

Decentralisation, Preference Diversity and Public Spending: Health and Education in India

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Education and health are commonly devolved functions to sub-national governments, even in nations which have a unitary rather than a federal structure. This paper investigates, for the specific case of a federal country like India, whether differences between states in shares of public spending on health and education show convergence over time, and the impact of episodic horizontal partitioning of states on this process. Our analysis rejects the hypothesis that preferences for health across state level jurisdictions are becoming more uniform over time, but for education, there is evidence of convergence, albeit at a low rate.

1 Introduction

In 2005, public spending on health and education amounted to \$4.64 trillion worldwide, or about 10% of the world's GDP (World Bank 2008). How these expenditures have an impact on social outcomes of interest and what determines the magnitude of these expenditures are, therefore, important policy questions. There is now an extensive literature on the impact (or lack thereof) of public health spending on population health outcomes (Anand and Ravallion 1993; Bidani and Ravallion 1997; Filmer and Pritchett 1999). There is, similarly, a large literature on the impact of public spending on education on population educational outcomes (Barro and Sala-i-Martin 1999; Easterly and Rebelo 1993), as well as the impact of public spending on education on macro-economic outcomes (Harbison and Hanushek 1992; Rajkumar and Swaroop 2008, Wolf 2004). Another strand of literature emphasises the socio-economic distribution of public subsidies on health and education (Bidani and Ravallion 1997; Mahal 2005).

Until quite recently, much of the literature on the impact of health and/or education spending in developing countries tended to neglect the fact that public expenditures are not exogenously determined, unlike a control knob that can be turned off or on by the policymaker. To be sure, several authors have written about the impact of structural adjustment programmes and the role of fiscal crises on health and education spending in developing countries (Naiman and Watkins 1999). However, the issue of political determinants has garnered less attention in the developing country context. This is contrary to the emphasis in the public finance and political science literature, where public expenditure allocations are the outcome of a political process. Among the few exceptions are work by Stasavage (2005) who empirically examined the impact of national-level electoral competition on education spending in African countries, Brown and Hunter (1999) who examined similar issues in the Latin American context, and Lake and Baum (2001). Another notable contribution is by Rodrik (2000) who examined the role of democracy in mitigating the impact of fiscal crises on social spending.

This paper contributes to the existing literature on the political determinants of education and health spending by highlighting the implications of one particular dimension of democratic polity: decentralised governance. Specifically, we explore variations in sub-national public spending on health and education in the context of India and examine trends in it over time. We also inquire whether the inter-jurisdictional variation in public spending varies with increased decentralisation after controlling for other explanatory factors. Furthermore, we use this

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association to draw inferences about preference diversity across sub-national jurisdictions.

Our paper is motivated by economic theory that justifies decentralised provision of public goods on two main grounds. The first is underlying variation in voter preferences across sub-national jurisdictions. If there is no such variation, a centralised government will provide sub-national public goods uniformly, with adjustments at best for regional differences in the costs of provision (Oates 1972). With inter-jurisdictional variation in voter preferences, uniform provision is inefficient. The trade-off between centralised and decentralised governance in arriving at the optimal size of jurisdictions then becomes a function of diversity of preferences, spillover across sub-national jurisdictions and economies of scope (Prud'homme 1995).¹ The lesser jurisdictions differ in their preferences, all else remaining the same, the more efficient it is to have centralised governance. The more they differ, the more efficient it is to have decentralised governance (see also Alesina and Spolaore 2005). Tiebout (1956) argued that efficient public good outcomes in response to preference diversity are ensured by voter mobility across jurisdictions via a process of inter-jurisdictional competition (see, however, Bewley 1981; Epple and Zelenitz 1981).

