EXTERNAL DEBT AND LOW-INCOME COUNTRIES

The Impact of External Debt Servicing on the Growth of Low-Income Countries

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Abstract

Since 1990s, the mounting debts and debt service payments of the low income countries are gaining due concentration and attention from the policy makers and economists. This study was also carried out to review and analyze the impact of external debt servicing on the growth and development of low income countries. To hunt the objective of research, six variables i.e. growth, external debt servicing, interest rates, savings, net exports, Foreign Direct Investment were taken to determine their statistic relationship with the GDP or growth of the country. Annual panel data was taken from 1990 to 2008 of thirty six low income countries and was manipulated through least square multiple regression method. External debt servicing, FDI$^2$, FDI and Net exports were statistically significant and the first two showed the positive impact on growth and later two showed the negative. Therefore, it was concluded that low income countries should go for the option of debt forgiveness and must invite FDI but not much as their over crowding may hurt the economy. Exports are good to boost the economy so they must be lifted up. The impact of external debt servicing is quite adverse on growth so steps must be taken to erase it in order to grow well.

Keywords: External debt servicing, GDP growth & Debt management.
1. Introduction

Economists always sought out to find the ways through which a country can achieve long-lasting sustainable economic growth. The repayment of debt in the form of principal and interest payments which is cumulatively known as “debt service payments” is identified to be a serious threat to economic growth of any country, by keeping all other factors constant. Countries take debt from the external sources for many reasons i.e. their income is low, they are having budget deficit or they are having low investments in their country on conditions to repay them with certain obligations. This repayment or “debt servicing” creates problems for many countries especially for low income countries because a debt has to be serviced more than the actual amount it was taken for. Large debt service payments impose a number of constraints on a country’s growth scenario. It drains out countries’ limited resources and restricts financial resources for domestic need of development.

Low-income countries frequently keep on taking debts because they are in the phase of development and need extreme support in this regard. Benedict Clements (et al, 2003) suggested that foreign borrowing has a positive impact on investment and growth of a country up to a threshold level but external debt service can potentially affect the growth as most of the funds will go in the repayment of the debt rather in the investments. External debt servicing creates a crowding out effect because of the high real interest rates, terms of trade of over borrowed country’s worsen, and tax rates increases, returns on the investment declines thus creating a downward pressure on the investments in the country.
Public expenditures are important determinants of the economic growth and government spends dominantly in education and health sector but debt servicing can damage such constructive fiscal allocation greatly in the low-income countries. Imran Sharif (et al, 2009) analyzed the impact of foreign debt and foreign debt servicing on the savings and investment expenditure of Pakistan and suggested that foreign debt servicing has a negative impact on the constructive activities which can increase the economic growth of Pakistan. Another case is of Nigeria, where in 2000 US $1.9 billion was used for debt servicing which was four times greater than what Federal Government budgeted for education and twelve times greater than what was allocated for health whereas in 2001 debt service payments were US $2.13 which was six times greater than education expenditure and seventeen times greater than health expenditure. Also, Augustin Kwasi (2009) studied the impact of external debt service payments on public expenditure composition in Sub-Saharan Africa and found out that debt servicing shifts spending away from social sector, health and education.

This shows that the actual aim behind taking debt which is to seek development is being depressed by debt service payments because it is eating up most of the resources rather than development. It will reduce the enrollment levels; slow down growth in health thus reducing human capital and slow human capital growth have an indirect negative effect on growth as it reduces the productivity of new investment.

Another problem which rises as a virtue of debt servicing is the problem of “debt overhang” which increase the amount of repayments by the virtue of the difference in the
actual and contractual value of repayments, thus ultimately increasing the debt servicing burden of a country. P. Tsintzos (et al, 2001) concluded in their paper that when the situation of debt hang rise i.e. when the expected repayment falls undersized of the contractual size of the repayment then debt service increases on country’s output level which serves as strainer of fiscal resources of the country.

There are different indicators of debt service burden such as;

I) Debt servicing as percentage of export receipts measures the ability of debt repayment and creditworthiness of a country. According to the World Bank, when debt servicing of a country go beyond 20 percent of its export earnings then its debt becomes unsustainable.

II) Debt servicing as a percentage of foreign exchange earnings is another important indicator of indebtedness of a country.

III) The most important indicator determining long-run results is the ratio of debt service to GDP which determines the burden of debt service burden on the country's income. As this ratio goes up so does increases the burden. As a research by Chris Nagassam (1992) employed a logit model and indicated that higher the debt service ratio will be, the lower the GDP will be and it will develop constraint for external debt servicing capacity of African Nations.

