A *FAIR PLAN* APPROACH FOR DEVOLUTION UNDER THE TWELFTH CENTRAL FINANCE COMMISSION: SOME SUGGESTIONS

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ABSTRACT

This study has made some suggestions for the consideration of the Twelfth Finance Commission. We have provided a conceptual framework comprising eight cardinal principles abbreviated as ***FAIR PLAN.*** *We have also operationalised the framework and provided a computational algorithm for inter se distribution of the states share in central taxes. The devolution scheme has been illustrated using 4 states of Maharashtra, Tamil Nadu, Madhya Pradesh and Bihar as representatives of different income categories. The scheme of devolution suggested by us has been worked upon and laid out in a user friendly fashion so as to give complete flexibility for any one to modify the scheme at every stage.*

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I. Introduction

As mandated by the Constitution of India, the Twelfth Finance Commission has been set up. The discussion (both solicited and unsolicited) is currently underway on how best the Commission should go about making its award. It is in this context that the present exercise has been undertaken. The paper is divided into six sections including the introduction. In the second section, we look at the state of states from a fiscal angle. Various simple variables are constructed for this evaluation (largely based on Pethe and Lalvani, 2003). In the third section, we provide a summary discussion on the terms of reference for the earlier Finance Commissions. The fourth section deals with the conceptual framework underlying our suggestions (inspired by Karnik et al., 2002) apart from briefly commenting on the operational form that these criteria take in terms of the variables. The fifth section discusses the actual variables used in the scheme. Using a simple and inter-linked computational algorithm, we provide results that follow from four different scenarios, using only four states. The actual working of this scheme (that is user friendly and hence amenable to further scenario building) is provided in the annexure. In the final section we conclude.

II. The Fiscal state Of States: A Snapshot Picture

Before moving on to Finance Commission transfers to states and making any kind of suggestions as regards the devolution scheme, we thought it proper to take a quick look at the finances of state governments over the last five years.

The fiscal state of 14 major states of India have been looked at in this section of the study spanning the last five years from 1997/98 to 20001/02(RE). The economic performances of the 14 major Indian states have together been considered in Table 2. The fiscal indicators that we have considered to evaluate the performance of the states have been listed in Table 1 below:

TABLE 1

Fiscal Indicator	Definition
GFD / SDP	Gross Fiscal Deficit / State Domestic Product
PD / SDP	Primary Deficit / State Domestic Product
RDEF / SDP	Revenue Deficit / State Domestic Product
DR	Dependency Ratio = (total expenditure – own income / total expenditure)
Δ DR	Change in DR
RX / TX	Expenditure on Revenue account / Total Expenditure
KDIS / TX	Capital Disbursements / Total Expenditure
ADM / TX	Expenditure on Administration / Total Expenditure
SSE / TX	Social Service Expenditure / Total Expenditure
INTP / RRC	Interest Payments / Revenue Receipts
OWN / TTAX	Own Tax Revenue / Total Tax Revenue
GRANT / TRC	Grants / Total Receipts
DTAX / TRC	Direct Tax Revenue (income + property and capital) / Total Receipts

TABLE 2
KEY FISCAL INDICATORS FOR 14 MAJOR STATES

(in %)

	GFD/ SDP	PD/ SDP	RDEF / SDP	DR	DDR	RX/TX	KDIS/ TX	ADM/ TX	SSE / TX	INTP/ RRC	OWN/ TTAX	GRANT /TRC	DTAX/ TRC
97/98	4.10	1.31	2.50	51.70	0.18	82.81	17.19	7.27	31.37	18.55	68.43	9.21	4.40
98/99	6.06	3.64	3.81	55.57	3.87	83.25	16.75	7.12	32.45	21.53	71.10	8.39	4.04
99/00	6.82	4.17	4.23	57.81	2.24	83.71	16.29	7.19	32.14	22.99	71.69	7.41	4.00
00/01	6.03	2.92	3.91	64.53	6.72	68.21	31.79	5.62	25.49	22.73	70.07	7.49	7.72
01/02(RE)	6.19	3.03	3.93	64.14	-0.38	68.00	32.00	5.25	24.94	25.54	71.96	8.99	11.05

GFD/SDP position has worsened for the 14 major states as a whole over the last five years from 4.1% in 97/98 to 6.19% in 2001/02 (RE) i.e. a slippage of 2.09 percentage points. The prime culprit, which has affected the fiscal health of the states is revenue deficit. RDEF/SDP rose from 2.5% in 1997/98 to a maximum of 4.23% in 1999/00. In 2000/01 it was reduced to 3.91%. The revised estimates of 2001/02 show a marginal increase of 0.03 percentage points. Primary Deficit (i.e. GFD excluding interest payments) too is a good indicator of the extent of fiscal deterioration attributable to government policies. PD/SDP showed a sharp deterioration to 4.17% in 1999/00. It improved significantly to 2.92% in 2000/01 but has again risen to 3.03% in 2001/02. *Thus all the 'deficit indicators' suggest some improvement in 00/01 but revised estimates of 2001/02 suggest that states are once again slipping up.*

On the expenditure front, revenue expenditures (RX/TX) comprised as much as 82.81% in 97/98. It rose further to 83.71% in 99/00, but since then has been curbed to comprise 68% in 2001/02. The proportion of capital disbursements (KDIS/TX) that reached a low of 16.29% in 1999/00 has increased significantly to 32% in 2001/02 (RE). A lot of this is attributable to the fact that the fuel cess has been locked into the road development program (*a noteworthy 'best practice' in financial governance*). As regards the performance based on some specific expenditure categories we found that expenditure on administration (ADM/TX), which suggests large expenses on bureaucracy stood at 7.19% in 1999/00. It has since been curbed to 5.25% in 2001/02. The proportion of expenditure on social service (SSE/TX) witnessed a steady decline from 31.37% in 1997/98 to 25.49% in 2000/01. It has risen marginally to 24.94% in 2001/02. Thus, *as regards composition of expenditures, the move seems to be in the right direction with the share of revenue expenditures reducing and that of capital expenditures showing improvement*. However, the one expenditure category, which was significantly high in 97/98 and has worsened in 2001/02 thus continuing to be a major cause for concern, is the rising proportion of interest payments to revenue receipts (INTP/RRC). Of *the revenue receipts of state governments, interest payments have continuously risen from 18.55% in 1997/98 to 25.54% in 2001/02(RE)*.

On the receipts front, the tax effort of the states is measured by, the proportion of own tax revenue to total tax revenue (OWN/TTAX). This comprised 68.43% in 1997/98, rose to 71.69% in 1999/00. It dipped by about 1 percentage point in 2000/01 but has again risen to 71.96% in 2001/02(RE). This is a good sign. The share of grants in total receipts of state governments (GRANTS/TRC) stood at 9.21% in 1997/98. It declined over the next two years to reach 7.41% in 1999/00. Since then once again a rising trend is noticeable. In 2001/02 it stood at 8.99%. A fall in this ratio *Prima facie* may suggest that grants to states have reduced. However, grants in actual terms have registered an annual average growth rate of 15.8% in the last five years. Hence, the ratio of

GRANTS/TRC showing a fall is on account of the denominator i.e. total receipts having grown at a high rate, primarily on account of large borrowings. With grants continuing to grow in actual terms, the Dependency Ratio defined as *Total Expenditure net of Own Tax Revenue as a proportion of Total expenditure* shows an increase, as is to be expected. The annual change in Dependency Ratio (∆ DR) was only 0.18 in 1997/98. This worsened to 6.72 in 2000/01. 2001/02 (RE) however shows signs of improvement with the annual change being –0.38. As regards the composition of tax revenues, however there has been some improvement with the share of direct taxes registering an increase in the five-year period. The share of direct taxes in total receipts of state government (DTAX / TRC) was 4.4% in 1997/98. A falling trend was noticed till 1999/00 when it stood at 4%. In 2000/01 the share of direct taxes increased sharply to reach 7.72% and further to 11.05% in 2001/02 (RE). This is a definite improvement.

