Budget Rules, Fiscal Consolidation and Government Spending:Implications for Federal Transfers

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Abstract

This paper examined the nature of fiscal consolidation during the era of rule based fiscal control in states and its implications for federal transfers. The analysis revealed that improvement in fiscal balance has been associated with increasing disparities in developmental spending across states. The econometric estimates in panel data also showed that FRA not having any positive and significant impact on development spending when controlled for revenue effect of VAT and increased central devolution. The result seems robust, as this has been corroborated by the exploratory data analysis even when off budget CSS spending is added with the per-capita development spending of the states. When we compared between social and economic services, the disparity in spending is sharper in social sector vis-à-vis economic services. Given this widening disparities in spending the paper emphasizes on the need for equalization grants and estimates the resources requirement for complete equalization of specific services based on the partial equalization of scheme of transfer proposed by the 12th FC.

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The Thirteenth Finance Commission (TFC) has been constituted in a favorable macro-fiscal environment characterized by high growth, improved revenue buoyancy and declining fiscal imbalances of both centre and states. This improvement in fiscal health is characterized by intertemporal reduction in both fiscal and revenue deficits to GDP ratio and increased capital spending. States' fiscal position as evolving is expected to generate a revenue surplus as per the budget estimates of 2007-08 and the gross fiscal deficit to GDP ratio is expected to be below 3 per cent. At state level, fiscal consolidation has been achieved through higher own tax revenue mobilization, increased central devolution due to buoyant central taxes and reduction in revenue expenditure to GSDP ratio primarily due to the decline in economic and social services expenditures and interest burden[1]. It is argued that improved fiscal balance has also contributed to the increase in fiscal space at the state level (Kishore and Prasad: 2007).

Unlike last two Finance Commissions, the mandate of the TFC does not require it to suggest another fiscal restructuring measure for improvement of fiscal balance. But the TFC has been mandated to review the state finances keeping in view the Debt Consolidation and Relief Facility (DCRF) recommended by the Twelfth Finance Commission and suggest measures to maintain a stable and sustainable fiscal environment consistent with equitable growth. The 12th Finance Commission, by making access to the DCRF conditional upon enactment and adherence to a Fiscal Responsibility Act (FRA) by the states introduced rule-based fiscal control at the state level that fixed the permissible level of the fiscal deficit at 3 per cent of the respective state's gross state domestic product (GSDP) by 2008-09. However, binding the states to a uniform deficit target may constrain their ability to spend unless revenue increases at a faster rate than expenditure. As the TFC is required to review "the state of finances keeping in view, in particular, the States' Debt Consolidation and Relief Facility (DCRF) 2005-2010 introduced by the Central Government, on the basis of the recommendations of the Twelfth Finance Commission…" the paper argues that it needs to review the FRA not only to suggest measures to maintain "a stable and sustainable fiscal

[1] The decline in interest burden is due to the softening of interest rates on government securities in the last couple of years. Also measure like debt swap schemes in a low interest regime has benefited the states in reducing the interest burden (Chakraborty: 2006).

environment consistent with equitable growth" but also should examine whether rule based fiscal control is consistent with fiscal equity. If we look at the per-capita development spending across states, disparities have increased sharply in recent years and this in turn has led us to examine if there has been a trade-off between fiscal consolidation and public service spending across states during the period of rule based fiscal control and consolidation. Also, in the face of growing expenditure inequality, we work out the complete equalization requirements of specific services recommended by the 12th FC in its scheme of transfers and suggest if such equalization is feasible in an improved fiscal environment.

To begin with, we undertake a brief review of state finances for a clear understanding and quantification of the factors that have contributed to the fiscal improvement in recent years. We analyze whether improvement in the fiscal situation of the states is due to the rule based fiscal control or due to general fiscal improvement in terms of higher revenue buoyancy of centre and states and also due to the softening of the interest rate. We also examine in detail whether fiscal improvement has been at the cost of discretionary developmental spending of the states. In this context it needs to be mentioned that persistent expenditure inequality in per-capita spending has received attention of successive Finance Commissions and the 12th FC, in order to bring parity in spending, has provided partial equalization grants to few states for equalization of health and education services. In the face of growing expenditure inequality we quantify what would be full equalization requirement in the 12th FC's scheme of transfers.

The paper has been divided into following major sections. In Section I, we discuss in brief the improvement in fiscal situation of the states and the level of vertical fiscal imbalance. In section II, we examine whether there is a trade-off between fiscal consolidation and equity. Section IV, specifies the econometric model to find out the relationship between rule based fiscal control and development spending in states. In section IV, we quantify the complete equalization requirement of specific services in the 12th FC scheme of transfers. Section V summarize the findings and draw conclusions.

I: State Finance, the Quality of Fiscal Improvement and Vertical Imbalance

Last 3 fiscal years have seen a significant improvement in states' fiscal position. As mentioned earlier, this improvement in fiscal health is not only an intertemporal reduction in fiscal imbalance measured in terms of all-State fiscal deficit to GDP ratio but also is an improvement in the quality of fiscal deficit due to the sharp reduction in the revenue deficits of the States (see Table 1). The all-State fiscal deficits as a percentage of revenue deficits reached to a level as high as 57.1 percent between 1998-99 and 2003-04. Revenue deficit as a percentage of GDP declined sharply from an average of 2.4 per cent of GDP for the period between 2000-01 and 2003-04 to 0.34 percent in 2007-08 (BE) with a corresponding decline in the primary deficit. The all-State fiscal situation as evolved points to decline in fiscal imbalance and improvement in the quality of the composition of fiscal deficits through improved capital outlays. The capital expenditure to GDP ratio shows more than 1 percentage point increase during 2000-01 and 2007-08 (BE). It is also to be noted that there has been a sharp decline in revenue expenditure to GDP ratio by more than 1 percentage points during this period, primarily due to the sharp decline in expenditure under economic services and also around 0.5-percentage point decline in social services expenditure and a decline in interest burden.

