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Public Debt and Fiscal Responsibility in a Federal Structure: The Case of Pakistan

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ABSTRACT

A recent amendment in Pakistan's federal constitution allows provinces to borrow domestically and abroad. There is a concern that it may generate unsustainable debt burden, considering the country's delinquent monetary policy and a historical deficit bias. The objective of this paper is to assess sustainability of public debt. First, we use Cecchetti, et al. (2010) methodology to regress public debt on indicators of fiscal stance i.e. primary deficit and structural deficit at federal level for the period 1976-2011. We conclude that fiscal stance remained opportunistically expansionary. Next, we look at debt sustainability and its implications for macroeconomic management at provincial level by separating the effects of growth and inflation on provincial public debt, interest payments, and primary balance by using the framework of Liu, et al. (2009). Our findings suggest declining debt sustainability at provincial level, which calls for a strong regulatory framework and coordination between federal and provincial debt strategies.

Keywords: Subnational finance, Fiscal responsibility, Monetary policy, Fiscal federalism, Pakistan

JEL Codes: E52, E58, E62, E63, H61, H62, H63

1. Introduction

A country's financial condition is judged by the Debt/GDP ratio and the composition of debt. Financial stress may trigger economic recession and can badly affect government revenue and expenditure. Debt financing provides a route to redress fiscal imbalance, but the resulting fiscal space is only for the short run. There are some negative implications in the medium and long term as it imposes the burden of debt servicing. Domestic borrowing crowds out public investment that triggers inflation due to the pursuit of expansionary monetary policy (Fischer, 1989). Central bank has to use policy instruments for achieving price stability, which leads to higher interest rate. Inflation may be controlled but at the cost

of making government borrowing more expensive. Further, it exerts stress on development expenditure and slows down growth. External borrowing causes an exchange rate problem. Depreciation may not promote exports and the balance of payments may worsen.

Pakistan has been a highly centralized fiscal federation, plagued by recession and unmanageable fiscal deficit, an outcome mainly of the mounting public debt. It had availed debt rescheduling after failing to service its external debt in early 2000s. After 9/11, however, not only inflows of foreign assistance improved, the foreign direct investment also rose sharply. These inflows generated growth in Pakistan, which led to a falling debt/GDP ratio. Debt increased but with a slower pace. Total debt/GDP ratio fell steeply from 81.4% in 2001-02 to 56% within a decade. This reduction in debt burden was due in part to the Fiscal Responsibility and Debt Limitation (FRDL) Act, 2005. There has, however, been a change in the composition of debt. From 40.4 % of the total in 2001-02, domestic debt has risen to 55% in 2009-10. The FRDL Act required: (a) attainment of a public debt to GDP ratio of 60 percent by 2013; and (b) an annual 2.5 percentage point reduction in this ratio after achieving 60 percent benchmark. At a time when the country has deviated from the road charted by FRDL Act, two important developments have taken place.

First, the Seventh National Finance Commission (NFC) award implemented from July 2010 was an effort to correct vertical as well as horizontal imbalance. All major taxes and around 90 percent of total tax collection are controlled by the federal government. The provinces receive the largest share of their resources from the divisible pool of taxes on the basis of a mutually agreed formula through the constitutionally mandated NFCs required to be set up every five years. The federal government controlled resources as well as borrowing. It has over the years provided the bulk of resources available to the provinces through transfers from the divisible pool of taxes. Vertical imbalance refers to the extent of provincial governments' reliance on federal government revenues for meeting their expenditures. The federal/provincial ratio for vertical distribution has drastically changed under the Seventh NFC. It has been more than reversed from 55:45 in 2009-10 to 42.5:57.5. In 2010-11, the provinces were assigned an increase of 58 per cent in total transfers. The provinces themselves have very few taxes with them and the collection capacity is weak. For horizontal distribution, multiple criteria have been used for the first time to accommodate provincial diversity. Population is no more the sole factor in horizontal distribution. A multiple factor criteria, including population (82%), poverty and backwardness (10.3%), revenue collection (5%) and inverse population density (2.7%), has made it fairer in response to the demands made by the provinces of Sindh, Khyber Pakhtunkhwa and Balochistan. These provinces now have larger shares under the Seventh NFC compared to the Sixth NFC, as shown in the Appendix -figure 1.

Second, the Eighteenth Amendment has significantly changed the relationship between federal government and the provinces. It has increased the quantum of provincial autonomy by abolishing the Concurrent Legislative List. This has implications for provincial expenditure, as it has enlarged the role of the provincial governments. The Eighteenth Amendment also devolves some revenue sources, but only those that the federal government had stopped using (Tahir, 2012). Most important, the Eighteenth Amendment allows provinces for the first time to raise domestic and foreign loans and issue guarantees.

The Eighteenth Amendment devolves the collection of sales tax on services to the provinces. However, only Sindh has decided to collect it. In addition, a number of revenue sources/taxes from the Federal Legislative List Part I have been deleted. The Provinces thus have the power to impose these taxes. These include state lotteries, duties in respect of succession to property, estate duty in respect of property and taxes on capital value of immovable property. No province has, however, taken any step in this direction.

These developments have implications for macroeconomic stability, in particular, for fiscal responsibility and the effectiveness of monetary policy. This paper aims at spelling out some of these implications and to explore ways of preserving Constitutional rights without causing serious macroeconomic imbalances. Section 2 reviews the literature on the key issues of intergovernmental fiscal relations, subnational (provincial in our case) debt and monetary policy. It further examines international experience to see what guidelines it offers. Section 3 explains the methodology for assessing debt sustainability and coordination between fiscal and monetary policy at federal and provincial levels. Section 4 focuses on implications of debt burden for inflation, exchange rate and growth. Section 5 presents results. Section 6 discusses the issues of fiscal responsibility at federal and provincial level. The last section presents the conclusions.

