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Deepak Sethia

sethiad@iimidr.ac.in

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Deepak Sethia

Indian Institute of Management, Indore

Abstract: Constitutional design of intergovernmental transfers in India envisaged horizontal fiscal equalization as the basis of centre-state fiscal relations. However, growth of discretionary central transfers and expenditures have created possibility for redistributive politics to influence interstate distribution of central fiscal resources. Recent literature highlights role of political forces in determining interstate allocation of discretionary central transfers. However, available literature in Indian context suffers from serious data gaps due to omission of central transfers & spending bypassing the state budgets. Present paper addresses this specific data gap by using panel dataset of interstate allocation of all central transfers & spending relevant for regional welfare. Analysis suggests that while discretionary central transfers are driven by concerns for income inequality and poverty alleviation, bargaining power of the states through representation in ruling coalition at central level also influence disbursement of central funds. The paper also finds some evidence on role of median voter theorem in influencing interstate distribution of central transfers.

JEL classification: H77, P48, R58

Key words: fiscal federalism, horizontal fiscal equity, fiscal flows, central transfers & spending

1. Introduction

Normative approach to fiscal federalism has examined the intergovernmental transfers in terms of its efficacy to address horizontal fiscal imbalances, avoid sub-jurisdictional tax competition, and allow redistributive role of government to function (Buchanan, 1950; Oates, 1968; Boadway & Flatters, 1982). However, recent literature questions the assumption of a benevolent central government solely focused on the normative objectives. While normative objectives may not be avoided as they form the basic framework in which federal system operates, central government may also use intergovernmental transfers to serve its own political objectives (Stigler, 1970; Lindbeck & Weibull, 1987; Dixit & Londregan, 1998). Success or failure of federal system is undoubtedly dependent on the ability of federal institutional framework in meeting the normative objectives while operating in changing political settings. Indian federal system is most distinct in terms of diversity in ethnic, religious, and linguistic composition along with similar variety in its geography. In fact, India is more diverse in all these respects than Europe, which raised question on its survival as a country once its colonial master left the country (see Guha, 2007 and Varshany, 2013 for history of such debates). Despite all odds against it, India and its federal system survive within a democratic framework, a unique case at this income level among the developing world (Varshany, 2013). Federalism certainly holds key to resilience of Indian democracy which continues to evolve through political and institutional challenges of the day.

Indian federal system has been extensively yet incompletely researched both on political and economic aspects. In particular, role of institutional processes in addressing fiscal imbalances has been a focal area of the researchers. There is abundant literature in tradition of the normative framework of fiscal federalism concerned with horizontal and vertical fiscal imbalances in India. However, political economy of intergovernmental transfers have only

recently drawn attention of the researchers (Rao & Singh, 2002; Singh, & Vashishta, 2004; Biswas et al, 2010). These studies explore impact of political variables such as alignment (presence of similar party at centre and state in ruling coalition) and lobbying power (captured as number of central ministers/MPs in ruling coalition from the state) on central transfers. Their results do suggest influence of political variables on interstate distribution of central transfer. However, coverage of central transfers in the available literature is narrow since it focused only on explicit discretionary transfers *routed through state budgets*. Central government influences regional welfare through multiple channels of transfers & spending, most of which bypasses the state budgets. Present paper addresses this gap by re-examining issue of political economy of centre-state fiscal relations in Indian context with comprehensive coverage of central transfers & spending in the state economies. Last two-decades have seen many interesting developments in the centre-state politics in India. While constitutionally and economically centre is more resourceful than the states, politically it has become weaker under coalition governments heavily dependent upon regional satraps for majority in national parliament. On the other hand, though the states are constitutionally and economically weaker, regional satraps now commands electoral support enabling them to command stronger voice at both state and national level. Clearly, these emerging power imbalances offer an interesting setting to examine the effect of political forces on intergovernmental transfers in a federal system. This study, though rooted in Indian context, can be adapted in other federal economies as direct and implicit channels of central transfers & spending operate in all federal economies. Rest of the paper, from here onward, is organized as follows: Section 2 briefly reviews institutional framework of Indian federal system. It also reviews the existing literature on political economy of fiscal transfers in India, and identifies research gaps. Section 3 discusses methodological framework. Variable construction and data sources used are discussed in the section 4. Section

5 presents the findings of empirical exercise carried out. Last section concludes the paper, with some important observations and policy implications.

2. Institutional framework in Indian Federal system

2.1 Structure

Indian federal system currently comprises of 28 states and 7 Union Territories (UTs). The seventh schedule (Article 246) of Indian constitution defines jurisdiction of the central and state governments. Three lists, namely, union (central)¹, state, and concurrent list outline the functions of the two tiers of government. Union list includes defence, external affairs, communication, constitution, organization of Supreme Court and high courts, elections, etc. State list covers public order, police, local government, public health, agriculture, water, land, etc. Concurrent list includes administration of justice (excluding Supreme Court and High Courts), economic and social planning, trade and commerce, etc. Laws can be framed by both the levels of governments on subjects described under concurrent list, however, central government have overriding authority. Any residual function not listed in the seventh schedule comes under the jurisdiction of union government. Lists under the seventh schedule also define tax jurisdiction of the two tiers of governments. Union list includes taxes on income other than agricultural income, excise duties, customs, and corporation tax. State list includes land revenue, excise on alcoholic liquors, agricultural income, estate duty, tax on sale or purchase of goods, vehicles, luxury items, entertainment, stamp duties, etc. As in case of expenditure side, power to tax any residual area vests with central government. Service tax was introduced by central government under the residual power in 1994.

¹ The term union and central governments are used interchangeably, which is comparable to the concept of federal government in American context.

