We are IntechOpen,
the world's leading publisher of
Open Access books
Built by scientists, for scientists

6,900
Open access books available

186,000
International authors and editors

200M
Downloads

Our authors are among the

154
Countries delivered to

TOP 1%
most cited scientists

12.2%
Contributors from top 500 universities

BOOK CITATION INDEX
CLARIVATE ANALYTICS
INDEXED

WEB OF SCIENCE™

Selection of our books indexed in the Book Citation Index
in Web of Science™ Core Collection (BKCI)

Interested in publishing with us?
Contact book.department@intechopen.com

Numbers displayed above are based on latest data collected.
For more information visit www.intechopen.com

A Study of the Relationship between Foreign Aid and Human Development in Africa

Gabriel Staicu and Razvan Barbulescu

Additional information is available at the end of the chapter

Abstract

Why are some countries more prosperous than others? Why are some countries still poor? What can be done by the West to help the rest to overcome the poverty trap? Finding better answers to these questions still represents the *research agenda* for development economists and *political agenda* for government and international institutions. Of course, the first two questions are age-old ones and have been asked since the beginning of our history. The economic literature has identified important factors that influence the wealth of nations and they include: openness to trade, natural resources, capital accumulation, and innovation. Recent studies have found that cultural aspects and institutional framework tend to play a major role in a nation's development process. The researchers' work also helps policy makers to find a better answer to the last question. The purpose of this chapter is to evaluate the effectiveness of aid in eradicating poverty and improving life conditions in African countries since 1980. Since we are at the beginning of a new UN development agenda, it is important for all stakeholders (recipient, donors, international agencies, etc.) to identify the conditions that enable aid to work.

Keywords: foreign aid, millennium development goals, economic development, economic freedom, Africa

1. Introduction

The theoretical foundations of economic development as a full discipline go back to the 1950s and 1960s, thanks to the work of outstanding economists such as Arthur Lewis, Ragnar Nurske, Paul Rosenstein-Rodan, and Kurt Mandelbaum, considered as the founding fathers of classical development economics. The emergence of this new body of economic literature was accompanied by important political changes in Africa and Asia. As the European colonial

empires began to crumble, more than 35 African and Southeast Asian countries gained their independence. And to get these countries back on their feet, especially Africa, was challenging. Just like an OECD report mentions, some of these countries are actually "creations of the great European colonial carve-up rather than traditional nation states" [1].

What were the appropriate policies these new countries needed to adopt? Being influenced by the work of Harrod and Domar, the early development economists strongly supported aid as a key engine of growth and development. Emphasizing the essential role of saving and capital accumulation in promoting economic growth, Nurske and others have argued that poor nations remain poor because of the vicious circle of poverty. And, according to the Big Push Theory, foreign aid was needed to help poor countries escape from the poverty trap [2]. The years that followed could easily be described as "glory years" for the development policies and foreign aid. By the end of the 1960s, many of the East Asian countries had started to grow rapidly and suspended shortly receiving foreign aid. In the following years, the African experiment (in particular, Sub-Saharan countries) registered disappointing results of foreign aid. "The '1970s' and '1980s' were pretty dire. It got worse rather than better … countries got very economically out of balance," concludes Richard Manning [3], a former chairman of the OECD's Development Assistance Committee, when referring to the African countries. It was not surprising to observe a decline of enthusiasm among development theorists and aid supporters. The classical theoretical justifications of the development assistance based on "saving gap" and "trade gap" have come to be challenged. Many researchers suggest in their academic studies that aid is necessary but not sufficient for growth.

The economic literature on aid started to take into consideration various new paradigms. Some studies such as Riddell's are based on direct experience of aid experts [4], others have been developed by various academic researchers like Tarp and Peter [5]. However, in the 1970s the idea of "aid for growth" became seriously questioned. The holistic focus on growth did not prove to be enough to improve living conditions of the poor. In that context, academia advice for policy makers was to include accountable conditionalities for aid recipients, to direct financial assistance rather than to satisfy basic needs such as safe water, proper nutrition, education, and healthcare programs to promote economic growth.

But the dark clouds continued to linger over foreign aid in the 1980s. It is worth to mention here the increasing (real) cost of borrowing in the early 1980s that affected the poor and developing countries capacity to repay the loans. For instance, in 1982, Mexico defaulted on its debt. Many African countries defaulted too or were increasingly struggling with debt. The international debt crisis radically influenced the approach of international institutions and donors regarding aid. Considered countries with "profound economic mismanagement," as Jeffrey Sachs said, the aid recipients were asked to make substantial changes in their macroeconomic policies [6]. "Two ideas came to dominate: stabilization and structural adjustment." The first required developing countries to "stabilize" their economies, for example, by reducing fiscal imbalances; the second called for fundamental structural reforms such as trade liberalization. Aid came attached with ever more "conditionalities" and policy advices, which today are often criticized [1].

In line with neo-liberal mainstream approach and ignoring endogenous factors such as culture or prevailing institutional framework, the ingredients for economic success in the 1990s were: privatization of state-owned enterprises, open-up the goods and financial markets, giving up to protectionism practices, cutting government expenditures, and including spending for education and health. This development recipe was common for all developing countries around the world, from Africa to Central and East Europe.

The relative lack of positive results, in terms of improving economic performance, forced both scholars and aid community to abandon to some extent for the framework of traditional development economics. By the end of 1990s, as Riddell emphasizes, there was a wide recognition that "development is an extremely complex process […] difficult for outsiders to help in promoting without an in-depth understanding of the attributes and constraints of each poor country" [7].

The rethinking of the concept of development was also reflected in the creation of Human Development Index (HDI) in 1990 by the United Nations Development Programme (UNDP). Since then, UNDP has annually published Human Development Report, which takes the position that "people are the real wealth of a nation." Its approach to development is about enlarging people's choices, focusing broadly on the richness of human lives rather than narrowly on the richness of economies. In partial response to aid programs critics, the global development community has agreed on setting firm targets for results. This led to the creation of the eight millennium development goals (MDGs) in 2000, which set down a series of economic and social progress indicators that were expected to be achieved by the end of 2015.

Especially after 2000, exploring unconventional determinants of development process has become a new trend in the academic world. The institutional paradigm, for instance, has proved its relevance for analysis of foreign aid and aid effectiveness [8]. Convinced by the fact that the quality of institutions matters, Martens et al. analyzed particularly the incentives problem that drives the behavior of agents (donor governments, agencies' experts and bureaucrats, recipient governments, etc.) involved in foreign aid policy. In their very influential article in 2000, Burnside and Dollar found that aid has a positive impact on growth in developing countries with good fiscal, monetary, and trade policies, but has little effect in the presence of poor policies [9]. Although their article does not follow a specific institutional approach, the conclusion is quite clear: institutional environment in recipient countries strongly influences aid's effectiveness.

