Impact of Foreign Aid on Growth of African Nations

Debasis Patnaik Ph.D1. Rishab Goel2
1 Asst Professor, Dept of Economics, BITS Pilani K K Birla Goa Campus
2 Scholar, Deptt of Economics, BITS Pilani K K Birla Goa Campus

Abstract: African nations and economies interact for providing environment for foreign investment. Rich in natural resources and abundant labor and land, there is need to discover areas of synergy between Africa and India for mutual growth and development. This paper attempts to areas of co-operation that need to be harnessed for future growth and build up an egalitarian society. Economic indicators like per capita GDP, household expenditure, capital formation, foreign reserves, domestic savings, foreign investment, net trade, income payments, external debt is used. External debt has strong co-relationship with the increase in foreign aid as evident from the values of various elasticities calculated. Kenya Uganda, Nieria Ethiopia is used for a 10year period from 2000-2009.

Keywords: Bilateral Aid, trade, FDI, Capital formation, gross savings, household final consumption expenditure

I. Introduction

African countries suffer from burden of history, internecine conflicts, land locked states, low density causing telecom and transport difficult. This provides great scope for foreign help and investment. Economic stability and growth should be basis for long lasting partnership and mutual growth.

Objectives:
1. To Analyse the key potential areas of interest in Africa where India can strategically invest. To identify potential areas that give India access to key resources where it is deficient Identifying key factors in synergy in Indian-African economic ties and Indian Investment and gain market shares in African market. Competition and threat posed by other major foreign powers must be dealt with at an economic and diplomatic level by developing key partners and investing in key markets and resources
2. After identifying the key Countries of interest, to analyse the impact of Foreign Aid on their growth process

Key Markets

Africa is a huge continent consisting of 52 countries. These countries are of varying size geographically, economically and demographically. These three factors are critical for determining the success of Indian Investment. Indian Investment is aimed at developing socio-economic and political relations by helping the African nations develop their resources. On the basis of these three factors, four nations have been identified as investment countries. These are:
- Ethiopia
- Large pool of English speaking skilled workers
- Huge possibility for investment in infrastructure
- Excellent location, ideal for starting base for a Pan-Africa presence
- Safe and conducive business Environment
- Nigeria
- Significant pre-existing trade ties
- Government incentives
- Established diplomatic partner
- Huge oil resources
- Uganda
- Richly endowed in mineral resources
- 

3 The Directorate General of Commercial Intelligence and Statistics (DGCI&S), Kolkata(2011), “Export import Data Bank” under the Ministry of Commerce, Government of India
• Open and Stable economy
• Large Indian Diaspora
• Significant existing investment
• Kenya
• High level of regional integration
• Large coastline and major ports
• Easy availability of skilled labour
• A growing financial sector which is near absent in other African Nations.

II. Literature Review

Emmanuele Pollio in his paper, “The Indian and Chinese Policies towards Africa: A veritable challenge to EU led inter-regionalism” comparatively analyses the extent to which Chinese and Indian policies in Africa are constraining European Union’s interregional strategy towards Africa. The paper uses Heiner Haenggi’s distinction of interregionalism into 1) Pure Interregionalism 2) Transregionalism 3) Quasi-interregionalism to investigate the extent to which new interregionalism promoted by India and China might impact on the re-defined EU-Africa interregional partnerships. The paper comprehensively studies the history of EU-Africa interregionalism from the 1970’s to 2000’s as well as the recent interregionalism developed by India and China. After individually studying the history of interregionalism of the fore-mentioned, it analyses the impact of Indian and Chinese policies on EU-Africa cooperation. The paper concludes that the Influence of EU has considerably declined in the recent years due to the emergence of Indian and Chinese policies towards interregionalism in Africa. However, the author arrives at this conclusion by mere analysis of the policies of the involved nations and does not use empirics to support his claim.

Ruchita Beri in her paper, “India’s African Policy in the Post-Cold War Era: An Assessment” analyses the policies adopted by India towards Africa post 1991 in a unipolar economic climate where Non-Alignment Movement is not applicable. The author recognizes that India and Africa share similar economic problems like under-development and poverty and discusses various collaborative measures to develop their economies. In the paper, the author recounts the initiatives taken by the pre-liberalized post-colonial India and how those policies fared. She also describes the context during when these policies were enacted. The author defines five purposes for the diplomatic and economic policies adopted by India in the Post-Cold War era viz: -
• Promoting Economic Co-operation
• Engaging People of Indian Origin
• Preventing and Combating Terrorism
• Preserving Peace
• Assisting the African Defence Forces

The paper although discusses Indian policies on a pan-Africa level using empirics, it does not discuss bilateral relations with African nations.