Table 1:Overview of State Finances

(Percent to GDP)

	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07RE	2007-08BE
Revenue Receipts	**11.32**	**11.22**	**11.42**	**10.91**	**11.81**	**12.04**	**12.82**	**12.93**
Own Tax Revenues	**5.61**	**5.62**	**5.79**	**5.56**	**6.01**	**5.93**	**6.20**	**6.26**
Sales Tax/ VAT	3.49	3.37	3.51	3.37	3.71	3.60	3.81	3.90
Stamp & Registration	0.46	0.49	0.55	0.56	0.63	0.69	0.75	0.79
State Excise	0.76	0.75	0.77	0.68	0.70	0.70	0.71	0.67
Motor Vehicle	0.32	0.34	0.34	0.36	0.34	0.33	0.33	0.32
Other Taxes	0.58	0.67	0.61	0.59	0.63	0.61	0.61	0.58
Non Tax Revenues	**1.50**	**1.42**	**1.46**	**1.15**	**1.51**	**1.34**	**1.34**	**1.26**
Central Transfers	**4.21**	**4.18**	**4.17**	**4.19**	**4.30**	**4.77**	**5.28**	**5.40**
Tax Shares	2.41	2.29	2.31	2.43	2.49	2.63	2.79	2.90
Grants	1.80	1.89	1.86	1.76	1.81	2.14	2.48	2.50
Revenue Expenditure	**13.87**	**13.82**	**13.67**	**13.47**	**12.97**	**12.23**	**12.95**	**12.67**
General Services	**5.62**	**6.00**	**6.06**	**5.98**	**5.84**	**5.22**	**5.30**	**5.13**
Interest Payment	2.46	2.74	2.86	2.93	2.79	2.35	2.31	2.19
Pension	1.21	1.24	1.26	1.21	1.19	1.14	1.15	1.16
Other General Services	1.95	2.02	1.94	1.84	1.86	1.74	1.84	1.78
Social Services	**4.97**	**4.72**	**4.54**	**4.20**	**4.19**	**4.15**	**4.53**	**4.48**
Economic Services	**3.04**	**2.89**	**2.81**	**3.05**	**2.68**	**2.59**	**2.80**	**2.73**
Com. & Assignment to LBs	0.24	0.20	0.25	0.24	0.26	0.28	0.32	0.34
Capital Expenditure	**1.71**	**1.62**	**1.92**	**2.25**	**2.31**	**2.32**	**2.69**	**2.78**
Capital Outlay	1.48	1.42	1.49	1.90	1.95	2.17	2.53	2.53
Net Lending	0.23	0.20	0.43	0.34	0.36	0.15	0.16	0.25
Revenue Deficit	**2.55**	**2.60**	**2.25**	**2.56**	**1.16**	**0.20**	**0.13**	**-0.26**
Fiscal Deficit	**4.26**	**4.21**	**4.16**	**4.81**	**3.47**	**2.52**	**2.82**	**2.52**
Primary Deficit	**1.80**	**1.47**	**1.30**	**1.88**	**0.68**	**0.17**	**0.51**	**0.34**
Outsstanding Debt	**28.26**	**30.31**	**32.04**	**33.16**	**32.68**	**32.62**	**30.60**	**29.37**

Source: RBI Study on State Finances

However, there are sharp differences in the inter-State fiscal imbalance profile. In Table 2, States are ranked in terms of their level of fiscal and revenue deficits in three categories viz., high, medium and low. Despite the reduction in fiscal imbalance, the States with large fiscal imbalance are West Bengal, Bihar, Goa, Jharkhand, and Kerala. The states that are expected to generate revenue surplus are 8, while state of Kerala and West Bengal would have a very high revenue deficits relative to other states. It needs to be emphasized that the states that have achieved fiscal deficit level below 3 per cent of GSDP are those states having reasonably better history of management of state finances and fiscal prudence.

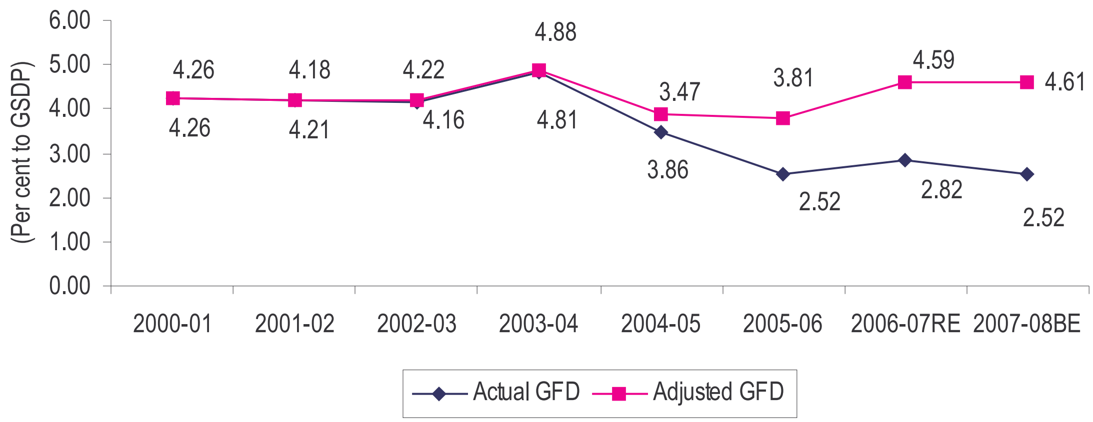
Table 2: Classification of States according to Revenue and Fiscal Deficit to GSDP ratio: Average of 2005-06 to 2007-08