The second justification for decentralisation occurs even when preferences are uniform. Salmon (1987) argued that horizontal jurisdictional competition among local governments and vertical competition among local- and higher-order governments could promote accountability with respect to provision of public goods. Both Breton (1987) and Salmon (1987) pointed out that voters are likely to find it difficult to obtain information on the performance of centralised governments, which leaves the latter less accountable. The presence of multiple jurisdictions in a decentralised system can fill this gap by enabling voters to compare the relative performance of jurisdictions. This type of yardstick competition has been formally modelled in Besley and Case (1995). Another explanation is provided by Qian and Weingast (1997), who emphasise the role of decentralisation as a commitment device that assures local governments protection from predatory practices of central governments, as they pursue efficient public goods provision. Specifically, by devolving decision-making authority and control over pertinent local information to lower-level decision-makers, the central government offers a credible commitment to these decision-makers that any efficiency gains achieved by them will not be taxed away, or lead to a reduction in future revenue transfers. Of course, these "second generation" theories of decentralisation are entirely compatible with heterogeneous preferences for public goods. In the Qian and Weingast framework for instance, the locally specific information may consist of voters' public good preferences that may vary over jurisdictions.

Inter-jurisdictional yardstick competition in a decentralised framework to enhance government accountability, when preferences are uniform, will be associated with *convergence* in public good outcomes across sub-national governments (Besley and Case 1995; Epple and Zelenitz 1981; Salmon 1987). However, if preferences are non-uniform, convergence in outcomes may not occur. Schaltegger and Küttel (2002) argue specifically that whenever voter participation in governing institutions at the local level is high, local preferences are more likely to come to the

fore, mitigating the move towards convergence in decentralised settings. However, if voter participation in governing institutions is low, non-uniform preferences may not get reflected in sub-national public good provision. It is against this theoretical perspective that we test for convergence in this paper, using data for India.

Empirical tests of the role of diversity in preferences for public goods provision are bedevilled by measurement issues, and yield at best context-specific results. A study for Canada (Elkin and Simeon 1980) noted the existence of provincial cultural diversity in Canada based on Gallup opinion surveys, with controls for education, income and other socio-economic factors, although these divergences were found to converge over time. The study also found convergence over time in the pattern of government spending. Conditional federal grants were in operation during this time, but the study found other drivers of convergence as well. In their study of Swiss Cantons, Schaltegger and Küttel (2002) found evidence of mimicking behaviour in canton governments as also of divergence related to voter participation in governments; and Besley and Case (1995) find evidence of yardstick competition in a study of US states and associated convergence in local government behaviour. These efforts notwithstanding, assessing preference diversity in the context of decentralisation remains a challenging task.

In this paper we use information on state-level public expenditure data for India to test for convergence in public spending, and thereby assess preference diversity across sub-national jurisdictions. India is a particularly interesting case for this type of study for at least three reasons. First, the formation of Indian states along the lines of cultural contiguity is potentially indicative of differential preferences over public goods. Second, over the nearly 50 years since states' reorganisation in 1957, it has experienced sub-national states splitting over time.² Indeed, India happens also to be unique in this respect, with constitutional rules in the other (presently 25) federations in the world making the redrawing of constituent units difficult to the point of obstruction (Anderson 2007). This suggests that the intensity of yardstick competition may be changing over time. Whether this feature leads to convergence or not will depend on the underlying preference pattern. Third, India has excellent historical data on government spending and its composition allowing for such an assessment.

2 Background, Methods and Data

Following independence, the Indian federation initially underwent a series of reorganisations of sub-national jurisdictions that stabilised in 1956-57. The reorganised structure at the end of 1957 consisted of 14 states, formed by transferring territories from one state to another, or consolidation of contiguous areas, based on linguistic criteria (Registrar General of India 2004). Subsequently, six of the original 14 states were split up into two or more entities at various points in time resulting in eight additional states (see Annex 1, p 63 for details). Six other states took birth from union territories that were administered directly from the national capital, bringing the total number of states to 28 presently.

