LOCAL FISCAL RESPONSE TO EXPENDITURE REASSIGNMENT AND FISCAL DECENTRALISATION IN INDIA

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NO. 1 JANUARY, 1993

ACKNOWLEDGEMENTS

Authors gratefully acknowledge the valuable suggestions by Synvain Plasschaest, Pawan K Aggarwal and an anonymous referee. Thanks are due to P C Pandey for computational assistance and Miss Sarla Kumari and Ms. Promila Rajvanshi for word processing.

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Abstract

Reassignment of local functions to State government and fiscal decentralisation seem to be contradictory. Whether these fiscal strategies are compatible policy packages is an empirical question. The crucial issue is as to how do local governments respond to reassignment which may be reflected in their willingness to spend on the remaining functions. If reassignment stimulates local expenditures such that the extent of decline in fiscal decentralisation (local share in total State-local expenditure) is less than the warranted, the two fiscal strategies can be taken to be compatible. To test this hypothesis, conditions for compatibility are postulated in terms of expenditure efforts of State, and local governments. Using Indian fiscal data, State and local expenditure efforts are computed and compared for selected States, as a first approximation. There is no conclusive evidence to show that reassignment has invariably exerted any dampening impact on local expenditures. For given equity considerations, this result has a bearing on any policy which aims at expenditure reassignment.

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1. Introduction

The dispersal of population and economic activity is one of the objectives of public policy which necessitates distribution of functions among governments in a country. It particularly holds implication for the assignment of expenditure responsibility at the local level i.e., fiscal decentralisation. In recent decades, however, there is a tendency to transfer functions hitherto with urban local governments to State government. Reassignment of an urban local function has generally taken two forms, namely, State assumption of a local function (centralisation) and creation of special purpose board under the State control for a given function (functional decentralisation). Even if the latter constitutes 'off budget' activities of State government, both the forms of reassignment reduce the share of local governments in total State-local expenditure and hence the extent of fiscal decentralisation. Thus expenditure reassignment and fiscal decentralisation appear to be contradictory policy packages. The two strategies are in fact founded on different efficiency grounds[1]. Reassignment has taken place on the ground of technical efficiency gain (economies of scale) and uniformity of service. Fiscal decentralisation, on the contrary, is advocated on the ground of economic efficiency gain in the sense of providing citizens with the kind of services they want.

Reassignment, however, may stimulate local expenditures on the remaining functions and thereby arrest the extent of decline in fiscal decentralisation. In this way the two strategies can be shown to be compatible. This dimension of expenditure reassignment has not been addressed in the literature which is the concern of this paper. The plan of the paper is as

follows. Section 2 discusses the concept and forms of expenditure reassignment from local to State governments and measurement issues. Section 3 develops conditions for expenditure stimulation of reassignment in order to test compatibility of reassignment and decentralisation. Sections 4 gives the method of estimation of expenditure efforts of State and local governments. Section 5 comprises empirical results along with policy implications.

2. Conceptual and Measurement Issues

a. Concept of Reassignment: The conventional fiscal assignment literature suggests that government's redistribution and stabilization functions should be greater relative to its allocative functions, the higher one moves in the federal hierarchy. Within the allocative functions for which sub-national governments (States and local) are most suited, distribution of functions would depend on how large or small is the benefit jurisdiction of a function. Smaller the benefit jurisdiction of a function, greater would be the likelihood of it being allocated to local as against State governments. Thus there exists a theoretical fiscal assignment which represents an efficient division of fiscal responsibilities between State and local governments (appropriate assignment). Any deviation from the efficient division of functions would represent expenditure reassignment (theoretical reassignment).

