Impact of Foreign Aid on Income Inequality

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Abstract

Analysis of this paper is focused on exploring the impacts of foreign aid on income inequality. Relationship in foreign aid and income is still fuzzy; some researchers agree on positive relationship, some other favor the negative relationship, and while rest have suggested mixed relationship. This study has employed annual data for 13 years from 1993 to 2005 and 43 countries (middle income and lower middle income countries). The hypothesis that foreign aid contributes to income inequality is tested here. To test this hypothesis panel data regression is used, considering regional differences as well as income differences in these countries. The moderate evidence on the hypothesis is found; that is foreign aid subsidizes income inequality in the middle and lower middle income regions.

Keywords: Foreign Aid, Income Inequality & Panel Data.
I. Introduction

Poverty reduction and narrowing down income discrepancies is one of the eight development goals of the millennium to be achieved by 2015, set by 23 international organizations and 192 united member nations; and this can be achieved if everyone gets one’s fair and equal income so that he/she may spend to fulfill their biological needs and improve its living standard. So these countries and organizations agreed to donate to poor countries in the form of aid and concessional loans to achieve this goal. But here we will focus on foreign aid and its role in eradication of income inequality.

Foreign aid and its impacts has remained the much debatable issue since decades. A lot of debates and researches have been dedicated to this issue; many supportive and controversial arguments have been found. But relationship between foreign aid and income inequality is still questionable. Positive, negative and even mixed relation is found by many economists. But most of them have depicted negative impact of foreign aid on growth and income inequality. Most of them were of the idea that aid may reduce income inequality if good institutions and good policies are there (Burnside & Dollar; 1997). Even democratic and good policy governments sometimes receive less aid; this may be due to interests of donors (The political, economic and geographic interests of donor) and even some times policies are implemented which are advised by donors and they go unproductive due to cultural, environmental and political differences; or there may be other reasons. What World Bank suggest to donor countries for allocation of aid is that two factors should be examined which are existing economic policies and level of poverty. Aid is only helpful if policies and institutional quality is there and the implications of those good policies are ensured. As in Africa poverty level is high and they receive sufficient assistance but they lack in practicing good policies, due to which aid remain ineffective.
Main objective of foreign aid is the poverty reduction by fostering growth and improving income distribution and this can be achieved only if loan is extended for the purpose of poverty eradication without any other interests, conditions and objectives (i.e. Military aid or support to government deficit or to promote donor’s interests). Economic policies, Income distribution, inequality and corruption are to be considered for acceptance and effectiveness of loan (Mosley et al; 2004).

A very interesting point was highlighted by (Pedersen; 2001) that aid may hinderance the efforts of poverty reduction because some governments believe that more the poverty more will be the flow of aid, due to this they may intentionally try to sustain poverty and do not make the most of aid as desired.

Aid itself alone can’t do anything; it needs lot of efforts from donor as well as recipient countries. Making loan effective is not easy task; many challenges are to be faced by recipient countries (i.e. institutional reforms, effective policies and eradication of corruption) for effectiveness of aid. Also donor countries should provide technical assistance and different skills to recipients to make aid useful. Stock of foreign aid and time lag between foreign aid and its impact are important. Different types of foreign aid will impact on growth over very different periods. We should find ways to make aid effective and fruitful rather than just thinking either aid works or not and also we should not be much dependent on aid but consider trade promotion rather than aid promotion.

Consistency of aid is also important. Means there should be stability of aid because it keeps a smooth track of development without interruptions; otherwise instability (increase or decrease in installments) may cause distortion in many investment projects targeted to development and
income equality and may lead to ineffectiveness of aid and uncertain policies regarding aid effectiveness. Aid may also affect poverty and income inequality indirectly through various projects if carried properly and earnestly.

Aid can be of different types. Some of them are described below:

- **Development Aid**: Development aid is aid given by developed countries to support development in general which can be economic development or social development in developing countries. It is aimed at alleviating poverty in the long term.

- **Humanitarian Aid**: Humanitarian aid or *emergency aid* is rapid assistance given to people in immediate distress by individuals, organizations, or governments to relieve suffering, during and after man-made emergencies (like wars) and natural disasters.

- **Project Aid**: Aid is given for a specific purpose e.g. hello materials for a new school.

- **Program Aid**: Aid is given for a specific sector e.g. funding of the education sector of a country.

- **Budget Support**: A form of Program Aid that is directly channeled into the financial system of the recipient country.

- **Sector-wide Approaches (SWAPs)**: A combination of Project aid and Program aid/Budget Support e.g. support for the education sector in a country will include both funding of education projects (like school buildings) and provide funds to maintain them (like school books).

- **Food Aid**: Food is given to countries in urgent need of food supplies, especially if they have just experienced a natural disaster. Food aid can be provided by importing food from the donor, buying food locally, or providing cash.
• **Untied Aid**: The country receiving the aid can spend the money as they choose.