We use information on public expenditures as a way to capture (indirectly) preferences over public goods. In theory, the use of public spending in lieu of preferences is potentially problematic

owing to Epplé and Zelenitz (1981) who suggest that even when individuals can vote with their feet, differentials in public goods provision across jurisdictions can emerge without heterogeneous preferences in jurisdictions with fixed boundaries. Their argument essentially is that governments need not respond to individual needs because jurisdictional taxes would ultimately be borne by owners of (inelastically supplied) land even when individuals can themselves leave. Voter preferences may also not be adequately reflected in public spending patterns if Tiebout-type inter-jurisdictional competition is limited by low levels of inter-state migration (voting with one's feet) in India and a small number of jurisdictions, each covering a large area. The link between preferences and public spending might also be diluted because a small number of jurisdictions will limit yardstick competition. However, as Salmon (1987) argued in his classic analysis, as long as there is substantial "internal" political competition within jurisdictions, the potential use of yardsticks (or relative comparisons with other states) leads governments to be more accountable to their voters, even without voter mobility and large numbers of jurisdictions. Certainly, there is little doubt about India's robust intra-jurisdictional competition via a multitude of political parties.³

Competition promoted via information on neighbouring states' performance will promote convergence of public spending patterns if inter-jurisdictional differences in voters' preferences are not significant. Note that the existence of yardstick competition does not imply convergence of spending when preferences are diverse. In a median voter framework, for instance, each voter could get to compare performance with a set of comparator jurisdictions, so that the distribution of preferences in the jurisdiction can potentially remain unchanged even as each individual gets to be better informed.

Linkages between public spending and preferences may also be complicated by differences in the cost of provision of public goods, or in fiscal capacity across jurisdictions. This can be addressed at least partly by focusing on the composition of total spending in each jurisdiction, rather than on spending per capita.

Empirical Approach

If there are inter-jurisdictional differences in preferences, how would these translate to public spending at the state level? In light of the preceding discussion, these differences ought to be reflected in the interstate dispersion of allocations to public goods that are locally specific. Moreover, starting from any initial inter-jurisdictional pattern of public spending, any convergence over time to an inter-jurisdictional mean will occur only slowly (or not at all) if there is diversity in preferences, all else the same. One goal of our paper is to empirically assess the speed with which public spending patterns in India have been converging (or not) across jurisdictions at the provincial level.

A second issue that we wish to explore is the impact of the partition of some Indian states on the interstate dispersion of public spending. In theory, this could have one of two effects. First, partition would increase the magnitude of yardstick competition because of the increase in the number of comparators. To the extent that this process further clarifies the diverse nature of inter-jurisdictional preferences, one might observe increased

dispersion in public spending. And, by the argument of the previous paragraph, this ought to further slow down the process of convergence in spending patterns, or remain unchanged.

A second alternative is also possible. In case preferences are uniform (and any observed dispersion is simply random error), increased yardstick competition is likely to *enhance* the speed of convergence to a common pattern of public spending. Moreover, as the number of partitions increases, the rate of convergence ought to go up.

Our conclusions can be confounded by two key factors. First, voters' expressed choices (although not necessarily their orderings over states of the world) may also change over time, as populations become economically better off. This is a very real possibility, and any discussion of preference diversity in terms of spending on public goods must be conditioned on factors such as income that can influence voters' indicated choices of public goods.

Second, because India has a federal structure of government, at least some of the observed convergence may simply be a result of changing central government share in state spending. This is particularly likely in India's case as many of the most promising sources of revenue continue to be under the control of the central government. Moreover, because the same party can potentially be in power in both and (any of) the states, central governments may have an incentive to demonstrate their contribution to spending at the state level as an indicator of their performance.

With this background, we assessed the dispersion of public spending (pre-break-up) over time. In this framework, the expenditures in any jurisdiction that was partitioned were taken to be the *combined* spending of jurisdictions carved out of it. This aggregation was necessary because we had no information on the allocation of spending in sub-jurisdictions prior to partition. Given the sequential (and cumulative) nature of the process of partition of jurisdictions in India which occurred at many points in time, the model that we sought to estimate was:

$$(1) Y_{it} = \alpha_i + \beta_i t + \tau V(SDP)_{it} + \delta G_{it} + \varepsilon_{it}$$

where

$$t = 1, \dots, T$$

$$i = 1, \dots, p$$

$$i = 1; t \in [0, t_1];$$

$$i = 2; t \in [t_1, t_2];$$

...

