilizes the growth rate of real GDP as an explained variable while foreign aid (FAID), official development assistance (ODA), Political regimes (DEM), gross capital formation (GCF), real financial consumption expenditures (GFCE), and Consumer price index (CPI) are used as explanatory variables. For this, the present study uses the panel data of selected developing countries for the period of 2006 to 2018. The results of the generalized method of moments (GMM) indicate that foreign aid is not beneficial for the economic growth of selected countries whereas, democracy is favorable for higher economic growth. When foreign aid is granted to democratic countries, it accelerates economic growth. Hence, the policy makers of donors' institutions should consider the democratic attributes to make decision about foreign aid towards developing countries.

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INTRODUCTION

Economic growth is an exciting chapter of economics. The key challenge for humanity is how to achieve sustainable economic growth and improve the living standards of people. With the passage of time, Income differences among countries are growing (Howitt, 2000). The rationale behind this divergence is the difference in economic growth. Most of the Western countries have experienced higher economic growth during 19th and 20th centuries, whereas the majority of eastern economies faced stagnant economic growth in that period (Acemoglu et al., 2005a). A gap emerged in the living standard of people during that duration. The challenge is that how to fill this gap. Higher economic growth is crucial to remove the disparities and improve the living standards in developing countries. Endogenous growth theory emphasizes the significance of physical capital in attaining sustainable economic growth (Aghion et al., 1998). When economies expand, then human skills improve, and knowledge accumulation escalates. So increase in physical capital enhance the productivity of inputs and accelerate economic growth. But the shortage of savings limits the stock of physical capital (Solow, 1956).

Foreign aid diminishes the savings-investment gap and enhance the stock of physical capital (Selaya and Sunesen, 2012). It enables domestic countries to import capital goods that improve productivity and accelerate economic growth. But

the majority of countries relying on foreign aid did not move their economies on the path of sustainable economic growth. So the challenge is to explore why the countries fail to fully utilize foreign assistance to accomplish desired economic growth. Romer (1986) priorities externalities to compensate for the reduction in the returns to capital. Investment in public infrastructure (Barro, 1990), human capital (Lucas, 1988), and institutions (North, 2016) are the fundamentals of externalities that enhance economic growth. Among these, the institutional environment contributes significantly to sustainable economic growth (Acemoglu et al., 2001; Easterly and Levine, 2003). The institutional framework consists of economical as well as political dimensions. But the political framework is the key to the transition of economies on economic growth (Gamble, 1995; North, 2005).

In a democratic system, the rules of transparency are applied in society (Gorwa and Garton, 2020). A political system based on democracy uses the funds obtained from foreign assistance for long-term benefits (Finkel et al., 2007). They spend these funds on education and health, which enhance the accumulation of capital and promote human capital (Besley and Kudamatsu, 2006). An increase in human capital leads to higher economic growth in the long run (Savvides and Stengos, 2020). In the autocratic regime funds are used for short-term

benefits such as conflict management to protect their government (Magaloni, 2006). When short-term benefits are preferred over long-term benefits, it does not contribute significantly to sustainable economic growth.

Some people challenge the view that democratic governments make efficient use of resources in developing economies. The possibility is that the myopic behavior of politicians and influential self-interest groups make the provision of resources in a suboptimal way. People argue that democratic governments prefer instant consumption instead of profitable investment to accomplish the popular demands of the public. Moreover, democracies cannot be enveloped by the benefits of rent-seekers and are unable to employ the resources capably, and democracies are inclined to conflicts due to ethnic, social, and class struggles. At the same time, authoritarianism contributes to repressing conflicts, repelling sectional interests, and taking powerful measures necessary for economic growth. There are inclusive results about the role of the political structure in attaining higher economic growth. So the purpose of this study is to check the effectiveness of foreign aid for economic growth conditional upon the political structure that consists of democratic and autocratic regimes.

