

# **New Approach to Public Sector Hiring in India for Improved Service Delivery**

**ABSTRACT** This paper argues that the current structure of the public-sector labor markets in India severely limits the ability of the Indian state to effectively deliver services across a wide variety of core functions including policing, education, health care, and public health. Sources of inefficiency include: too few front-line employees, caused in part by entry-level salaries that are too high; lifetime jobs offered without assessing candidate fit for the position; ineffective training and skilling; inadequate rewards for performance; and spatial mismatch between population needs and employees' preferred work locations. I propose a new approach to hiring front-line service providers to address these issues. The key idea is to introduce three- to five-year-apprenticeships for entry-level service providers, giving priority to local candidates, and interspersing modular training and certification of skills that are consistent with the new National Skills Framework. Hiring into regular full-time positions will be unchanged for the most part, but (performance-linked) credit will be provided for each successful year as an apprentice. One-time exit payments will be made to apprentices who do not get selected for regular positions. I illustrate this approach with several examples, and argue that such an approach can improve the quantity and quality of front-line service providers, in a fiscally feasible way. Additional benefits include reducing youth unemployment, improving their skills, and increasing female labor force participation and empowerment. Since most front-line service delivery responsibilities are under the jurisdiction of state governments, I conclude by noting that the increased fiscal devolution to states under the Fourteenth Finance Commission constitutes an especially promising opportunity for a few states to try out this approach.

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## 1. Introduction

Several studies over the past decade have documented that the Indian state does a poor job at effectively delivering basic services to its citizens. These weaknesses are apparent in almost every function of the state, including policing, water and sanitation, public health, and education (Pritchett 2009; World Bank 2003). One strand of explanatory factors for poor service delivery has focused on the weak governance and accountability of front-line service providers—exemplified by high absence rates of teachers and health care workers (Kremer et al. 2005; Muralidharan et al. 2011; Muralidharan et al. 2015). A second strand has focused on the poor training and preparation of front-line service providers (Rao et al. 2011).

While both of these factors are important, a more direct explanation for poor service delivery may simply be the inadequate numbers of front-line staff. The Indian state is remarkably under-staffed in several front-line service delivery functions including police, teaching, and community health. At the same time, fiscal pressures have made it difficult to fill even existing vacancies, let alone create new positions. The standard approach of advocates for any given sector (such as education or health) to address these staffing shortages is to argue for a larger budget—typically, for hiring more staff and launching more programs. For instance, education advocates repeatedly call for 6 percent of gross domestic product (GDP) to be spent on education, and health advocates similarly call for 3 percent of GDP to be spent on health.<sup>1</sup>

However, these calls for increased spending rarely consider the broader fiscal situation (such as the low tax-to-GDP ratio in India of around 17 percent), or the opportunity costs of diverting funds to their preferred sector (within a fixed overall budget). It is then left to the Finance Ministry to juggle the competing demands across a fixed fiscal envelope and in practice most ministries and departments get less than what they seek. The “shortage” of funds then becomes an alibi for poor state capacity and service delivery. However, given the strained nature of public finances as a whole, it should be clear that “more of the same” will simply not work, and that policymakers need to find a way to deliver services more effectively within the same fiscal

1. Understanding the sources of these benchmarks (typically, emanating from international organizations like UNESCO, UNICEF, and the WHO) and the assumptions behind them is an interesting exercise in its own right. Typically, they are based on taking the current structure of costs per user or facility and multiplying them by the extent of additional coverage that is needed to reach universal access. While universal coverage is certainly a laudable goal, what is typically missing from these benchmark calculations is any consideration of the possibility of achieving the same goals in a more cost-effective manner.

envelope, with increased focus on the *quality* of public spending on service delivery and its cost-effectiveness.

I argue in this paper that a fundamental reason for the weak capacity of the Indian state for service delivery is the current structure of public-sector labor markets, which induce several inefficiencies in the productivity and effectiveness of publicly provided services, and also induce distortions in the broader economy. I present evidence to show that the status quo system does not hire enough front-line service delivery staff, does not adequately assess their fit for the roles they are hired for, does not train them the right way, does not allocate them optimally spatially, does not pay them the right way, and does not promote them the right way either. Recognizing these distortions is essential to correctly diagnose the problem. The first goal of this paper is to document the broad range of distortions induced by the current structure of public-sector labor markets, and the ways in which the status quo is sub-optimal.

I then proceed to discuss a possible new approach to hiring front-line service providers that has the potential to mitigate these distortions and improve service delivery without significantly increasing spending. This approach draws on different strands of evidence from India and around the world and it features the following main components: (a) create untenured apprenticeship positions lasting from three to five years in major front-line service delivery departments including police, teaching, community health, and early-childhood care at lower entry-level pay scales than the status quo; (b) give preference to local candidates for these positions; (c) create modular training courses that are taken alongside the apprenticeship and allow the interspersing of theory and practice, and provide certificates of levels of skilling that are compatible with the new National Skills Qualification Framework; (d) retain the current pay scales and process for hiring regular full-time staff (including age limits for entry), but provide extra (performance-based)<sup>2</sup> credit for each year of successful service as an apprentice; (e) provide one-time payments to apprentices (based on years of meritorious service) who do not get hired into regular full-time positions at the end of their eligibility age.

There are several ways in which the proposed approach improves upon the status quo. First, it allows for a fiscally feasible expansion of front-line service providers in areas where they are needed by increasing the hiring of

2. While providing performance-based credit would be ideal, in practice, even an approach that simply provides credit for each year of successful service would enable a considerable improvement over the status quo. See Section 3.1.5 for a more detailed discussion of this issue.

local candidates at a lower pay scale. Second, it improves the effectiveness of training by interspersing credentialing with practice. Further, providing credit for performance on the training modules at the time of regular hiring will improve the extent to which apprentices absorb and apply the training to their jobs. Third, it is likely to improve the match quality of front-line service jobs by allowing candidates to experience the actual job for a few years before getting hired into permanent positions, and by placing more weight on performance on the job before offering permanent positions. Under the status quo, most candidates enter a permanent government job before having any experience of what the job entails in practice. Many of these candidates may be qualified on paper, but they may be a poor fit for the actual job on personal characteristics that are not reflected on a résumé, entrance exam, or interview.<sup>3</sup>

The three main margins on which quality and effectiveness of public employees can be improved are: selection, training, and motivation/rewards for performance. The proposed approach aims to improve the quality of the public-sector workforce on all of these margins. A good way of summarizing this approach is to say that it reduces the barriers to entry into service-delivery positions (since many more apprentices can be hired than regular staff), but it raises the barriers to entry into permanent government positions and it ensures that those selected for permanent positions are more likely to have demonstrated aptitude and competence on the job. The one-time payment to apprentices who do not get selected for regular positions is designed to facilitate their transition to other roles, and the credentials accumulated during the apprenticeship will in turn improve their skills and employability in the private sector.

Beyond these direct benefits to service delivery, there are also likely to be several indirect benefits to the economy. First, educated youth in India waste several years attempting entrance exams to various government jobs without gaining either meaningful skills or work experience. The new approach will be designed to make it more attractive to enter apprentice positions and obtain modular credentials, since it will increase the probability of getting a regular government job. This in turn will reduce youth unemployment and the misallocation of talent by channeling time into more socially productive tasks. Second, a major barrier to increased female labor

3. Teaching is a particularly good example, where qualified candidates who get selected for permanent positions have often not spent much time actually teaching. Many ultimately find that they are simply not ready to deal with the challenges of managing a classroom. The same point also applies to *anganwadi* (early-childhood care) workers.

force participation is the unwillingness (or inability) of young educated rural women who have completed secondary or higher secondary school to travel outside their village to work (this could reflect strong social norms—especially in rural North India). An emphasis on local hiring for new positions as teaching assistants, early childhood caregivers, public health workers, and police personnel can, therefore, significantly improve female labor force participation and empowerment. Third, increased employment opportunities for young women who have completed secondary or higher secondary education will increase both real and perceived returns to education for girls, which will positively affect schooling for younger girls, and delay the age of marriage and fertility (Jensen 2012). These in turn are correlated with better child human development outcomes and are a key step in achieving a demographic transition.<sup>4</sup>

There are several elements of this proposal that are not new and have been tried before with mixed success (such as the use of locally hired contract teachers in lieu of regular civil-service teachers in several states, and the recent program of hiring Youth Brigade police staff in Tamil Nadu to supplement the existing police force). However, I will argue that these initiatives have not delivered to full potential (and in some cases have even failed) because they have been introduced in a piece-meal fashion and have not been implemented as part of a new unified approach to personnel policy in the public sector. These issues will be illustrated with a more detailed discussion of how this new approach can be implemented in the case of education using a model of teaching assistants as the first step in a career ladder (and how it mitigates important professional, legal, and political weaknesses of the contract teacher model). I will also discuss the applicability of this model to other critical sectors such as police and early-childhood care.

Finally, I argue that the current moment is a particularly opportune time to try out this new approach. Most of the front-line service delivery functions discussed in this paper are under the purview of state governments. The sharp increases in devolution of funds to state governments under the Fourteenth Finance Commission and the corresponding reduction in allocations to centrally sponsored (and arguably “strait-jacketed”) schemes—especially in the social sector—provide an excellent opportunity for states to use

4. The demographic transition refers to the transition of societies from a “high fertility and high mortality” equilibrium to one of “low fertility and low mortality.” The demographic transition is also characterized by families prioritizing the *quality* of their children (in terms of human capital investments) over *quantity*, and it is strongly correlated with societies achieving improved human development outcomes, as well as with achieving higher levels of per capita income.

these additional resources to innovate and experiment with more effective ways of delivering services. The main goal of this paper is to provide an analytical framework and a concrete policy suggestion with which states can potentially experiment to sharply improve service delivery in a fiscally feasible way.

There has been a recent increase in both theoretical and empirical research on the importance of building state capacity for development (Besley and Persson 2010; Persson and Besley 2009; Kapur and Subramanian 2013; Krishnan and Somanathan 2013; Mathew and Moore 2011; Muralidharan et al. Forthcoming). This paper contributes to this literature with a focus on front-line service providers and it is a complement to Krishnan and Somanathan (2005; 2013), who discuss the capacity of the apex civil service in India. It also draws on a growing body of research on personnel economics in the public sector in developing countries, which is summarized well in a recent review by Finan et al. (2015).

The rest of this paper is organized as follows. Section 2 presents the key background facts that motivate this paper and outlines the various distortions and inefficiencies that arise from the current structure of public-sector labor markets. Section 3 outlines the proposed new approach to public-sector hiring and illustrates it with a detailed case study of teaching assistants, followed by briefer discussion of applicability to police and early-childhood care givers. Section 4 discusses a possible implementation roadmap and concludes.