There are many disadvantages of debt servicing but some researches have shown that debt service payments can have positive impact on the economic growth as well. This can be because of the good terms of relationship with the creditors or the negotiations or
relief in terms of repayments or extensions of the dates of repayments. As Geske and Neils (2001) suggests in their paper reduction in debt service as a result of forgiveness or relief works very well for Latin America due to investments and public expenditures increase which have a positive impact on the growth of the country. George Ndoh Mbanga (1990) worked on the hypothesis to test whether debt and debt service reductions can improve the growth of poor countries such as Cameroon and found a positive relationship between debt, debt service reduction and aggregate demand. Another study by Janice Abilene (et al, 2005) focused on the relationship between the external debt service payments and economic growth of Philippines using the Vector Auto Regressive Model and drew that economic growth is not very much affected by external debt servicing.

For this reason, many low-income countries strive to get some relief in terms of debt service payments which helps them to heal their injurious economy. Another remedy was found by Mansoob Murshed (2010) as he analyzed the short run and long run effects of trade policy in the presence of debt servicing and found out that strong trade policy can decrease the negative effect of debt servicing with the help of voluntary export restraint. Martin Feldstein (1986) stated that if the countries can limit the ratio of debt service payments to GNP either by negotiations or agreements then they can achieve economic growth.

Some economists as Jean Baneth (2003) stated in his paper that debt service is not such a big problem as it is being made. The problem rises from the improper utilization of the
debt. If the debt will be properly utilized then it will help a country to generate revenue and repay its debt properly. Debt servicing becomes unsustainable because of the other domestic problems and policy inconsistency.

There have been very less studies and researches done to determine the effect of debt service payments on the growth of low-income countries. Thus, keeping in consideration all above stated facts and findings of other economists, a research will be carried out on all low-income countries to see that whether their growth is being affected by external debt servicing or not.

Next part of the article will comprise of the literature review, data and methodology and conclusion.

2. Literature Review

A number of studies have been done by many economists and researchers to examine that either debt servicing affect growth of a country or not, by applying different techniques and methodologies. Mixed results have been drawn i.e. some studies suggested that debt servicing affect the growth of a country significantly while others have failed to draw the same result. Different variables were examined by applying different methods in order to draw the results. Feder and Just (1977) investigated the relationship between six economic variables which were debt service ratio, imports/reserves, amortization, income per capita capital inflows and growth of the country using logit analysis model and
concluded that there is significant relationship between these variables. W.A Adesola (2009) examined the effect of external debt service payments on the economic growth of Nigeria and used ordinary least square multiple regression method for his analysis. It was found out that debt service payments have negative impact on GNP and Gross Fixed Capital Formation (GFCF). Many other explorers came to the same kind of results. Abid, Hammad and M.Ali (2003) examined the dynamic effect of GDP, debt service, capital stock and labor force on economic growth of the Pakistan and their results showed that debt servicing burden has a negative effect on the productivity of the labor and capital and thus, affects economic growth inadequately.

Erdal Karagol (2003) used multivariate co integration technique to develop a vector error correction model to investigate the long run effects of external debt service on GNP level of Turkey and found out a uni-directional negative relationship between the two variables. Jaffrey D. Sachs (1990) claimed that the burden of debt service payments threatens the economic growth of HIPC s and is an important reason of the repeated failure of structural adjustments programmes to boost the economic growth of many of them. E.Kohlscheen (2008) stated that high debt service payments brings low- growth environment in a country. Christopher and Alexandra (2003) researched that large debt service payments greatly affects the income of highly indebted primary producing countries and they find it difficult to repay their debts. John and Samy (2003) found out that debt service burden can depress growth by crowding out investment, import compression and ultimately declining growth. James Akperan (2005) found out that ever increasing debt and debt service payments have a significant negative effect on economic output of Nigeria and the country needs proper debt management for the growth.

Many researchers considered the uncertainty regarding the debt service payments in order to judge its impact on the growth. Geske and Niels (2001) investigated that whether and up to what extent; the uncertainty with respect to annual debt service payments can adversely affect the economic growth of Highly Indebted Poor Countries and found supportive results in this regard and concluded that debt relief helps in recapturing growth, by reducing the debt service payment uncertainty. Augustin Kwasin (2009) searched for the effects of external debt servicing constraints and public expenditure composition in sub-saharan Africa and found out that constraining debt servicing shifts spending away from the social sector, having adverse impacts on health and education by employing Unrelated Regression.
On the other hand, M.Afzal, Hafeez, Jamshed (2008) sought out the causal relationship between exports, economic growth and debt servicing of Pakistan and found out through Toda-Yamamoto Granger Causality Test that there is trivariate causality between these three variables and debt service payments cause the increase in GDP of Pakistan. Similarly, Albert (et al, 2008) found out that debt service payments do not exert negative impact either in the long run or in the short run in the case of Sri Lanka by employing Engle and Granger technique. Etazaz Ahmad (2004) drew the results that growth of GDP does not appear to have significant relationships with debt-service ratios of Pakistan. This can be mainly because of the soft terms of borrowing and rapid negotiations.