State-wise details about these indicators (which have been averaged over the five-year period 1997/98 to 2001/02) have been tabulated in TABLE 3 below

TABLE 3

AVERAGE OVER 1997/98 TO 2001/02(RE)

(in %)

	GFD/ SDP	PD / SDP	RDEF/ SDP	DR	∆ DR	RX /TX	KDIS /TX	ADM /TX	SSE / TX	INTP /RRC	OWN/ TTAX	GRANT/ TRC	DTAX/ TRC
A.P	4.77	1.91	3.38	53.29	-1.22	80.14	19.86	5.86	31.18	18.79	71.99	8.95	3.38
BIHAR	9.28	3.37	5.24	73.51	2.46	85.39	14.61	10.06	33.52	21.68	35.08	9.42	2.23
GUJRAT	7.09	3.99	4.65	51.96	4.38	82.69	17.31	4.62	32.03	19.71	83.53	6.55	3.15
HARYANA	4.79	1.88	2.48	36.50	-0.73	82.16	17.84	6.02	26.73	19.98	87.72	6.33	4.10
KARNA.	4.13	1.79	1.88	43.70	-0.10	85.43	14.57	6.05	32.63	15.41	78.34	9.35	6.56
KERALA	5.89	2.69	4.11	50.68	0.52	87.59	12.41	5.25	32.43	22.28	77.73	6.29	3.56
M.P	5.46	2.18	3.45	56.93	2.06	86.49	13.51	7.60	33.95	16.70	59.49	11.11	3.61
MAHA	4.31	2.17	2.29	40.34	-1.56	83.70	16.30	7.98	31.89	17.67	87.33	4.84	7.97
ORISSA	9.96	3.95	6.35	74.54	0.76	80.90	19.10	6.27	32.58	30.38	47.45	14.42	1.96
PUNJAB	6.65	2.21	4.62	50.41	2.54	81.51	18.49	9.11	23.12	32.48	85.86	6.45	2.68
RAJAS	6.80	2.60	3.86	68.35	5.22	66.88	33.12	4.73	30.83	27.13	66.52	11.85	2.97
TAMIL N.	3.99	1.69	2.79	54.65	4.93	73.38	26.62	5.96	28.99	16.05	79.99	6.05	4.14
U.P	7.14	2.73	4.69	73.64	3.77	69.86	30.14	6.87	23.33	30.24	54.19	9.01	3.95
W.BENG	7.49	3.96	5.27	75.04	3.23	70.51	29.49	6.17	28.26	35.03	61.40	9.82	5.82
14 States average	**5.84**	**3.01**	**3.67**	**58.75**	**3.77**	**77.20**	**22.80**	**6.49**	**29.28**	**22.27**	**70.65**	**8.30**	**6.24**

From Table 3 above we can read off the ‘Best’ and the ‘Worst’ performing state for each of the indicators.

TABLE 4

Fiscal Indicator	BEST PERFORMER	WORST PERFORMER
GFD / SDP	Tamil Nadu	Orissa
PD / SDP	Tamil Nadu	West Bengal
RDEF / SDP	Karnataka	West Bengal
DR	Haryana	West Bengal
ΔDR	Maharashtra	Rajasthan
RX / TX	Rajasthan	Kerala
KDIS / TX	Rajasthan	Kerala
ADM / TX	Gujrat	Bihar
SSE / TX	Madhya Pradesh	Punjab
INTP / RRC	Karnataka	West Bengal
OWN / TTAX	Haryana	Bihar
GRANT / TRC	Maharashtra	Orissa
DTAX / TRC	Maharashtra	Bihar

The Overall measure of GFD/SDP shows the state of Orissa to be the worst performing state and Tamil Nadu the best. Revenue Deficit and Primary Deficit show West Bengal to be the last in the list and Karnataka to be the leader. The state of West Bengal has done very poorly on the front of interest payments, consequently it has the highest Dependency Ratio. However, maximum improvement in Dependency ratio has been noticed for the state of Maharshtra. Maharashtra has been the star performer as far as grants (GRANT/TRC) and direct tax (DTAX/TRC) revenues go. The state of Bihar has done very poorly on the front of tax effort. Its own tax revenue as a proportion of total tax revenue (OWN /TTAX) was the lowest. Its collection of Direct tax revenue (DTAX / TRC) too has been the worst. On the expenditure front the state of Bihar has spent the largest proportion of its total expenditure on administration. The proportion of expenditure incurred on social services of health and education has been the highest in the state of Madhya Pradesh.

Well equipped with facts and figures to judge the fiscal health of state governments in the Indian federation, in the next section we proceed to examining the devolution schema and the Terms of Reference of the Twelve Finance Commissions.

III. A Brief Review of the TORs of the Earlier Finance Commissions (FCs)

The TOR of a Finance Commission defines the mandate of the Finance Commission that is binding on the Commission. Hence any critical appraisal of the recommendations made by the FCs should necessarily start with a close look at the TORs of the various FCs. A brief review of the TORs of the Eleven Finance Commissions which have made their recommendations, as has been attempted here, would enable us to put in perspective the recommendations made by these FCs and also enable us to take a more holistic view of the scope of the FCs and the transition it has undergone since when the First Commission was constituted by an Order dated 22nd November, 1951. The major functions of the Finance Commissions listed under ***Article 280*** of the Constitution are as follows:

(i) ***Distribution between the Union and the States of the net proceeds of taxes*** which are to be may be divided between them and the allocation between the States of the respective shares of such proceeds.

(ii) Listing out the ***principles that should govern the grants-in-a*id** of the revenues of the States out of the Consolidated Fund of India under **Article 275** of the Constitution.

(iii) The continuance or modification of the terms of any agreement entered into by the Government of India with the Government of any State.

In the interest of sound finance the First FC was asked to examine and make recommendations on:

(a) Grants-in-aid to the states of Assam, Bihar, Orissa and West Bengal in lieu of share of the net proceeds in each year of the export duty on jute and jute products to these states in accordance with the provisions of ***Article 273*** of the Constitution.

(b) Grants-in-aid of their revenues to states under ***Article 275*** of the Constitution.

The **2nd FC** while making its recommendations for grants-in-aid under Article 275 was asked to consider

(i) The ***requirements*** of the Second Five Year Plan, and

(ii) The ***efforts*** made by those States to raise additional revenue from the sources available to them.

The FC was also to make recommendations regarding

(1) The principles which should govern the distribution under article 269 of the net proceeds of *estate duty in respect of property other than agricultural land*, levied by the Government of India in the States within which such duty is leviable; and

(2) The modifications, if any, in the *rates of interest and the terms of repayment* of the loans made to the various States by the Government of India between 5th August, 1947 and the 31st March, 1956. The following two matters were added to the terms of reference and the FC was asked to make recommendations regarding:

(3) The principles that should govern the distribution among the states of the ***net proceeds of the additional duty of excise on mill made textiles, sugar and tobacco.*** The right to tax these commodities was surrendered by the states in 1957. The Central Government agreed to levy additional excise duty on this count and distribute it among the states.

(4) The principles that should govern the distribution, under Article 269 of the grants to states in lieu of the repealed ***tax on railway fares.***

In addition to the duties assigned to the first two FCs, the TOR of the **3rd FC** was entrusted with distribution amongst states of the Rs.12.5 crores which the Railways had agreed to pay to the General Revenues every year consequent on the decision taken to merge the tax on Railway Fares with the passenger fares and repeal the Railway Passenger Fares Act, 1957.

The TOR of the **4th FC** listed out in much greater detail the considerations that the FC needed to base its recommendations on. The TOR of the 4th FC for the very first time specified that *efficiency* considerations be given some weight. The FC was asked to consider ***the scope for economy consistent with efficiency, which may be effected by the States in their administrative expenditure.***

The TOR of the **5th FC** in addition to all the previous tasks, also asked the Commission to make recommendations on the problem of unauthorized over-drafts of certain states with the Reserve Bank and the procedure to be observed for avoiding such overdrafts. In keeping with the TOR the previous Commission, this TOR too asked the FC was asked to give consideration to the scope for better fiscal management as also for economy consistent with efficiency which may be effected by the states in their administrative, maintenance and other developmental expenditure. The TOR of this Commission departed from previous ones on two counts. First, it asked the FC to make an interim report and a final one. Second, it explicitly specified the need for transparency as it said that that the final report must indicate the basis on which it had arrived at its findings and make available the relevant documents.

The TOR of the **6th FC** added to the responsibilities of the FC by explicitly asking it to consider the requirements of states which are backward in standards of general administration for upgrading the administration with a view to bringing it to the levels obtaining in the more advanced states over a period of 10 years. It continued the focus on the aspect of fiscal management as well as efficiency that had been initiated in the TOR of the 4th FC.

The TOR of the 6th FC specifically asked the FC to make an assessment of the non-plan capital gap of the States on a uniform and comparable basis for the five years. The Commission could then undertake a general review of the States' debt position and provide relief or suggest corrective measures.

Yet another extension in the scope of the 6th FC was that the TOR stated that the Commission may review the policy and arrangements in regard to the financing of relief expenditure by the States affected by natural calamities and examine the feasibility of establishing a National Fund to which the Central and State Governments may contribute a percentage of their revenue-receipts.

The **7th FC** TOR, in addition to all the requirements spelled out by the previous TORs, made the additional point that the in making its recommendations on the various matters, the Commission should adopt the ***population figures of 1971*** in all cases where population is regarded as a factor for determination of devolution of taxes and duties and grants-in-aid.

