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FOREIGN AID AND HUMAN DEVELOPMENT IN DEVELOPING COUNTRIES: ROLE OF INSTITUTIONAL QUALITY

Saadia Ali, Zainab Jehan, and Sadia Sherbaz[1]

Abstract

Foreign aid purportedly plays a pivotal role in providing financial and technical assistance to developing countries. Early theories of economic development also point to an affirmative role of foreign aid in economic development. However, the effectiveness of foreign aid is still an empirically ambiguous question due to existence of evidence for and opposed to the aforementioned theories. This study is an empirical effort to examine the effectiveness of foreign aid for human development indicators namely life expectancy, secondary school enrolment, and per capita income both directly and through the mediating effect of institutional quality. As institutions determine the country's ability to effectively allocate the incoming resources and negotiate better conditionality with the donor therefore, it is hypothesized that institutions help in strengthening the affirmative impact of foreign aid on human development. In order to investigate the validity of our hypothesis, we have used a panel of 65 developing countries by using dynamic panel data estimation technique. The results signify the need of institutional reforms for rendering aid as an effective tool for human development in developing countries.

Key Words: Foreign Aid; Institutional Quality; Human Development

JEL Classification: F35; O15; E02; E22

1. INTRODUCTION

After the Second World War, the new bipolar world faced the challenge of developing the newly decolonized states which forms the basis for development economics. Starting with the Marshall Plan, foreign economic assistance became a major instrument for stimulating economic growth. It was believed that developing states are ensnared in the low-level equilibrium trap. Hence, a significant resource influx in the short run is needed to propel the economy towards a higher equilibrium and a sustainable growth path. The theory of Big Push stipulates that this resource influx would have to come from abroad (Rosenstien-Rodan, 1961 and Nelson, 1956).

The, aforementioned, resource influx can take the form of trade surplus, foreign investment, public debt or foreign aid. The state of affairs in a developing country does not allow it to bank on foreign exchange coming from trade, since international demand for country's exports is unpredictable. Further, Prebisch

[1]Authors are respectively research analyst at Commodity Inside, Assistant Professor and Lecturer in the Department of Economics, Fatima Jinnah Women University, Rawalpindi, Pakistan.(Email of corresponding author: zjehan@fjwu.edu.pk)

(1962) and Singer (1950) assert that the declining terms of trade for developing countries' exports makes the resource inflow stemming from trade unreliable. To attract foreign investment developing countries at time have to introduce significantly high repatriation rates, leading to a possibility of net resource outflow in the long run. Debt, its availability and terms of credit depend on country's credit rating, which for developing countries tend to be low. Hence, when a developing country has to rely on debt, it comes at a significant cost in the form of interest payment. Finally, on the surface, foreign aid seems like a pretty good arrangement. It is a resource transfer for which developing countries tend to be particularly adept.

Foreign aid does not have pre-requisites like human capital, infrastructure or diversified production portfolio but is generally, directed towards developing countries that lack all that. It allows countries to allocate without worrying about repayment, which makes it a very attractive form of resource inflow. It adds to the current stock of resources, fills the domestic resource gap by providing means to finance public sector investment in social services including health and education leading to improvements in overall wellbeing. Foreign aid is also expected to provide means to supplementing foreign exchange gap. The resulting high-tech imports are expected to stimulate technology transfer resulting in better health and education technologies leading to higher levels of human development (Chenery and Strout, 1966; Mohamed and Mzee, 2017).

That said, foreign aid does not come free. In fact, the term 'aid' is a misnomer for resources transferred through non-commercial means. In the post-colonial bipolar world, foreign aid was a tool to exert political influence on foreign and economic policy. To date, most developed countries direct resources to developing countries for their own economic or political interests. This is done through various implicit or explicit forms of conditionality. Countries that agree to adopt a particular type of political or economic arrangement, follow a security regime that favors the interests of the donor, or have a natural resource base, tend to get more foreign aid than other developing countries (Alesina and Dollar, 2000). The conditionality can potentially hamper foreign aid's ability to bring about meaningful change.

Aid effectiveness has, therefore, been a much debated issue, especially where it concerns human development. Sundberg *et, al.* (2006) explain that, based on the evidence, most of the aid directed towards Sub-Saharan Africa went to the nations facing civil war and domestic unrest. Therefore, much of the aid is lost due to political unrest and armed conflicts. Bourguignon and Leipziger (2006) stipulate that a major proportion of aid is wasted on unnecessary and poorly executed projects owing to conditionality attached to it[2]. However, we are of the view that

[2] This is not to say that there is some international conspiracy taking place against the developing world, however, as the false paradigm model stipulated foreign nations do not have the requisite understanding of issues and needs in developing countries owing to cultural, demographic and social differences. Even with the "best" intention, foreign aid may be directed towards non-priority allocations.

the subpar conception and implementation of these projects may also be attributed to poor institutional quality.

Bourguignon and Sundberg (2007) present aid effectiveness as a form of black box. It is virtually impossible to identify what "the marginal dollar of aid" is allowing us to achieve especially in terms of human development. The authors point out that the final development outcome depends on the policy adopted. The choice and effectiveness of policy itself depends on two factors: institutional quality and resource availability. Foreign aid is a major source of the resources for development policy. However, without supportive good quality institutions aid might not prove effective in achieving the development targets. In fact, the conditionality accompanying for economic assistance may actually do more damage than good (Lohani, 2004).

Keeping in view the aforementioned studies, we have attempted to assess the effectiveness of foreign aid for human development, directly as well as through its interaction with institutional quality. Therefore, we introduce a conceptual exploration of aid and institutional quality interaction in explaining the state of human development

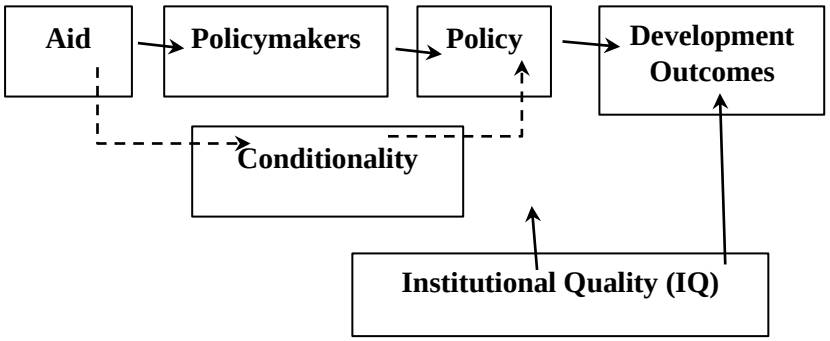
1.1. Aid, Institutions and Human Development: A Conceptual Exploration

On the surface, relationship between aid and human development is quite straight forward. However, the channel through which aid translates into human development is much more complex. Bourguignon and Sundberg (2007) present the issue in a more comprehensive manner. Development outcomes depend on the policies being followed by the government. Aid affects the decisions of policymakers through conditionality. As explained above, this conditionality is generally imposed without knowledge of ground realities and priorities of the recipient nation. Therefore, aid and conditionality attached to it may lead to policies that put national priorities like health, education and general well-being on the back foot which implies that aid may not deliver any considerable impact on the human development.