RD Range	RD Classification	FD Range	FD Classification
High (>2.00)	West Bengal, Kerala	High (>4.00)	West Bengal, Goa, Bihar, Kerala, Jharkhand
Medium (>1.00)	Jharkhand, Punjab	Medium (>3.00)	Maharashtra, Andhra Pradesh, Madhya Pradesh, Uttar Pradesh, Rajasthan, Punjab
Low (<1.00)	Maharashtra, Goa, Rajasthan, Andhra Pradesh	Low ($\leq$3.00)	Haryana, Orissa, Tamil Nadu, Chhattisgarh, Gujarat, Karnataka
Surplus	Tamil Nadu, Gujarat, Haryana, Orissa, Uttar Pradesh, Madhya Pradefsh, Karnataka, Chhattisgarh		

Source (Basic Data): Finance Accounts and State Budgets

It is important to examine how this fiscal balance is achieved. As mentioned earlier, this has happened in a low interest rate regime and also due to the improved revenue mobilization at centre as well as in the states. We have undertaken a counterfactual exercise by simulating to see if the revenue transfers and average cost of debt were maintained at the 2000-01 level, what would have been the fiscal imbalance profile of the states. It is important to note that this is not a static exercise but a dynamic one, which takes into account the effect of revenues and interest burden in a particular period on the level of fiscal imbalance and the outstanding debt in the same period. So the aggregate effect at the end of 2007-08 shows that if the transfer level as well as interest rate remained at what it was in 2000-01, the all state fiscal deficit to GDP ratio would have gone upto 4.61 per cent of GDP instead of 2.5 per cent, as per the BE 2007-08. In other words, the improvement as we see in the overall fiscal balance was primarily due to the lowering of interest rates and improved central revenues. As these two factors are primarily responsible for the improvement in fiscal balance, it needs to be emphasized here that there has been a sharp reduction in state level revenue expenditure during 2000-01 to 2007-08, primarily due to the decline in expenditure under both social and economic services, which has not been taken in to consideration while estimating the alternative fiscal balance profile shown in Figure 1. Increase in capital expenditure has not been adjusted in this exercise. As capital expenditure has also shown an increase during this period, the decline in revenue expenditure must have been compensated by the increase in capital spending and in aggregate may not have had significant influence on the level of fiscal deficit.

Figure 1: Quantifying the Effect of Interest Rate & Central Transfers on Fiscal Consolidation



The improvement in fiscal balance has been accompanied by a structural change in the share of revenues in combined revenues, where states' share has increased in last couple of years (see Table 3). However, similar trend has also been observed in case of revenue expenditures, where states' share in combined expenditure is on the increase. This points to the fact that vertical fiscal gap may not have come down, if not widened despite higher vertical transfers due to increased revenue mobilization at the central level.

Table 3: Vertical Fiscal Imbalance: Recent Trends

(In Percent)

	1990-91	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Centre's Share in Combined Revenue	55.4	55.1	53.1	54.9	53.3	51.8	49.2	49.4
States' Share in Combined Revenue	44.6	44.9	46.9	45.1	46.7	48.2	50.8	50.6
Centre's Share in Combined Revenue Exp.	59.83	57.27	56.25	58.12	55.51	54.69	53.82	53.92
States' Share in Combined Revenue Exp.	40.17	42.73	43.75	41.88	44.49	45.31	46.18	46.08

Source: Indian Public Finance Statistics 2007

The increasing vertical imbalance is more sharply depicted in the pre-devolution resource gap of the state governments (Table 4). It is defined as the difference between states own resources and state government expenditure. The gap has increased from -1.45 per cent of GDP to 7.3 per cent in 1990-91. Thereafter, although the resource gap declined by around 1 percentage point during the next decade, from the late 1990s', it increased further and reached to more than 8 per cent of GDP. Post devolution resource gap is defined as the difference between total state revenues including transfers and the state expenditure. The post devolution resource gap remained much lower than the pre-devolution resource gap indicating the role of transfers in financing state government expenditure. However, the post devolution resource gap has widened over the years, as transfers could not keep pace with the growing expenditure needs of the state.

Table 4: Central Transfers and Pre and Post Devolution Resource Gap of States
(Per cent to GDP)

	States' Own Revenues	Central Transfers	Total State Revenues	State Expenditure	Pre Devolution Gap	Post Devolution Gap
1950-51	3.3	0.64	3.94	4.75	-1.45	-0.81
1960-61	5.1	2.35	7.45	8.49	-3.39	-1.04
1970-71	5.84	2.84	8.68	9.51	-3.67	-0.83
1980-81	7.82	4.48	12.3	13.49	-5.67	-1.19
1990-91	6.96	4.73	11.69	14.3	-7.34	-2.61
1991-92	7.42	4.91	12.33	14.84	-7.42	-2.51
1992-93	7.05	5.12	12.17	14.43	-7.38	-2.26
1993-94	7.22	5.07	12.29	14.21	-6.99	-1.92
1994-95	7.64	4.43	12.07	14.37	-6.73	-2.3
1995-96	7.3	4.21	11.51	13.78	-6.48	-2.27
1996-97	6.92	4.25	11.17	13.46	-6.54	-2.29
1997-98	6.94	4.25	11.19	13.76	-6.82	-2.57
1998-99	6.44	3.73	10.17	14.2	-7.76	-4.03
1999-00	8.14	3.79	11.93	15.11	-6.97	-3.18
2000-01	8.12	4.29	12.41	14.68	-6.56	-2.27
2001-02	8.59	4.23	12.82	15.02	-6.43	-2.2
2002-03	8.42	4.06	12.48	14.69	-6.27	-2.21
2003.04	7.18	4.29	11.47	15.58	-8.4	-4.11
2004-05	7.58	4.34	11.92	15.42	-7.84	-3.5
2005-06 RE	7.68	5.18	12.86	16.09	-8.41	-3.23
2006-07 BE	7.84	5.34	13.18	16.19	-8.35	-3.01

The discussion on the vertical imbalance so far tends to understate the gravity of the problem because the ex-post figure of state expenditures does not fully reflect the functional responsibility of the state, rather the fiscal constraint imposed by inadequate revenues. A rough indicator of the actual requirement may be had from the quantum of resources devolved through centrally sponsored schemes in areas, which are by and large within the functional domain of the state governments. We shall be taking up this issue of centrally sponsored programmes in a subsequent section. However, for the purpose of discussion here it is important to note that the centrally sponsored schemes in 2007-08 come to 1.75 per cent of GDP. If it is also factored in, it is readily evident that the vertical imbalance has increased sharply over the years.

