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Teacher Compensation: Can Decentralization to Local Bodies Take India from the Perfect Storm Through Troubled Waters to Clear Sailing?

I) Introduction: An Empirical Illustration of the "Perfect Storm"[1]

There are signs that publicly produced elementary education in India faces enormous problems. Although enrollments are up, a recent survey of rural areas (Pratham 2005) found shockingly low levels of learning achievement[2]. There is widespread dissatisfaction with government schooling, expressed in many ways, including parents and students voting with their feet and pocketbooks. Data from a recent household survey

1. We would like to thank Suman Bery for the invitation to produce this work and Barry Bosworth for helpful guidance. The comments of Esther Duflo at the India Policy Forum were, as always, insightful and grounded and improved the paper. We would like to thank Jishnu Das, Venkatesh Sundararaman, and Nazmul Chaudhury for a helpful exchange and to acknowledge Jishnu's influence—while granting him the usual complete deniability. In addition, conversations with Michelle Riboud, Ajay Shah, Geeta Sethi, Salimah Samji, and the WDR 2004 team have been instrumental in shaping the general approach to decentralization. Finally, Varad Pande is to be thanked as a substantial portion of the last section draws on Pande and Pritchett (2006).

2. The recent Annual Survey of Education study (Pratham, 2005) administered a simple test of reading and of mathematics to children in rural India. They found that only 60 percent of grade V students in government schools could read a simple story while 70 percent of private school students could do so. The fraction of pupils who could do written numerical sums was similarly about 10 percentage points higher in private than public schools. This varied a great deal from state to state. In Uttar Pradesh only about 45 percent attending government schools could read the story while 70 percent of those in private schools could (a 25 percentage point gaps, similar to that in the study below in Delhi), while in Maharashtra the performance was roughly equivalent and in some states public students outperformed the private sector on some subjects.

investigating school attendance of children 6-14 (SRI 2005) found that in urban areas of six major Indian states the share attending private (registered or unregistered) schools is above the share of private schooling (68 percent) in the Netherlands, where financing has historically been neutral between private and public providers and which has the highest level of private schooling at the elementary level of any country in the world. In only two states (Assam and West Bengal) was the share of children in private schooling significantly lower than in Chile—a country that "privatized" schooling in 1981.[3]

At the heart of this dissatisfaction are concerns about teachers. Paul et al. (2004) found that as a national average only 16 percent of households reported themselves "fully satisfied" with the reliability of the behavior of the government school teachers, with astoundingly low levels of satisfaction in some states: only 1 percent in Punjab, 3 percent in Orissa, 5 percent in Haryana, 6 percent in Rajastan, 9 percent in Bihar. This expressed dissatisfaction is consistent with the findings from a nation-wide study using random surprise visits to schools that found both high levels of absenteeism and very high levels of not being engaged in teaching even when present such that less than half of teachers are both present and engaged in teaching activity during the school day (Chaudhury et al 2006). These findings are corroborated by in-depth studies such as the PROBE report (1999) and the more recent report on schooling in West Bengal of the Pratichi Trust (2002) that found in interviews with parents that teachers are often absent, negligent when present, and frequently abusive.[4]

A recent study by Tooley and Dixon (2005) did a physical census to identify all schools in the North Shahdara neighborhood of New Delhi—government and private, including both registered and unregistered. They then interviewed parents, students and teachers in these schools and also directly measured student learning achievement. While this study has a small sample and this neighborhood of the capital is by no means representative of all of the country, the study does bring into one place features—wages, parental satisfaction, learning achievement, and teacher attitudes—that are rarely present in the same study. Together these features

3. This excludes the data from Orissa that are anomalous and at odds with other sources.

4. Two of the more telling anecdotes in the Pratichi Trust report were one villager recounting that dissatisfied with their local teacher's absenteeism they would force the teacher to go to the school in the mornings—but then they found he spent his day drinking tea, reading the newspaper, and "forcing the students to give him massages." Another mother told the researchers that when her child misbehaved at home she threatened to tell his school teacher—because of the abuse at school the child's school teacher was the one person the child was truly terrified of.

illustrate the "perfect storm" nature of current public sector teacher compensation. The standard findings that replicated those of many other studies were that:

- Teachers in government schools are paid much more than teachers in other schools. Public school teachers in this sample reported earning on average Rs 10,076 per month which is 7.4 times more than teachers in unregistered schools who reported making only 1,360 per month and almost three times as much as teachers in private registered schools who made 3,600 per month.
- Even though class sizes were much higher in government schools, (because teachers are so expensive) the average cost per student was about 2.4 times higher in government than in private schools.
- Students in government schools had lower learning achievement than those in private schools and in this study the differences are massive—private school students answered roughly *twice* as many questions correctly than did government students[5].
- Parent and student satisfaction with nearly every dimension of teacher performance was lower in government than private schools.

So far, this is a very big storm, but a storm that is often argued about, creating what appears to be an ideological divide between those who regard themselves as proponents of private schools and those who regard themselves as "defenders" of government schooling and of teachers. But the "perfect storm" nature of the current situation emerges looking at the results from interviewing the teachers themselves. The teachers in government schools were *less* satisfied with nearly every aspect of their jobs and careers than were private school teachers: they felt they got less respect from management, less respect from parents, they felt the school's leadership was weak and the work environment was worse. So, *teachers* are also unhappy with the current situation.

But the truly astounding element of the perfect storm emerges when teachers were asked if they were satisfied with their *pay.* Perhaps not surprisingly, 29.4 percent of government teachers were "very satisfied" with their pay. But what is astounding is that 25.9 percent of teachers in private unrecognized schools were also "very satisfied" with their pay—only 3.5 percentage points lower—in spite of the fact that the level of pay was

5. Of course, this does not in and of itself represent higher "value added" by private schools—better students might choose to attend private schools—but the raw differences in scores are large.

seven times lower! Moreover, while it is to be expected the roughly 20 percent of private unregistered school teachers were dissatisfied with their pay, what is astounding is that 11 percent of public teachers also reported themselves dissatisfied with their pay, even though they make wages that far exceed both the private market for teachers and the general market wage in the private sector in non-teaching.

This one study illustrates at least in one small locale the "perfect storm" by comparing government and private unregistered schools in New Delhi:

- Government teacher pay is 7.4 times higher,
- Government per student costs are 2.4 times higher,
- Government teachers are *half* as likely to be teaching when observed,
- Learning achievement in government schools is massively lower in all three subjects tested,
- Students are more dissatisfied with teachers in government schools,
- Parents are dissatisfied with government schools[6] and,
- *Government* teachers are *unhappier* with nearly every aspect of being a teacher,
- The only aspect of teaching on which government teachers were happier was pay—and even then the differences were small.

Now *that* collection of facts constitutes a perfect storm.

We argue here that at the heart of the difficulties with government produced schooling—the low learning achievement, the widespread dissatisfaction of citizens with teachers, the consequent massive shift into private schooling, and the unhappiness of teachers themselves—is the current *system* of teacher compensation in the public sector. Unfortunately much of the discussion about teacher compensation in India has focused exclusively on the differences in average pay between the public and private sectors. This focus on the average difference creates a false dichotomy in which supposedly proponents of "high" pay are associated with strong public sector schools, higher quality of schooling, and as advocates of the interests of teachers while proponents of "low" pay are associated with private

6. Of course a major finding of the study is that only 27 percent of schools in the neighborhood were government schools implying parents are putting their children in private schooling even though they must pay the full cost out of pocket versus the subsidized and promoted government schools. The dissatisfaction with public schools had lead to a massive expansion in private schools: in this one neighborhood over a hundred new schools had been started in the last decade—*one* government school while the majority were private unregistered schools.

schooling, more concern about efficiency and fiscal costs than quality, and risk being labeled anti-teacher. We intend to stand this conventional wisdom exactly on its head. We argue the current system of compensation that combines a *high average* but *badly structured* compensation in the public sector produces a "high pay/zero accountability" outcome that is anti-teacher in that it undermines the morale and motivation of government teachers by not treating teaching as a *professional* activity, is *anti-education* in that it *lowers* the quality of learning achievement and commitment to a learning culture in the schools, and is *anti-public sector* in that it erodes the public sector's ability to produce schooling that attracts students which undermines political support for government schools.

Unfortunately we believe that nearly everyone would agree with our assessment that it is politically impossible to restructure the compensation of existing teachers or make sufficiently systemic changes in the current state based cadres. We argue that perhaps a thorough-going devolution of education to the Panchayati Raj Institutions (PRI), as envisaged in the constitutional amendments, provides an opportunity—quite possibly the only politically feasible way to sail out of this perfect storm—to completely restructure the entire system of compensation to be consistent with an accountable and performance oriented public sector.

Before moving to documenting the facts about the system of compensation in India and how that system produces negative results in Section III, we first must provide a theoretical grounding in section II. Though a bit abstract, the fundamentals of systems of compensation, organizational complementarities, and relationships of accountability are necessary in order to avoid the simplistic dichotomies that ensnare many discussions of teacher's wages. Starting from fundamentals helps avoid the invariable suspicion of all non-economists that when economists approach teacher compensation they have in mind a simple-minded "pay for performance" scheme that is both administratively unworkable, distorts education, and is incompatible with the realities of schools and teachers. Section IV then lays out a concrete proposal for a new system of compensation embedded in a reformed decentralized system of schooling that is *pro-teacher, pro-education* and *pro-public sector.*

II) Systems of Compensation and Relationships of Accountability

This section makes three points that should inform any discussion of the structure of pay. First, the structure of pay is only one element of a system

of compensation, and not necessarily the most important. Second, a system of compensation needs to be embedded in an organizational strategy—and there are complementarities between other aspects of an organization and the system of compensation so that neither can be decided without reference to the other. Third, organizations, particularly public sector organizations, are embedded in a broader set of relationships of accountability and organizational strategies need to be consistent with overall accountability relationships.

II.a) Systems of Compensation

Organizations—whether it be a private firm, a university, an NGO, a religion, a political party—have goals. In order to accomplish those goals organizations have strategies—an explicit or implicit mental model of how the actions of the organization will lead to accomplishing the organizational goals. In order to support the strategy, organizations adopt policies and practices. One of the sets of policies and practices organizations have are broadly "human resources." Within the broad arena of human resources an organization has a *system of compensation*. The objective of an organization's system of compensation is to *attract, retain*, and *motivate* people to carry out the organization's goals.

Far too much time is spent discussing a single number—the average wage—that only summarizes one small aspect of a system of compensation. A system of compensation has four basic elements:

The first element of a system of compensation is the rules about who will be compensated—that is, the *nature and duration of the employment relationship* with the organization. People could work on a job to job basis as contractors to an organization, people could work on fixed term contracts with terms and conditions for renewal, people could work as indefinite term employees—but who could be separated for causes like poor performance, or people could have a de facto or de jure "lifetime" employment relationship. While often the employment decision is thought of separately from compensation, in fact this is the building block of compensation and one can use separation and not differential wages of those employed to create high powered compensation.

The second element of a system of compensation is the *structure of pay* across "states of the world." Wages of individuals can be differentiated by a large number of criteria: by seniority, by qualifications of the individual, by position in the organization (promotions), by assessed performance (either bonuses or raises), by performance of the organization (for example,

bonuses linked to the firm's stock), linked to individual output (piece rates). The structure of pay are the rules linking criteria—including those that vary over time—to the wages of a specific individual in a given period.

The third element of a system of compensation is *assignment of workers to tasks*. Again, perhaps this is only a broader human resource policy but it has an important dimension of compensation as workers often prefer to work for the organization in one capacity or another (for example, higher in the organizational hierarchy), or in one location or another (rural versus urban), at one time versus another (day shift versus night shift). Often within public sector or non-profit organizations the monetary compensation is quite equal but huge differences exist in 'rewards' as choice assignments are given to better performers.

The fourth element of a system of compensation is the *mix of current cash compensation and benefits* both present (for example, health insurance) and future (for example, pensions). This allocation affects the time profile of compensation and hence the incentives to stay with a given organization. Moreover, if a large fraction of compensation is in benefits this tends to reduce the extent to which wages generate differences in total compensation.

These four elements of an organization's system of compensation affect the way in which the system of compensation generates a workforce with the appropriate set of characteristics (skills, competencies, and attitudes) and motivates the workforce to take actions consistent with implementing the organization's strategy to accomplish its goals.

ATTRACT. Economics is frequently caricatured as arguing that people choose jobs to maximize income. In fact, economic theory suggests that people choose jobs in order to maximize *expected lifetime well-being* and each element of a structure of compensation is important in attracting the "right" people.

First, we assume people act to pursue their own goals—call it utility, welfare, well-being—but we do not assume that people's goals are exclusively monetary. People choose occupations that they find of interest, where they feel they earn respect, where the work environment is pleasant, where they feel they "make a difference." Particularly for attracting teachers this "intrinsic motivation" is important.

Second, a job that is potentially a long-term career presents a structure of pay across states of the world—some jobs may pay little at first but earnings rise sharply, others may pay high performers well but low performers little, pay may depend on getting promotions within the organizational structure. Hence what matters for attracting people is not only the initial wage but the entire structure of the wage over a career cycle.

Third, since pay varies across states of the world each individual's expected lifetime well being from a given structure of compensation depends on their assessment of the probabilities of their being in different states of the world. So, occupations that offer higher pay for high performers will attract those who believe (rightly or wrongly) they will be in the high performer category as their expected lifetime pay is higher than for another person with less confidence in being a high performer—even though the two individuals face exactly the same structure of pay from the organization.

RETAIN. The retention of workers has two elements: whether workers choose to leave or whether the organization forces an involuntary separation. Retention is perhaps the key element in creating a workforce compatible with a high performance organization as if the organization attracts a large pool of potential long-term employees and then retains those for whom the "match" between individual characteristics and organizational goals is the best; then observed worker productivity can rise sharply with tenure in the organization. A commonplace of the literature on labor is that there is nearly always a large amount of "churning" early in people's labor force experience as they search for a job (occupation and organization) that has a good match—the person has high well being and the productivity for the firm is high. This typically means that very few of those who take a job with a firm stay in the job, but of those that stay they stay for a very long time.