Two things can be made out of the constitutional assignment between centre and states. Firstly, national public goods have been assigned to the central government while local public goods as well as items with regional tastes and preferences have been assigned to the state governments. Secondly, central government have been assigned larger tax base compared to the state governments, while later is required to make most of the expenditures. In practice, centre collects nearly two third of taxes while incurs one third of total government expenditure. Case is opposite for the expenditure and revenue shares of the state governments. This centralization of revenue collection and decentralization of expenditure inherently leads to vertical imbalance. Indian federal system is also marked by huge regional income disparities, which automatically leads to horizontal fiscal imbalances as well. Table 1 shows that ratio of per capita income between the richest and the poorest subnational regions (state/province) in Canada, Australia, and USA are usually of the order of 1.5 to 2.5 only. In contrast, this ratio is around 4 to 5 in Indian federal system, comparable to the levels observed in other large developing federal economies. However, in most of the developed countries as well as in China and Brazil, low income subnational jurisdictions are much smaller in terms of population compared to large “donor” regions. The case is opposite in India, where poorer states are also the most populous states of country, requiring larger intergovernmental transfers for horizontal fiscal equalisation. Clearly, this poses severe challenge and responsibility for the central government to engage in large interregional transfer of fiscal resources for achieving horizontal fiscal equalisation.

Insert Table 1 here

Recognizing the inbuilt vertical and horizontal imbalances, Constitution framers made explicit provision for intergovernmental fiscal transfers. It envisaged a Finance Commission to recommend on quantum and criteria governing sharing of central taxes among central and state

governments. Although 14 Finance Commissions have been constituted so far following the constitutional provisions, experts have also raised doubts if the constitutional spirit has been maintained in the overall practice of central transfers & spending.

2.2 Central transfers & spending in practice

Most distinguishing feature of Indian federalism is presence of multiple channels of central transfers & spending. Firstly, the Finance Commission recommends share of the states in central taxes along with some non-plan grants. In addition, Planning Commission also provides grants to the state governments based on economic and social priorities set at the national level. Lastly, various central ministries also provide grants to the state governments for central sector and centrally sponsored programmes. Existing literature on fiscal federalism in India has limited itself to above mentioned channels of central transfers *routed through the state budgets*. However, there are many components of direct central spending which also influences regional welfare.² Direct central spending is meant for various government functions such as health, education, infrastructure, governance, national defense, foreign affairs, redistribution, etc. Among these, some of the functional areas such as national defense, governance, and foreign affairs are either pure public goods or are related to general government functions benefiting entire country. These expenditures have no direct relevance to the government expenditure at regional level. Also, debt servicing is merely a transfer payment having no consequences on regional welfare.³ Hence, we define these central expenditures as *non-allocable* among states for analysing horizontal fiscal equalization.

² Transfers are distinguished from spending in the sense that final expenditures are made by agencies receiving central transfers (which could be state governments or district level agencies), while in case of spending, central government makes direct purchases (in goods and factor markets) for provision of government services and subsidies.

³ Transfer payments for debt servicing do not have any implication for regional welfare through central fiscal policy. Residents who lent the government are essentially getting their money back, along with compensation for opportunity cost. Government expenditure from the borrowed money should be allocated in the year of actual expenditure. Hence, for our purpose, debt servicing by central government can be considered as *non-allocable* among states.

However, central government's expenditure on health, education, infrastructure, various subsidies, etc., directly influence provision of government services at the state level. Accordingly, we excluded *non-allocable* central expenditure to understand the composition of central transfers & spending⁴ having implications for regional welfare. We define the residual central transfers & spending as *allocable* among states for purpose of our study.

Insert Figure 1 here

Allocable central transfers & spending to the state economies can be classified into: i) *transfers routed through state budgets*, and ii) *transfers & spending bypassing state budgets*. As shown in Figure 1, nearly 55 percent of the *allocable* central transfers & spending do not flow through the state budgets. Central government engages in direct transfers of funds to the implementing agencies (IAs) at the district level for various centrally sponsored schemes (CSS) on poverty alleviation, rural development, health, and education. Even larger component (nearly 42 percent) of the *allocable* central transfers & spending is directly spent by central government on programs such as food, fertilizer, & petroleum subsidies, health, education, infrastructure, etc. Clearly, size of central transfers & spending, *bypassing the state budgets*, warrant overall assessment of interstate allocation of central transfers & spending rather than the current practice of focusing only on the transfers by Planning Commission and Finance Commission. We will see below that such a complex institutional framework of central transfers & spending is not only susceptible to political manipulation but itself is a product of such political maneuverings.

2.3 Political Economy of fiscal federalism

⁴ Term transfers & spending covers only budgetary resources of the central government. Public sector enterprises (PSEs) of the central government are not included, though they may also serve as a channel for regional redistribution. However, operations of PSEs are largely based on commercial principles, and any cross-subsidy of regional nature would remain hidden through the accounting practices of these enterprises.

The Constitution envisaged an expert body in form of Finance Commission to be constituted by president for every 5 years period to determine intergovernmental transfers largely free from political pressures. It is generally accepted that Finance Commission transfers are free from political pressures; however its role was circumscribed by creating separate institutional setup in form of Planning Commission which is practically under control of the central government. While the seventh schedule of Constitution assigns areas such as education, health, agriculture, irrigation, rural development, etc. to the states under state list, an item, namely, social and economic planning was also present in the concurrent list. Arguing that the areas of state list mentioned above are crucial for the overall social and economic development of country, case was made for the need of coordinating these activities at the national level. Accordingly, Planning Commission, chaired by Prime Minister, was constituted to manage the above mentioned social sectors as well as industrial development of the economy.⁵ Effectively, national savings and investment were to be managed by the Planning Commission by allocating resources among sectors and also states based on plan priorities. It not only managed the transfers of central funds but also controlled allocation of resources through the financial system. The *modus operandi* for this can be summarized as follows: Planning Commission approves the size of state plan expenditure which is to be funded through state's own revenues⁶, central assistance for state plans, and borrowings. Planning Commission itself controls the central assistance for the state plans, while borrowings of the states need to be approved by central government. Essentially, all plan expenditures by the states are to be made under the resource availability 'envisaged' by the Planning Commission.

⁵ There is no constitutional or legal validity of Planning Commission. It is a perfect example of tradition which is agreed upon by the states, probably coercively, because central government controls most the economic resources (Rao & Singh, 2005).

