FISCAL CONSOLIDATION AND ECONOMIC GROWTH: A CASE STUDY OF PAKISTAN

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Introduction

- Occasional spurts in economic growth but not sustainable.
- Haphazard growth due to fiscal imprudence.
- Fiscal soundness is necessary
- Government is taking austerity measures to manage fiscal profligacy.
- Consequently, the fiscal deficit came down to 4.6 percent of GDP in 2013 from 7.3 percent in 2008 due to the measures taken by the Government.

Introduction

- What is Fiscal Consolidation
  - Fiscal consolidation is a term that is used to describe the creation of strategies that are aimed at minimizing deficits while also curtailing the accumulation of more debt.

- Fiscal Consolidation Can Be
  - Revenue Base
  - Expenditure Base

Literature

- The debate on fiscal deficit and its real effects has been unable to attain any consensus so far on analytical as well as empirical grounds.

- The debate on fiscal consolidation and its impact on economic growth started essentially with Giavazzi and Pagano (1990). They find the expansionary effects of fiscal consolidation. This **expansionary effect emerges due to increase in the private consumption expenditure**. The study describes four channels through which fiscal consolidation effects the consumption, namely **tax channel, inflation channel, interest rate channel, and the substitution channel**. An increase in the tax rate during fiscal consolidation is regarded as contractionary, while fall in inflation and real interest rate as expansionary. The fourth channel – the substitution channel – is based on how the consumers regard the provision of public goods, like provision of schools and hospitals.

Literature

- Hagen and Strauch (2001) also argue that the most of the successful consolidation episodes feature with **expenditure cut**, especially more cuts in the current expenditure than in investment expenditure.
- Similarly, Alesina (2012) also supports **expenditure-reducing fiscal consolidation**. Nonetheless, he warns that it should be done in conjunction with pro-growth policies.
- Perotti (1999) and Afonso et al. (2006) also affirm the expansionary fiscal consolidation hypothesis for central and eastern European countries

Objective

- Although the literature supports the idea of fiscal consolidation, which promotes growth, but in Pakistan growth does not seem to be sensitive to fiscal consolidation. The contradiction between the literature and the situation in Pakistan is the motivation behind the current paper. Therefore, our primary objective in this paper is to find whether fiscal consolidation has positive impact on the economic growth in case of Pakistan. Furthermore, the paper would also explore the impact of expenditure composition on the long-run economic situation.

Model

- The impact of fiscal consolidation on economic growth has been studied in various studies (such as (de Cos & Moral-Benito, 2013), (Nauschnigg, 2010), (Pennings & Ruiz, 2013), (Easterly & Rebelo, 1993) etc) by applying different models, methodologies and battery of tests.

- In this paper we are follow the model used by Gupta et al. (2005) by regressing growth of per capita GDP on fiscal variables, along with a set of non-fiscal control variables. Our model is,

- $Economic\ Growth = f(L, K, HK, Components\ of\ Budget\ Deficit)$

DATA

- 1976 to 2014
- fiscal and the non-fiscal variables are taken from the Handbook Statistics of Pakistan 2010 and various issues of Pakistan Economic Survey.
- Non-availability of certain variables on one base period.
- The variables are thus converted into one base using the growth projections method.
- Real GDP growth and real per capita growth are used as a proxy for economic growth.
- Employed labor force (L) is measured in millions and gross fixed capital formation (K) are taken at constant prices.

Data

- The primary school enrollment and secondary school enrollment rates are taken as a proxy for human capital (HK).

- Time series of primary enrollment and secondary enrollment rates are obtained by dividing primary enrolment and secondary enrolment in thousands by population in the relevant age groups, i.e. 5-9 and 10-14 age groups respectively.

- The source of the enrolment rates data is Economic Survey, whereas population in the age groups 5-9 and 10-14 is taken from UN statistics.

Descriptive Statistics

Period	Budget Balance	Primary Balance	Tax Revenue	Non Tax Revenue	Direct Taxes	Indirect Taxes
1976-2000	-7.16	-3.02	11.74	4.17	2.44	9.30
2001-2014	-5.12	-0.95	10.89	4.09	3.63	7.25
1976-1980	-4.88	-0.74	10.97	4.13	3.66	7.31
1976-1990	-7.42	-4.71	12.06	4.28	2.00	10.06
1981-1990	-7.01	-3.66	11.98	4.94	2.08	9.90
1991-2000	-6.78	-0.49	11.24	4.00	3.09	8.15
2001-2010	-4.47	-0.38	11.30	4.54	3.71	7.59
2011-2014	-6.75	-2.38	9.85	2.95	3.45	6.41

Period	Current Spending	Capital Spending	Interest Payments	GDP Growth	Per Capita GDP Growth
1976-2000	17.46	6.71	4.47	5.29	2.80
2001-2014	15.30	3.53	4.53	4.34	2.15
1976-1980	15.23	3.54	4.54	4.39	2.16
1976-1990	16.49	8.09	3.19	5.87	3.08
1981-1990	17.58	7.30	3.80	6.14	3.10
1991-2000	18.92	4.63	6.39	4.41	2.38
2001-2010	15.08	3.51	4.60	4.55	2.20
2011-2014	15.87	3.59	4.37	3.82	2.03

Estimation Technique

- Theoretically, labor, physical capital and human capital affect growth through production of goods and services and growth, in turn, affects demand for labor, capital and human capital. Similarly, there are several other variables in our model that may be affected by various other variables not present in the model. Therefore, we need more than one instrument to solve the problem of endogeneity.