Part of this churning is voluntary separation—which most organizations implicitly encourage in part by having low wages at entry and then have wages rise with seniority and in part by having benefit packages which are often back-loaded (for example, pensions). This churning is more important when the "match" between person and organization is important for productivity. While productivity in a variety of occupations might be associated with some underlying measure of worker "quality" in fact worker "quality" is a worker-organization specific phenomenon. Particularly with teachers people often refer to extremely crude measures of training or education attainment or certification as the measure of "quality" whereas these are in practice only very weakly related to the quality of a teacher.

Even though voluntary separation is common, every high performance organization, and certainly every high performance *professional* organization, has a means for involuntary separation of workers that do not meet some performance threshold. In many, if not most, professions there is something like a journeyman-master distinction of the old guild tradition. In universities professors have a probationary period followed by tenure.

In law firms recent law graduates become associates and then "make partner." In medicine doctors go through long-periods of residency and fellowships in specialization before being allocated into jobs. Actuaries have a period of working before they become "fellows" of the society of actuaries (based on a series of certifying examinations). This common "tenure-like" decision is often associated with a large increase in pay.

MOTIVATE. A system of compensation should motivate those who are currently employed to take actions consistent with the organization's goals. This is a very difficult and subtle question for organizations like schools. There is little question that as the basic structure of pay for teachers "pay for performance" is not feasible or desirable (although there could be some element of student performance linked compensation). The modern economic theories of compensation do not simply assume that "piece rates" are the optimal wage structure and that "high powered" money incentives are always the ideal method for creating organizational performance—even in the private sector. The modern economic theory of compensation (for example, Lazear 1995) is built up from various strands: "institutional" view of the firm (Williamson 1985), principal-agent theory (Milgrom and Roberts 1992, Laffont and Tirole 1993, Roberts 2004). Taking the organization as the principal and its workers as agents the extent to which systems of compensation should depend on 'high powered' incentives depends critically on the extent to which (a) organizational performance depends on the actions of the agents of the organization and (b) the extent of "contractibility" of the agent's actions.

In the debate about compensation "high powered" incentives are those that link closely with outcomes (either organizational (like stock options) or individually assessed performance). First, to implement high powered incentives based on worker performance in any organization one has to be able to individually assess the contribution to the organizational goals. In nearly all cases this is difficult as the production process is a team or joint affair. There are many determinants of outcomes beyond the control of the individual worker and making incentives too high powered with respect to outcomes beyond the agent's control simply creates undesirable variability in worker pay with little incentive effect. Second, if one moves to subjective based assessments of performance there is a risk of "influence activities" as agents divert effort from goals to influencing the perception of their performance. Third, when there are multiple goals (as is true in education) and some of those goals are more easily quantifiable than others then creating incentives for the objectively measurable goal will cause agents to redirect

effort from unmeasured to measured goals (the individual level counterpart of "what gets measured gets done"). Finally, excessively high powered monetary incentives could be inconsistent with the "vision and mission" or "culture" of the organization itself. Almost certainly there are good priests and bad priests but the Catholic Church is rightfully reluctant to use high powered cash incentives to motivate priests.

The elements of the system of compensation interact in determining the appropriate structure of pay. If in fact the system of retention has worked so that the vast majority of the organization's agents remain with the organization (after attrition and involuntary separation) because they have "internalized" the organization's goals and are a good productivity match with the organization then individually high powered incentives in the structure are less important. But this requires an ability to attract many and then retain few. It may well be that all fighter pilots in the Indian Air Force make nearly the same amount of money, but they are a highly selective group due to rigorous entrance, training, assignment to task, and promotion. Proposing a "pay per enemy plane downed" scheme would strike everyone as enormously wrong headed. Introducing individual gaps in pay could actually undermine intrinsic motivation (but so potentially, as we argue below, does a system with no gap at all).

The key to a structure of pay for motivation in multiple-goal, team based, non-competitive culture organizations like schools is typically an assessment process that estimates overall performance and which generates only moderate gaps with grades or ranks in the service at any given time, but wider and wider gaps between top and lesser performers as promotions and cumulative assessments produce wide gaps. But at the same time, this has to be combined with ways of avoiding very low performance.

The four elements of a system of compensation can be combined in various ways to create a high performance organization. The objective is not to make schools in India look like private firms, but rather to make schools in India that have systems of compensation similar to high performance organizations with similar goals and contexts.

II.b) Complementarities: Fit of System of Compensation with Organization Goal and Strategy to Promote Performance

The conventional wisdom is that high performance organizations tend to be "coherent" in the sense that they have: *clear and limited* goals, regularly judge their *performance* against those goals, have a feasible and *technically sound* strategy for accomplishing those goals, have organizational *policies*

TABLE 1. Types of "Compensation Strategies" Depending on the Extent to which Either Continued Employment or Wage Compensation is Based on Performance

Extent to which continued employment is based on current (or cumulative) performance	*Extent to which compensation of employed individuals is based on assessed performance*		
	Low	*Medium*	*High*
Low	"Civil Service" (employment is permanent, little pay variation)		"Commission based sales" or "piece rates" (pay linked strictly to individual output, anyone can work who wants to)
High then Low	"Probationary period" (After a probationary period all are kept on indefinitely, little variation in pay)	"Tenure" (employment is not secure for some time, followed by 'permanent' status, variation in pay by subsequent raises/promotions)	"Professional Partnerships" (employment as an associate/junior partner, followed by becoming full partner, pay depends on firm/partnership income and partner contribution)
High	"Up or out" (all people at a given rank have equal pay, but if people do not advance in rank they are forced out)		"Top private executives" (pay is often heavily dependent on bonuses, at risk to being fired)

and practices compatible with the strategy, and finally have human resource tactics—including the *system of compensation*—compatible with the organizational goals and strategy. While a great deal of economists attention is to for-profit private firms, there are many high performance organizations in many domains outside of the for-profit private sector (for example, universities, political parties, religious movements, NGOs). The key to high performance organizations is not mimicking the private sector firm but rather adopting a strategy consistent with the organization and its objectives.

Hence the second major point from the modern theory of compensation is the emphasis on *complementarities* between the system of compensation and other policies and practices of the organization (Roberts 2004). For instance, some types of organizational reform actually raise the impact of other changes and so are mutually reinforcing. When there are complementarities it is possible that individual changes that are incoherent with the overall organization may fail—even though they would have succeeded as part of a broader package.

This is particularly relevant to schooling as there are a number of research studies examining the impact of introducing teacher incentive schemes of various types that link some component of teacher compensation to observed student performance[7]. However, for the most part, these incentive schemes that link say, student learning or progression, to some small part of teacher pay (either at the school or individual level) are often wildly at odds with the overall "culture" of the public sector bureaucracies responsible for schooling. Education ministries tend to be classic "high modern" bureaucracies (Scott 1998) with an input and logistics focus (like budgets, filling positions) with process orientation (were the rules followed?) rather than a performance orientation around either outputs or outcomes. It is easy to believe the impact of introducing a once-off experiment or small component of the overall system of compensation will be small relative to the potential of a system change.

On the other hand, if done well, then student assessment could be linked both to creating a performance culture, to improved teaching practices, and to some extent to teacher compensation. For instance, there is a very interesting randomized experiment under way in Andhra Pradesh that has introduced some incentive payments (on both an individual and group basis) comparing them to increased inputs[8]. The preliminary results show that both group and individual incentives have a significant impact on student learning. What is perhaps just as important is that the design of the test was done in such a way that it emphasized conceptual learning and moreover, the test instrument was a diagnostic provided to each school and teacher to reveal the concepts their students were not mastering. This is designed to avoid rote "teaching to the test" but to promote "testing to teach" where the test itself provides useful feedback to the teacher. This is potentially an example where the incentive scheme is complementary to a change to a learning culture in the organization.

Similarly, many attempts to promote a "performance" and "outcome orientation" or accountability schooling organizations are stymied by a system of compensation that does not give school heads any latitude—they

7. There has been examination of these issues in the USA, particularly in the city of Chicago. In Israel Lavy (2002) finds substantial impacts of group effects on outcomes. There have been very few such studies in developing countries. Glewwe, Kremer and Ilias (2003) find some impacts of teacher incentives linked to student performance, but which disappear over time as the improved performance appears to be mainly "teaching to the test." See below for recent results in Andhra Pradesh.

8. This discussion is based on a presentation given on the AP RESt project given August 3, 2006 to the Department of School Education, Government of Andhra Pradesh.

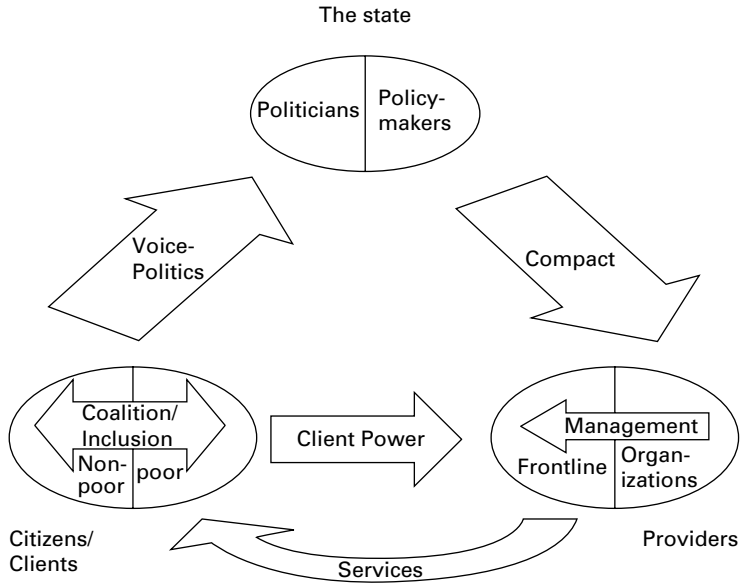
cannot choose teachers, assign teachers, force separation of teachers, or affect pay—so school heads in the public sector are very limited in what they could do to create a high performance school.

II.c) Relationship to Accountability

Both of these points: (a) that the system of compensation should be the focus rather than "high" or "low" pay and (b) that the system of compensation is embedded in a larger institutional and organizational context, are (not coincidentally) embedded in the "accountability" approach to service delivery. The accountability approach (as for instance articulated in the World Bank's World Development Report 2004) analyzes the outcome of service delivery as the result of a four by five framework: four relationships of accountability, each with five elements.

Figure 1 illustrates the four relationships of accountability involved in the provision of basic schooling. Three of these are relevant when the public sector itself produces schooling (since there are three relationships this is called the "long route" of accountability). One relationship is called *politics* (between citizens and the state) as in order for the state to act in the interests of its citizens it must have accountability to them. A second relationship is

FIGURE 1. Four Relationships of Accountability in Service Delivery: Politics, Compact, Management and Client Power



Source: World Development Report, 2004.

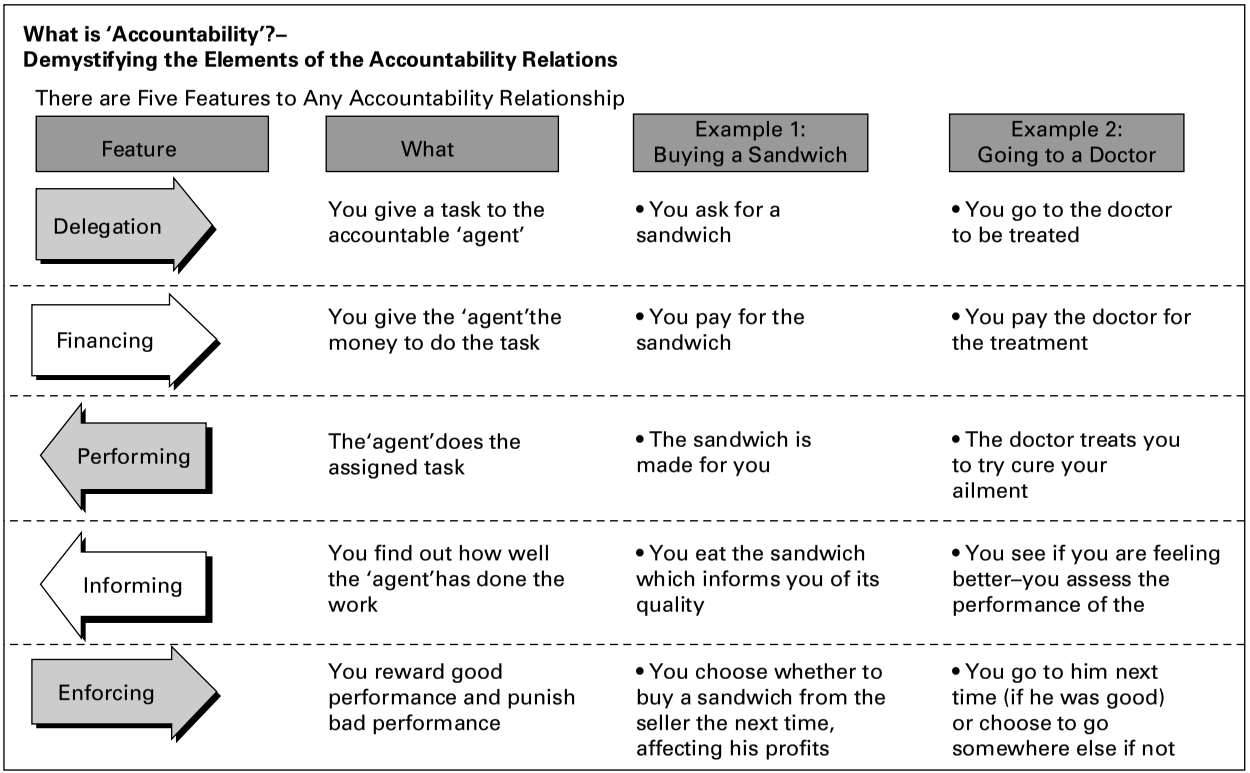
called, for lack of a better word, *compact* (between the state and its organizational providers). That is, for public production to be successful the executive and legislative branches that represent the state have to be able to control the line agencies (such as ministries of education). The third relationship of accountability in the long route is *management* (between ministries of education and teachers). If effective schooling is to happen millions of front-line providers (teachers) have to do the right thing hour to hour, day in and day out. A distinct route of accountability would run directly from clients to (organizational) providers, as when parents pay for schooling (or tutoring) out of pocket. There is no general rule that the "long-route" (public) works better than the "short-route" (private) as many of the best education systems in the world are almost entirely public. That said, a failure in any one of the relationships can lead to failure of the entire set—if politicians are not adequately accountable to voters they may undermine the efforts of even the most well meaning ministries or teachers.

