Is External Debt a Boon or Curse? Evidence from Pakistan

Muhammad Ramzan Sheikh[*], Muhammad Nauman Abbasi[**] & Asad Abbas[***]

Abstract

Sustainable economic growth is a very crucial issue of less developed countries like Pakistan that are coping with higher levels of external debt due to escalating fiscal and current account deficits. External debt accumulation has become a global and wide-ranging fact. The present study addresses the question that whether external debt is a boon or curse? The findings of the study suggest that external debt is a curse for Pakistan.

Keywords: External debt; External debt servicing; Current Account Deficit; Real GDP growth rate.

Introduction

External debt has become an integral part of public debt in developing countries due to persistent presence of deficits. Even various developing countries are now pursuing other sourcing of financing the deficits by taking on internal debt as a surrogate to external debt (Panizza, 2008). The choice of domestic debt in place of foreign debt may be in action due to the fact that it generates macroeconomic stability by reducing the exterior shocks in terms of exchange rate, devaluation/depreciation of currency, interest rate and sovereignty of the country (Sheikh et al., 2010).

It is the prime target of fiscal policy to keep the budgetary deficit as minimum as it can be maintained especially in developing countries as they are lacking in resources in comparison with developed countries. To achieve this goal, these countries have to do various efforts for widening the tax base and restricting the non-development public spending. In case of failure to enhance the fiscal space, they have to hinge on external borrowing. Thus, these countries face many stumbling blocks in the form of tied loans or strict conditions imposed by the international donors. These include demand management strategies, fiscal prudence, sound

[*] Muhammad Ramzan Sheikh, Lecturer, Department of Economics, Bahauddin Zakariya University, Multan.

[**] Muhammad Nauman Abbasi, Bahauddin Zakariya University Multan. Email: abbasimna@bzu.edu.pk

[***] Asad Abbas, Lecturer in Economics, Government College, Qadir Pur Rawan, Multan.

financial and banking system, political stability and conducive investment environment to ensure the financial support in the form of debt from the lenders. The conditions imposed by the lenders may be supportive for growth of these countries but in fact lender countries want their money back so they entail grinding restrictions.

In fact, less developed countries are in the debt trap because of availability and proper utilization of funds is another lingering issue. These countries are facing both the issues. Agnor and Montiel (2010) rightly pointed out that availability of funds along with good governance is necessary to stimulate the economic growth. In other words, if the resources are utilized with better management, these become catalyst to economic growth otherwise debt becomes paralyzing burden and retards the growth.

In addition, understanding the situation of debt in Pakistan, it is also important to evaluate the role of debt in the economy of Pakistan. This role has to be seen beyond the usual practice of simulating the effects of external borrowing on growth under the rigid and unrealistic framework of two gap models which typically assume that all foreign borrowing are used for investment purposes. Since money is fungible, it is highly unrealistic to assume that foreign borrowing goes one to one into investment. Specifically, it is important to study how foreign debt has affected the economic growth.

Indeed, Pakistan is confronting a lot of economic issues since its independence. External debt is one of the whirlpools in which Pakistan is encircled. An amount of $61.8 billion of external debt or 4711 billion in local currency have been accumulated in 2013. (Pakistan, 2013-14). Pakistan has got bulk of external loans in the last two decades that can imperil sovereignty of Pakistan (Rehman and Rehman, 2011). Therefore, it is important to explore that such huge external borrowing is impeding or stimulating the economic growth of Pakistan.

The rest of the paper is structured as: Section II gives the theoretical underpinning on external debt and growth. Section III gives review of empirical studies on external debt and growth. Section IV highlights the data and methodology. Section V specifies the model and finally section VI explains the results.

Theoretical Links between External debt and Growth

There are various channels through which foreign debt and foreign debt servicing can affect economic growth. The foremost channel is investment. According to the two-gap model of Chenery and Strout (1966), foreign borrowings are taken primarily to fill the investment-saving gap. Thus, foreign borrowing can be expected to affect the growth rate of GDP positively via its role in investment activities. However, since investment can be undertaken through other sources as well, it

makes more sense to include investment directly as an explanatory variable in the growth equation. In this context, the effect of debt on economic growth can be observed in two steps; first, the effect of debt on investment and the effect of investment on economic growth to be analyzed in present study.

