# Elite Dominance and Under-investment in Mass Education: Disparity in the Social Development of the Indian States, 1960-92

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*Abstract*: Inter- and intra-state disparities in levels of literacy rates in India are striking, especially for the marginalized groups of women and low caste population. The present paper argues that persistent dominance of the elite, especially landed elite, has been responsible for systematic under-investment in mass education in the Indian states. Results based on the Indian state-level data for the period 1960-92 suggest that greater inequality in landholding lowers pubic spending on education while greater degree of land reform legislation as well as industrialisation enhances it. Greater proportion of minority representation (female and low caste members) in the ruling government however fails to have any perceptible impact on public spending in our sample.

Key words: Female and low caste illiteracy, Landed and capitalist elite, Under-investment in public education, Land Reform, Industrialisation, Poverty alleviation.

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## 1. INTRODUCTION

Despite more than four decades of planning efforts with an emphasis on balanced regional development, inter- and intra-state disparities in literacy rates in India are striking. While adult literacy rate in Kerala was about 91%, it was about half of that level (47%) in Bihar in 2001. Gender inequity continues to remain a serious problem in all the states, though it is far worse in the worse-performing ones; while the gender gap is about 7% in Kerala, it is about 30% in Rajasthan and Bihar. Similarly, literacy rate among the backward castes was only 37.41% in 1991 as compared to 52.21% for India as a whole; it was even lower among women belonging to the backward castes (23.76% as compared to 39.29% for all Indian women).

The question however remains as to why the marginalised groups of women and low-caste people in the Indian states may not obtain the full attention of the politicians in a democracy even when they have the numerical strength.[1] When a country like Cameroon could more than double its rate of adult literacy in three decades after 1970 (from 30% to 71%), why a flourishing democracy like India that started in the 1970s with 33% adult literates would still struggle with a rate of 57% in 2000.

Differences in the nature of politicians elected are a possible mechanism through which social structure could influence the allocation of public spending on education and

[1] While females constitute about 48% of the Indian population (more than a billion in 2001), about 24% of the population belongs to scheduled castes and scheduled tribes category.

thereby ensuring mass education to different sections of the population in the Indian states. This is because it is harder for a democratically elected government to be unresponsive to the needs of their electorate, especially when the latter is well informed and politically aware. In this context, the present paper examines whether and how elite dominance may affect public spending on education in the Indian states. The paper contributes to the new institutional economics literature on the persistence of under-development and also to the growing literature on the political economy of the public goods provision in India.

Recent institutional literature suggests that poorer countries lack the institutions needed or have the wrong institutions for economic growth. For example, Acemoglu, Johnson and Robinson (2001), among others, argue that European settlers adopted very different colonization policies in different colonies with different associated institutions. In places where European settlers faced very high mortality rates, they could not settle and they were more likely to set up extractive institutions. These early institutions continue to persist even in the modern times and shape the political and economic interactions of different groups and agents. Acemoglu and Robinson (2006) further emphasize that despite frequent political and economic changes in these economies, broad institutions may still persist in some form (for example, dominance of landed elite and labour repression did not end with the abolition of slavery even in the American south). Rajan and Zingales (2005), offer a parallel argument to suggest that underlying constituencies (with coexistence of self-perpetuating interest groups) rather than poor institutions may perpetuate this underdevelopment indulging in low investment in mass education. These two arguments however appear to be complementary. Social dominance of the educated elite (as against the mass of illiterate apathetic to the political process) could result in political regimes that did not favour mass education - the result could be lower public spending on mass education and hence persistence of illiteracy. Spread of mass education in contrast would increase the ability of the illiterate to take advantage of the social opportunity (and gain from pro-market reforms), which in turn may induce them making informed choices in the political process as well as to ousted the elite from power (with their numerical strength).

In this respect however a distinction between the landed and capitalist elite could be quite important. As Galor and Moav (2006) argued, the productive co-operation between capitalists and workers was instrumental in the provision of public education for the masses. Since firms have limited incentive to invest in the general human capital of their workers, in the presence of credit market imperfections, the level of education would be suboptimal unless it is financed publicly. In other words, capitalist elite will be more progressive than landed elite, especially in the public provision of human capital. This hypothesis will be tested in the paper.

Second, the paper also contributes to the recent literature that highlighted the importance of the political process on the pattern of public spending at different levels of administrative units as well as on the provision of public goods/services in India. For example, Betancourt and Gleason (2000) highlight the importance of electoral participation, selectivity in the allocations against Muslims and Scheduled castes in the allotment of nurses, doctors and teachers to rural areas of the Indian districts. Banerjee and Somanathan (2001) suggest that more heterogeneous communities tend to be politically weaker and therefore are less likely to get the goods they want and more likely to get some of the inferior substitutes. Chattopadhyay and Dufflo (2004) highlight the distinctive role of female preferences in this respect: village councils with reserved seats for women tend to invest more in drinking water, fuel and employment generating activities such as road construction (compared to those unreserved village councils) in a district in the eastern Indian state of West Bengal.

Next turning to the studies pertaining to *state-level spending* on various accounts, Besley and Burgess (2002) identify the importance of government accountability to the electorate and find that states with more local language newspapers, greater political competition and voter turnout enjoy greater public food distribution and calamity relief expenditure in the event of droughts. Foster and Rosenzweig (2001) argue that while landowners would favour expenditure on irrigation, budget allocation would shift more towards labour-intensive road construction projects, as landless gain more participation with increasing decentralisation. Khemani in a series of papers (2003, 2004) highlights the effects of federal politics on earnings and spending of the states. While Khemani (2003) suggests that intergovernmental transfers in the Indian states is sensitive to underlying political incentives (involving alliance with the centre), Khemani (2004) finds a pattern of election-year targeting of special interest groups possibly in return for campaign support as opposed to populist spending sprees to sway the mass of voters.

The present paper focuses on the role of ‘elite dominance’ in the context of public spending on education with a view to explaining the disparate nature of social development of the Indian states. The issue of elite dominance, though pertinent to explain the persistence of disparity in Indian social development that persists even after more than fifty years of its independence in 1947, remains much unexplored.

Identification of the elite is an important part of this exercise. While the analytical literature (e.g., Galor and Moav, 2006) distinguishes between landed and capitalist elite in the process of industrial revolution, the concept of elite in the Indian context is more complex as it is closely intertwined with the prevailing caste and gender-based politics in the country. Although India's constitution forbids negative public discrimination of the female and low caste people and introduces various ways to overcome the traditional barriers of caste and gender, gender/caste-based interaction/discrimination in all spheres of life is not uncommon still today and has not eroded the initial disadvantages of these marginalized groups.