Furthermore, developing countries have lack of physical capital, which limits achieving the desired economic growth. Foreign aid injects the capital into the market and diminishes the financial constraint that is helpful to obtaining economic growth. In this scenario, a positive relationship was observed between foreign aid and economic growth (Kargbo, 2012; Hotouom, 2015; Mohapatra et al., 2016; Nyoni and Bonga, 2017). Solow (1956) examined the role of physical capital in economic growth. The inflow of foreign funds increases the stock of physical capital, which improves human capital and is beneficial for long-run economic growth. But there are many countries that rely on foreign aid for many years and could not able to achieve economic independence. So foreign aid does not play an important role in economic growth (Fashina et al., 2018; Kolawole, 2013; Ramadhan et al., 2016). The reason is that diminishing returns of capital inflow of foreign funds does not increase economic growth. Some studies favour the hypothesis that foreign aid reduces economic growth (Onyibor et al., 2018; Stojanov et al., 2019). Thus it remains inconclusive to examine the role of foreign aid for desired economic growth.

Corruption, economic inefficiency, and improper economic policies have been highlighted in the literature that reduces the effectiveness of foreign aid for economic growth. Tavares (2003) observed that a rise in foreign aid decrease corruption. Okada and Samreth (2012) examined that the effectiveness of foreign aid to reduce corruption is more significant in less corrupt countries and depends on the conditions set by the donors' countries. Mohamed et al. (2015) observed that foreign aid reduces corruption, but the effectiveness of foreign aid in reducing corruption is more in high corrupt countries. There is a close link between the quality of institutions and corrupt practices. Strengthening economic as well as legal institutions limit corrupt practices (Lawal, 2007).

Along with economic and legal institutions, the political structure is the main contributor to the effectiveness of foreign aid for higher economic growth. Acemoglu et al. (2005b)

observed that institutional quality is the main cause of economic growth. Improvements in the institutional quality enhance inputs productivity and higher economic growth (Acemoglu et al., 2010). Political institutions are crucial to the availability and effectiveness of foreign aid (Tingley, 2010). Political regimes based on democracy enhance the attractiveness of foreign donors to start different projects in low-income countries (Apodaca, 2017). On the other hand, when the political system is based on democracy, then it improves the allocation of resources and enhances economic efficiency (Stroup, 2007). Some people argue that the inflow of foreign aid enhances corruption and deteriorates political stability (Steinwand, 2015). In comparison, others believe that foreign aid strengthens political and economic institutions and reduces corruption (Asongu and Jellal, 2013). Wright and Winters (2010) observed that foreign aid is effective conditional upon the causal link between the political structure to economic growth. In the case of the endogenous growth hypothesis, it asserts the effectiveness of foreign aid in changing the factors that contribute to economic growth.

Existing literature focuses on the effectiveness of foreign aid in the context of the quality of legal and economic institutions but ignores the significance of political institutions in the effectiveness of foreign aid. Some people favor the democratic regime to explore the effectiveness of foreign aid for economic growth. On the other side, Krueger (1974) and Comeau (2003) have observed that autocratic governments do not come under the pressure of different organizations and do not waste their time in negotiations. The autocratic government spends its money on long-term projects because they do not need to attract people by spending money on short-term projects. So they believe that an autocratic regime is suitable for higher economic growth. Hence, there is no conclusion regarding the role of political regimes in the determination of the effectiveness of foreign aid for economic growth. So, this study is an attempt to explore the effectiveness of foreign aid for economic growth by exploring the role of political institutions in developing countries.

Economic growth is the main tool to enhance the living standard of people in the world, but it remains low in many countries, especially in developing nations. The reason is that there is a lack of domestic physical resources to enhance economic growth. So, the countries rely on foreign resources and attain aid to fulfil the shortage of physical resources. The previous literature highlights that, in many cases, foreign aid is not effective in raising economic growth. The reason for this ineffectiveness is the misuse of foreign aid, which occurs primarily due to the political structure of a country. There is a need to study the role of political structure to improve the effectiveness of foreign aid for economic growth.