Besides, investment, external borrowings can also influence economic growth by means of its effects on efficiency in resource allocation and productivity. Since foreign borrowing is absorbed in the economy through channel of public sector, one can expect that in addition to filling investment-saving gap, foreign borrowing also produces its adverse effect on productivity and efficiency.

Another reason why foreign borrowing can influence economic growth is that most of the borrowings come in the form of tied aid. The donors typically force the recipient countries to utilize the funds on the specified projects and in the manner prescribed. Such restrictions and other conditionalaties accompanying foreign borrowing can further produce inefficiencies in resource allocation.

Finally, foreign debt ultimately creates financial pressure on the public budget. The rising debt servicing cost normally leaves little room for developmental expenditure in the public sector. It has typically been observed in case of Pakistan, the burden of rising debt servicing falls disproportionately on developmental expenditure on public sector. Since the defense and other non-developmental expenditure are highly inelastic to changes in government revenues.

The debt cycle theory presents the justification for external capital with respect to its contribution to economic growth in the recipient country. In the first stage, borrowe country engenders resources so that she can survive in the second stage. If it continues to borrow in the second stage, it may emerge having surplus resources in the third stage and can repay the loans. However, this theory will hold under very unrealistic conditions wherein none of the factors causing distortions in resource allocation and productivity, as mentioned above, is operative. On balance, debt may create and/or displace resources (Leff, 1969; Griffin and Enos, 1970; Weisskopf, 1972) and hence its role in the process of economic growth remains an empirical question.

Review of Empirical Studies

The study of the impact of external debt on economic growth has been a topic of considerable interest due to the prime importance of economic growth in a country. The foreign debt problem has been studied from a number of perspectives. Various studies in literature have used different economic models, estimation procedures and have utilized different sources and forms of data. The foreign debt issue has been considered theoretically and empirically. The standard procedure to redress the debt

and debt servicing problems is to conduct simulation experiments with the two-gap resource flow model. The two-gap model, proposed by Chenery and Strout (1966) assert that foreign assistance plays an important role in easing the savings and investment and/or foreign exchange constrains, thereby accelerating economic growth. The 'Two-gap model' has been used for projection to see the probable limits on the range of aid requirements. The study projects foreign assistance to fifty underdeveloped countries, including Pakistan, for the period of 1962 to 1975. The results show that the total capital inflow required to produce a self-sustaining growth rate of 5%, as the initial saving rate is 8% of GNP. The study concludes that trade constraints on economic growth are more dominating than the saving constraints.

Bruton's views (1969) contradict those of Chenery and Strout, i.e. aid is gap covering. According to Bruton, aid is actually gap producing and can impede, rather than facilitate, economic growth. In reply to Bruton, Chenery (1969) agrees with Bruton's general analysis, but disagrees with Bruton's reliance on the assumptions of neoclassical equilibrium of flexibility. Chenery assumes that underdeveloped economies are considerably less flexible.

Following the two-gap model, Gersovits (1982) conducts econometric exercises for testing the empirical validation of the two-gap theory, and finds that import, saving, or investment constraints on growth may be binding at different times. The author uses cross-section data from Latin American countries, for the years 1950 to 1978 and suggests that the saving constraint has a more profound impact on the level of investment than the level of imports.

Gersovitz (1982) takes GDP growth rate as an exogenous phenomenon, while Bandera and Lucken (1985) argue it to be an endogenous phenomenon. Using Colombia as a debtor country, the writers simulate the functioning of an open economy under specified parametric conditions. By using the two-gap model, the writers project outstanding debt and debt servicing from 1979 to 1999 and analyze the policy alternatives to reduce external deficits. The authors consider the automatic adjustment in the balance of payment as being too slow to work as a corrective mechanism for combating external deficits. The study conducts simulation analyses for the broad range of consequences for a number of corrective policies aimed to deal with external disequilibria. In that context, debt service appears as a problem-creating element in the balance of payment; whereas, foreign capital is hardly available in the amounts required by the desired rates of growth of GDP.
In a similar study Ruttan (1989) describes self-fulfilling motives of the donor countries as being the major determinant of foreign assistance. Trading international markets for their own commodities is one sequence in this chain of events. Ruttan also asserts that foreign assistance is

meted out on grounds of ethical responsibility by means of which the donor country feels impelled to help reduce poverty and under-development countries. The utilitarian approach also argues for the transfer of resources from one country to the other welfare levels in the two countries is equalized. Ruttan's study finds evidences for all these considerations.