Our analysis of state-level data for the period 1960-92[2] from the selected states do suggest that greater inequality in the distribution of land (i.e., dominance of the landed elite) lowers public spending on education while greater degree of industrialisation (i.e., dominance of the capitalist elite) enhances it; greater proportion of minority representations in the ruling government however fails to have any statistically significant impact on education spending, suggesting that there is no active mandate for these elected members to encourage public spending on education specifically geared towards the disadvantaged.[3] We also find that state-level spending on education is lower in poorer states and also those with less public initiatives of land reform legislations. In contrast, our analysis highlights the positive roles of land reform, industrialisation and poverty alleviation on public education spending. Unfortunately, gender, caste and class based

[2] We choose this period to dissociate the effects of pro-market reforms on state spending on education. Interestingly, this period also marked the period prior to the introduction of the 73rd amendment of the Constitution in 1993 (see discussion in section 2.2).

[3] This result may somewhat complement that obtained by Chattopadhyay and Duflo (2004) in that elected women members of the village councils in West Bengal (after the introduction of reservation of women seats in 1993) have significant impact on certain types of investment including water supply, employment.

politics perpetuates inequality. Spread of human capital could help to overcome the traditional disparities of caste, class and gender (and allows individuals to take advantage of social opportunity as well as to make informed choice in voting), just as the removal of these inequalities helps the spread of human capital.

The paper is developed as follows. Section 2 investigates the nature (socio-economic and political dimensions) of elite dominance in the Indian states. Section 3 describes the data, explains the methodology and analyses the empirical results. The final section concludes.

## 2. NATURE OF ELITE DOMINANCE IN INDIA

Given the pronounced unitary bias in the Indian federation, there are limits to the authority of the state government's spending ability as dictated by the union, state and concurrent lists of the Indian constitution. While the union government is involved in general state-level development especially with respect to the development of the core sectors, states have the primary responsibility for most social sectors including education, health, community and social services. According to the constitution, health is entirely a state issue while education is a joint responsibility of the state and central governments. Each state has an elected assembly headed by the chief minister (CM), who is in charge of formulating and implementing social development policies in the states. We label the particular state government ruled by the majority party in power as a 'political regime'. Political regimes may differ in terms of representation from and inclusion of different sections of population in their electoral base. This could result in differences in the democratic functioning of different regimes and could explain the variation in public spending on education in the Indian states.

**2.1. Gender and caste dimensions of elite dominance**

Women and low caste people are not only worse off compared to the general population when residing in any state of India, they are more so when residing in the poor performing states like Bihar, MP, Orissa, Rajasthan or UP. The question that arises here is why these minority groups fail to attract the attention of the democratically elected government despite their large numbers.

Recent development of the institutional economics and the political economy models could shed some light into the possible mechanisms in this respect. The dominance by an elite, which does not support human capital investment in the masses is a theme in several theoretical models including Bourguignon and Verdier (2000), Acemoglu and Robinson (1998), Galor and Moav (2006). The empowerment of the non-elites and the downtrodden through provision of mass education not only enhances their economic participation, but also their political participation through greater investment in education. In this respect, we also distinguish between entrenched landed elite and emerging capitalist elite who tend to have conflicting interests in the process of industrialisation. This is because industrial development has highlighted the complementarity between physical capital and technology, thus has raised the importance of human capital for the process of economic growth. In the presence of credit market imperfections, however, private investment in human capital has been suboptimal, thus necessitating public investment in education (to be initiated by capitalist as well as workers).

India is an interesting case in point where social, economic and political dominance of the elite (landed/capitalist/both) is closely interlinked with the age-old institution of caste. Although many other nations are characterized by social inequality, perhaps nowhere else in the world has inequality been so elaborately constructed as in the Indian institution of caste. Castes are ranked, named, endogamous (in-marrying) groups, membership in which is achieved by birth. Many castes are traditionally associated with an occupation, such as high-ranking Brahmans (priests); middle-ranking farmer and artisan groups, such as potters, barbers, and carpenters; and very low-ranking leatherworkers, butchers, launderers, and latrine cleaners. In the 1990s, many politically conscious members of the lowest caste groups prefer to refer to themselves as 'Dalit', a Hindi word meaning oppressed or downtrodden. Since 1935 "Dalits" have been known as Scheduled Castes, referring to their listing on government rosters, or schedules. Numerous groups usually called tribes (often referred to as Scheduled Tribes) are also integrated into the caste system to varying degrees. Some tribes live separately from others, particularly in the far northeast and in the forested center of the country, where tribes are more like ethnic groups than castes.

There are close correlations between caste hierarchy, ownership of both land and non-land assets and economic prosperity in India. Members of higher-ranking castes tend, on the whole, to own more land and non-land assets and thus are more likely to be more prosperous than members of lower-ranking castes. Many lower-caste people lack any assets and live in conditions of abject poverty and social disadvantage. Activities such as farming or trading can be carried out by anyone, but usually only members of the appropriate castes act as priests, barbers, potters, weavers, and other skilled artisans, whose occupational skills are handed down in families from one generation to another.

Within castes explicit standards are maintained. Transgressions may be dealt with by a village caste council, which meets periodically to adjudicate issues relevant to the caste. Such councils are usually formed of groups of elders, almost always males. Punishments such as fines and outcasting, either temporary or permanent, can be enforced. In rare cases, a person is excommunicated from the caste for gross infractions of caste rules. An example of such an infraction might be marrying or openly cohabiting with a mate of a caste lower than one's own; such behavior would usually result in the higher-caste person dropping to the status of the lower-caste person.

Social dominance of the upper caste elite could easily be translated into the political arena, especially in a democratic set-up. Until the recent introduction of the elected village councils in 1993 (via 73$^{rd}$ amendment of the Indian constitution) with reservation of seats for women and low caste members, there was no mechanism to prevent the dominance of traditional upper caste village elite in the village council,[4] who could then easily go up the political ladder and may move to state assembly and national parliament.