Sulaimen Balarabe Kura in his paper examines the politico-diplomatic, socio-cultural and economic relations between India and Nigeria using a historic approach. The author discusses the Political and Diplomatic relations between the two nations using historical quotes by leaders of both the nations. He also discusses socio-cultural relationships citing various initiatives undertaken by both the nations for closer cultural relations. He also analyses the various military interactions between the two nations. Finally, he emphasises on economic trade using relevant data arguing that although in economic terms the balance of trade is in favour of Nigeria due to increasing importation of Nigeria’s crude oil into India, Indian investment activities in Nigeria have

---

exemplified what might be termed an unequal relationship in which India has an edge over Nigeria. The author concludes that development of democratic institutions and redefinition of economic ties would not only strengthen their political and economic relations, but also bring mutual benefits.

AbdulNasser Hatemi-J and Manuchehr Irandoust in their paper have empirically investigated the relationship between foreign aid and economic growth using a growth model based on aid. Investigating the model using Swedish Aid data, the authors found that the variables of the model contain a panel root unit and cointegrate into a panel perspective in a long run steady state. Also, country-specific elasticities are obtained through the estimated panel system making use of dummy least square method. These elasticities are estimated to be close to one, i.e. under ceteris paribus conditions, increase in foreign aid leads to proportional increase in GDP.

Limitation: Dataset used in the paper is very small.

Girijasankar Mallik seeks to understand the impact of foreign aid on poverty traps been faced by the poorest of the African Nations. He notes that current literature largely points that the impact of foreign aid largely depends on the policies pursued by the recipient countries. The author expands on Harrod- Domar model through open-ended models and tests them using various cointegration methods. The author has used Swedish aid to six countries viz.- Botswana, Ethiopia, India, Kenya, Sri-Lanka, and Tanzania as his database. Error terms in the model suggested by the author have been estimated using Null Hypothesis for panel version of Dickey-Fuller unit-root and Monte Carlo experiments. Upon analysis of estimation of variables, the author infers that in the long run, foreign aid has a negative impact on the GDP. The author reasons that foreign aid may be substituting domestic savings, for the fore-mentioned negative relationship. The author also calculates the country specific long-run GDP elasticity of Foreign Aid. The values are in general near 1. This result signifies that the Swedish aid in the long run led to increase in GDP.

Limitation: The paper does not conclusively analyse the reasons for its results. It also fails to analyse whether the negative relationship between foreign aid and GDP is due to ‘bad policies’ of the respective government.

Eno L. Inanga and Etah Mandah have examined the role of two foreign aid financing agencies, Enterprise Development Fund (EDF) and Export Development Programme (EDP), in promoting Zambia's economic growth. A sector-wise analysis is conducted by the author on the impact of external funds on growth of various sectors. In spite of the significant foreign aid, per capita income of Zambia has declined leading author to argue foreign aid is less effective at generating growth than initially perceived. He also reasons that given a stable macroeconomic environment, foreign aid finance can generate growth.

Limitation: The paper does not use any significant model to conclude its findings.

Houdou Ndambendia investigates the long-run relationship between foreign aid, foreign direct investment and economic growth in 36 Sub-Saharan Africa countries over the period 1980-2007 using panel data of Mean Group (MG), pooled mean group estimator (PMG) and dynamic fixed effect (DFE). The author has developed a model of his own using Cobb-Douglas method. He has used the fore-mentioned tools to reveal a positive relationship between economic growth and foreign aid as well as foreigner. On analysis using PMG and DFE, this positive relationship was found to be very weak in nature. Also, the author notes that African nations should invest in internal factors like human capital and savings for growth.

Limitation: The paper does not discuss impact of internal factors on growth.