This link between foreign aid and human development, however, depends on the quality of institutions that how institutions channelize aid towards human development. Institutional quality can affect policy and development outcomes through two distinct channels. Firstly, good quality institutions constrain the behavior of policymakers by increasing accountability. This means that the ability of the policymakers to act in their personal interest is strictly restrained and they remain answerable for any important policy decisions. It implies that in the presence of good quality institutions, policies will be more effective in achieving inclusive development by giving priority to health and education. Secondly, good governance, stability, democratic and judicial accountability restrict policymakers from accepting aid without first evaluating its impact on domestic policy environment and issues of national importance. Any conditions that may direct resources away from venues of national interest like human development may actually be rejected. Therefore, only the aid that can be readily

allocated towards human development like health and education would be accepted. Further, good quality institutions can also reduce kickbacks and wastage of resources during implementation of development strategy by the bureaucracy, rendering aid allocation more efficient in achieving far reaching development objectives.

Figure 1 Aid, Institutions and Human Development



As it is described above that institutions can be of greater importance to enhance effectiveness of foreign aid towards human development. Therefore, there is a need to examine the impact of foreign aid on human development in presence of institutional quality. According to our knowledge, there does not exist any study which has examined the role of institutional quality in the aid-human development relationship, therefore, to fill this gap, this study primarily assesses the impact of foreign aid on human development in the presence of institutional quality over the time period of 1984-2014 for 65 developing countries. The mediating role of institutional quality is captured by introducing an interaction of institutional quality index with foreign aid. The interaction term helps in identifying the impact of foreign aid on human development conditional at various levels of institutional quality. Alternatively, it identifies whether the impact of foreign aid on human development alters due to institutional quality or not. Thus, the important contribution of this study is that it not only estimates the direct but also the conditional impact of foreign aid on human development. Secondly, earlier studies have mostly focused on one indicator of human development i.e. per capita income while ignoring other indicators. This study has incorporated all three dimensions of human development to evaluate the impact of foreign aid. Finally, instead of using the consolidated human development index (HDI), we prefer to take three of its dimensions separately. The rationale for doing so is that it helps in identifying the relative effectiveness of foreign aid for each aspect of human development, separately. As these dimensions represent three different aspects of social and economic sectors, foreign aid is directed in a different manner to each of these aspects. Therefore,

it is pertinent to examine the impact of foreign aid on these dimensions of human development separately. Hence, it enables us to empirically assess whether the aid imparts similar impact on each dimension of human development, or it has differential impact. Also, this exercise will also exhibit in which case the mediating role of institutional quality is stronger and/or weaker. This cannot be achieved by taking consolidated measure of HDI as the favorable/adverse impact of foreign aid on human development does not identify where and to what extent the aid needs to be institutionalized in order to improve its effectiveness. For empirical assessment, this study incorporates three indicators of human development, namely per capita income (PCI) for capturing living standard, secondary school enrollment (SSE) for human capital and life expectancy (LE) to cover the aspect for health status. To capture the role of institutional quality, three indicators i.e. bureaucracy quality, law and order and control of corruption are used for constructing the IQ index by following the methodology of Knack and Keefer (1995).

The rest of the paper is organized as follows: section 2 presents a brief overview of the existing literature, section 3 describes methodology and data, section 4 discusses the empirical findings followed by section 5 which concludes the study and provides some policy suggestions pertaining to the findings of the study.

2. LITERATURE REVIEW

Foreign aid and institutional quality can be of great importance for human development of developing countries. The assessment of the impact of foreign resources on human development is still in embryo; likewise, there is also a need to understand the efficiency of institutions in determining the foreign aid influence on human development.

Theoretically, aid allocated to different developing countries serves several objectives such as: economic growth, poverty reduction, and increase in government spending on health and education etc. It can affect human development through two channels: through accelerating economic growth, and through increasing government expenditures. Aid can elevate economic growth which in turn helps to reduce poverty or to promote welfare. The effect of aid via growth is an important channel for human development, as the specific households cannot be targeted by the donors to give their money, rather they can only affect poverty by targeting aggregate income (Collier and Dollar, 2002). Aid can also directly finance government spending, which can improve the average welfare even if it is not directly targeting the poor households. If this public spending is directed towards health, education, sanitation and water etc. then aid can transmit its effect on poverty reduction and thus improves the welfare level (Gomanee et al., 2003; Addison et al., 2005).

Burnside and Dollar (1998) alluded to the role of good governance in enhancing effectiveness of aid in positive health outcomes. Gomaneeet al., (2003) inspected the relationship between aid, public spending and human development for 81

developing countries. The results of the study depicted that aid was associated with higher levels of human welfare through a positive association with pro-poor government expenditures. Bhaumik (2005) corroborated these results and found a positive impact of foreign aid on education and health aspects; however, the positive impact was only significant for the short run implying that poor state of governance in Africa may be responsible for little to no long term impact of foreign aid on education and health outcomes. Fielding et al., (2007), Hammarstr and Sundsmyr (2013), Ustubici and Irdam (2012) and Reiter and Steensma (2010) examined the impact of foreign assistance on human development by using different measures for human development including HDI, life expectancy, infant mortality rate, literacy rate, per capita GDP etc. Foreign aid was also captured by using multiple indicators such as; IBRD and IDA, humanitarian aid, technical cooperation etc. All these studies found a positive impact of foreign aid on human development providing a reason that aid is generally allocated for the social services, which enhances the capabilities required for human development.

Conversely, Boone (1996) believed that aid has little to no impact on development as poverty for the most part is not an outcome of capital shortage. Therefore, aid is not the solution of social problems. Pedersen (1996) further, augmented that foreign aid can distort development policy. Lohani (2004) and Williamson (2008) found the negative link between foreign aid and human development. Moreover, Wahedi (2011) also found a negative impact of foreign assistance on life expectancy which provided the explanation that external resources are not beneficial for developing countries. McGillivary and Noorbakhsh (2007) further elaborated that human development is negatively affected by foreign aid under autocracies, giving credence to the idea that effectiveness of aid is contingent upon the type of institutions. The more checks and balances are there on the power of executive, more effective would be foreign economic assistance in achieving human development. Lehnert et al., (2013) found an insignificant impact of foreign aid on human development establishing that in the absence of political capacity, the impact of foreign resources on the human development cannot be realized.