## 2. Some Key Facts

A large number of facts associated with the weak performance of the Indian state at delivering services to its citizens can be explained by the structure of public-sector labor markets. This section outlines key facts on weak service delivery and then discusses distortions in the broader labor market, which are created by the structure of public-sector labor markets.

### *2.1. Shortage of Front-line Staff for Key Service Delivery Functions*

Aggregate data reveal the striking extent to which the capacity of the Indian state to deliver services to its burgeoning population is constrained by the lack of adequate numbers of front-line staff. India's population has nearly doubled in the last 35 years from 700 million in 1980 to 1.3 billion in 2015. However, during this period, the total number of central and state government

employees put together has barely increased (moving from 15.5 million in 1980–81 to 17.6 million in 2011–12).<sup>5</sup> Thus, the number of government employees per capita has fallen sharply in this period and these aggregate statistics are also reflected in the paucity of front-line service delivery staff across a range of sectors in India, with several studies and reports documenting a shortage of staff.

Consider policemen, for instance. Among countries with data, India ranks last in the G20 in terms of police officers per capita. India currently has an average of one policeman per 761 people (DNA 2014), which lags behind even the national benchmark established by the Bureau of Police Research and Development of one policeman per 568 people. The lag relative to international standards is even more pronounced: the United Nations recommends one policeman per 450 people, and these figures depart considerably from the police-to-population ratios in developed nations, such as Italy (one policeman per 181), Canada (one per 191), the United States (one per 224), and Spain (one per 313) (Nandan 2014). Further, as I discuss below, the spatial allocation of policemen is far from uniform, which creates even greater shortages in effective staff in several locations.

India also faces a sharp teacher shortage. Estimates indicate that India's schools fall short of 5.86 lakh primary school teachers and 3.5 lakh upper primary teachers (Pathak 2014). The teacher shortage stems partly from the government's reluctance to fill up permanent posts. At the national level, there are 5.23 lakh vacant posts (Kohli 2015). Instead, states such as Uttar Pradesh, Bihar, and Madhya Pradesh—which have faced acute teacher shortages and fiscal deficits in the past decade—have hired para-teachers (who are typically not well-qualified). The use of locally hired non-civil service teachers by itself may not be a problem (as I illustrate below), but the problem is that the use of para-teachers has typically taken place in a “stop gap” manner, without a strategy to integrate para-teachers into a unified human resource framework. This, in turn, has created several problems, which I discuss further in Section 3.

The teacher shortage will be exacerbated by the Right to Education (RTE) Act, which stipulates a reduction in the pupil–teacher ratio (PTR) in primary schools from 40:1 to 30:1 and proscribes the use of contract teachers or para-teachers. It is estimated that, in addition to filling existing vacancies, the government will need an additional 5.1 lakh teachers to meet the 30:1 PTR norm in classes 1–5. Overall, meeting the PTR norms of the RTE

5. These data were provided by Devesh Kapur in his discussant slides and were obtained from [indiastat.com](http://indiastat.com).

is expected to cost over ₹25,000 crores/year. This illustrates the tension between the desire to improve staffing and reduce PTR, on the one hand, and the limited fiscal space, on the other.

Similarly, the ratio of health workers to inhabitants in India is also very low by global standards. The number of allopathic doctors, nurses, and midwives (11.9 per 10,000 people) is about half the WHO benchmark of 25.4 workers per 10,000 people (Rao et al. 2011). When adjusted for qualification, the number falls to about a quarter of the WHO benchmark. Further, there is little indication that the availability of health workers per population is improving over time. In fact, the ratios of health professionals (for example, doctors, dentists, and nurses and midwives) to population have barely budged from 2000 to 2009 (Hazarika 2013).

The problem of lack of staff also extends to the effectiveness of early-childhood health and education programs delivered through the Integrated Child Development Services (ICDS). A recent review of the functioning of the ICDS conducted by NCAER for the Planning Commission concluded that *anganwadi* workers are over-burdened and that *anganwadi* centers are under-staffed relative to the range of functions that they are expected to perform (PEO 2011). These findings were reinforced in recent field visits I made to ICDS centers in Tamil Nadu (in June 2015). Even in a high-performing state like Tamil Nadu, staff shortages were the single most frequently reported concern by workers and supervisors.

The gaps in supervisory staff across sectors are also glaring. For instance, a recent review found that 32 percent of the positions of block- and cluster-level education officers across India were vacant (Government of India 2011). Systematic data is not easily available in other sectors, but interviews on a recent field visit to ICDS centers in Tamil Nadu revealed supervisor-level vacancies of over 40 percent. Overall, the evidence above makes it seem clear that there is a severe shortage of front-line staff and supervisory staff across sectors in India, and that this shortage negatively affects the quality of services delivered to citizens.

## ***2.2. Public-sector Salaries Are (too) High and Not Correlated with Productivity***

An important reason for the inability of governments to hire staff to fill the shortages documented above is the limited fiscal and budgetary space to do so. Salary costs account for the majority of public expenditure on services, and the salary costs of additional staff are high. While the total number of government employees barely increased during the period from 1980 to 2010, inflation-adjusted government spending (most of which was spent on

employee salaries) in the same period increased more than four times.<sup>6</sup> On the face of it, the large excess demand for every open public-sector job—often exceeding 200 applicants per job opening<sup>7</sup>—may suggest that the pay and benefits of a government job are too high (especially, after accounting for the lifetime job security they provide), and that it may be possible to hire more staff at a lower pay.

But by itself, the fact of high excess demand for government jobs at the existing pay and benefit scale does not show that salaries are too high. If the large applicant pool enables the government to select the very best candidates for permanent employment, then what matters is not the extent of excess demand for public-sector jobs, but rather whether the terms offered are adequate to attract the high-quality candidates who *do* get selected (and may have otherwise opted out of public service).

In other words, establishing whether salaries are too high or low requires a comparison of the marginal cost and marginal productivity of government workers at different levels of pay. This is a non-trivial problem because measuring public-sector productivity is difficult to begin with—let alone mapping productivity to specific workers and levels of pay. However, there is one important government-provided service in which we can measure productivity and attribute it to specific workers. This is the case of teaching, where detailed longitudinal data on the annual learning progress of students, combined with the information on the assignment of students to teachers each year, can be used to estimate the “value added” of each teacher. Since the job description for all teachers is similar (teaching children), teachers mostly work on their own in their classroom, and their output is quantifiable in a meaningful way,<sup>8</sup> education provides a useful setting to compare the productivity of different types of public workers. Specifically, this setting can be used to study the relative effectiveness of regular civil-service teachers and contract teachers (or para-teachers) who are hired through different processes and under very different employment terms.

Muralidharan and Sundararaman (2013) present such evidence based on five years of data collected on primary education in Andhra Pradesh (AP)

6. These data were provided by Devesh Kapur in his discussant slides and were obtained from [indiastat.com](http://indiastat.com).

7. Averaging across various categories of central government employees, the “applicant to post ratio” (APR) exceeds 200 (UPSC Annual Report 2010). Data provided by Devesh Kapur in his discussant slides.

8. See Chetty et al. (2014a and 2014b) for evidence that having a “high-value-added” teacher in school (measured by their effectiveness in raising students’ test scores) is correlated with positive long-term labor market outcomes.

and report two main findings. First, untrained contract teachers (or para-teachers) are able to significantly improve learning outcomes in primary school. Second, contract teachers are at least as effective as regular civil-service teachers who are more educated, have formal teacher training credentials, and are paid over five times higher salaries.<sup>9</sup> They also find that regular teachers were 50 percent more likely to be absent (with an absence rate of 27 percentage points compared to 18 percentage points for contract teachers). Overall, the results suggest that the contract teachers were able to more than make up for their lower levels of education, training, and experience with higher levels of effort.

Other plausible mechanisms for the positive effects of contract teachers include the lower social distance relative to the communities they served, the greater accountability to the community (due to the renewable nature of their contracts), and the fact that they live in the village closer to the school (reducing the daily cost of attendance). Indeed, Kingdon (2011) argues that the high salaries of regular teachers may *increase* their social distance from the communities they serve and make it more difficult for communities to hold teachers accountable.

Further, analysis of longitudinal data on education from AP finds no correlation between teachers' value added and their salary level. The current pay structure rewards qualifications and experience, but these do *not* appear to be correlated with productivity. Similarly, Bau and Das (2011) also find no correlation between teacher salaries and value added in public schools in Pakistan. Thus, high *levels* of pay seem to be neither necessary nor sufficient to ensure improved public worker performance.

In contrast, Muralidharan and Sundararaman (2011) and Muralidharan (2012) find that even modest amounts of performance-linked pay for public school teachers in AP (equal to an average of 3 percent of annual pay—but within a range of 0–15 percent) led to sharp increases in student learning outcomes that were sustained over five years. Muralidharan (2012) finds that students who completed five years of primary school under a system in which their teachers were paid these small performance-linked bonuses scored 0.54 and 0.34 standard deviations higher on math and language tests, respectively (these are very large effects when compared to those of other education interventions).

9. This does not even account for the additional employer contribution towards pensions (equivalent to 10 percent of salary) that the government pays for regular teachers, but does not for contract teachers.

The idea that the productivity of public-sector workers is much more sensitive to the *structure* of pay than to its levels is further supported by recent experimental evidence from Indonesia. De Ree et al. (2015) evaluate the impact of a landmark teacher law passed in Indonesia that *doubled* teacher pay across the board. They find that the pay increase led to a significant increase in teacher satisfaction with their income, a reduction in the number of teachers holding second jobs (and in the hours spent on these jobs), and a reduction in their self-reported financial stress. Despite these improvements, the doubling of pay had absolutely *zero* impact on improved learning outcomes. While it is possible that the increases in pay may have attracted higher quality candidates over the long run, the results suggest that unconditional salary increases for current workers (that are not linked to performance) are an extremely inefficient use of scarce public funds for improving social-sector outcomes. This lesson is especially relevant for the Seventh Pay Commission in India (and for states considering adopting these norms for their employees).

While the best evidence on comparative productivity across public workers on different pay and employment contracts comes from education, there is also similar evidence from the health sector. Das et al. (Forthcoming) measure the quality of health care across public and private providers in rural Madhya Pradesh using an audit study, where highly trained standardized fake patients presented a common set of symptoms during unannounced visits to health care providers. The symptoms presented were for cases of unstable angina, asthma, and dysentery in a 2-year-old child at home, and the cases were chosen so that the presenting symptoms were consistent with multiple possible diagnoses. The quality of health care provided was evaluated based on the effort expended by the provider to reach a correct diagnosis (measured by the fraction of items completed on an essential checklist of history-taking questions and exams), and the correctness of the treatment provided.<sup>10</sup>

In addition to measuring provider quality, Das et al. (Forthcoming) observe the prices charged for the transaction in the private sector, and

10. The use of standardized patients allows the authors of this study to credibly measure the quality of care provided because they know the underlying ailment that was presented, the corresponding checklist items, and the correct treatment. This would not be possible if they just observed doctors in their clinics with typical patients because the actual ailment presented and the corresponding correct treatment protocol would not be known to the observer. The details of the measurement protocol are important because the fundamental challenge in assessing whether pay is correlated with productivity is to identify the productivity/quality of individual public-sector workers.

collect data on salaries for the public-sector staff. They find that while prices charged in the private sector are positively correlated with effort (time spent and checklist completion) and with the provision of a correct treatment, there is *no correlation* between wages and effort or quality in the public sector.