II. Fiscal Consolidation and Equity

Having examined the vertical imbalance, in this section we examine, whether the era of fiscal reforms and rule based fiscal control have helped in reducing the disparities in spending across states. Now all the states have FRA except Sikkim and West Bengal. Out of these states, except Karnataka, Kerala, Punjab and Uttar Pradesh, all other states have passed the FRA during the fiscal year 2005-06 with a uniform deficit reduction targets proposed by the 12th FC. The rush to pass the FRA by the states is clearly driven by DCRF. Though at aggregate level, there is fiscal consolidation at the state level due to rule based fiscal control with revenue deficit coming close to zero and fiscal deficits below 3 per cent of GDP by the end of 2007-08, the outcome of such consolidation requires in-depth analysis of state finances. It is important to note that disparities in spending would ideally arise due to the disparity in revenues. As evident from the Table 5, the coefficient of variations of per-capita own revenues have increased over the years, while that of transfers declined. This in turn has resulted in the increase in disparities in per-capita development spending. If we look at the Maximum to Minimum ratio of per-capita own revenues and per capita expenditure, the divergence has grown over time.

Table 5: Coefficients of variations of Per Capita Own Revenues, Transfers & Developmental Spending Across States

	1990-91	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Coefficient of Variations									
Own Revenues	0.42	0.49	0.53	0.48	0.48	0.46	0.49	0.48	0.48
Transfers	0.40	0.41	0.26	0.25	0.26	0.30	0.19	0.21	0.22
Development Exp.	0.22	0.33	0.35	0.32	0.27	0.32	0.31	0.32	0.32
Maximum to Minimum Ratio									
Own Revenues	5.02	8.71	10.83	8.98	9.77	9.64	10.84	10.83	10.98
Transfers	4.73	4.22	2.47	3.22	2.53	3.20	2.26	2.53	2.49
Development Exp.	2.26	4.04	5.08	3.83	3.67	3.88	3.24	2.76	2.76

A quick analysis of the provisioning of expenditures across states reveals that real per-capita expenditure declined sharply in low income states (See Table 6) when compared between 1999-00 and 2006-07. Two possible factors can be attributed to this. One could be FRA related fiscal restraint in spending, the other could be central government's undertaking many of the functions through centrally sponsored schemes that are within the functional domain of the states. It is argued that as state expenditure is substituted by central spending through various implementing agencies bypassing the state budget, state budgetary spending on these sectors is coming down. Though critically important, we do not go into in this paper, the larger question whether such method of fund transfers bypassing the authority of the states is appropriate[2]. However, if any substitution of expenditure is taking place because of both central and state intervention in the subjects, which are ideally, should be in the domains of states, we examine what constitutes these flows.

Table 6: Real Per capita Expenditure: Social and Economic Services

(In Rs)

	1999-00		2006-07		Difference in PC Exp.		Difference in PC Exp. With CSS spending	
	Social Services	Economic Services	Social Services	Economic Services	Social Services	Economic Services	Social Services	Economic Services
Andhra Pr.	638	475	767	819	129	344	186	251
Bihar	556	403	359	221	-197	-182	-80	212
Goa	2041	2242	2795	3347	755	1105	801	65
Gujarat	995	1090	1031	981	36	-109	63	89
Haryana	760	783	816	873	56	90	164	164
Karnataka	760	695	858	1104	98	409	193	136
Kerala	795	529	914	591	119	62	132	51
Madhya Pr.	765	570	550	751	-215	181	-51	712
Maharashtra	808	623	978	983	170	360	219	105
Orissa	692	390	564	376	-127	-14	-16	685
Punjab	757	606	779	952	22	346	71	115
Rajasthan	735	385	866	594	131	209	251	620
Tamil Nadu	863	495	1030	611	166	116	222	102
Uttar Pradesh	356	318	411	360	55	42	166	183
West Bengal	675	303	569	338	-106	35	-34	209
Coefficient of Variations	0.453	0.729	0.643	0.860			0.572	0.636

Source: Study of State Finances (RBI)

[2] As mentioned by Rao (2007, p. 1253), this kind of transfers have been "undermining the role of systems and institutions in the transfer system. In fact, even under the transfers for state plans, normal assistance, which is given according to the Gadgil formula, constituted less than 48 per cent. Thus, we have a situation where the grants system has become predominantly purpose specific with a cobweb of conditionalities specified by various central ministries. Furthermore, quite a considerable proportion of grants which used to be given to the states now directly goes to autonomous agencies. This raises questions about the capacity to deliver public services by these autonomous agencies, mechanisms to augment the capacity and as the funds do not pass through states' consolidated funds, of accountability."

As evident from the Table 7, around 93 per cent of this flow is through three central ministries, viz. Ministry of Rural Development (57 per cent), Ministry of Human Resource Development (22 per cent) and Ministry of health and Family Welfare (13 per cent). Out of this, transfers on account of Sarva Sikshya Aviyan and NREGA together constituted almost half of the total. If we look at the distribution of these transfers, they are largely progressive (Table 8). Per capita transfers to low-income states have been several folds higher than the middle and high-income states. Though, these transfers have the inherent problem of central discretions both with regard to the allocation and quantum, the data reveals a positive discretion in favour of low-income states. Also per-capita CSS spending when added with the per capita state spending on social and economic services the coefficient of variations decline substantially (see Table 6).