As far as the link between institutions and human development is concerned, human development theories majorly start with the contribution of capability approach of Sen (1999) which explains that government choices and policies play a vital role in fostering human development. Mosleyet al.,(2004) have shown that aid's impact on human welfare of recipient country is indirect, giving credence to the existence of a mediating role of institutions. On the empirical grounds, various studies (Shuaibu and Timothy, 2016; Balcerzak and Pietrzak, 2015; Assadzadeh and Pourqoly, 2013; Gohou and Soumare, 2012; Catrinescu et al., 2009; Batuo and Fabro, 2009; and Dollar and Kraay, 2003)have analyzed the impact of institutional quality on different measures of human development (GDP per capita, life expectancy and education). These studies found a positive impact of institutional quality on human development.

A brief overview of the literature establishes two significant observations. Firstly, impact of aid on human development remains ambiguous, giving credence to the idea that there are venues to be explored in this particular relationship. Secondly, the existing empirical literature does not explicitly examine the role of institutions in determining the nature of relationship between aid and human development. Therefore, we have taken up the task of empirically exploring the role of institutions in explaining the impact of aid on human development in developing countries.

3. METHODOLOGY AND DATA

To capture the multidimensional nature of human development, there is a need to separately study various facets of human development. This will help us in ascertaining the effect of foreign aid and institutions in a more comprehensive manner. Our basic model takes the following form:

$$Y_{it} = \alpha_0 + \gamma_1 Y_{it-1} + \gamma_2 Aid_{it} + \gamma_3 IQ_{it} + \sum_{j=1}^{n} \alpha_j X_{j,it} + \mu_{it} \quad (1)$$

$$Y_{it} = \beta_0 + \delta_1 Y_{it-1} + \delta_2 Aid_{it} + \delta_3 IQ_{it} + \delta_4 (Aid * IQ)_{it} + \sum_{j=1}^{n} \beta_j X_{j,it} + \vartheta_{it} \quad (2)$$

where $'i'$ refers to the i^{th} country (i = 1,2,3,….,65) and $'t'$ to time period (t = 1984-2014). $Y_{it}$is the vector of indicators of human development while Y_{it-1} is the lagged value of the respective indicator of human development. We have considered three facets of human development, namely living standards, human capital/education, and health, measured as per capita income (PCI), Secondary School Enrolment (SSE), and Life Expectancy (LE), respectively.$Aid_{it}$is the foreign aid as percentage of GDP. $IQ_{it}$is the consolidated index of institutional quality. The indicator for institutions incorporates three institutional quality attributes namely, bureaucratic quality, law and order, and control of corruption and the weighted average methodology of Knack and Keefer (1995) is used to construct the institutional quality index. In addition to the focus variables, each indicator of human development is regressed against its fundamental determinants ($X_{j,it}$) to ensure validity and also to avoid the omitted variable bias. Particularly, for PCI model, we use trade openness as percentage of GDP (TO), log of total labor force (LF), gross fixed capital formation as percentage of GDP (GFCF), and log of real exchange rate (LRER), respectively. For the SSE model, the variables considered are trade openness as percentage of GDP (TO), log of total labor force (LF), per capital income (PCI), and Govt. expenditures as percentage of GDP (GEXP), respectively. Finally, the model for the life expectancy is estimated by using per capita income (PCI), Govt. health expenditures as percentage of GDP (HEXP), and fertility rate (FR), respectively.

The nested model given in Equation 1 is estimated as a baseline model in order to check the robustness of other results as well as to comprehend the impact of

institutions more clearly. Further, in the second model given in Equation 2, an interaction term between foreign aid and institutional quality index $[(Aid * IQ)_{it}]$ is incorporated to assess the mediating role of institutions in the relationship of foreign aid and human development. Alternatively, the interaction term captures the conditional impact of foreign aid on different measures of human development at various levels of institutional quality. All the estimations are carried out by using two step system GMM estimation technique developed by Arellano and Bond (1991) and later extended by Blundell and Bond (1998).

The data on foreign aid and control variables are accessed from World Development Indicators (WDI) published by the World Bank. Institutional Quality dataset is obtained from the International Country Risk Guide (ICRG). The panel comprises of data of 65 developing countries from the year 1984 to 2014. Finally, labor force and real exchange rate are included in log form while other variables are incorporated without any transformation.

4. DISCUSSION ON EMPIRICAL RESULTS

The empirical findings for each aspect of human development are given in this section. Empirical results are reported in Tables 1-3. Table 1 lists the estimates of per capita income, Table 2 presents the estimates of secondary school education, and Table 3 highlights the empirical findings of life expectancy. In each table, we first present the estimates without taking into account the mediating role of institutional quality and later, by introducing the role of institutional quality through interaction term in the relationship of aid and various indicators of human development. For the sake of brevity, we will only discuss the results of Model 2.

4.1. Foreign Aid and Per Capita Income: Role of Institutional Quality

We first discuss the estimates for the first indicator of human development, namely per capita income. Table 1 reports the direct (Model 1) and conditional (Model 2) impact of aid on human development. Panel A of the table displays the empirical estimates while panel B lists the diagnostics.

The estimates of our study report an adverse impact of foreign aid on per capita income growth implying that an increase in foreign aid reduces human development in developing countries. This is in contradiction to theories on foreign aid which have always advocated the favorable impact of foreign aid on economic growth. For instance, according to Morrissey (2001), aid is an investment in human and physical capital and it is also linked with the transfer of capital and technology which stimulate economic growth. On empirical grounds, the results are in harmony with those of Brautigam and Knack (2004) and Burnside and Dollar (2000). According to Griffin (1978), and Griffin and Enos (1970), increase in foreign aid reduces the capacity and capability of government to generate funds through revenues and taxes. Domestic savings in public sector are also disrupted by foreign aid. So, it does not ensure the enhancement of

growth or income in developing countries. Furthermore, Nyoni (1998) argues that increase in foreign aid may become a cause of Dutch disease, due to which domestic currency appreciates and domestic products become expensive. This reduces exports and ultimately domestic production.

Our next focus variable is institutional quality index for which the findings reflect that institutional quality portrays a positive impact on per capita income as shown in both the columns of Table 1. Balcerzak and Pietrzak (2015) also observe that institutional quality enhances market efficiencies and lowers the cost of transaction, thereby increases per capita income. Furthermore, competition is promoted under legal regulation which further intensifies the efficiency in labor market, thus productivity increases.