To say that "politicians should be accountable to voters" is more a cliché than a tool of analysis. To unpack a relationship of accountability for analytical purposes, the framework posits five elements of any relationship of accountability: *delegation, finance, performance, information,* and *enforceability.* Performance is different from the other four, as it is chosen by the "accountees" (called the agent) while the other four are elements of design usually under the control (in some way shape or form) of the "accounters" (called principals). Figure 2 illustrates these five elements.

In the case of *management* as a relationship between an organization (school or school system) and front-line providers (teachers) the organization chooses the goals, the financing (both of assets, inputs, and wages), the information to be generated for internal (or external) accountability and the enforceability.

A system of compensation is another way of emphasizing the elements of "enforcing" available to management of organizations for creating accountability of front-line providers as "enforceability" which depends on the observed performance of teachers (which depends on what information is collected relative to the delegation to teachers of their tasks) is affected by all four elements of the system of compensation (durability, structure of pay across states of the world, assignment to tasks, and cash/benefits mix). The complementarity between the institutional context and system of compensation is also important. If in fact individual schools are not given clear goals or adequate financing nor are themselves subject to any "enforcing" then it is unlikely that high performance inducing systems of compensation will be introduced.

FIGURE 2. The Five Elements of Each of the Four Relationships of Accountability



Source: Pande and Pritchett, 2006.

III) The Current Structure of Teacher Compensation in the Public Sector and How It Creates the Perfect Storm

Teachers in India are strikingly well-paid and they are strikingly badly paid. That is, the *level* of average compensation of teachers is very high, but at the same time every element of the system of compensation seems almost designed to eliminate any element of accountability—so teacher pay is extraordinarily badly structured to produce desirable educational results. This section first reviews the facts about the system of compensation, including the level and structure of pay and then illustrates how these features contribute directly to many of the observed weaknesses of public schooling.

III.A) Empirical Facts about Teacher Pay in India

We document four facts about the system of teacher compensation.

Fact 1: There is little or no ability to separate teachers from service—for any cause.

First, while this may vary legally a bit state to state, by and large state cadre teachers are protected by laws and even by an article of the constitution. Second, teachers, both collectively and individually are politically powerful and hence the de facto risk of separation is even less than the very little allowed for in theory. Third, in their interviews examining absenteeism researchers visited thousands of schools and asked the question "has any teacher ever been disciplined?" and in only one instance could *anyone* recall a teacher being disciplined, and not just in the survey period but *ever.* The nature of the durability of the employment relationship once entered into is: "forever, from the first instant, no matter what."

Fact 2: The average pay of public sector teachers is very high relative to alternatives (both private teaching and other private sector jobs).

In this paper we are more focused on the *structure* of pay because it is common knowledge that *average* pay of public school teachers is substantially higher than that of private school teachers. There are many small scale surveys of teachers in public and private schools and while few of them find the dramatic 7.5 to 1 differentials of the Tooley and Dixon study, everyone finds that average pay in the public sector is substantially higher than in the private sector. Kingdon and Teal (2006) cite several sources of information on public-private wage differentials for teachers: their own survey of 20 government-funded and 10 private schools which finds pay 38 percent lower in private schools (unadjusted difference), Kansal's (1990)

study of 233 teachers in New Delhi schools finds private sector pay 42 percent lower, and Govinda and Verghese's (1993) study of 111 teachers in Madhya Pradesh finds private sector pay 45 percent lower. The experience with para-teachers and with community teachers (such as the EGS teachers in Madhya Pradesh) or for alternative schools in West Bengal always finds that sufficient numbers of teachers can be attracted for a small fraction of the wages of the current teachers.

We use National Sample Survey (NSS) data from the 55th round to compare the reported earnings of public teachers to either private sector teachers or to private sector wage earners. We regress individuals reported (ln) daily wage on education, experience (and its square), whether or not the person lives in a rural area, and whether the person was male and a complete set of state dummies.[9] Therefore we can control for potential differences in public and private sector teachers in education or experience to estimate the wage premia of a "regression equivalent" person from being a public sector teacher. The final column of table 2 suggests that public sector teachers make more than twice what their "regression equivalents" in the private sector do—as their pay is .95 natural log units higher. This difference in pay almost certainly substantially *understates* the true compensation differential for the public sector worker as it does not include the value of employment security or benefits (both of which are higher in public than non-aided private sector).

What is true of public sector versus private teachers is also true comparing public sector teachers to all private sector salaried workers. A public sector teacher makes .79 natural log units (more than 100 percent) more than his 'regression equivalent' who works as a wage earner in the private sector.

Fact 3: The pay—seniority profile is shallower (less steep) in public sector versus either private sector teaching or private sector jobs—that is, the degree of overpayment is *higher* for public sector teachers at the early stages of a career.

Figures 3 and 4 show with graphs what the regressions in table 2 and 3 show numerically about the slope of earnings with respect to experience. The negative coefficient on the interaction term of a public sector teacher and experience shows that the average pay of teachers increases more slowly than of private sector teachers or of private earners. So as can be seen in

9. Experience is measured as a continuous variable representing potential work experience, constructed by subtracting years of education and 6 additional years from the respondent's age.

TABLE 2. Linear Regression Models of Ln Daily Earnings on Teacher Characteristics

Comparison of public and private teachers

	(1)	(2)	(3)
Public Sector	0.732	0.451	0.947
	(23.88)**	(17.18)**	(12.36)**
Rural Areas	–0.122	–0.082	–0.098
	(4.30)**	(3.28)**	(3.94)**
Male		0.332	0.475
		(12.62)**	(11.00)**
Secondary		0.88	0.902
		(14.92)**	(15.43)**
Sr. Secondary		1.058	1.073
		(17.51)**	(17.94)**
Tertiary		1.355	1.369
		(23.17)**	(23.64)**
Experience		0.057	0.065
		(14.09)**	(10.61)**
Experience Square		0	0
		(5.20)**	(2.64)**
Public* Male			–0.197
			(3.90)**
Public* Experience			–0.024
			(2.99)**
Public* Experience sq.			0
			–0.79
Constant	4.215	2.274	2.023
	(84.28)**	(31.18)**	(24.89)**
Observations	4043	4042	4042
R-squared	0.17	0.44	0.45

Sources: Authors' calculations based on NSS 55th Round Schedule 10 data.

Notes: t statistics in parentheses. % significant at 5%; ** significant at 1%. All regressions include state dummies.

figure 3 the gap with private sector teachers is very large when teachers are just starting out but by the time they reach 20 years experience the gap is much smaller—but, as we see below, many fewer teachers are retained in the private sector to 20 years experience.

Fact 4: The pay of those employed in the public sector has very little variance even potentially related to performance—less than either private sector teaching or the private sector.

As discussed above, systems of compensation create accountability (or enforceability) in very different ways (and combinations of ways). Some have very little differentiation by grade/rank/level of the organization but

TABLE 3. Linear Regression Models of Ln Daily Earnings on Employee Characteristics

Comparison of public teachers and private salaried non-teachers

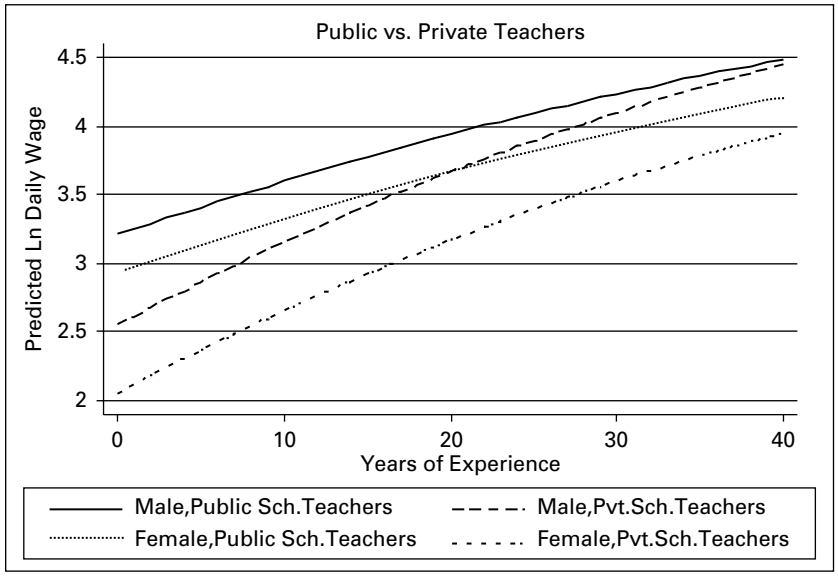
	(1)	*(2)*	*(3)*
Teacher	1.048	0.562	0.787
	(59.82)**	(32.87)**	(14.21)**
Rural	–0.143	–0.097	–0.091
	(11.59)**	(9.43)**	(8.87)**
Male		0.494	0.554
		(36.93)**	(36.51)**
Secondary		0.388	0.375
		(30.47)**	(29.41)**
Sr. Secondary		0.602	0.6
		(35.79)**	(35.84)**
Tertiary		0.93	0.944
		(60.75)**	(61.70)**
Experience		0.059	0.059
		(49.29)**	(47.59)**
Experience square		–0.001	–0.001
		(36.10)**	(35.51)**
Teacher* Male			–0.3
			(9.53)**
Teacher* Experience			–0.016
			(3.02)**
Teacher* Experience square			0.001
			(4.76)**
Constant	3.896	2.609	2.562
	(197.95)**	(116.12)**	(108.01)**
Observations	17420	17419	17419
R-squared	0.23	0.49	0.49

Sources: Authors' calculations based on NSS 55th Round Schedule 10 data.

Notes: t statistics in parentheses. % significant at 5%; ** significant at 1%. All regressions include state dummies.

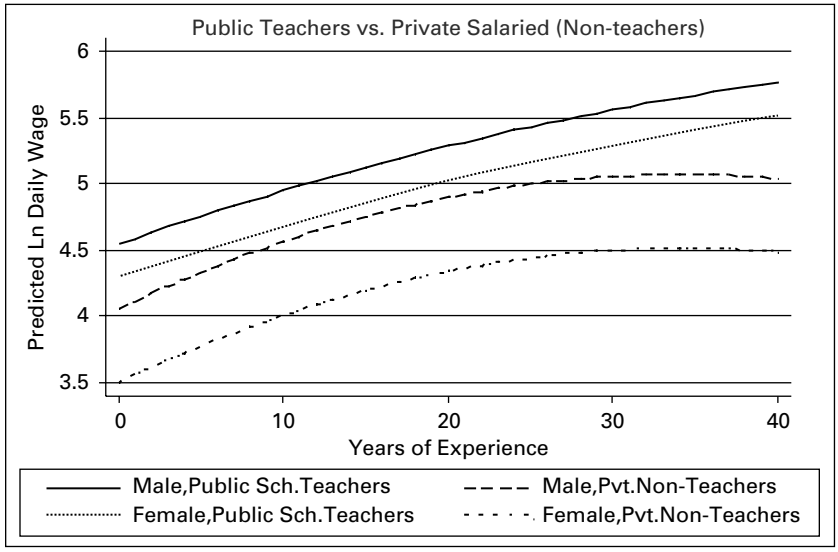
an individual's progress through the organization is performance based so there is performance related variability across individuals. Other organizations have very little variance in pay across individuals with the same seniority in the organization because they retain fewer and fewer people (for example, "up or out" organizations like universities or militaries)—which is *ex ante* variability in pay by the organization because it is a mix of zero (if not still employed) plus an amount if employed. One of the striking things about teacher compensation is that if one examines the variability of pay of those with similar labor market experience (which is our crude proxy for tenure in the organization—though not widely imprecise as we see

FIGURE 3. Earnings of Public Sector Teachers are Substantially Higher than of Regression Equivalent Private Sector Teachers—and the Gap is Higher at Younger than at Older Ages



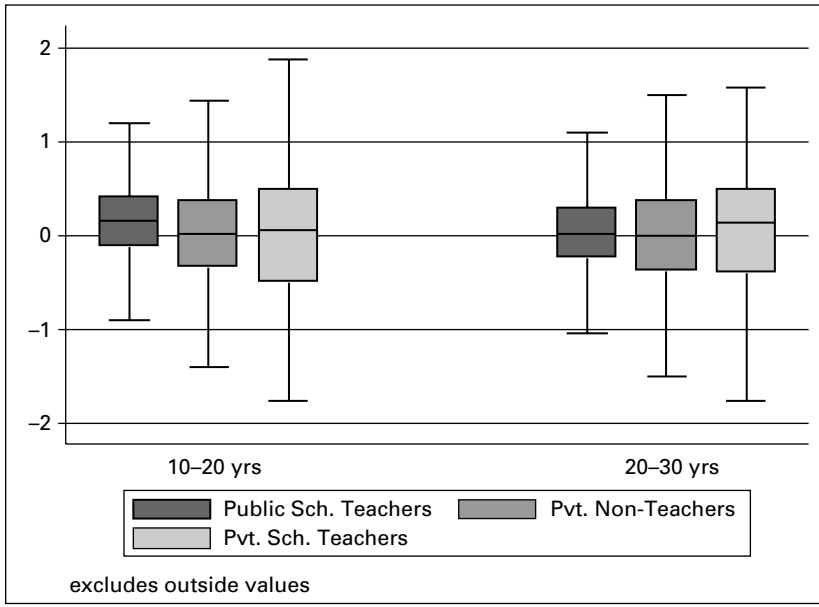
Source: Author's calculations with NSS 55th round.