Those researchers who worked on the debt service payment reductions or delays or deferrals also came across with different results depending upon the economic conditions of the countries under examination. Benedict (et al, 2003) found out that reductions in external debt service payments can provide an indirect boost to economic growth through its effect on public investment. Michael and Lars (1994) searched on the suspension of external debt service payments to external creditors and found that it does not allow a debtor country to get out of low growth rather it increases its external debt burden. Milton A.Lyoha (1999) suggested that forgiveness in mounting debt service payments is needed for Sub-Saharan Africa as it will stimulate the investment recovery and economic growth. Christopher and Alexandra (2005) used Monte Carlo simulations and suggested that if flexibility can be introduced in debt servicing on the basis of fluctuations of borrower’s terms of trade then it proves to be feasible for the indebted countries because debt service payments have negative impact on the economic growth. Ayse and Tugrul
(1988) worked on the debt servicing capacity of the developing countries and his study was mainly confined for Turkey and he found out that when debt service payments of Turkey were rescheduled then it grew in its relief years. Thus, debt service rescheduling also plays an important role in growth.

2.1 RESEARCH HYPOTHESIS

Following is the hypothesis that will be tested through this study;

\[ H_0 = \text{There is no impact of external debt servicing on the economic growth of low income countries.} \]

\[ H_a = \text{There is an impact of external debt servicing on the economic growth of low income countries.} \]

3. RESEARCH METHODOLOGY

3.1 Sources of Data

The data for this study has been taken from a secondary resource “world data bank” Annual data of thirty six low income countries, the names of which are available in the appendix attached in the end, has been used for this study starting from the year 1990 and ending on 2008 which means that the research depends upon panel data and its
methodologies. Six important variables were examined to derive a model in order to study the impact of external debt servicing on the growth of low income countries which are discussed as under;

3.2 Model Specification

The model built to test the hypothesis of the study is as following;

\[ Y_{it} = \beta_0 + \beta_1 \ln (DSE_{it}) + \beta_2 FDI_{it} + \beta_3 (FDI_{it})^2 + \beta_4 \ln (ADS_{it}) + \beta_5 X_{it} + \beta_6 R_{it} + \mu_{it} \]

3.3 Variables

\( \beta_0, \beta_1, \beta_2, \beta_3, \beta_4, \beta_5 \) and \( \beta_6 \) are the coefficients of each variable or parameters of the regression whereas \( \mu_{it} \) represents the error term. The variables used to build the study are as follows;

1. \( Y = \) GDP growth (annual %).
2. \( DSE = \) Debt servicing on external debt (total, US $).
3. \( FDI = \) Foreign Direct Investment (net inflows, current $).
4. \( X = \) Exports of goods and services (current US $).
5. \( ADS = \) Adjusted Savings, net national savings (% of GNI).
6. \( R = \) Real interest rate (%).

Where debt servicing on external debt is the main variable and others are used as controlled variables.

4. Results
<table>
<thead>
<tr>
<th>Variable</th>
<th>(a)</th>
<th>(b)</th>
<th>(c)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>15.90922</td>
<td>17.02324</td>
<td>16.08824</td>
</tr>
<tr>
<td></td>
<td>(3.696446)**</td>
<td>(4.014075)**</td>
<td>(2.601775)**</td>
</tr>
<tr>
<td>LOG(DSE)</td>
<td>-0.676602</td>
<td>-7.63321</td>
<td>-0.756178</td>
</tr>
<tr>
<td></td>
<td>(-2.784429)**</td>
<td>(-3.174545)</td>
<td>(-2.174909)**</td>
</tr>
<tr>
<td>FDI^2</td>
<td></td>
<td>-5.59E-18</td>
<td>-5.36E-18</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(-2.705591)</td>
<td>(-2.209638)**</td>
</tr>
<tr>
<td>FDI</td>
<td>1.88E-09</td>
<td>9.09E-09</td>
<td>8.44E-09</td>
</tr>
<tr>
<td></td>
<td>(1.482203)</td>
<td>(3.090773)**</td>
<td>(2.260347)*</td>
</tr>
<tr>
<td>X</td>
<td>7.83E-10</td>
<td>7.56E-10</td>
<td>9.11E-10</td>
</tr>
<tr>
<td></td>
<td>(5.301611)**</td>
<td>(5.203248)**</td>
<td>(5.274767)**</td>
</tr>
<tr>
<td>LOG(ADS)</td>
<td>-0.479534</td>
<td>-0.429106</td>
<td>-0.240874</td>
</tr>
<tr>
<td></td>
<td>(-1.425510)</td>
<td>(-1.298638)*</td>
<td>(-0.595076)*</td>
</tr>
<tr>
<td>R</td>
<td></td>
<td></td>
<td>0.029305</td>
</tr>
</tbody>
</table>