⁶ States own resources are termed as balance from current resources (BCR), which is the difference between revenue receipts of the state government (including transfers by Finance Commission) minus non-plan expenditures.

Central Assistance (CA) to the state plans has two components: a) formula based normal central assistance (NCA), and b) programme specific additional central assistance (ACA).⁷ At its inception, allocation of central plan assistance among states was ad-hoc based on the projects rather than any normative formula, which raised concerns from the states regarding discretionary allocation of central funds. Also, states were not sure of time horizon for which plan supports would remain available for the particular programmes, limiting their ability to set long term plan priorities. To bring in transparency and objectivity for allocation of plan transfers and allow states discretion on formulating their own plan programmes, an objective formula known as Gadgil formula⁸ was evolved in 1969 to determine share of states under so called normal central assistance (NCA). NCA was supposed to be main channel of the central assistance to the state plans. However, new channels of discretionary transfers with nomenclature of ACA and CSS were created by the central government, which have become the main channels of plan transfers either routed through or bypassing the state budgets. Transfers *bypassing the state budgets* have also become the largest component of overall central plan expenditure (item 3 and 5 of Table 2).

Insert Table 2 here

Other than the discretionary nature of the ACA and CSS, it is also important to note their impact on fiscal autonomy of the state governments. NCA is a block grant⁹ where states

⁷ For externally aided projects and some special programs based on specific criteria and guidelines.

⁸ Named after Prof. D. R. Gadgil, former deputy chairman of the Planning Commission. Since then, this formula has been revised many times, and is currently known as Gadgil-Mukherjee formula. Though formula based, these transfers are not entirely objective as some discretion is possible by giving specific weightage to the special problems of the states.

⁹ Until the mid of Tenth Plan, NCA to the states included both loan and grant components. Ratio of loan to grant was 70:30 for the general category states and 10:90 for special category states. Idea behind the ratio of 70:30 was that 70 percent of the plan expenditure would be on capital assets providing stream of revenue, which state can use to service the debt. Such a capital-revenue distribution of plan expenditure from NCA never took place in reality. With gradual shift in plan priority from industrial to social sectors, share of revenue expenditure in plan outlay continued to increase. High loan component under the central plan assistance and lack of corresponding capital assets created problems for the State Finances. Loan made by centre was usually from the small savings collected from the states. The Twelfth Finance Commission recommended removal of the loan part from the

are allowed to formulate their own expenditure choices. In contrast, expenditure programmes and associated guidelines under ACA and CSS are designed centrally, where state governments are expected to contribute matching grant to use the central funds. It is not only the centralized planning of the programmes alone but also the matching requirements which create troubles by distorting plan priorities of the state governments when they attempt to exploit incentives of central transfers. Lack of freedom for the state governments to set expenditure priorities can undermine the benefits of decentralization for which federal structure with intergovernmental transfers is designed at the first place. This situation can be specifically problematic for the states where there is little fiscal space after meeting the committed expenditures. Case becomes more severe where centre directly transfers money to the implementing agencies, *bypassing the state budgets*. State governments are unable to have much control in the implementation of these schemes, and many state governments consider this to be an important reason behind inefficient implementation of these programs (for example Economic Survey 2011-12, Government of Bihar, 2012).

Most of the central ministries and department concerned with agriculture, health, education, rural development etc. run large number of CSS, and many of them have very small funds to be utilized across country. For example, department of animal husbandry & dairying currently runs 15 CSS, of which has 10 have allocation below ₹ 500 million.¹⁰ Various Administrative Reform Commissions, committees on restructuring of CSS, and states have continuously argued to reduce the numbers and consolidate various CSS programmes. Under this pressure, Planning Commission undertakes consolidation exercise in the beginning of

central plan assistance to allow states to borrow from the market. This was an essential reform because the loans to the state governments were extended for long period (25-30 years) but liabilities for central government towards to small savings schemes were about 5-7 years. In addition to the asset liability mismatch for the central government, this system forced states to pay higher interest rates fixed on the old loan but centre was able to borrow at lower cost due to low interest environment in the early part of this decade. Currently, states directly borrow from the NSSF as well as market.

¹⁰ Lok Sabha Question No. 6454 (2012)

every 5 year plan which leads to reduction in the number of CSS. During the period of next 5 years, many new schemes are introduced which again lead to increase in the number of CSS. At the end of 9th Plan, number of CSS was 360 which were consolidated by Planning Commission in the beginning of 10th Plan. In the subsequent plans, this number has fluctuated between 100 and 180. Cyclical pattern in the number of CSS at an interval of five years clearly shows lack of long term planning. Clearly, during socialist era of pre-liberalization period predating economic reforms of 1991, the process of centralized economic planning controlled entire industrial and social spending in the country, negating the concept of federalism. During post-liberalization period, though the role of central government in allocation of industrial activities may have declined, but through presence and expansion of CSS it has retained its grip over government expenditure at the state level.

Issue of vertical and horizontal imbalances in India has attracted great attention from researchers, with rich literature debating the fiscal equalization through central transfers. However, except Chakroborty et al (2011), entire literature has solely focused on the transfers *routed through the state budgets*. Recently there have been some work analysing impact of political factors on interstate distribution of centrally sponsored schemes (Rao & Singh, 2002; Singh, & Vashishta, 2004; Biswas et al, 2010). These studies attempt to measure impact of political variables such as alignment (rule of similar party at centre and state) and lobbying power (number of central ministers/MPs from the state) on per capita central transfers for CSS. These studies do suggest relationship of political variables with interstate distribution of central transfer, though evidences are not very strong. Also, coverage of the central transfers by these studies is narrow since they take in account only explicit discretionary transfers *routed through state budgets*. Political economy can work through multiple channels such as CSS transfers *bypassing the state budgets*, direct expenditure on infrastructure, health, education, and various subsidies, etc. Discretionary central transfers & spending, *bypassing the state budget*, are much

larger than the discretionary transfers *routed through state budgets*. In a planned economy, redistribution by central government can also operate through industrial policy and investments by PSUs (public sector undertakings), which would remain separated from the central budget. Table 3 briefly summarizes results of the earlier studies, and main departure taken in this paper.