FIGURE 4. Earnings of Public Sector Teachers versus All Private Sector Wage Employees (Not Teachers)



Source: Author's calculations with NSS 55th round.

FIGURE 5. The Variance in Earnings is Much Smaller among Regression Equivalent Public Sector Teachers than Either among Private Sector Wage Earners (Non-Teachers) or among Private Sector Teachers



Sources: Authors' calculations based on NSS 55th Round Schedule 10 data.

Notes: Box plot of residuals from regressing ln (earnings) on employee characteristics including gender, education, years of experience and its square, and sector and state of residence. Regressions are estimated separately for the three sub samples: public school teachers, private school teachers and private regular/salaried non-teachers.

below with actual data on age and tenure), not surprisingly the variability of pay between regression equivalent public sector teachers (controlling for education, rural/urban, states) is much lower in the public than private sectors.

In fact, what is interesting is that the variability of pay among private sector teachers with 10–20 or 20–30 years of experience is roughly twice as large as among public sector teachers. If one supposes, not unreasonably, that private schools (and the competition among private schools for good teachers) have a spread in compensation that roughly reflects individual differences in actual performance as teachers (as opposed to mere qualifications or training) then the compression across teachers is striking—good teachers in the public sector make far too little relative to their low productivity counter-parts. Of course if one combines the higher average earnings of public (in figure 4) and the much lower variability of public one can

see that even the lowest productivity (which in the public sector with absenteeism and lack of effort approaches zero) teachers in the public sector make more than all but the highest paid teachers in the private sector.

III.B) How the Public Sector System of Compensation with High Pay/Zero Accountability Produces the Perfect Storm of Negative Consequences

The astute reader might point out at this juncture that the system of compensation in India actually looks a lot like compensation of teachers elsewhere—including countries with high performance education systems. But what is relatively unique about India is that the average pay for teachers for India is enormously high relative to the market alternatives—either as teachers in other capacity (the private sector, community schools) or in alternative private employment. India has reached a stage of "high pay/zero accountability." We believe it is this *combination* of compensation being badly structured with the very high average level that produces the "perfect storm" of negative consequences. As the combination of high pay and zero accountability destroys all motivation—including the sense of profes-sionalism, occupational pride and respect, and internal motivation that can drive high performance organizations even without "high powered" money incentives.

Consequence 1: Attracts—but does not select

Usually the question about public sector pay is whether or not it is sufficiently high to attract people of adequate quality into the public sector. Of this there is no question. Rather the excess of public sector pay over private sector for equivalently qualified individuals combined with zero accountability creates two problems.

First, there is no reliable method of choosing from among the excess supply of applicants those who would be the best teachers. This means that the gain in quality from the high wages is negated by the lack of a system of choosing the best.

Second—and this problem is much worse—the excess of public over private pay, particularly when combined with the lack of accountability makes teaching posts an attractive opportunity for those who have no interest in teaching at all. Politicians are tempted to reward supporters with teaching posts as patronage. At the extreme, particularly when governance is weak, and while this is difficult to quantify, many people believe the field is rife with "sub-contracting." That is, many suspect teachers gain the appointments through political connections then use some of the wage to pay

off the block officials and some of the wage to hire someone at the much lower market wage to actually take their place in the classroom and pocket the difference.[10]

High performance schools often rely on professional pride—people feel good about being a teacher as it brings respect and stature—and intrinsic motivation—people enjoy teaching and helping children learn, rather than high powered structure of pay. But this is impossible if people are attracted into the profession primarily by the high money wage—particularly if the system has no ability to actually hire the most intrinsically motivated.

Consequence 2: Attracts—but does not appropriately 'retain'

As we saw above, a typical way to have a system of compensation that supports a high performance organization is to encourage a fair amount of "churning" in the early years of one's employment such that those retained are of much higher "quality"—not necessarily in terms of overall general skill or credentials but in actual match with the organization. The difficulty with the system of compensation of Indian teachers is that the system has no mechanism at all for involuntary separation *and* by having a pay too high particularly at the early stages of one's career the system actively *discourages* voluntary separation. So, take someone who thinks they might like to be a teacher. They acquire the appropriate credentials (which given the common lack of 'hands-on' training this may involve quite little exposure to classrooms) and suppose that they get appointed to a permanent public sector teaching position. Now suppose that after a couple of years of teaching they discover they neither have any aptitude for teaching nor do they particularly enjoy teaching. The desirable thing for all concerned (students and teacher) is for the person to resign and look for another occupation that is a better match. Given the current system of compensation will they resign? Three good reasons why not.

First, as seen in table 3 and figure 4 on average they would have to take a pay cut—and a pay cut that is, perversely, much larger in the early years than in the later years.

Second, there is zero accountability so they can start to coast in their current job (for example, showing up infrequently, not teaching when they do show up)—in the extreme they can keep the position and its pay and sub-contract to someone else the actual work.

10. This is not just heard from people outside the system. In personal communication with the authors, this has been noted by the Chief Secretaries of two different states, people who, one would imagine, have a reasonably good idea about the reality of what happens inside government schools.

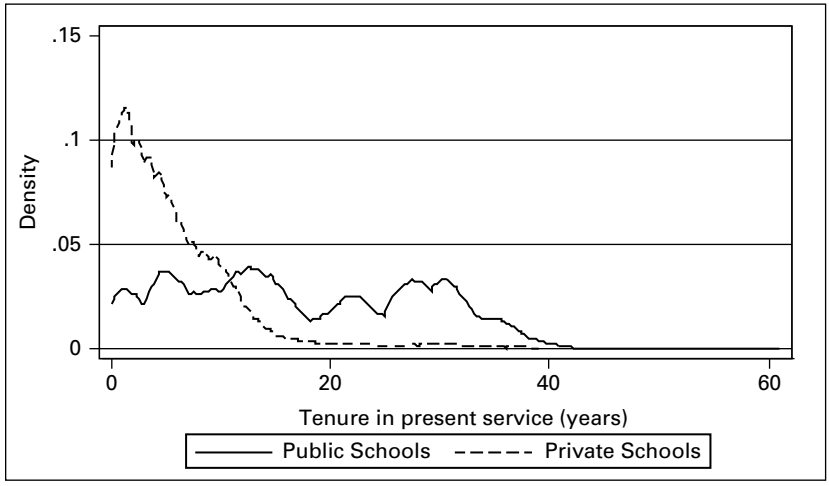
Third, since a substantial part of compensation in the public sector is job security and benefits in-kind, this makes giving up the job even less attractive.

This means that, rather than only retaining those who are a good fit to be teachers the current system retains everyone—including those who cease to perform, which undermines the morale of the system, leads to disrespect from management and parents of all teachers (as reputation spreads), and makes it impossible to create an e*spirit de corps* around teaching as a noble calling and profession rather than as merely an occupation. This is the sense in which excessive retention is *anti-teacher.*

Figures 6 and 7 use the information about teachers in private and public schools from the publicly available DISE (District Information System for Education 2002/03) to examine the differences in retention by comparing the fraction of teachers with various years of tenure between public and private schools. This displays exactly the pattern one would expect. In Orissa for instance, the fraction of teachers with 20 or even 30 years in their job is almost as high as the fraction with less than 5 years experience. In contrast, the private sector shows the expected pattern of churning—there are ten times as many teachers in their first year as in their 20th year. While Orissa presents a particularly striking case, as shown in annexure figure A-1

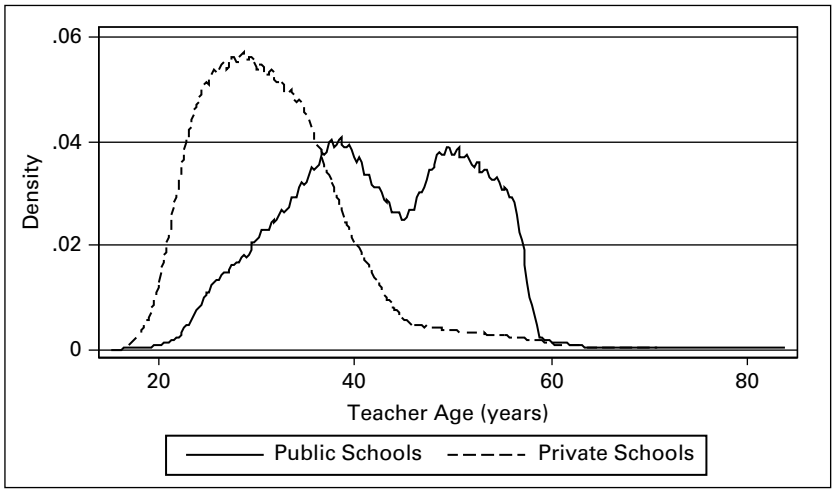
FIGURE 6. The Distribution of Existing Teachers by Tenure in Service Demonstrates the Very Different Patterns of Turn-Over in Private versus Public Sector—Teachers are Much More Likely to Remain in the Public Sector

Orissa



Source: Author's calculations based on the DISE data sets.

FIGURE 7. The Age Pattern of Private versus Public Sector Teachers also Reveals the Extraordinary Retention of Teachers in the Public Sector (Especially the Retention of Teachers over 40 Years Old until Age 60 in the State of Orissa



Source: Author's calculations based on DISE data.

this pattern of greater tenure in present service in public over private schools is observed in every single Indian state.

Figure 7 shows similar graphs of the average age of teachers for the public and the private sector. Again, the private sector shows what is a very typical pattern of distribution by age with search for best 'match' in job and occupation drive churning—that there are many more young than old and that those at any given age declines. On the other hand, the public sector in all three states shows a pattern of decreasing numbers up until around age 40, a decline thereafter which is then stopped and then almost complete retention until age 60.[11]

Consequence 3: Retains—but does not appropriately 'motivate'

The final feature is that there is nothing in the public sector system of compensation or structure of pay to align any aspect of compensation with contribution to the goals of the organization. Again, we are not suggesting some simple minded "pay for performance" scheme based on student tests as the basis of the system of compensation. But there are a variety of ways

11. As with the tenure graphs it is difficult to distinguish between "steady state" and "growth of the system" effects as if there were big hiring expansions in certain years and many people of the same age are hired then this will show up in a cross section as a cluster at that age—even if there is nothing special about the age. Distinguishing between age effects and time effects is always a problem with a single cross section.

of assessing behaviors or characteristics of teachers associated with superior performance and rewarding those. For instance, one of the few reliably demonstrated correlates between teacher characteristics and student performance is that, not surprisingly, teachers who know the subject better have students who do better in the subject. Many are now suggesting that teacher compensation could be linked to teacher examinations on subject matter—or that annual increments could depend on having made certain progress in this. Unfortunately on this point we have very little evidence from India, as there has been so little experimentation.

Kingdon (2006) in a recent paper shows that in private schools one can demonstrate that teachers whose students perform better are also paid more. Using data from a sample of 186 schools, she finds that increasing teacher salary has a modest but statistically highly significant positive impact on performance of Grade 10 students in the board examination. In another paper, Kingdon and Teal (2006) find that teacher pay and student achievement are strongly related in private schools, but this is not the case in public schools in India.

Consequence 4: Negative complementarities: system of compensation is 'anti-teacher' and undermines an organizational 'learning culture'

The inability of schools or the school system to involuntarily separate teachers is an insult to the profession of teaching. Strangely, the protections of teachers against involuntary separation *for any cause* are sometimes defended as being "pro-teacher." But how could it possibly be "pro-teacher" to assert that the quality with which this job is done is *so* completely unimportant that anyone with the appropriate paper credentials can do it and that performance doesn't matter? A system that does not allow teachers to be let go based on performance is deeply *anti-teaching* and in the long run is deeply *anti-teacher* and it equates what should be the calling and profession of an educator with a factory worker. Doctors are liable for malpractice—because medicine is a profession that is important. Lawyers can be disbarred, no one would hire an architect whose buildings fell down. One cannot sustain good practice without any mechanism for penalizing bad practice.

IV) Decentralization of Basic Education to the PRIs as a Window of Opportunity

A litany all of the negative features of and consequences of the current system of teacher compensation might sound like a counsel of despair.

Everyone knows that teachers are enormously politically powerful and that no proposal to lower the pay of existing teachers has any political chance at all. We agree. We believe no sensible politician would ever propose to either cut the current wage (or wage structure) of any current teacher, nor would they put forward any proposal for involuntary separation of any current teacher. Either would be politically impossible. In everything we propose all current state cadre teachers would be exempted or "grandfathered."

But at the same time it should be acknowledged that this system of compensation is destroying publicly produced education in India. As detailed in the introduction the high pay/zero accountability public production of schools have proven a more effective mode of privatization of schooling than even privatization or vouchers.

This is an important point as it might naively be thought that high pay in the public sector would improve the quality in the public sector and hence defending high pay for teachers in the public sector would be "pro" public sector. But just as the "high pay/zero accountability" is anti-teaching it is also anti-public sector. Saddled with the restrictions it faces there is almost certainly no way public education can be viable in a competition with private sector providers. This is putting public education into a potentially vicious circle in which as quality deteriorates more and more parents place their children in private school which erodes the potential political interest in and coalition for school reform which then causes more to abandon public schooling and further lowers support. Maintenance of the current system of compensation that produces the perfect storm will be the death-knell of publicly produced education—it will sink the boat.