There is conflicting evidence about the role of women in India. The constitution of modern India guarantees equal rights to men and women. India has been one of the first countries in the world to confer voting rights to its women. There is however a parallel body of evidence that seems to challenge the former view (see Menon-Sen and Shivakumar, 2001). Unlike most other societies, men outnumber women in India

[4] The Indian constitution of 1950 has however made provision for seat reservations for the scheduled castes and scheduled tribes members of the Parliament and state assembly.

suggesting higher rates of female child mortality rates. According to 1998-99 National Family Health Survey data, women's average age at marriage has been less than 20 years while about 58% of 13-19 years old were mothers; these young mothers have little control over her own fertility and reproductive health; they face nutritional discrimination within the family eating last and least. More than a quarter of 6-17 years old girls do not attend schools. There are far fewer women in the paid workforce than men; women's wages are lower than men, even for the same work. Women are under-represented in governance and decision making position; there were less than 8% women in parliamentary seats, 6% in cabinet positions and less than 4% women judges in High court and Supreme Court of the country even in the 1990s. The seventy third amendment of the constitution has made an important break-thorough by guaranteeing women's participation in the village councils[5] though a number of factors continue to constrain women's participation in the village councils including women's lack of political experience and public skills, threat of violence, motion of no-confidence often brought by male members. Thus the gender gap persists.

**2.2. Political dimension of elite dominance in India**

Our analysis focuses on the period 1960-92, before the 73rd amendment of the Indian Constitution came into effect. The latter replaced the *nominated* village councils by the *elected* village councils that paved the way for the minority groups of women and low-caste people to exercise some power, at least at the local level. With these constitutional amendments, institutions at all levels witnessed some changes in their functions. As

[5] Following the 73rd amendment of the Constitution, discussion is now under way about the reservation of seats for women at the state and national levels as well.

responsibility for education becomes decentralised, district-level personnel, school head masters and village education committees acquired many new responsibilities. These changes justify our focus on the period 1960-92.

Thus in the pre-1993 period it was harder for members of the minority groups (women and low-caste people) to exercise political influence at different levels of administration. The pre-1993 period is also marked by a predominance of the Indian National Congress (INC) regime in most states, especially until 1977. In this respect, important exceptions have been Tamil Nadu and Kerala where alternative regimes came to power as early as 1967, while the other regional parties have had a more recent origin.

The social base for the Congress had traditionally been the landed elite and the rural habitations they controlled resulting in a dominance of the upper class in Congress politics, especially in the first 30 years after independence. However, in the years after Independence Dalit support for Congress had clearly strengthened. While the Dalits were a crucial Congress vote bank in a majority of individual States, they did not cling to Congress in regions where another party or movement rose to dominance. The major examples of long-term non-Congress dominance are West Bengal, Kerala, Tamil Nadu and Andhra Pradesh. Dalits in the former two States have for a number of years had a strong identification with the Communist Party in its several divisions - in recent years predominantly with the dominant Communist Party of India Marxist (CPI(M)).

Within Congress the importance of the Dalit vote however did not translate itself into great influence for individual Dalits in either the organisation or the ministry. In particular, the building of the compensatory discrimination system arose more from the arithmetic of elections and the goodwill of sections of the elite than from the efforts of

Dalit parliamentarians. Although a small number of state and national politicians have gained a measure of ministerial seniority, none has had either a long period at the apex of ministerial service or any substantial political base. Perhaps it is to be expected that a collection of castes distinguished by their overall subordination would not produce the highest crop of educated, experienced and generally talented politicians. Nevertheless issues of talent and preparation for public office among low-caste politicians can scarcely constitute the primary explanation for the low representation of Dalits at the highest political levels. There have also been persistent suggestions that Dalit politicians have not thrived within Congress if they have too strenuously promoted the cause of their own people. It remains an important truth that the ideological and social makeup of Congress has made it less than welcoming to highly assertive advocates of the Untouchable cause. Low social standing has also made individual Dalit spokesmen relatively easy targets for political demolition. Dalits have therefore tended to construct their political careers as dependants within factions led by high-caste politicians. It is difficult to think of a single example of a substantial multi-caste faction leader who is/was himself a Dalit.

Under-representation of women in the Indian politics is a well-known fact; what is more disappointing is how little has changed in this respect since the Independence. Women’s presence (as share of total seats) in Lok Sabha (lower house of the Parliament) fluctuates between 3%-8% over 1952-98 and the average turns out to be 6%. Very often these women come from elite upper caste background with some political tradition in the family or being close to a prominent male leader. Also more ambitious women members of the legislative assembly will choose to speak about issues not relating to women’s affairs, but those relating to industry, trade, economy and international relations, where power and influence converge.

Marginalised people everywhere have always aspired to build an egalitarian world. This legacy was carried forward in modern India by, more than anybody else, Ambedkar (a Dalit leader) and Gandhi. After independence, Ambedkar almost single-handedly wrote India's constitution, including key provisions barring caste-based discrimination. Nonetheless, discriminatory treatment of Dalits remains a factor in daily life, especially in villages, even in the twenty-first century. Despite their numerical strength, their voices are not heard through the ballot box. Clearly average voter turnout (especially among women and low caste voters) has been significantly lower, and more so in these worst performing states (see Table 3). With widespread illiteracy in these states many voters are not able to gain the full information necessary to make an informed choice[6] and the judiciary too has often failed to uphold this fundamental right.

Thus elite dominance could be rationalised in terms of a political economy outcome that marks a close nexus between political authorities and the elite (landed/capitalist). On the one hand, the elites lobby for weak regulations to facilitate their private benefits of control. On the other hand, political insiders too see the benefits of cooperating with the elites as outweighing the costs,[7] despite the detrimental effects on the masses in general. Once in place, elite dominance can be self-sustaining unless there are institutional reforms (e.g., land reforms, poverty alleviation programmes or large

[6] Among other things, the latter could be a result of the criminalisation of politics (that resulted in many criminals being elected, Dréze and Sen, 1995), especially in the Hindi heartland of North India (including some of the worst performing states like UP and Bihar), threatening/bribing the electorate, especially those less educated and marginalised and therefore vulnerable in a caste-based society during election times to vote or not to vote in a certain way.

[7] Very often the close allies (including family members) of the political authorities tend to belong to the landed/capitalist elite as well (e.g., see Morck et al. 2005).

scale industrialization) to erode the initial disadvantages of those marginalized.

### 2.3. Measures of elite dominance

The data set used in the paper consists of state-level economic and political variables available from the World Bank (Ozler, Dutt and Ravallion, 1996; Besley and Burgess, 2000) and Election Commission of India. Our analysis focuses on the 1960-92 period, before the introduction of the 73rd amendment of the constitution.

The data points are the election years. The idea is that elected politicians will want to attain their targets by the time of the next election when the electorate decides whether to re-elect them. In most cases elections take place every five years, though there can be an election before the next scheduled one if the government in power collapses. There can however be problems in the estimates if, for example, policies implemented in year four take a further two years to complete, so that the model will assign the effect to the next election cycle. While we need to be cautious in interpreting these results, one election cycle lag appears to be the best available option.