Chaudhary (1989) estimates the two-gap model for Pakistan's outstanding external debt. The future projection for economic indicators is estimated up to the years 2012-13. However, the major analysis is confined to the year 2007-08. The study estimates that per-capita loans will be doubled between 1988-89 and 2007-08 and that debt servicing will grow by 19 percent. The study suggests two policies, trade and saving policies, and concludes that both policies in conjunction could provide a quicker and more effective solution to foreign dependence.

Ahmed (2001) exposes various dimensions of the debt problem in Pakistan, with particular emphasis on the institutional framework in which debt is managed, issues in the measurement of debt burden, economic and social costs of the debt overhang, and pros and cons of alternative solution strategies.

Rais and Anwar (2012) investigate the relationship between public debt and economic growth for Pakistan using the time series data for the period of 1972 to 2010. The authors have applied OLS technique. The findings of the study infer that public debt is impeding the economic growth in Pakistan. To come to the point, we can conclude that external debt has mixed effects on economic growth.

Data and Methodology

The data for the period of this study have been taken from two sources. These are as follows:

- Pakistan Economic survey (various issues)
- Handbook of Statistics on Pakistan's Economy (2010)

The methodology chosen for this study is Ordinary Least Square (OLS). It is chosen due to the fact that we applied the Augmented Dickey Fuller (ADF) test to diagnose the unit root problem in the data set and finally we are of the view that all the variables are stationary at level so we apply the above mentioned technique. The results of ADF test are shown in Table 1.

Table 1: Augmented Dickey Fuller Test

Unit Root Test on Level							
Variables	None	Lags	Intercept	Lags	Intercept and Trend	Lags	Conclusion
RGDPG	-9.81	0	-8.40	1	-10.84	1	I(0)
GE	-4.74	0	-4.92	0	-5.01	0	I(0)

I/Y	-0.98	5	-7.90	1	-8.15	1	I(0)
CAD/Y	-8.02	2	-7.24	0	-9.54	1	I(0)
ED/Y	-4. 02	0	-5.18	0	-5.81	0	I(0)
EDS/Y	-6.05	0	-5.77	0	-6.12	0	I(0)

Source: Authors' calculations

Specification of Model

To probe that external debt is boon or curse, we have specified two equations in the light of theoretical underpinning. Equation 1 shows the impact of external debt stock on economic growth while equation 2 shows the influence of external debt servicing on economic growth of Pakistan. The equations specified in linear forms are as follows:

$$RGDPG = a_1 + a_2 GE + a_3\left(\frac{I}{Y}\right) + a_4\left(\frac{CAD}{Y}\right) + a_5\left(\frac{ED}{Y}\right) + \varepsilon \quad \textbf{(1)}$$

$$\alpha_2, \alpha_3 > 0 \;\; \alpha_4, \alpha_5 < 0 \quad \textbf{(2)}$$

$$\beta_2, \beta_3 > 0 \;\; \beta_4, \beta_5 < 0$$

Where:
RGDPG = Growth rate of Real GDP
GE = Growth rate of Employment
I/Y = Investment as a percentage of GDP
CAD/Y = Current Account Deficit as a percentage of GDP
ED/Y = External Debt Stock as a percentage of GDP
EDS/Y = External Debt Servicing as a percentage of GDP

Results and Discussions

We have specified two equations to explore the external debt-growth nexus. In both the equations, the dependent variables are growth rate of Real GDP while the independent variables are growth rate of employment, investment, current account deficit, external debt stock and external debt servicing. All the explanatory variables are expressed as a percentage of GDP.

The results of the growth equations are displayed in Table 2. The parameters of growth rate of employment are negative but statistically insignificant in both the equations. The results are opposite to the a priori and our expectations as positive sign is being expected. Various growth theories like Solow-Swan growth model, endogenous growth model, Barro growth model claim the positive connection between employment and growth. A possible interpretation of this contradictory result is as follows.

