

Relationship between External Domestic Debt and Economic Growth

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Abstract: *Pakistan is surrounded by serious socio-economic problems. Due to the low tax base and double deficit, Pakistan has to rely on internal and external capital flows. Foreign capital flows are not easily accessible, but domestic capital flows are always accessible. The study investigates the effects of domestic debt on economic growth in Pakistan by applying the OLS technique. The study indicates that the stock of domestic debt positively affects economic growth in Pakistan. This clearly means that the resources generated through internal debt have been partially used to finance public spending which contributes to economic growth. The study also notes that there is an inverse relationship between domestic debt service and economic growth. This result is due to the fact that the enormous burden of non-development spending hinders economic growth. The study results reveal that the negative effects of domestic debt service on economic growth is stronger than the positive effects of domestic debt on economic growth. The study also suggests some policies to repay existing internal debt.*

Keywords: internal debt; Remittances of workers; Provision of money; Debt service

Introduction

Governments in less developed nations rely heavily on public debt to fund their spending. Economic growth may be boosted through making effective and efficient use of resources to meet macroeconomic goals. However, if public debt is not adequately managed, it will stifle economic development and become the economy's worst burden.

Government debt is one of the most serious economic issues that Southern governments confront. There is a lot of talk about international debt, but not so much about local debt.

It has been at the forefront of economic planning and research. As a result, although foreign debt has historically gotten the attention it deserves, Pakistan pays off its international debt with local loans. Pakistan's domestic public debt has not been capped in order to ensure that adequate resources are available after debt service to support various types of government spending.

The internal public debt is caused by a number of factors. To begin with, it is utilised to deal with fiscal deficits. Second, open market activities are employed to carry out monetary policy. Third, internal debt instruments must be used to build and deepen financial markets.

Internal debt can also have significant economic repercussions. Domestic debt payment consumes a large percentage of government revenue. As a result, the government has fewer funds to devote to development initiatives. Domestic debt service, in this sense, is more harmful to economic development than the stock of domestic debt. In shallow financial markets, the cost of interest rises as internal debt rises, owing to the huge quantity of debt held in short-term instruments.

The impacts of domestic debt on the Pakistani economy are little documented. Furthermore, the majority of current research on governmental debt and economic development has concentrated on foreign debt. The following is a breakdown of the work: Views on the link between internal debt and growth are discussed in Section II. Section III provides a synopsis of the empirical research. In part IV, the composition and developments of Pakistan's domestic debt were addressed. Section V mentions the econometric specification. Section VI contains a discussion of the data, methodological difficulties, and empirical findings. Finally, in section VII, the findings are provided.

Theoretical Issues

Theoretical elements of internal debt and its link to economic growth are discussed in this section. Economic development is one of the most essential goals of virtually all governments' economic strategies. It is influenced by fundamental production variables, technical advancement, and a mix of sociopolitical and institutional influences.

Internal debt can have both positive and negative impacts on economic growth. The impacts of domestic debt on economic growth can be analyzed in the context of two different points of view, namely the traditional point of view and the Ricardian point of view.

A tax decrease supported by public borrowing, according to conventional wisdom, would have several economic consequences. The tax cut's immediate effect would be to increase consumer expenditure. Consumer spending has a short- and long-term impact on the

economy. Higher consumer spending would boost demand for products and services in the medium term, boosting output and employment. Because the marginal inclination to spend is larger than the marginal propensity to save, unless the government saves, private saving diminishes. This encourages the entry of money from outside, which boosts the real interest rate in the economy.

In the long term, a higher interest rate would discourage investment and, as a result, private investment would be stifled. Domestic savings are lower, implying a smaller capital stock. Foreign debt would rise as a result of entry from outside the country. Higher aggregate demand leads to higher prices, which adjust over time as the economy returns to its normal rate of production. Reduced investments eventually result in a lower steady-state capital stock and production. As a result, when looking at the long run, the overall consequence would be reduced total production, which would lead to decreased consumption and economic wellbeing.