Table 7: Ministry-wise Direct Transfer to States

	2006-07 (RE) (Rs. Crores)	2007-08 (BE) (Rs. Crores)	2006-07 (RE) (as % of Total)	2007-08 (BE) (as % of Total)
Ministry of Agriculture and Cooperation	1712.65	2372.82	3.79	4.78
Ministry of Environment and Forests	225.65	304.55	0.50	0.61
Ministry of Health and Family Welfare	5547.78	6631	12.28	13.37
Ministry of Human Resource Development	11518.84	11104.74	25.50	22.39
of which SSA	*10145.68*	*9760.24*	*22.46*	*19.68*
Ministry of Women and Child Development	3	10	0.01	0.02
Ministry of New and Renewable Energy	155.85	188.1	0.35	0.38
Ministry of Rural Development	25452.66	28395.51	56.35	57.24
of which NREGS	*11233.9*	*11939.35*	*24.87*	*24.07*
Ministry of Commerce and Industry	550	600	1.22	1.21
Grand Total	45166.43	49606.72	100	100

Table 8: Per-capita Transfers under Major Central Sector Schemes

(In Rs)

	SSA	NREGA	PMGSY
Andhra Pr.	57	118	133
Bihar	117	113	99
Chattisgarh	223	246	701
Goa	47		65
Gujarat	27	17	72
Haryana	108	14	150
Jharkhand	175	218	189
Karnataka	95	39	97
Kerala	13	10	41
Madhya Pr.	164	268	444
Maharashtra	49	39	66
Orissa	112	221	464
Punjab	49	14	101
Rajasthan	120	122	498
Tamil Nadu	55	24	78
Uttar Pradesh	111	48	135
West Bengal	72	55	154

However, the real question is to see whether the states that have shown a steep decline in per-capita spending on social and economic services, if these transfers are added to the spending, whether the trend reverses. This does not seem to be happening. As evident from the Table 6, in the case of social services, the per-capita spending in real terms remained negative even when off-budget CSS spending is added on to the social services for the low income states. However, in the case of economic services a positive real increase in per-capita spending is observed when CSS spending is added, though the increase is marginal in many of the states. This also brings out the fact that disparities in per-capita social sector spending has increased much more than that in economic services and appeared to have gone up in recent years.

III. Fiscal Rule and Development Spending

Having examined the state level variation in detail in per-capita spending in recent years, in this section we undertake an econometric exercise to determine the impact of fiscal rule on sub-national development spending. We use the panel dataset described above for a period of 9 years from 1990-00 to 2007-08, the latest year for which budgetary data is available. We carry out the analysis for 14 major non-special category states. This periodization is deliberate as this is a stable period with reforms in state finances fully in place and states have come out of the expenditure shock emanated due to the implementation of Fifth Pay Commission's recommendations.

We define a functional relationship of per capita developmental expenditure with three other variables, viz., lag of per capita developmental expenditure, per-capita own revenues and state specific dummy variables to capture the effect of fiscal rule through FRA. We assume that lag of developmental expenditure would have a positive impact on the current year expenditure level. We take per-capita total revenue to capture the fiscal capacity and also to control for the aggregate effect of higher central transfers and improved revenue mobilization due to the introduction of VAT. The expenditure models specified above is expected to be positively related to the per-capita revenues and the lag of its own expenditure. The sign of FRA dummy would primarily depend on the nature of fiscal intervention induced by FRA. Given increasing disparities in per-capita spending across states and decline in per-capita development spending in low income states in recent years, we expect that FRA dummy will either have negative sign or may in aggregate not have any impact because better performing states have been able to increase their fiscal space in recent years and thereby spending, so in aggregate the both may offset each other. We specify log-linear estimation equations for the model as follows:

$$\ln(D_{\exp}) = \alpha + \beta \ln(D_{\exp})_{t-1} + \ln(R_{ev}) + FRA_{Dummy} + \mu$$

The variables specified in the equation are self-explanatory. The estimation results given in Table 9 reveals that the coefficient of lagged expenditure variable was positive and significant. In other words, it is the past expenditure that determined the level of current fiscal years' expenditure on development spending. The FRA dummy shows a negative sign but not significant. The per-capita revenues show positive and significant relationship with development spending. If we drop the per-capita revenues from the model, the FRA dummy becomes positive and significant. In other words, this again points to the fact that fiscal consolidation has largely been achieved due to improved revenue buoyancy of both centre and states. The negative effect of FRA would have been even more severe if revenues were not buoyant during this period.

Table 9: Estimation Results

Dependent Variable: Developmental expenditure

Varibales	Coefficients
Constant	-0.121 (2.25)
$Ln(D_{exp})_{(t-1)}$	0.262 (5.01)
$Ln(R_{ev})$	1.941 (3.19)
FRA_{Dummy}	-0.088 (-1.38)
Sargan Test	8.175 (0.99)
AR(2) Test	1.399 (0.16)

Notes: t-values computed using robust standard errors in parentheses; standard errors of the two-step GMM estimators are corrected for finite sample bias as in Windmeijer (2000); *indicates significance at 5% level; AR (2) refers to a test for second-order residual correlation – correlation values are given and the *P*-values are in parentheses; †indicates third-order residual correlation; 'Sargan' is a test of over identifying restrictions – chi-square value is given and the *P*-value is in parenthesis.

Increasing disparities in per-capita spending has increased in recent years and that requires correction for the provision of comparable levels of public services across states at comparable levels of taxation. The possible approach for the 13th FC may be to design a transfer system, which would help increase developmental spending in states, especially, the social sector spending where it is much lower than the all-state average and is declining in real terms. In the next section, we undertake an exercise to show what would be complete equalization requirement in the 12th FC scheme of transfers to have an idea whether it is feasible to think of complete equalization of education and health services in an improved fiscal environment by the TFC.

IV. Complete Equalization Requirement:

The 12th FC has emphasized that grants provide an effective mechanism for equalization vis-à-vis tax devolution and attaches higher degree of importance for transfers through grants by increasing its share in total transfers. The Commission has emphasized that "grants are the more effective transfer instrument for state specific and purpose specific targeting" (12th FC Report, p.14). As can be seen from the Table 10, the share of tax devolution declined to 81 per cent as per the recommendations of the 12th FC which was more than 92 per cent during the award period of the 7th Finance Commission. This moderate shift towards grants as an instrument to achieve greater horizontal equity though noteworthy, it remains to be seen to what extent it helped in equalizing the system of transfers.