Clearly elite dominance (or lack of it) is a complex issue and in order to capture different dimensions of this concept, we generate two sets of measures – one related to *economic dominance* while the other to the *political dominance* of the elite.

Land is both the main productive asset and the basis of survival of the majority of the population in India still today, especially in rural areas. Thus land tenure is the foundation of social structure and political power. Very often there is also a close correspondence between caste and ownership of land in the Indian society; thus upper caste people often enjoy a much greater share of land while the low caste people turn out to be landless or marginal farmers. In the absence of a better indicator, we could form some idea of economic dominance of the elite, especially in the rural areas, from the distribution of land in these states. Table 1 shows the average percentage of total land area held by top 5% and bottom 40% of the population and also the Gini coefficient in the distribution of land (LANDGINI) over 1960-92. Since there is very little variation in the Gini index of land distribution, we use the land held by the top 5% of the population (TOP5) as an index of economic dominance of the elite.

We also try a composite index of different types of land reform legislations (CLR) in these states (see Besley and Burgess, 2000). Since land reforms are likely to have effects over time, we measure the extent of reform since the beginning of the data period by a cumulative variable that aggregates the number of legislative reforms. While simplistic, this could allow us to reasonably quantify the land reform measures. The underlying idea is that states where more land reform legislations were undertaken could be regarded as states with a more harmonious class relationship, thus alleviating the dominance of landed elite. Table 1 clearly demonstrates the discrepancy in the distribution of land between top 5% (TOP5) and bottom 40% of the population in all the states; however, the extent of the discrepancy is much higher in some states including Punjab and Maharashtra than in others like J&K, Assam or Kerala. Moderate degree of discrepancy persists in most other states though. There is also wide variation in the land reform activities across the states. In particular, the average values of this land reform legislation index appear to be relatively higher in Kerala, Tamil Nadu and West Bengal, states known for their successful social development programmes.

One also needs to distinguish landed elite from the capitalist elite, especially in the context of industrial development that gathered pace in India since the late 1970s. In the light of the available information, we generate an index of industrialization on the assumption that the process of industrialization would be accompanied by the rise of industrial capitalist, who would initiate better provision of public education since human capital is central to successful industrial development. The index of industrialization that we use in our analysis is the share of manufacturing output in net state domestic product.[8] Table 1 highlights the extent of inter-state variation in the extent of industrialization in the sample states. While on an average 26% of total state domestic product of Maharashtra is generated in the manufacturing sector over 1960-92, it is only around 10% or so in some of the worst performing states including Assam, Jammu and Kashmir, MP, Orissa and UP. The underlying assumption is that capitalist elite will dominate in states (e.g., Gujarat, Maharashtra, Tamil Nadu, for example) with higher degree of industrialization.

Further measures of economic elite dominance could be derived from the available information on distribution of consumer expenditure per capita (which also includes expenses on consumer durables). We have information on rural (GINI1) and urban Gini (GINI2) indices in the distribution of monthly per capita consumer expenditure; clearly higher values of rural and urban Gini indices would account for higher levels of dominance of elite upper class in the state. Last two columns of Table 1 shows the inter-state variation in the average values of rural and urban Gini indices in the distribution of consumer expenditure per capita over 1960-92. Gini indices of consumer

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[8] We also try some alternative measures of industrialisation including share of factory fixed and productive capital in factory value added for each state; but these measures were never significant in any specification.

expenditure however fail to be significant in the regression exercise that we perform in section 3. Unfortunately, we do not have any alternative measures of the distribution of consumer expenditure, e.g., consumption of the top 5% of the population as is available for the distribution of landholding (e.g., TOP5).

Finally, we generate some measures of *political (non-) dominance* of the elite in the Indian states. In the light of our discussion in section 2.2, we consider the gender/caste composition of the elected members of the ruling party in power. In particular, we include the proportions of women and scheduled caste/tribe members of the legislative assembly in the ruling party; this is because minority representation in a democratic set-up could make a difference, if any, in the allocation of public spending on education and can help break the vicious cycle of subjugation of the non-elite. Average values of the proportions of women and SC/ST members of the Assembly (in the ruling government) in our sample are summarized in Table 2. These figures clearly highlight the low representation of the members of the marginalized groups in the ruling government in all the sample states. Also note that the extent of minority representation does not change significantly with the change of political regimes. Thus political under-representation of the marginalized people persists in modern India.

## 3. EMPIRICAL ANALYSIS

Our analysis is developed in three steps. First we examine the role of elite dominance in the context of the changing share of state-level spending on education as a proportion of state output, distinguishing between the landed and capitalist elite (see section 3.1).

Secondly, we include the state-specific poverty rate to examine if the lower demand for public education in poorer states could explain under-investment in education by the landed elite in the selected states (section 3.2). Finally, we examine if the elite have any preference for non-development (as opposed to development) account of public spending (section 3.3).

**3.1. Determinants of Public Education Spending**

In this section, we determine the changing share of state spending on education (as a share of state output). Taking the share of education spending in relation to state domestic product allows us to control for state's wealth. In particular, we choose the change in the value of the variable from the last election to be the dependent variable. This differenced variable allows us to examine how the political regime would change the behaviour of the government in power while the level variable would simply reflect the correlation between political variables and the spending on education. Using the first difference of the state spending on education also allows us to reduce the possible problem of simultaneity arising from the inclusion of some of the explanatory variables described below; at the same time it would control for unobserved state-specific heterogeneity in our sample.

Among the explanatory variables, we include the initial value of spending on education (EDUEXPY) and expect a negative sign on its coefficient; the latter would indicate convergence, if any, in the level of this spending among the states over time, conditional on values of other covariates. As indicated earlier, we also include different measures of economic elite dominance; first we include measures, namely, LANDGINI, TOP5 and CLR in alternative specifications[9] as possible measures of dominance of landed elite. Note however that while proportion of land held by top 5% of the population (TOP5) is a measure of dominance exercised by the landed elite, index of land reform legislations (CLR) would reflect the lack of dominance of the elite. In order to explore the differential role of dominance of capitalist elite (vis-à-vis the dominance of landed elite), if any, we also include an index of state industrialization in specification (4). It is expected that measures of dominance (or lack of it) of landed elite would be associated with lower (higher) spending on education. Finally, we consider two possible measures of political non-dominance of elite, namely, the proportion of women (PWOMRUL) and low caste (PSCSTSRUL) members of the Assembly in the ruling party as well as representation of women (PWOMRUL) and low caste (PSCSTRUL) in the ruling party (see specifications 1-4). This will enable us to examine if the minority representation in the state assembly has any favourable impact on public spending on education.