Daniel Sakyi investigates the impact of foreign aid, trade on economic growth of post-liberalized Ghana using the ARDL bounds testing approach to cointegration. The author has developed an empirical growth model involving the following variables viz: - Labour Force Growth, Gross Domestic Investment, Government Expenditure, Political System and Labour Force Participation. The mathematical analysis of the ARDL bounds testing approach reveals a both foreign aid and
trade openness has a strong positive relationship with economic growth in both short-run and long-run. However, the author notes that the impact of foreign aid and trade on economic growth is limited due to their interaction term. In his paper Donald L. Sparks has investigated the dramatically increased economic and commercial ties of China and India with sub-Saharan Africa during the past decade and a half, centred on mineral exploitation. The author deals with the term, “resource curse” in which resource abundant nations are unable to reap benefits of their own resources.

Using empirical data the author shows that China and India both are pursuing policies helping them gain access to the mineral wealth of the nation. He notes that Chinese investment is long term and is backed by the state government, while Indian investment is largely private-sector driven. He also states the reasons why African nations are preferring investment from these two nations. On study of empirics, the author concludes that the Chinese and Indian investment will not help eradicate the “resource curse”. It might even accentuate the seriousness of the current state.

**Limitation:** The author does not elaborate on how Indian and Chinese investment will exacerbate the current “resource curse”.

<table>
<thead>
<tr>
<th>ELasticity</th>
<th>Country</th>
<th>Country</th>
<th>Country</th>
<th>Country</th>
<th>Mean</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>E_{aid,ip}</td>
<td>-0.14</td>
<td>0.24</td>
<td>0.78</td>
<td>-0.78</td>
<td>-0.32</td>
<td>0.32</td>
</tr>
<tr>
<td>E_{aid,trade}</td>
<td>1.26</td>
<td>0.97</td>
<td>0.01</td>
<td>1.47</td>
<td>0.92</td>
<td>0.43</td>
</tr>
<tr>
<td>E_{aid,sa}</td>
<td>0.38</td>
<td>0.19</td>
<td>0.93</td>
<td>2.20</td>
<td>0.93</td>
<td>0.82</td>
</tr>
<tr>
<td>E_{aid,cap}</td>
<td>0.08</td>
<td>0.18</td>
<td>-0.91</td>
<td>-0.51</td>
<td>-0.33</td>
<td>0.23</td>
</tr>
<tr>
<td>E_{aid, reserves}</td>
<td>1.04</td>
<td>1.01</td>
<td>0.78</td>
<td>1.92</td>
<td>1.19</td>
<td>0.25</td>
</tr>
<tr>
<td>E_{aid,hce}</td>
<td>0.68</td>
<td>0.66</td>
<td>0.52</td>
<td>1.42</td>
<td>0.82</td>
<td>0.16</td>
</tr>
<tr>
<td>E_{aid,capital}</td>
<td>0.98</td>
<td>0.76</td>
<td>0.76</td>
<td>1.73</td>
<td>1.06</td>
<td>0.21</td>
</tr>
<tr>
<td>E_{aid, savings}</td>
<td>0.82</td>
<td>0.48</td>
<td>0.60</td>
<td>1.04</td>
<td>0.74</td>
<td>0.06</td>
</tr>
<tr>
<td>E_{aid, gdpc}</td>
<td>0.89</td>
<td>0.73</td>
<td>0.69</td>
<td>1.76</td>
<td>1.017</td>
<td>0.25</td>
</tr>
<tr>
<td><strong>Effectiveness</strong></td>
<td>0.65</td>
<td>0.58</td>
<td>0.46</td>
<td>1.35</td>
<td>0.76</td>
<td>0.16</td>
</tr>
</tbody>
</table>

### III. Methodology

The impact of foreign aid on key economic factors is studied using the concept of elasticity. Elasticity is a measure of responsiveness. The responsiveness of behavior measured by variable Z to a change in environment variable Y is the change in Z observed in response to a change in Y. Elasticity = (percentage change in Z) / (percentage change in Y)

Long-run Elasticity has been measured over a period 2000-2009 using databank from World Bank and United Nations for four countries viz:- Ethiopia, Nigeria, Kenya, Uganda for the following variables:-

- Net bilateral aid flows from DAC donors, Total (current US$)/aid
- Income payments (BoP, current US$)/ip
- Net trade in goods and services (BoP, current US$)/trade
- Gross savings (current US$)/saving
- GDP per capita (current US$)/gdpc
- Gross fixed capital formation (current US$)/capital
- Household final consumption expenditure (current US$)/hce
- Total reserves (includes gold, current US$)/reserves
- Foreign direct investment, net inflows (BoP, current US$)/fdi
- External debt stocks, long-term (DOD, current US$)/debt