Domestic debt proponents point to its favourable effects on growth, inflation, and deeper and more sophisticated capital market savings, which boost private investment volume and efficiency. They think that moderate amounts of non-inflationary domestic debt improve private saving and financial intermediation, which boosts economic development.

Review of Literature

Several research on the link between domestic debt and economic development in industrialised nations are given. We examined many key empirical studies on internal debt and economic growth.

The impacts of deficit financing methods on economic development are investigated by Fry (1997). In comparison to external debt and seigniorage, market-based internal debt issuance is the cheapest means of funding the budget deficit, according to the study. All of these strategies stifle growth, diminish internal savings, and raise inflation.

Singh (1999) uses the cointegration approach and Granger's causality test to investigate the link between internal debt and economic development in India from 1959 to 1995. The author proposes two theoretical perspectives on internal debt and economic growth: one is the standard view of internal debt's impact on economic development, and the other is the Ricardian equivalence hypothesis, which asserts that internal debt is growth-neutral. Domestic debt and economic growth are not cointegrated, according to the Engle-Granger cointegration test. The Ricardian equivalence hypothesis between internal debt and growth in India is supported by this study.

In Pakistan, Kemal (2001) examined debt accumulation and its consequences for growth and poverty. The findings demonstrate that debt accumulation (both internal and external) and debt service have negative consequences for the poor. The findings show that, while Pakistan's debt load as a proportion of GDP is higher than that of all South Asian countries, it is still not high enough to allow the debt to be written off. This indicates that Pakistan has the financial means to repay its debts.

Using yearly statistics, Uzochukwu (2003) demonstrates the quantitative impacts of governmental debt and economic development on poverty in Nigeria. Growth and debt factors are included in the analysis, and it is suggested that these variables had a key influence in the acceleration of poverty in Nigeria.

In industrialised countries, Schclarek (2004) analyses the link between gross public debt and per capita GDP growth. For a sample of 26 industrial nations, the findings demonstrate that there is no strong evidence of a statistically significant link between gross government debt and GDP growth.

Abbas and Christensen (2007) highlight the Granger regression causality model was used to examine the influence of domestic debt on economic development in ninety-three low-income countries from 1975 to 2004. According to the findings, modest levels of marketable internal debt as a proportion of GDP have substantial positive and non-linear effects on economic growth, but debt levels above 35 percent of total bank deposits have a negative impact.

Maana et al (2008) analyze internal debt's economic influence on Kenya's economy. The authors use yearly data from 1996 to 2007 to evaluate the effects of domestic debt on private sector loans using the ordinary least squares approach. Domestic debt does not exclude private sector loans in Kenya over the time, according to the research, owing to Kenya's high degree of financial growth. Using a modified Barro growth regression model, the study also investigates the effects of domestic debt on production. The findings show that increasing internal debt has a favourable but minor impact on economic development over time. The study suggests the

government should adopt broader reforms that promote investment in treasury and encourage institutional investors.

Muhdi and Sasaki (2009) explains the role of domestic and foreign debt is discussed. Using yearly data from 1991 to 2006, the authors used ordinary least squares (OLS) estimate. According to the report, the increasing trend in foreign debt has become a key policy tool for reducing the deficit. It has a favourable influence on investment and economic development. However, in addition to these good impacts, the strategy causes the national currency to depreciate. In contrast, due to the crowding-out effect, which decreases the stock of capital and overall production, the increasing trend in domestic debt has discouraged private investment. Adoufu and Abula (2009) study the effects of the increase in internal debt on the Nigerian economy by applying the OLS technique using data from the 1986-2005-time series. The results of the study reveal that several factors responsible for the increase in internal debt in Nigeria are a high budget deficit, a low level of production, an increase in public spending, a high rate of inflation and a low income base. The analysis shows that internal debt has negatively affected the growth of the economy and recommends that the government make efforts to resolve existing internal debt.