METHODOLOGY

This section is devoted to the description of the data and the methodology employed to analyse it.

Econometric Model

Econometric model for the present study is given in Equation 1. It is constructed to examine the effect of foreign aid and political regimes on economic growth in developing

countries. This model is based on the work of Arndt et al. (2015).

$$GDPG_{it} = \alpha_0 + \alpha_1 FAID_{it} + \alpha_2 DEM_{it} + \alpha_3 GCF_{it} + \alpha_4 GFCE_{it} + \alpha_5 CPI_{it} + \alpha_6 GFAID * DEM_{it} + u_{it} \quad (1)$$

Where economic growth is used as a dependent variable. It is in the log form that reduces the effectiveness of the outlier and makes the distribution well behaved. In the above model, 'i' denotes the number of cross-sections ($i = 1, 2, \dots, 40$) and 't' denotes the number of time period ($t = 2006, 2007 \dots 2018$). Foreign aid (FAID) is an explanatory variable, and official development assistance (ODA) is used as a proxy variable to check the effectiveness of foreign aid for economic growth. Political regimes (DEM) show the role of democracy, and the democracy index was used to observe its role in economic growth. Different indicators are used to measure the democracy index, such as the electoral process, the function of government, political participation, political culture, and civil liberties. The value of the democracy index lies between 1 to 10, and a higher value of the index indicates a more democratic regime.

Other control variables include log of gross capital formation (GCF), log of real financial consumption expenditures (GFCE), and Consumer price index (CPI). Along with these explanatory variables, an interaction term is introduced in the model, which shows the effectiveness of foreign aid in democratic regimes. Foreign aid and democracy index interacted to capture their combined effect on economic growth. Data for the democracy index was taken from International Country Risk Guide (ICRG), while economic growth, real final consumption expenditures, consumer price index, and gross capital formation was obtained from world development indicators (WDI). The data consists of the period from 2006 to 2018 that include a sample of 40 developing countries (Appendix A).

Unit Root Test

Panel unit root test was employed in the study to test the stationarity of the variables. It informs us about the appropriate technique for regression analysis. Philips Peron test (PP test) was applied for this purpose. The general form of the test is as follows:

$$Y_{it} = \rho_i Y_{i,t-1} + z'_{it} \gamma_i + \varepsilon_{it} \quad (2)$$

Where; $i = 1, 2, \dots, T$ and $N = 1, 2, \dots, N$; Y_{it} shows the variable being tested and ε_{it} is the stationary error term and z_{it} shows the panel specific means.

In the panel unit root test null hypothesis $\rho = 1$ was tested against the alternative hypothesis of $\rho < 1$. Equation 2 is modified in the following version to test the null and alternative hypotheses in the unit root test.

$$\Delta Y_{it} = \phi \rho_i Y_{i,t-1} + z'_{it} \gamma_i + \varepsilon_{it} \quad (3)$$

$H_0: \phi_i = 0$ There is no problem of unit root and data is stationary

$H_1: \phi_i \neq 0$ there is problem of unit root and data is stationary.

Philips Peron test (PP test) was used to examine the significance of unit root problem in the data set. The advantage

of Philips Peron is that it is feasible in the existence of the problems of autocorrelation and heteroscedasticity and preferable to check the stationary of variables in the context of cross section dependence in the variables.

A dynamic panel model was used in the study where the dependent variable is based on its lag value and other explanatory variables. The purpose of the inclusion of the lag of dependent variable in the model specification to control the problem of endogeneity in the model. So, it was used as an instrument in the model to control endogeneity. Levin et al. (2002) observed that first difference is not appropriate when the data set is small. SYS-GMM is beneficial to control the problems of omitted variable bias, unobserved panel heterogeneity and control measurement error. The general form of model described as follows:

$$GDPG_{it} = \alpha_{it} + \gamma GDPG_{i,t-1} + \sum_{p=1}^p \beta_p Z_{it}^p + \sum_{q=1}^q \beta_q Z_{it}^q + \sum_{r=1}^r \beta_r Z_{it}^r + \varepsilon_{it} \quad (4)$$