2. Literature Review

The case for devolution mainly rests on better service delivery, efficiency and autonomy. In situations of serious fiscal imbalance, the power to borrow at the lower levels of government reduces the need for intergovernmental transfers and promotes economic stability. In case of foreign loans, guarantees for lower levels of government have been discouraged by the central governments for fear of unsustainable indebtedness or default. Mostly such loans have related to long gestation infrastructure projects (World Bank, 2010). There is a moral hazard problem, however. In the case of guarantees, central and lower level governments assume the role of principal and lending institutions. Or lenders assume the role of agents. Bailouts in such cases are taken for granted as central governments usually do just that. This is built into the way central governments behave under public or other forms of pressure. Lower level governments exploit this behavioral bind. Actually all borrowing at lower levels carries an implicit guarantee of the central government and is therefore a risk for the overall fiscal balance. This is because lenders are likely to be soft on appraising the economic fundamentals of the lower levels of government. Supervision and restrictions, in statutory or other forms, become necessary for the overall macroeconomic health.

Ter-Minassian (1997, 2007) suggested that the level of government is neutral with fiscal rules that can be designed to provide sufficient degree of fiscal discipline as well as right incentives for politicians to restrain discretion and encourage fiscal responsibility. As a result, economic agents are able to form long term expectations about government policy. Neither necessary nor sufficient for stronger fiscal discipline, these rules are quite effective to hold policy makers to account. McDermott and Wescott (1997) posit the neoclassical hypothesis that a smaller budget deficit could lower interest rates by reducing the perceived risk that a government might depreciate its public debt through high inflation in the future.

In countries suffering from extremely large fiscal imbalances, where fiscal action is viewed as indispensable to restoring government solvency, budget deficit reduction could also reduce the default risk premium on interest rates. Fiscal devolution may destabilize macro economy. There is need for setting rules to ensure a reasonable degree of fiscal prudence.

According to Magrassi (2000), unaccountable financial management at sub-national levels lowers creditworthiness. High risk indebtedness makes creditors cautious about lending. But subnational borrowing is also an incentive for these governments to improve project design, cost recovery, budgetary transparency and public financial management. However, Rodden et al. (2003) concludes that with a soft budget constraint and flexibility to borrow, subnational governments tend to spend more without facing full cost. The result is large fiscal deficits and macroeconomic instability. Freire and Petersen(2004) hold that credit needs of any government are determined by political, fiscal, financial, and legal settings. In countries with poor traditions of fiscal prudence, weak accountability and governance, fiscal devolution can lead to a structural imbalance. The borrowing authority in these cases is likely to be misused. The problem worsens in developing countries that have monopolistic credit markets, manipulated by a few major players. Thus the subnational governments can contribute to macroeconomic instability. To Blei (2007), such a structure of credit market influences the mechanism of transmitting changes in monetary policy to the real sector through credit volumes. Lending is rendered unprofitable by a tight monetary regime, which leads to scarcity of credit. Central bank's discount window provides liquidity to banks who can lend for long term fixed investment. But the monetary transmission mechanism is constrained by asymmetric information on credit worthiness. Lanchovichina et al. (2006) asserts that subnational imprudence jeopardizes service delivery at that level, besides undermining national financial system.

As subnational governments cannot issue their own currency, Liu et al. (2009) argue that outstanding debt should not exceed the present value of all current and future surpluses. Additional borrowing from bond market will dry up and cease the future financing arrangements. Monetary policy is the purview of central government and one subnational government cannot be as influential in negotiating the interest rate. It will only be affected by the credit worthiness. Das et al. (2012) maintain that the objective of monetary policy is to control inflation. Were it responsible for debt management also, it might be tempted to hold interest rate low, increasing the possibility of higher inflation in future. Alternatively the monetary authorities are tempted to issue inflation indexed debt to enhance policy credibility.

International experience offers some lessons here. Countries with a flexible budget constraint for lower level governments are more likely to face worsening indebtedness and even default. This type of behavior can make an already bad macroeconomic situation worse. Devolution of the power to borrow can thus fuel inflation and monetary expansion. Interest rate would move up and the current account balance deteriorates. As markets are imperfect, narrow and with few players, loans contracted at lower levels of government can crowd out investment, affecting growth prospects. Intergenerational equity can be harmed by the shortsightedness of the lower levels of government reflected in the inability to internalize the social rates of return. Monitoring in an overall debt management framework becomes necessary due to the difficulties faced in arriving at a precise picture of national

liabilities.

Table 1 International Experience

Countries	Experience	Finance system	Fiscal policy environment	Subnational government borrowing trend	Political regime
Argentina	Low economic growth and high inflation	Devaluation and high domestic rates of interest	Expansionary, rising deficits	Heavy borrowing from domestically and abroad	Loose federal structure
Brazil	Moderate growth and inflation	Imprudent lending	Fiscal indiscipline	Extensive and flexible borrowing powers	Recent devolution
Bulgaria	Low growth and inflation rate, strict regulatory system with limited autonomy	Inter-governmental finance system fairly stable	Limited fiscal flexibility for local governments	Tight budgetary controls with regulatory constraint	Slow decentralizati on with political instability
India	Moderate growth and Inflation	Strict borrowing regulations	Large budgetary deficits, slow growth in nontax revenues, increasing financial losses	Vertical fiscal imbalances between levels of government	Political centralization with provisions for independent bureaucracies