• **Tied Aid**: Tied aid is use to purchase products from the donor country or a specified group of countries.

• **Technical Assistance**: Educated personnel, such as doctors are moved into developing countries to assist with a program of development. It can be both program and/or project aid.

• **Bilateral vs. Multilateral**: Bilateral aid is given by one country directly to another; multilateral aid is given through the intermediacy of an international organization, such as the World Bank, which pools donations from several countries' governments and then distributes them to the recipients.

Numerous meetings and summits are called to discuss about poverty reduction and fair income distribution and still no satisfactory results are found, day by day its severity and depth is enlarging and its importance is increasing as time passes.

We should ask the question before thinking about aid; does it really cure poverty or carry poverty?

Further, the above issue is explained as follows. Following this introduction, the next section is of relevant literature review. The paper then describes the data and methodology of the panel study. The results are then described. Finally, the paper is concluded with the summary of major findings.
II. Literature Review

In this era of globalization, economies have become so dependent on each other that impacts of one economy quickly fall upon other economy. That’s why many countries advance to support one another to avoid any unfavorable situation. That support may come in different forms, i.e. aids, grants and concessional loans etc. Many studies are targeted over this issue that what antecedents that assistance carry for the recipient economy in terms of growth, poverty alleviation and curtailing income inequality incongruity.

In Pakistan, Khan & Rahim, (1993) analyzed that aid increases the investible resources thus increase the domestic investment which causes the more rapid rate of growth in economy. Fenny, (1990) evaluates the impact of foreign aid on poverty and human well-being in Papua New Guinea during the 1990s. They found high level of inequality reduces the impact of growth on poverty. Bhasin & Obeng, (2007) also studied to reduce the poverty of Ghana by applying some policies like reducing import tariffs, cutting the export taxes and by compensating these two accounts with the flow of foreign aid.

Bowen, (1995) had research on the official development assistance and its relation to the growth (positive-negative) and had taken sixty-seven less developed countries during the time period from 1970 to 1988. He investigates both the direct and indirect aid-growth relationship and stated that the nature of the aid-growth relationship varies across the level of economic development in aid-receiving countries. Herzer & Vollmer, (1998) found that inequality has a negative long-run effect on income, both for the sample as a whole and for important sub-groups within the sample. Collier & Dollar, (1998) work on aid allocation and poverty reduction and state that aid should not to be used to improve the policies of the country but must be used for the
reduction of the poverty. Macdonald & Hoddinott, (2002) examined the determinants of the allocation of Canadian bilateral aid over the period 1984–2000 and concluded that allocations are moderately selfless.

McGillivray, (2003) researched that “whether aid is effective or not” and found that aid is effective to promote the growth but there must also other sources which could help to reduce the poverty and increase the aid flows. Jeffery et al., (2003) study on aid efforts and its determinants and Aid effort is measured by the ratio of aid given relative to donor GDP. They found that there is evidence of progressivity in aid efforts in respect of donor income and some evidence of decline in aid effort relative to donor’s population size. “Peer-pressure” was also detected. Mosley et al., (2004) researched on the impact of aid on the reduction of poverty rather on economic growth together with inequality and corruption. They present empirical evidence which suggest positive leverage on aid donors on pro-poor expenditure.

Chong et al., (2004) found some weak evidence that foreign aid is conducive to the improvement of the distribution of income when the quality of institutions is taken into account; however, this result is not robust. Fenny, (2005) researched the impact of foreign aid on the rural sector in Melanesia. He found that foreign aid has no any impact in these agricultural regions either positively or negatively but has increase the economic growth of these countries. Apart from this, most authors have noticed that policies are important in the effectiveness of foreign aid, as the aid has a more positive impact on growth in with good fiscal, monetary, and trade policies (Mohey-ud-din,2005; Sachs et al.,2009). Chong et al., (2009) also supports the presence of good governance. Calderon et al., (2006) also finds that aid by itself does not appear to have a statistically significant effect on inequality and poverty reduction. Other methods suggest that good institutions may be necessary for aid to reach the poor. Loots, (2006) researched on Africa
and showed that expected increase in aid flow increases the aid dependency in the low income countries of Africa.

Milanovic, (2006) studies the impact of globalization on income inequality and focuses on why global inequality matters and proposes a scheme for global redistribution. Radelet, (2006) study about foreign aid suggest that no doubt aid has significantly positively related to growth but as the aid increases, it gives negative impacts. Pattillo et al., (2007) have researched on aid and income stabilization and found that ODA stabilizes available resources against GDP shocks. Further stabilizing aid is more effective in countries where there are frequent output fluctuations and countries that are highly dependent on aid. Fenny et al., (2009) researched on “what type of economic growth does foreign aid support”. Aid is used for poverty reduction, so as the poor people of poor countries are living in rural areas whose occupation is mostly of agricultural side, therefore, aid has positively significant impact on the growth of the per capita agricultural income as compare to the industrial income. So the main target of the foreign aid should be agricultural people as they are benefiting from it.