|                |                |                |
| R-squared      | 0.192457       | 0.228124       | 0.330622       |
| Adjusted R-squared | 0.172142   | 0.203791       | 0.288346       |
| Durban Watson Stat | 1.873330 | 1.98710        | 1.723825       |
| F-statistics   | 9.473394       | 9.344012       | 7.820477       |
Note: The t-statistics is given in parenthesis. Individual coefficients are statistically significant at *5% level or **1% level.

These three models were run to reach to the accurate results. In the first model, interest rate is not included in judging the impact of debt servicing on the growth. The coefficients of only LOG (DSE) and X are statistically significant at 5% but of FDI and LOG (ADS) are not. $R^2$ of this model is 0.1924 which is very low, showing that the included variables are responsible for the 19.24% of the results while the remaining 80.76% will be described by omitted variables, which is quite a big number. Hence there is a possibility that other techniques can be applied to reach towards the more accurate and significant results. For this reason, model (a) has been rejected.

In model (b), the variables are re-examined, again not by including interest rate variable but by adding $FDI^2$ in the equation. This addition increased the $R^2$ up to 22.814% which is better than the former one but still it is leaving a large proportion of 77.186% to be defined by omitted variables. The big flaw in this model, which made it rejected, is the insignificance of the main variable LOG (DSE) that is the external debt servicing. The main focus of this article is to find the effect of external debt servicing on the growth. When the concerned variable will be insignificant then we will not be able to reach up to the realistic results. That is why this model was not further used.
The model (c) drew improved results in comparison with the rejected models. It included all of the variables to derive the equation. LOG (DSE), FDI^2 and X are statistically significant at 1% level while LOG (ADS) and FDI are significant at 5% level. Only interest rate is not significant which means that it will not be included to define the results. R^2 is 33.062% which is higher than all. Thus, this model is followed for deriving the results of the research.

Based on the results of model (c), the following equation is formed;

\[ Y = 16.088 - 0.756 \log (DSE) + 8.44 \text{FDI} - 5.37 \text{FDI}^2 - 0.241 \ln (ADS) + 9.11 X + 0.029 R \]

\( (6.183) \quad (0.347) \quad (3.73) \quad (2.42) \quad (.404) \quad (1.72) \quad (.046) \)

Where in the brackets are the standard deviations of each coefficient respectively.

4.1 Research Hypothesis Result

The decision to be taken regarding the research hypothesis stated above depends upon the following rule;

If the calculated value of F-statistics ≤ the tabulated value of F-statistics, then we will fail to reject H_o. Other wise, we will reject H_o.
According to the model, the calculated value of F-statistics is 7.82 and tabulated F-statistics is $F(5, 30)$ which is equal to 1.70 at 1% level of significance. Hence, $7.82 > 1.70$ which means that we will reject null hypothesis and will accept alternative hypothesis which shows that there is an impact of debt servicing on the growth of low income countries.

5. Discussion of the Findings

A general analysis suggests that external debt servicing has no direct impact on the growth itself rather it effect the other important factor which is directly responsible for growth and that is public investment. Model is showing negative sign with external debt servicing which is mainly due to the transfer of resources in the payment of debt than on the investments. The more the external debt payments will be, the lesser will be funds raised for public services such as the construction of roads, hospitals, schools and new business opportunities. Another main point to be considered is that debt stocks are not as costly as the charges related with them are. A research drew the results that when external debt a threshold level which is estimated to 50% then the economic growth starts slowing down as the interest rate payments mountain up. The relationship of external debt servicing and public investment is found to be non-linear and the driver of crowding out effect as more funds will be demanded by the government to finance the debt, interest rates increase and individuals will be discouraged to borrow and invest. Also, the problem of debt overhang rises due to which a country fails to acquire more debt for the
investment as its existing debts carry more cost with them than that of the new payoffs. In this manner, model verifies the negative effect of external debt servicing on growth.