The fresh focus brought by institutional economics, a subfield that grew rapidly since the 1990s, is accompanied with more and more academia debates on aid effectiveness, and the general tendency was to highlight its negative effects rather than positive aspects. As The Economist has stated, the MDGs managed to shift the debate away from how much is being spent on development to how much is being achieved. However, theoretical and empirical criticisms seem to overcome the political optimism. William Easterly, a New York University professor, has published a great number of critical articles and books on aid, arguing that "aid

cannot buy growth" [10]. Moreover, based on his personal experience during his past career at the World Bank, Easterly considers that present aid policies do more harm than good for poor countries [11]. More recently, this perspective which underscores the negative effects of foreign aid is shared by Angus Deaton, a well-known economist from Princeton University. Deaton argues that aid rarely reaches the poor. Moreover, there is no unquestionable empirical evidence that aid promotes growth [12].

The next section of this chapter analyzes the conceptual framework of foreign aid, who are the donors and international institutions that channel aid to the third world countries. Then, our focus is on testing the effectiveness of aid on improving life conditions of the African people, measured by the Human Development Index. We prefer Human Development Index instead of economic growth because it is a more comprehensive approach, and reflects both quantitative and qualitative improvements in human life conditions. According to the UN, development can be described as the process of enlarging people's choices, which means allowing them to "lead a long and healthy life, to be educated, to enjoy a decent standard of living," as well as "political freedom, other guaranteed human rights and various ingredients of selfrespect" [13]. Therefore, to increase the theoretical and practical relevance of our model, we have opted to integrate other two exogenous variables (economic freedom and political freedom), as important determinants of human development. Economic Freedom Index, published by the Fraser Institute, reflects the quality of economic environment, scoring a country between two extreme regimes: interventionist and free-market based. Polity score measures the quality of a political environment, the scale moving from authoritarian to a democratic regime. The outcomes of our research might prove helpful for aid agencies to adapt their policies in order to increase aid effectiveness. The lessons and policy recommendations are found in the final section.

2. Concept of foreign aid

Aid is generally considered as one of the biggest part of the world's development cooperation effort and represents a flow of money from governments in developed countries to developing ones. Also known as official development assistance (ODA), this type of aid is mainly discussed in this section. But, as we will see, this is not the only form of financial support the developed countries provide. Even though, much less important than ODA, there are some other forms of assistance, both from government and nongovernment institutions[1].

Since 1961, 23 developed countries (including the European Union) have decided to work under OECD's Development Assistance Committee (DAC) to provide the world's official development assistance. Presently, the DAC members have reached 29, and the number is expected to increase in the next years. At the same time, OECD has the role to monitor and collect data on all development flows from DAC and nonDAC donors, as well as multilateral aid agencies, and other private investment and philanthropy.

---

[1]The conceptual framework presented below is based on OECD [1].

Referring to ODA, three key elements can be identified:

- It is targeted at improving living conditions and welfare of poor countries.

- It is provided by governments or by their national agencies.

- It could take the form of a grant, or a loan at an interest rate less than the market rate[2].

According to OECD practice, about 90% of ODA is represented by grants, a financial support that receiving countries would not have to repay. Much of the rest consists of "soft" loans with low interest rate and often with a longer repayment period. Such credit instruments are used in order to bring more financial responsibility and accountability in the recipient countries. This financial support mentioned above is usually planned in advance, preceded by agreements and conditionalities between recipients and donors. Along planned assistance, OECD operates emergency financial assistance also. This type of aid is specifically directed to those developing countries confronted with cataclysms, such as the 2004 Asian tsunami and the 2010 Haiti earthquake.

The donor countries sometimes accept debt forgiveness of borrowers, meaning either deferring loan repayments or canceling them altogether. According to OECD methodology, cancellations are recorded as "grants" in ODA, even though, in effect, no new funding is being provided at the time when the loan is forgiven. Most of the loans forgiven were not aid in the first place; typically, for example, they may have originally been export credits. But loan forgiveness frees the resources for developing countries to use as they wish, and so is counted as ODA [1].

Considering the donors' perspective, only 30% of ODA is multilateral and 70% is bilateral. The money channeled through international aid agencies, according to their own development agenda, represents multilateral assistance. In practice, because the developed countries impose the aid agencies where and how to spend money, this is counted as bilateral aid and not multilateral assistance. **Figure 1** shows the total net official development assistance since 1960 from DAC members. Net ODA represents, in fact, disbursement flows (net of repayment of principal) of the DAC donors. Ignoring short periods of time, it reflects a continuous increase of the effort of developed countries to help the rest, reaching 2014 more than 137 billion USD. And, according to preliminary OECD data in 2015, net ODA rose by 6.9% in real terms from 2014, which is the highest level of ODA ever achieved.

Another indicator, commonly used in aid literature to illustrate the aid efforts made by the developed countries to help the third world, is the percent of net ODA in gross national income (GNI) of donors as it is shown in **Figure 2**. Basically, it reflects how much of the wealth created in developed countries is transferred (or redistributed) to developing ones. Even though more informal than mandatory for DAC countries, UN has set a target of 0.7% of GNI to be directed to aid.

Another form of foreign aid is technical cooperation. Developed countries might help the poor countries by paying for training of people from recipients, providing study scholarships, etc. A more widely used form involves supplying technical experts (consultants, advisors,