Table 2: Parameters Estimates of Growth Equations
(Dependent Variable is RGDPG)

Explanatory Variables	Equation 1	Equation 2
Intercept	6.957 (1.57)	2.865 (0.637)
GE	-0.268 (-1.69)	-0.185 (-1.184)
I/Y	0.487 (1.953**)	0.662 (2.178*)
CAD/Y	-0.555 (-3.345*)	-0.551 (-3.16*)
ED/Y	-0.042 (-1.98**)	------
EDS/Y	------	-0.198 (-2.359*)
R^2	0.78	0.83
DW Statistic	2.13	2.26
F-statistic	7365.78	10008.21
Prob (F-statistic)	0.000000	0.000000

Source: Authors' calculations
*Note: The t-statistics (in parenthesis) significant at 5% and 10% levels are indicated by * and ** respectively.*

In Pakistan, public sector is large employer of labor and it is well recognized that the public sector is relatively less productive to the private sector due to overall lacking in efficiency in that sector. Public sector in Pakistan largely provide commodities in the form of transfers instead of production or are by nature produced less productively in terms of direct contribution to GDP such as police, law and order and defense services. Public sector in Pakistan has played significant role in direct employment generating activities. Thus, employment has been generated, but it did not translate into GDP growth.

The parameters of investment are positive and statistically significant. These findings are in accordance with our expectations as investment being the injection for the economy contributes positively in improving the economic performance of Pakistan. The multiplier theory of investment also suggests the positive association between investment and economic growth.

Another variable in both the growth equations is current account deficit which exhibits the negative relationship with the real GDP growth rate. It is found statistically significant. The reason of this negative association may be that when a country is facing deficit in its current account of the balance of payments, the inflation and/or interest rates go up which hurt the investment efforts and economic growth.

Turning to the most focused variables of external debt and external debt servicing, the parameters of both the variables appear with negative sign and are statistically significant. The negative sign suggests that in Pakistan the volume of external debt and external debt servicing is

hindering the economic growth. The main reason of this negative association between external debt and growth may be that the funds are not properly utilized due to bureaucratical behaviors. The other reasons may be lenders' restrictions, pressure on public budget and inefficiencies in the system. Thus in a nutshell, we can conclude that the external debt is a curse for Pakistan not boon.

Diagnostics tests in Table 2 and 3 show that the there is no violations of assumptions of the Classical linear regression model. Table 2 exhibits that the values of R^2 are good enough to demonstrate the overall explanatory power that ranges from 0.78 to 0.83 in the growth functions. The values of DW indicate that there is no evidence of autocorrelation in both the equations.

Table 3: Diagnostic Tests

Breusch-Godfrey Serial Correlation LM Test				
Equation 1	F-statistic	1.210632	Probability	0.3312
	Obs*R-squared	12.72415	Probability	0.2395
Equation 2	F-statistic	1.327224	Probability	0.2781
	Obs*R-squared	8.635749	Probability	0.1951
Heteroskedasticity Test: White				
Equation 1	F-statistic	0.814409	Probability	0.6479
	Obs*R-squared	12.56061	Probability	0.5614
Equation 2	F-statistic	0.965628	Probability	0.5121
	Obs*R-squared	1405250	Probability	0.4458

Source: Authors' calculations

Table 3 also demonstrates that there is no serial correlation as suggested by values of Breusch-Godfrey Serial Correlation LM test. In the same fashion, White Heteroskedasticity test propose the absence of heteroskedasticity. Moreover, we have done the stability tests of growth equations that validates the stability of models (See Figures 1, 2,3 & 4).