Recently, there is a great deal of concern in identifying the factors which can accelerate the favorable impact of foreign aid or transform the adverse impact to favorable. McGillivray et al., (2006) identify various channels which determine the effectiveness of foreign aid such as returns to aid, external and domestic economic conditions, political conditions and institutional quality. In this study, we focus on institutional quality in order to capture its mediating role in the aid and income relationship. Empirically, this is achieved by introducing an interaction term of aid and IQ index $(Aid * IQ)$. As depicted in column 2, the interaction term shows a positive and significant coefficient which implies that the adverse impact of foreign aid turns positive by incorporating the role of institutional quality. Alternatively, it conveys that institutional quality helps in transforming the adverse impact of foreign aid into favorable for per capita income in developing countries. It also shows that institutional quality ensures the productive use of foreign aid because a good institutional system establishes an interaction between political and economic environment through which efficient development breeds (Fabry and Zeghni, 2009).

Notably, by combining the direct and conditional impact of foreign aid $(\delta_2 + \delta_4)$, it is observed that the overall impact foreign aid remains negative (-0.003+0.001 = -0.002), however, the size of the adverse impact reduces to some extent. This indicates that the negative impact of foreign aid on per capita income decreases as the institutional quality improves in developing countries. This finding also stresses the importance of good institutions for channeling foreign aid to more productive usage in order to acquire higher per capita income.

Moving towards other determinants of income per capita, GFCF portrays a significant and positive impact on per capita income. These results are supported by the study of Akpolat (2014) and Blomström and Kokko (2003). Similarly, the coefficient of labor force is also found to have a positive impact on per capita income. These results are in harmony with the findings of Basdevant (2009). Furthermore, trade openness also inflicted a positive and significant impact on income per capita. These results are verified by the findings of Busse and Koeniger (2015) and Dollar and Kraay (2003). Krugman (1979), Young (1991) and Bernard et al., (2003). These studies explain that trade becomes a source of efficient allocation of resources by allowing a country to acquire

economies of scale. It also nurtures the technological advancement and encourages the competition not only in domestic markets but also in international markets which leads to innovation and development.

Table 1: Foreign Aid and Per Capita Income: Role of Institutional Quality

Panel A: Estimates	**Dependent Variable: PCI**	
Variables	**Model 1**	**Model 2**
$INC_{l1PPPCA}$ PCI	0.988*** (0.000)	0.943*** (0.00)
AID	-0.001* (0.06)	-0.003** (0.03)
AID×IQ		0.001* (0.09)
IQ	0.006* (0.08)	0.011* (0.08)
TO	0.001** (0.02)	0.001** (0.01)
LF	0.022** (0.04)	0.059** (0.05)
GFCF	0.002** (0.02)	0.006* (0.07)
LRER	0.000 (0.98)	0.052 (0.16)
Panel B: Diagnostics		
AR(2)	0.01	0.02
p-value	(0.99)	(0.98)
Hansen test	53.94	47.50
P-value	(0.29)	(0.45)

***Note**: Table reports GMM estimates of foreign capital flows and per capita income over the period 1984-2015 for 65 developing countries. The estimation uses 1-4 lags of some exogenous variables as well as endogenous variables. TO, LF, GFCF, LRER refers to Trade openness as percentage of GDP, Log of Total Labor force, Gross Fixed Capital Formation as percentage of GDP, and Log of Real Exchange Rate, respectively. AID×IQ= interaction term of foreign aid and Institutional Quality Index to capture the conditional impact of foreign aid on PCI through IQ index. ***, **,* denotes significance at 1%, 5% and 10 % level of significance. In Panel A, parenthesis contains p-values of the respective coefficients.*

4.1. Foreign Aid and Life Expectancy: Role of Institutional Quality

Life expectancy is taken as the second indicator of human development in our study. The results report that aid imposes an adverse impact on life expectancy with statistical significance at 5 percent level of significance. These results are confirmed by Mucuk and Demirsel (2014) as the non-productive use of foreign

resources creates hurdles in the process of development rather than enforcing a positive impact on the society. Kanbur (2000) also states that aid acts an obstacle in the development process as it creates dependence on foreign resources and weakens government's administration.

Next, institutional quality exhibits a positive impact on life expectancy. This implies that improvement in the quality of institutions helps in improving life expectancy in developing countries. These findings are in lined with those of Nasreen et al., (2012). Governance is the crucial factor in improving health status. Governance is the crucial factor in improving health status. Good quality institutions tend to cater for the needs and concerns of the masses. The most crucial of those needs is the low cost delivery of effective healthcare. This would lead to improvement in life chances and hence, life expectancy. According to Sen (2008), if government provides good opportunities to individuals, such as health, then their capabilities increase, through which their welfare level also improves.

To take into account the role of IQ in foreign aid and life expectancy relationship, an interaction term of IQ and foreign aid is introduced. The positive coefficient of the interaction term reveals that the negative impact of foreign aid gets mitigated when the role of institutional quality is factored in. It indicates that, in the presence of good quality institutions, foreign aid is productive for life expectancy. In other words, the adverse impact of foreign aid diminishes as the quality of institutions improves in developing countries. As it is stated by Mucuk and Demirsel (2014), non-productive use of foreign aid imposes adverse impact on human development rather than giving any benefit. These results are confirmed by the findings of Nasreen et al., (2012) who find a positive impact of institutional quality on life expectancy as good institutional environment brings governance which improves administration, funds allocation and health related facilities, thus improving life expectancy.

However, the combined impact of foreign aid through institutional quality on LE is negative (-0.399+0.061 = -0.338). Notably, the size of the adverse impact in presence of institutional quality is smaller than the direct adverse impact of foreign aid on LE. Hence, it can be concluded that the intensity of adverse impact of foreign aid on life expectancy reduces when the role of IQ is introduced. The negative overall impact indicates that the quality of institutions is still limited, and institutional set-up still lacks development in developing countries, so the focus should be on further enhancing the quality of these institutions.

As far as other determinants are concerned, results show that income per capita has favorable impact on life expectancy. These results are in accordance with those of Audi and Ali (2016). They point out that higher per capita income increases household's purchasing power and it gives a rise to health status, in the long run. Government health expenditures are also positively related with life expectancy. These results are in accordance with the findings of Shuaibu and Timothy (2016),Nasreen et al., (2012) and Navarro et al., (2006). The coefficient of fertility rate appears to affect life expectancy negatively. This negative relationship can be explained by disposable income theory according to which

reproduction is associated with high metabolic and energetic costs (Kirkwood and Austad, 2000). According to Dribe (2004), women's health depletes with the reproduction of large number of children as it is physically demanding. This can also be understood by antagonistic pleiotropy theory, which says that the genes where reproduction rate is high in early life, they are associated with high risk of diseases and life expectancy (Kuningas et al., 2011). Moreover, these results are validated by the findings of Novak et al., (2015).