Even though most of the local public services are characterised by segmented benefit jurisdictions, historical precedent and lack of proper perception in regard to income and taste differences of population may constrain accomplishment of an appropriate level of local fiscal responsibility.[2] In fact, the distribution of functions between State, metropolitan and local governments to provide services in a locality has been found to

vary significantly from one jurisdiction to another (See table 1). Therefore, changes in the division of functions dominated by State assumption of local functions indicate observed reassignment.

b. **Forms**: In India, local expenditure reassignment between State and local governments in an urban area has taken three principal forms: exact reassignment, non-assignment and State financing of local functions i.e., State grants spending. Exact reassignment entails taking over of local function by State government departments or special purpose autonomous boards under the State control. In some of the metropolitan cities such as Bangalore and Madras, maintenance and cost recovery functions relating to urban water supply and sewage disposal hitherto with the municipal corporations have been taken over by the metropolitan level special purpose boards. In many States, particularly in the case of financially and technically weak local bodies, the State government departments such as the public health and engineering or local self government have gradually assumed maintenance and sometimes distribution responsibility as well. Cost recovery is either done by a State government agency or left to urban local bodies.

The second form of reassignment is non-assignment of a local function to local bodies. For instance, this has happened in States like Kerala and Bihar where the function of primary education was never assigned to urban local bodies. Given the nature of this service, the functions relating to this service have been assigned to local bodies in most of the States. The third form of reassignment takes the form of State financing of local functions, i.e., State grants spending. In many States local functions such as primary education and public health and more particularly road maintenance are performed by urban local bodies by means of nearly cent per cent specific grants by the State governments.

c. **Measurement**: Exact reassignment can be measured in terms of an absence of local government expenditure or a presence of State government expenditure on a particular function hitherto with local governments. Non-assignment of a local function can be captured on an average, by growth of State expenditure on that function. Growth of State grants to local bodies can be taken as a measure of State finances of local shares. For analytical purposes, however, it would be worthwhile to measure expenditure reassignment at the aggregate level. It may be noted that while exact reassignment and non-assignment tend to decrease the local share in total State local expenditure, State grants spending tends to increase the local share. The latter, however, does interfere with local fiscal autonomy and therefore, should exert dampening impact on fiscal decentralisation. For this reason, for measuring reassignment we use local government expenditure net of grants. In this analogy, grants to local bodies constitute State government expenditure.

Given the fact that the demand for local services is responsive to urbanisation and income growth, economic development would tend to increase local share in total State- local expenditure. This result would particularly hold when functions are optimally allocated (absence of expenditure reassignment). Hence a constant or declining local share net of State grants to local bodies in total State local expenditure may be taken to indicate observed reassignment. This measure would also indicate the degree of fiscal decentralisation, if the latter is measured in terms of local expenditure net of State grants to local bodies[3]. Thus, higher the expenditure reassignment, lower will be the degree of fiscal decentralisation.

3. Expenditure Stimulation of Reassignment

The conditions for compatibility between reassignment and decentralisation can be derived basically from local government expenditure response to reassignment. Local governments may become less enthusiastic about the remaining functions which would have dampening impact on their resource raising efforts. If however, local governments are convinced by the underlying reasoning, that is, technical gain due to reassignment, their expenditures may rise on the remaining functions as a consolidation exercise, on the ground of efficiency gain. A good deal of research exists on local government fiscal response to grants increase (For a review see Gramlich, 1977). If local government expenditures rise by more than grants increase, it is termed as expenditure stimulation of grant. As a corollary of this phenomenon, expenditure stimulation may be obtained if expenditures adjust downwards by more than grants withdrawal. A similar situation can be visualized when a local function is reassigned to State government. If local governments respond to the resultant expenditure cuts by raising their expenditure efforts in order to consolidate on the remaining functions, the decline in local expenditures could be less than the warranted. This less than the warranted decline in local expenditures and hence fiscal decentralisation can be taken to denote local expenditure stimulation of reassignment. The latter would also render reassignment to be compatible with fiscal decentralisation. Symbolically,

Let

$$D1 = \frac{L_o}{L_o + S_o}$$

$$D2 = \frac{L_o - \Delta L_o}{L_o + S_o} \; ; \quad \Delta L_o > o$$

$$D3 = \frac{L_o - \Delta L_o + \Delta L}{L_o + S_o + \Delta S + \Delta L}$$

where L_o and S_o are pre-reassignment local and State expenditures respectively (L_o is net of State grants). ΔL_o is warranted decline in local expenditure (increase in State expenditure including grants increase) due to reassignment. ΔL and ΔS are additional local and State expenditures due to reassignment respectively.