Figure 1

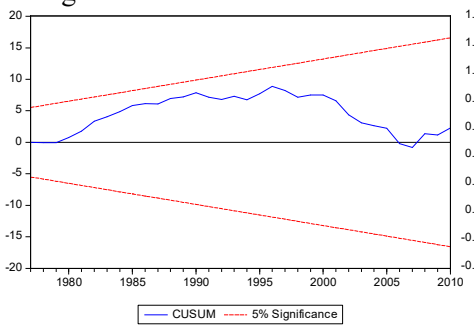


Figure 2

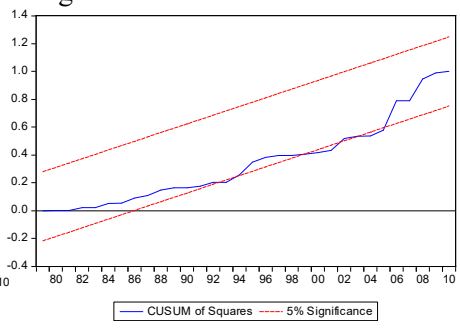


Figure 3

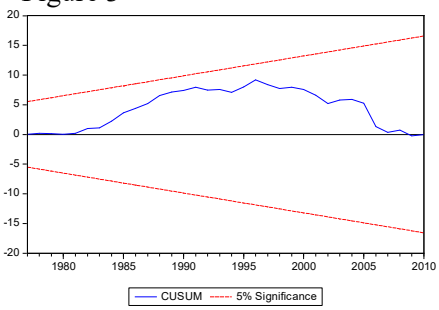
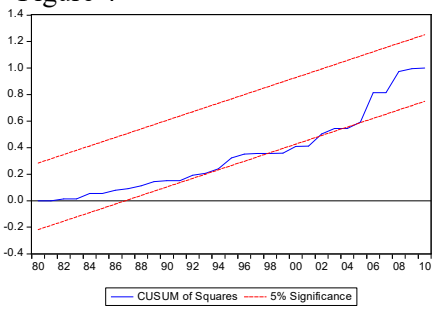


Figure 4



References List

Agnor P. & Montiel, P. J. (2010) *Development Macroeconomics*. 3rd Edition. Princeton University Press.

Ahmad, E. (2001) *Getting out of the debt trap: simulating debt retirement strategies for Pakistan*. Lead-Pakistan Occasional Paper No.12. Governance Series

Bandera, V. N and Lucken J.A. (1985) Simulation of a debtor country: the example of colombia. *Journal of Policy Modeling* 7 (3).

Bruton, H. J. (1969) The two gap approach to aid and development: comment, *The American Economic Review*. 79(1).

Chaudhary, M. A. (1989) Choice between foreign aid and self-reliance, *Pakistan and Gulf Economist.* No.5.

Chaudhary, M. A. & Ali, S. S. (1996) The bomb of foreign debt: is there any way to escape? a case study of Pakistan. *Pakistan Journal of Applied Economics,* XII (1).

Chaudhary, M.Aslam and Sabahat Anwar (2001) Debt Laffer Curve for South Asian Countries. *The Pakistan Development Review.* 40 (4).

Chenery, Hollis B. and Strout, Alan M. (1966) Foreign Assistance and Economic Development, *American Economic Review*, VI (4).

Chenery, Hollis B. (1969) The Two Gap Approach to Aid and Development: A Reply to Bruton. *American Economic Review*, 59(3). pp. 446-49.

Gersovitz, Mark (1982) The Estimation of the Two-Gap Model, *Journal of International Economics,* 12 (½)

Griffen, K.B. and Enos, J.L. (1970) Foreign assistance: objectives and consequences, *Economic Development and Cultural Change*. 313-327.

Leff, N.H. (1969) Dependency rates and savings rates, *American Economic Review*. 59 (September), 886-896.

Panizza, U. (2008) Domestic and external public debt in developing countries. *United Nations Conference on Trade and Development*, 188(3). pp. 2-20.

Pakistan, Government of (2001) *A Debt Burden Reduction and Management Strategy: Summary Report*, *Debt Reduction and Management Committee.* Finance Division, Islamabad.

Pakistan, Government of (various issues). Annual Report. State Bank of Pakistan.

Pakistan, Government of (various issues). *Economic Survey*, Finance Division. Economic Advisory Wing. Islamabad.

Rais, S. I. & Anwar, T. (2012) Public debt and economic growth in Pakistan: a time series analysis from 1972 to 2010, *Academic Research International*. 2(1).

Rehman, D.U. and W.U. Rehman (2011) The problem of external debt liabilities management in Pakistan. *International Journal of Humanities and Social Science*. 1(12). pp. 272-278.

Ruttan, Vernon W. (1989). Why foreign economic assistance? *Journal of Economic Development and Cultural Change.* 37(2).

Sheikh, M.R, Faridi, M. Z. and Tariq, K. (2010) Domestic debt and economic growth in pakistan: an empirical analysis. *Pakistan Journal of Social Sciences*. 30 (2). pp. 373-387.

Weisskopf, Thomas E. (1972) The Impact of Foreign Capital Inflow on Domestic Savings in Under Developed Countries, *Journal of International Economics.* 2(1).

World Bank (2001). *Global Development Finance: Building Coalitions for Effective Development Finance*, Washington, D.C.