Table 2: Foreign Aid and Life Expectancy: Role of Institutional Quality

Panel A: Estimates	**Dependent Variable: Life Expectancy**	
Variables	**Model 3**	**Model 4**
AID	-0.0654** (0.04)	-0.3995** (0.03)
AID×IQ		0.0612* (0.07)
IQ	0.8738** (0.04)	0.5406* (0.07)
PCI	0.3236*** (0.01)	0.3015*** (0.00)
HEXP	2.090** (0.03)	2.131** (0.02)
FR	-3.51*** (0.00)	-3.84*** (0.00)
Panel B: Diagnostics		
AR(2)	0.45	0.39
p-value	(0.65)	(0.69)
Hansen test	56.63	55.60
P-value	(1.00)	(1.00)

***Note**: Table reports GMM estimates of foreign aid and life expectancy over the period 1984-2015 for 65 developing countries. The estimation uses 1-4 lags of some exogenous variables as well as endogenous variables. PCI, HEXP, FR refers to Per Capital Income, Govt Health expenditures as percentage of GDP, and Fertility Rate, respectively. AID×IQ= interaction term of foreign aid and Institutional Quality Index to capture the conditional impact of foreign aid on Life expectancy through IQ ***, **,* denotes significance at 1%, 5% and 10 % level of significance. In Panel A, parenthesis contains p-values of the respective coefficients.*

4.2. Foreign Aid and Secondary School Enrollment: Role of Institutional Quality

Moving towards the impact of foreign aid on the third indicator of human development namely secondary school enrolment, we observe that aid has a positive impact on secondary school enrollment. These findings imply that an increase in foreign aid leads to increase in human capital measured through secondary school enrolment. As documented in the literature, aid is channelized through two important ways; firstly, by directly targeting government spending,

this enhances government ability to increase spending in social sector development such as education and health which further improves standard of living. Secondly, foreign aid can also be used to generate growth through which human development is indirectly targeted (Collier and Dollar, 2002; Gomanee et al., 2003). To reduce the drop-out rates, aid can also be directed in a number of interventions, like, classroom construction, scholarship programs, school feeding programs, curriculum development etc. (Riddell and Nino-Zarazua, 2016). In addition, Michaelowa (2004) and Dreher et al., (2008)also provide the support for positive impact of foreign aid on school enrollment.

The impact of institutional quality also appears as favorable for secondary school enrolment implying that an improvement in the quality of institutions increases human capital (secondary school enrolment). Good institutions ensure the availability of physical and financial infrastructure in order to improve the education level. These results are affirmed by the findings of Shuaibu and Timothy (2016) and Heckman (2000). According to Sen (1999, 2008), the capabilities through which an individual can perform better depend upon good institutional rules, laws and policies. Moreover, state is responsible for creating opportunities for individuals through which their development increases.

In order to examine the role of institutional quality in the relationship of foreign aid and SSE, we introduce an interaction term of IQ and foreign aid. The coefficient of the interaction term has a positive sign and is statistically significant. The positive sign of the interaction term indicates that institutions help in improving the impact of foreign aid on SSE. Shuaibu and Timothy (2016) report that good institutions provide funds and improve administration in education sector. By combining both the direct and conditional impact of foreign aid on SSE ($\delta_2 + \delta_4$), it is observed that as the institutional quality improves, foreign aid helps in increasing school enrolment. This finding suggests that good institutions facilitate the appropriate allocation of foreign aid and ensures check and balance on the functioning of aid induced projects for education sector.

Among other variables, Table 3 shows that trade has positive but insignificant impact on secondary school enrollment. These results are in contrast with those of Simplice (2013) and Mughal and Vechiu (2009). In particular, Rabbanee et al., (2010) state that trade openness becomes a source of providing employment opportunities and improving wage conditions of individuals, therefore, improve the school enrolment. Furthermore, labor force has also imposed positive impact on secondary school enrollment, however, it remains insignificant. The positive impact is confirmed by the Basdevant (2009) as labor force increases household's income which improves human capital. Similarly, an increase in income per capita has a positive impact on secondary school enrollment. These results are supported by the study of Obowna and Ssewanyana (2007), providing the reason that higher income increases the opportunities for individuals through which they can acquire better educational and healthcare facilities. The coefficient of PCI turns out insignificant in Model 2. Government expenditures have a positive and significant influence on secondary school enrollment. The results are confirmed

by Ustubici and Irdam (2012) and Adenutsi (2010). According to Gomanee et al., (2003), higher government spending increases human development as government spending directly finances education, healthcare, water and sanitation through which human welfare level escalates.

Table 3: Foreign Aid and Secondary School Enrollment: Role of Institutional Quality

Panel A: GMM Estimates	**Dependent Variable: SSE**	
Variables	**Model 1**	**Model 2**
SSE_{l1}	0.977***	0.970***
	(0.00)	(0.00)
AID	0.115*	0.175**
	(0.07)	(0.02)
AID×IQ		0.008*
		(0.09)
IQ	0.678***	0.557**
	(0.00)	(0.03)
TO	-0.006	-0.037
	(0.71)	(0.13)
LF	0.026	0.085
	(0.87)	(0.65)
PCI	0.172***	0.016
	(0.01)	(0.75)
GEXP	0.174***	0.106**
	(0.01)	(0.02)
Panel B: Diagnostics		
AR(2)	-0.56	-1.06
p-value	0.57	0.29
Hansen test	29.05	45.63
P-value	0.75	0.61

***Note**: Table reports GMM estimates of foreign capital flows and education measured as secondary school enrolment over the period 1984-2015 for 65 developing countries. The estimation uses 1-4 lags of some exogenous variables as well as endogenous variables. TO, LF, PCI, GEXP refers to Trade openness as percentage of GDP, Log of Total Labor force, Per Capital Income, and Govt. expenditures as percentage of GDP, respectively. AID×IQ= interaction term of foreign aid and Institutional Quality Index to capture the conditional impact of foreign aid on SSE through IQ.*

****, **,* denotes significance at 1%, 5% and 10 % level of significance. In Panel a, values in parenthesis are the standard errors. In Panel A, parenthesis contains p-values of the respective coefficients*

The diagnostic tests given in Panel B of each table show that the p-value of AR (2) is insignificant implying the acceptance of null hypothesis and thus, we conclude that there is no second order autocorrelation in any model. Since the p-value of Hansen/Sargen test is below or equal to 1, which exhibits that the instruments are valid, and it also implies that all the instruments are exogenous.