The TOR of the **8th FC** made no new changes to the responsibilities and tasks assigned to the FC. It asked for continuation in the use of 1971 population figures.

The TOR of the **9th FC** went off the beaten track and for the first time introduced the concept of adopting a ***'normative approach'***. It stated that in making its recommendations, the Commission should:

(i) Adopt a normative approach in assessing the receipts and expenditures on the revenue account of the States and the Center and, in doing so, keep in view the special problems of each State, if any, and the special requirements of the Center such as defence, security, debt servicing and other committed expenditure or liabilities.

(ii) Have due regard to the need for providing adequate incentives for better resource mobilisation and financial discipline as well as closer linking of expenditure and revenue raising decisions.

(iii) Take into account the need for speed, efficiency and effectiveness of Government functioning and of delivery systems for Government programs and

(iv) Keep in view the objective of not only balancing the receipts and expenditure on revenue account of both the States and the Center, but also generating surpluses for capital investment.

The TOR of the 9th FC was unique in that it enhanced the scope of the FC significantly. It was the very first one to have spoken on the role of FCs to provide 'incentives', to ensure closer linking of revenues and expenditures and in attempting to attain efficiency in the delivery system of government programs.

The TOR of the **10^{th} FC** made the following additions to the considerations that the FC needed to keep in mind while making recommendations:

(i) The requirements of States for modernisation of administration, e.g. computerisation of land records and providing faster channels of communication up to and above district level, and for upgrading the standards in non-developmental sectors and services, and the manner in which such expenditure can be monitored;

(ii) The requirements of the States for meeting the non-Plan revenue expenditure also keeping in view the potential for raising additional taxes.

The TOR of the **11^{th} FC** added the new dimension of entrusting the FC to review the state of the finances of the Union and the States and suggest ways and means by which the governments, could collectively and independently bring about a restructuring of the public finances so as to restore ***budgetary balance*** and maintain ***macro-economic stability***. The FC was asked to keep in mind the need for generating surpluses for capital investment and reduce fiscal deficit. The Commission was also expected keep in mind the requirement of states for up-gradation of standards in non-developmental and social sectors and services, particularly in the backward states. The TOR of the 11^{th} FC for the first time mentioned the need to give significant weight to '***incentives***' for better realization of tax and non-tax revenues.

Since the 11^{th} FC was to be setup after the passage of the 73^{rd} and 74^{th} Constitutional Amendment Acts, which gave local bodies legal status, the TOR of the 11^{th} FC for the first time asked the FC to examine the ***finances of local bodies***. More specifically it said that the FC needed to consider the following:

(a) The measures needed to augment the Consolidated Fund of a State to supplement the resources of the Panchayats and Municipalities in the State on the basis of the recommendations made by the State Finance Commission.

(b) Where the State Finance Commissions had not been constituted as yet, or have not submitted their report giving recommendations, the FC was expected to make its own assessment about the manner and extent of augmentation of Consolidated Fund of the State to supplement the resources of the Panchayats and Municipalities in the State.

The TOR also stated that the Commission may make an assessment of the debt position of the States as on 31st March, 1999 and suggest corrective measures keeping in view the ***long term sustainability for both the Center and the States.***

The TOR to the 11th FC assigned the FC the additional task of drawing up ***a monitorable fiscal reforms programme aimed at reduction of revenue deficit of the state and recommend the manner in which the grants to states to states to cover the assessed deficit in their non-plan revenue account may be linked to progress in implementing the programme.***

We now turn to the *TOR Of The Twelfth Finance Commission.* Apart from the core issues of determining tax devolution and grants, the TOR of the 12th FC expresses concern about the rapidly deteriorating fiscal scenario.

In keeping with the TOR of the 11th FC, that of the 12th FC also stated that the Commission shall review the state of finances of Union and state governments and suggest a plan to restructure public finances, restore budgetary balance, achieve macroeconomic stability and debt reduction. The TOR of the 12th FC, however, also emphasizes '***equitable growth'***. The TOR for the first time asks the FC to give weight to ***tax efforts of central and state governments as against targets***, if any, and the ***potential for additional resource mobilization*** in order to improve the tax-GDP and tax-GSDP ratio. The FC has also been asked to review the Fiscal Reform Facility introduced by the central government on the basis of recommendations made by the 11th FC and suggest measures for effective achievement of its objectives.

Like the previous FCs, the 12th FC too has been asked to make an assessment of the debt position of the States, suggest such corrective measures consistent with macro-economic stability and debt sustainability. It has, for the first time, however, elaborated on the factors that need to be given weight to in this context. The FC has been asked to give weight to the performance of the States in the fields of ***human development*** and ***investment climate***. A review of the TORs of the twelve FCs clearly show that over the years the canvas of operations of the FCs has widened from simply being a body set up every five years with the sole objective of devolving funds to sub-national governments, to that which comprehensively assesses the financial situation of the economy as a whole and charts out a roadmap for the restructuring the finances. It can be seen that some of the tasks added to the menu of things to be done by the FCs seem to be of a temporary or ad-hoc/ contingent nature. This is not particularly welcome. The aims and objectives of the FCs ought to be sharply focused and hence delimited. This adds to the value of its awards. *Using the same instrumentality for solving multiple problems may serve convenience but may lead to coherence and accountability and hence accountability becoming the casualties*. The example of calamities funds readily comes to mind. This ought to be avoided.

The TOR of the 11th FC marked a crucial departure from its predecessors in the role envisaged for the FCs by asking it to draw up a "monitorable" fiscal reforms programme aimed at reduction in revenue deficits and also the manner in which grants could be linked to implementation of the reform program (acknowledged 'best practice'). This is indeed commendable. However it raises the question of 'who will monitor?'. *It is to be recommended that the FCs ought to be set up for a period of five years and not only give out a one time award but also monitor the performance and dynamically release funds overtime*. The TOR of the 12th FC, however, does not make an explicit mention of this task of the FC. The point about "monitoring" the fiscal reforms programme and that of "linking the grants devolved to implementation" is, according to us, vital to the success of the translating the recommendations made by the FC into practice. Hence, even though the TOR of the 12th FC has not made explicit mention of it, it is imperative that the FC keep them in mind while making its recommendations

The practice of using the 1971 population was initiated so as to not reward the states which failed in population control has continued ever since it was initiated by 4th FC and is specified even in the TOR of the 12th FC. We agree with Kumar and Vemuri

(2002) who have rightly pointed out that if the effectiveness of the adopted strategy is to be assessed solely in terms of denying the states with higher rates of population growth the benefit of a larger proportion of resources then the policy of use of 1971 population has been successful. However, given that population has been used as an indicator of 'need/ adequacy' of a state, denying resources to the state on this front would lead to a distortion in the allocation pattern in terms of the actual requirement of resources necessary to cater to the higher levels of population. Further, they have also pointed out that the use of 1971 population by the 11th FC denied a greater share to four of the least developed states viz, U.P, M.P., Bihar, Rajasthan and north-eastern states. Thus, although the mandate of the 12th FC is to use the 1971 population figures, we would urge the Commission to take a close look at the gainers and losers on account of this provision by computing the allocations under two scenarios, (i) that of using 1971 population and (ii) that using the latest 2001 population figure. This would be a positive step forward in the working of the entire process of Finance Commission devolutions. We now turn to the conceptual framework underlying our suggestions.

IV. Conceptual Framework

Our conceptual framework is *ashtavadhani* i.e., comprises eight cardinal principles and is abbreviated as **FAIR PLAN**. Each of the alphabets in the acronym stands for:

Fairness
Adequacy
Incentive Compatibility
Responsiveness

Political Feasibility
Level Playing Field
Accountability
Need Based

Let us now elaborate each of these criteria

(i) Fairness

This is an overarching criterion in our suggested scheme and perhaps the most difficult one to elaborate. In a sense, this criterion overlaps and provides a backdrop for almost every one of the other criteria. Further, it also prominently makes itself felt in the weighting pattern that is used in the devolution scheme. Whilst all would undoubtedly agree that a devolution scheme ought to be fair, almost every scheme will call forth heated arguments. Many philosophers and economists – Baumol, notable amongst economists – have discussed the concept. In a two-agent set up, the application is rather straightforward. The rule – in the context of dividing a pie – that one divides and the other chooses, seems to work. The introduction of a multi-agent / multi-criteria framework creates huge problems. The concept of empathy or the ability to put ones own self in other person's shoes is then resorted to. An agent is said to suffer from envy if given the devolution (*distribution emanating with given criteria and the associated weights*), one would rather be in some one else's shoes. A given devolution would then be 'fair' if there was lack of envy on the part of any of the agents. *It is to be noted that fairness is not just a matter of eventual shares but rather about the criteria that are being used and the weights that are being employed*. The fairness is to be apparent in the vertical as well as the horizontal aspects of disbursements. Thus, fairness has to be checked at each stage in a persuasive manner in the creation of the overall scheme of devolution. In operationalising this, we have to pay special attention to the weighting pattern used. Further, in our scheme this particularly comes in the way we have treated infrastructure.