Sources: Schulz, and Wolff (2008); Shah (1997); Singh (2007), Reid (2003); Nankani and Allen (2004); Loupias, and Sevestre (2001); Liu, and Tan (2009); Kappagoda (2002); Gopinath (2009); Gupta et al. (eds.) (1994); Dreher, et al. (2005); Chandra (2008); Braga, and Domeland (eds) (2009); Braun and Tommasi (2005)

The matrix summarizes the experience of selected countries. It places Argentina and Brazil on one extreme and Bulgaria and India on the other. In Argentina, subnational governments borrowed heavily from the domestic banks and abroad. There is a loose federal structure. Fiscal deficit has been growing. Currency has been devaluing and high domestic rates of interest have prevailed. Low economic growth and high inflation have been the result. In Brazil, subnational borrowing powers have traditionally been extensive and flexible. Recently, there have been moves towards devolution of political and fiscal authority from centralized control. Fiscal indiscipline and imprudent lending has been common. The experience calls for caution. Bulgaria allows limited flexibility and the system is decentralizing slowly. Indian states are not allowed to borrow abroad and local borrowing requires permission of the central government.

3. Methodology and Data Sources

There is a strong relationship between financial activity and public debt. Debt stock determines the yield on public debt, banking reserves and portfolio efficiency in an economy. A positive indicator of debt can be that increase in public spending must generate growth in the economy. After the 'Maastricht criterion' of 1992, countries tried to observe a debt to GDP ratio of 60 per cent. But there is no magic ratio of debt to income or wealth. The golden principle is that debt to GDP ratio should follow a non-explosive trend. This means that change in debt stock should not be greater than the change in income or wealth(Pasinetti, 1998).

$$\Delta D/D/\,\Delta GDP/GDP\ < 1 \quad (1)$$

If the above does not hold, the country should reduce its debt burden.

According to Boussard et al. (2012) fiscal consolidation in response to public debt depends on the value of fiscal multipliers, initial debt level and implications for budget. Alesina and Ardagna (2009) found that tax cuts increase growth rather than stimulate spending. Spending cuts rather than tax increases can reduce deficits and debt/GDP ratio. Cafiso and Cellini (2012) explain the relationship between fiscal deficit and debt/GDP ratio. They concluded that there is a negative relationship between fiscal consolidation and GDP. According to them fiscal consolidation can lower aggregate demand and GDP.

$$D_t = D_{t-1} + iD_{t-1} + +PD_t \quad (2)$$

Where D_t is the public debt, istands for interest rate, and PD_t denotes primary deficit.

Using lower case to indicate ratio to GDP except for i and supposing that GDP grows at rate g

$$d_t = pd_t + \frac{1+i}{1+g} d_{t-1} \quad (3)$$

So the constancy of the debt to GDP ratio requires

$$pd_t = \frac{g-i}{1+g} d_{t-1} \quad (4)$$

This is a golden rule result in steady state i=g.

The capacity to service debt is determined by macroeconomic and financial conditions. This paper investigates debt sustainability in Pakistan by using the framework developed by Cecchetti, et al. (2010). We perform regression analysis of debt/GDP ratio on the lagged value of structural primary balance, lagged value of the debt/GDP ratio and output gap for the period 1976-2011. This methodology enables us to ascertain the budgetary stance of the federal government in Pakistan. Next, we use Vector Auto Regressive (VAR) model, which is relevant to know the motivation of fiscal authorities towards the issues of sustainability and stabilization Burger, et al. (2011). In this case, VAR is suitable methodology for endogenously determined variables. We used debt GDP ratio, primary balance, and structural balance for estimating VAR equations. Yt and Xt are assumed stationary and error terms are uncorrelated. This constituted the first order VAR.

$$\underbrace{\begin{bmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \\ a_{31} & a_{32} & a_{33} \end{bmatrix}}_{A} \cdot \underbrace{\begin{bmatrix} DGDP_t \\ PB_t \\ SB_t \end{bmatrix}}_{Z_t} = \underbrace{\begin{bmatrix} b_{11} & b_{12} & b_{13} \\ b_{21} & b_{22} & b_{23} \\ b_{31} & b_{32} & b_{33} \end{bmatrix}}_{B} \underbrace{\begin{bmatrix} DGDP_{t-1} \\ PB_{t-1} \\ SB_{t-1} \end{bmatrix}}_{Z_{t-1}} + \underbrace{\begin{bmatrix} e_{1t} \\ e_{2t} \\ e_{3t} \end{bmatrix}}_{u_t}$$

Matrix A in this equation shows contemporaneous response or immediate response of variables to changes in other variables. The relationship can be represented as follows:

$$AZ_t = BZ_{t-1} + u_t \quad (4)$$

On the basis of VAR results, we estimated impulse response function (IRF). IRFs show how K endogenous variables react overtime to a one time shock to one of the K disturbances. These disturbances are contemporaneously correlated. Such functions do not tell anything about the response of a variable to a random change in lagged variable, ceteris paribus. We, therefore, have assumed white noise in error term.

To examine the coordination between macro policies and debt management, we used an equation developed by Liu et al. (2009) to assess the fiscal sustainability of the provincial governments in Pakistan. In their framework, fiscal sustainability refers to the ability of a government to manage its fiscal and monetary policies without being insolvent. They separate the effects of growth and inflation on indebtedness. Thus equation 6 measures coordination between macroeconomic policies and borrowing at provincial level. We can use various scenarios to find how growth and inflation affect debt, interest payments, and primary balance.

$$b_t - b_{t-1} = i_t - x_t - \left\{\frac{g_t}{(1+g_t)(1+\pi_t)}\right\} * (b_{t-1}) - \left\{\frac{\pi_t}{1+\pi_t}\right\} * b_{t-1} \quad (6)$$

$$b_t = \left[\frac{(1+r_t)}{(1+gt)}\right] b_{t-1} \quad (7)$$

where b_t is the consolidated provincial debt outstanding, i_t is the interest payments of the provincial governments as a share of gross domestic product, x_t is the primary balance of

provinces as a share of gross domestic product, g_t is the real annual growth rate, π_t is the annual inflation rate and r_t is the real interest rate, used to calculate a different scenario of debt sustainability.