Thus, while the current structure of entry-level pay and benefits in public-sector jobs may attract more qualified candidates on paper, it is not clear that these qualifications are either necessary (as seen by the evidence on contract teachers) or sufficient to ensure quality service delivery. Overall, the idea that high salaries, benefits, and job security help to attract the most effective public-sector workers does not seem to be supported by the evidence. Further, modifying the structure of pay to include performance-based components is likely to deliver considerably improved outcomes for a given level of spending.

### *2.3. The Status Quo on Training and Credentialing is Not Working*

Another rationale for the current system of public-sector recruitment is to hire qualified service providers. For instance, teacher selection norms prescribe that candidates must have either a diploma or degree in education. While this seems reasonable, it does not seem to produce the expected results. For instance, there is not a single credible study on education in India that finds a significant positive correlation between teachers possessing formal training credentials and their effectiveness in improving student learning—at least in the public sector (see Muralidharan 2013, for a review of the evidence). Why might this be the case? There are three plausible reasons.

First, many of the institutions that provide teacher education certificates are of very poor quality and it is not uncommon for these certificates to even be purchased, in which case it is not surprising that their possession is not correlated with effectiveness. Second, even in cases where the institutions are of reasonable quality and the credentials genuine, a content analysis of the curriculum of teacher training institutions reveals an almost exclusive focus on theoretical issues, including the history, theory, philosophy, and sociology of education, with very little attention paid to effective pedagogy. While the current content may help teachers become more reflective and potentially more effective, it does not adequately prepare them for the practice of managing a classroom full of children and teaching effectively in such a setting. Third, even if the content of the training is useful in making teachers more effective, it may not translate into improvements in classroom effectiveness because there are no career rewards for effective teaching.

The establishment of a Teacher Eligibility Test (TET) as a pre-requisite for entry into the profession is likely to help with the first problem (of low-quality or fake degrees). Yet, it does not address the second or third concerns. In contrast, the global evidence on effective teacher training programs suggests that programs that intersperse classroom instruction with extended periods of teaching practice under the observation of experienced teachers hold some promise (see the next section for the review). This is already common practice in the medical profession, in which residents conduct hospital rounds supervised by senior physicians to diagnose patients and propose a prognosis. I will return to this theme in the next section.

#### *2.4. Mismatch between Selection Criteria and Determinants of Effectiveness on the Job*

The results presented above suggest that the current selection criteria (performance on exams and interviews) as well as pay criteria (qualifications and experience) do not predict the performance of employees on the job. At the same time, we also find significant and persistent variation in employee effectiveness when measured directly with performance data (such as teachers' value added). Given that this variation is persistent, it suggests that there *are* characteristics of employees that are correlated with their performance, but that these characteristics are not easily observed at the time of recruitment.

Identifying and quantifying these traits is an active and fascinating area of ongoing research. Some of these include traits such as persistence, grit, discipline, and pro-social behavior that may be correlated with effectiveness on any job, and some are traits that may be relevant for success on specific jobs (such as enjoying working with children for teachers or early-childhood workers).<sup>11</sup> This literature is still nascent, but two broad themes emerge from it.

11. This is an important distinction because sector advocates often argue for policies that will attract higher quality candidates into that specific profession (the most common example is arguing for salary increases across the board—see for instance the UNESCO Education for All Global Monitoring Reports). However, from a social perspective, it is not obvious that this is efficient because attracting high-quality talent into a sector displaces it from other sectors where the social value of the talent could have been higher. On the other hand, identifying the traits that are likely to make candidates more successful in some professions than in others, and using these traits to match candidates to occupations, will likely improve job fit and increase efficiency across the board.

First, there is mounting evidence that employee characteristics that are difficult to observe at the time of recruitment are important for their actual effectiveness. For instance, there is evidence that skills such as leadership, perseverance, and critical thinking are positively correlated with teacher effectiveness (Bastian 2013; Dobbie 2011; Duckworth et al. 2009; Rockoff et al. 2011). There is also suggestive evidence that public employees with higher “socio-emotional” or “character” skills perform better on the job. For example, doctors in Punjab (Pakistan) who scored higher on measures of agreeableness, emotional stability, extroversion, conscientiousness, and openness (collectively known as the “big five” traits), or on a measure of intrinsic motivation for public service, were more likely to attend work and less likely to falsify inspection reports (Callen et al. 2015). Health inspectors who scored higher on these personality measures were also more responsive to increased monitoring. And senior health officials with higher big five scores were more likely to respond to a report of an underperforming facility by compelling better staff attendance.

There is also evidence from teacher interviews conducted in AP that pro-social attitudes and empathy with student conditions is an important predictor of teacher effectiveness (these interviews were conducted as part of the Andhra Pradesh Randomized Evaluation Studies in education). Specifically, interviewing teachers facing similar student populations but who had different levels of effectiveness, we found that low-performing teachers often had a derogatory attitude towards first-generation learners. They claimed that these children would drop out of school anyway and only attended school for the free mid-day meals. On the other hand, high-performing teachers reacted to the same situation with the attitude that *they* were the only hope for a child who was a first-generation learner. The importance of such differences in empathy is almost obvious ex-post, but these are not traits on which teachers are currently selected.

The same theme was repeated during my recent field visits to ICDS centers in Tamil Nadu, where senior field staff mentioned that many candidates simply applied for the job because of the attraction of a government job and often got recruited based on their paper qualifications and interview, but that they were not a good fit for the job because of inadequate empathy with children and inability to keep them engaged in a classroom.

The second important theme from this literature is that while these traits (I shall refer to them as “non-CV” traits) are difficult to measure at the time of recruiting, they *are* observable on the job. In the United States, a number of studies have shown that teachers’ performance on classroom observations (Grossman et al. 2013; Kane and Staiger 2012; Kane et al. 2011;

Pianta et al. 2008), student surveys (Kane and Staiger 2011), and principal surveys (Jacob and Lefgren 2008; Rockoff et al. 2012) do a much better job predicting that teachers' capacity to improve student achievement than traditional measures such as graduate degrees or teaching certificates. Again, while the best evidence on these topics comes from education, several qualitative studies from around the world point to the importance of temperament and other "non-CV" traits in the effectiveness of policemen and in their ability to be unbiased in interacting with populations with different demographic characteristics from themselves, which are however easily observable to senior officers and colleagues (Correll et al. 2002; Sim et al. 2013).

### *2.5. Spatial Mismatch*

The average figures on police officers, teachers, and health workers per capita in Section 2.1 may severely understate the extent of staff shortages by masking considerable spatial variation. This is true both across states (with poorer states having worse ratios—partly explained by their lower budgets) and within states (with rural areas having much poorer effective availability per capita of public service providers). Note the use of the term "effective availability" as opposed to "availability." The latter is typically reported in official data on the basis of sanctioned staff, whereas the former accounts for unfilled vacancies and provider absences (which are both higher in poorer states and rural areas).

For instance, the all-India average PTR in primary schools in 2010 was 39.8:1, which was in accordance with the norms at the time (a PTR of 40:1 prior to the passing of the RTE Act). However, this average can be misleading because states like Kerala, Tamil Nadu, Karnataka, AP, and Himachal Pradesh had PTRs of 25:1 or lower; states like UP and MP had PTRs of around 47:1; and states like Bihar had PTRs close to 70:1. Adjusting for teacher absences, the figure is even more striking, with the effective PTR in UP being close to 70:1, in Jharkhand to 80:1, and in Bihar to 100:1 (Muralidharan et al. 2015).

Similar patterns emerge in police to population ratios. The situation is particularly grim in states like UP, where each policeman serves over 1,100 people, which is almost double the national average (DNA 2014). Further, in practice, the spatial allocation of police personnel is controlled by elites and leads to a more than proportionate use of police personnel to address elite concerns as opposed to that of the average population. A striking example is provided by the extent to which police forces are diverted to VIP security relative to general policing. For instance, out of the 83,762 policemen in

New Delhi, the largest police force, only 30 percent work in general policing. The remainder were reserved for personal security details.<sup>12</sup>

Finally, the shortage of health workers differs widely across states. For example, states like Kerala, Tamil Nadu, and Karnataka have 3.46, 3.39, and 3.09 nurses and midwives per 1,000 people, respectively (Hazarika 2013). Others like Uttaranchal, Bihar, and Jharkhand have 0.08, 0.16, and 0.17 nurses and midwives per 1,000 people, respectively. The pattern is similar for doctors and dentists. The number of health workers per 10,000 people ranges from 23.2 in Chandigarh to 2.5 in Meghalaya (Rao et al. 2011). Overall, the combination of fiscal pressures in hiring and weaker governance (which leads to higher absence rates) makes service delivery in large states such as UP, MP, Bihar, and Jharkhand especially challenging.

A further distortion comes from the fact that service providers are typically most needed in rural areas, but qualified providers typically prefer to live in more urban areas closer to better facilities and schools for their children. Indeed, one reason for the high absence rates of regular teachers and health workers compared to contract teachers and community health workers is that the former typically live in the block or even district headquarters and commute to their jobs each day, whereas the latter live in the villages they are serving. Data from AP shows that the typical contract teacher lives one kilometer away from the school, whereas the typical regular teacher lives over 12 kilometers away (Muralidharan and Sundararaman 2013).

Overall, the status quo prioritizes hiring the most qualified candidates at the district or state level, but ignores the spatial mismatch that ensues. Since the most qualified candidates disproportionately come from urban areas or have aspirations to continuously move to larger cities, it is more common to find staff vacancies in rural as opposed to urban areas. This, in turn, leads to lower staff-to-population ratios in rural areas. Even if administrative allocations of staff are equalized spatially, it is impossible to prevent staff from choosing to live far away from their work sites in urban areas and commute to work—which both increases absence rates and reduces their connection to the communities they serve. Further, corruption in transfers and postings is

12. These figures may be particularly extreme because New Delhi is the national capital and has a disproportionate number of VIPs (including diplomatic staff attached to embassies), who may need additional security. Nevertheless, the main point is that data on the average number of police per capita may over-estimate the effective strength of staff for maintaining general purpose law and order, and this is still likely to be true in most parts of India, though systematic data on the spatial allocation of police personnel was not easy to find.

widespread in many states, and again reflects the spatial mismatch between where posts exist and where providers want to live (see B eteille 2009).