Insert Table 3 here

As shown in Table 3, all previous studies have taken two main political variables namely, alignment and lobbying power. Former is accommodated as dummy variable taking value of 1 if ruling party at the state is also part of central coalition, 0 otherwise. Lobbying power is captured as representation of the state in the central ruling coalition either as number of loksabha MPs or cabinet ministers from the state. States with higher number of MPs or ministers in the ruling coalition may have greater voice in the decision-making. All previous studies found that alignment between central and state governments does influence the interstate allocation of central funds. Biswas et al (2010) also found states with greater lobbying power in the central government are able attract larger amount of funds. Most noticeable feature of the earlier studies is their limited coverage of overall central transfers & spending. Rao & Singh (2005) covered transfers by Finance Commission, Planning Commission, and CSS transfers *routed through state budgets* (item 1 to 4 of Figure 1). Of which, Finance Commission transfers are largely non-discretionary but rest of the channels have large discretionary elements. Other two studies focused only on the CSS *routed through state budgets* (item 4 of Figure 1). Undoubtedly, these studies provide good starting point, but have limitations in terms of coverage of the central transfers & spending, which authors themselves have admitted. Last column of the Table 3 shows the scope of this study, where we adopt some new explanatory variables, but most importantly expand the coverage of central resources by covering all channels of central transfers & spending, having implications on regional welfare. Though it is

desirable to have longer time series of the data on central transfers, we limit our analysis to the time frame of 1999-00 to 2009-10. While data for central transfers *routed through state budgets* are available from 1973-74 onward (as used by Biswas et al (2010)), major challenge was estimating interstate allocation of central transfers & spending *bypassing the state budgets* which becomes difficult as one goes for the earlier years. Methodological framework, construction of the variables, and data sources are discussed in the next two sections.

3. Methodological framework

As discussed in the previous section, the major departure in this study is comprehensive coverage of all central transfers & spending having implications for regional welfare. We divide central transfers & spending in three categories: i) non-discretionary transfers, ii) discretionary central transfers, and iii) mixed spending. Table 4 provides composition of these three categories as well as their mapping with different channels of central transfers shown in Figure 1.

Insert Table 4 here

As mentioned previously, Finance Commission transfers and formula based transfers for NCA by Planning Commission are broadly beyond the discretionary powers of central government. However, central government can influence interstate allocation of the funds under CSS and ACA which are transferred for implementing centrally designed programmes. The last category is termed as mixed because interstate allocation for some of the components, such as infrastructure, education, health, food subsidies, etc., is determined by the central government. However, there are items such as fertilizer and petroleum subsidies where interstate allocation is determined through market demand. Similarly, some of the recurring expenditures, for example salaries of employees working in centrally funded educational and

health institutes, are largely linked to the past history. This is not to say that overall interstate allocation for these items is completely independent of central discretion. Central government may control the overall quantum of expenditure on particular item, depending upon who are the beneficiaries (whether to increase total allocation for food, fertilizer or petroleum subsidy may depend upon the beneficiary). In any case, criteria governing allocation of direct central expenditure are completely different from the CSS, hence it makes sense to analyse this channel of central spending separately. The contention that interstate allocation of central transfers & spending is influenced by both economic and political forces requires corresponding empirical analysis to encompass these forces. Equation 1 shows the econometric model using which we examine the role economic and political variables in influencing intergovernmental transfers.

$$\begin{aligned}
 Transfers_{it} = & B_0 + B_1 Income_{it} + B_2 Income_{it}^2 + B_3 Poverty_{it} + B_4 Rural\ Population_{it} + \\
 & B_5 Population_{it} + B_6 Alignment_{it} + B_7 MP\ Rep_{it} + B_8 Cabinet\ Rep_{it} + B_9 Vote\ Share_{it} + \\
 & B_{10} Vote\ Share_{it}^2 + u
 \end{aligned}
 \tag{1}$$

Where i = state, t = year

Any transfer system focused on horizontal equalization or concerned with regional imbalances has to account for interregional variation in income level, with larger transfers to the poorer states. If the political economy factors lead central government to distribute larger resources to middle income group, there could be an inverse U shaped relationship between income level and central transfers. To capture this, we use square term of income with an expectation of positive coefficient for the level variable and negative coefficient for square variable. Many of central transfers, especially, CSS are formulated with poverty alleviation as a major objective. Accordingly, we include poverty ratio with an expectation of positive coefficient. Similarly, inclusion of share of rural population as a variable is based on assumption that many government programmes are formed with rural development as a major

focus area. Population as a variable has interesting possibilities in terms of both political and economic sense. Horizontal equity requires if two states are similar in all other aspects, they should receive similar per capita transfers. However, political economy may lead the central government to provide higher per capita transfers to the smaller states, as the cost of ‘buying’ their support would be lower compared to their political significance. While larger states send larger number of MPs in parliament, this relationship is not exactly linear with bias towards smaller states. In addition, smaller states also have higher number of members of legislative assembly (MLAs) on per capita basis in the state legislatures. For instance, Uttar Pradesh has 404 seats in the legislative assembly for a population of 200 million. On the other hand Gujarat has 182 MLAs representing population of 60 million. Also, existing rules limit the number of ministers in state government to 15% of the strength of legislative assembly.¹¹ Clearly, if the electoral outcomes in state politics could be influenced by the central expenditure, then expenditure in smaller states would allow the ruling coalition at central level to hold more number of political offices both as MLAs and ministers at lower expenditure. As with the previous studies, we have included alignment and lobbying power as political variables. Lobbying power is represented through two variables namely, representation of the state in loksabha in terms of number of MPs in ruling coalition and share in central ministers. Another important variable included here is vote share of the ruling coalition in the last loksabha election. The core and swing voter hypothesis can be examined with a linear and square term of vote share in the model. Essentially, if the core voter model holds true then larger vote share should be rewarded in form of higher per capita transfers. However, if the central government focus on the states with vote share closed to winning margins, an inverse U shaped relationship can be expected peaking around the minimum winning vote share.