For expenditure stimulation of reassignment, and therefore, for reassignment to be compatible with fiscal decentralisation, D3 should be greater than D2 which would require the following conditions to be met:

(1) $\Delta L > 0$ (necessary condition)

(2) $\frac{\Delta L}{L_o - \Delta L_o} > \frac{\Delta S}{S_o + \Delta L_o}$ (sufficient condition)4

Since ΔL and ΔS are unobservable, condition (2) can be taken to be satisfied if local government's willingness to spend, measured as local expenditure effort is greater than State government expenditure effort.

4. Measurement of Expenditure Effort

a. Concept: The concept of expenditure effort is less utilised in the literature. One could conceive expenditure effort as a counterpart of tax effort (For the latter, see Bahl, 1971, 1972).[5] Analogously defined, expenditure effort represents the willingness of a governmental unit to provide services. Given the demand for services in a locality and given the available resources at hand, it may not always be possible to provide

services to the desired extent. One implication of such possibility over a period of time would mean a lag in the adjustment of expenditures to the desired level. However, the immediate outcome of such a gap, which has relevance to expenditure effort, would have implications such as (i) government's inability to provide adequate services; (ii) citizens' dissatisfaction or political stress, and (iii) the institutional rigidities which might have come in the way of providing or expanding expenditures to the desired levels.

In an attempt towards calculating expenditure effort, expenditure ratio defined as the relationship between actual amount of expenditures incurred and some measure of expenditure capacity (say taxable income base of locality) is the starting point. The expenditure ratio is conceived to be dependent on two sets of variables which fall either under expenditure capacity factors or expenditure effort factors. The former set includes two main variables: 1) the ability of the citizens to pay for services and 2) the ability of the administration to provide services. The latter set includes factors that influence the governmental decisions regarding the extent of exploiting the expenditure capacity.

In one of the approaches, termed as regression approach for estimating expenditure effort, it is assumed that there is no simultaneity in influence on expenditure ratio between expenditure capacity and expenditure effort factors. With this assumption, regression is performed on expenditure ratio using expenditure capacity factors as explanatory variables. The difference between the actual expenditure ratio and the estimated one on the basis of this regression is taken as unexplained variance representing expenditure effort. Thus, either the residual variance or a comparison of the actual expenditure ratio and estimated expenditure ratio derived by using expenditure

capacity factors (as explanatory variables) provides an index of expenditure effort. Generally, the ratio of actual to estimated expenditure could be considered as an index of expenditure effort, which signifies an average expenditure effort if it takes value unity.

Alternatively, expenditure effort could be computed directly using potential expenditure bases. Unlike the regression approach,where potential expenditure bases termed as expenditure capacity factors are used,the alternative approach known as representative expenditure approach would aim at computing expenditure effort by making use of potential expenditures directly. The latter would constitute a desired level which would depend on the normative levels of quantity and quality of service demand and per unit cost of service output.

b. **Estimation:** The objective of the empirical exercise is to test whether reassignment and decentralisation are compatible by comparing expenditure efforts of local and State governments. In view of the fact that estimation of potential expenditure bases would require norms on quantity and quality of services and costs of services provision, which is constrained in view of non-availability of such information, our attempt takes recourse to regression approach. Following the traditional regression approach, the ratio of local expenditure to income is taken as the dependent variable and income and grants which represent expenditure capacity factors are taken as the variables[6]. Regressions have been run on time series data pertaining to 10 major States and the variables have been employed in per capita terms. In State level regressions, expenditure denotes aggregate of expenditures (revenue and capital) net of grants to local bodies. The latter adjustment is basically needed to avoid double counting as local governments receive substantial amount of grants from State government. Grants include both plan and non-plan

grants from the Central government. Income is State domestic product which is a component of the Gross National Product originating in a State. In the local level regressions,the exercise has been carried out with respect to State aggregate of expenditures on public services incurred by urban local bodies. In the absence of information pertaining to municipalities which could provide State aggregate of expenditure on urban public services by municipalities and municipal corporations, the exercise has been carried out in terms of aggregate of selected municipal corporations, grouped according to States, as a measure of State aggregate of expenditure on public services incurred by urban local bodies.