(ii) Adequacy

Scarcity is omnipresent; indeed it is the *raison d'être* for economics and economists. The resource gap between what is available and what is 'needed' will be with us in the foreseeable future. One way out of the difficulty is to increase the Central pool of funds to be disbursed to a substantial extent. Given the context of the withdrawal of the state from many traditional spheres, one cannot realistically expect too much by this route. The states must learn to stand for, and help, themselves. This solution has its own limits and is beset with problems; however, there is no readily available alternative.

Efforts for closing this gap by states must be lauded and rewarded by clubbing it with the efficiency criteria that must deservedly be afforded a place of pride.

There are many issues – data problems apart – that are involved here. For instance there is the question of the extent to which *sub-national governments may be allowed to set their own taxes*. It is feared that excessive latitude in this regard can create unacceptable level of complexity and administrative burden, as well as spatial inequities and distortions in allocation of resources. Within limits, these problems need to be tolerated in the interest of gaining the benefits of decentralized governance. There is the other issue of changing regulatory and conventional practices in order to allow a *greater access to the credit markets* for the States. This is especially important in the context of the large capital requirements for infrastructure development. Which of these is the better option is a moot question answerable only in terms of actual empirical evidence. *Indeed, rather than a clear option, this involves a selection of a proper mix of these and similar such possibilities*. The need to try out innovative experiments however is beyond doubt. One of the important lessons that can be learnt from evidence elsewhere is that it is better if commercial principles are followed and the States have to compete for capital with other borrowing agencies in the interest of efficient utilization of resources.

In a sense, this criterion overlaps with 'need' on one hand and 'efficiency' on the other. There is definite distinction to be between these however, for adequacy to warrant a separate treatment. *The trick here is to identify what is and what needs to be done by the states. Then identify the resulting gap in the resource requirements and finally help fill this gap between what is and what ought to be (proxied perhaps by some observable variable), without encouraging laziness or inertia*. To emphasize, if the power has to go to the people and their aspirations are to find articulation through the functioning of states (and indeed local bodies), they have to be empowered and fortified with adequate funds (resources) to carry out at least the minimal normal functions. In operational terms, the gross fiscal deficit as well as the population used would importantly represent this criterion in our scheme.

(iii) Incentive Compatibility

This is really a corner stone of our conceptual framework. In the present context of the Indian economy, whence we are in the process of making changes in the way we conduct our macro-management affairs, there can be no doubt about the importance of having *incentive compatible systems* in place. As economists, we would push very hard for this component to be the most important (weight wise) in the scheme of things. However, political feasibility as well as need/ adequacy requirements restrain us from going too far. Incentive compatible system implies that *every effort reflected in performance gets a reward and every absence of performance is penalized*. Thus, looked at in a static frame, if a state is well off in its current performance terms, this will entitle it for a reward and it will be punished for non-delivery. Further, if its performance involves a switch in regime (i.e., from being relatively better a state becomes absolutely better off; illustratively, this will happen when its small deficit changes into surplus), once again a bonus may be given to the state. Logically, efficiency as a criterion can conflict with some of the other components in our conceptual frame. This is a standard problem of a multi-objective decision function. Thus, it is conceptually necessary to set up the decision function in an add-on fashion rather than in a single simple formula. Of course, ultimately the whole exercise can be consolidated and hence a single formulation is implied, even by this approach. In our scheme, we operationalise this criterion by using both the various elements of fiscal performance as will be clear from the discussion of the next section.

(iv) *Responsiveness*

The devolution scheme must be seen to be and hence incorporate this criterion which in a sense is an extension of efficiency. It cannot be the case of ‘shut it and forget about it’. Thus, we are looking for an analogy of an active rather than a passive portfolio manager. Whereas the efficiency criterion as enunciated above largely takes care of the static picture, there is a dynamic component to it too. Apart from the static picture – in terms of performance that is taken care of by efficiency – the evolved and evolving performance has to be reckoned with. Thus, for example, a unit may be badly off but if it shows improvement (a return of the prodigal to the fold!) it would be entitled to a reward. This would indeed be the case even if the performance as such is not ‘good’.

Given that the total funds that are being disbursed under this criterion are not very large, the signaling aspect of this criterion needs to be underlined. There is a further point to be made here. The important thing to be emphasized ‘qualitatively’ if not ‘quantitatively’ is that although in a rut, every effort to make headway is appreciated and rewarded in small way. These small steps taken consistently over the long run can contribute to a quantum change. The dynamic elements of the fiscal performance as explained in the next section, help operationalise this criterion.

(v) ***Political Feasibility***

Administrative and technical agents (like bureaucrats or economists) often come up with brilliant plans or schemes. However, the best laid plans risk coming to naught unless they are laced with a healthy dose of realism. This, in the main, means that the implications of implementing or operationalising the plans have to be politically palatable (and perceived to be so!). Pragmatism therefore demands that due weight be given to political considerations. In concrete terms this implies the following:

(a) The devolution structure recommended should not vary in distance from the existing devolution pattern by too much since such radicalism will be quite unacceptable to political agents. This translates into symbols as:

$$\delta\,(dp^r, dp^e) \leq \varepsilon$$

where,
δ is the metric,
dp^r is the recommended pattern of devolution,
dp^e is the existing pattern of devolution and
ε is the politically acceptable level of tolerance.

(b) The corollary is that, *as a norm*, none of the States must get fewer funds (in absolute terms), as a result of our recommendations when compared to the existing situation. The newer (innovative and/or stricter) criteria should in effect apply to the sharing of the feast in an incremental sense.

(c) Transition ought to be informed by gradualism rather than radicalism. Nature and politics obviously move continuously rather than in catastrophes.

In order to operationalise this criterion, an overall view of the devolution shares has to be taken and the resulting shares have to compared with existing ones. If the distance is to large then a revision is called for that will have to be undertaken to suit political-tolerance.

(vi) *Level Playing Field*

An oft cited argument that one hears of is that, whereas incentive compatibility is all very fine, but what does one do when due to historical reasons and such other conditions beyond the control of the states, the initial conditions differ significantly. Thus, the argument goes, under such conditions the basic wherewithal is lacking to undertake the effort for successful performance. Hence *whilst recognising the importance of incentive compatible systems in terms of encouraging efficiency and discouraging laggards, sight should not be lost of significant differential in the potential.* One needs to approach this in a slightly different way than with other criteria. Whereas most of the other criteria are related to flows, the potential (or the lack of it) is dependant crucially on stock endowments (such as those of infrastructure). Thus a rectification this aspect assumes great import. The rectification requires a different kind of effort in terms of quality and quantum and hence has to be fortified through the instrumentality of external agent (say the Finance Commission). The distance or backlog of Infrastructure we have used in our scheme is an example of operationalising this criterion.

(vii) Accountability

Every responsible scheme has to be also accountable and transparent. The simplicity of our scheme as well as the formula based nature allows for transparency as well as common knowledge. Every one is able to work out for self, the sources and reasons for particular disbursement. Further, it is also possible to develop a rational plan of action or strategy for any state about what needs to be done and what would be the consequent resultant reward. The particular algorithm suggested here is also amenable to scenario building. This implies that various weighting patterns and the resultant disbursements can be gleaned at a flick of a button. This must surely enhance quality of discussion of the policy framers with the politicians and the 'state interests' whereby working out a consensus of what is fair as well as feasible.

(viii) *Need Based*

Equity is a crucially important *need based* component. An authority that assumes a paternal role, vis-à-vis its citizens can ill afford to neglect this aspect. Distributional considerations are paramount. Non-homothetic growth may be a natural phenomenon in some cases, but has weighty objections lined against it in the context of political economy, especially one endowed with federal structure. There is normally a tendency to overestimate ones own needs (both because one really believes it and also as bargaining strategy). It is indeed pathetic to observe almost a competition between states to demonstrate how backward they are in terms of income, poverty et al vis-à-vis the national average. However, in deciding the actual devolution there has to be some sense of the *absorptive* capacity of the state. Indeed, sudden increase in funds will lead to inefficiencies in terms of consumption as well as production use. There are several parameters that select themselves automatically. The need for equity is not just based on moral-ethico-political precepts. Post Keynes and given the inter-dependant nature of a maturing economy, *it is dictated by sturdy economic sense.* Unless a basic level of development and dynamism is achieved in the one state, the other state will find it successively more difficult to grow and develop (suffocated as it will be by effective demand). The huge market potential for both consumption and producer goods (which is so very essential for a vibrant economy) will remain a distant chimera. Implied above is the argument that domestic strengthening in a somewhat unified way is essential even in the days of globalization. This is true for good political economy reasons and the truth-value is enhanced many fold when one takes into account the considerations of social harmony. The variables used for operationalising this criterion in our scheme will be abundantly clear in the next section that deals with each of the variables /criteria used in our devolution scheme.