Table 10: Composition of Transfers Recommended by Finance Commissions

Commissions	Share of Grants	Share of Tax Devolution
7th	7.72	92.28
8th	9.55	90.45
9th	9.96	90.04
10th	8.96	91.04
11th	13.47	86.53
12th	18.87	81.13

Source: 12th Finance Commission Report

The composition of grants given by 12th FC is shown in Table 11. Although, total grant is dominated by the non-plan revenue deficit grants, the shares of specific purpose transfers directed towards health and education sector constituted 4.13 and 7.13 percent. These transfers are aimed at bringing in some degree of fiscal equalization in the per capita expenditure of these two critically important publicly provided services across states. The 12th FC has mentioned that due to wide divergence in per capita expenditure, the amount of transfers required for equalization would be too large for full application of equalization approach and decided to focus on only two services, viz., health and education. According to 12th FC, even in these two services only a partial correction could be done as resource requirement for complete equalization would be enormous because of the large disparities between the relevant state group averages and the actual per capita expenditure of some of the states, particularly those having low fiscal capacity and large populations.

In determining the quantum of grants for these two sectors, a two-step normative approach has been adopted. In the first step, low expenditure preferences of the states in these sectors have been corrected by setting the norm that all state should spend normatively a certain minimum percentage of their revenue expenditure (both plan and non-plan) on education and health (12th FC Report, p. 179). In the second step, states are identified, which even after spending the required percentage fall short of the normative level of per capita expenditure in these two sectors (12th FC Report, p. 179). The extent of equalization achievable through specific transfers of health and education is very limited, particularly when only a part of the distance by which a below average state was lagging behind is covered through these grants after 'preference correction'. The Commission has emphasized that even though equalization grant covers 15 per cent of the distance of education expenditure and 30 per cent of the distance in case of health expenditure, this distance is measured by taking the total revenue expenditure, i.e., both plan and non-plan and it would constitute much larger proportions, if seen against the non-plan revenue expenditure only (12th FC Report, p.180). In this context, it should be mentioned that even with respect to non-plan revenue expenditure, it will not be any where near complete equalization as relative weight of non-plan revenue expenditure is quite high in total revenue expenditure, particularly in the case of social services. The year 2002-03, for which the latest accounts data for the states were available to 12th FC, the weight of non-plan revenue expenditure in total revenue expenditure under social services for all states in that year was 78.52 per cent. In education it was even higher at 90.91 per cent and in health sector including family welfare, it was 72.72 per cent.

As evident from Table 11, complete equalization requirement of education sector grants works out to be Rs. 67, 811 crore when the actual grant entitlement provided by the 12th FC is Rs.10, 172 crores. Similarly in the case of health sector including family welfare, the entitlement is Rs. 5877 crore when the complete equalization requirement is Rs. 19624 crore. These have been estimated on the basis of the data of partial equalization grants given by 12th FC by estimating the requirement for 100 per cent equalization. The state specific distribution of grants in absolute amount with complete equalization is given in Table 12. As the complete equalization requirement is 5.45 folds higher than the actual allocation recommended for these two services, its provisioning would require higher vertical transfers unless the share of tax devolution is altered towards these grants without changing the aggregate volume of transfers. As can be seen from the Table 10, in case of complete equalization, the aggregate requirement of grants goes up to Rs. 214016 crores instead of Rs. 142640 crores recommended by the 12th FC and relative weights of health sector and education sector equalization grant increase to 16.8 and 29.02 per cent of the total grants respectively as against 12th FC recommended 4.13 and 7.13 per cent.

Table 11: Composition of Finance Commission Grants

	2005-10 As Proposed by 12th FC (In Rs. Crore)	% Composition	2005-10 In Case of Complete Equalization (In Rs. Crore)	% Composition
Non-Plan Revenue Deficit Grants	56856	39.86	56856	26.57
Health Sector	5887	4.13	19624	9.17
Education Sector	10172	7.13	67811	31.69
Maintenance Grants	21625	15.16	21625	10.10
State Specific Needs	7100	4.98	7100	3.32
Local Bodies	25000	17.53	25000	11.68
Calamity Relief	16000	11.22	16000	7.48
Total Grants	142640	100	214016	100

Source: 12th Finance Commission Report

Table 12: Grant in Aid for Education and Health Sector: Complete Equalization Requirement

(Rs. Crore)

	2005-06	2006-07	2007-08	2008-09	2009-10	2005-10
Education Sector						
Assam	1221.3	1337.3	1464.4	1603.5	1755.9	7382.47
Bihar	2959.9	3241.1	3549.1	3886.2	4255.4	17891.73
Jharkhand	718.8	787.1	861.9	943.7	1033.4	4344.87
Madhya Pradesh	506.9	555.0	607.7	665.5	728.7	3063.73
Orissa	356.6	390.5	427.5	468.1	512.6	2155.33
Rajasthan	133.3	133.3	133.3	133.3	133.3	666.67
Uttar Pradesh	4912.5	5379.1	5890.1	6449.7	7062.4	29693.8
West Bengal	432.2	473.3	518.2	567.4	621.3	2612.4
Total	11241.5	12296.7	13452.3	14717.5	16103.0	67811.0
Health Sector						
Assam	511.9	570.8	636.4	709.6	791.3	3220.1
Bihar	964.3	1075.2	1198.9	1336.7	1490.5	6065.6
Jharkhand	191.3	213.3	237.8	265.2	295.7	1203.3
Madhya Pradesh	96.3	107.3	119.7	133.4	148.8	605.5
Orissa	104.1	116.0	129.4	144.3	160.8	654.6
Uttar Pradesh	1225.4	1366.3	1523.5	1698.7	1894.0	7707.9
Uttaranchal	33.3	33.3	33.3	33.3	33.3	166.7
Total	3126.7	3482.4	3879.0	4321.2	4814.4	19623.6

Source (Basic Data): Twelfth Finance Commission Report

An estimate of vertical transfers with complete equalization grants to education and health sectors is given in Table 13. With partial equalization (covering 15 and 30 percent of the distance of education and health expenditure respectively) as done by 12th FC, the quantum of transfers as a percentage of centre's gross revenues and shareable tax revenues work out to be around 27 and 37.5 per cent respectively for the period between 2005-06 and 2009-10. However, with complete equalization, these ratios go up to 29.4 and 41.07 per cent respectively for the same period. The equalization transfers even when partial with 50 per cent of the distance covered in the percapita expenditure gap, the shareable tax revenue transfers goes up to 38.90 per cent during the award period of 12th FC.