---

[2]In the case of a loan, this has to have a grant element of at least 25 percent.
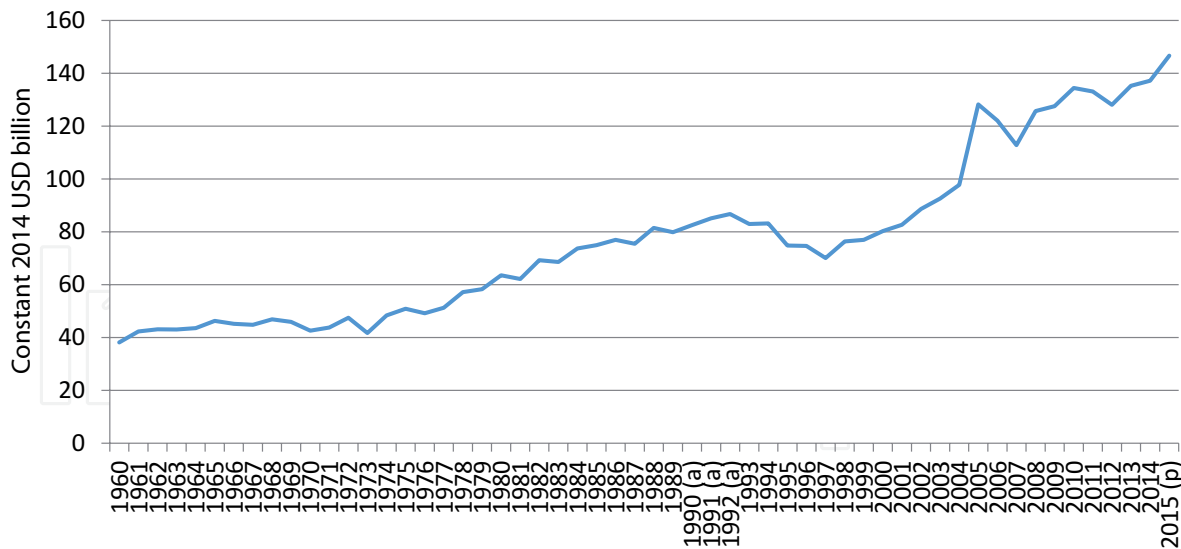
Figure 1. Net official development assistance, DAC members. (a) Total ODA excludes debt forgiveness of non-ODA claims in 1990, 1991, and 1992. (b) Preliminary data. Source: Authors' compilation based on 2016 OECD Report [14].
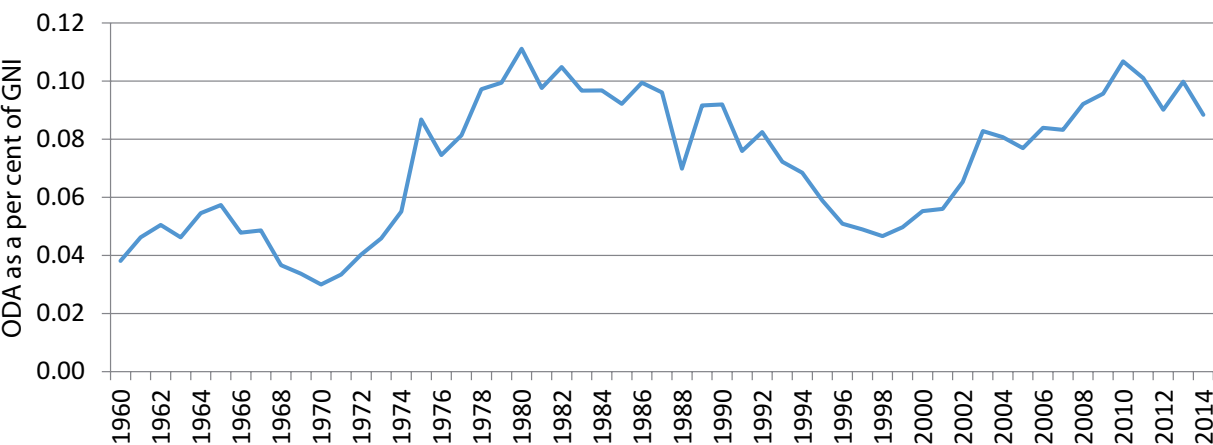

Figure 2. Net ODA/GNI, DAC members. Source: Authors' compilation based on 2016 OECD Report [14].

and administrators) to developing countries, but this method is widely criticized. The OECD admits in its official reports that technical cooperation is "perhaps the most controversial type of aid" [15]. And the critics add the attributes of "ineffective" are based on a multitude of negative cases. Some international experts have been accused of introducing technologies and procedures that are inappropriate to developing countries' needs. Also, technical cooperation has been criticized for failing to increase the local theoretical and practical skills. For instance, many students who were trained overseas have opted to stay there, thus fueling a brain drain of local human capital.

Who are the donors? As we mentioned above, a large part of aid is channeled through many multilateral agencies, such as the World Bank and United Nations. In one of the latest report, OECD [1] estimates around 200 multilateral donors and agencies involved in development assistance.

Considering administrative criteria, these agencies are: (a) national, being run by the governmental bodies; (b) regional, such as the European Union's agencies; and (c) international, such as UN.

More significant, from aid perspective, we can divide multilateral agencies into four categories:

- *Development banks*: World Bank, African Development Bank, and Asian Development Bank are focused mainly on lending funds to developing countries, as well as expertise and advice in different sectorial policies. Apparently confusing, the World Bank is organized into two separate bodies: the International Bank for Reconstruction and Development (IBRD), which focuses on middle-income countries and the stronger lower income countries, and the international development association (IDA), which focuses only on the world's poorest countries. The World Bank Group also includes a number of other agencies, such as the International Finance Corporation (IFC), which offers financial assistance, bank guarantees, and expertise to privately owned enterprises in developing countries.

- *United Nations*: UN efforts are directed at providing emergency and humanitarian assistance to poor countries (e.g. World Food Program) and to improve health and living conditions in those countries. MDGs, for instance, are longer term development goals aimed to eradicate poverty, to foster peaceful, just, and inclusive societies. According to the UN's General Secretary, the present 2030 Agenda goes beyond the eight MDGs that political leaders had agreed on in 2000. In order to meet sustainable development all over the world, UN has identified 17 sustainable development goals with 169 associated targets.

- *Europe:* The collective financial effort of EU members makes Europe the world's largest donor, even though much of the aid takes the form of bilateral assistance, considering priorities and interests of each country.

- *Global funds and institutions*: This refers to the emergence of a large number of special agencies that have been set up to pursue particular development goals. One of the best known example is the Global Fund to fight AIDS, tuberculosis, and malaria, which was created in 2002. The Global Fund is solely a financing agency, unlike UN agencies such as the World Health Organization.

3. The impact of foreign aid on human development in Africa: a multifactorial approach/model

Despite all efforts that have been made, the institutional framework of foreign aid still seems to function suboptimally. In September 2015, UN released a new Agenda for the next 15 years, suggestively entitled "Transforming our world: the 2030 Agenda for Sustainable Development." The purpose of the new agenda is to continue (and also to extend) the eight MDGs promoted since 2000. The main aim of this international project still remains the eradication of poverty and promotion of sustainable development in the third world.