In addition, we include a measure of social heterogeneity covariates in our analysis. There is some recent literature that stresses the link between *ethnic fractionalisation* and the poor delivery of public services (e.g., see Alesina, Baqir and Easterly, 2000). Banerjee and Somanathan (2001) have extended the idea of ethnic diversity for the provision of public goods in the Indian districts and suggest that more heterogeneous communities tend to be politically weaker and therefore are less likely to get the goods they want and are more likely to get some of the inferior substitutes.

Indian society has traditionally been multireligious (including 80% or more of the Hindus accompanied by minority groups of Muslims, Christians, Sikhs, Buddhists and

[9] As possible alternative measures of elite dominance, we also tried including the share of land held by the top 10% and 20% of the population as well as Gini indices in the distribution of average monthly consumer expenditure per capita; but these variables never turned out to be significant. See discussion in section 3.2.

Jains in these states), and multilingual (there are sixteen official languages in India). This social structure is further complicated by the prevailing caste system among the Hindus that distinguishes between upper caste (16%), other backward castes (43.7), scheduled caste (15%) and scheduled tribe (7.5%)[10], giving rise to a pluralistic society. With the consolidation of the British rule, Indian politics became competitive when different religious and linguistic groups began to compete with each other for the share of political power and government jobs. This trend continued and even in modern India - politicians continued to exploit this diversity by catering to certain sections of the population (and disregarding the needs of others). A direct measure of ethnic fractionalisation would therefore be to construct a composite index from the proportion of the population belonging to various ethno-religious groups including upper caste Hindus, scheduled caste, scheduled tribes, Muslims, Jains, Buddhists, Christians, Sikhs and others. Accordingly we construct a measure of ethnic fractionalisation (SOCHETY) and expect that the coefficient of this variable would be negative in the determination of change in education spending. Inter-state variation in the average values of social heterogeneity measure is summarised in Table 3 for the study period 1960-92. [11]

Finally we construct a binary measure of coalition government in power, if any. Existence of a coalition government may have important implications for the state

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[10] Source: Government of India, Report of the Backward Classes Commission (Mandal Commission Report), First Part, Vol. 1 (1980), p. 56. These figures are best estimates. The last caste census was taken in 1931.

[11] We also tried including an indicator variable measuring if the state government is aligned to the government at the centre. INC has remained in power at the centre during most of this period, except 1977-80 (Janata Party rule), 1989-90 (National Front coalition government). Thus the binary variable takes a value 1 if the party in power at the state assembly is also the party in power at the centre and 0 otherwise. Alliance with the union could be important in determining both earning and spending patterns of the state (e.g., see Khemani, 2003). But the variable was never significant in explaining change in state level spending and that is why we exclude it from the final specification.

spending patterns, since given the divergent agenda of the constituent parties, there may prevail a lack of coordination over budgetary decisions. This is because individual coalition partners in multi-party coalition governments may have distinct interests, which in turn would protect its own share of the budget. Roubini and Sachs (1989) suggest that there is a tendency for larger budget deficits in countries characterized by a short average tenure of government and by the presence of many political parties in a ruling coalition. Haggard and Kaufman (1995) argue that fragmentation creates impediments for the co-ordination required to initiate and sustain policy changes. More cohesive systems are more likely to generate stable electoral and legislative support for economic reform. Echeverri-Gent (1998) however argued that the fear of losing power could in fact be considered the biggest strength of a weak coalition government. A downfall of the government would be a loss to every member of the coalition, which in turn may induce weak-coalition minority governments to undertake bold economic reforms. To this end, we include a binary variable to indicate if the government in power is a coalition government (COALITION). The resultant effect could be positive, negative or may even be insignificant if the positive and negative effects outweigh each other (see discussion earlier in section 3.2). While the experience of coalition governments at the Centre goes back to 1977, it is a more recent trend in the assembly elections giving rise to alliances between/among various political parties to form government at the state level. Thus we examine if the coalition governments at the state level have positive (a la Echeverri-Gent, 1998) or negative (a la Haggard and Kaufman, 1995) effects on state-level spending on education.

Fixed effects panel data estimates of changes in public education spending are summarised in Tables 4. A positive (negative) coefficient estimate would indicate an increase (decrease) in the share of education spending associated with an increase in the value of the explanatory variable. We show estimates for four specifications (columns 1-4) depending on the particular measure of economic elite dominance, with control for measures of political elite dominance, social heterogeneity and presence of coalition government. Specifications (5)-(7) in Table 5 shows further estimates when we include both measures of landed and capitalist elite in the determination of changes in public spending on education (depending on the 3 different measures of dominance of landed elite).

Interestingly, the initial level of education spending remains insignificant in all specifications. This would reflect the lack of convergence in public spending on education across the sample states and could perhaps be rationalised in terms of the divergent agenda of ruling political regimes in the sample states. Secondly, ethnic heterogeneity and presence of coalition government both tend to be associated with lower public spending on education. While the result for ethnic heterogeneity is in line with Banerjee and Somanathan (2001), that for the coalition government contradicts Echiverri-Gent's argument; in contrast, this supports that offered by Haggard and Kaufman (1995) so that the presence of a coalition government is associated with greater fragmentation and lack of cohesive policy at the state level, resulting in lower education spending in the subsequent years in our sample. Finally for given levels of ethnic heterogeneity and presence of coalition government, if any, coefficients of different measures of economic elite dominance (except Gini coefficient in the distribution of landholding) turn out to be significant. For example, greater share of land among top 5% of the population (indicating higher incidence of elite dominance) is associated with lower public spending on education. Secondly, higher value of land reform legislations (associated with lower degree of elite dominance) results in significantly higher public spending on education. In a similar vein, dominance of capitalist elite (measured by the index of industrialisation) tends to be associated with higher public spending on education and confirms Galor and Moav's (2006) suggestion. Similar results are obtained with respect to specifications (5)-(7) in Table 5. Political representation of the minorities in the assembly however remains insignificant.[12] In particular, higher proportions of women and low caste members in the ruling party do not significantly affect education spending.[13] The latter perhaps validates the general wisdom that higher representation of the marginalised people (i.e., lower dominance of the elite) in the ruling government cannot by itself induce higher investment in public education (see discussion in section 2.2), especially if these members do not have any mandate to serve these marginalised people. In order to further explain this result, we examine if the winning seat in the state assembly by female/low caste members is closely correlated with the turnout among female/low caste voters. This is because if there is no such correlation it would not be necessary for these members to cater to these communities. Our results do suggest that there is no significant association between turnout among female/low caste voters and the election of women/low-caste members in the assembly, after controlling for initial illiteracy rate, ethnic heterogeneity of the state over the study period.