Primary balance of provinces = total provincial revenues- total provincial expenditure-interest payments.

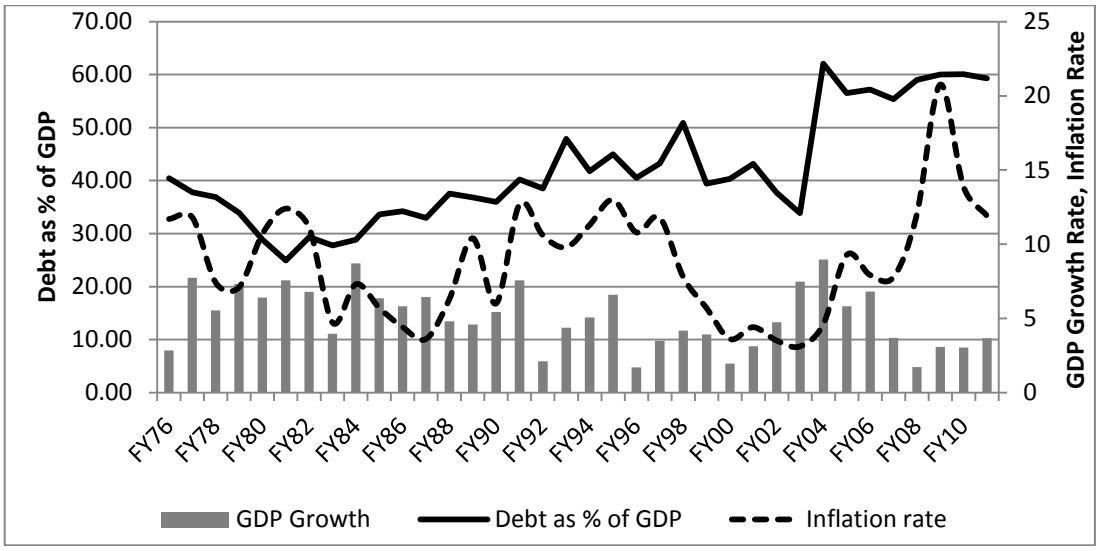
To estimate equation (6), provincial data was taken from the *Handbook of Statistics on Pakistan's Economy 2005*, State Bank of Pakistan. Data for 2006-10 was obtained from State Bank's *Annual Report 2010* and the budget documents of the provinces. The data related to interest payments, revenue and expenditure was taken from the *Pakistan Economic Survey 2009-10*. On the basis of this data we estimated the primary balance of the consolidated budgets of the provinces.

The data related to GDP at market prices and real GDP were extracted from various issues of the *Statistical Supplement: Pakistan Economic Survey.* Data related to inflation rate was taken from the Federal Bureau of Statistics. The data on real interest rate was culled out of various issues *Pakistan Economic Survey.*

4. Debt Sustainability, Exchange Rate, and Fiscal Responsibility

There is no systematic relationship between debt, growth and inflation or if it exists, it is weak. Rogoff and Reinhart (2010) found that when gross external debt reaches 60 % of GDP, annual growth declines by about 2% and unanticipated high inflation rate can reduce the cost of debt servicing but its effectiveness depends on debt maturity and its structure. However it can easily be nullified through currency depreciation.

Figure 1 Relationship between Inflation Rate, Debt and GDP Growth Rate



Source: Pakistan (2010a, b)

In Pakistan, debt to GDP ratio is hovering around 60 percent whereas average GDP growth rate during 1976-2011 was around 5 %. At present, GDP growth rate is around 3 % which is almost 2 % below the average. In the same time period, inflation rate on average was 10 %

which itself required high interest rates. In this scenario, it is not easy to assess the future capacity to sustain the debt burden.

Debt build-up leads to increased interest rate. Current account deficit, increase in interest rates and exchange rate depreciation increase the debt servicing cost and affect sovereign debt portfolio. It has further implications for government budget and higher interest rate needs some painful adjustments (Ahmad et al.2005). The primary balance of Pakistan government spending is in deficit which shows the country has to borrow to service its debt also. This means debt burden will increase with increasing interest payments. An increasing interest rate will further increase the debt level. After the Eighteenth Amendment, provinces can also borrow from abroad which will further add to debt burden (Tahir and Saleem, 2010).

We used External Debt and Liabilities (EDL) expressed as a percentage of GDP and the level of debt as a percentage of foreign exchange earnings and reserves to measure the indebtedness and repayment capacity of the country. A general criterion is for EDL to remain below 2 times FEE. Pakistan's debt is always in excess of it its foreign exchange earnings and reserves. Other factors which contributed in non-sustainability of EDL in 2011 were a 6.5 % decrease in tax collection target, increased expenditure despite 24 % decrease in development spending, 0.6% depreciation of Pakistani Rupee against the US dollar and depreciation of the US Dollar against major currencies. Pakistan not only fell short of these general criteria of fiscal sustainability, its capacity to sustain debt depends on remittances and net external inflows.