4.4. Marginal Effect of Foreign Aid at various levels of Institutional Quality

As it is observed in Table 1 and Table 2, the impact of foreign aid on income per capita and life expectancy is not favorable unless the quality of institutions is taken into consideration. This necessitates the idea to find out the threshold value of IQ at/beyond which the adverse impact of foreign aid turns to positive.It is important to note that the threshold value is relevant when the direct impact of a variable is adverse on the dependent variable while the conditional impact is positive or vice versa. Therefore, computation of threshold value is only relevant for two indicators of human development i.e. PCI and LE models. As in case of SSE, the aid itself appears to have favorable impact, therefore, it is not relevant to compute the threshold level of institutional quality beyond which aid can impart positive impact on SSE.

The threshold value of IQI is computed by taking the first order condition of Equation 2 with respect to the variable "Aid" and therefore, we get

$$Y_{it} = \beta_0 + \delta_1 Y_{it-1} + \delta_2 Aid_{it} + \delta_3 IQ_{it} + \delta_4 (Aid * IQ)_{it} + \sum_{j=1}^{n} \beta_j X_{j,it} + \vartheta_{it} \quad (2)$$

$$\frac{\partial Y_{it}}{\partial Aid_{it}} = -\delta_2 + \delta_4 (IQ)_{it} \quad (3)$$

Setting FOC equal to zero, $\delta_2 = \delta_4 (IQ)_{it}$ and threshold value of IQ is obtained as: $\frac{\delta_2}{\delta_4} = (IQ_{it})$

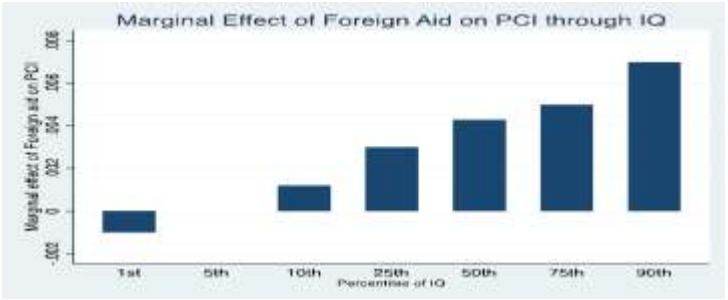
Hence, the threshold value of IQ is computed by taking the ratio of δ_2 (coefficient of Aid) and δ_4 (coefficient of the interaction term) as reported in Model 2 of Table 1 and Table 2 for PCI and LE, respectively

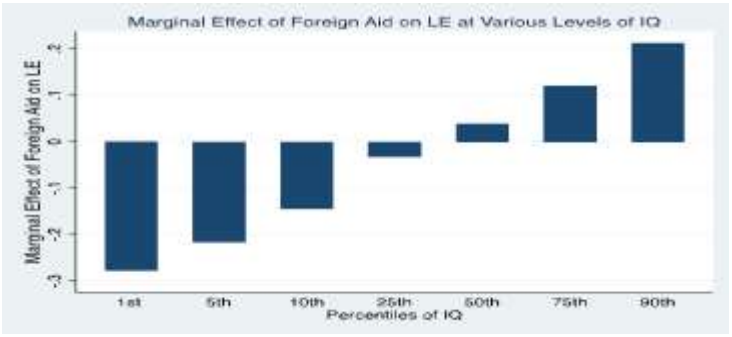
Furthermore, in order to have an in-depth analysis of the aid-human-development relationship, we have computed the marginal effect of foreign aid at various levels of institutional quality. The various levels of IQ are defined by taking different percentiles of IQ. In doing so, we have taken 1st, 5th, 10th, 25th, 50th, 75th, and 90th percentiles. Table 4 presents the marginal effects of foreign aid on selected indicators of human development, at various levels of IQI.

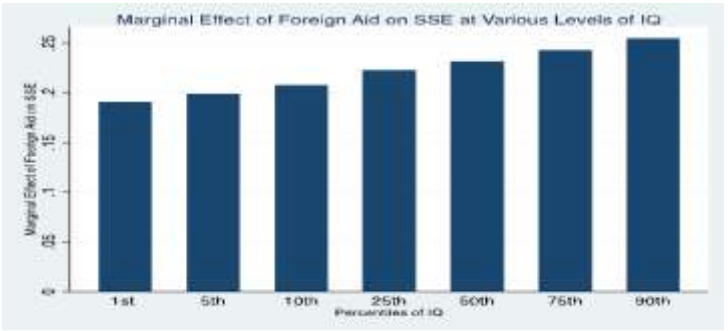
The marginal effects reveal that for the level of IQ below the threshold, the impact of foreign aid is negative on PCI as well as on LE. However, the adverse impact of foreign aid turns out as positive as the level of IQ improves and moves beyond its threshold level. This indicates that it is important to improve the level of IQ in order to establish a favorable impact of foreign aid on indicators of human development. The marginal effects are further highlighted by Figures 1-3. Particularly Figure 1 and 2 explains that the impact of foreign aid on PCI and LE is negative for low levels of IQ whereas, it turns out to be positive for higher levels of IQ. As far as SSE is concerned, we can observe that the favorable impact of foreign aid on SSE further increases as the level of IQ increases.

Table 4. Marginal Effects of Foreign Aid on HDI Indicators

Percentiles	Percentile Value	PCI (Model 2) Threshold Value of IQ: 3	LE (Model 2) Threshold Value of IQ: 6.53	SSE
1st	2	-0.001	-0.277	0.191
3rd	3	0	-0.216	0.199
10th	4.17	0.0012	-0.144	0.208
25th	6	0.003	-0.032	0.223
50th	7.16	0.004	0.039	0.232
75th	8.5	0.005	0.121	0.243
90th	10	0.007	0.213	0.255







5. CONCLUSION AND POLICY IMPLICATIONS

The literature remains split on the impact of foreign aid on human development. While the early development economics literature depicts aid as the means for injecting vital financial resources in an economy in a low-level equilibrium trap [Rosenstien-Rodan (1961); Nelson (1956), and Chenery and Strout (1966)]. The counter-theories attribute the persistence of illiteracy, poor health indicators and inequality to the conditionality attached to obtaining foreign aid (Griffin and Enos, 1970). We hypothesize that the effect of foreign aid on human development depends on the quality of institutions in the country. To test this hypothesis, we have accessed data from 65 countries from the year 1984 to 2014 and have applied panel data regression technique.

The results show that foreign aid has a negative impact on per capita income and life expectancy, while it effects secondary school enrollment positively. Institutional quality on the other hand has a positive and significant effect on all indicators of human development. The coefficient of the interaction term between aid and institutional quality also is consistently positive and significant. The results signify that institutional quality not only enhances all aspects of human development directly, it also neutralizes some of the negative effect of foreign aid on per capita income and life expectancy. The results pertaining to institutional quality and its interaction depicts the effectiveness of institutional quality in rendering foreign aid beneficial to human development, providing evidence for our conceptual framework. It shows that the relationship between foreign aid and human development is altered favorably by improved institutional quality. Further, the positive implications of aid on education may be attributed aid being directed towards one aspect of human development while, being detrimental towards the others, unless institutional quality is incorporated. The rest of the results make the case for opening the trade for improvement in living standards, increased government expenditures on education and health and lowering the fertility rate to improve average life expectancy.