c. Data: The information on grants and expenditures pertaining to municipal corporations have been collected from the Annual Statistical Abstracts published by the Central Statistical Organization, Government of India. Per capita urban income (urban domestic product) is computed by using the information available from National Accounts Statistics. The component of national income from non-primary sectors relating to various States has been expressed as per capita urban income by using the respective State population as the deflator. This State average of per capita urban income is assumed to hold for the cities belonging to these States. A similar set of information consisting of aggregate expenditure and grants for the State governments has been collected from the respective State budgets. Data on State income (State domestic product) are taken from National Accounts Statistics. The period covered under this study extends generally from 1966 to 1987.

5. Results and Policy Implications

The estimates of indices of expenditure reassignment (R: Local Shares in the total State -local expenditure), Local expenditure effort (EL) and State expenditure effort (ES) are reported in Table 2. The reported values of the indices are five yearly averages. Estimates of the equations used in obtaining local and State expenditure efforts are produced in tables 2 and 3 respectively. A comparison of the trends in expenditure reassignment and local expenditure efforts would show that in 5 out of 10 States, namely, Bihar, Gujarat, Madhya Pradesh, Karnataka and Kerala, the index of expenditure reassignment is associated with higher local expenditure efforts. These results contribute to the contention that urban local bodies have probably responded to expenditure reassignment by raising their expenditure efforts so as to consolidate on the remaining functions. Further, a comparison of the trends in local and State expenditure efforts would indicate that local expenditure efforts have grown faster than their State counterparts in not less than half of the States, namely, Bihar, Gujarat, Madhya Pradesh, Kerala and west Bengal.

Although the evidence from expenditure effort indices is a mixed one, reassignment in quite a few States had a stimulating influence on local expenditures, thereby implying the compatibility, as hypothesised by us, between reassignment and fiscal decentralisation. These results, however, should be treated as highly suggestive and the approach adopted would demonstrate the need for further investigation in the light of additional information on State and local government fiscal experiences. Nevertheless these results bear significant implications with respect to State-local fiscal decision making as there is no conclusive evidence to show that reassignment has invariably

exterted any dampening impact on local expenditures. Given the equity considerations, the result has a bearing on any policy which aims at expenditure reassignment.

Table 1

Inventory of Government in Metropolitan Cities of India

Function	Bombay	Calcutta	Madras
Police Protection	L(S)	L(S)	L(S)
Traffic Control	L(S)	L(S)	L(L)
Public Health & Sanitation	L(L)	L(L)	M(S)
Water Supply	L(L)	L(L), M(S)	M(S)
Drainage and Sewerage	L(L)	L(L), M(S)	M(S)
Highways	S(S)	S(S)	L(L), S(S)
Roads	L(L)	L(L)	L(L)
Education: Primary	L(L)	L(L)	L(L)
Education: Secondary	L(L), S(S)	S(S)	L(L), S(S)
Public Transport	L(L)	M(S)	M(S)
Housing	M(S)	L(L), S(S)	M(S)
Urban Development	M(S)	M(S), L(S)	S(S)
Hospitals	L(L), S(S)	S(S)	S(S)
Parks and Recreation	L(L)	L(L)	L(L)
City Beautification	L(L)	L(L)	L(L)
Building Regulations and Development Control	L(L)	L(L)	L(L), M(S)
Stadia	L(L)	L(S)	L(L)
Electricity	L(L)	M(S), S(S)	S(S)
Fire Services	L(L)	S(S)	L(L)
Museums and Monuments	S(S)	S(S)	S(S)

L = Local; M = Metropolitan; S = State

Outside notation indicates jurisdiction; notation within brackets indicates ownership (control)