Table 2 External Debt Sustainability (in percent)

Indicators	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13*	FY 14*
Primary Balance/GDP	-0.7	-1.3	-2.5	-0.1	-1.6	-2.5	-0.3	-0.1	-0.4
Fiscal Deficit/GDP	4.3	4.4	7.6	5.3	6.3	6.6	4.7	4.2	3.7
Real Growth of Public Debt	-5.7	2.3	8.3	5.2	4.3	1.1	0.9	-2.0	-2.4
Real Growth of Revenue	8.3	11.9	-0.6	2.9	0.3	-8.4	9.3	5.1	3.4
Total Public Debt/ Revenue	405	370	403	412	429	473.4	437.2	407.6	384.8
Debt Services/ Revenue	29.6	33.8	37.2	46.6	40.4	37.7	41.2	46.2	40.4
Growth in External Debt Liability EDL	5.1	8.3	14.6	14.3	5.1	8.1	1.8	-2.1	-4.0

Table 2 (continued)

Indicators	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13*	FY 14*
Growth in Foreign Exchange Earnings FEE	21.1	16.3	5.3	13.0	-4.2	24.6	4.1	6	5.7
EDL/FEE	1.2	1.2	1.3	1.5	1.2	1.3	1.2	1.1	1.3
Non-Interest Current Account CA/GDP	0.50	2.9	3.8	7.1	-1.4	-0.8	0.4	0.8	1.2
Total Public Debt/GDP	57.2	55.4	59	60	60.1	59.3	57.9	54.2	50.4

*Note: *) Projected*

Source: Economic Surveys and Fiscal Policy Statements

5. Empirical Results

5.1 Structural Primary Balance and Debt GDP Ratio at Federal Level

We used ordinary least square to estimate two models for explaining average relationship between primary balances (which excludes interest payments), lagged value of debt-GDP ratio and output gap. Output gap was measured as the percentage difference between actual GDP and potential GDP. We used Hodrick-Prescott filter to obtain the trend in potential GDP. In model (1), we regress structural primary balance on lagged value of debt-GDP ratio, lagged value of primary balance, and output gap for 1976-2011. It enabled us to estimate fiscal sustainability at federal level.

Our results showed that structural primary balance is significant and positively related to the lagged debt/GDP ratio, and negatively related to output gap. One unit increase in debt-GDP ratio can improve 0.019 unit primary balance. It is a good implication at least in short run. Output gap is insignificant and negatively related with the primary balance. It seems that fiscal stance remains opportunistically expansionary. There is no evidence that debt level in Pakistan has adjusted to output gap. It seems that fiscal policy takes no guidance from output gap to adjust.

Table 3 Primary Balance and Debt/GDP Ratio at Federal Level

	R^2	Constant	Debt/GDP (-1)	Primary balance (-1)	Output gap	A.C.
Model (1) Primary Balance	0.78	-0.96 (-0.80)*	0.019 (0.72)*	0.80 (8.62)	-0.04 (-0.34)*	2.53
Model (2) Debt/GDP	0.68	13.23 (2.24)	0.732 (5.67)	0.875 (1.86)	0.052 (0.09)*	2.39

*Note: *) Insignificant at 90 percent confidence level*

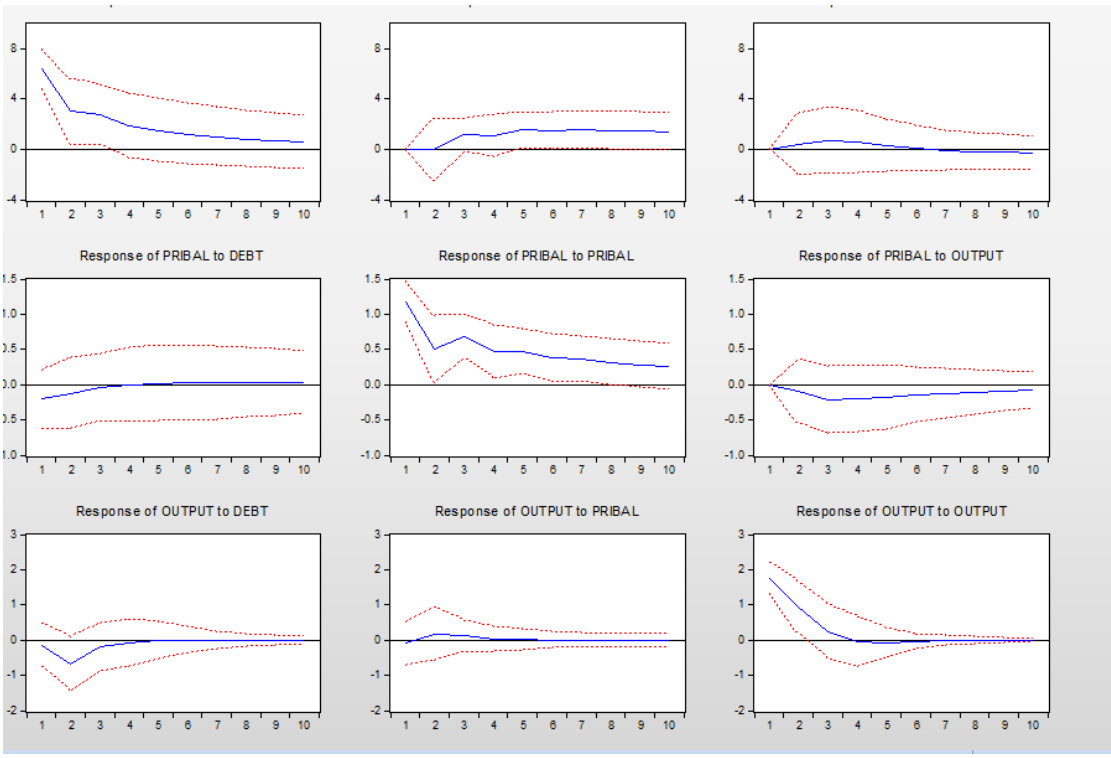
In the second model, we regress debt-GDP ratio on lagged value of structural primary balance and lagged value of debt-GDP ratio and output gap. Output gap is again insignificant but positively related with debt/ GDP ratio. It confirms that output gap increases with debt burden.