Our findings may help the policy makers to understand the mechanism for accepting the aid for the developing countries as otherwise, there would not be any benefit of the foreign aid, and rather it will lead to overdependence. If the donors want the recipient countries to achieve human development, then donors need to intervene in a way which ensures to achieve an improved quality of the institutions in recipient nations. In the absence of institutional quality, the money will remain in the hands of the ruling party and will not be spent on welfare of people. So, through only enhanced bureaucratic quality, law and order and controlled corruption, the effects of the foreign aid can be realized by the developing nation.

Hence, the upshot of this endeavor is that without institutional restructuring the conditionality and misallocation of aid would be detrimental to human development in developing countries. This provides a case for institutional reforms that include indiscriminate accountability for corrupt practices, maintaining law and order and improving the bureaucratic set up. This will ensure

that the foreign resources coming in are channeled towards their desired venues and countries can develop in a truly humanist fashion.

References

Adenutsi, D. E. (2010). Do International Remittances Promote Human Development in Poor Countries'? Empirical Evidence from Sub-Saharan. The International Journal of Applied Economics and Finance, 4(1), 31-45.

Addison, T., Mavrotas, G., and McGillivray, M. (2005). Development assistance and development finance: evidence and global policy agendas. Journal of International Development: The Journal of the Development Studies Association, 17(6), 819-836.

Akpolat, A. G. (2014). The Long-Term Impact of Human Capital Investment on GDP: A Panel Cointegrated Regression Analysis. Economics Research International, 2014.

Alesina, A., and Dollar, D. (2000). Who gives foreign aid to whom and why? Journal of economic growth, 5(1), 33-63.

Arellano, M., and Bond, S. (1991). Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations. The Review of Economic Studies, 58(2), 277-297.

Assadzadeh, A., and Pourqoly, J. (2013). The Relationship between Foreign Direct Investment, Institutional Quality and Poverty: Case of MENA Countries. Journal of Economics, 1(2), 161-165.

Audi, M., and Ali, A. (2016). Socio-Economic Status and Life Expectancy in Lebanon: An Empirical Analysis. Working Paper 72900. Munich.

Balcerzak, A., and Pietrzak, M. (2015). Human Development and Quality of Institutions in Highly Developed Countries. Working Paper 156. Institute of Economic Research.

Basdevant, O. (2009). How Can Burundi Raise its Growth Rate? The Impact of Civil Conflicts and State Intervention on Burundi'S Growth Performance. Working Paper 09/11. International Monetary Fund. Washington DC.

Batuo, M. E., and Fabro, G. (2009). Economic Development, Institutional Quality and Regional Integration: Evidence from Africa Countries. Working Paper 19069. Munich.

Bernard, A. B., Eaton, J., Jensen, J. B., and Kortum, S. (2003). Plants and Productivity in International Trade. The American Economic Review, 93(4), 1268-1290.

Bhaumik, S. K. (2005). Does the World Bank have any impact on human development of the poorest countries? Some preliminary evidence from Africa. Economic Systems, 29(4), 422-432.

Blomström M., and Kokko, A. (2003). The Economics of Foreign Direct Investment Incentives. Working Paper 9489, National Bureau of Economic Research.

Blundell, R., and Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. Journal of econometrics, 87(1), 115-143.

Boone, P. (1996). Politics and the effectiveness of foreign aid. European Economic Review, 40(2), 289-329.

Bourguignon, F., and Leipziger, D. (2006). Aid, Growth, and Poverty Reduction. Toward a New Partnership Model. Washington DC: The World Bank.

Bourguignon, F., and Sundberg, M. (2007). Aid effectiveness–opening the black box. American economic review, 97(2), 316-321.

Brautigam, D. A., and Knack, S. (2004). Foreign Aid, Institutions, and Governance in Sub- Saharan Africa. Economic Development and Cultural Change, 52(2), 255-285.

Burnside, C. and Dollar, D. (1998). Aid, the Incentive Regime, and Poverty Reduction. Policy Research Working Paper. 1937. The World Bank.

Burnside, C., and Dollar, D. (2000). Aid, policies, and growth. American Economic review, 90(4), 847-868.

Busse, M., and Koeniger, J. (2015). Trade and Economic Growth: A Re-Examination of the Empirical Evidence'. Economics Bulletin, 35(4), 2862-2876.

Catrinescu, N., Leon-Ledesma, M., Piracha, M., and Quillin, B. (2009). Remittances, Institutions, and Economic Growth. World Development, 37(1), 81-92.

Chenery, H. B., and Strout, A. M. (1966). Foreign assistance and economic development. The American Economic Review, 56(4), 679-733.

Collier, P., and Dollar, D. (2002). Aid Allocation and Poverty Reduction. European Economic Review, 46(8), 1475-1500.

Dollar, D., and Kraay, A. (2003). Institutions, Trade, and Growth. Journal of Monetary Economics, 50(1), 133-162.

Dreher, A., Nunnenkamp, P., and Thiele, R. (2008). Does Aid for Education Educate Children? Evidence from Panel Data. The World Bank Economic Review, 22(2), 291-314.

Dribe, M. (2004). Long-Term Effects of Childbearing on Mortality: Evidence from Pre- Industrial Sweden. Population Studies, 58(3), 297-310.

Fabry, N., & Zeghni, S. (2009). Building Institutions for growth and human development: An Economic Perspective Applied to the Transitional Countries of Europe and CIS. Political and economic spectrum of the Soviet Union, 24(1), 41.

Fielding, D., McGillivray, M., and Torres, S. (2007). A wider approach to aid

effectiveness: Correlated impacts on health, wealth, fertility and education. In Advancing Development (pp. 183-196). Palgrave Macmillan, London.

Gohou, G., and Soumare, I. (2012). Does Foreign Direct Investment Reduce Poverty in Africa and are there Regional Differences? World Development, 40(1), 75-95.

Gomanee, K., Girma, S., and Morrissey, O. (2003). Aid, Public Spending and Human Welfare: Evidence from Quantile Regressions. Journal of International Development, 17(3), 299-309.

Griffin, K. (1978). Foreign Capital, Domestic Savings and Economic Development in International Inequality and National Poverty (pp. 57-80). Palgrave Macmillan UK.

Griffin, K. B., and Enos, J. L. (1970). Foreign Assistance: Objectives and Consequences. Economic Development and Cultural Change. 18(3), 313-327.