Given the earlier results that show no correlation between paper qualifications and effectiveness on the job for front-line service providers, and the evidence from multiple studies of lower absenteeism among locally hired staff with modest amounts of training, there is a strong empirical case for making local hiring a core principle of staff recruitment for service delivery positions. For instance, Bang et al. (1999) and Haines et al. (2007) show that community health workers who receive limited training and are paid much more modest stipends than regular government health workers were able to improve health outcomes in underserved rural areas in India. Further, given that contract teachers and community health workers are effective at a fraction of the cost of regular government employees, using such workers may be a promising avenue to further explore for improving service delivery in a cost-effective way.

### *2.6. Time Wasted by Educated Youth in Trying to Get a Public-sector Job*

Beyond the direct inefficiencies in service provision, the structure of public-sector labor markets also induces important distortions in the overall economy. One unappreciated distortion is the extent to which educated youth spend years attempting to get a government job by taking exams for any government job opening. The most common job aspiration for youth across India is a government job, and millions attempt to get one each year. Many of them spend several years unemployed or under-employed and they are supported by their families and part-time jobs (that do not build skills or certification) while making multiple attempts at passing exams to get a government job. Jeffrey (2010) provides an illuminating ethnography of educated unemployed youth in Meerut, Uttar Pradesh, for whom the phenomenon of “waiting” for a government job is so widespread that the title of his book is *Timepass*.

Analysis of unemployment by age using NSS data finds considerably higher unemployment rates for males below age 30 (which is the age limit for entry into many government jobs).<sup>13</sup> This is also consistent with evidence reported in Krishnan and Somanathan (2013) that the average age of selection into the civil service has been steadily increasing and that the

13. I thank Abhijit Banerjee for sharing these results from his ongoing work on youth employment and skilling in India.

average applicant makes between three and four attempts to get selected. Thus, the average *successful* applicant spends around four years preparing for and attempting these exams. Since the ratio of applicants to positions exceeds 200:1, this implies that hundreds of thousands (if not millions) of youth in their 20s attempt these exams.

The time spent attempting these exams also takes educated youth away from *other* productive parts of the economy. A puzzling fact about youth and skilling in India is the low take-up for training programs, and very high attrition from training programs. There is anecdotal evidence that at least 80 percent of trained candidates leave their jobs within three months of their placement.<sup>14</sup> Anecdotes suggest that a plausible reason for this is that many youth prefer to attempt entrance exams for government jobs rather than getting skilled and entering a competitive and uncertain labor market.

Note that this is perfectly rational on the part of individuals because the returns to winning the “government job lottery” are so large (with above-market wages, pension and benefits, lifetime job security, and the potential to extract rents in several public-sector jobs) that it makes sense to keep trying instead of getting skilled and working in the competitive private economy.<sup>15</sup> However, while it may be individually rational, it is socially inefficient because the probability of winning this lottery is very low, and those who do not make it waste several prime years of youth, which could potentially be used to obtain real skills and be productively employed.<sup>16</sup>

### *2.7. Corruption in Recruiting*

A final manifestation of the distortions induced by the structure of public-sector labor markets is the widely acknowledged prevalence of corruption

14. Interviews with placement managers (conducted by Abhijit Banerjee and his colleagues on an ongoing project) confirm this phenomenon with quotes along the lines of: “Attrition post-placement is one of our larger concerns. While most candidates complete two-to-three-month long trainings, very few of them eventually stick on in the labour market.”

15. A particularly striking recent example of this point was the widely reported case of over 2.3 million applicants for 368 posts as a peon in UP, including over 250 applicants with a Ph.D. qualification (Ali 2015; Verma 2015), implying an applicant to post ratio of over 6000. While the story was widely reported in the media as reflecting poor employment opportunities, the data are also consistent with the large “excess returns” over the market wage to a job in the government or public sector.

16. In practice, many of these applicants do combine their exam preparation with various formal and informal jobs and so not all their time is wasted. Nevertheless, obtaining a public sector job and studying for the selection exams is typically the main focus of these youth, as opposed to obtaining skills that are rewarded in the broader economy.

in recruiting for public-sector jobs.<sup>17</sup> Since the present discounted value of winning the “government job lottery” is so large, it is not surprising that candidates are willing to pay to improve their chances or that officials with discretion will be tempted to offer such options. Thus, the potential benefit of paying significantly above-market wages in the hope of attracting the best candidates may be rendered moot if it induces corruption in hiring. Note also that candidates appointed this way are likely to be negatively selected on intrinsic motivation (Schleifer and Vishny 1993) and work less hard since they would have paid for their jobs (Akerlof 1982) and would be more likely to want to recover the upfront cost of their investment through corruption or shirking.

It is of course possible that the status quo benefits political leaders who can either monetize the “excess returns” in government jobs through upfront bribes or offer the promise of a government job as patronage in return for political support. The latter channel may be a particularly important incentive for unemployed youth to work as political party workers, with the government job being offered in return for loyal service. In such a case, there may be limited political incentives for reforming the structure of public-sector hiring. Nevertheless, it is also true that state-level political leaders are under increasing political pressure to deliver better public services. The approach to public-sector hiring laid out in the next section assumes the existence of political will to improve service delivery and offers an approach that would allow this in a fiscally feasible way.

### **3. A New Approach to Public-sector Hiring**

The facts outlined in the previous section point to several distortions in public-sector labor markets, many of which are interrelated. In this section, I outline a proposal for a new approach to public-sector hiring that mitigates several of these weaknesses and can form the basis for a comprehensive human resource strategy for public service delivery. Since the core elements of the idea have been outlined in the Introduction, this section provides a

17. Recruitment scams that have come into public attention recently include the Vyapam scam in MP, the teacher recruitment scam in Haryana (for which a former Chief Minister was convicted), and the recent resignation of a Railway Minister in response to allegations that he was selling positions on the apex Railway Board. However, corruption in public-sector recruitment has long been widespread in India. See Wade (1985) for the classic reference, and see Sukhtankar and Vaishnav (2015) for a fuller set of references.

fully fleshed out example from teaching and then presents brief extensions to police and early-childhood care workers.

### *3.1. Case Study 1: Teaching Assistants*<sup>18</sup>

#### *3.1.1. THE QUALITY CHALLENGE IN PRIMARY EDUCATION IN INDIA*

With more than 50 percent of children aged 6–14 not being able to read at a second class level, the quality challenge is the biggest crisis in the Indian education system. Long-term annual data on student learning in primary schools in India shows a sharp flattening of learning trajectories after class 2 (Muralidharan and Zieleniak 2014). The most likely reason for this is that the textbooks and syllabus in class 3 and beyond require children to be able to “read to learn” and children who have not attained reading competencies by class 3 sharply fall behind over time.

The main message from high-quality academic research on the impact of education policies on improving education is that the most expensive components of education spending that have been prioritized in recent years (infrastructure, teacher salaries and training, mid-day meals, and other inputs) have shown very limited impacts on improving learning outcomes. It is extremely unlikely that a “business as usual” expansion of education spending along current patterns will significantly improve learning outcomes (Muralidharan 2013). On the other hand, relatively inexpensive interventions such as using modestly trained and paid community volunteers to provide supplemental instruction to children at their level of learning (as opposed to the level dictated by the curriculum or assumed by the textbook) have proven to be highly effective at improving learning outcomes in multiple settings across India.

The Twelfth Five-Year Plan recognizes the centrality of the quality challenge and has explicitly committed to a target of:

Improving learning outcomes that are measured, monitored, and reported independently at all levels of school education with a special focus on ensuring that all children master basic reading and numeracy skills by class 2 and skills of critical thinking, expression and problem solving by class 5.”

While investing in education quality is clearly one of the most important priorities for the Government of India, the fiscally constrained budgetary

18. This section is adapted from Muralidharan (2013) but has been expanded with more details and references.

environment creates an imperative to implement both cost-effective and scalable policies to address this massive challenge.

### *3.1.2. TEACHING ASSISTANT PROPOSAL OUTLINE*

I posit here that changing the structure of public-sector hiring of teachers to include an entry-level apprenticeship position (called a “teaching assistant” or TA) provides one of the most promising and fiscally sustainable ways of achieving the learning objectives of the Twelfth Plan. The fiscal neutrality of the proposal relies on making more efficient use of the ₹25,000 crores per year earmarked for the most expensive stipulation of the RtE Act, which is to reduce PTR from 40:1 to 30:1. This may be especially relevant for states with large effective PTRs like UP, Bihar, and MP.

The proposal suggests maintaining the regular teacher norm at 40:1 (subject to a minimum of two regular teachers per school as per original Sarva Shiksha Abhiyan [SSA] norms) as opposed to 30:1. The same funds that would have been used to achieve the reduction from 40:1 to 30:1 can be used to provide each regular teacher with two TAs from the same village. These TAs shall have an explicit mandate to focus on first-generation and weaker learners and to provide small-group instruction that is tailored to their current level. Such an allocation of TAs to teachers will enable the PTR (defined as the ratio of adults to children in the school) to be reduced to 13.5 (or lower), which will allow for much more individualized attention to children and provide schools with the teaching resources needed to bridge early learning gaps. The main goal of the proposal is to provide the regular teacher with the instructional support needed to ensure that *all children* master basic reading and numeracy skills by class 2 or 3 (to be able to “read to learn”) as targeted in the Twelfth Plan, and to hold regular teachers responsible for delivering on this goal.

The proposal allows for a sharp reduction in PTR in a fiscally sustainable way, while also creating employment and skill-building opportunities for educated rural youth (especially young women). The TA position would also be the first step in a career ladder that allows many more candidates to try out teaching and select the best candidates (as revealed partly by their performance on the job) for regular teacher positions.

### *3.1.3. QUALIFICATIONS AND APPOINTMENT CRITERIA*

The appointment criteria for the teaching assistants would be very similar to those used for the appointment of non-regular government employees in several service delivery functions. Examples include the appointment of

contract or guest teachers, and *anganwadi* or ASHA workers. While there may be variation across states and sectors in the appointment rules, the following broad principles would apply to prioritize among applicants for the teaching assistant position. Different weights can be assigned to each of the criteria below to come up with a composite score for ranking applicants.

First, in line with the evidence presented earlier, preference will be given to candidates from the same village (or Panchayat if needed). The minimum qualification for this role will be passing 12th standard, though the most qualified applicants in a village will be prioritized for appointments. Current data suggests that around half of the appointees will be college graduates, while half will have passed 12th standard (though in some exceptional cases it is possible that the most educated candidate in a village will only have passed 10th standard). TAs will be appointed for one year at a time with the target duration of total employment being four years. The appointments will be renewed annually, subject to meeting performance and training norms. No formal teacher training credentials will be required to join as a TA, but continuous and ongoing training will be required over four years (see below). Since research suggests that women may be more effective at teaching younger children (especially young girls), each school could target filling 50–75 percent of these positions with women (Muralidharan and Sheth 2016). Reservation policies can be implemented in accordance with current norms.