Checherita and Rother (2010) determine the impacts of public debt on GDP growth in twelve eurozone countries over a 38-year period. Debt is channelled via a variety of routes. Private savings, governmental investment, total factor productivity, and real interest rates all have a public influence on economic development. The analysis indicates that public debt has a non-linear negative influence on economic growth.

Domestic debt has a mixed influence on economic growth, according to the research mentioned above. Internal debt is thought to impede economic growth in certain research, while it is thought to help economic growth in others.

Composition and trend of internal debt

The composition and trends of Pakistan's domestic debt are presented in this section. In Pakistan, the composition of the domestic debt has shifted throughout time. Domestic debt is divided into three categories: floating debt, unfunded debt, and permanent debt.

Permanent debt

Bad debts are covered by permanent debt (financed debt). Holders of perpetual debt obligations might receive interest throughout this time. These bonds are not required to be purchased by the government. These bonds can be sold at market value on the stock exchange. A long-term debt is a permanent public debt. It is made up of long-term market loans with maturities ranging from seven to twenty years, and it is typically held by insurance companies and commercial banks. Some permanent debt instruments are issued in local currency, while others are issued in foreign currency.

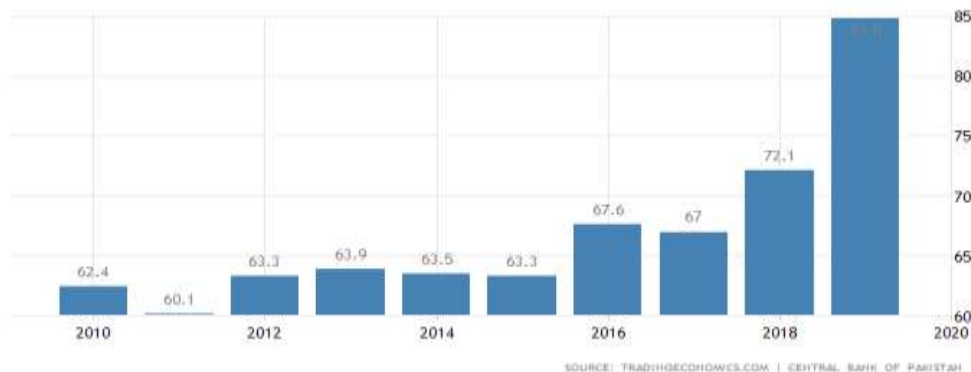
Floating debt

Short-term debt is referred to as floating debt. It includes commercial banks' cash credit to the government for its working capital needs.

Unfunded debt

Medium-term debt is unfunded debt. It is made up of public-facing voluntary savings programmes that make up the bulk of the National Savings System's instruments. Let's speak about the internal debt's composition now. The basic makeup of Pakistan's internal debt is seen in Figure 1. The amount of debt that was floating was quite high, reaching 58 percent. Due to the high interest rates on national savings after this time, the unfunded debt increased, and the proportion of unfunded debt reached 49 percent in 2003. The composition has shifted again, this time from unfunded debt to floating debt, which reached 50% in 2008, while the share of permanent debt has remained nearly same since 2000. Pakistan's debt position has dramatically deteriorated during the last four decades. It is critical to track the temporal profiles of key economic indicators that have a direct link with

debt accumulation for a meaningful descriptive study and an accurate understanding of the debt accumulation process.



Graph shows the internal debt trends over the past 40 years. It shows that domestic debt as a percentage of GDP has increased over the past four decades, domestic debt has remained nearly constant. Internal debt has a growing trend.

These include low level of saving rates, fiscal space and tax revenues as a percentage of GDP. In addition, developed countries imposed economic sanctions against Pakistan. Thus, in this situation government had to borrow from internal sources.