¹¹ This rule was made as 91st Constitutional amendment. Prior to this there has been cases having 31 ministers in a 60 member assembly, where the required majority would also be 31.

4. Variable Construction and data sources

Any study concerned with time series of economic data faces problem of inter-temporal comparability of the observations. The GSDP data as well as transfers themselves are at current prices; hence they are not comparable over the years. Moreover the size of overall government revenues and spending even at constant prices would continue to increase due to economic growth. Hence, conversion of economic data to constant prices would only partially address the problem as econometric investigation of relationship between political and economic variables would be contaminated due to changing scale of economic variable but scale neutral variables such as poverty ratio, alignment, and vote share. Even all political variables are not scale neutral as number of ministers or size of ruling coalition could vary over the years. To address these issues, we have transformed our data in the following ways: i) per capita central transfers and GSDP for each state was divided by the per capita value for all-states for the given year, ii) per capita MPs and cabinet ministers in ruling coalition from the state were divided by the per capita value for all states in the given year, and iii) population of the state was taken as % share of population of all states. Here, the term ‘all states’ is limited to the 17 major states of India.¹² Less than 5% of the national population resides in remaining 11 minor category states. These minor states also get too generous transfers from the central government owing to their hilly terrain and location at international borders. Their inclusion in econometric exercise would essentially give them much higher weightage to influence the results than deserved at the level of their population. This practice of exclusion of minor category states was also followed by all previous studies, and hence would help in maintaining comparability

¹² Andhra Pradesh, Assam, Bihar, Chhattisgarh, Gujarat, Haryana, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, and West Bengal. This classification is mainly based on population, and has minor differences with the other classification of general and special category states. Specifically, Goa is a part of general category state but minor state, while Assam is a major state but part of special category state.

of our results with available literature. Below are the details of transformations carried out for the all variables.

1. $Transfer_{it} = \frac{\text{Per capita transfer}_{it}}{\Sigma_q Transfers_{it} / \Sigma_i Population_{it}}$
2. $Income_{it} = \frac{\text{Per capita GDP}_{it}}{\Sigma_i GDP_{it} / \Sigma_i Population_{it}}$
3. $Poverty_{it} = \text{Head count poverty ratio at official poverty line}$
4. $Rural\ population_{it} = \% \text{ share of rural population in the total population of the state}$
5. $Population_{it} = \frac{Population_{it}}{\Sigma_i Population_{it}}$
6. $Alignment_{it} = 1 \text{ If ruling party at state member of coalition at centre, else} = 0$
7. $MP_{it} = \frac{\text{Per capita MPs in ruling coalition}_{it}}{(\text{Total MPs in ruling Coalition}_t) / \Sigma_i Population_{it}}$
8. $Cabinet\ Rep_{it} = \frac{\text{Per capita cabinet ministers}_{it}}{(\text{Total cabinet ministers}_t) / \Sigma_i Population_{it}}$
9. $Vote\ share_{it} = \text{Fraction of votes for members of ruling coalition in last Loksabha election}$

where $i = \text{state}$, $t = \text{year}$

These transformed variables have an interesting econometric interpretation, in terms of their comparability with the all-state average. For instance, if per capita representation of a state in central cabinet council goes up by 1 unit compared to all-state average, per capita transfer relative to all-state average goes up by B_7 units. Similarly coefficient B_1 and B_2 captures impact of change in per capita income of the state with respect to per capita income for all-states. Essentially, the entire analysis would be carried out in terms of ‘state relatives to all-state average’. As discussed previously, these variables and associated coefficients are measured with time invariant scale, hence they have intertemporal comparability.

State level data on all central transfers *routed through state budgets* (item 1 to 3 of Figure 1) have been directly taken from the Reserve Bank of India’s (RBI) study on State Finances (RBI, 2012). Planning Commission data have been used to get further classification of central plan assistance to the states in form of NCA and ACA (two sub-components of item

2 in Figure 1). Estimation of interstate allocation of central transfers & spending *bypassing the state budgets* requires data from various central government agencies. Accordingly, we have used annual reports and outcome budgets of central ministries to obtain data on interstate allocation of funds under CSS through implementing agencies (item 4 in Figure 1). Disclosures by central ministries in response to parliament questions, available on the parliament website, have been also used as another data source for the pattern of state-wise release of central funds under CSS.

Major items of direct spending by central government are: i) subsidies on food, fertilizers, and petroleum products, ii) agriculture insurance, iii) education, and iv) infrastructure. Allocation of food and fertilizer subsidies has been attempted by using data on state-wise consumption of subsidized food and fertilizer products.¹³ Subsidized petroleum products are essentially used both for intermediate and final consumption expenditure. To capture this, we have used state-wise consumption of goods & services for private and government final consumption expenditure.¹⁴ Remaining items of central expenditure on agriculture, education, health, transport, and communication have been allocated based on program/scheme wise data from various reports of the relevant departments. Some of the data on infrastructure spending by central government has been taken from the *regional accounts* of the states, which were supplied by central statistical organization (CSO) on our request.

¹³ Although food prices differ across the country, central government provides food grains at uniform prices across the country for distribution through public distribution system (PDS). We assume that consumers in the states with higher food prices are getting higher subsidy for similar quantity of food grains. To capture this, we have used the difference between market prices of food grains (estimated from household consumption surveys conducted by National Sample Survey Organization - NSSO) and central issue price of food grains as an indicator of per unit food subsidy.

¹⁴ Regional accounts in India do not provide estimates of final consumption expenditure at the state level. However, country wide large scale household surveys conducted by the National Sample Survey Organization (NSSO) provide commodity wise household consumption at the state level. For private final consumption expenditure, estimates of household consumption at state level from NSSO surveys were adjusted to the national total from the National Accounts Statistics (NAS) at 81 comparable item group (goods and services) level. For government final consumption expenditure, we have used data on state-wise wages (net value added) in administrative department from the National Accounts.