Note that there is likely to be a surplus of applicants even for these apprentice level jobs and it will be necessary to implement standardized procedures for their hiring at the block or district levels. However, implementing such procedures is within the existing capabilities of the government since the suggested recruiting protocol is similar to ones that are already in place for contract teachers and *anganwadi* workers.

#### *3.1.4. TRAINING AND CREDENTIALING*

As discussed earlier, a consistent finding in the research on education quality globally over the past four decades, and in India over the past decade, is that there is no association between having a formal teacher training credential and teacher effectiveness in improving student learning outcomes (Hanushek 1971; 1986; 1992; Kane and Staiger 2012; Rivkin et al. 2005). This does not imply that training cannot have an impact on improving teacher effectiveness, but it does suggest that training credentials (as currently generated within the system) are unlikely to be effective markers of teacher quality, and that it is essential to rethink the approach to teacher training.

Some of the most promising innovations in teacher training around the world involve experimenting with different ways of integrating traditional lecture-style teacher training with teaching “practicums” (that is, opportunities for trainees to practice teaching under the supervision of an experienced mentor). There is suggestive evidence that these “practice-based” teacher preparation programs may have multiple benefits, including: (a) broadening the pool of high-talent entrants to the profession; (b) improving the screening of aspiring teachers; (c) accelerating the learning of new teachers; and (d) inducing teachers to work hard at improving their effectiveness in the early stages of their career, when professional habits are formed.

First, these programs may attract high-ability individuals who did not originally study to become teachers. For example, in the United States, there are more than 30 “teacher residency programs” (TRPs), in which college graduates interested in entering teaching simultaneously complete coursework and have a supervised fieldwork experience for at least one year. A study of these programs indicated that TRPs broadened the pool of candidates that entered teaching, attracting candidates who had not initially studied education, and that novice teachers in these programs were as likely to stay in teaching as regular novice teachers (Silva et al. 2014).

Second, practice-based teacher preparation programs may offer an opportunity to assess whether teaching trainees will become effective teachers. For example, a program that recruits college graduates to teach in hard-to-staff schools in New York City requires its applicants to, among other things, deliver a demonstration lesson. A study found that the performance of applicants in this selection process predicted their subsequent effectiveness in the classroom, as measured by student achievement gains (Rockoff and Speroni 2011). Similarly, a “mentoring” program, also in New York City, requires experienced teachers to periodically observe the lessons of new recruits. The same study found that the performance of new teachers on these observations predicted the performance of their students in standardized tests.

Third, practice-based teacher preparation programs may help teachers improve faster. For example, a study of a TRP in Boston, Massachusetts, found that program participants were initially less effective than regular novice teachers at teaching math and equally effective at teaching English (Papay et al. 2012). However, “residents” (as program participants are called) improved faster than regular novice teachers (at least in math), and by their fourth and fifth years they outperformed veteran teachers. Similarly, a small randomized trial of an in-service “coaching” program for teachers in their first four years of service in New Orleans, Louisiana, found that the

program improved teachers' performance on classroom observations, principal evaluations, and student surveys (Kraft and Blazar 2014). These effects emerged across subjects and grades, and they persisted beyond the first year.

Finally, practice-based teacher preparation programs may also provide incentives for trainees to try their hardest, if there are consequences for poor and good performance. For example, a randomized evaluation of a high-stakes teacher evaluation system in Cincinnati, Ohio, showed that the system improved the performance of teachers during and after the evaluation process (Taylor and Tyler, 2012). Similarly, a randomized evaluation of another high-stakes teacher evaluation system in Washington, DC, found that low-performing teachers at risk of being dismissed left the district, and that high-performing teachers who received a bonus improved their performance (Dee and Wyckoff 2015).

While all the evidence cited above is from the US, and this literature is still too nascent to make definitive recommendations, there is at least a *prima facie* case for experimenting with practice-based training. The TA program may be an especially promising opportunity to re-imagine training along these lines. The proposal makes the following suggestions pertaining to TA training.

Selected high-quality accredited teacher training institutes should be invited to create a modular teacher training program that lasts four years and includes three months per year of lecture-based instruction and eight to nine months per year of classroom teaching as an apprenticeship under the guidance of a senior regular teacher. The three-month modules can be implemented during the summer vacation and other school breaks and can also include weekend classes. They should be designed to be sequential so that a new recruit with no teaching experience can function effectively in a classroom as a TA after the first three-month module (that is, the first module will focus mostly on classroom management and instruction skills, with later modules adding more theoretical components).

Thus, a TA who is selected through the recruitment guidelines laid out above can be selected without any teacher training, but then undergoes an initial three-month training module (with tests and grading) before entering the classroom as an apprentice. Over four years, the successful completion of all the training modules combined with evaluations of classroom performance, will lead to a formal education credential issued by the accredited teacher training institute. The TAs will be paid their regular stipend during their training period (subject to passing modular exams), which minimizes

financial risk to them. Many of these students would have otherwise paid large amounts of money to enroll in low-quality teacher training programs that do not lead to teaching jobs.

### *3.1.5. PAY AND INTEGRATION INTO REGULAR TEACHER TRACK*

The salary for this position will range from ₹5,000 to ₹10,000 per month, depending on qualification and experience. This is considerably lower than the pay scales of regular government teachers (in the range of ₹20,000–₹40,000 per month), and will roughly be 20–25 percent of a regular teacher's salary, which is what will make it feasible to hire three to four TAs for the same cost as one regular teacher. But as documented in several studies, this pay scale compares very well with the pay offered to similarly qualified candidates in rural India, and it is *higher* than the average salary paid by private schools in rural areas (Muralidharan and Sundararaman 2013). Evidence suggests that there is likely to be an excess supply of qualified candidates at this salary (Kingdon and Sipahimalani-Rao 2010).

After serving four years as TAs, candidates who are college graduates and have obtained the D.Ed or B.Ed equivalent through the modular training program, can apply to be hired as a regular civil-service teacher. They must take the TET and go through the standard selection procedure, but they will receive additional credit for each year of experience as a TA. Ideally, this credit will be performance-based, but I recognize that effective performance evaluation and employee performance rating is rarely done effectively at lower levels of government. But even if fine-grained evaluation is not possible, it may be feasible to have annual ratings of TAs on a forced curve of outstanding (20 percent), average (middle 60 percent), and below average (bottom 20 percent). After four years, applicants can get extra marks on the entrance exam for regular hiring for each year of service based on their ratings (say 4 percent, 2 percent, and 0 percent for each year of service at each rating).

In practice, it is possible that even such a three-tiered forced curve may be difficult to implement in an objective manner. It may, therefore, be prudent to start with simply providing credit for each year of successful service as an apprentice during the process of regular hiring. This way, the high-stakes regularization will still follow the existing protocols, but with extra credit for the apprenticeship period. Over time, with improvements in measurement technology, it may be possible to include more objective performance measures during the apprenticeship period (such as attendance and time on

task) and provide additional marks for these.<sup>19</sup> The exact formula can be determined at the state level, but the key idea is to provide credit for experience as a teaching assistant in the regular teacher hiring decision (with a gradual shift over time to performance-based credit).

Thus, top-scoring candidates on the TET may qualify for direct recruitment as regular teachers (without going through the TA experience), but for two candidates with the same exam marks, classroom experience as TAs will enhance their probability of selection as regular teachers. As a result, the TA position will typically be the first step in a career ladder, and the recruiting system will recognize the value of classroom experience in addition to pure theoretical knowledge, as reflected by formal qualifications. Equally importantly, this system will help candidates discover whether they actually enjoy teaching and are good at it before deciding whether teaching should be a life-long career. This will reduce the cases of “mismatches” where candidates train to be a teacher and realize later that they actually do not like the job or are not good at it.

Candidates who complete the modular D.Ed/B.Ed but do not get selected for regular positions through the TET will be eligible for an exit payment of ₹1 lakh after four years of successful service. Some TAs may choose to take this exit payment and attempt other careers. Others may choose to continue working as TAs and make additional attempts to qualify for selection as a regular teacher through the TET (if they are college graduates) until they reach the age limit for selection as a regular teacher.<sup>20</sup> Candidates who complete the modular D.Ed and choose to remain as TAs for the longer run without aiming for selection as regular teachers (because they are not college graduates or they do not want a transferrable job) can be eligible for longer term TA contracts at the village school. There is also likely to be increased demand for these candidates as teachers in private schools, which will increasingly need trained teachers to meet RTE requirements.

The payment of ₹1 lakh as a lump sum at the end of four years of successful service has several attractive features. First, it provides candidates who would not like to continue in teaching with the resources to explore other career options at a young age. Second, it is also likely that many of

19. For instance, the Government of Delhi’s pilot initiative to introduce Closed Circuit TV (CCTV) cameras in schools and classrooms may make it possible to obtain objective measures of teacher performance such as attendance and time on task within the classroom, which can then be used at the time of regular hiring.

20. It may be desirable to limit the number of years of credit that can be obtained for successful service as a TA in regular hiring and to cap this at four or five years, but this is a detail that can be worked out later.

the candidates for TA positions will be young women who may only plan to work as teaching assistants when they are 18 to 22 years old, before getting married or starting a family. The lump-sum payment would significantly enhance female independence and empowerment and raise the value placed on girls in patriarchal settings (especially in rural North India). Many state governments already offer lump-sum incentives of around ₹60,000 to girls who complete 12th standard and stay unmarried till then.<sup>21</sup> The suggestion here follows the same approach and extends it to the ages of 18–22, but in this case it provides payments for working in a role that will improve service delivery and can help achieve universal functional literacy and numeracy in the next five years. More broadly, it creates a social contract with educated youth (especially young women) by saying that “you invest in the next generation of school-going children and we (the government) will invest in you.”

### *3.1.6. SUMMARY OF PROGRAM BENEFITS*

The key benefits of adopting the approach summarized here are the following. First, it provides schools with the additional teaching resources needed to realistically deliver on the Twelfth Plan goal of making sure that all children master basic reading and numeracy skills by class 2. The proposal facilitates the reduction of PTR to below 14:1 and the provision of substantially greater individual (or small-group) attention to children who are not reaching basic competencies in reading and numeracy. Second, it has the potential to make teacher training more effective by integrating lecture-based theoretical training and classroom practice, and it provides a sound foundation for building effective teachers. Third, the modified pathway to teacher recruitment, training, and promotion to “regular teacher” is likely to significantly improve teacher quality over time due to: (a) the better integration of teacher training and practice; and (b) the fact that high-performing TAs will be more likely to obtain regular teacher appointments, and TAs who find themselves to be poorly suited for teaching are less likely to do so. Fourth, it will provide employment to educated youth (especially women) who may be unwilling or unable to work outside their village. Finally, the policy is likely to significantly increase female empowerment—by providing educated young girls with a job, a steady income and greater financial independence, increased respect in the village, and greater control over marriage and fertility decisions. A further benefit is the generation of strong

21. The Ladli Laxmi Yojana in Madhya Pradesh is perhaps the best known such scheme and this has now been replicated in several North Indian states including UP, Bihar, and Jharkhand.

positive role model effects for younger school-going girls. The visibility of these jobs in villages is also likely to increase the perceived “returns to education” and, consequently, increase the demand for education among girls and their parents (Jensen 2012).