Layton & Nielson, (2009) concluded that the effect of foreign aid on inequality is somewhere between zero and weakly positive (increasing inequality) also noticed that the actions and intentions of the government after receiving the aid and also the conditionality have great effect in the impact of aid on inequality. Ekanayake & Chatrna, (2009) analyzed the effect of foreign aid on economic growth in developing countries. They took 85 developing countries for the period of 1980-2007. Results indicated that the significance levels of the foreign aid on income levels are different according to the income level, time period and regions of across the countries. Shafiullah, (2010) found that aid causes small reduction in inequality.
III. Data and Methodology

This section deals with model and data. Panel multiple regression model is used here. Model is all about finding relationship between foreign and income inequality by testing other different variables also, like GDP, unemployment, and population growth and so on. The dependent variable in our model is inequality measured as GINI coefficient (in log terms). The independent variables in the model are ODA received per capita, GDP growth, interest rate, unemployment, primary education, population growth and gross capital formation. The model is illustrated below:

\[ \ln(gini_{it}) = \beta_1 oda_{it} - \beta_2 gdp_{it} + \beta_3 dr_{it} + \beta_4 dun_{it} - \beta_5 pe_{it} + \beta_6 pg_{it} - \beta_7 dgc_{it} - \beta_8 (oda * un)_{it} + u_{it} \]

Where:

\(t = time\ period\ (1993\ldots, 2005),\ 13\ years\)

\(i = country\ (Armenia\ldots\ Zimbabwe),\ 43\ countries\)

\(\beta_1, \beta_2, \beta_3\ldots\beta_8 = \) these show the coefficients of variables.

\[ gini_{it} = \text{Gini index measured for income inequality in country } i \text{ and year } t. \]

\[ oda_{it} = \text{Official Development Assistance, proxy for foreign aid in country } i \text{ year } t. \]

\[ gdp_{it} = \text{GDP measures the GDP growth in a particular country } i \text{ and in year } t. \]

\[ dr_{it} = \text{Difference of interest rate in a country } i \text{ and year } t. \]

\[ dun_{it} = \text{Difference of unemployment in specific country } i \text{ and year } t. \]

\[ pe_{it} = \text{Primary Education, which is proxy for Literacy rate of country } i \text{ in year } t. \]
\[ pg_{it} = \text{population growth in country i and year t.} \]
\[ dgcf_{it} = \text{Gross capital formation difference of country i in year t, it is proxy for investment in capital.} \]
\[ \text{Oda*un=} = \text{interaction term between foreign aid and unemployment.} \]
\[ U_{it} = \text{is the error term} \]

\textit{b) Variable Description and Data Sources}

In order to test the implications of these models, a panel of aggregate data on foreign aid on a large number of countries is collected. The entire data set comprises 43 countries for which foreign aid and all other relevant variables are reported over the 1993-2005 period.

The data is collected from World Bank Development Indicators (World Bank). GINI index is calculated from the gross income. Net ODA received per capita (current US$) is used as measure for aid. We have taken primary education of pupils as a proxy for literacy rate. Gross capital formation; which is the investment made in capital; is in the percentage of GDP. Population is the annual growth in population in percentage. GDP is the annual growth in percentage. Unemployment depicts unemployment rate in these regions, whereas interest rate describes interest rate in those middle and lower income regions. ODA, GDP, real interest rate, unemployment, primary education, population growth and gross capital formation, these all are explanatory variables and the only dependent variable is Gini index.
IV. Empirical Results and Analysis

Table 01 presents the results of empirical analysis. Different analyses were made through different models. Impacts are shown by individual variable effect, difference effect and interaction terms. All vary in their significance of bearings.