$$E_{it} = v_{it} + e_{it}$$

In this model $GDPG_{it}$ indicates the log of real GDP growth rate that is a dependent variable. $GDPG_{i,t-1}$ describe the lag of GDP growth rate. z_{it} represents the other predictor variables such as final consumption expenditures, gross fixed capital formation and inflation. There are some unobserved growth specific factors that were denoted by v_{it} and e_{it} . System GMM was used to remove the small sample bias in the model. The study uses the system GMM proposed by Arellano and Bover (1995) and Blundell and Bond (1998) to enhance the difference GMM by employing the system of equation with a level equation to solve the weak instrument problem. In the level equation, variables instruments with their own first differences and need for further instruments to enhance the efficiency. The efficiency of the equation under estimation is improved if moment conditions of its level form and the differenced forms are combined (Roodman, 2009). The system GMM works on a strong assumption that the first-differenced instruments used for the variables in levels should not be correlated with the unobserved country fixed effects (Asafo et al., 2019).

RESULTS AND DISCUSSION

Descriptive statistics of the study variables are presented in Table 1. The value of standard deviation for foreign aid (ODA) highlights that there is excessive variation in the data set. The mean value of democracy index is (3.74) which reveals that the level of democracy is very low in the selected countries. The most democratic country has achieved a score of 4.41, which depict that neither country has achieved medium level of democracy (i.e., 5). The value of standard deviation for economic growth is not too high that elaborates that there is not many differences in economic growth among the countries. Table 2 talks about the stationarity of the variables. It is helpful to obtain unbiased results by employing suitable econometric techniques to find the coefficients. The results revealed that all the variables are stationary at the level or first difference.

Table 1. Summary statistics of the panel data.

Variable	Obs.	Mean	Std. Dev.	Min	Max
GDP	519	24.16	1.60	21.26	28.66
ODA	510	19.88	3.17	1.32	23.15
DEMO	520	3.74	.41	2.71	4.41
GCF	508	22.75	1.71	19.17	27.62
GFCE	509	22.15	1.57	19.14	26.42
CPI	512	4.72	.31	3.99	6.79

Note: The selected variable description is directed in Appendix B.

Table 2. Panel Unit Root Results.

Variable	Inverse chi-squared	p-value
<i>GDP</i>	163.26	0.000
<i>ODA</i>	266.56	0.000
<i>DEMO</i>	118.99	0.003
<i>GCF</i>	169.53	0.000
<i>GFCE</i>	140.50	0.000
<i>CPI</i>	180.77	0.000

Note: P-values indicate that all variables are statistically stable.

The results of Phillips Peron (PP) test indicate that the null hypothesis of non-stationary is to be rejected against the alternative hypothesis because the p-value is less than .05 for all selected variables. Table 3 informs about the significance of different variables for economic growth in developing countries. The first column talks about the explanatory variables included in the model that affect economic growth. Column 2 highlights the results of pooled OLS, whereas column 3 shows the results of SYS-GMM, which confirms the robustness of the estimated parameters. The sign for the coefficient of lag GDP is positive which shows that the growth rate of the previous year significantly affects the current economic growth in developing countries (Kisman, 2017). The sign for foreign aid is negative which highlights that foreign aid has a negative effect on economic growth (Asongu

& Nwachukwu, 2016). The reason is that foreign aid act as a substitute for domestic savings and investment (Niyonkuru, 2016). The donor countries also interfere in the economic policies of recipient countries which deteriorate economic growth in the long run (Akramov, 2012).

Mostly, foreign aid is given to developing countries for the unproductive purposes of accelerating inflation and is not beneficial for economic growth (Adelman, 2000). The positive sign of the democracy index shows that as the level of democracy improves, then countries achieve higher economic growth. The reason is that in democratic regimes, the government is accountable to its citizens and uses efficient allocation of resources (Ribot, 2004). Better allocation of resources moves the economy on the path to higher economic growth (Bjornskov & Foss, 2016).