IV.A) Decentralization as the Last Best Opportunity to Reform Teacher Compensation

A political reality is that the only options for system reform, even with decentralization, are initiatives that affect *newly hired* teachers but even this is not easy, as many states have experimented with one form or another of "locally controlled" teachers—from the EGS teachers in Madhya Pradesh, local control of hiring in Rajasthan, the "alternative" schools in West Bengal, para-teachers or contract teachers in many states. However, in nearly all of these cases there has been "claw back" of the existing system as the new teachers pressure for "regularization" and eventually succeed.

But this collection of state experiences with alternatives to the standard state cadres does indicate three things. First, the reform cannot be seen as a

"temporary" expedient due to fiscal stress. If an alternative contractual model is seen as a response to a fiscal crisis then that modality is self-limiting as when the "crisis" is over (and no crisis can last forever) the teachers will demand "regularization". Second, the reform cannot be seen as jeopardizing the quality of education—if "contract" teachers are seen as a low quality substitute to the regular cadre then it is easy to mobilize politically to bring them back into the mainstream (even if of course the use of "quality" to mobilize public opinion is being used completely cynically). Third, to survive, the reforms must create a constituency who would lose from any wholesale back-sliding on the reforms. All three of these can be met with a well designed decentralization.

IV.B) Using Decentralization to Create a Performance Oriented Culture in Schools

As pointed out above a system of compensation is just one element of a larger institutional and organizational framework that creates (or fails to create) accountabilities. Before one can describe a desirable compensation system for a decentralized education system, one has to describe the allocation of functions and responsibilities across the tiers of government and how that overall institutional and organizational context creates a performance oriented culture in education.

Pande and Pritchett (2006) address the question of the desirable allocation of functions, funds, and functionaries between the state and the tiers of the PRIs in elementary education based on the first principles of public finance and the first principles of accountability. From that analysis three points emerge. First, one should not think of decentralizing sub-sectors like basic education to a given tier of government entirely. Rather, one should break the actions required in the effective provision of a service into distinct activities. We divide the functions into: standard setting, planning, asset creation, operations, and monitoring and evaluation. A key lesson of analyzing accountability is that accountability is enhanced if these functions are "unbundled"—that is divided among separate actors—whether between the public sector and private sector, across different agencies of the public sector (as the Reserve Bank of India monitors state owned banks), or across tiers of government. Obviously if the same agency or tier of government is responsible for both setting standards, operations to meet those standards, and evaluating their performance in meeting those standards this creates a conflict of interest—as if a player on one of the teams were also

the referee of the game. Separation of standard setting and monitoring of performance should be separated from the day to day operation.

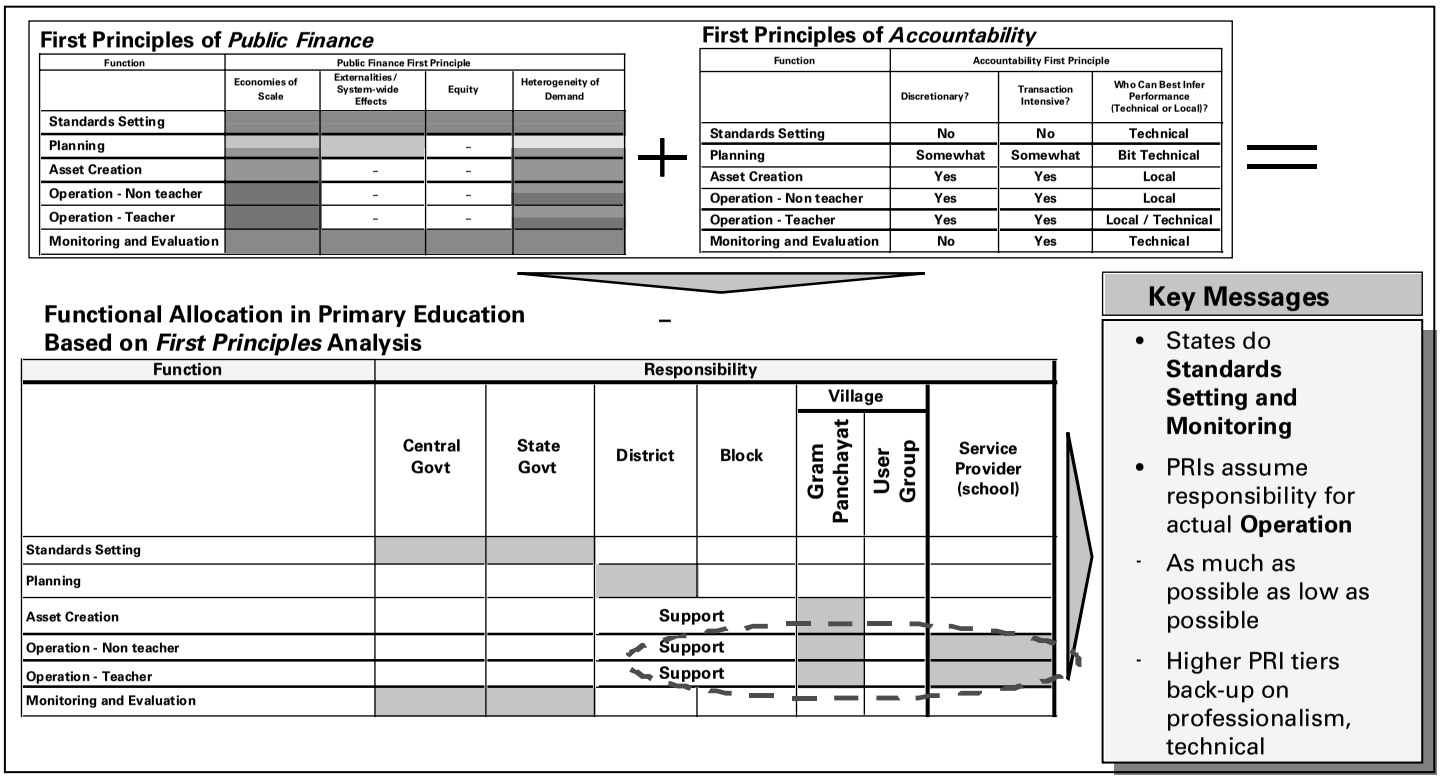
Second, this unbundling *strengthens* the role of the state government in setting standards (creating clear and realistic goals for learning) and in monitoring and evaluation of learning outcomes. As the functions of planning, asset creation and operation of schools are turned over to the PRI the main responsibility of the state is to monitor the performance of each unit and school—in terms of actual performance related measures on *outputs* and *outcomes.*

Since the state's role is reduced to setting goals and monitoring progress to those goals (plus technical support) they can be effective in this without needing to be defensive about uncovering poor performance—as they are no longer directly responsible for performance. This is essential to an effective decentralization as it uses the opportunity of decentralization to create an outcome orientation in the education sector.

Third, in an unbundled system the control of operations—including of teachers pass as low as possible, with major responsibilities—particularly for teacher assignment—passing directly to the school committees (as functional sub-committees of the Gram Panchayat). But if decentralization is to be effective this cannot mean simply shifting an unreformed education ministry down a tier or two. Rather, the local bodies gain control of the schools—but their accountability is dramatically enhanced by creating clear performance measures, the monitoring of which is not under their control and these measures are given wide publicity at each level of aggregation—from school to GP to block to district to state. Performance measures then become the key performance metric for both internal and external accountability (as benchmarked information is actively and widely disseminated among the public through the PRI mechanisms (like Gram Sabhas).

The important point is that the decentralization itself first creates a system in which the "compact" and "politics" elements of accountability are strengthened. This will mean that individual schools, as organizational providers, will come under pressure for greater performance on outcomes. In the absence of this pressure for accountability on schools reforming the system of compensation used by schools is pointless—if not dangerous. But suppose the decentralization does succeed in giving greater autonomy and placing greater accountability on the lowest tier for performance of schools. Then the question of the accountability of teachers becomes paramount (the "management" relationship of accountability). This is where the system of compensation available to local bodies becomes paramount.

FIGURE 8. Allocation of "Three Fs" (Funds, Functions, and Functionaries) for Basic Education



Source: Pande and Pritchett, 2006.

IV.C) The Right System of Compensation in a Decentralized Performance Oriented System of Basic Schooling

The key issue with any proposal about education is the quality of teaching. Without quality teaching all other attempts to improve schooling are simply froth on the ocean. We are going to make a specific proposal for how to do that. We do not mean this to be an exact blueprint that is correct in every detail, but rather the illustration of a class of proposals with various options.[12]

We propose that, in conjunction with decentralization to the PRIs of responsibilities for the functions of elementary education, the current state cadre of teachers be gradually replaced by a District Professional Teacher Cadre (DPTC) that creates a *system of compensation* that is up to the task of *attracting, retaining,* and *motivating* high quality teaching in the public sector. (Again, for political and legal reasons all existing teachers in the government schools would have their terms of employment 'grandfathered', that is, no change would be made to their terms which would remain unchanged until they retire.[13])

A three phase career track would be applicable only to newly hired teachers, with the following phases:

- Phase I: *Shiksha Karmi*s
- Phase II: *Adhyapak*
- Phase III: *Maha-Adhyapak*

Phase I In Phase I a teacher is *Shiksha Karmi*s (SK or apprentice). To enter Phase I as an SK a person must be approved by the ZP as *eligible* to be appointed as a teacher. To be in this pool of eligible SKs a person must satisfy two sets of requirements. First, they must be recommended by a GP (indicating a desire to hire, if approved). Second, candidates must also fulfill certain basic technical requirements (as specified by the district (possibly following state or national guidelines).

12. This section follows Pande and Pritchett 2006.

13. This creates some difficulties in moving towards block grants or money follows the student in the transition period, but not problems that are insurmountable as a special 'transition fund' can be created. For instance, in a block grant system in which the GP receives a per student amount each old cadre teacher assigned to the school would be accompanied by a teacher specific "transition grant" that was a bookkeeping device. In all new hiring decisions the GP would face the same marginal cost of old cadre or new cadre—but the teacher specific grant would lapse with the retirement of the teacher. Given the age composition of much of the existing teaching force the magnitude of this transition fund would diminish quite rapidly over time and the cost savings could be allocated in a variety of ways.

From the 'pool' of all eligible SKs teachers *schools* (GP/VEC/SMC) choose teachers for an *assignment*. We use GP/VEC/SMC interchangeably as this could happen in a variety of ways. One plausible model is that School Management Committees whose leaders and members are chosen by parents become constituents of a Village Education Committee which is constituted as a sub-committee of the GP (and hence would contain elected members from the GP and representatives of the SMC to balance village level and parental concerns). In this case the GP is the hiring entity (through which the funds flow) but acts on the basis of recommendations of the SMC.[14]

Why this separation of "hiring" from "assignment"? Two reasons.

First, even at salary levels much lower than their current salary structure teaching positions are in huge demand—and hence there are huge pressures for corruption—in which the person(s) responsible for appointing teachers take bribes from prospective teachers in order to allocate the positions.[15] This separation means that the level of government responsible for certifying the technical quality of teachers cannot also give the teacher an assignment, which reduces their ability to extract bribes rather than follow the criteria in a transparent manner. By the same logic, the fact that the district has to approve a teacher means that the officials at the GP/SMC/VEC cannot extract bribes and promise jobs to unqualified teachers. Of course, there can always be collusion but the hope is separating these processes and making each transparent makes that more difficult than the existing system.

Second, as discussed above a major problem with the existing system of compensation is that people want the high pay of being a teacher but often do not want to be assigned to distant rural schools. One suspects this then accounts for a great deal of the absence problem as teachers live far

14. There are other models in which the SMC committee is the primary legal entity and tiers of government (perhaps districts deal directly with schools). In some variants of this model the PRIs are actually cut out of the loop entirely. This model also has its attractions as then the move to a more or less unified 'voucher' like system in which money follows the student is easy as funds are already flowing on a per student basis to schools.

15. There is evidence that even in the EGS schools in Madhya Pradesh, which created three tiers of teachers (old cadre and two new types) even the lowest paid of the three frequently reported paying substantial bribes to get their positions (Leclerq 2002). There is evidence from surveys of teachers in Orissa and Rajasthan that even in the private sector where reported wages were a third or less the public sector levels a good fraction of the teacher paid bribes to get their positions. (This is something of a puzzle—why not just lower the wage—but perhaps there are binding regulations even for private schools).

from schools and travel back and forth infrequently.[16] Moreover, this also means teachers spend time, effort, and resources lobbying within the system to get transferred to a more attractive school. So, school specific assignment means that schools can choose those who they believe actually want to be in the village—and within the pool of the eligible can give preference to choosing local residents.

When assigned in Phase I of their career the SKs will only have a fixed term contract (perhaps only year to year) with the school. This contract is renewable entirely at the discretion of the local authority (GP/VEC/SMC). The SK is also of course free to take up an assignment in any another school in the district that is willing to re-hire the SK. This will ensure that the SK is accountable to the local pressures as they need an assignment to be paid.

In Phase I of their career the salary of the SK will be at a level commensurate with the position and set by the district. That is, each district will be free to set a pay scale with a fixed amount paid to each SK. This will of course potentially vary from district to district but will likely be set at levels similar to those already paid by state governments to para-teachers that they are hiring (or to those paid by private schools).

Phase II. After the probationary/learning period of five to seven years the SK can apply to become an "associate" (*Adhyapak*) teacher. This decision will depend on an evaluation of the teacher's performance as an SK. The performance evaluation will receive inputs from:

- The school(s) the teacher has been teaching in, to solicit parental input,
- Peer input from peers (teachers) in the school and outside,
- Technical review from the district based on trainings, observations, track record, potentially including the performance of students.

Again, note the design of the confirmation decision to involve input from a variety of sources is designed to place checks and balances. The district or line agency cannot simply override the local community (as the community retains assignment rights)—but neither can a corrupt local *Sarpanch* simply approve a teacher without the approval of the district.