$$i = p; t \in [t_{p-1}, T]$$

$$0 < t_1 < \dots < t_{p-1} < T$$

In (1), Y_{it} is a measure of dispersion (expressed as *natural logs*) around the inter-jurisdictional mean of the relevant expenditure variable, "t" is a point in time, α_i is the intercept term relevant to time period "i" and β_i is the slope term corresponding to time period "i". Also ε_{it} is a stochastic error term assumed to be independently and identically distributed with zero mean and finite variance. Note that the coefficient on the trend variable can be interpreted as the "speed" of convergence (or divergence). Times t_1, t_2, \dots, t_{p-1} indicate the points at which states were partitioned. The variable G_{it} captures the contribution of central government spending to state budgets – it is the ratio of central government grants to total state expenditures; and $v(SDP)_{it}$ is the variance of (real) state domestic product per capita at any given point in time.

Instead of estimating a separate equation for each period “i”, we can estimate a single compact version of (1) given by

$$(2) Y_t = \alpha_1 + \sum_{i=2}^p \theta_i D_i + \beta_1 t + \sum_{i=2}^p \pi_i D_i t + \tau V(SDP_t) + \delta G_t + \varepsilon_t$$

$t = 1, \dots, T$

Here D_i indicates a dummy variable for time interval “i”, so that $D_2 = 1$, if $i = 2$, 0 elsewhere, and so on.

Data

We analyse current⁴ public expenditures on health and education, as recorded in the independent fiscal accounts of sub-national units in the Indian federation. The focus is on current expenditures, because these help to capture annual expenditure commitments, without the episodically lumpy character of capital expenditures. Moreover, health and education are two major categories of expenditures that are likely to reflect “local” preferences given that the two functions are sub-nationally assigned. Health is exclusively a sub-national responsibility (entry 6 in the State List of Schedule 7 of the Constitution). Education was also exclusively a sub-national responsibility (entry 11 in the State List), but was concurrently assigned to the union and state governments under a constitutional amendment (the 42nd Amendment Act) in 1976.

Our measure of dispersion is the inter-jurisdictional coefficient of variation (cv) of public spending of health and education over the period from 1960-61 to 2006-07, taken as a proportion of total development spending across the pre-partition states, where the expenditures of constituent units of partitioned states are reassembled back into the larger unit to yield a uniform set of states over time. We use the natural log of cv to aid in a direct interpretation of the slope coefficient as the rate of movement towards convergence to the inter-jurisdictional mean.

“Development” spending is obtained by netting out, from total current spending, expenditures on pensions, interest on public debt, law and order and general administration. In the year 2006-07, development spending comprised 56% of all current spending. Of the remainder, two-thirds comprised interest and pension payments. These categorisations, including the definition of development spending, are similar across Indian states. If percentages of health and education expenditure to total current expenditure were taken instead, the variation across states would reflect differences in interest burdens and law and order situations, factors exogenous to the allocative decision investigated here.

Our analysis is confined to the 15 jurisdictions defined as states in fiscal year 1960-61, with independent fiscal accounts. We, therefore, exclude jurisdictions labelled then or now as union territories in India, whose fiscal accounts are merged with those of the national (union) government, as long as they carry that status. In total, the 15 included states in 1960-61 (or their 22 counterparts in 2006-07; see Annex 1) accounted for roughly 98% of India’s population and 95% of its geographical area by the census data for 2001 (Registrar General of India 2004). The data were obtained from annual accounts for individual states, as reported by the Reserve Bank of India (see notes to Figure 1). Details of the state composition over the years are in Annex 1.

Dummy variables ($= 1$, if year later than 1967, 0 if not), ($= 1$, if year later than 1971, 0 if not) and ($= 1$, if year later than 2000, if not) were constructed for the three points at which partition occurred; see Annex 1. However, the high degree of multicollinearity between the dummy corresponding to 1967 and the dummy for 1971 led us to drop the latter from our analysis. We also decided to ultimately not to include any of the interaction terms owing to the high correlation with the time (and/or other dummy variables).