### 3.1.7. KEY DIFFERENCES BETWEEN TEACHING ASSISTANTS AND CONTRACT TEACHERS

As discussed earlier, some parts of this idea are not new. Specifically, many states have hired para-teachers or contract teachers in the past to meet teacher shortages. However, despite the evidence that contract teachers may be less absent and as effective as regular teachers who are paid much higher salaries (which is the empirical finding that underpins the teaching assistant proposal), the contract teacher model was not a practical success for three broad sets of reasons.

First, contract teachers were hired as *substitutes* for regular teachers and not *supplements* (which is what the TA proposal does). Thus, the idea never got support and traction among the education community, which was the policy as driven by short-term fiscal concerns at the expense of long-term education quality. In particular, they were worried about the negative consequences of de-professionalizing teaching in the long run (Kumar et al. 2001). Second, the idea of contract teachers ran into legal trouble for not conforming to the norm of equal pay for equal work. Since contract teachers were working side-by-side with regular teachers and doing the same job, courts often ruled in favor of granting contract teachers regular status, which led to severe fiscal pressures on states (see Robinson and Gauri 2011, for a discussion of contract teacher cases in the Indian courts). Finally, since many cohorts of contract teachers were hired alongside a freeze in regular teacher hiring, it became politically very difficult to resist demands for regularization, which were often granted prior to elections.

The teaching assistant proposal leverages the strengths of community and village-based teachers, while carefully addressing all the three main weaknesses of the contract teacher model described above.

First, as the discussion regarding best practices on training makes clear, the aim of the TA proposal is to *increase* teacher quality and professionalism by: (a) integrating lecture-based theoretical training and classroom practice to create a more effective teacher training program; and (b) regularizing only high-performing TAs. Second, the legal issue of “equal pay for equal work,” which has been a challenge under the contract teacher model, is addressed by clearly defining the roles differently. A regular teacher will have much greater responsibility including that of coaching and supporting the TAs

and taking overall responsibility for child learning outcomes, while the TA position is an apprenticeship to be completed while undergoing training and obtaining practical experience for a fixed period of time.

Finally, the political challenge of demands for mass “regularization” is addressed by creating a clearly defined pathway for TAs to be promoted to regular teacher status. Note that the process of regular teacher hiring will not be frozen and will mostly stay the same—but TAs will get additional credit for years of successful service. The top-performing TAs are much more likely to get promoted to regular teacher status. Those who do not meet those high standards will receive an exit payment of ₹1 lakh to recognize their contribution as TAs, and to help them make a transition to other jobs.

Here is a different way to see how the TA proposal addresses the legal and political challenges that have limited the effectiveness of contract teachers. No one expects candidates who make multiple unsuccessful attempts to pass public-service exams to be entitled to a government job. Taking the exam multiple times may increase the chances of obtaining the government job, but does not guarantee it or create an entitlement to it. Similarly, completing an apprenticeship successfully for a few years will provide an advantage when competing for public-sector jobs (likely more so than studying and taking the exam multiple times), but does not guarantee selection for the job if the performance on the other components of the selection process (including exams and interviews) are not good enough to get selected (even with the advantage provided by the extra credit for years of apprenticeship).

Overall, the TA proposal is an example of a new approach to public-sector hiring that defines the apprenticeship as a separate step in a career-ladder for employees, and it is part of an integrated human resource strategy for entering permanent government positions. In addition to strengthening the long-term quality of permanent government employees, it also offers the promise of significantly expanding the availability of front-line service delivery staff and thereby improving the overall quality of service delivery—*without* significantly increasing spending. But it is also important to fully spell out this integrated strategy at the outset to ensure clarity on the career path and requisites for success among candidates, as well as broader stakeholders in society including politicians and the judiciary.

### ***3.2. Case Study 2: Police Youth Brigade***

While the TA proposal discussed above has been developed in detail, a similar approach is possible in other sectors as well. Perhaps, most relevant

is the recent initiative by the Government of Tamil Nadu (GoTN) to recruit a “Special Police Youth Brigade” (SPYB) to support the regular police force. The program was initiated by the Chief Minister and the Tamil Nadu Assembly passed a bill in 2013 to approve the raising of the SPYB. The stated objective for this initiative suggests that GoTN was trying to address the core service delivery challenges caused by a shortage of staff identified earlier in this paper. Specifically, the bill mentions that the police had to be engaged in several peripheral functions that detracted from their core functions of law and order, crime control, and investigation. The functions of the SPYB were defined as including driving police vehicles, delivering mail, entering data, maintaining police quarters, and assisting the police with saving the lives of the victims of accidents (*The Hindu* 2013).

The pay of candidates recruited under the SPYB was ₹7,500 per month, whereas a regular police constable is paid over ₹20,000 per month. Nevertheless, there was still considerable excess demand for these positions: the applicant-to-position ratio was over 10:1. It is clear that GoTN’s broader motivation for the SPYB was to improve service delivery (in the field of policing) in a fiscally feasible way. However, there is a risk that this initiative may end up the same way as contract teacher programs because it appears to be a bit of a “stop gap” arrangement without a long-term human resource strategy. In particular, it is possible that once the number of members of the SPYB reaches a critical mass, they will also demand to get regularized, which may be granted under pressure before elections.

On the other hand, this initiative can be a poster-child for the new approach to recruiting outlined in this paper. Consider the following modification. Right now, the training to the SPYB consists of driving heavy and light vehicles, using wireless communications, patrolling during the night, operating computers, and performing basic duties in crime prevention, first aid, and public relations. This could become a “level one” certificate in law enforcement. Once a trainee acquires this certificate, he/she would be deemed qualified to perform this type of function. However, it should be possible under the new National Skills Qualification Framework to introduce packages of training and skills that constitute “level two,” “level three,” and subsequent skill levels. Passing each of these levels would qualify a candidate to perform more advanced functions and increase the ability of the state to deploy more front-line police to improve law and order and women’s security, and prevent and report crimes early. Such a modular approach to training is also an excellent opportunity to train future law-enforcement officers in soft skills such as citizen-centric policing and sensitivity to gender issues, which current police personnel are widely perceived to lack.

SPYB personnel can become apprentices if they are provided with (performance-linked) credit for each year of successful service at the time of regular recruitment.<sup>22</sup> Over time, this will lead to improved match quality between the “non-CV” skills of police recruits and the needs of a citizen-centered police force. Senior officers could observe the performance of potential entrants on the job for a few years and evaluate their prospect for a long-term career in policing. Candidates who do not make the selection cut after four or five years as SPYB staff will receive an exit payment and certificates of training and performance that can aid their transition to other sectors of the economy, including the private security industry.

Overall, an integrated approach along the lines above will lead to the best candidates (as evaluated by on-the-job performance) being selected for permanent government positions. It will also raise the skills of all apprentices (even those who do not make it to permanent positions), thus having a positive spillover effect on skill levels in the rest of the economy. A fundamental market failure in skilling in the status quo is that there is no credible certification of skills. This means that the market will not pay a wage premium for skills, which in turn leads to a lack of demand for skilling. Combining this new approach to public-sector hiring with the new National Skills Framework provides an excellent opportunity to not only define skill levels, but to establish a wage premium for credible demonstration of skills. This could be done using public-sector recruiting as a credible way to deliver a wage premium for skills.

### ***3.3. Case Study 3: Anganwadi Workers***

A similar integration of the new National Skills Framework and this new approach to public-sector hiring can be implemented in the case of *anganwadi* workers. Global research on human capital accumulation increasingly points to the critical importance of providing health, nutrition, and mental stimulation to children in the 0–6 age range (Grantham-McGregor et al. 2007; Heckman 2008; Heckman and Masterov 2007; Shonkoff and Phillips 2000). Yet, the ICDS, which is the main policy vehicle for providing this support to infants and young children, is remarkably weak (PEO 2011). In particular, it is severely under-staffed in most states, and it is plausible that augmenting ICDS centers with an additional locally hired worker will

22. A similar forced curve of 20–60–20 percent of staff being rated each year as outstanding, good, and below average can be used for each annual evaluation of the SPYB personnel. Alternately, credit can simply be provided based on years of service.

have large social returns (for instance, if one worker focuses on health and nutrition and the other one on education).

However, this is not being done for the most part for fiscal reasons. Further, training of *anganwadi* workers is ad hoc, and does not lead to any credible signals of skills or achievement. An integrated skilling and recruiting approach that reduces barriers to entry through large-scale apprenticeship/assistantship programs would allow ICDS centers to augment their ability to provide higher quality services by providing additional staff members. Having these apprentices obtain modular training that is mapped into milestones under the National Skilling framework will improve their skills. It would also make later training modules more effective because they will build on extensive practical experience, as well as completion of earlier modules.

Candidates selected for apprenticeship positions can have their modular training programs paid for by the government (just like in the TA proposal). This will increase the attraction of the apprenticeship position (despite its low nominal salary level) and clearly establish a career ladder through which individuals can progress with modular skill acquisition and practical experience. Each step of this ladder will both increase the stipend during the apprenticeship period (providing a direct and immediate return to skills and experience) and increase the probability of being selected as a regular government worker.

#### 4. Implementation Roadmap and Conclusion

The poor quality of service delivery across a range of core government functions is one of the most vexing governance challenges facing India today. One striking indicator of the weakness of the Indian state in service delivery is the large market share of fee-charging private providers in education and health even in the presence of *free* publicly provided education and health.<sup>23</sup> Indeed, one reason for why the crisis in service delivery may not be capturing more policy attention is that elites and middle classes have dealt with failing public services by opting out of them for the most part.

23. Recent estimates suggest that over 30 percent of children in rural India attend fee-charging private primary schools (Pratham 2014) and that the market share of fee-charging private health care providers for primary care in rural Madhya Pradesh was over 80 percent (Das et al. 2015).

Yet, improved public services are perhaps the most direct way for policy and practice to improve the daily lives of hundreds of millions of citizens. There should also be political incentives for democratically elected state governments (under whose jurisdiction most front-line service delivery functions fall) to improve the quality of public services. Yet, state governments appear to be in a near-impossible situation with regard to their ability to improve services because of the fiscal challenges that they face and their resulting inability to hire enough front-line service providers. Previous attempts at using less-trained contractual employees to mitigate this problem have been unsuccessful at a systemic level because of professional, legal, and political limitations of such stop-gap models.