Although UN has solved some pressing issues (better access to medicines and healthcare technologies, better school infrastructure, etc.), it becomes increasingly evident that aid has

little effect on growth in a country with an institutional framework unfavorable to economic and political freedom. As mentioned in our introduction, we included potential explanatory factors for development as, in addition to ODA, two other independent variables. The first one is Economic Freedom Index (ILE) published by Fraser Institute, a famous Canadian think-tank. It is widely recognized in the economic literature that economic growth and development depend on (endogenous) economic, social, and political institutions. The second one is Polity score developed by Marshall in Polity IV Project [16]. This indicator reflects a spectrum of governing authority that spans from fully institutionalized autocracies through mixed, or incoherent, authority regimes (termed "anocracies") to fully institutionalized democracies.

Since foreign aid is expected to have better results in improving human life conditions (healthcare and education) rather than promoting economic growth, we have opted in our model to decompose Human Development Index and test the impact of ODA, ILE, and Polity on some HDI subindicators. The three-dimension index of HDI are: *Life Expectancy Index* measured by the indicator life expectancy at birth, *Education Index* based on indicators like mean years of studies and expected years of schooling, and *GNI Index* that is based on the indicator GNI per capita.

3.1. The data

African countries in the sample are Algeria, Angola, Benin, Burkina Faso, Botswana, Burundi, Cameroon, Cabo Verde, Central African Republic, Chad, Congo, Arab Rep Egypt, Ethiopia, Gabon, Gambia, Ghana, Guinea-Bissau, Guinea, Cote d'Ivoire, Kenya, Lesotho, Libya, Mauritania, Madagascar, Mauritius, Malawi, Mali, Morocco, Mozambique, Namibia, Nigeria, Niger, Rwanda, South Africa, Senegal, Sierra Leone, Swaziland, Tanzania, Togo, Trinidad and Tobago, Tunisia, Uganda, Zambia, and Zimbabwe.

The first data series we have worked with is the Human Development Index (HDI) for African countries shown in **Figure 3**. This is an indicator that emphasizes the importance of people development, in terms of health, knowledge, and standard of living.

The data available for this indicator consists of a panel of 41 time series between 1980 and 2014 with up to 11 cross section values for the 41 African countries that were included in this research. The main challenge regarding this data is that it consists of data for every fifth year between 1980 and 2010 and then yearly data between 2000 and 2014. This makes it impossible to test for root unit in first and second difference due to the very low number of remaining observations. The ADF unit root test for HDI allows us to reject the null hypothesis that the indicator follows a root unit process in level, with individual trend, and intercept for each of the African countries with a significance level of 5.2%, below the targeted 10% considering the issues with data.

The second series of data, presented in **Figure 4** is regarding ODA received by the African states to promote economic development and welfare. Only the official grants and loans that include at least 25% grant were taken into consideration. In order to make this information comparable between the states we have chosen to divide ODA by the mid-year population estimate and, thus, work with ODA per capita.
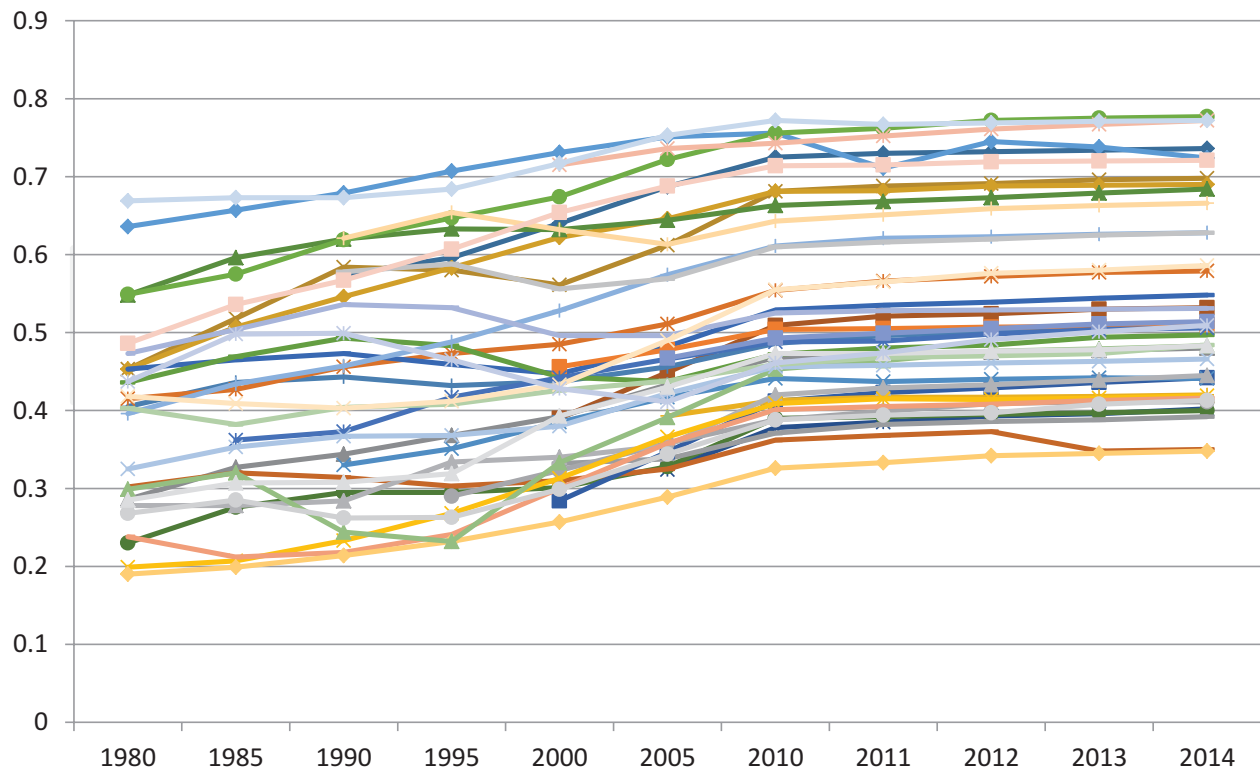
Figure 3. Evolution of HDI in African countries. Source: Authors' compilation based on UNDP Human Development Report 2015.
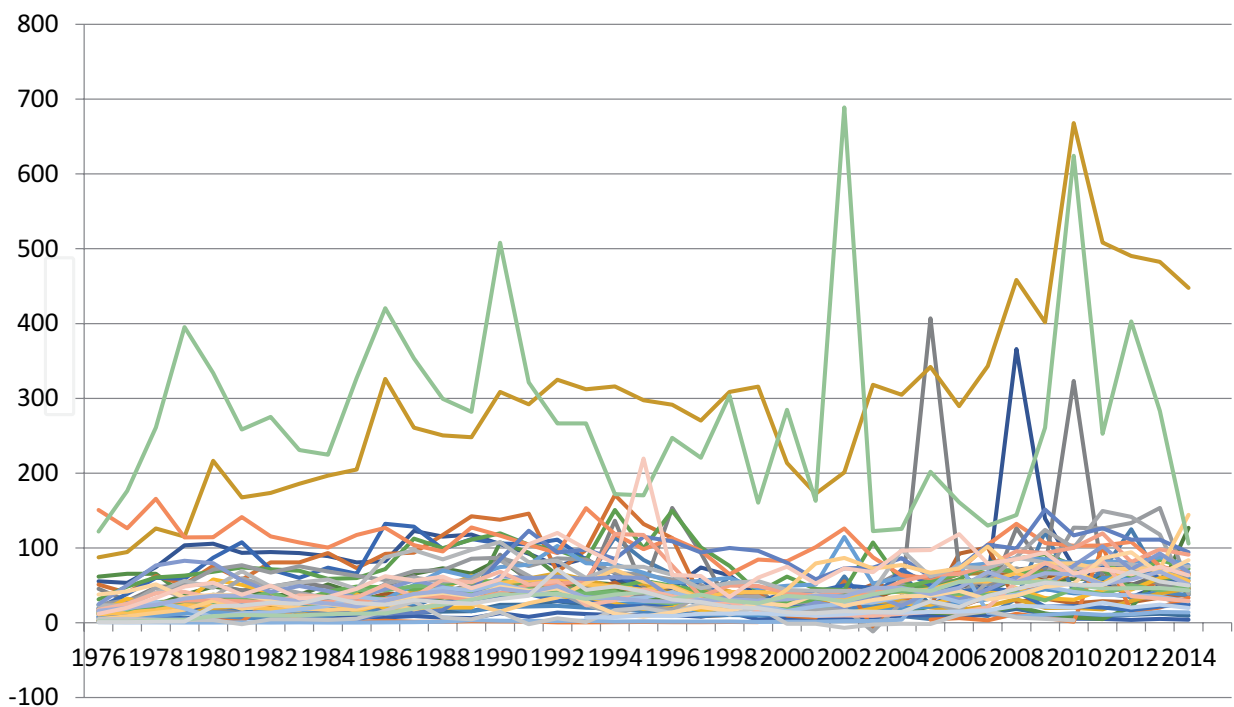