The increase in the level of fiscal imbalance of the centre is another issue that needs to be looked into in this context. With complete equalization, increase in the fiscal deficit is higher by 0.31 per cent of GDP compared to what is recommended by the 12th FC for the purpose of restructuring of public finances of centre and states by the terminal year of its award period. Thus, when both the increase in the vertical transfers and fiscal deficit with complete equalization are not alarming rather marginal, the Commission's rationality for not going for it remains a puzzle. Is it the cap on centre's fiscal deficits for the purpose of restructuring to 3 per cent of GDP the reason, or is it an attempt to strike a balance between equity and efficiency in the transfer system so that there is no revolt against the award of the Commission by the states who are not `fiscally deficient` (as per 12th FC norm)? Analysing the distribution of transfers to the group of states that are `fiscally deficient` and those who are not may provide an indicative explanation in this regard. Table 14 provides a comparison of the distribution of transfers to these two groups of states as per the partial equalization norms prescribed by the 12th FC and estimates done by us for complete equalization of education and health services.

Table 13: The Degree of Vertical Transfers with Partial and Complete Equalization of Grants for Education and Health

(In percent)

	2005-06	2006-07	2007-08	2008-09	2009-10	2005-10
With Partial Equalization As Proposed by 12th FC						
Transfers as % of Centre's Gross Rev.	27.98	27.94	27.17	26.40	25.58	26.84
Transfers as % of Shareable Tax Rev.	39.14	39.07	37.98	36.90	35.78	37.52
Transfers as a % of GDP	3.37	3.44	3.43	3.42	3.41	3.41
Fiscal Deficit as a % of GDP	4.10	3.74	3.37	3.00	3.00	3.38
With Partial Equalization (Covering 50 % of the Distance)						
Transfers as % of Centre's Gross Rev.	29.07	28.99	28.16	27.35	26.49	27.82
Transfers as % of Shareable Tax Rev.	40.66	40.53	39.37	38.23	37.04	38.90
Transfers as a % of GDP	3.50	3.57	3.55	3.54	3.53	3.54
Fiscal Deficit as a % of GDP	4.24	3.87	3.50	3.13	3.12	3.50
With Complete Equalization						
Transfers as % of Centre's Gross Rev.	30.78	30.63	29.74	28.85	27.92	29.38
Transfers as % of Shareable Tax Rev.	43.06	42.83	41.57	40.33	39.05	41.07
As a % of GDP	3.71	3.77	3.75	3.74	3.72	3.74
Fiscal Deficit as a % of GDP	4.44	4.07	3.69	3.32	3.31	3.70

Note: Transfers include only Finance Commission Transfers

Partial Equalization implies equalization of 15 per cent of the distance in education and 30 per cent of the distance of per capita expenditure in health sector done by the 12th FC

Source (Basic Data): Twelfth Finance Commission Report

If we look at the share of grants to the group of states that are `fiscally deficient`, their share of grants works out to be 41.93 per cent of the total grants transferred to all the states and 58.55 per cent of the total transfers including tax devolution (See Table 14). The remaining 19 states have received 58.07 per cent of the total grants and 41.45 per cent of the total transfers as per 12th FC recommendations. In the case of complete equalization as estimated by us, the share of grants transferred to the group of deficient fiscal capacity states goes upto 64.55 per cent and the share of total transfers to 63 per cent. If consideration prevailed for complete equalization, the distribution that is already favourbly skewed to these nine states with partial equalization, would have got further tilted towards these states, acceptability of which may have become difficult.

Table 14: Distribution of Transfers: A Comparison of Finance Commission Recommended Transfers and the Complete Equalization Transfers

	As Recommended by 12th FC		In Case of Complete Equalization	
	Grants	Total Transfers	Grants	Total Transfers
Assam	3.14	3.22	6.08	3.97
Bihar	5.59	10.01	12.82	11.50
Jharkhand	2.13	3.13	3.54	3.41
Madhya Pradesh	3.60	6.13	3.82	5.97
Orissa	3.70	4.89	3.53	4.74
Rajasthan	3.26	5.17	2.43	4.79
Uttar Pradesh	10.70	17.66	21.45	19.84
Uttaranchal	4.51	1.61	3.06	1.49
West Bengal	5.31	6.73	4.58	6.42
Group Share	***41.93***	***58.55***	***61.30***	***62.13***
Andhra Pradesh	3.66	6.66	2.44	6.09
Arunachal Pradesh	1.23	0.47	0.82	0.43
Chhattisgarh	1.39	2.42	0.93	2.21
Goa	0.09	0.23	0.06	0.21
Gujarat	2.60	3.39	1.73	3.10
Haryana	1.01	1.06	0.68	0.97
Himachal Pradesh	7.89	1.91	5.26	1.75
Jammu & Kashmir	9.42	2.76	6.28	2.52
Karnataka	2.84	4.16	1.89	3.80
Kerala	2.28	2.59	1.52	2.37
Maharashtra	3.88	4.79	2.58	4.38
Manipur	3.26	0.91	2.17	0.83
Meghalaya	1.47	0.58	0.98	0.53
Mizoram	2.24	0.62	1.49	0.56
Nagaland	4.09	0.99	2.73	0.90
Punjab	3.44	1.70	2.30	1.56
Sikkim	0.31	0.24	0.20	0.22
Tamil Nadu	2.90	4.85	1.93	4.44
Tripura	4.06	1.11	2.71	1.02
Group Share	***58.07***	***41.45***	***38.70***	***37.87***
Total	***100.00***	***100.00***	***100.00***	***100.00***