Hammarstr and, L., and Sundsmyr, S. (2013). Aid Effectiveness on Living Standards-How Does Aid Affect Human Development Index HDI in Sub-Saharan Africa. http://hdl.handle.net/2077/33622.

Heckman, J. J. (2000). Policies to Foster Human Capital. Research in Economics, 54(1), 3-56.

Kanbur, R. (2000). Aid, Conditionality, and Debt in Africa. African Journal of International Affairs and Development, 5(2), 1-15.

Kirkwood, T. B., and Austad, S. N. (2000). Why Do We Age? Nature, 408(6809), 233-239.

Knack, S., and Keefer, P. (1995). Institutions and Economic Performance: Institutional Measures Cross-Country Test Using Alternative. Economics and Politics, 27(3), 207-227.

Krugman, P. (1979). A Model of Innovation, Technology Transfer, and the World Distribution of Income. Journal of Political Economy, 87(2), 253-266.

Kuningas, M., Altmäe, S., Uitterlinden, A. G., Hofman, A., van Duijn, C. M., and Tiemeier, H. (2011). The Relationship between Fertility and Lifespan in Humans. Age, 33(4), 615-622.

Lehnert, K., Benmamoun, M., and Zhao, H. (2013). FDI Inflow and Human Development: Analysis of FDI's Impact on Host Countries' Social Welfare and Infrastructure. Thunderbird International Business Review, 55(3), 285-298.

Lohani, S. (2004). Effect of foreign aid on development: does more money bring more development? The Park Place Economist, 12(2004), 110-120.

McGillivray, M., and Noorbakhsh, F. (2007). Aid, conflict and human development (No. 2007_03).

McGillivray, M., Feeny, S., Hermes, N., and Lensink, R. (2006). Controversies over the impact of development aid: it works; it doesn't; it can, but that

depends…. Journal of International Development: The Journal of the Development Studies Association, 18(7), 1031-1050.

Michaelowa, K. (2004). Aid Effectiveness Reconsidered: Panel Data Evidence for the Education Sector. Working Paper 264. Hamburg Institute of International Economics (HWWA).

Mohamed, M. R., and Mzee, S. S. (2017). Foreign Aid and Human Welfare: A Quantile Regression Approach. International Journal of Economics, Management and Accounting, 25(1), 27-41.

Morrissey, O. (2001). Does Aid Increase Growth? Progress in Development Studies, 1(1), 37-50.

Mosley, P., J. Hudson, and A. Verschoor (2004). Aid, Poverty Reduction and the 'New' Conditionality. Economic Journal 114:496, F217-F2.

Mucuk, M., andDemirsel, M. T. (2014, October). The relationship between foreign portfolio investments and economic growth: The case of Turkey. In Proceedings of International Academic Conferences (No. 0702082). International Institute of Social and Economic Sciences.

Mughal, M., and Vechiu, N. (2009). Does FDI Promote Higher Education? Evidence from Developing Countries. In The Proceedings of 10th Nordic Conference in Development Economics (NCDE).

Nasreen, S., Anwar, S., and Ahmad, N. (2012). Health Status, Income Inequality and Institutions: Evidence from Pakistan Economy. Pakistan Journal of Life and Social Sciences,10(2), 139-144.

Navarro, V., Muntaner, C., Borrell, C., Benach, J., Quiroga, Á., Rodríguez-Sanz, M., ... and Pasarín, M. I. (2006). Politics and Health Outcomes. The Lancet, 368(9540), 1033-1037.

Nelson, R. R. (1956). A theory of the low-level equilibrium trap in underdeveloped economies. The American Economic Review, 46(5), 894-908.

Nyoni, T. S. (1998). Foreign Aid and Economic Performance in Tanzania. World Development, 26(7), 1235-1240.

Novak, A., Cepar, Z., and Trunk, A. (2015). Status of Women in Society and Life Expectancy at Birth. Management, 10(1), 61-77.

Obowna, M., and Ssewanyana, S. N. (2007). Development Impact of Higher Education in Africa: The Case of Uganda. Working Paper 94208. Economic Policy Research Centre (EPRC).

Pedersen, K. R. (1996). Aid, Investment and Incentives. Scandinavian Journal of Economics 98:3, 423-38.

Prebisch, R. (1962). The economic development of Latin America and its principal problems. Economic Bulletin for Latin America, VII(I) published by Secretariat of the Economic Commission for Latin America.

Rabbanee, F. K., Haque, M. M., and Hasan, D. (2010). Globalization and Human Development- Realities and Recommendation for Developing Countries. Asian Affairs, 30(1), 32-49.

Reiter, S. L., and Steensma, H. K. (2010). Human Development and Foreign Direct Investment in Developing Countries: The Influence of FDI Policy and Corruption. World Development, 38(12), 1678-1691.

Riddell, A., and Nino-Zarazua, M. (2016). The Effectiveness of Foreign Aid to Education: What Can Be Learned? International Journal of Educational Development, 48(2016), 23-36.

Rosenstein-Rodan, P. N. (1961). Notes on the theory of the 'big push'. In Economic Development for Latin America (pp. 57-81). Palgrave Macmillan, London.

Sen, A. (1999). Development as Freedom. Oxford: Oxford University Press.

Sen, A. (2008). "Perspectives on the Economic Development of India and China", in Secondi, Giorgio (ed.). The Development Economics Reader. London: Routledge.

Shuaibu, M., and Timothy, P. O. (2016). Human Capital Development Dynamics in Africa: Evidence from Panel Cointegration and Causality in 33 Countries, 2000-2013. Applied Econometrics and International Development, 16(1), 116-131

Simplice, A. (2013). Globalization and Africa: Implications for Human Development. International Journal of Development Issues, 12(3), 213-238.

Singer, H. W. (1950). The distribution of gains between investing and borrowing countries. The American Economic Review, 40(2), 473-485.

Sundberg, M., Gelb, A., LaFraniere, S., and Collier, P. (2006). Making Aid Work. Finance and Development, 43(4), 14-17.

Ustubici, A., and Irdam, D. (2012). The Impact of Remittances on Human Development: A Quantitative Analysis and Policy Implications. Economics and Sociology, 5(1), 74-95.

Wahedi, A. U. (2011). Capital Flows, Political Performance, and Development. Doctoral Dissertation, Portland State University retrieved from https://core.ac.uk/reader/37771842

Williamson, C. R. (2008). Foreign aid and human development: The impact of foreign aid to the health sector. Southern Economic Journal, 75(1), 188-207.

Young, A. (1991). Learning by Doing and the Dynamic Effects of International Trade. The Quarterly Journal of Economics, 106(2), 369-405.