Econometric Specification

In light of the above discussion, we have formulated the following specifications to assess the effects of internal debt or internal debt service on economic growth. The study used internal debt and internal debt service in separate equations just to avoid multicollinearity. We build the following mathematical models for your analysis

$$GDP = f (GE, TDD, EX, WREM) \dots\dots\dots (1) \quad GDP = f (M_2,$$

$$INT_DD, ER, FDI) \dots\dots\dots (2)$$

The econometric equations specified in linear forms are given as follows:

$$GDP = \beta_1 + \beta_2 GE + \beta_3 TDD + \beta_4 EX + \beta_5 WREM + \epsilon \dots (3)$$

$$GDP = \beta_1 + \beta_2 M_2 + \beta_3 INT_DD + \beta_4 ER + \beta_5 FDI + \epsilon \dots (4)$$

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

$$\beta_3 < 0$$

Where is it:

GDP = gross domestic product

GE = total public expenditure TDD = total internal debt

EX = Exports

WREM = Workers' remittances M2 = Money supply

INT_DD = Internal debt service ER = Exchange rate

FDI = foreign direct investment

ϵ = Error term

Results and Discussion

Equations 1 & 2 are mathematical models and equations 3 & 4 are econometric models. To estimate the growth functions, we use the time series (annual data) for the period 1971-72 to 2008-09. All data is drawn from various numbers of the annual reports of the State Bank of Pakistan and the Economic Survey of the Ministry of

Finance, the government of Pakistan. All variables are in nominal terms. All equations are estimated with the OLS (Ordinary Least Square) method. In general, it is the OLS method widely used in regression analysis mainly because it is intuitively attractive and mathematically much simpler.

Table 1 summarises the findings of the growth equation estimation. There are five variables in estimated equation 3. Workers' remittances, total domestic debt, exports, and government expenditure are independent variables, whereas GDP is a dependent variable used to demonstrate economic growth. With the exception of domestic debt service, the predicted direction of each explanatory variable's association with GDP is positive.

The regression coefficient of workers' remittances is 3.16 in the table, which implies that an increase in remittances by one million employees boosts GDP by about 3.16 million. This is a highly powerful and statistically significant impact. Workers' remittances can have a beneficial impact on growth in a variety of ways. To begin with, remittances can alleviate the credit restriction on household income, allowing for more company activity and private investment (Yang, 2004; Woodruff and Zenteno, 2004). Households in underdeveloped nations confront less efficient financial markets, thus access to credit appears to be their top priority. Remittances may help families start their own companies and fund education and health care, which are two of the most important factors driving long-term economic growth. Second, remittances have the potential to improve a country's solvency and therefore its access to international financial markets. According to the World Bank (2006), the magnitude of remittance flows affects the country's credit rating. Third, through multiplier mechanisms, remittance inflows may have a favourable impact on economic growth. Investing activities have a back-and-forth relationship, thus a rise in one family's investment might improve the income of another. In a rising-returns environment, the expansion of one sector may boost the size of others. Many research in southern nations demonstrate a favourable relationship between family investment and worker remittances. For example, Brown (1994) examines the relationship between remittances, savings and investments in Tonga and Samoa and finds that remittances make a significant contribution to saving and investment.

The export coefficient is 2.32, indicating that a one-million-dollar increase in exports would result in a 2.32-million-dollar rise in GDP. Exports have a large and statistically significant influence on GDP. GDP is the total of consumption, investment, government expenditure, and net exports, according to national income accounting. As a result, net exports and GDP should be positively linked. An increase in exports, according to classic Keynesian theory, can stimulate demand, resulting in an increase in output. An export-led growth plan, according to Abou-Stait (2005), provides manufacturers with incentives to export their commodities through different government policies. The plan also boosts the country's ability to develop items that can compete on a global scale. Exports can assist the country in integrating into the global economy and reducing external shocks. Many studies have found a positive relationship between exports and both GDP per capita and foreign exchange reserves [Ruppel (1997), Gopinath and Vasavada (1999), Young (2002, Saima, et al. (2008))]. Therefore, all the results of the aforementioned studies are consistent with our results.