Table 3. Regression Results: Economic Growth is a dependent variable.

Variables	Pooled OLS	Sys. GMM
<i>Constant</i>	0.585*** (0.000)	-9.785* (0.060)
<i>GDP (-1)</i>	0.955*** (0.000)	0.860*** (0.000)
<i>ODA</i>	-0.015** (0.029)	-0.499** (0.037)
<i>DEMO</i>	0.113** (0.015)	2.884** (0.043)
<i>ODA*DEMO</i>	0.006** (0.017)	0.151** (0.030)
<i>GC</i>	0.036*** (0.000)	0.106*** (0.009)
<i>GFCE</i>	0.004 (0.480)	0.076** (0.040)
<i>CPI</i>	-0.015*** (0.003)	-0.079*** (0.008)
<i>Countries</i>	40	40
<i>Observations</i>	456	454
<i>F-stat (p-value)</i>	0.000	0.000
<i>AR_2 (p-value)</i>	-	0.299
<i>Sargan Test (p-value)</i>	-	0.267

Note: P-values reported in parentheses, statistical significance at the 10%, 5%, and 1% levels are indicated by *, ** and ***, respectively. Hausman test is used to check the endogeneity.

The coefficient of the interaction term is positive, which highlights that if foreign aid is given to democratic countries, then it results in higher economic growth (Alemu & Lee, 2015). The major object is that when funds of foreign aid are transferred to developing countries, then it deteriorates economic growth, but if these funds are transferred towards the countries where a better democracy, then it enhances economic growth. In the regimes of democracy, foreign aid funds are used for productive purposes because the government takes votes from the people to sustain its political power (Lancaster, 2008).

Evidence revealed that in autocratic regimes, the government used funds for their self-interest instead of people's interest (Butkiewicz and Yanikkaya, 2006). So, it generates inefficiency in the market and deteriorates the level of economic growth. Gross fixed capital formation and consumption expenditures have a positive effect on economic growth, whereas inflation negatively affects economic growth.

CONCLUSIONS AND RECOMMENDATIONS

This study was intended to explore the effect of political regimes in the determination of the effectiveness of foreign aid for economic growth in developing countries. This study utilized System GMM for estimation. The results of this study revealed that foreign aid is not beneficial for economic growth because it acts as a substitute for domestic savings, and countries make inefficient use of resources. On the other hand, a country achieves higher economic growth if it improves its democratic attributes. As the score of the democracy index improves, then it accelerates economic growth because the democratic government is accountable to the people and allocates resources efficiently. The results confirm the hypothesis that as foreign aid is given to democratic countries, then it is beneficial for economic growth. So the autocracy is the main obstacle to the effectiveness of foreign aid for economic growth. Based on our findings, this study recommends that donor agencies should distribute foreign aid to the countries based on their democracy scores. More aid should be allocated to countries faring better at their democracy scores.

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Appendix A. List of Countries.

MENA (8)	Africa (28)		South Asia (4)		
Algeria	Benin	Guinea	Namibia	Sudan	Bangladesh
Egypt	Botswana	Kenya	Niger	Tanzania	India
Iran	Burkina Faso	Lesotho	Nigeria	Togo	Pakistan
Jordan	Burundi	Madagascar	Rwanda	Tunisia	Sri Lanka
Lebanon	Cameroon	Malawi	Senegal	Uganda	
Morocco	Chad	Mali	Sierra Leone	Zimbabwe	
Oman	Congo	Mauritius	South Africa		
Saudi Arabia		Mozambique			

Appendix B. Variables List.

Variable	Description
<i>GDP</i>	Log of Real GDP
<i>ODA</i>	Log of Official Development Assistance
<i>DEMO</i>	Democracy Index
<i>GCF</i>	Log of Real Gross Capital Formation
<i>GFCE</i>	Log of Real Final Consumption Expenditures
<i>CPI</i>	Consumer Price Index

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