Data on GSDP (income) was taken from the CSO's state series. Poverty ratio data are taken from the Planning Commission, which are prepared on quinquennial basis. Hence, same observation was used for the 5 years, at the state level, as decision making was also based on these data for entire 5 year period. Population data are taken from census 2001 and 2011, with interpolation for in-between years. These estimates were used for all variables requiring conversion to per capita level. For the data on alignment and MPs from the state in ruling coalition, we require details of the ruling coalition both at central and state level. This information is not readily available from single source, and several sources were referred on central and state politics. Details on cabinet representation were obtained from India Annual Reference book. While the interstate allocations of discretionary transfers are determined in the year in which expenditures are made, Finance Commission transfers are made once in 5 years. Hence, the Finance Commission have access to economic data of the years when it is deciding the award. Prevailing political environment is also likely to be different between the years when the interstate allocation is determined and when the final transfers are made. Hence, for the non-discretionary transfers (Finance Commission transfers form 95% of non-discretionary transfers), the dependent variable remains current year transfer but for independent variables we have used the economic and political variables prevailing in the years of working of the Finance Commission. (In our case only 12th Finance Commission could be captured where for 2005-06 to 2009-10 award period we have used average for the triennium 2002-03 to 2004-05 as observations for independent variables).

5. Results and analysis

The purpose of this paper is to examine impact of economic and political forces on multiple channels of central transfers & spending in state economies. As mentioned earlier, existing literature has examined this issue with central transfers *routed through state budgets*.

We broaden the concept of central transfers & spending by including all central expenditures *bypassing the state budgets*, having implications for regional welfare. We use econometric model shown in equation 1 with five categories of transfers.

Insert Table 5 here

Table 5 shows results of five regression results using equation 1, with each regression having different component of central transfers as dependent variable. The last regression with heading literature essentially reflects the results for CSS *routed through state budgets* (item 3 of Figure 1), which has been the main focus of available literature. A comparative analysis between discretionary and literature would show the contrast if the earlier approach was to be used for the time frame of 1999-00 to 2009-10. It is interesting to note that both follow similar inverted U shaped curve for the income level with peaks at 1.02 and 1.07 respectively as a ratio of all states average (Table 6). This clearly indicates the possibility of central government targeting middle income states. Examination of data showed that these discretionary transfers were going to the lower middle income states such as Orissa, Jharkhand, Chhattisgarh, Madhya Pradesh and Rajasthan rather than the poorest and most populous state of Bihar and Uttar Pradesh. While the inverse U shaped curve is also present in case of direct expenditure, it peaks at 1.57 income level. Essentially, Punjab, Kerala, Andhra Pradesh, Haryana, Tamil Nadu and Maharashtra benefit most out of this channel of expenditure. In case of the non-discretionary transfers, we were not able to estimate the coefficient together for linear and square term due to high multi-collinearity, but data clearly suggested highly significant negative coefficient for both variables when analysed separately. Clearly, this channel of transfer is most progressive among all considered.

Most of the CSS have poverty alleviation as an explicit goal which translates into positive coefficient for discretionary transfers, though this is not true for other channels of transfers.

Rural population as a variable was practically insignificant in cases of all transfers, except for non-discretionary transfers, with negative coefficient. Negative coefficient for non-discretionary is contrary to our expectations, and is difficult to explain. It should be noted that Finance Commission does not explicitly take this variable in account while making its decisions.

Insert Table 6 here

The variables which have been included explicitly to examine political factors show some interesting results. Alignment between central and state government shows positive and significant coefficient for the discretionary transfers only, and not for the CSS *routed through state budgets*. In contrast, higher non-discretionary transfers are provided to states ruled by opposition parties. This could be a deliberate policy stance followed by the Finance Commission to counterbalance political forces governing discretionary transfers. Incidentally, this reasoning applies to results obtained for vote shares also. This variable shows the expected inverted U shaped curve for discretionary central transfers with point of inflection at 47% vote share, a clear targeting of median voter. On the other hand, for direct spending and CSS *routed through state budgets*, this point of inflection was estimated at 29 and 23% respectively. One need to bear in mind that winning vote share in Indian states varies from 30 to 45% depending upon the political competition and the number of politically relevant parties. For the non-discretionary transfers, we found U shaped curve with vertex at 28%, suggesting Finance Commission's attempt to balance the swing-voter influencing behaviour of the central government.

The variable cabinet representation turned out to be insignificant in all cases, except for the non-discretionary transfers with negative coefficient indicating efforts to balance political forces. This is surprising as previous studies found it to be significant for CSS *routed through*

state budgets in their study time frame. Undoubtedly, last decade established many lows in form of floor disturbances in loksabha and consequently lower participation of MPs in decision making process, but one requires more explanation for declining influence of cabinet ministers who forms the executive branch of the government. It should be noted that our analysis for the non-discretionary transfers pertains to of 2005-06 to 2009-10 only, which was the award period for the 12th Finance Commission. Does the Finance Commission follow the approach of counterbalancing political forces and is it a trend for other Finance Commissions as well would be an interesting problem to explore.

Negative coefficient for population clearly indicates that smaller states get larger transfers, more in case of the discretionary channels. This goes with our hypothesis of more appeasement of the smaller states to capture larger number of political offices on per capita basis. Most interesting conclusion from the comparison of CSS *routed through state budgets* (covered by the existing literature) and all discretionary transfers is that former does not stand the claims of political influence made in existing literature, but later does. This is understandable because in the time frame covered by the previous studies, CSS *routed through state budgets* was the main channel of the discretionary transfers. However, from the mid-nineties, direct central transfers to the implementing agencies *bypassing the state budgets* emerged as the main tool for discretionary transfer. Most of the flagship new programmes were implemented through this channel only. Our results broadly confirm the findings of previous studies for the alignment and lobbying variable. However, new variables such as vote shares, population, and income level offer interesting evidence for median income and voter targeting.