We discovered that the regression coefficient for government expenditure is -6.05, implying that a one million increase in government spending will result in a 6.05 million drop in GDP. This is a statistically significant negative coefficient value. This conclusion is in direct opposition to the hypothesis. The following might be the cause for the contradictory result: more government expenditure can slow the economy's overall performance. To finance higher spending, the government can, for example, raise taxes and/or issue loans. People are discouraged from working long hours or even seeking for job as a result of increasing income taxes. As a result, income and aggregate demand are reduced. A higher income tax, on the other hand, tends to raise costs and diminish investment spending, as well as company profitability. Furthermore, if the government expands lending, particularly from banks, to cover its own expenditures, it will compete with and eventually supplant the private sector, decreasing private investment. Furthermore, politicians and the government are known to boost expenditure and investment in inefficient projects or commodities that the private sector can create more effectively. As a result, government action can occasionally result in resource misallocation and stifle growth. Laudau D (1983) looked at the impact of government consumer spending on economic growth and concluded that it had a negative impact on real production growth. Komain J (2007) analyzed The link between government expenditure and economic growth in Thailand was examined, and it was shown that the two are not cointegrated. Barro and Sala-i-Martin classify expenditures as productive or unproductive, believing that productive expenditures have an impact on economic growth whereas unproductive expenditures have no impact. As a result, we may conclude that the government of Pakistan spends money for non-development objectives, which explains why our GDP growth is adversely connected to government expenditure. Now we'll look at the value of the regression coefficient for total internal debt, which is the variable we're interested in. The

regression coefficient is 4.09, implying that a one-million rise in total internal debt would result in a 4.09 million increase in GDP. The coefficient is statistically significant and positive. The rationale for this might be that, in comparison to central bank loans, market-based internal borrowing provides macroeconomic stability, minimises actual internal and foreign monetary shocks, and generates internal savings and private investment. Because both floating debt and unfunded debt are negotiable and account for a large portion of Pakistan's domestic debt, while the central bank's permanent debt is a smaller fraction of total debt, domestic debt has a positive influence on GDP. Internal debt increase has been shown to boost economic growth in studies.

In table 1, we can see that the model given by equation 3 performs admirably in terms of total explanatory power. As a result, our model accounts for around 87 percent of the variation in growth. The first order moving average technique was employed to alleviate the problem of autocorrelation. The DW statistic in equation 3 calculated is outside the reject range but within the acceptance range. As a result, we may accept the null hypothesis that regression errors have no autocorrelation.

In equation 4, the values of the regression coefficients. The exchange rate, foreign direct investment, money supply, and domestic debt servicing are independent variables that are utilised to illustrate economic development. Let's take a closer look at the values of each variable's regression coefficients.

The exchange rate regression coefficient is 82836.04, indicating that for every dollar increase in the exchange rate, GDP rises by roughly \$82836.04 million. This is a highly powerful and statistically significant impact. The explanation for this might be because as the rupee depreciates, the reduced value of the native currency makes domestic goods cheaper than foreign goods, increasing net exports and hence aggregate production. Rodrik (2009) argues that Depreciation of the real exchange rate stimulates economic growth, enhances the profitability of the export sector, and increases the proportion of tradables in domestic value added.

Economic growth is favoured by the expansion of the tradable sector, which is more impacted by institutional flaws and market distortions than the non-tradable sector. Korinek and Serven (2010) argue that the externalities of learning by experience in the negotiable sector, which occur in a suboptimal fashion in the absence of governmental action, might boost GDP by underestimating the actual exchange rate.