V. DEVOLUTION SCHEME

In this section of the paper we lay out a scheme for *inter se* distribution of the states' share in central taxes. The devolution scheme has been illustrated using 4 representative states from different income categories

- ***Maharashtra***: representative of high Income state
- ***Tamil Nadu***: represents upper-middle income state
- ***Madhya Pradesh***: represents lower-middle income states
- ***Bihar***: represents low income category state

Further, the devolution scheme proposed by us has been worked out for the year 2000-01. This year has been chosen as this is the only year for which we have accounts figures available for amounts disbursed to states as share in central taxes. We could hence use the actual shares of the states as a benchmark for comparing our recommended shares.

At this juncture it would be pertinent to point out that in addition to the states' share in central taxes, the FC is entrusted with the task of making allocations and giving (ad-hoc) grants for

(i) Debt Relief
(ii) Upgradation and Special Problems
(iii) Decentralisation
(iv) Relief Expenditure
(v) Non-plan Revenue Deficit

The Eleventh FC has laid down certain criteria for allocations made for decentralization purposes using the Decentralisation index and various other criteria that have been listed out. As an aside, we may mention that we find that these add-ons roughly constitute 10% of the total transfers made to states. Since these are perhaps mandated, we cannot suggest their complete elimination. *Yet we would like to see this list of add-ons pruned and certainly the total allocation should not exceed 10% of the total, if that. Ideally we would like these criteria to be intergrated in a formula based manner*. At any rate the two *categories dealing with 'upgradation' and 'special problems and relief expenditures' should be eliminated* from this list. Undoubtedly, these are valid reasons for states to get finances for. However, *these critreria add to the discretionary element and give room to vested interests creeping into the devolution of Finance Commission transfers.* Decentralisation Index introduced by the 11th FC is extremely commendable, but it needs to be tracked in a temporal and observable way. Thus, the FC cannot finish the job and leave, but must be around to monitor. To the pruned list we would like to see one criteria introduced, which we feel needs to be addressed by the FC, - in the name of fairness – that of compensation made to states rich in ***natural resources***. It is well known that royalty rates paid to the resource rich states have not increased commensurately with the increase in prices of these resources. This has led to states such as Bihar and Madhya Pradesh feeling 'cheated'. A small allocation to these states on this count to compensate for this would serve to replenish the resources of these states. Also, such an allocation would go down well on the equity front as most of the resource rich states are indeed low-income states. The States of Chattisgarh and Jharkhand have made suggestions to the 12th FC to take a look at the royalty rates and re-consider fixing of the royalty rates on the basis of value. While such a re-consideration of the methodology may be outside the purview of the FC, we would like to, in tune with our suggestion of attempting to provide a "level playing field" to the states before penalizing them for being inefficient, suggest that a small amount be kept aside for resource rich states like Chattisgarh and Jharkhand to compensate for the delays in raising royalty rates (see http://www.fincomindia.nic.in/statesuggestion.htm).

In this paper, however, we have tried to singularly focus on *inter se* distribution of ***states share in central taxes*** alone. In our scheme of things the total corpus available needs to be shared between the states on the basis of:

(A) Need-based criteria

(B) Incentive-based criteria

A. Need Based Allocations

We now look at the different variables we have used in operationalising our scheme of devolution.

1. ***Population***: Population of the state is considered here. Share the state i under this criterion is computed as under.

$$Q_i = N_i / \sum_{i=1}^{I} N_i \qquad (1)$$

where,

N_i is the population of the ith state.

The TOR of several FCs including that of the 12^{th} FC state that 1971 population needs to be applied. Whilst we have already made a mention of it in an earlier section, this is important enough to warrant a bit of repetition. We believe that since population is a 'need based' criterion that we are considering, the need of a state can only be addressed if current population figures are used. Penalizing states that have not been successful in controlling population by using the tool of FC disbursements is we believe, approaching the problem wrongly. By penalizing states that have failed on population control *in this manner* we are only serving to aggravate the problems of that state. Since we are convinced that providing incentives for population control should be kept away from the domain of the FCs, we have employed 2001 census population figures. We are, however, aware that the 12^{th} FC is governed by the TOR provided to it and it will be compelled to make use of 1971 figures, *we would urge the 12^{th} FC to strongly argue for using the latest population figures in its report so as to cause the TOR of the next FC to drop this clause.* In fact, the 12^{th} FC could go as far as providing two scenarios, one using the 1971 population and the other using 2001 population figures. This would clearly show which states were being penalized in the process of using 1971 population figures and to what extent.

2. ***Area*****:** Area of the state is considered. Share of state i under this criterion is computed as given below:

$$AS_i = A_i / \sum_{i=1}^{I} A_i \qquad (2)$$

where,

A_i is the area of the ith state. Since the area represents a proxy for the magnitude of servicing that the government is called upon to provide, it is an automatic choice in the set of 'need based' variables. One is of course abstracting from the economies of scale but the good part about its use is its non-manipulability (i.e. it is a given constant) and hence not prone to adjusted representation for bargaining advantage.

3. ***Distance from Highest Per Capita Income District*** ***(DIST):*** Distance is defined as the gap the between the highest per capita income of a state and the per capita income of other states. Thus, defining:

$$\text{Distance} = Y_n - Y_i \qquad (3)$$

where**,**
Y_n is the highest per capita income among all states and
Y_i is per capita income of another state.
The share of a state is given by:

$$S_i = N_i (Y_n - Y_i) / \sum_{i=1}^{I} N_i (Y_n - Y_i) \qquad (4)$$

where,

N_i is population of the i^{th} state

The construction of the formula is such that the poorer the state the larger its share in revenue sharing arrangement. This will also imply that highest income district would get zero share.

The rationale for this is fairly clear. By this criterion the state with the highest income will get zero. Considerable attention has been paid to how to compensate the highest income states. Varying approaches have been adopted by the various FCs to compensate the highest income states. In the process a large number of distortions have crept into this very simple formula, *The excessive concern with not giving zero allocations to the highest income states on this count has been on account of the fact that the weight given to this criteria has been as much as 62.5% in the 11^th FC. It is our contention that keeping in mind the criteria of 'simplicity' and 'transparency' we should give* ***zero allocation to the highest income state on this count*** *and not distort the pure distance formula.* This would have to be accompanied with ***checks and balances*** so as to be fair to the highest income state. Fairness to the highest income state could be achieved by:

(a) Letting the highest income state gets a reward on the criteria of efficiency.

(b) Reducing the weight given to the pure distance criteria substantially.

So *prima facie* while it may appear that we are encouraging poor performance and penalizing the star performers, *this is not really so as the amount to be allocated on this criteria would be much smaller and the good performers will have their fair share from that portion of the pie that has been set aside for efficiency.*

4. ***<u>Inverse Income</u>***: The share of state i based on this criterion is

$$\text{Share of a state, } S_i = (N_i/Y_i) \,/\, [\textstyle\sum_{i=1}^{I} (N_i/Y_i)] \qquad (5)$$

where,

N_i is the population of ith state and

Y_i is per capita income of the ith state.

This criterion instead of using per capita income, uses the reciprocal of per capita income as a characteristic. Compared to the distance criterion, the inverse income criterion allocates shares, which are relatively higher not only for the poorest states but also the richest states at the cost of middle income states. This was the reason why the 10^{th} and 11^{th} FCs discarded the criteria. We would like to see this criteria re-introduced with a small weight.

The argument made by the Eleventh Finance Commission when eliminating this criteria was that it led to the "tragedy of the middle class" i.e. it enhanced the share of the lowest and the highest income states at the expense of the middle income states. We do not contest this argument, but we would like to say that it does enhance the share of the lowest income states and thus fares well to that extent on the equity front. In fact the lowest income states will be compensated doubly so that the equity aspect is compensated for (that would deem to have been reduced by reduction of weight to the distance criterion). Also the richest states will also get some amount allocated to it in a formula based manner rather than through some ad-hoc jugglery. Thus, the bonus here, serves to offset the disadvantage of the highest income states which receive no allocations on the distance criterion in our devolution scheme.