This paper suggests one possible way out of this suboptimal equilibrium where too few providers are hired, partly because salaries are too high, and where the current structure of training and credentialing does not seem to create or identify effective employees. I first document a series of distortions and inefficiencies induced by the current structure of public-sector labor markets. Then, I propose a unified approach to reforming public-sector hiring that can mitigate several of these distortions. The main features of this approach are the following: first, reducing the barriers to entry into service delivery professions by hiring a large number of entry-level staff at the apprentice/assistant level who are locally hired from the areas that they need to serve, and are paid stipends that are competitive by market standards, but substantially below the pay scales of permanent government employees—which allows a fiscally feasible expansion of front-line service-delivery staff; second, modular training and skilling that is integrated with the new National Skills Framework and can be provided by accredited public or private providers; third, performance-based credit given for years served as an apprentice at the time of regular recruitment; fourth, and finally, exit payments to candidates who are not selected into regular government positions, after either a fixed period of time or number of attempts, to help them transition to other professions or similar roles in the private sector.

I also argue that the current point in time is extremely well-suited to implementing such a modified approach to public-sector hiring. The Fourteenth Finance Commission award has significantly increased the fiscal space for states to experiment with new models of service delivery. Of course, the corresponding reduction in central government allocations to centrally sponsored schemes implies that the short-run flexibility may be limited (as state-level funds are used to fund expenditures committed under the assumption of continued central government fund flows).

Yet, the medium-term flexibility is much higher. This provides an opportunity for a willing state to experiment with this new approach.

It should be relatively easy for states like Tamil Nadu, which have already commenced experiments like the TN SPYB, to build on this foundation and make it the first step in an integrated human resource policy for public-sector hiring. Learning from successful state-level (or even district and block-level) experiments with such a new approach can then be deployed across states (including lessons on pitfalls to avoid). It is also important for states to use their newfound fiscal space wisely and avoid committing to irreversible, large expenditures, which may be of limited effectiveness. In particular, the evidence (see De Ree et al. 2015) strongly cautions against implementing across-the-board salary increases for public-sector workers (for which there will no doubt be political pressure and temptation). Modest district-level experiments in a few sectors with this new approach (accompanied by careful, independent impact evaluations) may be a more prudent way forward.

The timing is also excellent with regard to coinciding with the release of the new National Skills Framework. The idea of modular training and credentialing that is interspersed with practical experience is very well suited to an integrated skills framework. Laying down such frameworks and independently testing and accrediting employee skill levels is a public good with economies of scale and scope that is best provided at the national level. This will then allow both public and private providers of training services to develop modular coursework to provide these skills. The government is the largest employer by far, so adopting a human resource strategy for public-sector hiring along the lines outlined in this paper can help catalyze the translation of the skills framework into real impact on the economy. It will help create both supply and demand for skills because these will now be rewarded on the labor market (led by the public-sector labor market).

Service delivery in India is in a crisis and expanding business as usual is unlikely to work. It is also unlikely to be fiscally viable across all the sectors that claim that they need more resources. It is imperative to do “more with the same” rather than do “more of the same,” and the approach suggested in this paper offers one way of doing so, which may be of interest to states contemplating ways of improving service delivery in a fiscally feasible manner.

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# Comments and Discussion\*

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The core question that Karthik is trying to address in his paper, namely the Indian State's weak record in public service delivery, is a recurrent thread in the discussions at the IPF over the years. The reasons are complex but rooted in weak state capacity. Karthik argues in his paper that this weakness stems from multiple distortions in public sector recruitment. What are these distortions? (a) There are not enough people; (b) the people who are hired are not the right ones for the job; (c) after they are hired, they are not trained in the right way; (d) even those hired and trained in the right way are not put in the right places or positions; and (e) even when hired and trained in the right way and put in the right places or positions, they are not paid the right way—the structure of payments is not designed to motivate them—and they are not promoted the right way.

This is an important paper because it highlights a critical issue that we really have not discussed much in the IPF, namely the deeply troubling subject of a seriously ailing public administration in India. There have been virtually no attempts at reform, and I would argue that the future of India itself depends on the ability to restructure public administration, which is a tremendously hard and long-term task. So, before getting into Karthik's proposals, one of the upfront things I like about the paper is that it addresses a serious lacuna in the last two decades of social science work on institutions. This literature has been singularly focused on defining institutions as “rules of the game” and has ignored earlier thinking about institutions as organizations and the internal processes of how organizations work, including questions of personnel selection, training, motivation, team building, and career ladders. These issues are fundamental for any private firm, and they expend enormous effort in addressing them. But public sector organizations most often see them as a side issue. Hence, the focus of the paper is a very

\* To preserve the sense of the discussions at the IPF, these discussants' comments reflect the views expressed at the IPF and do not take into account revisions to the original conference paper in response to these and other comments, even though the IPF Volume itself contains the revised paper. The original conference version of the paper is available on [www.ncaer.org](http://www.ncaer.org).

important corrective, and Karthik offers a grounded mechanism design to try and address this significant problem.

A central issue—perhaps even an obsession—regarding recruitment in state agencies in India has been social representation, manifested in contentious debates on reservations. I firmly believe that social representation is a necessary condition for the legitimacy of public institutions. But what was a necessary condition has sadly become a sufficient one. In other words, as long as the issue of representation has been addressed, the battle of organizational effectiveness is seen to be won.

The puzzle about recruitment in India's public agencies is that while, at one level, the data appears to show incredible selection—often one out of hundred—we end up with poor outcomes. This raises two basic questions: Who does the selection and at what level? Is it done at the central level, the state level, or at the local level? And what do we know about the appropriateness of the selection mechanisms, for example, the content of examinations, for the position in question?

If one looks at the key selection institutions, the Union Public Service Commission (UPSC) and the State Public Service Commissions (SPSCs), there is not a single worthwhile analysis about their functioning in recent decades. The UPSC only recruits for the central government, while the selection for all frontline staff delivering public services is done by State (and local) level functionaries. There is virtually no SPSC whose members have not been indicted for corruption in recent decades, yet SPSCs continue to be the principal nodal institutions for the recruitment of frontline functionaries for the Indian State. And of course, as Karthik has pointed out, almost all selection is done on the basis of observable characteristics, even though the key predictors of performance are often unobservable characteristics.

So, while the selection questions for the Indian Forest Service examination might test the candidate on specific bodies of knowledge that are mastered through rote learning, a critical characteristic that might have a huge effect on job performance is whether the candidate has a passion for nature. Is the candidate desirous of joining the Forest Service so that he can cut the timber down as fast as he can sell it or so that he can manage it well for the public good? This sort of critical attribute cannot be discerned simply by performing well in an examination. The selection challenges at the entry level are even more acute at higher levels of government, where generalists rule even as India becomes a much more complex economy. There is an acute need for specialists, but the stranglehold of the IAS continues to make lateral entry very difficult.

What is the state of the Indian State? It is an understaffed but a severely overbureaucratized state. Public sector employment has slightly declined over the past quarter century, with a greater recourse to contract labor. Whether it is the size of the tax bureaucracy or the number of judges, by international comparison, the number of employees per unit population in India is amongst the lowest among the G-20 countries. To cite an example: law and order, which is a core function of any state, is a major failing of the Indian State. India has the fewest police officers per million people across G-20 countries. If one goes beyond the size of the police force to the quality of training, the picture is even more dismal. While on the one hand, the police in India are brutal in their use of physical violence, on the other, they are so poorly trained that any mob can overcome them easily. Even in an area—the armed forces—where everyone at least in principle agrees at the political level that adequate staffing is essential, there are notable vacancy rates, and these are most severe among the younger officers who actually lead in battle.

If one compares public expenditures with the number of public sector employees, the latter has been almost flat over the past quarter century, whereas expenditures have been growing enormously, with the gap steadily widening. It is fashionable in some social science circles to call the Indian State a patronage democracy, among other things. The puzzle is not that politicians have been packing the state with their political supporters but the opposite—why have they packed in so few people?

The underlying systemic issues of limited quantity and weak quality plague every aspect of the Indian State. If one looks at the Indian Economic Service and Indian Statistical Service in the past two odd decades, the state has been able to recruit barely two-thirds of the few dozen vacancies annually—this in a country of 1.2 billion and despite a strong belief that good statistical information is the fundamental basis of sound economic policy making. If we look in a very different domain, that of school teachers, only 1 percent of primary teachers (teaching classes 1 to 5) were able to clear their annual evaluation tests in February 2015 in Maharashtra and only 5 percent of upper primary teachers (teaching classes 6 to 8) were able to clear theirs. These are the people whom we entrust the task of teaching the next generation of Indians, and in effect, securing the country's future.

A singular strength of Karthik's paper is its attention to issues of mechanism design for selecting public employees. His key recommendation is to create entry-level jobs, which are untenured paid apprenticeships of three to five years, with a strong preference for "local" hires. In addition, the paper advocates creating modular training courses and providing a ladder

for advancement based on performance-based credits. At the end of the apprenticeship, the state either absorbs them fully or terminates them with a lump-sum payment.

There is a range of reasons why these ideas are potentially a singular improvement over what exists currently. First, there would be more time to screen for unobservable characteristics like empathy. Second, there would be more time to train them, especially given the poor quality of education. Third, this mechanism would increase motivation by explicitly linking rewards to performance. Fourth, the proposal would importantly provide a fiscally feasible path for the much-needed expansion of frontline functionaries of the state.

These ideas are creative and a big step forward in thinking creatively about selection issues. Nonetheless, there are questions that need to be fleshed out. First, what is “local”? Is it the local village, the panchayat, or the *Gram Sabha* or is it the local district? Where does one draw the line on what constitutes “local”? Relatedly, how does one address the reservation issue? If reservations are at the state level, how are we to disaggregate them to the village or local level, or if reservations are implemented at the village/local level, how does one aggregate upward?

Second, should policies like reservations matter only during the initial selection, or should they persist subsequently as well, and if so until when? In other words, when, at the end of the three- to five-year apprenticeship period, some are selected to move up the next step of the ladder, will the proportions of Scheduled Castes (SCs)/Scheduled Tribes (STs) be the same as at entry, or will that no longer matter? If not, how will this issue be addressed politically? This will be a very contentious matter.

Also, how does one address issues of social heterogeneity at the local level? If there are two people in the same classroom from very different social groups, we should not assume that they will work together, and the Indian State very rarely thinks about how to make them work together as a team. One group in the Indian public sector that has managed to work well with social heterogeneity is the armed forces. Although they recruit from a wide range of groups, they spend enormous amounts of energy to ensure that the allegiance of the soldiers and the officers is to the unit (whether the brigade or the platoon at the local level), so that while new recruits can come from anywhere, once they join, their allegiances are reshaped toward their unit. This occurs only because of the massive effort that goes into training, which is completely absent in any other part of the Indian public sector.