Our OLS results showed that debt ratio is positively related to primary balance but it is insignificant. For estimating the reaction of federal government to ensure fiscal sustainability, we applied VAR. We conducted stationary test for the debt/GDP ratio, primary balance, and output gap. According to the ADF test all, the three variables are I (I) for the period 1976-2011 (Appendix –Table1). As the behavior of debt to GDP ratio is like a random walk in figure 1, Augmneted Dickey Fuller test (ADF) can fail to reject the null hypothesis of stationary series.

We estimated VAR with the first differenced primary balance, debt ratio and the output gap (Appendix-Table2). Optimal lag is 2, selected by using SIC criterion.

Figure 2 below shows Impulse response function of debt- GDP ratio, primary balance, and output gap in context of VAR analysis. An impulse response function traces the effect of a one-time shock to one of the innovations on current and future values of the endogenous variables. IRF below shows that debt/GDP ratio is negatively responding to innovations in the primary balance.

Figure 2 Impulse Response Function



5.2 Provincial Debt Sustainability and Implications for Monetary Policy

Column 1 of Table 3 calculates the primary balance of the provinces from the period 1998-99 to 2009-2010. It remained unfavorable throughout the period. Column 2 measures the share of provincial interest payments, column 3 the impact of growth and inflation on the lag term of provincial debt and column 4 the effects of central bank's monetary policy on the provincial loans. Column 5 assess the debt sustainability by imposing constraints of primary balance, share of interest payments, the effect of monetary policy and the effect of real growth.

The condition shows that (b_t- b_{t-1}) < debt sustainability. The provinces are unable to issue their currency. Therefore *seigniorage* plays no role in their financing. For the debt to be sustainable, the outstanding stock of debt which is measured in this way (b_t- b_{t-1}) must not exceed all the surpluses. If policies are seen to be inconsistent then there is need to readjust debt or the policy stance. The series of the outstanding debt stock of provinces depicts a declining trend. It showed that the provinces are repaying their debt and adjusting their debt burden. In year 2009-10 provincial outstanding debt was not sustainable.

Table 4 Debt Burden of Provinces (1998-99 to 2009-10)

b_t- b_{t-1}	Primary balance Xt(1)	Interest payments It (2)	{(gt)/(1+gt)(1+pt)}*bt -1 (3)	{(pt)/(1+pt}*bt -1 (4)	Debt sustainability (5=1-2-3-4)
-0.003	-0.24	0.23	0.01	0.10	0.36
-0.005	-0.45	0.45	0.01	0.07	0.82
-0.004	-0.36	0.35	0.01	0.06	0.64
0.636	-0.67	0.66	0.01	0.05	1.27
-0.017	-0.58	0.57	0.13	0.48	0.54
-0.067	-0.47	0.46	0.09	0.44	0.41
-0.081	-0.38	0.38	0.04	0.37	0.36
-0.016	-0.31	0.30	0.03	0.25	0.33
-0.017	-0.22	0.21	0.02	0.20	0.20
-0.085	-0.20	0.19	0.01	0.17	0.22
-0.036	-0.15	0.14	0.00	0.07	0.22
0.896	-0.12	0.11	0.00	0.03	0.20

Note: Calculated on the basis of equation (6)

Table 5 The Second Scenario of Debt Sustainability

Year	b_t	b_{t-1}	$(1+g_t)$	$(1+r_t)$	$ds=[(1+g_t)/ (1+r_t)]* b_{t-1}- x_t$
2003-04	0.03	0.05	8.5	1	0.47
2004-05	0.03	0.03	10	0.54	0.39
2005-06	0.02	0.02	6.8	2.91	0.32
2006-07	0.02	0.02	7.8	1.48	0.22
2007-08	0.02	0.02	4.7	5	0.22
2008-09	0.01	0.01	2.2	-1.86	0.14
2009-10	0.91	0.01	5.1	-0.1	0.12

Note: Calculated on the basis of equation (7)

A second scenario (Table 4) was constructed based on real interest rate regime keeping the budget constraint in view. As in a Ricardian regime, the budget constraint of the provincial governments suggests that the sustainability of debt depends on the present and future value of surplus. According to our estimates, outstanding debt stock is b_t< ds. This means that debt is sustainable but this sustainability is declining and in year 2009-10 the situation reversed and debt stock is simply not sustainable.

6. Discussion

The Eighteenth Amendment allows provinces to raise domestic or international loans or give guarantees on the security of Provincial Consolidated Fund. This freedom had been denied to the provinces to ensure effective conduct of monetary policy. This is a right which should bring responsibility, but the past experience of the fiscal affairs of the provinces is different. Similarly, the experience of opening up the financial intermediaries under provincial control was not prudent. Almost all the provincial banks like Punjab, Mehran, and Kyhber had

serious issues of financial governance and implementation of prudential regulation. The federal government normally, though reluctantly, provided guarantees.

Pakistan's experience outlined earlier comes closest to the state of the play in Argentina. There is low growth and high inflation. Interest rates are high and the currency is depreciating. Fiscal deficits have become unsustainable. As a result of Eighteenth Amendment, the federation will lose control.