[12] Similar results are obtained even when we replace these variables with the proportion of elected women and low caste members of the assembly.

[13] However, when we add up the proportion of female and low caste members of the assembly in the ruling party, the variable becomes nearly significant, but only at around 10% level.

Taken together, there is some confirmation that dominance of landed elite significantly lowers spending on public education while that of the capitalist elite would enhance it; greater representation of marginalised groups in the ruling government (i.e., lower political dominance of elite) fails to generate any perceptible impact. Our analysis thus identifies land reforms and the extent of industrialization as two possible factors that could help break the vicious cycle of dominance of entrenched elite and may thus pave the way for the spread of public education among the marginalised people.

### 3.2. Role of demand on public education spending

In the context of our study it is useful also to examine the role of demand for public education to explain the persistence of lack of educational attainment among marginalised women and low caste people in the Indian states. There is a sizeable literature that suggests that human capital investment in low-income regions is significantly constrained by poverty and lack of household resources (e.g., Glewwe and Jacoby, 2004). Since, our study is conducted at the state-level, we would like to consider specifically the corresponding aggregate (state-level) factor(s) related to the household access to physical and human capital endowment (or lack of it). In the absence of any better indicator, the analysis in this section makes use of the available poverty head count ratio (that measures the lack of basic endowment among poor households) as a central factor affecting the demand for basic education at the state level. One possible hypothesis is that survival in the current period is more crucial for the poor than long-term prospect of improving income by investing in education today. Accordingly, one would expect that states with higher poverty rates would have lower spending on public education, because the immediate priorities of the poor would include others, e.g., access to jobs, subsistence consumption, cleaner water and the like. Thus in addition to the variables included in specifications (1)-(4) in Table 4, we augment each of these four models by including the poverty head count ratio. Estimates of these augmented models are presented in Table 6. While the basic results discussed in section 3.1 remain unchanged, we get additional insight as we include the poverty rate variable. There is some confirmation that the public spending on education is less in poorer states, even after controlling for all other factors including elite dominance. We thus argue that lower spending on public education in the Indian states is not only a result of elite dominance, but is also driven by the low demand for basic education, especially if poverty rates are higher.

### 3.3. Trade-off between development and non-developmental Spending

Our analysis in section 3.1 reveals that lower public spending on education is associated with the dominance of landed elite. The question that naturally arises at this point is if the landed elite has a preference for some particular expenditure account.

Our investigation in this section has thus focused on the trade-off between government spending on development and non-development account in the Indian states. Sachs et al. (2000) argued that the resource constraints in state finances in India have been accentuated by a near stagnant tax-GDP ratio, a rising share of non-developmental outlay in the total expenditure, large volumes of hidden or implicit subsidies and increasing financial losses of state enterprises while a growing pressure on state finances has stemmed from the rising demand for public services. The critical problem in state finances is not only one of high levels of expenditure (relative to revenue mobilization), but also one of increasing distortions in the pattern of expenditure (i.e., increase in non-developmental spending relative to developmental spending). A few of the Indian states have been more reform-oriented, such as Andhra Pradesh, Gujarat, Karnataka, Maharashtra, and Tamil Nadu, while states such as Haryana, Kerala, Orissa, Madhya Pradesh, Punjab, Rajasthan, and West Bengal have lagged behind in carrying out state-level reforms. Bihar and Uttar Pradesh are even further behind. Following this trend in the allocation of state-level spending towards non-developmental spending, we shall in this section explore if elite dominance has been one of the explanations for the trend increase in non-developmental spending (as a share of state output) in the Indian states in recent years.

We ran three sets of regressions to explain both changes in total (a) developmental and (b) non-developmental spending, depending on different measures of economic elite dominance. As with the estimates of the changes in education spending (see Table 4 and 5), measures of political dominance variables turn out to be insignificant; so we do not show these results. Table 7 thus shows three sets of fixed effects estimates each for (a) and (b), using three alternative measures of economic elite dominance.[14] These estimates seem to suggest a link between measures of elite dominance and the pattern of state spending away from development account and into non-development account. Indeed there is some confirmation that greater share of landholding among top 5% of the population is significantly negatively associated with changes in developmental spending. The trend is just the opposite if states enact more

[14] Note that we drop the land inequality variable (LANDGINI) from these specifications as a possible factor as it was never significant in earlier specifications.

land reform legislations or are more industrialised. Dominance of both landed and capitalist elite however enhances non-development spending. There is also significant evidence of divergent agenda among the Indian states as states with higher initial developmental and non-developmental spending continue to do so and there is no sign of catching up here.

## 4. CONCLUDING COMMENTS

This paper attempts to explain the low levels of literacy in India, where low caste and female population are significantly worse off than the general population and more so when residing in one of the worse performing states in India. Persistence of low levels of education, especially among these marginalized groups (i.e., female and low-caste people), is explained here in terms of the hypothesis of elite dominance where the elite systematically adopts the policy of under-investment in mass education and the subjugation of the marginalized people persists in some form even with the change in political regime.

Results based on the Indian state-level data for the period 1960-92 suggest that higher share of land held by the top 5% of the population (a) lowers spending on education as well as total developmental spending and (b) increases total non-developmental spending; (c) greater proportion of minority representations (female and low caste members) in the ruling government however fails to have any perceptible impact on both development and non-development spending in our sample. Unfortunately, gender, caste and class based politics perpetuates inequality. Spread of human capital could help to overcome the traditional disparities of caste, class and gender, just as the removal of these inequalities helps the spread of human capital. Results of our analysis highlight the role of land reform, industrialisation and poverty alleviation to break the vicious cycle of underdevelopment to improve the initial disadvantage of the marginalized people. This is however not an isolated process and needs to be implemented in conjunction with the financial sector reforms, for example, enabling the marginalized people to take advantage of the on-going pro-market reforms as well as to consciously participate in the political process (and make an informed choice). Impartial judiciary has also a very important role to play to uphold this crucial fundamental right, especially in its fight against criminalisation of the political process. We hope that future research will shed further light in this respect.