Elasticities have been calculated using midpoint formula:-

\[ E = \frac{\text{change in } Y}{\text{change in } X} \]

- \( E_{aid,ip} \) = change in income payments/\%change in bilateral aid
- \( E_{aid,trade} \) = \%change in net trade/\%change in bilateral aid
- \( E_{aid, savings} \) = \%change in gross savings/\%change in bilateral aid
- \( E_{aid, gdpc} \) = \%change in GDP per capita/\%change in bilateral aid
- \( E_{aid, capital} \) = \%change in Gross Capital Formation/\%change in bilateral aid
- \( E_{aid, hce} \) = \%change in Household Expenditure/\%change in bilateral aid
- \( E_{aid, reserves} \) = \%change in Total Reserves/\%change in bilateral aid
- \( E_{aid, fdi} \) = \%change in Foreign Direct Investment/\%change in bilateral aid
- \( E_{aid, debts} \) = \%change in External Debt Stocks/\%change in bilateral aid

**Effectiveness** = \( \text{Mean}(E_{aid,ip} + E_{aid,trade} + E_{aid,fdi} + E_{aid,debt} + E_{aid,reserves} + E_{aid,hce} + E_{aid,capital} + E_{aid,saving} + E_{aid,gdpc}) \)

---

Impact Of Foreign Aid On Growth Of African Nations

IV. Analysis

1. \( E_{\text{aid, ip}} \) i.e. the responsiveness of income payments with change in foreign aid shows fluctuating values for the four nations varying from -0.14 to 1.13. Hence we cannot conclude that Foreign Aid has a positive or negative impact on Income Payments.

2. \( E_{\text{aid, trade}} \) i.e. the responsiveness of net trade with change in foreign aid usually has a positive impact with a mean value of elasticity of 0.92. Other than Nigeria, all countries show a strong co-relationship between Foreign Aid and Net Trade. As foreign Aid increases, countries trade more goods and services.

3. \( E_{\text{aid, fdi}} \) i.e. the responsiveness of foreign direct investment with change in foreign aid shows a positive relationship between the two variables for all the nations with a mean value of 0.93. However, this parameter shows a very high variance of 0.82.

4. \( E_{\text{aid, debt}} \) i.e. the responsiveness of external debt with change in foreign aid shows a negative relationship with all nations except for Kenya. With increase in foreign aid, external debt decreases. The mean value is -0.33 and the variance are very low at 0.23.

5. \( E_{\text{aid, reserves}} \) i.e. the responsiveness of net reserves with change in foreign aid shows a strong positive relationship between them. As foreign aid increases, net reserves also increase. The value of this elasticity is near 1 (mean is 1.19) for all nations providing strong evidence.

6. \( E_{\text{aid, hce}} \) i.e. the responsiveness of net household expenditure with change in foreign aid also displays a positive relationship. However, this relationship is relatively weak in nature. The mean(0.82) is high due to very high value for Uganda

7. \( E_{\text{aid, capital}} \) i.e. the responsiveness of capital formation with change in foreign aid. These variables show a strong positive co-relationship (mean is 1.06) where increase in foreign aid helps increase gross capital formation in the country.

8. \( E_{\text{aid, saving}} \) i.e. the responsiveness of domestic savings with change in foreign aid also displays positive relationship where domestic savings for a country increases with increase in foreign aid with mean 0.74. The variation is exceedingly low at 0.06 showing a universal relationship for the dataset.

9. \( E_{\text{aid, gdp}} \) i.e. the responsiveness of GDP per capita with change in foreign aid displays a strong co-relationship between the two relationships with a 0.76 mean value for the dataset. Hence we can safely say that our method concludes that increase in foreign aid leads to corresponding increase in per capita GDP.

V. Conclusions

For all the variables under consideration, the methodology proves that Foreign Aid is indeed a strong stimulus to the economy. Key economic indicators like per capita GDP, household expenditure, capital formation, foreign reserves, domestic savings, foreign investment, net trade and income payments have increased over the years 2000-09. External debt has also considerably decreased for the four nations in consideration. This increase has a strong co-relationship with the increase in foreign aid as evident from the values of various elasticises calculated in the methodology. Over the ten year time period, all four countries have responded positively to foreign aid which is evident from the analysis of their key indicators.