Many studies and research works have concluded the impact of Foreign Direct Investment (FDI) to be progressive over the economy which is true as this concept is again being supported by the above driven model which is showing the positive impact of FDI on growth. FDI is good for low-income countries because it brings with it funds and other more benefits in the host countries. FDI provides capital for the investment due to which a lot of new job opportunities take place. It brings new technologies, improved business structures and new managerial skills in which low income countries lack and help in making their contacts better with the foreign markets and shaping up their economic structure. Other benefits include increased wage rates and positive impact on balance of trade due to foreign inflows. On the other hand, there is negative impact of FDI as well if it starts growing up to higher levels as shown by the model. FDI has a negative sign with it showing that FDIs after certain threshold level are treacherous for economic growth. Its reasons include the efforts of local companies of saving themselves from the local taxes by showing losses on their income statements by repatriating their profits which means that foreign companies shift their profits towards their country of origin. Also, they seek provisions due to which they pay little or no taxes and thus, are not beneficial for the governments. Next, their purchases of supplies increase the imports which damage the balance of payments and a gap arises between the developed foreign and under developed domestic sectors.
Net exports denoted as X, has positive impact on the growth of a country as the positive sign shows in the model. The more the exports will be done, the more the foreign exchange will be earned which will be invested in the country, revenues will be generated and funds will be gained to service the debt.

There is a very strange result shown by the model and that is the negative sign associated with adjusted savings which is showing the negative impact of savings on the growth in the presence of external debt servicing. The main reason behind this effect can be that when interest rates get high due to the more demand of money by the Government to service debt, people prefer to save more to earn high interest rates rather than investing. Thus, their attitude of avoiding the investment in order to earn high interest rate proportions on the money does not bring growth. Thus, due to high debt servicing, savings will be having negative impact on growth of the country.

One variable, interest rate is insignificant which will not be included to determine the results.

On the whole, it has been proven that the external debt servicing has a negative impact on the growth of low income countries in the presence of FDI and adjusted savings, affecting many macroeconomic factors.

6. Conclusion and Suggestions
The main theme of this article was to study the impact of external debt servicing on the growth of low income countries. By going through a lot of former research works and articles and by manipulating the collected data and examining the model found after different tests, it has been concluded that external debt servicing has a negative impact on the growth of country due to its outrageous effects on the macroeconomic factors responsible for the growth. External debt servicing offsets the investments by creating a crowding out effect and debt overhang problem. FDI helps a lot in bringing in the foreign exchange and investments and employment and technological and business structure in the country but this effect gets neglected due to too much foreign direct investment and their efforts of saving from taxes and sharing profits with the host country. In this manner, governments of low income countries gain very little or negligible amounts from FDIs in order to service the external debts. In the midst of this dark alley, net exports come as a ray of light and helps in boosting the growth. The past trends presented by the data of the thirty six low income countries depicts that they have paid and have high amounts due to be paid as external debt servicing. These are not the high face values of debts but the interest payments and penalties which are accumulating due to the late or no payments. FDI and net exports are supporting well the growth of the under discussion countries but the major part of these benefits is being offset by raised FDIs and external debt servicing. Savings and internal interest rates have nothing to do with the growth in the presence of external debt servicing for these low income countries and thus, they are not growing well.
On the basis of the drawn results, down are some suggestions made for the improvement of the conditions of low income countries and their growth;

1. Low income countries must avail the option of debt forgiveness as it may reduce the debt levels due on them to pay and may give a chance to flourish.

2. They must mobilize and channelize their private investments and resources in a way that their production increases so that they can export huge number of products and earn revenues to pay off debts.

3. They must attract FDI but not over crowd it and also refrain from giving a lot of subsidies. No doubt, FDI will bring a lot of business innovations and opportunities which will help low income countries to grow but a lot of subsidies will eat up their due amount of revenues.

4. Encourage private investments by lowering the terms of borrowing and other conditionalities.
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Appendix A

LIST OF COUNTRIES

1. Bangladesh
2. Benin
3. Burundi
4. Cambodia
5. Central African Republic
6. Chad
7. Comoros
9. Eritrea
10. Ethiopia
11. Gambia, The
12. Ghana
13. Guinea
14. Guinea
15. Guinea-Bissau
16. Haiti
17. Kenya
18. Kyrgyz Republic
19. Lao PDR
20. Madagascar
21. Malawi
22. Mali
23. Mauritania
24. Mozambique
25. Myanmar
26. Nepal
27. Niger
28. Rwanda
29. Sierra Leone
30. Solomon Islands
31. Somalia
32. Tajikistan
33. Tanzania
34. Togo
35. Uganda
36. Zambia