Source (Basic Data): Twelfth Finance Commission Report

However, without increasing vertical quantum of transfers, higher degree of equalization would have been possible if the share of tax devolution were kept at 29.5 per cent instead of 30.5

per cent of the shareable tax revenues of the centre. If tax devolution were fixed at 29.5 per cent of the sharable tax revenues of the centre, the excess of tax shares available for grant-in-aid would have been Rs. 20103 crores for the entire award period of 12th FC (Table 15). Although, this is lower than what is required for complete equalization, the net availability will be even lower since a part of it would be required to cover higher non-plan revenue deficits arising out of lower tax devolution.

Table 15: Transfers Profile to States: A Comparison of Two Alternatives

(Rs. In Crore)

	2005-06	2006-07	2007-08	2008-09	2009-10	2005-10
Tax Devolution						
As Recommended by 12TH FC	91376.0	104610.0	120028.9	138027.0	159070.4	613112.3
At 29.5 % of centre's revenue	88379.6	101180.3	116094.0	133501.1	153854.3	593009.3
Difference	2996.4	3429.7	3934.9	4525.9	5216.1	20103.0
Non-Plan Revenue Deficit Grants						
As Recommended by 12TH FC	15091.9	11315.2	10922.2	9998.5	9528.1	56855.9
When Tax Devolution at 29.5 %	15963.5	11901.3	11328.0	10214.1	9768.9	59175.7
Difference	-871.6	-586.1	-405.8	-215.6	-240.7	-2319.9
Net Resources Available for equalization	***2124.7***	***2843.7***	***3529.0***	***4310.4***	***4975.3***	***17783.1***
As % of Complete Equalization Grants	18.1	22.1	24.9	27.7	29.2	24.9

Source (Basic Data): Twelfth Finance Commission Report

With tax devolution at 29.5 per cent, the non-plan revenue deficit grant goes up by Rs. 2319. 9 crore than what is recommended by 12th FC After closing the higher non-plan revenue deficit gap emanating due to lower tax devolution, the remaining resources could have been used for the purpose of equalization (See Table 15). As estimated by us, this would have covered another 24.9 per cent of the distance of per capita expenditure gap of education and health services of these states (See Table 15) without any increase in the vertical quantum of resources and thereby without disturbing the overall restructuring plan proposed by the Commission. In that case, the composition of transfers would have been as given in Table 15- with tax devolution declining to 78.47 per cent of the total transfers with a corresponding increase in the share of grants. Alteration of this kind, between tax devolution and grants would have been a feasible alternative.

Table 16: Composition of Transfers: A Comparison of Two Alternatives

(Per cent)

	2005-06	2006-07	2007-08	2008-09	2009-10	2005-10
Tax Devolution at 30.5 % of Central Revenues						
Tax Devolution	77.93	78.06	80.31	82.66	84.59	81.13
Non-Plan Rev. Deficit Grants	12.87	8.44	7.31	5.99	5.07	7.52
Other Grants	9.20	13.50	12.38	11.35	10.34	11.35
Total	100.00	100.00	100.00	100.00	100.00	100.00
Tax Devolution at 29.5 % of Central Revenues						
Tax Devolution	75.38	75.50	77.68	79.95	81.82	78.47
Non-Plan Rev. Deficit Grants	13.61	8.88	7.58	6.12	5.20	7.83
Other Grants	11.01	15.62	14.74	13.93	12.99	13.70
Total	100	100	100	100	100	100

Source (Basic Data): Twelfth Finance Commission Report

V: Conclusions

This paper examined the nature of fiscal consolidation during the era of rule based fiscal control and its implications for federal transfers. The analysis revealed that improvement in fiscal balance has been associated with increasing disparities in developmental spending across states. The econometric estimate in panel data showed that FRA not having any positive and significant impact on development spending when controlled for revenue effect of VAT and increased central devolution. The result seems robust as this has been corroborated by the exploratory data analysis even when off budget CSS spending is added with the per-capita development spending of the states. When we compared between social and economic services, the disparity in spending is sharper in social sector vis-à-vis economic services. Given this widening disparities in spending the paper emphasizes on the need for equalization grants and estimates the resources requirement for complete equalization of specific services based on the partial equalization of scheme of transfer proposed by the 12th FC.

The study noted that within the 12th FC scheme of transfers, resource requirement for complete equalization of education and health services of deficient fiscal capacity states is not enormous when looked in relation to aggregate and shareable central revenues and also as percentage of GDP. With complete equalization, increase in centre's fiscal deficits is of the order of

0.31 per cent of GDP. The study also shows that if not complete, a greater degree of equalization would have been possible if the vertical devolution of taxes were kept at 29.5 per cent of the shareable central taxes by the 12th FC.

To conclude, it should be emphasized that any design of transfers in the context of fiscal equalization in Indian federation would remain cosmetic, unless drastic redistribution takes place in the horizontal allocation of resources. However, the resource requirement for complete equalization of all services (not only education and health) to deficient fiscal capacity states in terms of any well designed suitable norm would be enormous. Normative vertical gap in terms of complete equalization of social and economic services estimated by Bagchi and Chakraborty (2004) works out to be a whooping 44.36 per cent of centre's actual revenue during the award period of Eleventh Finance Commission. Given, centre`s resource requirements, such an increase in transfers seems difficult. Thus, within the overall resource constraints, a well-designed system of transfers should evolve a balance between the quantum of vertical transfers and quality of its distribution with greater emphasis on equalization grants, particularly when the disparities in development spending across states are increasing despite fiscal consolidation and over all improvement in fiscal balance.

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