Figure 4. Net ODA for African countries. Source: Authors' compilation based on OECD and World Bank data.

ODA is a relevant indicator for the financial support received in order to develop the wellbeing of people in that country rather than poverty support. Also, ODA represents around 80% of the total development support that an African country receives. The other 20% is regularly coming from NGOs being focused on alienating poverty in specific areas.

For this indicator we will use a panel of data with 43 time series, one for each of the African countries and 40 cross sections for the period between 1976 and 2015. We have tested the series for unit root with multiple tests for both trend and difference, both for common root and for individual root unit, and the data proved to be stationary. We have rejected the null hypothesis of root unit with a significance level close to zero.

The third data series reflects the authority of the political regime in the country, measured by Polity score presented in **Figure 5**. The polity score captures this regime authority spectrum on a 21-point scale ranging from −10 (hereditary monarchy) to +10 (consolidated democracy). According to the authors, the Polity scores can also be converted into regime categories in a suggested three part categorization of "autocracies" (−10 to −6), "anocracies" (−5 to +5 and three special values: −66, −77, and −88), and "democracies" (+6 to +10).

When testing for unit root, the Polity2 series proved to be stationary both in trend and difference, taking into account both the individual effects and the individual linear trends, just like in all the other tests. Thus, the null hypothesis can be rejected and we can use the polity data in modeling.
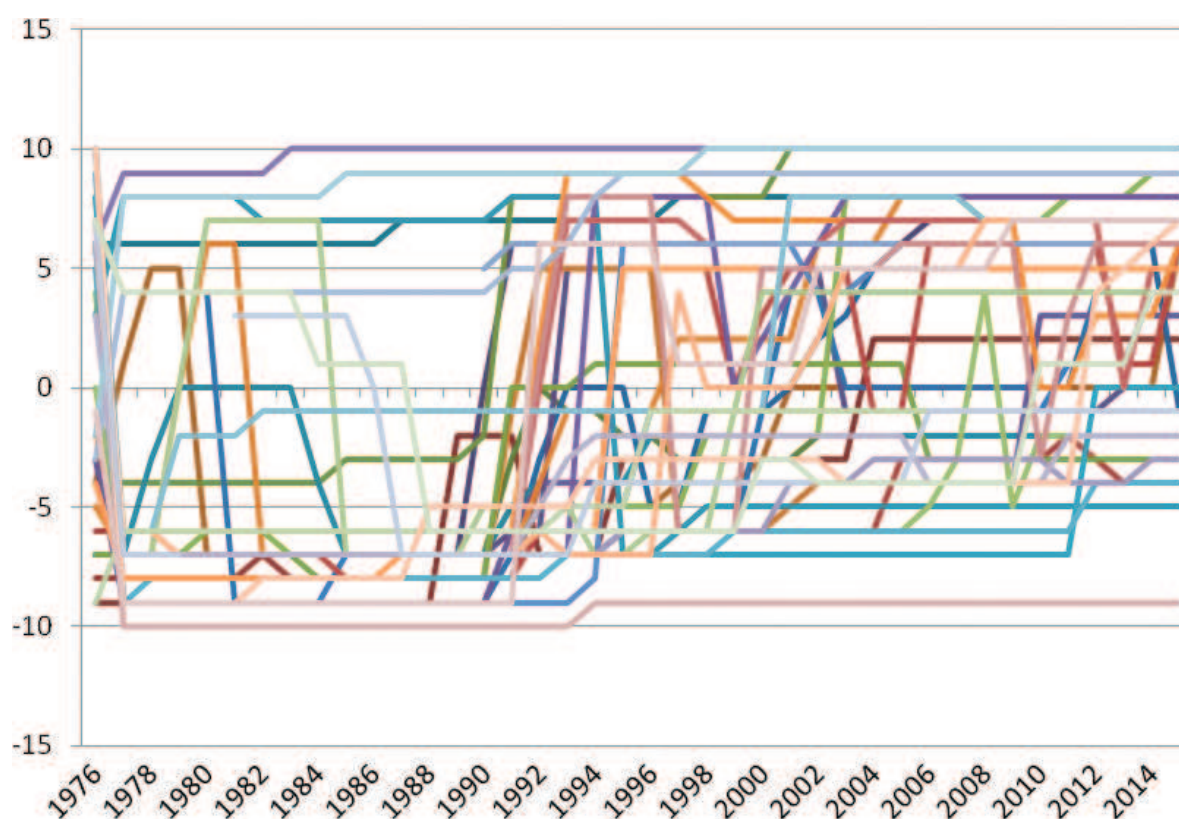

Figure 5. Polity scores in African countries. Source: Authors' compilation based on Polity IV Project data.