The coefficient of ODA in first column is positive, which shows that it has positive relation with income inequality. Increase in official development assistance will likely stimulate income inequality. Although it is very small in its magnitude; but it is significant over 1% confidence level. Standard error is very minute, which confirm the very little variation in results. Foreign aid not always directly distress income inequality, sometimes through other variables and sectors it pushes the income inequality up. By moving towards model 2, there is inverse relation of GDP with income inequality, which signals unfavorable relation between the two; means as foreign aid is increasing in country, GDP falls and over all income inequality gets upward slope and vice versa. This continuous drop in GDP causes people more prone to income inequality.
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<td>Dependent Variable: Gini Index</td>
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Table 01
From this we may observe that aid is not getting promising support in domestic production. There may be financial embezzlements or other political interests for ignorance of this sector which lead to adverse effects of GDP on income inequality. Real interest rate is negatively related to income inequality in all models. The first difference has been taken to avoid any problem like unit root. This shows as the flow of foreign aid increases in a country, so the interest rate. Means investors may benefit from it, but local borrowers will be adversely affected by this up-moving interest rate; in return their financial cost will rise up which will antecedent their input cost and as a result prices of output will stimulate, which will hurt the lower income
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Additionally, higher interest cost may cause reduction in salaries of employees, means they may not get that much amount which may sufficiently fulfill their biological needs. So this will increase the poverty gap more and more. Moving further with examining the unemployment rate in country, progressive relation of unemployment with income inequality is identified. Means aid through unemployment rate fuel the income inequality; as observed above that GDP is getting down by increasing foreign aid, no significant investment is taking place in capital which put the production function at worse. Results are significant and insignificant as well, but minutely or largely unemployment contributes to income inequality every time. Literacy is considered as very important factor in the development of any country, but even this parameter is neglected as more foreign aid is received. While measuring literacy rate by primary education, very discouraging results were observed. As magnitude of foreign aid is upward sloping; literacy rate moving inversely with it. More foreign aid create more pilfering. Either it is scrub or wasted through rough policies. When people have no education, they are unaware of their due rights, they remain suppressed by elite group, and they do not receive proper compensation, which enhances the income inequality. Notice from Table 01, literacy is much significant in its magnitude, means this has promising impact on income inequality. Population growth may also be the cause of unfair distribution of income. More population growth rate lessens the income per capita. So we should consider population while getting foreign aid. It has constructive relationship with income inequality. Gross capital formation, an important factor in production and export growth. This measures the investment in capital across different years with increase in foreign aid. Its first difference is taken. Observe from the table above that this factor has negative relationship with income inequality. Means as the investment in capital is reduced, it arouse the income inequality. One may also observe from history that capital formation don’t get
substantial favor even there is more drift of aid in country. So in capital formation, businesses do not get favor which put adverse effect on production function and exports also get downward incline; the ultimate result hurts the country’s current account.

Looking further to the model 7 in Table 01 given above, overall it can be concluded that these variables have influence on income inequality. Some have more and some less. Foreign aid, unemployment, primary education and population growth, these all are significance over 1% and 5% significance level. Although these all are small in magnitude but their cumulative effect can be larger. GDP and real interest rate are insignificant variables, but they may subsidize inequality indirectly. Also there is interaction term in model 7 between official development assistance and unemployment, which also have a significant impact over 5% level on income inequality. Interaction term is included because it was raising the significance level of overall model. This interaction term shows that foreign aid grounds unemployment which ultimately leads to income inequality. About 50 percent of income inequality comes through these variables (foreign aid, GDP, unemployment, real interest rate, population growth, primary education and gross capital formation). And the remaining may be caused by other reasons as no proper guidelines, influence of elite group, lack of management skills and many more reasons in these regions.

V. Conclusion

This paper analyses the effect of foreign aid in terms of income inequality in developing countries. In this paper panel data series (panel data on the time period 1993-2005 and 43 lower income and lower middle income countries) is applied considering the regional differences in these Asian and African countries and also keeping in view the income differences in these regions. This paper contributes to the literature of aid effectiveness on income inequality. By
analyzing the effect of foreign aid on income inequality, different relations of each independent variable to dependent variable are found. Some variables are affected positively and some are negatively affected. As income equality and poverty reduction are the primary objectives of foreign aid by fostering economic development. During this study, many research papers were reviewed and in most studies it was found that aid has adverse effects on economy of any country, but in some research papers, it came into knowledge that aid itself discretely cannot play any role in the development of any country even (Easterly, 2003; Easterly, 2004) means for effectiveness of aid there should be competitive management, good institutions and no biasness should be there regarding any particular region or sect.

Results in Table01 conclude that aid is not properly utilized in these regions. Corruption might be one of the major factors in ineffectiveness of aid followed by the poor management and poor technology in the country including many other reasons (i.e. strict conditional ties from donors, receiving less assistance as promised, financial embezzlement). Thus, the conclusion is that before spreading our hint before others first, a country should have critical look at its own resources and abilities and should try to fully utilize those resources, also it should have proper figure of certain critical factors i.e. population and expenditure made in the previous years, which will help the country in proper planning for future. If a country is requesting for foreign aid, then it should also learn some management techniques to make aid effective. Also donor countries should provide some technical assistance to recipient countries in proper allocation of aid and also they should cooperate with recipient countries in designing of proper policies to make aid fruitful, considering environmental and regional differences in a particular region.
So foreign aid needs cooperation from both donor as well as recipient country, to be effective, carelessness even from one can give us unfavorable results. But recipient country has greater responsibility; it should learn management and technical expertise from donor country.

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