



External debt growth nexus: Role of macroeconomic polices



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ABSTRACT

This paper examines the impact of external debt on economic growth in Pakistan over the period 1970–2009. The empirical exploration of the impact of external debt on growth is analyzed allowing external debt to interact with macroeconomic policy index and considering the ratio of multilateral external debt to total external debt as an additional factor in the growth regression. The empirical analysis for the impact of external debt on growth is based on the ARDL approach to cointegration. The results show that external debt has a negative impact on growth, but this adverse effect can be reduced or even reversed in the presence of sound macroeconomic policy. Secondly, it is the bilateral and not the multilateral component of the total external debt that retards growth.

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1. Introduction

External debt is an important source of financing economic growth for developing countries through capital accumulation, infrastructure development and human resource development. According to the model of [Chenery and Strout \(1966\)](#) the demand for investment in less developed countries (LDC) cannot be met from domestic savings and exports earning are also insufficient to finance imports. In order to fill the saving–investment gap, less-developed countries tend to borrow from external sources. The increase in investment financed by external resources may boost economic growth in the recipient country. So, it is often argued that if the borrowing country uses the borrowed funds into productive investments and enjoy macroeconomic stability, they will be able not only to accelerate their economic growth but also to settle their future debt obligations comfortably.

Many poor developing countries like Pakistan have accumulated a large amount of external debt, which they find difficult to sustain. There is an increasing concern that large amounts of external debts are retarding growth and considerable amounts of these debts are utilized in debt servicing, mostly at the cost of expenditure meant for socio-economic development.

Debt overhang hypothesis is the most commonly used argument to establish a negative relationship between external debt and growth. According to the debt-overhang hypothesis, when countries accumulate external debt, investors anticipate a higher future tax to finance the external debt-service payments. This reduces investment and, hence, adversely affects economic growth. See, for example [Geiger](#)

(1990), [Deshpande \(1997\)](#), [Cunningham \(1993\)](#), [Sawada \(1994\)](#), [Rockerbie \(1994\)](#), [Afzentiou \(1993\)](#), [Cohen \(1993\)](#), and [Were \(2001\)](#).

Economists assert that macroeconomic mismanagement is not only the cause of slow growth but it also explains why some developing countries have become heavily indebted. Thus, while the problem of sluggish growth can be attributed to external debt, the roots of a debt crisis can be traced to poor policy making and economic mismanagement. [Easterly \(2002\)](#) concludes that macroeconomic policies of the highly indebted poor countries (HIPC) are the main causes of their high indebtedness. [Fosu \(1999\)](#) by using the data of 35 Sub-Saharan countries found that negative impact of external debt on economic growth and asserted that this negative impact may be due to poor performance of the debt-receiving countries.

[The World Bank \(1990\)](#) concludes that capital inflows will be more effective in the countries that have stable macroeconomic policies and few distortions. [Burnside and Dollar \(2004\)](#) analyze the impact of foreign aid on economic growth for developing countries in the presence of macroeconomic policies and find that aid is ineffective if sound macroeconomic policies are absent in the aid-recipient countries. There is also a possibility that external debt has a detrimental effect due to the absence of sound macroeconomic policies.

It is also important to note that external debt may have different effects depending upon its source structure. [Tiruneh \(2004\)](#) argues that the empirical models in which external debt is taken in aggregate form and all its components are assumed to have the same effect on economic growth, may give misleading results. In the debt–growth nexus studies, the external may be decomposed into multilateral external debt and bilateral external debt. The rationale for decomposing the total external debt into its bilateral and multilateral components is that the bilateral external debt is often strategically and politically driven rather than policy or poverty focused. Therefore, its impact on economic growth can be negative. In contrast, multilateral external

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debt can promote economic growth because it is policy or poverty driven to some extent and is often accompanied by low interest rates.

A numbers of studies have been undertaken that have focused on the impact of external debt on economic growth in the case of Pakistan. [See, for example, Iqbal and Zahid (1998), (Hameed et al., 2008), Siddiqui and Malik (2001)].

Iqbal and Zahid (1998) apply the OLS technique with annual data spanning from 1960–1997 and find the negative impact of external debt on economic growth. This study further suggests that it is better to rely on domestic rather than external sources for economic growth.

The study of Hameed et al. (2008) examines the long-run and short-run relationships between external debt and economic growth of Pakistan using the annual data from 1970–2003. This study also concludes that debt service has negative long run as well as short run effects. The effect of debt on growth remains positive up to a certain level and turns negative beyond that level.

The study of Siddiqui and Malik (2001) analyzes the impact of various debt indicators on economic growth for three South Asian countries Bangladesh, Pakistan, Sri Lanka using the annual data from 1975 to 93. The study finds that there exists a quadratic relationship between debt indicators and economic growth. The study concludes that mismanagement of resources, international uncompetitiveness and macro-economic imbalances are the main causes of high external debt and its adverse impact on economic growth.