What will be the role of the State Bank of Pakistan (SBP), the central bank? Traditionally, a central bank has to safeguard smooth financial flows and furnish an operational framework for debt management. It ensures coordination between various actors by providing guidelines. It provides agency services to the government. The central bank regulates money market instruments. It intervenes and provides signals to regulate cash flows. Monetary policy is the main instrument of the central bank and an indicator of price stability. Central banks conduct monetary policy on the basis of market based instruments such as discount rate. Central bank performs the agency services for the government. It has to support debt market for government financing but without compromising its independence in regulating the monetary policy. Monetary policy has to be independent from debt management. Debt mangers should not benefit from the inside information of market liquidity. Debt mangers may wish to have debt at low interest rate but this would generate inflation. The prime issue in regulating the government's debt demand emerges from affecting the interest expectations and liquidity.

Central bank uses debt instruments for regulating the monetary policy. These include outright sale of government securities, issue of Treasury Bills and other securities of its own, and repurchase/reverse agreements with government securities. Such actions can affect interbank rate and liquidity, raising thereby the budget costs. Central banks prefer governments to raise foreign currency loans as this might increase reserve levels, but government perceives external borrowing as adding an extra risk to its balance sheet via exchange rate. Pegged exchange rate regimes were susceptible to overvaluation, policy inconsistencies and speculative attacks. Maintaining undervalued exchange rates often lead to high costs of debt service. Overvalued exchange rates support higher imports and current account imbalances. Reserve adequacy is desirable for short term liquidity management (import cover) and potential for debt servicing reserve holdings for exchange market interventions. Reserves have also to be adequate in relation to the stock of short-term debt.

Fiscal responsibility relates to the long term implications of the debt, while monetary policy has to consider the short run implications of the debt. Any increase in government debt moves the demand for loanable funds upwards, which tends to push up interest rates. To keep interest rates unchanged, the SBP must "monetize" the debt by expanding the money supply. It can print currency to buy government debt from the public. As a result, debt contraction and monetary expansion will take place. This action is taken through the instrument of open market operations. As it happens, and the SBP lets interest rates to move up which affects economic activity, there is pressure from business to reduce interest rates. This will fuel inflation. It should be noted that the problem is government borrowing, but the pressure to act is on the SBP. Succumbing to the pressure to lower interest rates lands the economy into more serious problems.

With the power to borrow locally as well as abroad, one can predict expansion in public borrowing and this may create havoc in money market. There are chances of financial crises because all these debts may well be passed on to the SBP. If the SBP does not act autonomously and Ministry of Finance decides money supply and interest rate, provincial governments will expect bailout by printing new money. Governments are unable to raise funds from markets by issuing new bonds because markets have already been flooded with floating debt instruments. Debt maturity and repayment will be the issue for monetary policy. This situation will change if the SBP is left alone to safeguard price stability. This will also make provincial governments more responsible. Autonomy of SBP will work like a signal of no bail out.

In this regard, however, the record of the federal government itself has not been enviable (ADB, 2007). This comes out clearly from the analysis presented in the earlier sections. There is some positive aspect, though. The Parliament is considering the State Bank of Pakistan (Amendment) Bill, 2010. The Bill seeks further amendment of the State Bank of Pakistan Act, 1956 to enhance autonomy and strengthen regulatory environment. A new Section 20A restricts lending to the government. First, the SBP will not grant any direct or indirect credits to the Federal Government, the Provincial Government or to any other public agency or State-owned entity, with the exception of intra-day credits to secure the smooth functioning of the payment system. Such intra-day credits shall be fully repaid before the end of the same day. Secondly, public sector banks and other financial institutions will be given the same treatment as privately-owned banks and other financial institutions. Thirdly, government securities can only be purchased in the secondary market. Thirdly, ways and means advances to the Provincial Governments are limited to 10% of the general revenue receipts of the borrowing Provincial Government in the previous financial year. Fourthly, to temporarily cover a deficit of the Federal Government's current yearly budget, the SBP will (i) make advances and loans to the Federal Government on overdraft or in such other forms as determined by the Monetary Policy Committee; and (ii) acquire by purchases on the secondary market treasury bills and other negotiable securities at market rates representing obligations of the Federal Government. This assistance will be made public and will not exceed 10% of the Federal Government's actual revenue in the previous year's budget. Significantly, provisions restricting autonomy are proposed to be repealed. The statutory Monetary and Fiscal Policies Coordination Board, presided over by Ministry of Finance, is to be abolished and, instead, the ad hoc Monetary Policy Committee will be provided legal cover. Finally, the provisions of the Fiscal Responsibility and Debt Limitation Act, 2005 have also been recognized by the new amendment (Business Recorder, 2010).

These proposed changes in the State Bank Act, together with the provision in the Eighteenth Amendment that the provincial borrowing will be "within such limits and subject to such conditions as may be specified by the National Economic Council," provide a framework to ensure fiscal responsibility. The National Economic Council has also changed under the Eighteenth Amendment. It has been moved from Federal Legislative List, Part I to Part II, the subjects which are the purview of the Council of Common Interests.

7. Conclusions

This paper is primarily concerned with two aspects: one, to assess the macroeconomic conditions and behavior of federal government after the Fiscal Responsibility and Debt Limitation Act, 2005 and, two, to assess the likely behavior of provinces after the Seventh NFC and the Eighteenth Amendment, which bring greater fiscal autonomy. The Constitution of Pakistan has a provision after Eighteenth Amendment that provinces can generate their own resources and borrow from domestic market as well the international donor countries, institutions and markets. The paper has examined the implications of unsustainable provincial debt for macroeconomic management, especially in the context of monetary policy and sheds some light on the experience of the countries which have similar provisions.