- Since potentially, every explanatory variable in the model is dependent on several variables, whether present in the model or not present in the model. Thus, a linear combination of lagged (exogenous) variables will be used as instruments for each explanatory variable. This process of using multiple instruments to get instrumental variable estimator is known as two-stage least square (2SLS) estimator. In other words, in order to circumvent the endogeneity problem that arises in growth estimations, the estimation technique used in this study is 2SLS.

- 2SLS is relatively easier to apply in time series data than in cross section or panel data. In time series, in general, we do not need to find different instruments, for each endogenous variable (Woolridge, 2009). Instead, lags of the explanatory variables do the satisfactory task. Nevertheless, the number of instruments should be greater than the number of parameters estimated in the equation.

Results and Findings

Estimation Results – 2SLS (Dependent Variable: Per Capita GDP Growth)

Variable	Equation 1 Coefficient	Equation 1 t-Statistic	Equation 2 Coefficient	Equation 2 t-Statistic	Equation 3 Coefficient	Equation 3 t-Statistic	Equation 4 Coefficient	Equation 4 t-Statistic
Constant	1.327	0.982	6.154	2.870	4.535	2.244	4.524	1.954
Labour	1.386	6.106	0.181	0.527	0.351	1.500	0.362	1.272
Capital	0.058	0.492	0.066	0.717	0.199	2.440	0.084	0.840
Primary School Enrolment	-0.127	-0.840	0.058	0.468	0.246	2.504	0.042	0.385
Secondary School Enrolment	0.262	1.834	0.203	1.804	-0.137	-1.240	0.163	1.664
Budget Deficit	1.063	5.441	-	-	-	-	-	-
(Budget Deficit)^2	-0.043	-5.551	-	-	-	-	-	-
Total Revenues	-	-	-1.964	-1.700	-	-	-2.242	-2.329
(Total Revenues)^2	-	-	0.097	2.115	-	-	0.104	2.631
Direct Taxes	-	-	-	-	0.336	0.773	-	-
(Direct Taxes)^2	-	-	-	-	-0.016	-0.750	-	-
Indirect Taxes	-	-	-	-	-1.060	-0.904	-	-
(Indirect Taxes)^2	-	-	-	-	0.049	1.065	-	-
Total Expenditures	-	-	2.559	2.105	1.243	1.727	-	-
(Total Expenditures)^2	-	-	-0.107	-2.344	-0.043	-1.549	-	-
Capital Spending	-	-	-	-	-	-	1.361	2.576
(Capital Spending)^2	-	-	-	-	-	-	-0.058	-2.692
Current Spending	-	-	-	-	-	-	1.787	2.396
(Current Spending)^2	-	-	-	-	-	-	-0.076	-2.530
	$R^2 = 0.9956$ $\overline{R}^2 = 0.9947$		$R^2 = 0.9973$ $\overline{R}^2 = 0.9965$		$R^2 = 0.9985$ $\overline{R}^2 = 0.9979$		$R^2 = 0.9980$ $\overline{R}^2 = 0.9973$	

Conclusions

- Our results suggest that there exists nonlinear association between fiscal deficit and growth and that fiscal consolidation leads to higher growth. However, caution must be exercised in the way these results are interpreted. It may be argued that this is highly possible that the association was established due to trends in capital and current expenditures in the past 4 decades. The share of capital expenditure has been declining despite higher budget deficit, which may be one of the reasons why fiscal deficit is negatively associated with growth. Moreover, apart from declining share of capital expenditures, the negative association with growth compels us to conclude that capital expenditures incurred in the past were not very productive.

Conclusions

- One of the important implications of the present study is that our tax structure is not beneficial for growth process. Although indirect taxes show positive association with growth but both the taxes are not significantly effecting growth. Thus, we may conclude that increase in tax revenues will not enhance growth. It is very much possible that growth effects tax revenues and not the other way around.

Conclusions

- The results show that there is a possible beneficial impact of fiscal consolidation on economic growth in Pakistan. At the same time, the results are also indicative of the fact that some fiscal deficit is necessary for giving impetus to growth in an economy like Pakistan, which is operating well below its capacity utilization potential. Very high levels of expenditures, whether current or capital, show negative association with per capita GDP growth, which, as discussed above, may imply that our development expenditures either are not used and channeled efficiently.