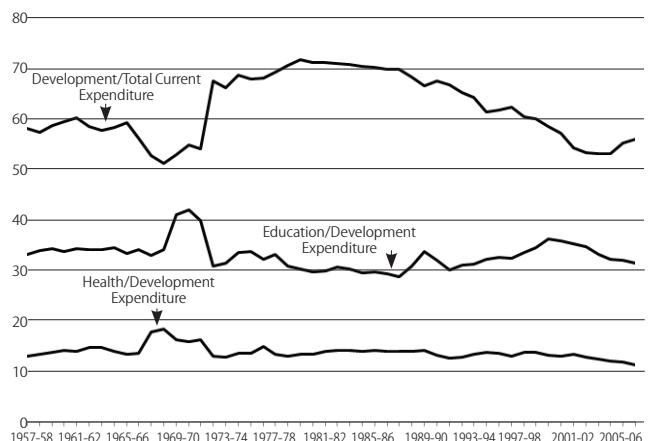
3 Results

Figure 1 shows the unweighted mean across the entire set of 15 original states of the share of development in total current expenditure, and the share of education and health in development expenditure over the period. The most remarkable finding is the stability in the mean share of total (current) expenditure on health and education throughout our period of analysis.

This is most apparent from the two most prominent features in the graphs in Figure 1: the marked rise in the share of development in total (current) expenditure in fiscal year 1973, after a dip between fiscal year 1966 and fiscal 1973, and the increased shares of health and education in development spending during this period. The upward wobble in these, between fiscal 1966 and fiscal 1973, shows that their absolute levels held steady at a time when development expenditure dipped.

Figures 2 and 3 (p 61) present information on the average cross-state (unweighted) share of education and health spending, respectively in development expenditures. They also indicate the variation – indicated by the two bands – within one standard deviation of the mean – in these shares. Most remarkable is the observation that, although the mean fluctuates a lot, the variation in shares in development spending of both health and education

Figure 1: Mean Shares of Development Components of Current Expenditure of 14 Indian States (1957-2007, %)



(a) All expenditures above are components of current expenditure (revenue account). Total expenditure is the sum of development expenditure, non-development expenditure and grants-in-aid. Development expenditure includes expenditure on social services and economic services. Non-development expenditure is the sum of financial payments such as interest and pensions, and expenditure on administrative services including police and organs of state. (b) Shares in total spending as shown are unweighted means across the initial set of 15 states. Where states were partitioned, the constituents of the larger unit were reassembled to yield a constant set of 15 states over the period. (c) Education is defined to include allocations to art and culture. Health includes medical and public health, water supply and sanitation, and family welfare/reproductive health. Water supply and sanitation was separately reported in fiscal accounts from 1985-86 onwards, and was added back to get a consistent series; family welfare was separately reported from 1995-96 onwards, and was added back likewise. Sources: Reserve Bank of India Bulletin: Finances of State Governments, up to 1989-90; Handbook of State Finances, 2004, for the period 1990-91 to 2001-02; and State Finances, annual issues, for all subsequent years.

Figure 2: Interstate Average and Variation in Education Expenditure (1960-2007)
(% share of development expenditure)

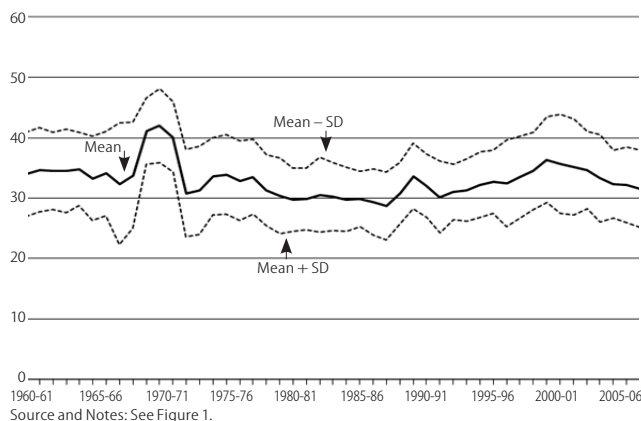
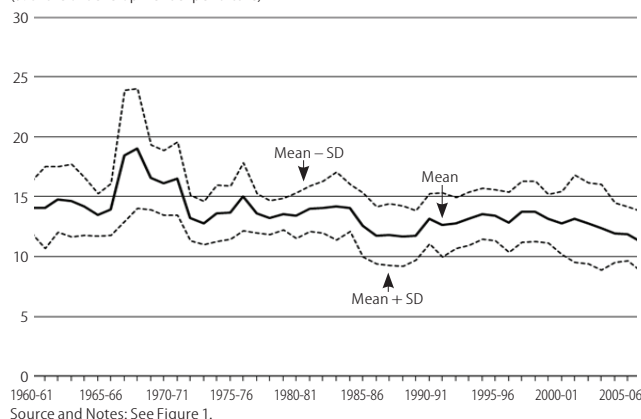