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**Table 1. Characterisation of economic elite dominance, 1960-92**

| | | | **Period 1960-92** | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | **Literacy rates** | | | **% of land held by** | | | | **Gini index in consumption** | |
| **State** | **1991** | **2001** | **Share. of mfg. output** | **Top 5%** | **Bottom 40%** | **Gini index in land distribn** | **Land reform legislation index** | **Rural** | **Urban** |
| AP | 44.10 | 61.1 | 0.14 | 41.4 | 0.79 | 0.74 | 1.58 | 29.6 | 32.4 |
| Assam | 52.90 | 64.3 | 0.09 | 25.6 | 2.53 | 0.60 | 2.18 | 20.7 | 31.5 |
| Bihar | 38.50 | 47.5 | 0.12 | 34.6 | 1.76 | 0.68 | 4.61 | 27.2 | 34.6 |
| Gujarat | 61.30 | 70.0 | 0.21 | 31.7 | 0.73 | 0.69 | 3.33 | 27.6 | 30.2 |
| Haryana | 55.80 | 68.6 | 0.14 | - | - | - | - | 27.1 | 30.8 |
| J&K | - | 54.5 | 0.06 | 21.5 | 10.43 | 0.49 | 1.45 | 24.3 | 26.9 |
| Karnataka | 56.00 | 67.0 | 0.15 | 32.8 | 1.29 | 0.67 | 2.55 | 29.3 | 34.5 |
| Kerala | 89.80 | 90.9 | 0.13 | 42.3 | 7.95 | 0.69 | 5.64 | 32.6 | 40.6 |
| MP | 44.20 | 64.1 | 0.10 | 29.7 | 2.61 | 0.63 | 3 | 31.0 | 35.6 |
| Maharastra | 64.90 | 77.3 | 0.26 | 33.2 | 0.58 | 0.70 | 1.97 | 31.8 | 37.2 |
| Orissa | 49.10 | 63.6 | 0.09 | 31.3 | 2.26 | 0.64 | 5.33 | 27.7 | 33.1 |
| Punjab | 58.50 | 69.9 | 0.11 | 37.1 | - | 0.74 | 0.64 | 31.7 | 33.4 |
| Rajasthan | 38.60 | 61.0 | 0.10 | 33.3 | 4.65 | 0.63 | 1 | 36.0 | 32.5 |
| Tamil N | 62.70 | 73.5 | 0.23 | 39.6 | 0.60 | 0.74 | 4.36 | 29.9 | 35.4 |
| UP | 41.60 | 57.4 | 0.10 | 29.8 | 3.05 | 0.62 | 2.48 | 28.6 | 32.5 |
| West Bengal | 57.70 | 69.2 | 0.18 | 31.6 | 1.32 | 0.67 | 5.18 | 26.7 | 33.1 |

**Table 2. Characterisation of political elite dominance, 1960-92**

| | **% of women among all candidates in the assembly elections** | | **% of women among all MLAs in the ruling party** | | **% of SC/ST members among all MLAs in the ruling party** | |
|---|---|---|---|---|---|---|
| | **All regimes** | **INC regime** | **All regimes** | **INC regime** | **All regimes** | **INC regime** |
| AP | 3.4 | 3.4 | 4.00 | 4.3 | 22.2 | 25.8 |
| Assam | 2.0 | 1.6 | 3.1 | 4.4 | 24.6 | 25.4 |
| Bihar | 2.4 | 2.5 | 4.7 | 5.8 | 22.7 | 23.8 |
| Gujarat | 2.4 | 2.3 | 6.8 | 7.7 | 37.0 | 36.1 |
| Haryana | 2.6 | 2.5 | 7.8 | 9.4 | 23.0 | 20.1 |
| J&K | 1.3 | 1.0 | 1.7 | 3.5 | 3.9 | 6.93 |
| Karnataka | 3.3 | 3.0 | 5.2 | 6.5 | 21.2 | 22.5 |
| Kerala | 2.2 | 2.1 | 1.5 | 0 | 6.3 | 5.7 |
| MP | 2.3 | 2.3 | 6.7 | 9.5 | 46.8 | 49.8 |
| Maharastra | 3.2 | 3.3 | 5.8 | 6.2 | 18.0 | 20.3 |
| Orissa | 2.5 | 2.3 | 4.4 | 4.7 | 47.1 | 54.6 |
| Punjab | 2.8 | 2.7 | 5.0 | 8.2 | 23.6 | 24.8 |
| Rajasthan | 2.0 | 1.7 | 6.5 | 7.1 | 35.6 | 34.6 |
| Tamil N | 2.1 | 1.2 | 4.6 | 3.4 | 21.2 | 22.8 |
| UP | 2.3 | 2.4 | 6.0 | 8.1 | 24.4 | 24.4 |
| West Bengal | 2.1 | 1.7 | 4.0 | 3.5 | 28.0 | 24.0 |

Note: MLA is the abbreviation for the members of legislative Assembly in the state

**Table 3. Presence of coalition government, degree of ethnic heterogeneity and voter turnout in the selected states, 1960-92**

| | | | Voter turnout (%) | | |
|---|---|---|---|---|---|
| **State** | **Coalition government** | **Ethnic Heterogeneity** | **SC/ST** | **Women** | **All** |
| AP | 0.00 | 0.47 | 59.2 | 64.0 | 68.3 |
| Assam | 0.00 | 0.64 | 57.5 | 56.0 | 61.3 |
| Bihar | 0.25 | 0.70 | 41.7 | 42.5 | 53.5 |
| Gujarat | 0.29 | 0.48 | 49.0 | 50.5 | 55.6 |
| Haryana | 0.25 | 0.46 | 31.2 | 64.2 | 67.4 |
| J&K | 0.00 | 0.26 | 31.7 | 51.2 | 69.0 |
| Karnataka | 0.00 | 0.51 | 62.9 | 62.6 | 67.2 |
| Kerala | 0.78 | 0.67 | 70.3 | 65.8 | 75.6 |
| MP | 0.14 | 0.53 | 43.3 | 40.9 | 51.2 |
| Maharashtra | 0.29 | 0.46 | 51.9 | 57.0 | 61.2 |
| Orissa | 0.25 | 0.56 | 38.4 | 35.0 | 46.7 |
| Punjab | 0.25 | 0.55 | 31.4 | 65.3 | 67.9 |
| Rajasthan | 0.14 | 0.54 | 48.6 | 41.0 | 55.4 |
| Tamil Nadu | 0.25 | 0.44 | 63.3 | 66.1 | 69.7 |
| UP | 0.11 | 0.63 | 35.9 | 43.6 | 50.5 |
| West Bengal | 0.88 | 0.66 | 64.2 | 57.8 | 67.3 |