6. Conclusion

Analysis carried out in this study shows that political forces are able to influence different channels of central transfers with varying degree. Formula based transfers, largely focused on

addressing fiscal disabilities of the poorer states, are by and large free from the political pressures. In fact there are some evidences of Finance Commission's effort to compensate the politically disadvantaged states. On the other hand, discretionary central transfers appear to be significantly influenced by the alignment between ruling coalition at the centre and state. Our analysis also suggests that discretionary central transfers are targeted towards swing and median voters who form majority in democracy and can determine political outcomes.

We also examined some of the issues related to institutional mechanisms for central transfers. Central transfers *routed through state budgets* versus expenditures *bypassing the state budgets* are two different institutional mechanisms used to address fiscal and regional imbalances. Formula based transfers by Finance Commission and Planning Commission (NCA) provide resources to the states along with autonomy to set expenditure priorities and programmes. Discretionary transfers & spending by central government does not provide autonomy to the states for making expenditure choices, and also does not objectively help in addressing interstate fiscal disparities. We, like many others, question the institutional structure and purpose of discretionary transfers & spending in the Indian federal structure. Presence of central transfers & spending *bypassing the state budgets* but having implications for regional redistribution increases the effective vertical gap which is beyond consideration of the Finance Commission.

Looking at the complexity of political economy of central transfers & spending, it is important to distinguish between impact of political forces on composition and interstate distribution of central transfers & spending. Increasing share of central transfers & spending *bypassing the state budgets* during last two decades is the most significant change in overall composition of central government's fiscal interventions in the state economies. Larger share of central transfers & spending in areas such as health, education, rural employment, food and

fertilizer subsidies etc. could be an attempt of central government to remain visible in the state subjects during the coalition era with strong competition at the regional level.

While this study is a step forward from the existing literature, yet there is scope for improvement. Obtaining a longer time series of discretionary central transfers was a challenge. Also, there is scope of improvement in construction of variables representing political competition in the states by including both central and state election data at the constituency level. Attempts are also required to explore political economy of implicit central transfers through channels other than fiscal resources, such as allocation of natural resources, influence on the private investment, subsidized loans and priority sector lending, etc. Addressing these issues would certainly improve our understanding of the political economy of Indian federalism. Despite this, our analysis focused on the recent data during the coalition era of the Indian politics strengthens call for institutional reforms in the intergovernmental transfers in India.

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Table 1: Per capita income (PCI) in the richest and the poorest states (\$ PPP) in 2010

S. No.	Item	USA	Canada	Australia	Germany	China	Brazil	India
1	PCI	45983	40747	39529	40398	7691	10980	2905
2	Richest state							
a	Name	Connecticut	Alberta	W. Australia	Hamburg	Jiangsu	São Paulo	Haryana
b	PCI	62048	60302	53662	68444	12381	16798	5279
c	%	1.14	10.98	10.88	2.13	5.87	21.63	2.12
3	Poorest State							
a	Name	South Carolina	Nova Scotia	Tasmania	Meck-Pomm	Guizhou	Maranhão	Bihar
b	PCI	35087	32793	30845	27547	3148	3824	1132
c	%	1.48	2.77	2.21	2.01	2.59	3.45	8.20
4	Ratio	1.77	1.84	1.74	2.48	3.93	4.39	4.66

Notes:

1. % population denotes population share of the state in respective countries.
2. High income city states/provinces have been excluded for comparison. Also, states having population share below 1% are excluded.

Source: Sethia, D. (Forthcoming)

Table 2: Share of centrally sponsored schemes (CSS) in the central plan

S. No.	Plan Expenditure	2006-07	2007-08	2008-09	2009-10	2010-11
1	Total allocable plan expenditure (` Billion)	1190	1391	1915	2125	2688
	<i>of which</i> (% of allocable)					
2	CSS routed through state budget	12.4	14.9	10.2	11.3	11.2
3	CSS through IA <i>bypassing the state budgets</i>	36.6	39.2	43.3	42.4	43.8
	Total share of CSS in central plan	49.0	54.1	53.5	53.7	55.1

Source: CSS through state budgets from Statement 17 Expenditure Budget Vol. 1, adjusted to actuals. CSS through Implementing Agencies from Statement 18 Expenditure Budget Vol. 1

Table 3: Existing literature and proposal by this paper

Independent Variables	Rao & Singh (2005)	Biswas et al (2010)	Dasgupta et al (2008)	Present Paper
Economic				
GSDP (gross state domestic product)	-----		Used as control variables. Results not reported	Y
GSDP per capita	-----	+		
Population	+			Y
Agriculture (% of SDP)				
Rainfall				
Poverty ratio				Y
Political				
Ruling party's MP (Loksabha-lower house of parliament only)	-----			Y
Alignment	+	+	+	Y
Representation in central cabinet	-----	+		
Winning Margin (Swing)			+	
Vote shares				Y
Dependent variables				
Finance Commission transfers	Y			Y
Central assistance to state plans	Y			Y
<i>CSS routed through state budgets</i>	Y	Y	Y	Y
<i>CSS bypassing state budgets</i>				Y
Direct spending				Y
Time frame	1983-84 to 1992-93	1973-74 to 2001-02	1968-69 to 1996-97	1999-00 to 2009-10

Notes: ----- shows that variable was used but not found significant. + shows that the variable was significant with positive coefficient. Y shows these variables were used as dependent variables (or these variables will be used in case of last coloumn).

Financial year in India covers the time period of April 1 to March 31.