Debt burden has started repressing growth in Pakistan, confirming the Rogoff and Reinhart (2010) conclusion. Decrease in development spending, increasing inflation rate and interest rate have serious implications for output growth in Pakistan. This policy of increasing debt burden can improve primary balance in short run but has adverse effects on output gap. Expansionary fiscal policy which is financed through debt will increase output gap in Pakistan.

Debt crises have occurred in countries such as Argentina and Brazil, where subnational debt is permissible. The reason mainly has been the readiness of the central government to bail them out. In Pakistan, an autonomous State Bank and supervision by the National Economic Council can lay down the rules of the game to achieve policy coordination and debt sustainability. These may not, however, be enough. The provinces have to show fiscal responsibility, which they have not in the post Eighteenth Amendment years.

The paper in no way suggests that provincial autonomy can be denied on the basis of weak fiscal responsibility, something that is not the strong point of the federal government itself. It only seeks to highlight and explain the difficulties that it might entail and make suggestions to overcome them.

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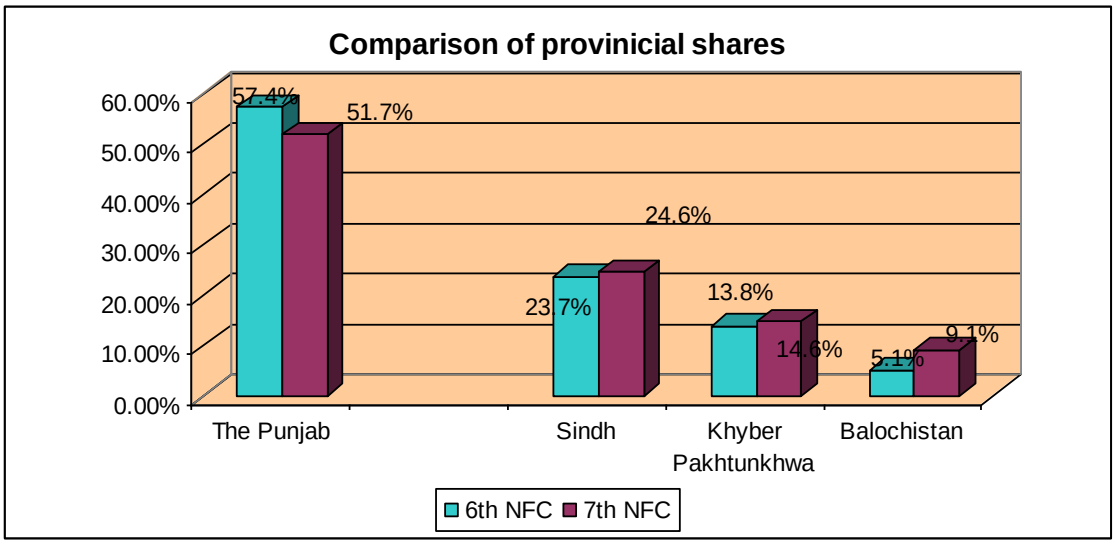
Appendix

Figure1 Sixth and Seventh National Finance Commission (NFC) Awards



Source: Pakistan (2010b)

Table 1 Augmented Dickey- Fuller Test

	Level	Ist Difference
Debt Probability	-1.434646 0.5542*	-8.092030 0.0000
Primary Balance Probability	-2.134713 0.2331*	-7.960541 0.0000
Structural Balance Probability	-3.440004 0.0161*	-6.660299 0.0000

*Note: Author's Calculation, * insignificant at level*

Table 2 VAR

	DEBT	PRIBAL	OUTPUT
DEBT(-1) s.e t ratio	0.478606 (0.19639) [2.43701]	-0.007321 (0.03678) [-0.19907]*	-0.087352 (0.05417) [-1.61262]
DEBT(-2) s.e t ratio	0.264340 (0.19866) [1.33059]*	0.011563 (0.03720) [0.31081]*	0.064099 (0.05479) [1.16979]*
PRIBAL(-1) s.e t ratio	-0.003807 (1.03387) [-0.00368]*	0.423869 (0.19361) [2.18925]	0.190506 (0.28516) [0.66806]*
PRIBAL(-2) s.e t ratio	0.969563 (1.04236) [0.93016]*	0.402689 (0.19520) [2.06293]	-0.071995 (0.28750) [-0.25042]*
OUTPUT(-1) s.e t ratio	0.232618 (0.70086) [0.33190]*	-0.051546 (0.13125) [-0.39273]*	0.529833 (0.19331) [2.74083]
OUTPUT(-2) s.e t ratio	0.180595 (0.67575) [0.26725]*	-0.068910 (0.12655) [-0.54453]*	-0.114582 (0.18639) [-0.61476]*
C s.e t ratio	13.11650 (7.60059) [1.72572]	-0.206316 (1.42336) [-0.14495]*	1.184637 (2.09638) [0.56509]*
R-squared	0.682420	0.796236	0.322260
Adj. R-squared	0.606201	0.747333	0.159603
Sum sq. resids	1026.366	35.99478	78.08158
S.E. equation	6.407390	1.199913	1.767276
F-statistic	8.953385	16.28182	1.981219
Log likelihood	-100.8947	-47.28824	-59.67833
Akaike AIC	6.743421	3.393015	4.167395
Schwarz SC	7.064051	3.713645	4.488025
Mean dependent	41.08063	-1.601250	0.015625
S.D. dependent	10.21042	2.387125	1.927800

*Note: Author's Calculation, * insignificant at 10, 5, and 1 percent*