Figure 3: Interstate Average and Variation in Health Expenditure (1960-2007)
(% share of development expenditure)



appears not to change much. Certainly, there appears to be no tendency towards convergence. This basic observation holds up in our multivariate analysis.

Our main empirical results for the period from 1960 to 2007 are described in Tables 1 and 2. In Table 1, we present results on the correlates of interstate dispersion in spending on education in three different specifications. The results on the coefficient for the time variable show that over the period from 1960 to 2007 there is no movement towards convergence (or away from it) in the interstate dispersion of the share of education in development spending. Some divergence in spending, however, appears to have occurred in the period following the year 2000 partition of three states – UP, Bihar and Madhya Pradesh.

Table 2 presents corresponding results for allocations to health spending in the public sector. The results suggest that interstate dispersion in allocations to health is actually increasing over time, albeit extremely slowly, at an annual rate of growth of between 0.5% and 1.6%. Dispersion in per capita income is associated with lowered dispersion in health spending shares, and as in the case of education, the period following partition in 2000 (but not in 1967) is associated with increased dispersion in health spending shares.

We also sought to analyse whether our results were influenced by the period of analysis, given that the 1960s were characterised by two wars, a famine and a severe foreign exchange crisis. For this purpose, we restricted our data to the period from 1972 to 2007. Only specification (3) from Tables 1 and 2 was estimated and the

results are reported in Table 3 (p 62). Although some of the coefficients are now statistically significant in the specification that describes the dispersion in educational expenditures, the signs are the same as in the results for the longer, 1960 to 2007 period. In particular, the share of central government grants in total state government spending becomes negatively correlated with our measure of dispersion. The coefficient of the time trend variable for education acquires statistical significance, indicating convergence towards the interstate mean, although its magnitude remains small, with a rate of decline in the coefficient of variation of 0.5% per year.

4 Discussion and Conclusion

Education and health are the two most commonly devolved functions to sub-national governments, even in states which have a unitary rather than a federal structure. The issue investigated in this paper is whether in the specific case of a federal country like India, there are differences in observed expenditure shares of health and education between states and whether these can be used to assess preference diversity across states. Starting from any initial inter-jurisdictional pattern of public spending, our hypothesis is that any convergence over time to an inter-jurisdictional mean will occur only slowly (or not at all) if there is diversity in preferences, *ceteris paribus*.

In general, we find little evidence that shares in public spending on health and education are converging over time, after controlling for interstate dispersion in income and the share of central government grants in total state government spending. Moreover, following partitions of (a subset of) states, there has

Table 1: Correlates of Interstate Variation in Public Spending on Education (1960-2007)

Explanatory Variables	Dependent Variable: Log (Interstate CV of Share of Public Spending on Education in Development Expenditures)		
	(1)	(2)	(3)
Time	-0.001 (0.002)	0.0002 (0.003)	-0.003 (0.004)
Proportion of central grants in total state spending	-0.774 (1.245)	-0.717 (0.262)	-0.823 (1.270)
Dummy {=1 if year ≥ 1967, 0 elsewhere}			0.103 (0.099)
Dummy {=1 if year ≥ 2000, 0 elsewhere}			0.214* (0.086)
CV of interstate per capita NDSP		-0.569 (1.210)	-1.240 (1.238)
Intercept term	-1.504* (0.223)	-1.381* (0.345)	-1.199* (0.354)
R ²	0.02	0.02	0.15
N	47	47	47

CV denotes the coefficient of variation (expressed as a fraction). Standard errors are reported in parentheses alongside the coefficient estimate.