Source: Datta and Chakravarty (1981), p.43

Table 2

Fiscal Indicators

State		R	EL	ES	State		R	EL	ES
Andhra Pradesh					Kerala				
	1	0.034	0.899	1.020		1	0.028	0.909	1.002
	2	0.019	1.054	1.007		2	0.030	0.968	0.961
	3	0.033	0.979	1.031		3	0.024	1.016	1.028
	4	0.040	0.943	0.968		4	0.021	0.993	0.999
Bihar					Madhya Pradesh				
	1	NA	NA	0.819		1	0.036	0.824	1.027
	2	0.021	0.968	1.122		2	0.039	0.993	1.002
	3	0.017	0.989	0.956		3	0.037	1.084	0.934
	4	0.011	1.008	0.995		4	0.028	0.983	1.000
Gujarat					Maharashtra				
	1	0.155	0.826	1.052		1	0.021	1.005	0.645
	2	0.142	0.836	0.927		2	0.019	0.994	0.679
	3	0.125	1.130	1.037		3	0.019	1.000	0.747
	4	0.011	0.899	1.003		4	0.016	0.994	0.866
Himachal					Uttar Pradesh				
	1	NA	NA	0.349		1	0.033	1.004	0.843
	2	0.116	1.568	1.068		2	0.026	0.996	1.022
	3	0.069	0.880	1.012		3	0.024	0.997	1.062
	4	0.134	0.895	1.030		4	0.020	0.999	1.001
Karnataka					West Bengal				
	1	0.106	0.750	1.069		1	0.014	1.028	0.221
	2	0.120	0.895	0.798		2	0.012	0.976	0.074
	3	0.115	1.156	1.124		3	0.010	0.948	0.081
	4	0.103	1.084	1.051		4	0.010	1.421	0.094

Notes: 1. R = Reassignment (Local share in State-local expenditure)
EL = Local expenditure effort
ES = State expenditure effort
2. 1,2,3 & 4 denote 1965-70, 1970-75, 1975-80 & 1980-87. However, there are some deviations due to data constraint.

NA = NOT AVAILABLE

Source: col. 1 computed; cols 2 and 3 estimated.

Table 3

Time Series Regression for Expenditure Effort (State Level)
(Dependent Variable : Per Capita Expenditure/Per Capita SDP)

State/Variable	Constant	Per Capita SDP	Per Capita Grant	$\bar{R}^2$	R^{-2}	SEE	DW	DF
Andhra Pradesh	0.129	.00003	0.00009	0.353	0.273	0.031	1.649	16
	(7.578)	(2.695)	(0.578)					
Bihar	0.152	-0.00005	0.002	0.210	0.117	0.028	1.884	17
	(8.006)	(-0.00005)	(1.360)					
Gujarat	0.092	0.00002	0.005	0.598	0.523	0.027	2.063	16
	(9.743)	(1.857)	(0.062)					
Himachal Pradesh	0.277	-0.00008	.064	0.994	0.993	0.067	1.368	14
	(6.698)	(-2.840)	(40.987)					
Karnataka	0.089	0.001	-0.322	0.588	0.515	0.037	1.882	17
	(2.696)	(1.997)	(-1.252)					
Kerala	0.127	0.0001	-0.108	0.915	0.899	0.012	1.657	16
	(24.171)	(11.284)	(-4.525)					
Madhya Pradesh*	1.248	-0.326	0.479	0.876	0.855	0.107	1.875	17
	(1.180)	(-2.351)	(5.618)					
Maharashtra	0.247	-0.00002	0.123	0.878	0.856	0.007	1.875	16
	(1.476)	(-2.159)	(4.735)					
Uttar Pradesh	0.144	-0.0001	0.517	0.577	0.498	0.031	2.021	16
	(4.976)	(-1.605)	(2.326)					
West Bengal	1.625	-0.00004	0.030	0.781	0.739	0.010	2.410	16
	(0.077)	(-1.919)	(1.490)					

Notes: * Log linear variable used
Figures within parentheses indicate t-values.