Table 4: Discretionary nature of various channels of central transfers & spending

S. No.	Category	Coverage
i	non-discretionary transfers	All Finance Commission transfers (item 1) and formula based NCA by Planning Commission (comprises 30% of item 2 as annual average for our study period)
ii	discretionary central spending	ACA by Planning Commission (comprises 70% of item 2 as annual average for our study period) and All CSS (item 3 and 4)
iii	mixed spending	Direct central spending (item 4)

Table 5: Determinants of intergovernmental transfers

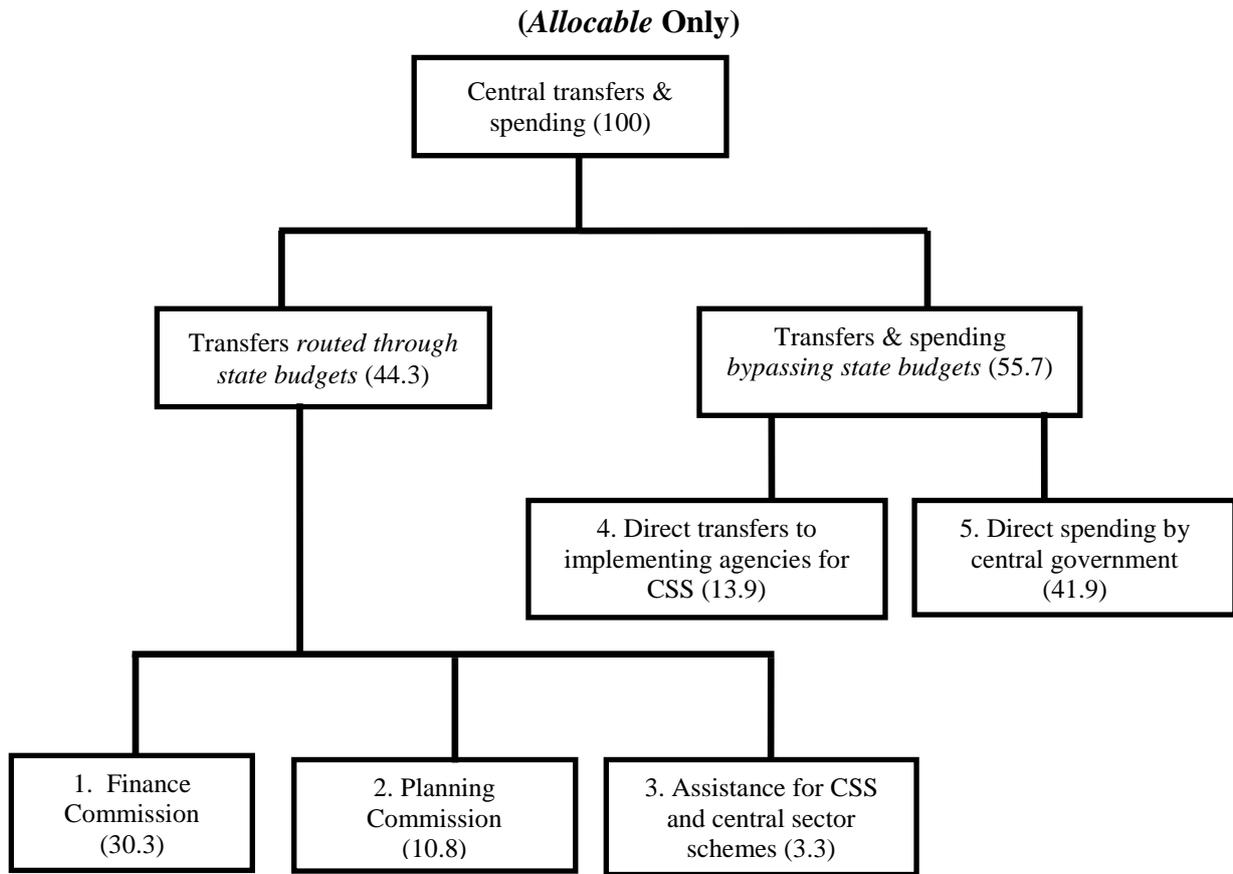
Variable	Discretionary	Non-discretionary	Mixed	Total	Literature
GSDP	1.85 (5.08)	-0.77 (-11.12)	1.54 (4.73)	1.33 (6.33)	2.04 (2.82)
GSDP ²	-0.91 (-6.63)		-0.49 (-4.03)	-0.64 (-8.08)	-0.95 (-3.61)
Poverty Ratio	0.02 (7.63)	0.00 (-1.19)	0.00 (0.26)	0.00 (2.63)	0.01 (1.30)
Rural Share (Population)	0.01 (1.15)	-0.01 (-4.08)	0.00 (-0.30)	0.01 (3.21)	0.00 (0.40)
Population Share	-0.04 (-6.01)	0.01 (2.97)	0.00 (-0.46)	-0.02 (-4.29)	-0.04 (-2.71)
Alignment	0.09 (2.07)	-0.19 (-3.40)	0.04 (0.96)	0.07 (2.72)	0.06 (0.62)
MP Index	-0.06 (-1.05)	-0.08 (-1.52)	0.04 (0.83)	-0.03 (-1.07)	0.04 (0.32)
Cabinet Index	0.02 (0.46)	-0.07 (-2.46)	0.02 (0.70)	0.05 (2.19)	0.01 (0.15)
Vote Share	0.86 (2.41)	-4.47 (-6.74)	1.62 (5.54)	0.85 (3.41)	0.81 (0.64)
Vote Share ²	-0.92 (-1.71)	7.91 (6.49)	-2.79 (-5.36)	-1.22 (-3.21)	-1.80 (-1.53)
constant	-0.65 (-1.14)	2.95 (13.98)	-0.12 (-0.25)	-0.39 (-1.15)	-0.19 (-0.15)
R2	0.68	0.88	0.63	0.63	0.23
R2_adj	0.66	0.86	0.61	0.61	0.18

Parenthesis contains t value.

Table 6: Inflection point of income level and vote shares

Variable	Discretionary	Non-discretionary	Mixed	Total	Literature
GSDP	1.02		1.57	1.04	1.07
Vote share	0.47	0.28	0.29	0.35	0.23

Figure 1: Resource flows from central government to state economies (2008-09)



Note: Parenthesis show share of different components of central transfers to the state economies in 2008-09.
 Source: Author's calculation based on Study of State Finances (RBI, 2012) and Union Budget 2009-10