*statistically significant at 5%.

Table 2: Correlates of Interstate Variation in Public Spending on Health (1960-2007)

Explanatory Variables	Dependent Variable: Log (Interstate CV of Share of Public Spending on Health in Development Expenditures)		
	(1)	(2)	(3)
Time	0.005** (0.003)	0.016* (0.005)	0.011* (0.005)
Proportion of central grants in total state spending	1.558 (1.843)	2.004 (1.734)	2.465 (1.698)
Dummy {=1 if year ≥ 1967, 0 elsewhere}			0.012 (0.133)
Dummy {=1 if year ≥ 2000, 0 elsewhere}			0.321* (0.115)
CV of interstate per capita NDSP		-4.452* (1.661)	-4.887* (1.655)
Intercept term	-2.111* (0.330)	-1.146 (0.474)	-1.041* (0.473)
R ²	0.08	0.214	0.35
N	47	47	47

CV denotes the coefficient of variation (expressed as a fraction). Standard errors are reported in parentheses alongside the coefficient estimate. Health has been broadly defined to include spending on medical and public health, family welfare and water and sanitation to ensure consistency over the entire time period of the study.

*Statistically significant at 5%; **statistically significant at 10%.

Table 3: Correlates of Interstate Variation in Public Spending on Health and Education (1972-2007)

Explanatory Variables	Log (Interstate CV of Share of Public Spending on Health in Development Expenditures)	Log (Interstate CV of Share of Public Spending on Education in Development Expenditures)
Time	0.016* (0.005)	-0.005** (0.003)
Proportion of central grants in total state spending	2.363 (1.665)	-2.041** (1.073)
Dummy {=1 if year \geq 2000, 0 elsewhere}	0.211** (0.110)	0.185* (0.071)
CV of interstate per capita NDSP	-4.142* (1.622)	-0.123 (0.105)
Intercept term	-1.405* (0.520)	-1.172* (0.335)
R ²	0.50	0.26
N	47	47

CV denotes the coefficient of variation (expressed as a fraction). Standard errors are reported in parentheses alongside the coefficient estimate. Health has been broadly defined to include spending on medical and public health, family welfare and water and sanitation to ensure consistency over the entire time period of the study.

*statistically significant at 5%; **statistically significant at 10%.

been either no change in dispersion (after 1967), or dispersion has actually increased (after 2000).

Our results also help shed light on whether central government grants to support state expenditures are helping to lower dispersion in health and spending shares across states. While this appears not to be the case for our analysis for the period 1960 to 2007, it is interesting to note that the coefficient of the grant variable becomes statistically significant (and negative) when we restrict our analysis to education spending. This ought not to be surprising given that central governments probably played a greater role in supporting education directly after the mid-1970s when it came on the concurrent list of the Constitution. By contrast, no such convergence was observed for health, which belongs primarily to the legislative/financial jurisdiction of the

states, whether or not we restrict our analysis to the period 1972 to 2007.

Accounting for differential growth in income per capita across states has the effect of promoting convergence in health spending (though not education spending). This is not altogether surprising, since in a setting with increased government revenues (and development expenditures) states with higher incomes might allocate lower shares of government spending to health in the expectation that their (now) wealthier constituents would be willing to share the burden of spending from their own resources. On the other hand, poorer states might allocate greater shares to health for meeting the most basic health needs of their residents. This empirical result is also consistent with a story of preference diversity across provinces, but is at odds with cross-country regressions (authors' calculations based on World Development Indicators data) where the share of public spending allocated to health increases with per capita income. However, the cross-country relationship may not necessarily obtain at the sub-national context in a federation where increments to public health spending are often fiscally driven by national government. The low responsiveness of public health spending to incomes in Indian states may reflect alternative priorities, as also a growing role of the private sector that provides services to households that can afford its services in the better-off states.