Source: Estimated

Table 4

Time Series Regression for Expenditure Effort (Local Level)

State/Variable	Constant	Per Capita SDP	Per Capita Grant	R^2	$\bar{R}^2$	SEE	DW	DF
Andhra Pradesh	-6.034	0.190	-0.013	0.563	0.444	0.255	2.023	11
	(-1.346)	(0.326)	(-0.187)					
Bihar	-1.385	-0.558	0.247	0.662	0.535	0.213	2.093	8
	(-1.094)	(-3.836)	(2.134)					
Gujarat	0.066	-0.000009	0.00027	0.825	0.795	0.007	1.93	18
	(9.771)	(-2.002)	(0.417)					
Himachal Pradesh	-0.0002	0.0000005	0.00001	0.733	0.733	0.002	1.57	17
	(-0.092)	(2.482)	(0.597)					
Karnataka	0.089	0.0001	-0.0001	0.503	0.421	0.016	2.139	18
	(5.458)	(-2.599)	(-0.657)					
Kerala	0.012	-0.000001	-0.001	0.581	0.507	0.002	1.836	17
	(6.633)	(-3.697)	(2.592)					
Madhya Pradesh*	0.16	-0.000001	0.0001	0.583	0.513	0.001	2.339	18
	(12.401)	(-2.356)	(1.684)					
Maharashtra	-1.705	-0.207	0.192	0.490	0.400	0.046	1.922	17
	(-2.459)	(-2.005)	(2.603)					
Uttar Pradesh	-5.510	0.115	-0.0001	0.751	0.708	0.101	2.083	17
	(5.270)	(0.755)	(-2.557)					
West Bengal	0.028	-0.000003	0.0004	0.664	0.605	0.005	1.898	17
	(13.456)	(-5.773)	(6.567)					

Notes: * Log linear variable used.
Figures within parentheses indicate t-values.

Source: Estimated

NOTES

* This paper was presented at the 46th Congress of the International Institute of Public Finance on Public Finance with Several Levels of Government, held at Brussels, 27-30, August, 1990.

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1. For equity and budgetary implications of financial assumption of local services by the State or by a regional government, see Bahl (1976). Distribution of state burdens and expenditure benefits may be different from those of local tax and expenditure policies.

2. Bell (1988), however, found observed assignment of fiscal responsibility in US system of public school finance to be consistent with the assignment suggested by the optimal federal design literature.

3. The extent of fiscal decentralisation has also been measured in the literature in terms of the share of revenue generated in the local government sector. The revenue measure, however, becomes inappropriate if the revenue raising authority remains highly concentrated, as is the case in India.

4. For D3 > D2,

$$\frac{\Delta L}{L_o - \Delta L_o} > \frac{\Delta L + \Delta S}{L_o + S_o}$$

$$\text{or } \Delta L(L_o + S_o) > \Delta L(L_o - \Delta L_o) + \Delta S(L_o - \Delta L_o)$$
$$\text{or } \Delta L L_o + \Delta L S_o - \Delta L L_o + \Delta L \Delta L_o > \Delta S(L_o - \Delta L_o)$$
$$\text{or } \Delta L(S_o + \Delta L_o) > \Delta S(L_o - \Delta L_o)$$
$$\text{or } \frac{\Delta L}{L_o - \Delta L_o} > \frac{\Delta S}{S_o + \Delta L_o}$$

A stronger condition for reassignment to be compatible with fiscal decentralisation is that D3 > D1 which would require the following condition to be met:

$$\frac{\Delta L - \Delta L_o}{L_o} > \frac{\Delta L_o + \Delta S}{S_o}$$

Given the small size of local budgets relative to State budgets, the latter condition would necessitate tremendous local expenditure effort which cannot be backed by the existing revenue assignments to local bodies in India.

5. It may be argued that local fiscal response to reassignment can be better explained in term of tax effort. In fact as in the case of grants impact, expenditure stimulation of reassignment amounts to an increase in tax effort.

6. Local expenditure as dependent variable in regressions includes State grants. The impact of the latter on the total local expenditure is, however, isolated when State grants to local bodies is introduced as an explanatory variable.

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