5. ***Infrastructure Backlog*****:** The motive of trying to create a 'Level Playing Field' for the states on account of infrastructure facilities leads us to suggest the introduction of this criterion, which applies the 'distance formula' to the infrastructure index. As recommended for the distance criterion in case of per capita incomes, the allocation to the state with the highest infrastructure index would be zero. Once again while this may appear to be unfair to the state doing the best on this criteria and rewarding laziness. However, as was argued for the distance formula, here too we would like to reiterate that the purpose of this criteria is to bridge the gap between the worst and the best performer and provide the states lagging behind with a 'level playing field'. As we have mentioned earlier, the difference here is that *we are in a sense, going for stock adjustment that will probably help in helping create a potential for equitable growth*. The states performing well on the infrastructure front will get a share of the pie from that pool of funds which has been kept aside for efficiency in infrastructure. At this juncture a

point that we would like to emphasize is that the funds be kept aside for allocation on the basis of infrastructure, both need and efficiency criteria, and in keeping in tune with the 'best practice' should be ***earmarked for the specified purpose (to be monitored).***

Since it is our intent to merely indicate the ***scheme*** of allocations we have kept away from analyzing the methodology used in construction of this index. All the efforts in this regard must perforce suffer from the usual problems of aggregation and also the factors that need to go into giving an index that is representative of the infrastructure scenario. Ingenious methods have been used by the FCs and have been critiqued (see Vidwans 1999). We would like to make just a couple of points. *In considering the construction of the infrastructure index and allocating weights to different components, a view should be taken about the production structure of the state, also some kind of quantitative (in rupee terms) estimate should be made which would allow for comparability across components that go to make this umbrella of infrastructure.* However, since it is the *scheme of disbursements* that we would like to focus on, we have chosen to use the index that which was constructed by the 10^{th} and 11^{th} FC.

$$\text{Distance} = I_n - I_i \qquad (6)$$

where,

I_n is the highest infrastructure index among all states and

I_i is infrastructure index of another state

The share of a state is give by:

$$S_i = (I_n - I_i) / \sum_{i=1}^{I} (I_n - I_i) \qquad (7)$$

6. ***Ratio of GFD to GDP***

This is yet another criteria that we would like to recommend amongst the 'need based criteria'. The GFDs of states threaten to reach alarming proportions. Undoubtedly, the GFD is an outcome of many a wrong policy decisions of the states which need to be checked. Despite all its shortcomings, which have been debated about extensively in literature, the GFD does provide a single measure, which is indicative of the overall financial position of the states. In keeping with our motivation of providing the states with *adequate resources* to perform we would lie to set aside a **small** amount to be distributed in proportion to their GFD/GDP ratios.

The share of each state would be

$$S_i = (GFD/GDP)_i \,/\, \sum_{i=1}^{I} (GFD/GDP)_i \qquad (8)$$

Having allocated some proportion of our corpus amongst states using the 'need based' criteria, we would allocate the remaining part of the pie on the basis of what we would broadly term as *Incentive Based criteria*. The kitty available for being disbursed on efficiency grounds would have to be competed for. The 'star performers' who have suffered and received little or no allocation on the need-based criteria would be rewarded for performing well from this part of the corpus. However, efficiency would be interpreted not only in terms of doing well under a specific criteria but also showing 'improvements'. Efficiency on both these counts would be rewarded under our devolution scheme. The criteria which we suggest be used to discern efficiency have been elaborated on below.

B. Incentive-based Allocations

We view incentive based allocations in two broad ways:

1. Performance

(a) Dependency Ratio in levels (DR)

(b) Change in Dependency Ratio (ΔDR)

2. Efficiency

(a) Administration (ADMIN)

(b) Expenditure on Social Service (SS)

(c) Infrastructure Incentives

- (i) Change in Infrastructure index (ΔISI)
- (ii) Infrastructure index (ISI)

1(a) ***Performance: Levels (DR):*** This is understood in the sense of overall fiscal balance. We have adapted the measures that have been proposed by the Reserve Bank of India (Pattnaik. al, 1994) for evaluating the fiscal performance of Indian states. The measure of *Performance Levels* that we have used may be called "Own Deficit" of a State. This is defined as:

$$DR = (\text{Total Expenditure} - \text{Own Income})/\text{Total Expenditure} \qquad (9)$$

This measure gives an indication of the dependence of a state on resources (such as grants) from a higher level of government. The share of each state on the basis of DR would follow a procedure similar to that adopted for other indicators. The Share "S" would be given by:

$$S_i = (DR)_i / \sum_{i=1}^{I} (DR)_i \qquad (10)$$

1(b) ***Performance: Changes (ΔDR):*** The indicators generated out of Performance (DR) may be termed static indicators i.e., indicators for a particular year. We also need to reward states that show improvement over time. For this we look at the changes in the ratio DR that has been defined above. Given the way in which DR is defined, an improvement over time would be reflected by a decline in the value of the ratio. Hence, if ΔDR is negative for an ULB, it indicates an improvement in performance. Only states with negative ΔDR will qualify and the amount set aside for this indicator will be divided among states with a negative ΔDR. It is apparent that allocations according to ΔDR will need to use changes in the values of DR for the latest year for which data are available. It is clearly not possible to set out allocations to states according to this criterion for a number of years in the future. *ΔDR will have to be computed afresh every year and then allocations determined.*

2(a) ***Efficiency: Administration (ADMIN):*** Apart from overall performance, a local body must be efficient in providing services i.e., public goods, to the citizens. The ability to provide such services will be severely compromised if expenditure on administration captures a large part of the resources available to a local body. Consequently we need to devise an indicator that will penalize a state for spending excessively on ADMIN to the detriment of public goods provision. Before giving the formula for ADMIN let us enter a caveat. The level of dis-aggregation currently available does not allow one to bifurcate between good and bad parts of administrative expenditure, so that we end up overestimating the wasteful expenditure. The indicator that we use is given by:

$$(\text{ADMIN})_i = \frac{\text{expenditure on administration}}{\text{Total Expenditure}}$$

The higher is this ratio for a State the lower will be its share in allocations under this head. The share of a state based on this criteria would be

$S_i = (\text{ADMIN})_i / \sum_{i=1}^{I} (\text{ADMIN})_i$	(11)

2(b) ***Efficiency: Social Sector (SS):***

SS = Expenditure On Social Services/Total Expenditure	(12)

A possible objection to the use of this ratio is that part of the expenditure on public goods may be for salaries of the bureaucracy in charge of provision of these services. This includes salaries of teachers, administrative staff in educational institutions, hospitals etc. It could be argued that while expenditure on salaries of doctor is important for service delivery that on clerical staff is not. However, in the context of social sector provision, a broad division between revenue (current) expenditure and capital expenditure will not be indicative of the efficiency of a State because revenue expenditures would include salaries of doctors and hospital staff. It may also be pointed out that mere spending on social sector need not result in superior service delivery. It should be clear that we are using expenditure on social sector as a proxy in the absence of comparable and reliable data on *actual service delivery*. Thus apart from the comment on the level of aggregation of data that we have made in the earlier sub-section, we would like to make a strong recommendation for collection of data on actual (quality included) provision of social services.

2(c) *Efficiency in Infrastructure Provision*

A proportion of the corpus set aside for efficiency would constitute an ***Infrastructure Incentive Development Fund IDIF*** that would have to be ***competed for*** by the states.

Efficiency on this count would be measured in two ways.

(i) ***Infrastructure Index (ISI):*** The allocation based on the index would be in a similar manner as has been done for the other indicators. In a sense this would represent appreciation of past performance in terms of creation of infrastructure stock. However this does not come free. *We are therefore suggesting that the award of monies under this criterion should be disbursed only when the states show credible movement towards setting up an infrastructure fund with an initial matching corpus* The share of each state would be

$$S_i = (ISI)_i / \sum_{i=1}^{I} (ISI)_i \qquad (13)$$

(ii) ***Change in Infrastructure Index* (ΔISI):** The change in infrastructure index between that used by the 11th FC and that used by the 10th FC is used to determine if there has been an improvement on the part of states or if they have shown a deterioration. A positive sign of this indicator would suggest an improvement. The amount kept aside for this particular criterion would be shared by only those states that have registered an improvement.

The scheme of devolution suggested by us has been worked upon and laid out in EXCEL format giving complete flexibility to modify the scheme at every stage. At the first level flexibility is available to us to modify the weights given to "Need" and "Efficiency". Once that share is fixed. Within each we could modify the weights given to each of the criteria. We have tried to build 4 different scenarios to show how the he amounts devolved to the four representative states change with a change in the weighting pattern. These scenarios have been listed out in Table 1 below (allocations for the four states under each of these scenarios has been listed out in the Annexure).