The last data series we work with is Economic Freedom Index (ILE), presented in **Figure 6**. In many ways, a country's economic freedom ranking is a measure of how closely its institutions and economic policies are compared with the idealized structure implied by the standard textbook analysis of economics. It uses 42 distinct variables to create an index, which is measured in 5 areas: size of government, legal structure and security of property rights, access to sound money, freedom to trade internationally, and regulation of credit, labor, and business [17]. The countries are ranked on a scale between 1 and 10, moving from the less free to the most free.

When testing for unit root, the series have shown that we cannot reject the null hypothesis for common unit root process according to Levin, Lin, and Chu test (548.454 statistical value) under first difference. Thus the series has been transformed to stationary by differentiation. ILE was tested for root unit with multiple tests and has proven to be nonstationary with an ADF-Fischer value of 81.7 (9.12% confidence level, higher than the targeted 5%). Thus, we have rejected the null hypothesis and transformed the data by first level differentiation. Thus, we will test the effects of Delta ILE over the endogenous variables. We found that the new series proved to be stationary.

GNI was tested for unit root with multiple tests and has proven to be nonstationary with an ADF-Fischer value of 84.3 (59.12% confidence level for the 44 cross sections, 1073 observations) for individual effects and individual trend. Thus, we have rejected the null hypothesis and transformed the data by first level differentiation. Thus, we will test the effects of the exogenous variables on Delta GNI. The new series proved stationary.
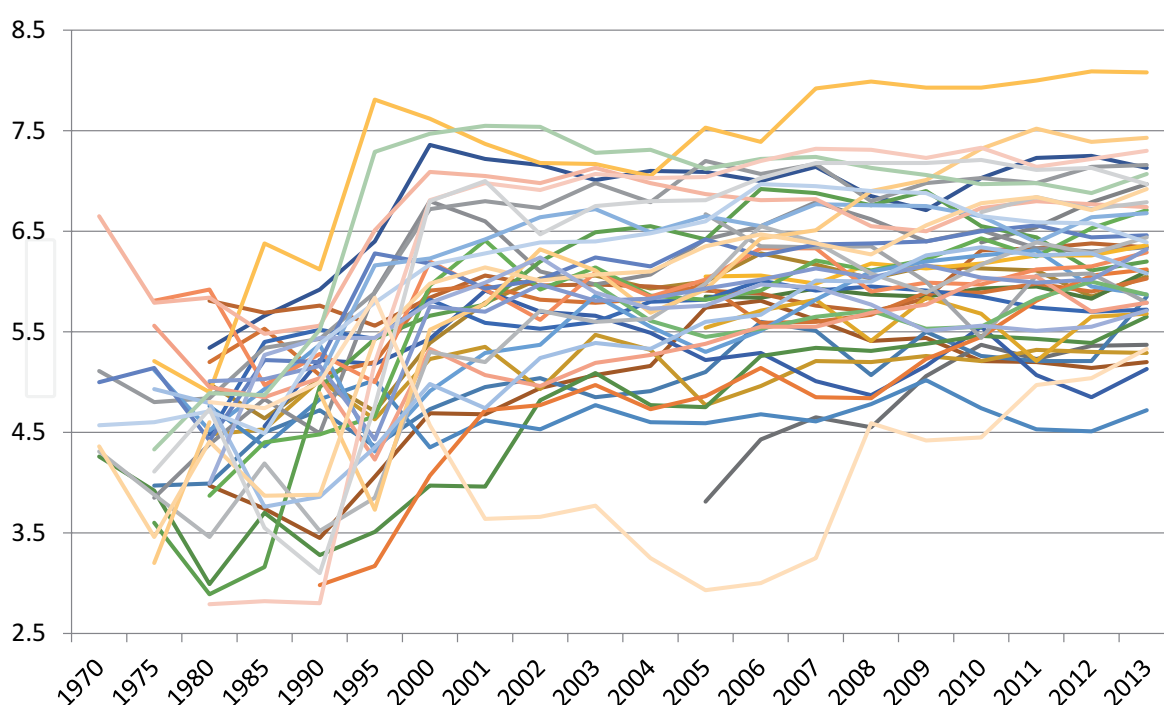

Figure 6. Economic Freedom Index for African countries. Source: Authors' compilation based on Economic Freedom Index of the World, 2015 Annual Report.

Life expectancy at birth data was tested for root unit with multiple tests and has proven to be nonstationary with an ADF-Fischer value of 102.5 (13.7% confidence level for 44 cross sections, 1010 observations). Thus, we have rejected the null hypothesis and transformed the data into percentage change of life expectancy at birth (DPLE). The new series proved stationary.

3.2. The methodology and findings

In the first model, life school expectancy was regressed versus the exogenous factors ODA, DILE, and Polity.

Equation	1	2	3	4
Dependent variable	SCH	SCH	SCH	SCH
Lags	None	ILE(−1)	ODA(−1)	ODA(−2)
Method	Panel least squares (unbalanced)			
	(fixed cross-section effects, white adjustment)			
Constant	5.944561	5.726093	5.449028	5.530522
	(0.463922)	(0.596327)	(0.573915)	(0.479372)
ODA	−0.013381	−0.01159	−0.002397	−0.004658
	(0.007355)	(0.007965)	(0.009202)	(0.007812)
DILE	−1.011094	0.469779	−1.027069	−0.996587
	(0.852597)	(0.988261)	(0.883243)	(0.865338)
Polity2	−0.093381	−0.179178	−0.122334	−0.114812
	(0.118211)	(0.149517)	(0.122132)	(0.121545)
Adjusted period	2001 2014	2001 2014	2001 2014	2001 2014
Observations	472/40	472/40	472/40	472/40
Adjusted R^2	0.426965	0.356552	0.422928	0.423342
Sum squared reside	6802.978	7640.24	6850.896	6845.982
S.E. of regression	3.98218	4.22012	3.99618	3.994747
F-statistic	9.355682	7.214153	9.218801	9.232748
Prob(F-statistic)	0	0	0	0

Depending on the lags used for ODA and ILE, the model explains between 35% (DILE lagged one period) and 42.6% (no lags) of the life school expectancy. Although the model partially explains life school expectancy, the parameters associated with the three variables used can be accepted as relevant with low probabilities. ODA is the most relevant variable in all models with 93% relevance in the model with no lags, 85% in the model with lagged DILE, and 30.5% or 45% in the two models with lagged ODA. In all models, the relation between ODA and life school expectancy proves to be negative showing that the main problems regarding the education in Africa are not improved with the development aid received by the countries.