Other than Nigeria where trade has stagnated, there is a extremely positive relationship between foreign aid and Net trade with elasticity values above 1. Hence, we can conclude that foreign aid has an extremely positive impact on trade. Nations looking to increase bilateral trade relations with African nations particularly Ethiopia, Kenya and Uganda should consider providing foreign aid to these countries.

Effectiveness result introduced in the model is the mean of all the nine elasticises calculated from the dataset. Its mean value is 0.76. The also shows that foreign aid has been highly effective in Uganda with the effectiveness result having a value 1.35, i.e. for increase in key development factors is greater than increase in foreign aid. Rest of the nations also fare well in the Effectiveness result with values viz.: - Ethiopia-0.65 Nigeria-0.46 Kenya-0.58.

The methodology also shows that foreign aid has not only increased per capita GDP for the four nations but it has had a positive impact on increased gross capital formation, household expenditure and domestic savings. The relevant literature states that foreign aid often replaces domestic savings. However our approach shows that that is not the case for the four nations in consideration.

After concluding the tests by the approach mentioned above for the four nations, foreign aid definitely has a strong positive effect on the nations. These nations are willing recipients of foreign aid and past instances have shown that foreign aid leads to increased closeness in diplomatic, political, economic, military and socio-cultural relations (See Appendix). According to the result of this approach India should provide foreign aid to these four nations as they not only help grow their economy and increase bilateral trade but also increase the political clout of India in Africa.

DOI: 10.9790/5933-07132331 www.iosrjournals.org
VI. Limitations

- Only 9 parameters have been taken into account for calculating effectiveness of the foreign aid for the destination country.
- Database is for only 4 nations which are economically better-off nations in Africa (Middle-level income nations).
- The tests have been done only for the timeline of 2000-09.
- The approach adopted in the paper cannot specify whether the strong relationship evident from the empirics is due to positive effect of foreign aid or mere sound economic policies by the recipient nations.
- The elasticity values for Uganda are very high compared to other nations. The reasons for the same cannot be ascertained by this approach.
- The approach deals with empirics and cannot detail how exactly foreign aid will improve diplomatic and economic relationships of the four African nations with India.

Appendix

A. Key Factors

For Indian Investment to be effective in developing diplomatic ties and enhancing Indian strategic and political power on the African Continent, we are looking for key factors which act in synergy between India and African partners. These are:-

- Large domestic Market
- Open and Stable Economy
- Availability of Natural Resources
- Skilled Labourers, speaking English
- Possibility for development of Infrastructure
- Possible development of education base, primary and secondary
- Prospects for Co-operation on scientific projects, Space research and Arms forces
- Large Indian Diaspora

B. End Result Of Pursued Policies

- Expansion of Trade relations
- Access to new resources
- New markets for Indian Products
- Larger pool of skilled workers
- Engaging People of Indian Origin
- Preventing and combating terrorism
- Assisting African Defence Forces

C. Ethiopia

Basic Facts

- FDI Potential Rank 131\textsuperscript{22}
- FDI Inflow Performance 122\textsuperscript{22}
- Trade with India: $660m\textsuperscript{23}
- Indian Investment: $4.7b\textsuperscript{23}
- Total FDI flow in 2010: $184b\textsuperscript{22}
- Total FDI Stocks by 2010: $4102b\textsuperscript{22}
- Major Investors: Europe & Middle East\textsuperscript{23}
- Investment based around the capital Addis Ababa\textsuperscript{24}

Strategic Factors Benefiting Indian Investment

- Large Domestic Market\textsuperscript{24}
- Excellent Geographical Location surrounded by nations with positive growth prospects. Ethiopia is the ideal foothold for Indian Investors looking to target multiple nations\textsuperscript{25}
- Large Pool Of English Speaking Skilled Workers who will compatible with Indian Investors\textsuperscript{24}


\textsuperscript{23} The Directorate General of Commercial Intelligence and Statistics (DGCI&S), Kolkata(2011), “Export import Data Bank” published under the Ministry of Commerce, Government of India