16. An indication of the really difficult straits the Indian education sector is now in is that a frequently reported reason why teachers resent rural postings is that there are no private schools and it is important to them that their children be in private schools.

There are benefits to a teacher to moving to Phase II both in structure of pay and also in durability of the employment relationship. The pay structure changes in two ways. There is a substantially higher base level (teacher pay could as much as double). Moreover, unlike the annual structure of apprentice teachers, the teacher can receive annual structural increases (based on some mix of seniority and performance discussed below).

Second, after "confirmation" the GP/VEC/SMC is free to sign longer term contracts with the teacher (three to five years). That is, the teacher does not acquire tenure in the given assignment, but can have a longer duration of contract.

Third, the conditions for removal from service become more stringent. As a probationary teacher one is eligible in the pool but if, in a given year, a teacher does not have an assignment from a school they do not receive a salary. However, once a teacher becomes an Associate then the district acquires some obligation to pay them a salary even if they are temporarily without assignment (but under very strict conditions)—which gives the district incentive to "place" all of the associate teachers.

But the power of *assignment* still rests with the school. If a school no longer wants an Associate teacher they do not have to accept them—the district cannot simply 'assign' teachers to schools. In the end, the assignment function is the ultimate check on accountability. If control over the assignment is lost then the "regularized" associate teachers would have the temptation to become as unaccountable as the existing teachers.

This tension between a "regularized" right to compensation versus continued local control of assignment does raise a tricky issue of matching. For good teachers this will not be a problem as schools will be competing for them and they will have a surplus of offers. Even medium quality teachers have the advantage of continuity and are unlikely to be replaced (although, see the caveats below on match of pay scale to performance). The question is what to do with teachers who perform well in the probationary period but whose performance deteriorates (absent, abusive, uncaring)? If one school terminates their assignment it may be difficult for them to find another school—which is good—but if the district has an open ended employment guarantee the district would acquire a pool of teachers not capable of being placed. Again, different states/districts could deal with this problem in different ways. One is to design the system so that pay is contingent on assignment. Then if a regular teacher cannot find an assignment in one year the district pays them a salary anyway, but in the second year they only make two thirds, in the third year one third and there after some minimal amount.

This encourages teachers to either get an assignment (which hopefully means improved performance as a teacher) or resign from service or stay on but without substantial pay.

Phase I is a probationary, training and learning phase for aspiring teachers. Having a probationary period has several advantages. As is well known from studies of a variety of labor markets there is enormous "churning" and instability in job tenure at the early stages as people seek out jobs they are well adapted to. By granting teachers immediate job security this discourages those who dislike the profession from leaving. A second benefit of a probationary period is that since so many dimensions of teaching are subjective and difficult to measure most "pay for performance" schemes are difficult to implement. Instead, one wants more "intrinsic" motivation and commitment to the profession as the primary motivators. But these can be assessed only after a substantial period. A final benefit to a long probationary period is that one can do an evaluation of the teacher that truly captures their performance as an educator, not just one narrow dimension.

Phase 3. Selected outstanding *Adhyapak*s can be promoted to *Maha-Adhyapak*s or Masters, which would carry another step jump in salary, more perks and prestige. In effect, this would be a reward for sustained outstanding performance of exceptionally good teachers, once again selected based on comprehensive criteria discussed above, in addition to more rigorous inspections to verify the recommendation for promotion to Phase 3. The jump to Phase 3 would be controlled and limited, with most teachers expecting to spend their career as *Adhyapak*s.

One purpose of this final phase of a career is to create a committed component of the cadre who are the best teachers and help diffuse the learning culture among the remaining teachers. This also implicitly encourages those who do not make this transition to retire, perhaps well before 60 (as their opportunities for future pay increases remain limited). This prevents the common problem of stagnation in service.

This proposal is summarized in table 4.

Note that our proposal has three elements of performance-based structure of pay, illustrated in figure 9:

- The initial step jump to *Adhyapak* at the end of the SK period,
- The annual pay increments based on the comprehensive criteria discussed while an *Adhyapak*,
- Another step jump in compensation when being promoted to *Maha-Adhyapak*.

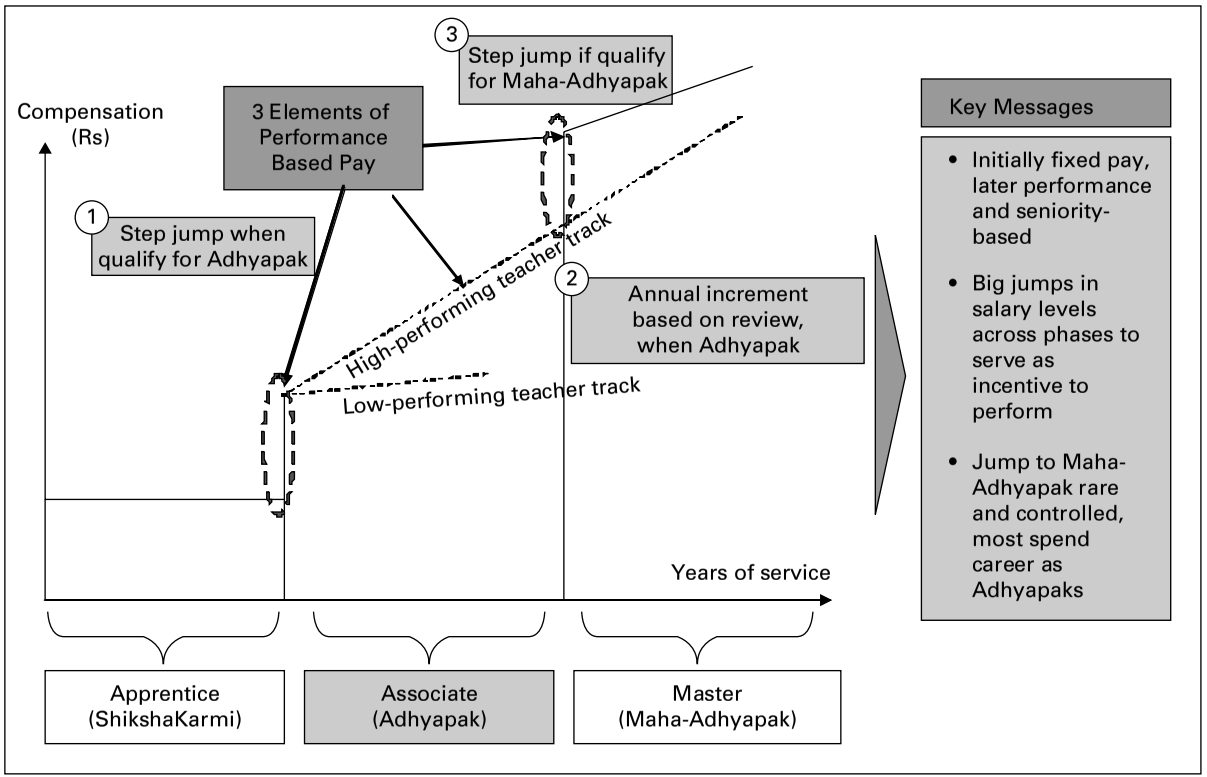
TABLE 4. A Structure of Teacher Career in a Decentralized System

	Phase I apprentice	*Phase II journeyman*	*Phase III master*
Durability of employment relationship	Year to year contracts	Multi-year contracts with school. Longer term commitment of district	Tenure with district
Structure of pay	Relatively low and flat over entire probationary period	Large jump up over apprentices. Annual increases based on cost of living, seniority (small), and assessed performance (periodic)	Large jump up over Phase II. Annual increases based on cost of living, seniority (small), and assessed performance (periodic)
Assignment to tasks	District approves eligibility.School makes assignment from eligible pool.	School makes choice to renew or not renew contract (controls assignment) District provides temporary guarantee	District guarantees employment until retirement.These teachers assume mentoring and coaching (not supervision) roles.
Cash versus benefits	Few to none	Regular benefits. Pension portable to facilitate voluntary retirement when desired.	Regular benefits and continued pension accrual.

This is a "professional" cadre proposal, not a "pay for performance" scheme and there is no simplistic recommendation of linking pay to the performance of students in a "high powered" way. While this is certainly one element of a performance evaluation, this needs to be brought in very carefully (particularly since so much of student performance is driven by child and household characteristics that "attributability" of student performance to teacher quality is weak). That said, one could certainly add to this basic structure some elements of compensation directly related to student performance, such as those being experimented with in Andhra Pradesh.

This is a "professional" cadre because it is modeled on the structure of recruitment, screening, retention, and compensation of professional type occupations (for example, lawyers, doctors, architects, university professors). In all of these there is a long probationary period, a stringent review, a change in employment status—but all the while they have to perform to remain. This encourages a "professional" ethos rather than a "worker" ethos among teachers.

FIGURE 9. A Structure of Pay that Builds in Three Elements of Pay Related to Performance



Source: Pande and Pritchett 2006.

IV.D) Devils in the Details

Readers have every right to be skeptical that the proposals are either politically feasible or that, if implemented, they would work as planned. While we cannot address all problems at length, we address a few of the major concerns.

First, many different states, for a variety of reasons, though often purely fiscal, have introduced alternative modalities for hiring teachers—and most of these have eventually disappeared as the political pressure for reabsorbing these teachers is immense both from teachers unions and from existing "contract" teachers. We do try and address that concern by creating a new career stream and ending the old cadre entirely. Moreover, if one moves to a system of true PRI control and this provides greater satisfaction then there would finally be a substantial constituency to resist the claw-back as there are more than three million elected PRI representatives.

Second, the evidence on the impacts of existing attempts at "community" engagement are mixed. As pointed out by our discussant, Esther Duflo, it is not clear that initiatives such as "village education committees" have played much—if any role. Moreover, the evidence from the absenteeism study often found levels of absenteeism as high for contract teachers as non-contract teachers. The alternative of muddling through with randomized evaluations to demonstrate the existence of high impact interventions might have less risk. In response, while it might be said that complementarities are the last refuge of the scoundrel, we believe the evidence is consistent with the view that enormous gains, particularly in the cost-effectiveness of learning, are possible and prefer this system change approach, based on four observations.

First, the evidence that existing "community" schemes have not been particularly effective (for example, that participation is low, etc.) is not particularly relevant. Most existing schemes (outside of EGS or Lok Jumbish) did not really pass any significant degree of control to the local level and hence low interest in participation is natural.

Second, there is evidence that enormous gains in cost-effectiveness are possible from system reform: the private sector operates in exactly the same environments as these schools and produces results at much lower cost. Many experiments of educational innovations find only small effects (Pritchett 2004) and those that do find impact find "effect sizes" (learning gains normalized as a standard deviation of the existing individual distribution of scores) at best of .2 or perhaps .3. But often the private school

options have a cost-effectiveness effect size of one standard deviation or larger. Even adopting all of the demonstrated innovations would leave Indian government schools dramatically less effective than private schools—whereas in well-functioning public sector systems the private sector advantage is quite small.

Third, the evidence from EGS in Madhya Pradesh (Leclerq 2002) and from Alternative Schools in West Bengal (Pratichi Trust, 2002) is that just community control even without other systemic changes can produce equivalent (or higher) quality at much lower cost—even with teachers with much lower formal qualifications. For instance, while absenteeism is not much lower outside of government schools there is some evidence that effort when present is higher.

Fourth, the experience of programs that truly engaged communities and provided appropriate support to teachers such as Lok Jumbish in Rajasthan appear to have produced substantial impacts (though one must admit there is no rigorous evidence). We are not arguing for moving to "contract teachers." We are arguing for a new system of PRI based cadres of teachers embedded in a decentralized accountability framework oriented around performance. This would include having training and capacity building both of teachers and communities in this new system.

V) Conclusion

Teacher compensation is like the weather—everyone complains but no one does anything about it. It is also like the weather in that it is a complicated inter-connected system and discussing just one aspect while ignoring the others or "piece-meal" approaches to bits of the system of pay without attention to the entire system of compensation and its connection with the overall fit with the institutional and organizational structure of schooling is unlikely to be helpful.

First, design of a system of compensation for a high performance organization should attract, retain and motivate workers who, on a day to day basis, pursue the goals of the organization. All four elements of a system of compensation (*durability of the employment relationship, structure of pay across states of the world, assignment of workers to tasks,* and *cash versus benefits)* should work together towards this goal. There are complementarities between the system of compensation and other policies and practices of the organization.

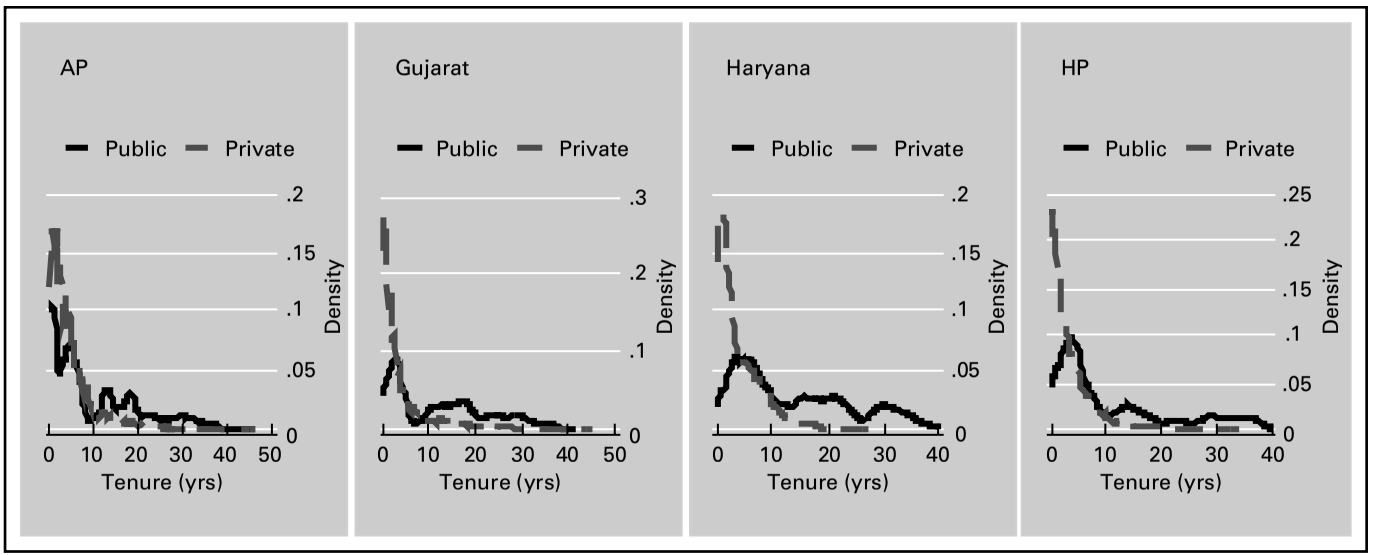
Second, while there are many variations across states it is not unfair to describe the current status of the system of compensation in India as a combination of high compensation/zero accountability. All four elements of the system of compensation reinforce the overall lack of accountability. Moreover, the institutional context of basic schooling—all the other relationships of accountability—are also weak. There is nothing in the present system to attract people well matched to teaching, to retain the best and most committed teachers, or to motivate performance of good teachers (for that matter, prevent good teachers from becoming disillusioned, cynical, and embittered and yet stay until they are 60 years old).