TABLE 1
A DEVOLUTION SCHEME FOR
STATES' SHARE IN CENTRAL TAXES: Four Scenarios
(2000-01)

	SCENARIO (1)	**SCENARIO (2)**	**SCENARIO (3)**	**SCENARIO (4)**
NEED BASED (1 + 2 + 3 + 4 + 5 + 6)	**50%**	**60%**	**50%**	**60%**
(1) Population	10 %	10 %	10%	10%
(2) Area	25 %	25 %	25%	25%
(3) PCY Distance	40 %	40 %	30%	30%
(4) Inverse income	05 %	05 %	10%	10%
(5) Infrastructure Backlog	15 %	15 %	20%	20%
(6) GFD / GDP	05 %	05 %	05%	05%
INCENTIVE BASED **(1 +2)**	**50%**	**40%**	**50%**	**40%**
1. PERFORMANCE (a + b)	*10%*	*10%*	*20%*	*20%*
(a) Dependency Ratio (DR)	70 %	70 %	70 %	70 %
(b) Δ DR	30 %	30 %	30 %	30 %
2.EFFICIENCY (a + b +c + d)	*90 %*	*90 %*	*80%*	*80%*
(a)Expend. on Administration (ADMIN)	25 %	25 %	25 %	25 %
(b) Expenditure on Social Services	25 %	25 %	25 %	25 %
(c) Change in Infrastructure Index (ΔISI)	10 %	10 %	15 %	15 %
(d) Infrastructure Index (ISI)	40 %	40 %	35 %	35 %

Scenario 1 splits the total corpus and keeps aside 50% for need based and 50% for incentive based criteria. On the incentive front 10% of the amount is kept aside for performance and 90% for efficiency. Scenario 2 replicates the weights given in Scenario 1 except that it keeps aside 60% for need-based criteria and 40 % for incentives. Scenario 3 like scenario 1 splits the corpus into 50-50 for need and incentives. It, however, modifies the weighting pattern of the criteria used. As compared to scenarios 1 and 2, the modifications introduced in scenario 3 on the need-based criteria are:

(i) Reduction in the weight of PCY distance from 40% to 30%.
(ii) Increase in the weight of inverse income from 5% to 10%
(iii) Increase in the weight of Infrastructure backlog from 15% to 20%

On the incentive criteria front the modifications introduced are:

(i) The weight for change in Infrastructure Index (ΔISI) for which the Infrastructure Incentive Development Fund has been created has been increased from 10% to 15% and
(ii) The weight of infrastructure index (ISI) is reduced from 40% to 35%.

Based on these four scenarios we have obtained shares, which would be obtained by our four representative states. These shares could be compared to the shares actually obtained by these states as obtained from the accounts figures provided by RBI in its *State Finances.* Such a comparison has been provided in Table 2 below

TABLE 2

SHARE OF STATES IN CENTRAL TAXES
A COMPARISON OF ACTUALS AND IN THE FOUR SCENARIOS

(%)

	ACTUAL SHARES (RBI data)	*SCENARIO 1*	*SCENARIO 2*	*SCENARIO 3*	*SCENARIO 4*
Maharashtra	**16.45**	20.05	19.43	20.59	20.21
Tamil Nadu	**16.45**	16.40	15.36	15.08	14.22
M.P.	**28.26**	34.00	33.45	35.55	34.68
Bihar	**38.84**	29.55	31.76	28.77	30.89

A comparison of the four scenarios suggests that scenarios 3 and 4 benefit the highest income states while scenario 1 and 2 are slightly loaded in favour of the lowest income states. However, all four scenarios constructed in our proposed devolution scheme recommend higher shares for the states of Maharashtra and Madhya Pradesh than have been obtained by them as per the recommendations of the Eleventh Finance Commission. A comparison of why the allocations to each of the four states differs in scenarios 1 and 3 (both of which have a 50-50 division between need-based and incentive-based criteria) is interesting.

The state of Maharashtra receives a higher share in scenario 3 than in scenario 1 on account of the fact that in scenario 3

(a) The weight given to PCY distance, where Maharashtra receives no allocations, has been reduced from 40% to 30%

(b) It gains in scenario 3 because of the higher weight given to inverse income and infrastructure backlog.

(c) It receive a higher amount on the performance front (both DR and Δ DR).

(d) On the Efficency front in fact Maharashtra loses in scenario 3.

The state of M.P. receives a higher share in scenario 3 as compared to scenario 1 because of

(a) On the need based criteria front it loses on account of the reduced weight to distance but gains on account of added weight to infrastructure backlog and inverse income.

(b) It gains substantially on the performance front (both DR and ∆ DR).

(c) It loses on the efficiency front (ADMIN and SS).

(d) It gains on allocation from ∆ISI i.e. it gains because of improvement on the infrastructure index, but loses some amount on account of its low share in infrastructure availability.

The state of Bihar has the lowest share in scenario 3. This is on account of

(a) It loses a significant amount on account of reduced weight to PCY distance but gains on the criteria of infrastructure backlog as well as inverse income.

(b) On the incentive criteria front it has gained substantially on account of its good performance i.e. DR. It has, however, not shown an improvement in DR and therefore lost out on ∆DR. In scenario 3 Bihar is, however, a net gainer on the performance front.

(c) The state has lost out on the efficiency front (both ADMIN and SS).

(d) It has lost out on account of its low share in infrastructure and no improvement on the infrastructure front either.

The state of Bihar receives the highest share in scenario two which is identical to scenario 1 but gives 60%weight to need-base criteria.

The state of Tamil Nadu receives its lowest share in scenario 4. and highest in scenario 1. Scenario 4 is identical to scenario 3 with the exception of the 60-40 allocation to need and incentives. Along the lines of the earlier comparisons we compared scenarios 3 and 1 for the state of Tamil Nadu too to find that

(a) It loses in scenario 3 on account of the lower weight to PCY distance.

(b) It has gained on the performance front for DR.

(c) It has lost on the efficiency front on account of both ADMIN and SS.

(d) It has also lost out on account of the weight on infrastructure share being reduced in scenario 3, where Tamil Nadu is the star performer. Although Tamil Nadu has the highest infrastructure index, the fact that it has not shown an improvement in that index has caused it to lose and receive no allocations on account of ∆ISI.

Allocations at the extreme positions are clear. The highest income states gain when incentives are given maximum weight and lowest income states are gainers when the need component is given maximum weight. An interesting outcome of our devolution scheme is that when it comes to the middle income states we find that our devolution schemes reward ‘good governance’. This is evident from the fact that the state of Tamil Nadu the upper-middle income state with income levels higher than that of M.P. (the lower-middle income state) receives less than M.P. in scenarios 3 and 4 despite it having the highest infrastructure index. It loses out on the fact that it has not shown any improvement on that front. It has also shown no improvement on the front of dependency ratio. On the other hand, the state of M.P. has show improvement on the front of dependency ratio and infrastructure front and has gained on both these criteria. We would like to make two points here, one, that the 11^{th} FC defines M.P. as low income state, we have however called lower middle, this is purely in relative terms as also due to the fact that our earlier work (Pethe and Lalvani, op.cit.) gives M.P. a ranking that justifies our position; and two, In a lighter vein we may also add that we have presumed that there is (at least in a relative sense ‘good governance’) in M.P. Despite this why there was an electoral debacle for the incumbent is a moot point. We take the easy way by noting that we cannot even begin to presume to understand the complex imponderables that electoral politics will throw up.

Yet another point that we would like to draw attention to is that Scenario 2 in our scheme would be the most "politically feasible" as it fares best on the equity criteria and gives lowest income states their highest share and the highest income state its lowest share. Even in scenario 2, the states of Maharashtra and Madhya Pradesh receive higher shares than what they have actually received as per the recommendations of the 11th FC. Despite keeping 60% of the corpus for need-based criteria the states of Bihar and Tamil Nadu lose out in scenario 2 on account of having done poorly on the efficiency front. In closing we would like to reiterate that these scenarios are but a few that we thought of. There is nothing sacrosanct about them and within reasonable bounds, our computational algorithm allows us to play around in a rather simple way.

VI. Conclusion

Now we must end. In this paper we have made some suggestions for the consideration of the Twelfth Finance Commission. Apart from commenting on the TORs the main body of the paper has concerned itself with providing a conceptual framework that is in keeping with the current ethos of the Indian economy. We have also operationalised the framework and provided a computational algorithm for a prototype illustration. This we believe provides for simple and transparent framework. We have also compared our results with the shares that have emanated from the earlier Finance Commission award. The two main areas that need especial attention are data collection (of desired aggregation and quality) and estimation of some of the variables (such as infrastructure index) in a meaningful way. These difficult matters will have to be faced head on with the help of ample skill and resources at the disposal of the Twelfth Finance Commission. We on our part can only wish them all the very best of luck and success in there endeavor.