Boopen et al. (2007) assess the impact of external public debt on economic performance of Mauritius for the period 1960 to 2004 and results indicate that external debt and output are negatively associated in short-run as well as in the long run. Cholifihani (2008) also finds that there is a negative relationship between external debt and debt servicing and GDP both in the short run and long run impacts of external debt on the GDP of Indonesia from 1980 to 2005.

Most of the studies have found the negative relationship between external debt and economic growth. The general conclusion of these studies is that external debt has an insignificant or negative relationship with economic growth. Similarly, the study of Ishfaq and Ahmad (2005) found the negative impact of foreign aid on economic growth. The study proposed that allocation of foreign aid into a non-productive sector and inefficiency of resource allocation may be the causes of the negative impact of foreign aid on GDP growth. The study also suggested that deteriorated macroeconomic policies may be the cause of the adverse effect of foreign aid on GDP growth in the case of Pakistan.

This study significantly differs from earlier studies for Pakistan in two aspects. Firstly, external debt is interacted with macroeconomic policies to analyze the impact of external debt on economic growth in the presence of macroeconomic policies. Secondly, external debt is disaggregated into bilateral and multilateral external debts to trace their respective affects in economic growth separately. To be more specific, the study focuses on:

- The relationship between total external debt and economic growth;
- The sensitivity of this relationship to the state of macroeconomics policies; and
- The role of the composition of debt with respect to its bilateral and multilateral components in determining the strength of the debt-growth relationship.

Like most developing countries, Pakistan relies substantially on external debt for the financing of its development projects. In the early years of independence, the size of such loans was small, the rate of interest was concessionary, the maturity was long-term, and the source was usually bilateral in nature. For instance, Pakistan's External debt in 1969 was \$2.7 billion; however, it reached to, \$8.78 billion in 1978. The value of Pakistan's external indebtedness was \$20.85 billion in 1990, which represented over 51% of Pakistan's gross domestic product (GDP) for that year. The situation precipitated a debt-crisis that progressively worsened over time. Pakistan's total external debt

as of September 2001 amounted to \$36.5 billion, which by the end of March 2011 reached to \$59.5 billion.

Up till the 1990s, external debt was mainly from bilateral sources. From early 1990s onwards, however, multilateral debt constitutes a major proportion of external debt stock. The share of multilateral debt increased in 1990s mainly as a result of Pakistan's adoption of the Structural Adjustment Program (SAP) of the International Monetary Fund (IMF) and World Bank.

Since 1990 Pakistan has also gone through various reforms in its financial sector and has adopted varying stances of monetary and fiscal policies. Thus, it seems quite relevant to focus on the debt-growth nexus in the light of changing debt composition and the state of macro-economic policy.

The remainder of the study is organized in the following manner. Model specification of debt-growth nexus is presented in Section 2. Data sources and construction of macroeconomic policy index are discussed in Section 3. Econometric methodology and empirical results of external debt growth regression are presented in Section 4 and Section 5, respectively. Section 6 contains concluding remarks.

2. Model specification

To assess the impact of external debt on growth, debt variables namely external debt to GDP ratio and debt service to export ratio, are included in the standard growth model. To analyze the impact of external debt in the presence of macroeconomic policies and external debt composition on growth, external debt is interacted with macro-economic policies and the ratio of multilateral external debt to total external debt are included in the growth model.

GDP is affected by many other important variables, which must be included in the GDP equation in order to avoid spication bias in the debt-growth relationship. These control variables include: inflation rate, budget deficit to GDP ratio, secondary school enrollment ratio and trade openness which is measured as export plus import to GDP ratio.

The following paragraphs discuss the justification of each control variable included in the equation. Prices play an important role in an economy by giving the different agents signal in their attempts to allocate resources efficiently. High and rapidly increasing prices distort this role of prices. Thus a high level of inflation may be inimical to growth by adversely affecting the decision-making effort of agents [see Barro Robert (1996) and Khan and Ssnhadji (2001) for details]. Thus, we expect inflation to adversely affect growth.

Fiscal position of government is another determinant of growth. Studies of Fischer (1993) and Easterly and Rebelo (1993) examined the role of fiscal policy in determining the growth of output. They found that large and consistent budget deficits are negatively correlated with growth. Thus, a balanced budget should have a positive effect reflecting macroeconomic stability.

Human capital is another important variable in explaining growth. Thus, the model includes human capital measured by secondary school enrolment rate. Human capital is expected to have a positive impact on growth because educated and skilled people tend to be more productive.

Openness, measured by total trade as a ratio to GDP reflects to what extent an economic activity of a country is linked to the rest of the world. An economy with a more open trade can quickly adopt newly developed ideas and equipments from the rest of the world than an economy with a restricted trade. This is particularly important for developing countries, as the rate at which they can trade and implement the new technologies is central to their growth. Gallup et al. (1998) showed that open economies are generally in a better position to import new technologies and new ideas from the rest of the world as compared to closed economies. Therefore and also following Barro Robert (1996), Easterly and Levine (1997), and Collier and Gunning (1999), we expect trade openness to have positive effect on growth.

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