Third, this system of compensation plays a large role in producing the current "perfect storm" in public schooling: learning achievement of students is low, absenteeism of teachers is high, the treatment of teachers of students is often abysmal, recourse to private tuitions is rampant, parents and students are dissatisfied with government schools and people are voting with their feet and pocketbooks into the private sector. Perhaps worst of all, the potentially good teachers within public system are disenchanted, overburdened, feel disrespected by parents and managements. Any reform of teacher compensation needs to be *pro-teacher* while the current system is dramatically *anti-teacher*.

Fourth, decentralization to PRIs is certainly no panacea—but it may well be the last best hope. Simply moving the existing system with its lack of performance orientation, lack of external accountability, and existing strictures on the system of compensation onto the PRIs is unlikely to lead to improvements. That said, decentralization to PRIs, if done well, has the potential to break the political impetus behind business as usual. With a thorough-going decentralization the reallocation of functions across PRIs could produce greater service provider autonomy and local accountability. But only if PRIs are allowed to develop their own systems of compensation—systems of compensation that do not mimic a private firm but are designed about the realities of public employment and the particularities of the practice of teaching—will they be able to compete successfully. With the adoption of a new cadre of teachers under district control, newly hired teachers can be launched into a new system and sail out of the existing perfect storm.

ANNEXURE

FIGURE A-1. Tenure in Private and Public Schools



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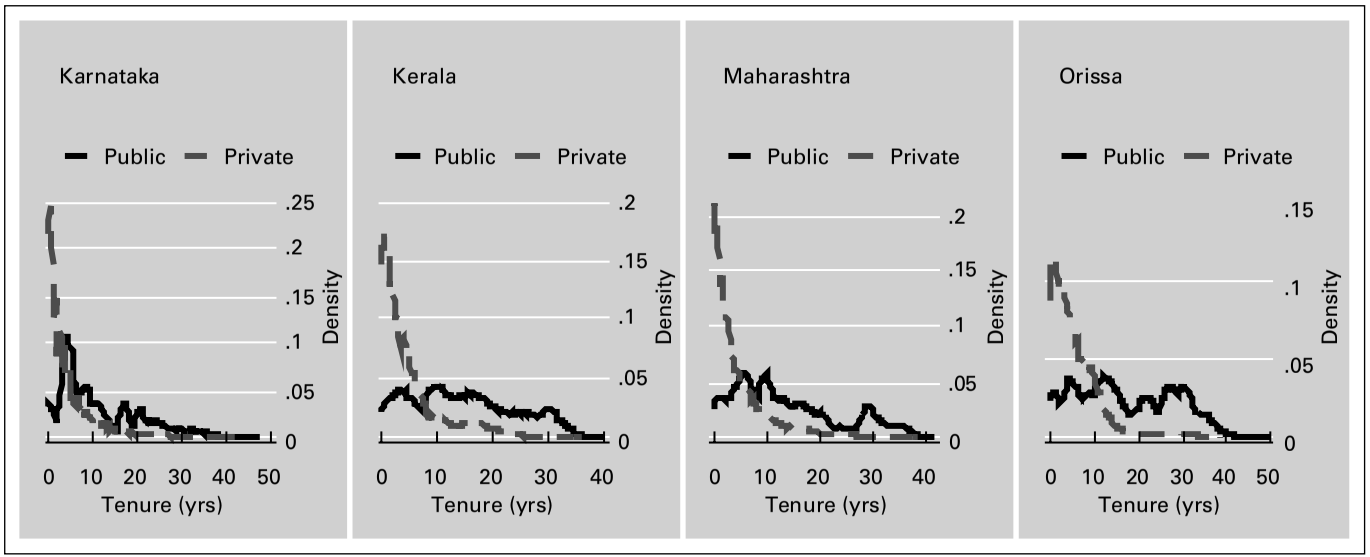

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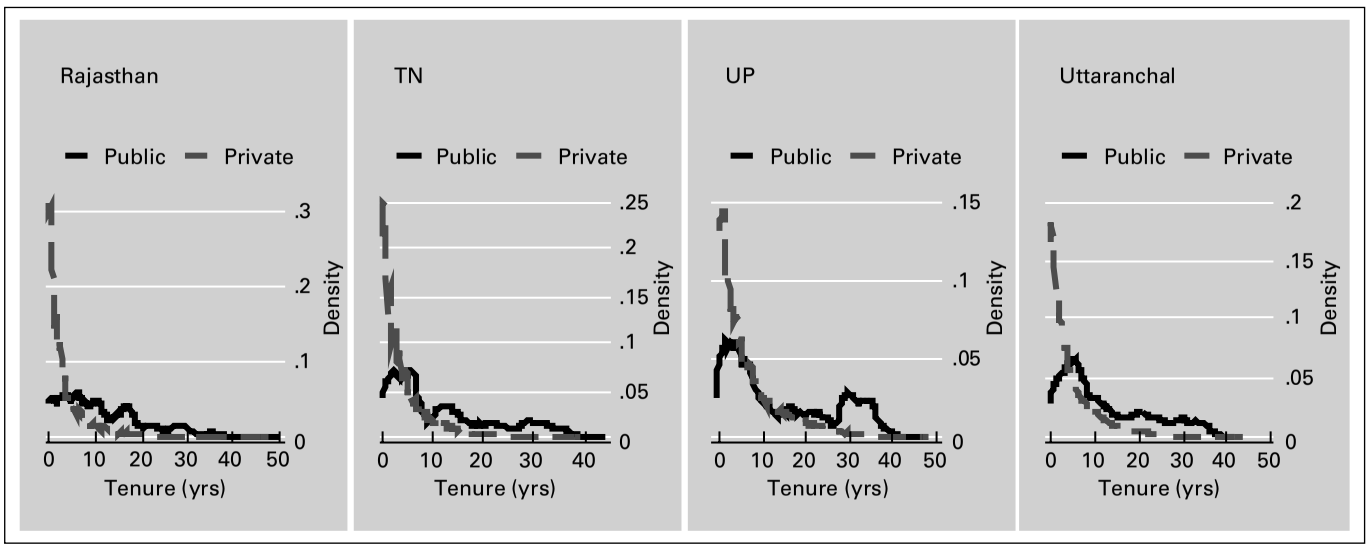
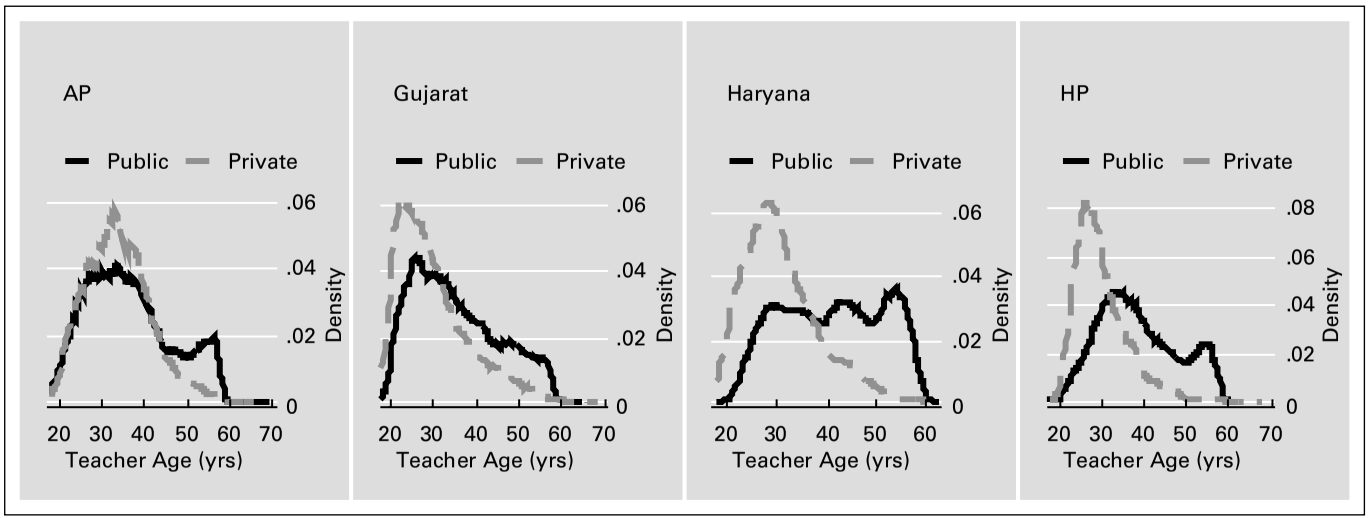


Source: Author's calculations with DISE data.

FIGURE A-2. Average Age of Teachers in Private and Public Sector



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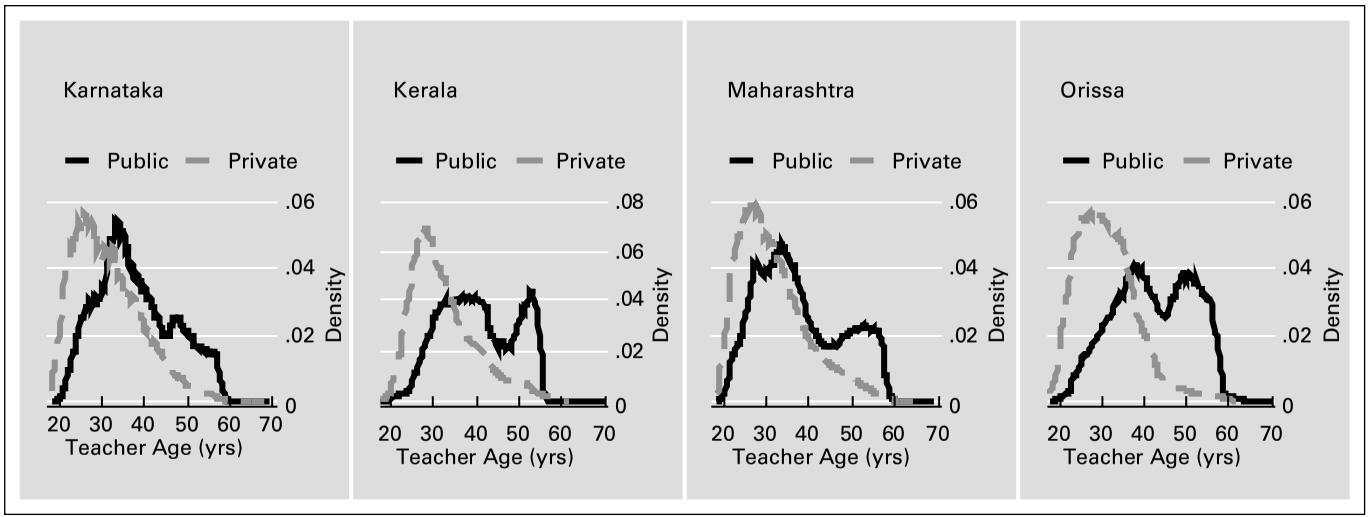

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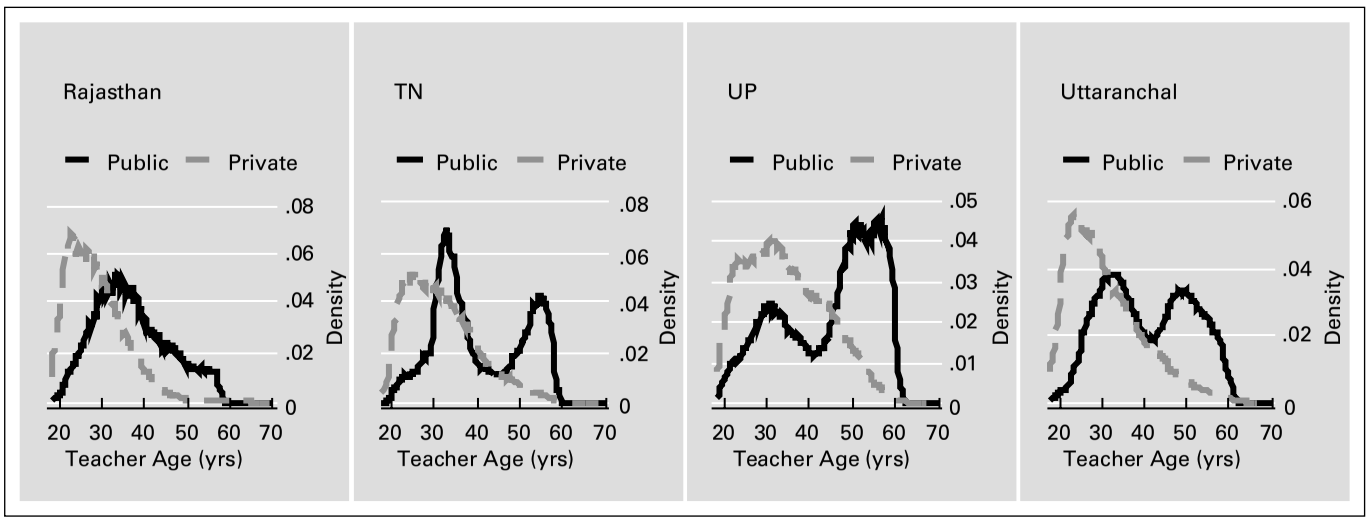

Source: Author's calculations with DISE data.