Annexure

SCENARIO 1

OF AMOUT ACTUALLY TRANSFERRED 50% WILL BE PURE NEED BASED AND 50% ON INCENTIVES & PERFORMANCE							
TOTAL AVAILABLE		16924.80					
AMOUNT AVAILABLE FOR STS. FOR NEED BASED (CRORES): 50% OF TOTAL AVAILABLE		8462.4					
	POP	AREA	PCY DIST	INFRA Backlog	INV. INCOME	GFD/SDP	Total Need based allocation
WEIGHTS -->	0.1	0.25	0.4	0.15	0.05	0.05	
	846.24	2115.6	3384.96	1269.36	423.12	423.12	
Maha	271.00	775.73	0.00	261.24	58.77	69.01	***1435.75***
Tamil Nadu	173.97	327.13	326.84	0.00	45.41	73.17	***946.52***
M.P.	169.14	775.63	1025.04	520.40	80.75	73.54	***2644.48***
Bihar	232.14	237.11	2033.08	487.72	238.19	207.40	***3435.64***

AMT. AV. FOR INCENTIVES (50% OF TOTAL) = 8462.4									
	PERFORMANCE (10% of amt. Available for incentives) = 846.24			EFFICIENCY (90% of amt. Available for incentives) = 7616.16					
	DR	Δ DR ONLY STS. WITH NEGATIVE DDR WILL GET REWARD	Total allocation on basis of performance (DR + Δ DR)	ADMIN SHARES	Social Service (SS).	ALLOCATION ON EFFICENCY CRITERIA	ΔISI	INFRA SHARES (ISI)	Total allocations for infra. incentives
	0.70	0.30		0.25	0.25		0.10	0.40	
	592.368	253.87		1904.04	1904.04		761.616	3046.464	
Maha	191.616	37.944	***229.56***	385.81	523.44	***909.25***	0	818.15	***818.15***
Tamil Nadu	122.652	0.000	***122.652***	330.00	295.71	***625.71***	0	1081.44	***1081.44***
M.P.	161.646	138.009	***299.655***	953.21	538.76	***1491.97***	761.616	556.97	***1318.58***
Bihar	116.454	77.919	***194.373***	235.02	546.14	***781.15***	0	589.90	***589.90***

SCENARIO 2

OF AMOUT ACTUALLY TRANSFERRED 60% WILL BE PURE NEED BASED AND 40% ON INCENTIVES & PERFORMANCE							
TOTAL AVAILABLE		16924.80					
AMOUNT AVAILABLE FOR STS. FOR NEED BASED (CRORES): 60% OF TOTAL AVAILABLE		10154.88					
	POP	AREA	PCY DIST	INFRA Backlog	INV. INCOME	GFD/SDP	**Total Need based allocation**
WEIGHTS -->	**0.1**	**0.25**	**0.4**	**0.15**	**0.05**	**0.05**	
	1015.488	**2538.72**	**4061.952**	**1523.232**	**507.744**	**507.744**	
Maha	325.20	930.88	0.00	313.49	70.53	82.81	***1722.90***
Tamil Nadu	208.76	392.56	392.21	0.00	54.49	87.80	***1135.83***
M.P.	202.96	930.76	1230.04	624.48	96.89	88.25	***3173.38***
Bihar	278.57	284.53	2439.70	585.27	285.83	248.88	***4122.77***

AMT. AV. FOR INCENTIVES (40% OF TOTAL) = 6769.92										
	PERFORMANCE (10% of amt. Available for incentives) = 676.992			**EFFICIENCY (90% of amt. Available for incentives) = 6092.028**						
	DR	Δ DR ONLY STS. WITH NEGATIVE DDR WILL GET REWARD	Total allocation on basis of performance (DR + Δ DR)	ADMIN SHARES	Social Service (SS).	ALLOCATION ON EFFICENCY CRITERIA	ΔISI (only positive nos. will qualify)	INFRA SHARES (ISI)	Total allocations for infra. incentives
	0.70	**0.30**		**0.25**	**0.25**		**0.10**	**0.40**	
	473.8944	**203.10**		**1523.232**	**1523.232**		**609.2928**	**2437.1712**	
Maha	153.292	30.356	***183.648***	308.65	418.75	***727.40***	0	654.52	***654.52***
Tamil Nadu	98.121	0.000	***98.1212***	264.00	236.57	***500.57***	0	865.15	***865.15***
M.P.	129.317	110.407	***239.724***	762.57	431.01	***1193.57***	609.2928	445.57	***1054.87***
Bihar	93.164	62.335	***155.499***	188.01	436.91	***624.92***	0	471.92	***471.92***

SCENARIO 3

OF AMOUT ACTUALLY TRANSFERRED 50% WILL BE PURE NEED BASED AND 50% ON INCENTIVES & PERFORMANCE							
TOTAL AVAILABLE		16924.80					
AMOUNT AVAILABLE FOR STS. FOR NEED BASED (CRORES): 50% OF TOTAL AVAILABLE		**8462.4**					
	POP	AREA	PCY DIST	INFRA Backlog	INV. INCOME	GFD/SDP	**Total Need based allocation**
WEIGHTS -->	**0.1**	**0.25**	**0.3**	**0.2**	**0.1**	**0.05**	
	846.24	**2115.6**	**2538.72**	**1692.48**	**846.24**	**423.12**	
Maha	271.00	775.73	0.00	348.32	117.54	69.01	***1581.60***
Tamil Nadu	173.97	327.13	245.13	0.00	90.82	73.17	***910.22***
M.P.	169.14	775.63	768.78	693.86	161.49	73.54	***2642.44***
Bihar	232.14	237.11	1524.81	650.30	476.39	207.40	***3328.14***

AMT. AV. FOR INCENTIVES (50% OF TOTAL) = 8462.4										
	PERFORMANCE (20% of amt. Available for incentives) = 1692.48			**EFFICIENCY (80% of amt. Available for incentives) = 6769.92**						
	DR	Δ DR ONLY STS. WITH NEGATIVE DDR WILL GET REWARD	Total allocation on basis of performance (DR + Δ DR)	ADMIN SHARES	Social Service (SS).	ALLOCATION ON EFFICENCY CRITERIA	ΔISI (only positive nos. will qualify)	INFRA SHARES (ISI)	Total allocations for infra. incentives
	0.70	**0.30**		**0.25**	**0.25**		**0.15**	**0.35**	
	1184.736	**507.74**		**1692.48**	**1692.48**		**1015.488**	**2369.472**	
Maha	383.231	75.889	***459.12***	342.94	465.28	***808.22***	0	636.34	***636.34***
Tamil Nadu	245.303	0.000	***245.303***	293.33	262.85	***556.19***	0	841.12	***841.12***
M.P.	323.293	276.018	***599.31***	847.30	478.90	***1326.19***	1015.488	433.20	***1448.69***
Bihar	232.909	155.837	***388.746***	208.90	485.45	***694.36***	0	458.81	***458.81***

SCENARIO 4

OF AMOUT ACTUALLY TRANSFERRED 60% WILL BE PURE NEED BASED AND 40% ON INCENTIVES & PERFORMANCE							
TOTAL AVAILABLE		16924.80					
AMOUNT AVAILABLE FOR STS. FOR NEED BASED (CRORES): 60% OF TOTAL AVAILABLE		**10154.88**					
	POP	AREA	PCY DIST	INFRA Backlog	INV. INCOME	GFD/SDP	**Total Need based allocation**
WEIGHTS →	**0.1**	**0.25**	**0.3**	**0.2**	**0.1**	**0.05**	
	1015.488	**2538.72**	**3046.464**	**2030.976**	**1015.49**	**507.744**	
Maha	325.20	930.88	0.00	417.99	141.05	82.81	***1897.92***
Tamil Nadu	208.76	392.56	294.16	0.00	108.99	87.80	***1092.27***
M.P.	202.96	930.76	922.53	832.63	193.79	88.25	***3170.92***
Bihar	278.57	284.53	1829.77	780.36	571.66	248.88	***3993.77***

AMT. AV. FOR INCENTIVES (40% OF TOTAL) =									
	PERFORMANCE (20% of amt. Available for incentives) = 1353.984			**EFFICIENCY (80% of amt. Available for incentives) =**					
	DR	Δ DR ONLY STS. WITH NEGATIVE DDR WILL GET REWARD	Total allocation on basis of performance (DR + Δ DR)	ADMIN SHARES	Social Service (SS).	ALLOCATION ON EFFICENCY CRITERIA	ΔISI (only positive nos. will qualify)	INFRA SHARES (ISI)	Total allocations for infra. incentives
	0.70	**0.30**		**0.25**	**0.25**		**0.15**	**0.35**	
	947.7888	**406.20**		**1353.984**	**1353.984**		**812.3904**	**1895.5776**	
Maha	306.585	60.711	***367.296***	274.35	372.22	***646.58***	0	509.07	***509.07***
Tamil Nadu	196.242	0.000	***196.242***	234.67	210.28	***444.95***	0	672.90	***672.90***
M.P.	258.634	220.814	***479.448***	677.84	383.12	***1060.95***	812.3904	346.56	***1158.95***
Bihar	186.327	124.670	***310.997***	167.12	388.36	***555.49***	0	367.05	***367.05***

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