Improvements in economic freedom appear to have a negative and weak short term effect with around 75% relevance in the models where the indicator is not lagged. With 1year lagged DILE, the impact of economic freedom becomes positive the next year but the impact is even less relevant (46% t stat relevance). This result may be commented that in the years when economic freedom improves, there is a slight incentive to give up schooling for other benefits. Political regime authority changes also prove to have a very limited effect on the life school expectancy.

In the second model we have looked for the impact of ODA, ILE, and Polity over the growth of GNI. Since, after the transformation, the domestic gross national income (DGNI) has a distribution that is different than the normal one, the residuals of all the GNI models have a skewness close to zero but a high kurtosis. Since the GNI data needed to be converted to stationary leading to negative values, the log transformation cannot be applied. We have chosen to accept the nonnormal distribution of the errors instead of performing other box-cox transformation of the data, based on the fact that when the sample size is large enough (472 observations in our case), the violation of the normality assumption does not cause major problems [18].

A sensitivity analysis was performed by modifying the lags of the data in order to see modifications past periods bring to the model.

Equation	1	2	3	4
Dependent variable	DGNI	DGNI	DGNI	DGNI
Lags	None	ILE(-1)	ODA(-1)	ODA(-2)
Method	Panel least squares (unbalanced)			
	(fixed cross-section effects, white adjustment)			
Constant	139.1449	85.22174	185.5918	115.8896
	(36.14561)	(62.09452)	(45.63961)	(30.34444)
DILE	43.63322	113.2846	41.62892	40.42955
	(51.55286)	(38.06388)	(51.07163)	(50.97066)
ODA	-0.016979	0.648237	-1.099133	0.568132
	(0.647223)	(1.010753)	(1.087195)	(0.375682)
Polity2	22.8524	21.5023	25.61406	21.14402
	(7.394513)	(10.3076)	(7.918873)	(7.068845)
Adjusted Period	2001 2014	2001 2014	2001 2014	2001 2014
Observations	472/40	472/40	472/40	472/40
Adjusted R^2	0.314585	0.242737	0.320044	0.316071
Sum squared reside	45495371	67643230	45133032	45396716
S.E. of regression	325.6529	397.085	324.3535	325.2996
F-statistic	6.147015	4.594694	6.278368	6.182571
Prob(F-statistic)	0	0	0	0

Delta GNI was regressed versus the exogenous variables Delta ILE, ODA, and Polity2. Comparing the coefficients for the three variables with their variance (under brackets), for each specification of the model we find out that in the model with no lags, explaining 31.4% of the DGNI variance, the Polity indicator is the most relevant exogenous variable with DILE less relevant and ODA almost not relevant at all. In this case, ODA is also negatively correlated with the changes in GNI. In the second model with lagged DILE, that explains 24.2% of the variance, this lagged indicator becomes the most relevant of all showing us that changes in economic freedom take time to produce improvements in GNI. ODA still has an extremely low relevance but becomes slightly positive while Polity2 becomes the number 2 indicator in relevance, very close to lagged DILE. The third and fourth models with lagged ODA, that explain 32% and 31%, respectively, are still showing a low relevance for ODA but an even lower relevance for the nonlagged DILE. Polity2 remains the only important exogenous variable in the model.

The third model is the regression for a double differentiated series of life expectancy depending on the same three indicators: ODA, DILE, and Polity2. Since the model has led to auto correlated residuals, we have preferred using the EGLS white consistent method of estimating the parameters instead of Cochrane-Orcutt. Since the volume of the database is high (472 observations), EGLS will maintain similar properties for the estimators as per the regular OLS [19].

Equation	1	2	3	4
Dependent variable	DDPLE	DDPLE	DDPLE	DDPLE
Lags	None	DILE(−1)	ODA(−1)	ODA(−2)
Method	Panel EGLS			
	(fixed cross-section effects, white adjustment)			
Constant	115.8896	0.001487	0.001832	0.001528
	(30.34444)	(0.000171)	(0.000146)	(0.000114)
ODA	40.42955	−0.0000228	−0.0000289	−0.0000243
	(50.97066)	(0.00000318)	(0.000003)	(0.00000246)
DILE	0.568132	−0.00015	−0.00007	0.0000458
	(0.375682)	(0.00016)	(0.000128)	(0.000099)
Polity2	21.14402	−0.000049	−0.0000429	−0.000035
	(7.068845)	(0.0000173)	(0.000012)	(0.0000124)
Adjusted period	2001 2014	2001 2014	2001 2014	2001 2014
Observations	472/40	472/40	472/40	472/40
Adjusted R^2	0.316071	0.480624	0.546168	0.530581
Sum squared reside	45396716	0.001696	0.00189	0.001972
S.E. of regression	325.2996	0.002051	0.002099	0.002144
F-statistic	6.182571	10.80471	14.49592	13.67543
Prob(F-statistic)	0	0	0	0

The most relevant parameter in all the regressions above is the one attached to ODA (99%) in all regressions, closely followed by Polity2 (approx. 95%) and then DILE (19–65%). Thus, between the three variables, ODA is the most important factor related to life expectancy as it is most often correlated with an inflow of know-how and pharmaceutical innovations.

4. Conclusions and policy recommendations

The HDI dimension, education index, has been tested only for life school expectancy. Due to lack of relevant official data available, our models have not included the indicator: mean years of schooling, and this can be a negative factor influencing the empirical relevance to the tested correlations here. As statistical data provided by international institutions will be improved, we are convinced that the quality of the following research will become more relevant. However, our findings show some important facts. Surprisingly, life school expectancy is not improved in recipient countries by getting development assistance. Therefore, it might be possible that better education is rather home-grown process, depending in a large extent by better domestic policies which take into account other cultural aspects in that particular region. The other two variables, ILE and Polity have also proved to have a very limited positive effect on life school expectancy indicator. We observed also that economic freedom tends to be positively correlated in time with this indicator.