Impact Of Foreign Aid On Growth Of African Nations

- Comparative safe and corrupt free Business Environment
- Consistent market reforms since 1991
- Reputed Airline with excellent Air links
- Ethiopian Government looking at Privatization

**Markets of Interest**
- Potential Irrigated Land of 3.5 million hectares, with only 4% potential realized
- Huge Livestock resources ideal for leather and tanning industry (69,000 and above)
- Road: Lowest road density in Africa
- Power: Only 5% population has access to electricity
- Unexploited wealth of natural resources like Gold and other minerals
- There is a large tourism industry. Associated services sector like Hotel Industry are attractive sectors

**Strategic Factors Hindering Indian Investment**
- Low Purchasing Power ($110 per capita)
- Large Investments by Middle East, Europe and China may crowd out India
- High Bureaucracy

**D. Nigeria**

**Basic Facts**
- FDI Potential Index 93
- FDI Performance Index 61
- Trade with India $10b
- Indian Investment $5b
- Total FDI Inflow in 2010 $6099b
- Total FDI stocks by 2010 $60327b
- Major Investors: US, Other African Nations

**Strategic Factors Benefiting Indian Investment**
- Significant trade ties
- First African Nation to pay off its debt
- Push for privatisation on behalf of government
- Significant incentives by Government to promote investment
- Easy Work Permits

**Strategic Factors Hindering Indian Investment**
- Constrained Land
- Crowding out of Indian Investment by other Foreign Investors
- Lack of clear government focus

**Markets of Interest**
- Oil Industry. Nigeria has huge oil reserves which complements India as it as a Oil Deficient country
- Manufacturing. Nigerian economy is low on manufacturing and India can help Nigeria develop capital. Nigerian government is offering number of incentives to aggressively promote this sector
- Chemical Industry. As Oil is produced in large quantities, significant investment can be in this sector

**E. Uganda**

**Basic Facts**
- FDI Potential Index 120
- FDI Performance Index 41

---

Impact Of Foreign Aid On Growth Of African Nations

- Trade with India $39b
- Indian Investment $58b
- Total FDI Inflow in 2010 $848b
- Total FDI stocks by 2010 $5853b
- Major Investors: China, Netherlands

Strategic Factors Benefiting Indian Investment
- Situated at heart of Africa, ideal place for Venture looking to develop Pan-Africa presence
- Richly endowed in natural resources
- Open and stable economy after the end of Amin’s regime
- Large Indian Diaspora
- Significant past investment

Strategic Factors Hindering Indian Investment
- Landlocked nation
- Shortage of Middle-level workers and technicians
- High Corruption

Markets of Interest
- Pharmaceutical Industry. Significant part of the population is hit by HIV and other diseases are common
- Infrastructure development. As infrastructure, especially roads and railways are not developed. Only 5% of the people has access to electricity
- Manufacturing. As Uganda is richly endowed in natural resources like gold, zinc, wolfram, diamonds etc which are not present in India
- Tourism Industry. Boasting of some of the most exquisite sites, Uganda has a potential to be a tourism hotspot
- Agriculture. Cash crops like cotton, tea and coffee are grown in large amounts. Investment in agriculture and allied sectors in viable

F. Kenya

Basic Facts
- FDI Potential Index 122
- FDI Performance Index 129
- Trade with India $2b
- Indian Investment $58b
- Total FDI Inflow in 2010 $133b
- Total FDI stocks by 2010 $2262b
- Major Investors: China, Britain

Strategic Factors Benefiting Indian Investment
- Easy availability of skilled labour
- Regional integration allowing free trade in the local region
- Large Indian Diaspora
- Significant proportion of the population speaks English
- Long Coastline and Major Ports

---

• Excellent connectivity through Ports both sea and air
• Government push for privatisation

Strategic Factors Hindering Indian Investment
• Security issues
• Poor governance
• Track record of underperforming in terms of FDI
• Unstable border with Somalia

Markets of Interest
• Education Industry. Kenya boasts of one of the best human resource in Africa and has the potential to be a leader in this industry
• Infrastructure development. Infrastructure is poor when compared to other African Nations. Government is making serious efforts to improve it through FDI
• Financial sector. Due to open relationship with neighbouring nations and availability of skilled labour, financial services can be developed which will serve East Africa

References