Comments and Discussions

Esther Duflo: This is a chilling paper, even for those who, by virtue of having studied the Indian education system, know some of the facts that are presented here. This is also a much needed paper, especially for a volume like this. It paints the situation of the education system in India without complaisance, and, two thirds the way through, the reader should be convinced that there is a problem, and that rescuing education should be an absolute policy priority. The paper could have stopped there, but it does not: The authors devote the last third of the paper to describing the design of a plan that *may* be able to extricate India out of the impossible situation it has placed itself into.

We start with a brief summary of the problem. The system does not perform, as Pratham's ASER (2005) report has convincingly established. Only 60 percent of children enrolled in grade 5 in public schools can read a simple paragraph. The math level is even worse. Parents are dissatisfied with public schools, and more and more send their children to private schools. Private schools perform better than public schools on average (despite spending about half per pupil) but there is wide variability here as well.

Since teachers are the main source of input to the education production function, it is not surprising that they are a large part of the problem: Teacher absentee levels are high (24 percent, as found both by the ASER study and by another nationwide survey conducted by Chaudhury et al. (2005), and many teachers do not teach even when they are present in school.

Getting teachers to come to school and to teach while there, appears to be a logical and intuitive first step. And indeed, experimental work I have conducted with the NGO Seva Mandir in Rajasthan suggests that if teachers come to school more, children learn more (Duflo and Hanna 2005). Yet this is not really what successive attempts to improve the system have focused upon. Operation blackboard provided only extra inputs. DPEP was almost entirely focused on teacher training and SSA tries to channel additional resources to school committees whose members do not always belong (Banerjee et al., 2006).

In the Seva Mandir study, we used technology to link pay to presence. More generally, this paper makes a convincing case that teacher compensation structure is at the heart of the teacher motivation problem. This argument, and the evidence presented for each part of it is the central contribution of the paper. What the paper shows very clearly is that the system of hiring, retention, and pay is structured as if it were designed to minimize teachers' fit to the job and incentives to perform. We learn that government school teacher's salary is high (twice as high as that of an equivalent private school teacher, and 75 percent higher as that of any other private sector employee), but it does not rise very fast with seniority. The gap between the salary of a teacher and that which he could earn elsewhere is thus the highest at the early stage of his or her career, when it would be optimal to have a period of discovery. This combined with the fact that no teacher is ever fired, means that even those who turn out to be not very good at teaching stay in the profession forever. And of course this also has the implication that the teaching profession becomes attractive mostly for people who do not intend to teach, since nobody derives much utility from working at a job where one's effort is not rewarded. The issue, then, is what to do? This description should make any policymaker want to take all the elements of the system one by one from the inside out, and start from scratch. This, however, is not realistic, as the authors reckon. Existing teachers are very unlikely to take major modification to their current system of compensation lightly: After all, they were hired under some sort of implicit contract that this is the way their life would be. Moreover, the fact that the teaching profession in India is attractive for people who plan to be paid without teaching has made it a particularly good political patronage to distribute. As a result, it is believed (and the authors repeat, though I have not seen any quantitative evidence on this) that many teachers are politically influent, and upsetting them is not a good political move.

The suggestion offered by this paper is to let the current system die by attrition (a good side effect of the fact that teachers never leave the service is that most of them are pretty old) and to start building something else from inside, with the PRI as the backbone. Many States have been *de facto* doing something like this, refraining from hiring any new regular teachers and instead hiring para-teachers, placed under the control of NGOs, the panchayats, or headteachers in regular schools. One reason to do this is of course to keep the budget in check. But many official documents also state that these para-teachers should also be subject to stronger incentives (both because they are at risk of losing their job and because they may be

locally hired, so more likely to be under the control of the community), and may therefore be able to perform better. In practice, however, absentee rates at non-formal education schools run by para-teachers is actually a little bit *higher* than that of regular teachers (Chaudhury et al, 2005), suggesting that it is certainly insufficient to simply put para-teachers in place, one must make sure that the "potential" incentives turn into "actual" incentives. And when they do [like in two studies I have been involved in, the Seva Mandir study discussed above and an evaluation of Pratham's Balsakhi program (Banerjee et al, forthcoming)], these teachers do come to school, they teach, and the children learn.

The paper thus proposes a specific organizational structure that would provide the new teachers with adequate motivation to perform, or to retire if they are not ready to perform. It rests on a combination of top-down monitoring and bottom-up monitoring and evaluation. In particular, the PRI and the parents would have to approve a specific teacher for them to get an assignment in their school. Salaries would initially be low, teachers would gain tenure in the system only later, and they would never have tenure at a particular school. It is brave, and commendable, of the authors to have taken the plunge and proposed an actual plan to ameliorate the structure. They do not claim it has to work, but that it just may work.

Unfortunately, there are number of signs suggesting that it may be difficult for such a system to work. In Banerjee and Duflo (2005), we review (limited, so far) experience with "bottom-up approaches" to improve social services delivery. We conclude that to date, there is very little evidence that any of these has worked.1 Banerjee et al (2006), which collected detailed data on how school committees work in Uttar Pradesh provide some insight into why these attempts to improve the quality of services through improving beneficiary control have not worked on education. The SSA was an attempt to improve bottom-up control on the schools through the formation of village education committees (VEC). Yet, years after they were instituted, 92.4 percent of parents have never heard of the VEC. Of the 7.6 percent who have, 5 percent cannot name any member, and only 1.4 percent can name members other than the Pradhans and the VEC. Perhaps what is even more worrying, 23 percent of the parents who are VEC members do not know it. And 73 percent do not know that, through SSA, funds are provided to schools. Neither parents nor teachers know what the children know, or do not know, very well. For example, only 38 percent of the children can do simple arithmetic. Yet, the average parent thinks that 58 percent of children are able to perform simple arithmetic.

This, however, may simply be a problem of lack of information. In that case, providing information to both parents and VEC members of what the state of education is and what they can do to improve it will help, and may lead them to take action. This is part of Murgai and Pritchett's plan, where information will be continuously gathered and shared. This may also, however, be the sign of a profound disaffection for the system. The system may have failed the poor for so long that they do not expect anything of it. They are therefore not particularly willing to invest anything to improve it, let alone to learn about it. Those who can exit, do so (to private schools). The others resign. Preliminary evidence of attempts (organized by Pratham, and evaluated in a randomized experiment) to provide information and guidance of what could be done suggest that this has no impact. What seems to work, however, is to provide villagers with hope: In some villages, Pratham (a large education movement which was at the origin of the ASER study) conducted their "Read India" program, where volunteers were recruited and trained to teach reading classes. Although the evidence is very preliminary, it appears that in those villages, both the reading levels of the children who could not read initially and of that of those who could have both improved. The latter fact may mean that a way forward helps motivate parents exercise effort to change the situation.

If this is the case, then the situation could be either worse than the paper paints, or possibly a bit better. It could be worse if parents are already so disinterested in the system that it will be impossible to enroll them in delivering an improvement in the quality of any public system. In that case, a voucher system and a regulated private school market may be a better option to contemplate than a decentralized public system that places an important burden on the parents, though it would take considerable experimentation to get it right (I guess it is my privilege as a discussant not to even try). It could be better if this means that it is possible to improve the school system by providing everyone with a better (and more realistic) sense of what they are meant to do: realistic expectations of what the system can deliver to the children and the parents; realistic expectations of what the teachers must do; and accountability to this minimum standard. Since then a recent experiment in Uganda (Svensson, Lindelow, Reinikka) of providing household with feedbacks on the performance of the health workers in their villages has produced much more promising evidence. It is possible for example, that if teachers were told that coming to school is part of their job, and that their pay is on the line, they would not find this to be that outrageous. In our experiment in Seva Mandir, teachers actually seem to have found this liberating, since this was a task they could certainly

manage. Giving them in addition a set of concrete pedagogical ideas may help them regain a sense of what the job is about or at least help the newer teachers retain that sense.

Shubhashis Gangopadhyay: According to the authors, a "perfect storm" is about to break over the Indian school education system. This dramatic description is based on an analysis of the data from a region within the city of Delhi. If there is any possibility of generalizing this finding for other regions, it is indeed a cause for serious concern. The authors draw from secondary data to suggest that such a generalization may be possible.

One thing to remember is that much of private schooling in India is also government funded. This, however, need not be a serious problem if the major issue, management, is in private hands in a private school. Much of the literature on private school successes are anecdotal and involve schools that have some other characteristics minority status, or schools given autonomy from the school regulatory boards because of particular policy decisions. Also, most of these "good" non-governmental schools are in metropolitan cities. This study, on the other hand, is not anecdotal but carries out a systematic comparison of private versus public schools in a specific geographical area.

The authors spend a lot of time demonstrating that the public education system in India is everything but conducive to bring out the best among teachers. This they show by drawing from the literature on organizations and what keeps employees honest in their work. I think that this is the major part of their study; while some may not dramatize the system as much as the authors, few would question the need for an overhaul of the Indian public school system.

The authors suggest five functions that the school system should draw up to maintain the efficacy of such a system—standard setting, planning, asset creation, operations, and monitoring and evaluation. They maintain that planning, asset creation and operation of schools be turned over to the PRI, while the state (I presume state governments) take on the main responsibility to set standards and monitor the performance of each school. At the same time, the way teachers are chosen for schools and their compensation, need to be reformed in a manner that makes teachers more accountable. The authors go on to say that this new approach, for political reasons, may be used for the new recruits, while the already existing body of teachers may be "grandfathered" till their retirement. Unfortunately, it is doubtful

how politically feasible this is, simply because our judicial system may not allow such "discrimination" among people engaged in similar jobs.

It is here that I feel that the paper becomes too idealistic and a bit removed from the reality in India. They propose a three tier system of teachers wherein teachers reach a higher level of compensation only if they perform creditably, for some time, at the lower level. However, such performance based pay (and promotion scheme) has been difficult to implement in any public sector enterprise (PSE) in India. This is inspite of the fact that it is easier to measure performance in commercial PSEs. In a school system, where the impact of teachers on students takes many years to manifest itself and is dependent on the performance of other teachers in the school, this would be even more difficult to implement. However, this is not to say that one need not solve this issue; on the contrary, this is an essential ingredient of any school system reform but it will require a lot more thought to get to a politically feasible solution.

There is another implicit assumption in the reforms being proposed here. The authors expect PRIs to wield significant powers to implement accountability among the teachers. In a country where literacy is low, especially in rural areas, how will this be done? Barring easily observable indicators, like absenteeism, it may not be possible for the PRIs to assess the quality of a teacher's effort.

I think a major contribution of the paper, and this is a significant one, is the finding that private teachers get lower pay than government teachers and that, their level of satisfaction with their job is no less than that of government teachers. This turns on its head the argument that better pay will create better schools.

General Discussion

Abhijit Banerjee led off the general discussion by expressing amazement at the revealed magnitude of the failures of the education system. The inability of students to perform at the most basic levels of literacy and mathematics was a stunning condemnation of current performance.

Ajay Shah followed up on Ester Duflo's comments and suggested that it might be possible to make a substantial portion of teacher compensation dependant on attendance—in effect, teachers would be paid on a daily attendance basis. He also thought it would be useful to extend the analysis of education to the public provision of healthcare where the exit to the private sector had been even larger. Thirdly, he argued that something should be

said about the effectiveness of the Sarv Shiksha Abhiyan (SSA) program, which has been a primary vehicle by which the United Progressive Alliance (UPA) has sought to increase education expenditures.

Dilip Mookherjee emphasized three potential areas of reform. First, greater effort should be made to monitor basic performance measures, such as whether teachers show up on a daily basis. Second, he argued that there should be more centralized oversight of schools. The current emphasis on a decentralized education system was a mistake because it increased the probability that the schools in backward areas would be controlled by individuals with insufficient understanding of what constituted good performance. Third, given that much of the system is already effectively privatized, he believed that more consideration should be given to introducing a system of school vouchers. The government should shift its focus to establishing effective means of school accreditation and provide vouchers for poor families.

Devesh Kapur also suggested that, given the difficulties of challenging the current system, perhaps the best response would be to allow the current trend toward privatization of the education system to continue. He also questioned the effectiveness of establishing an agency focused on monitoring and oversight. He thought it would require substantial time to develop a tradition of active intervention. More should be done to understand the dynamic of behavioral change that leads agencies to change from passive acceptance to effective monitoring of performance.

T. N. Srinivasan agreed that, if the issues of access and financing of education could be set aside, there would be little reason to oppose the privatization of the education system. The government could focus on certification, the setting of standards, and monitoring. A voucher or similar transfer mechanism could address the needs of low-income families. He was concerned, however, that some localities might not have effective private schools to compete with public schools. In such cases the problem of poor public schools has to be addressed directly. Another delegate emphasized the political aspect of the problem by noting that the Indian constitution was quite unique in providing teachers with direct representation in some state legislatures. The fact that many teachers are also legislators greatly complicates the reform process. For example, the gap between public and private sector teacher compensation has actually been rising over time, in part because of effective lobbying activities. Furthermore, there is substantial evidence of cheating in the administration of exams. It is likely that actually achievement rates are significantly lower than reported.

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