Related to the changes in gross national income, our findings in the model without lags reveal that Polity and ILE are the most relevant, while ODA is negatively correlated. In the model with lagged ILE, economic freedom becomes the most relevant factor that contributes to growth. Thus, after doing this sensitivity analysis, we can emphasize that a less authoritative regime and improved economic liberties in the previous years are the most important factors of the three in terms of the impact over the GNI growth. This confirms some other recent findings in the development literature that quality of economic and political institutions matter for growth in a strong manner. Since aid is still channeled in most cases to governments and public agencies in the developing countries there is a little chance to stimulate growth, but corruption and social inequalities. As economic theory suggests, markets represent a better way to allocate resources and increase the living standards of people.

Analyzing the impact of these three variables on life expectancy at birth, our findings are favorable to ODA, as the most relevant factor, followed by Polity and ILE. Thanks to the work of UN World Health Organization, global funds, and other NGOs, healthcare problems in Africa have been reversed in trends.

Our findings and conclusions might be helpful to aid policy makers. However, it is not the goal itself of the international institutions and Western governments to eradicate poverty that is being questioned here, but the means by which they intend to achieve their objective. For instance, by analyzing separately HDI components instead of focusing on the aggregate HDI, we have identified some areas in which aid helps the poor, and areas in which aid seems to be wasted.

In the first place, if the developed countries want to promote economic growth, as main engine for sustainable development or to eradicate poverty in Africa, they should help the poor to have markets not bureaucracy and interventionism. A good example comes from the British Development Agency and it is worthy to be mentioned here. In southern Ethiopia, coffee farmer Feleke Dukamo is getting a better price for his beans. "My coffee sells for nine times more than it used to," he tells the British development agency DFID. The farmer is benefiting from the Ethiopia Commodity Exchange, established in 2008 with support from the United Kingdom. Before the exchange was created, Ethiopia's 15 million smallholders had no way of knowing the market price for their coffee, so middlemen were able to buy their beans cheaply and then sell them for a big margin. The new exchange has changed that: it sends farmer's regular updates on coffee prices by text messages via a dedicated phone line, which receives 44,000 calls a day. The result is a fairer price. "Now I can aspire to a better life," says Feleke. "I've been able to buy some cattle and, as my farm grows, I can employ people to help bring in the harvest" [1].

This challenge takes time and cannot be done overnight. But the first step in the right direction is to generally admit that aid cannot buy growth, as Easterly emphasized [20]. Development agencies should be more specialized, focusing more on small number of tasks in specific fields. The holistic approach of collective responsibility of hundreds of agencies should be replaced by a more accountable approach of individual responsibility, such as transferring knowledge on banking systems, developing stock markets, promoting sound macroeconomic management, or stimulating business environment by simplifying business and trade regulations. Basically, the main goal for aid agencies is to identify proper actions to promote institutional reforms favorable to free markets and fair competition in recipient countries. Simply giving money to a large number of national government bureaucracies helps public administration and the ruling parties, not the people. Additionally, a more focus on the alternative aid channel involving NGOs, global funds or other social entrepreneurs could increase aid effectiveness.

Second, for the UN and development agencies, there is an important task to be focused on in the future. Many healthcare and nutrition problems in poor countries have been solved, even if partially, with the help of the West. According to Easterly, by giving the poorest people vaccines, antibiotics, food supplements, fertilizers, or roads does not mean we make the poor dependent on foreign aid. On the contrary, better health, better nutrition, and better education represent more opportunities for the poorest to escape poverty and get better living conditions.

Author details

Gabriel Staicu* and Razvan Barbulescu

*Address all correspondence to: gabriel.staicu@economie.ase.ro

 Bucharest University of Economic Studies, Bucharest, Romania

References

[1]   Keeley, B. From Aid to Development: The Global Fight against Poverty. Insights, OECD Publishing, 2012.

[2]   Temple, J. R. W. "Aid and Conditionality." In Handbook of Development Economics. Vol. 5. Edited by Dani Rodrik and Mark Rosenzweig, 4415–4523. Amsterdam: Elsevier, 2010.

[3]   OECD. Development Co-operation Report 2011 50th Anniversary Edition, OECD Publishing, 2011.

[4]   Riddell, R. C. Foreign Aid Reconsidered. Baltimore, MD: Johns Hopkins University Press, 1987.

[5]   Tarp, F., and Peter H. eds. Foreign Aid and Development: Lessons Learnt and Directions for the Future. London: Routledge, 2000.

[6]   Sachs, J. The End of Poverty: Economic Possibilities for Our Times. Penguin Publishing, 2006.

[7]   Riddell, R. C. Does Foreign Aid Really Works? Oxford University Press, 2007.

[8]   Martens, B., Uwe M., Peter M., and Paul S. The Institutional Economics of Foreign Aid. Cambridge, UK: Cambridge University Press, 2002.

[9]   Burnside, C., and David, D. "Aid, Policies, and Growth." American Economic Review, 90(4): 847–868, 2000.

[10] Easterly, W. "Can the West Save Africa?" Journal of Economic Literature 47(2): 373–447, 2009.

[11] Easterly, W. The White Man's Burden: Why the West's Efforts to Aid the Rest Have Done So Much Ill and So Little Good. Oxford: Oxford University Press, 2006.

[12] Deaton, A. "Aid and Politics." In The Great Escape: Health, Wealth and the Origins of Inequality. Princeton, NJ: Princeton University Press, 2013.

[13] United Nations Development Programme. Human Development Report 1997. Human Development Report, 15, 1997. ISBN 978-0-19-511996-1.

[14] http://www.oecd-ilibrary.org/development/development-co-operation-report-2016_dcr-2016-en#statlinks

[15] OECD. Development Aid at a Glance, OECD Publishing, 2008.

[16] Marshall, G. M. Polity IV: Political Regime Characteristics and Transition, 1800–2013. http://www.systemicpeace.org/polity/polity4x.htm

[17] James G., Robert L., and Joshua H. Economic Freedom of the World: 2015 Annual Report, Fraser Institute, 2015. https://www.fraserinstitute.org/studies/economic-freedom-of-the-world-2015-annual-report.

[18] Pallant, J. SPSS Survival Manual, A Step by Step Guide to Data Analysis using SPSS for Windows. 3rd Ed., 179–200. Sydney: McGraw Hill, 2007.

[19] Pindyck, R. S., and Rubinfeld, D. L. Econometric Models and Economic Forecasts. New York: McGraw-Hill, 1991.

[20] Easterly, W. "Can Foreign Aid Buy Growth?" The Journal of Economic Perspectives, 17(3), 2003.