Our exploratory empirical findings are subject to at least two caveats. First, although states have exclusive functional jurisdiction over health, and concurrent jurisdiction over education, in practice there is substantial national government expenditure in these sectors that is not routed through state budgets, which has

EPWRF website

EPW Research Foundation (EPWRF), since its inception in 1993, has built up expertise in some major areas of economic research and analysis. Even while pursuing specific research studies on India's macro economy, the EPWRF has been focusing on systematic compilation and dissemination of consistent current and long data series on various sectors of the Indian economy, as also its social sectors. Its website has been a source of reference for students, research scholars and academics over the past several years. EPWRF is now happy to announce the redesigning of its website www.epwrf.in with many special features.

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increased over time.⁵ To the extent that these require co-funding in prescribed proportions by state governments, they would lead, other things being equal, to convergence in sectoral expenditures. In any event, these extra-state budget transfers are a relatively recent development. Confining our analysis to a period prior to 1995 (when these transfers were more limited) did not affect our results.

The second caveat is that large numbers of Indian voters might not be aware enough to vote in line with their preferences, or able to acquire information from comparator jurisdictions, or may simply lack opportunity (or desire) to participate in governance. This viewpoint (which might also stem from taking a capability perspective towards preference revelation), if valid, would lead to the conclusion that there is essentially no way that we can judge whether preferences are diverse or not. In this setting, yardstick competition would not be relevant either, and essentially the distribution of public spending could be arbitrary. Were this to be the case we would be unable to disentangle lack of convergence owing to preference diversity from that of uncommunicated preferences.

Our analysis rejects the hypothesis that preferences for health across state level jurisdictions are uniform, or that they are *becoming* more uniform. However, convergence in public spending on health is occurring through another mechanism. Specifically, we believe that with increasing divergence in income per capita across states (Sachs, Bajpai and Ramiah 2002) poorer states have sought to maintain their expenditure shares on health, in contrast to better-off states that might have allocated a greater share to programmes other than health.

In contrast to health, there is evidence of convergence for education, at a low rate. But the coefficient of income disparity shows no convergence on that account. These results are consistent with the nationwide voter preference for education, as a ticket to upward economic mobility in an economy dominated by the service sector, as reflected in the passage of the Right to Education Act. The health status of the Indian population remains poor, but there appears to be no equivalent convergence in voter pressure towards improvement of health services.

NOTES

- 1 If public goods vary in reach, and if this variation is continuous, efficiency requires a continuum of sub-national governments, corresponding to the reach of each public good. A two- or three-layered decentralised governance structure is a discrete and small-number approximation to that continuum, with the associated problem of neglecting benefits spilling across sub-national boundaries.
- 2 There was also a further layer introduced in the Indian federation in 1993, with changes in the Indian Constitution assigning greater roles to local governments, but this paper does not deal with decentralisation in that vertical sense of an additional layer.
- 3 The Election Commission of India has a registered list of 785 political parties, of which 55 cross the electoral success thresholds (at state level) needed for listing as recognised parties. Of these 55, seven are national parties by virtue of having gained recognition in a minimum of four states. These numbers vary over time.
- 4 Formally, it is referred to as "revenue" spending in Indian fiscal terminology.
- 5 National government shares of total expenditure in these sectors rose from 5-7% in 1950-51 to 15-18% by 2005-06 (Rajaraman 2008).

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Annex 1: Administrative Reorganisation of India (1957-2001)

Year	New States	Number of States at Year-end
1957-58	Comprehensive reorganisation	14
1960-61	Bombay into Maharashtra and Gujarat	15
1962-63	Nagaland out of Assam	16
1966-67	Haryana and Himachal Pradesh out of Punjab	18
1970-71	Meghalaya out of Assam	19
2000-01	Jharkhand out of Bihar; Uttarakhand out of Uttar Pradesh; Chhattisgarh out of Madhya Pradesh	22

(1) Jurisdictions labelled as union territories are excluded from the analysis in the paper, because their fiscal accounts are merged with those of the national (union) government, as long as they carry that status. Six states in the present total of 28 existed initially as union territories, prior to becoming states. They are Arunachal Pradesh, Goa, Manipur, Mizoram (which was a part of Assam until 1971 but existed as a union territory until 1986 before becoming a state), Sikkim and Tripura.

(2) Himachal Pradesh existed briefly as a union territory between 1966-67 and 1970-71, when it became a state.