Table 1: Estimates the parameters of the GDP equation (dependent variable is GDP)

Independent variables	Equation 3	Equation 4
Intercept	265637.4 (6.829647*)	-711155.2 (-6.425910*)
Remittances of workers	3.163070 (2.367389*)	-----
Total internal debt	4.096952 (10.15752*)	-----
Debt service on total domestic debt	-----	-6.786737 (-4.948873*)
Exports	2.322325 (2.721485*)	-----
Public expenditure	-6.051597 (12.14958*)	(-) -----
Exchange rate	-----	82836.04 (10.27141*)
Foreign direct investments	-----	-3.439730 (-1.693374**)
M2	-----	1.434640 (3.876055*)
MA (1)	-0.409926 (-1.014755)	-----
AR (1)	-----	-0.079271 (-0.407274)
R2	0.87	0.90
DW Statistics	2.01	1.99
Sample size	37	36

Note: Significant t-statistics significant at the 5% and 10% levels are indicated by * & ** respectively. All estimates are carried out by EViews

The money supply regression coefficient is 1.43, indicating that a one million increase in the money supply would result in a 1.43 million rise in GDP. This is a powerful and statistically significant impact. Because the interest rate falls, an increase in the quantity of money in the economy boosts GDP growth. People intend to buy more durable items and businesses plan to invest more with a lower loan rate.

The quantity of money in circulation is the most important factor of economic growth. Countries that devote more effort to analysing the behaviour of the total money supply see less significant changes in their economic activity.

In the case of foreign direct investment, the regression coefficient is -3.43. As a result, introducing 1 million FDI reduces GDP to 3.43 million. This is a statistically significant negative impact. FDI can reduce competition and growth, especially if the host country's authorities provide additional protection to foreign investors to attract their capital. FDI can also reduce competition and growth if it results in reverse flows in the form of profit remittances, if assets are remitted via transfer pricing and dividends.

According to the school of addiction, foreign investment from rich nations is harmful to developing countries' long-term economic progress. He claims that rich nations have profited by exploiting developing countries' labour and other resources. In poor nations, this sort of intervention disrupts markets, slows growth, and widens wealth disparities. Foreign capital can reduce economic development by earning higher profits in a nation with substantial trade distortions, according to Brecher and Daz-Alejandro (1977). In 73 developing nations, Singh (1988) discovered that FDI had little or no influence on economic growth. Hien (1992) argued that FDI inflows have a minimal influence on economic growth in underdeveloped nations.

Now we'll look at our primary internal debt service variable's regression coefficient. The result is -6.78, implying that a one million increase in debt payment decreases GDP growth to 6.78 million. This is a statistically significant value. The reason for this might be that rising debt payment burdens the economy, while falling public and private investment due to high borrowing costs, causing GDP, which measures economic growth, to fall.

In the table, we can see that the model given by equation 4 performs admirably in terms of general explanatory power. In the growth function, R² is equal to 0.90. As a result, our model accounts for around 90% of the variation in growth. We employed the Markov first order autoregressive to remove the problem of autocorrelation. The DW statistic is in the accept range rather than the reject range. As a result, we may accept the null hypothesis that regression errors have no autocorrelation.

Conclusion

The primary goal of this article was to investigate the influence of Pakistan's domestic debt on economic growth. Domestic debt has a beneficial impact on Pakistani economic growth, according to the study. Obviously, this means that money raised through internal debt have been utilised in part to pay government spending, which adds to GDP growth.

Internal and foreign debt should both be set aside for long-term growth, according to the idea. Another factor contributing to Pakistan's favourable link between internal debt and economic growth is that internal debt is negotiable. Internal market debt boosts macroeconomic growth while lowering susceptibility to actual external shocks.

Another finding of the study is that domestic debt payment has a detrimental influence on economic development. This was most likely owing to the tremendous financial load of non-development-related costs. Domestic debt servicing has a greater negative influence on economic growth than it has a good impact; in fact, the negative effect surpasses the positive benefit.

The government must make every effort to repay the government's internal debt. This will result in the economy's monetary policy being properly implemented. Instead of creating house loans, the government should try to fund the budget deficit by strengthening the present tax base.

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