**Table 4. Effects of Elite Dominance: Fixed Effects Estimates of Changes in Education Spending, 1960-92**

| | Change in Education spending (as a share of output) | | | |
|---|---|---|---|---|
| Variable | (1) Est. (T-stat) | (2) Est. (T-stat) | (3) Est. (T-stat) | (4) Est. (T-stat) |
| Initial share of education spending | 0.09 (0.156) | 0.05 (0.780) | -0.02 (0.304) | 0.01 (0.201) |
| Land held by top 5% of the population | -0.007 (1.834)* | - | - | |
| Land reform legislation index | - | 0.008 (2.468)** | - | |
| Share of manufacturing | | | | 0.07 (2.457)* |
| Proportion of women MLA in ruling party | - | - | 0.002 (1.217) | 0.002 (1.005) |
| Proportion of SC/ST MLAs in ruling party | - | - | 0.006 (0.784) | 0.003 (0.409) |
| Social heterogeneity | -0.02 (4.577)** | -0.02 (4.881)** | -0.02 (4.338)** | -0.02 (4.760)** |
| Coalition government | -0.003 (1.987)* | -0.003 (1.984)* | -0.002 (1.648)* | -0.02 (1.723)* |
| $R^2$ | 0.56 | 0.57 | 0.56 | 0.61 |
| F-Stat | 5.67** | 5.99** | 5.31** | 5.97** |
| Nobs. | 113 | 113 | 119 | 119 |

Note: '*' denotes significance at 10% or lower level while '**' denotes that at 1% or lower level.

**Table 5. Differential roles of landed and capitalist elite: Fixed Effects Estimates of Changes in Public Education Spending, 1960-92**

| | Change in Education spending (as a share of output) | | |
|---|---|---|---|
| Variable | (5) Est. (T-stat) | (6) Est. (T-stat) | (7) Est. (T-stat) |
| Initial share of education spending | -0.02 (0.319) | 0.06 (0.809) | 0.07 (0.868) |
| Gini index in the distribution of land | -0.02 (1.593) | | |
| Land held by top 5% of the population | | -0.006 (1.937)* | - |
| Land reform legislation index | | - | 0.006 (1.736)* |
| Share of manufacturing output | 0.08 (2.650)** | 0.09 (2.205)* | 0.07 (2.404)* |
| Proportion of women MLA in ruling party | 0.002 (1.089) | 0.002 (1.111) | 0.002 (0.920) |
| Proportion of SC/ST MLAs in ruling party | 0.001 (0.197) | 0.002 (0.206) | -0.001 (0.157) |
| Social heterogeneity | -0.02 (4.617)** | -0.03 (4.923)** | -0.03 (5.122)** |
| Coalition government | -0.02 (1.730)* | -0.04 (1.680)* | -0.03 (1.685)* |
| R2 | 0.63 | 0.64 | 0.62 |
| F-Stat | 6.25** | 5.41** | 5.98** |
| Nobs. | 113 | 113 | 119 |

Note: '*' denotes significance at 10% or lower level while '**' denotes that at 1% or lower level.

**Table 6. Effects of demand: Fixed Effects Estimates of Changes in Education Spending, 1960-92**

| | Change in Education spending (as a share of output) | | | |
|---|---|---|---|---|
| Variable | (1) Est. (T-stat) | (2) Est. (T-stat) | (3) Est. (T-stat) | (4) Est. (T-stat) |
| Initial share of education spending | 0.10 (1.498) | 0.11 (1.846)* | 0.13 (2.018)* | 0.11 (1.525) |
| Gini in the distribution of land | -0.01 (0.499) | | | |
| Land held by top 5% of the population | | -0.004 (1.930)* | | |
| Land reform legislation index | | - | 0.004 (1.632)* | |
| Share of manufacturing | | | | 0.03 (1.971)* |
| **Poverty head count ratio (HCR)** | **-0.0003 (4.376)**** | **-0.0003 (3.950)**** | **-0.0003 (3.635)**** | **-0.003 (2.964)**** |
| Proportion of women MLA in ruling party | 0.0008 (0.458) | -0.0004 (0.189) | -0.001 (0.518) | 0.0004 (0.203) |
| Proportion of SC/ST MLAs in ruling party | 0.005 (0.709) | 0.008 (0.985) | 0.004 (0.506) | 0.004 (0.607) |
| Social heterogeneity | -0.03 (5.502)** | -0.03 (5.628)** | -0.03 (5.687) | -0.03 (5.568)** |
| Coalition government | -0.002 (1.831)* | -0.003 (1.682)* | -0.003 (1.689)* | -0.002 (1.732)* |
| $R^2$ | 0.65 | 0.63 | 0.63 | 0.65 |
| F-Stat | 7.11** | 7.10** | 7.17** | 6.65** |
| Nobs. | | 113 | 113 | 119 |

Note: '*' denotes significance at 10% or lower level while '**' denotes that at 1% or lower level.

**Table 7. Fixed Effects Estimates of Changes in Development and Non-Developmental Spending, 1960-92**

| | Change in non-developmental spending (as a share of output) | | | Change in developmental spending (as a share of output) | | |
|---|---|---|---|---|---|---|
| Variable | (1) Est. (T-stat) | (2) Est. (T-stat) | (3) | (4) Est. (T-stat) | (5) Est. (T-stat) | (6) Est. (T-stat) |
| Initial share of non-development spending | 0.69 (9.421)** | 0.69 (9.190)** | 0.36 (3.760)** | | | |
| Initial share of development spending | - | - | - | 0.51 (6.070)** | 0.58 (6.893)** | 0.61 (6.910)** |
| Land held by top 5% of the population | 0.009 (1.713)* | - | - | -0.004 (1.721)* | - | - |
| Land reform legislation index | - | -0.005 (1.720)* | - | - | 0.006 (3.429)** | - |
| Share of manufacturing | | | 0.28 (2.899)** | | | 0.42 (2.362)** |
| Social heterogeneity | -0.07 (1.418) | -0.07 (1.202) | -0.06 (3.445)** | -0.13 (3.997)** | -0.15 (4.691)** | -0.15 (4.509)** |
| Coalition government | -0.008 (1.417) | -0.008 (1.379) | -0.009 (1.630)* | -0.01 (1.718)* | -0.01 (1.913)* | -0.01 (1.832) |
| $R^2$ | 0.56 | 0.55 | 0.37 | 0.41 | 0.45 | 0.46 |
| F-Stat | 5.71** | 5.56** | 5.71** | 4.32** | 4.98** | 4.95** |
| Nobs. | 113 | 113 | | 119 | 119 | 119 |

Note: '*' denotes significance at 10% or lower level while '**' denotes that at 1% or lower level. Also note that we drop the proportion of women and SC/ST members of assembly in the ruling party from these regressions as these variables were never significant.