Gender can be another challenge for the advantages of “local” recruitment proposed in the paper. I will give you an example that illustrates this

difficulty. About a decade ago, the then Health Secretary of West Bengal was faced with a problem: when he dispatched doctors and nurses to districts to serve the public, he found that they instead provided proper services only to the ruling party's functionaries and senior district officials, and to get this service, others had to see them in their private practice after office hours. So, the government set up local nursing schools linked to the local hospitals and gave scholarships to local young women who would study for the two- to three-year program and would then get guaranteed jobs in the local hospitals. But then they found that within a few years, these women nurses would move away after marriage, the single largest source of migration in rural India. So, they had to change the design so that they would only hire women who were already married. An important question we would need to answer is how the mechanism design would address the challenges of migration and mobility.

There are key political economy challenges to consider. Who conducts the initial recruitment exams and learning modules? How centralized are these? Perhaps we could create digital learning platforms, similar to what Mr Nandan Nilekani is doing on primary school learning with his *Ek Step* initiative, to provide smartphone-based learning tools. Who decides on contract renewal? How do we know that the proposed system will not replicate at the time of contract renewal of the pathologies that were prevalent at entry, simply shifting the problem somewhere else? If rents are prevalent, why would politicians give them up? Finally, I do not agree with the paper's recommendation to use its proposed approach for recruiting and retaining police, who have the power of extraction in a way in which teachers do not. I would like the author to think about the difference.

### **T.V. Somanathan**

*Prime Minister's Office, Government of India*

This is a very interesting paper that provides a novel but, prima facie, workable alternative with respect to lower-level public sector recruitment. Unlike many academic papers on these topics, it goes beyond analysis and takes the risk of proposing a very specific reform, thus making it easier to assess. The references to literature, both Indian and international, are relevant and, in some cases, provide new insights. The most impressive aspect of the paper is its understanding of field realities, particularly the legal and administrative issues involved in recruiting for the public sector. This realism is important for the practicality of the proposed new approach.

The idea of an exit payment for those who cannot, for example, clear the Teacher Eligibility Test (TET) after several years of apprenticeship as teaching assistants is an excellent one. In the case of teachers, combined with the requirement to pass the TET, it should effectively address the legal risks with contract employment of the increasing pressure for mass regularization. Those who choose not to take the exit payment and stay on could be required to provide a legally binding undertaking that they are continuing of their own volition and are aware that they may or may not be selected to the post of a regular teacher in future years.

The evaluation of teaching assistants against a “forced curve” and giving them points in the evaluation for their class-room experience is also excellent in concept. However, in the presence of widespread corruption and biases such as those related to caste and gender, there is a big risk that the evaluations would not be merit-based and/or could be done in a corrupt manner. The “forced curve” could become a performance curve enforced by corruption, not merit. Hopefully, the more meritorious apprentices would do better in the TET. Therefore, a simple weight for the number of years of service as an apprentice, with no pretense at qualitative evaluation, may be less pleasing in concept but more robust in practice.

There is one key practical gap in the paper: How do you recruit the apprentices in the first place? The post, while lower-paid than those with regular government scales, still carries two very major attractions: a four-year contract with a guaranteed pay out and an entry track into permanent service. With such major attractions, would this recruitment, to be done locally, be done in a fair manner? I only point this out as a practical difficulty and an aspect not explicitly addressed in the paper. In practice, the system may be able to deliver most of the expected benefits, even if the initial selection is imperfect.

### *Minor Comments*

The following comments do not alter the basic arguments or conclusions, and I suggest them merely to sharpen the facts and analysis.

I find the healthcare example not convincing because of the peculiarities of healthcare as a service. Customer appreciation of healthcare services is sometimes affected by the cost—there is a behavioral issue where more expensive care (even when not strictly necessary) is perceived as better because of asymmetric information. Even among the non-poor, doctors who tell patients that they need no treatment or only simple home remedies

are often perceived as not effective. A Primary Health Center (PHC) may have no incentive to provide unnecessary treatments, but a private service provider does. Hence, I am not convinced that the results show what they purport to show, and it is not clear how relevant this is to the larger point of the paper.

The paper uses the example of police deployment on VIP duty in Delhi. The choice of Delhi for this and the reference to only 30 percent of personnel being devoted to general policing and the rest to VIP security is not a good one. Delhi, as the national capital with government and embassies, is definitely an extreme case and not a representative one. This is a strong paper that does not need to quote extreme examples to make its point.

I agree with the basic point that large numbers of young people spend a lot of time on unsuccessful attempts. The paper states that the average successful applicant spends four years preparing and attempting the examinations for a public sector job. This is not necessarily full time: many combine it with a job. Therefore, some nuance in the language is desirable.

There are multiple references to pensions as one of the major benefits of government employment. Since 2004, new central and state governments' employees (except in the armed forces) are operating on a defined contribution system under the National Pension Scheme with significantly lower benefits, a situation that is not better than the organized private sector. Pensions are no longer a major attraction for public sector employment.

## **Manish Sabharwal**

*Team Lease Services Pvt. Ltd*

Besides wanting to listen to Karthik Muralidharan, my other reason to be in Delhi today is to formally launch our Team Lease Skills University (TLSU) and an apprenticeship program called NETAP, the National Employability through Apprenticeship Program. We sought permission for this from the government some six years back in 2009. Following the amendment of the Apprenticeship Act passed by Parliament a few months ago, NETAP is finally a reality as a public–private partnership between the Confederation of Indian Industry (CII), National Skill Development Corporation (NSDC), Ministry of Skills, Ministry of Human Resource Development (HRD) and TLSU. We faced many challenges in getting this amendment through.

Apprenticeships are not a new concept, but they have received little attention. Apprenticeship was the 20th point in Indira Gandhi's 20-Point Programme in 1975. India only has about 400,000 apprentices, whereas

Germany has 3 million, Japan has 10 million, and China has 20 million. If we had the same percentage of our labor force in apprenticeships as Germany does, we would have 15 million apprentices. So, the upsides are well known. It is a test drive for employers. It creates signaling value much greater than that generated by classrooms for employees because it is learning by doing and there is learning while earning.

There are several reasons why it took us six years to get to this. First, the Ministry of Labour argued that we would have to guarantee 25 percent of the apprentices a job. We said that that was making the best the enemy of the good, since apprentices will not work at their apprenticeship once they are guaranteed a job. Their second argument was that employers would never convert the apprentices into regular workers but would keep rolling them over to save costs. So, we said that we would use Aadhar to authenticate identity and put a cap of two years on the apprenticeships. The ministry then argued that employers would pay exploitation wages. So, all NETAP trainees get the unskilled minimum wage. Finally, they argued that young people would always prefer a formal education degree over vocational training. So, we put NETAP into a university and gave academic credit for it. In India's first academic apprenticeship program, apprentices will get two years of academic credit, after which they can enter a degree or diploma or any other program they wish.

The issues are surely different and more complex for the public sector, though there are commonalities as well. Essentially, the problem is that in public sector jobs, there is no fear of falling and there is no hope of rising. So how does one motivate and ensure performance? The problem goes well beyond ensuring performance at the entry level. Something will also need to be done at exit. I think we can learn an important lesson from the Indian Army, which has a colonel threshold. A colonel who is not shortlisted for brigadier retires at the age of 50 or 52 years, which is why the army is not top-heavy. We need to do this with joint secretaries too. I do not know whether joint secretaries who are not shortlisted should be retired or just told that they are going to stay joint secretaries until retirement.

I think lateral entry and political appointments can create another sort of competition that can help. In the USA, 4,000 people resign in Washington D.C. when a new president is elected, but in New Delhi, only six people resign. I am not saying that the number here too should be 4,000; it is just that six is the wrong number. I think that the intense drama of appointing or transferring, say, a foreign secretary or a defense secretary has to stop. The permanent civil service should not have a monopoly on these roles, and various measures such as the colonel threshold, lateral entry, political

appointments, and performance management will need to be used to address the problem in conjunction with entry-level measures.

I would have a million public employees if the civil servants, particularly in health and education, used their skills and did their jobs well. But, if the large majority have performance management issues, and we do not give the top jobs to good people when they are 45 rather than when they are 58, then just working on the entry level will not suffice. The apprenticeship idea for public sector job entry is obviously a very important one, but we should combine it with the other in-service measures, and this could make a huge difference.

## General Discussion

Sudipto Mundle appreciated the paper but pointed out that there would be considerable political pressure to retain those who had failed to make it to regular employment. To overcome this, the exit payment would have to be very attractive. The financial pros and cons of a large exit payment would have to be worked out.

Dilip Mookherjee noted that the paper was proposing to create a US-style tenure system for Indian primary schools. Publications and teaching evaluations make this relatively easy in the USA. But, that will not work here. So, who would make the decisions at the retention stage? Who would make the subtle judgments of the interplay of intrinsic motivation and skills? Probably some senior teacher would have to do that. So, this would take us right back to politics and corruption, albeit at a different level. This could be solved if the exit payment were large enough, but then the cost effectiveness of such a scheme would be doubtful.

Down the line, there would be another problem of how to make the regular teacher exit if performance falls. Some variant of the colonel threshold will be needed. There were two other problems. If apprenticeship was the only way to secure a public sector job, then young people would spend years trying to get in. How do we solve that? On training modules, this would require a completely revamped approach to the practicum of teaching rather than to the current focus on the philosophy and history of teaching. Given all these difficulties, would it not make sense to focus on education vouchers that would allow parents to choose whatever school they wanted to send their children to, with the school being evaluated so that they meet standards,

though we know that is also quite hard to do? But it is, at least, conceivable and has been tried elsewhere, whereas the paper's proposal may not work.

Jeffrey Hammer liked the paper and said that he would like to try out its ideas, except that they are systemic and would cost a lot to experiment with. He felt that there is a prior step to what the paper is proposing that needs attention. How could one change norms so that teachers and doctors are real professions with accountability to both peers and clients? In health, he often just fell back on saying that the doctors have to act like doctors, they have to care. They have to go beyond asking the first question of *kya hai* (what is wrong?) to their patients, just as teachers have to care whether their students are learning or not. Karthik's proposals seem to be designed to make them care, but he was not sure they would work. Teachers and doctors have to care what their peers think of them, of their image, and their performance. With police, it is even harder. In practical terms, who will mind the monitors and the screeners, because they also have to undergo a change in norms? In public service delivery, they will need to care as much as the writers of the Indian Constitution! How does one get these public servants to adopt different professional norms?

The problem Hammer thought was that in the rich countries, these professions came about before there was any public provision of such services. Doctors were acting like doctors, even before they had anything serious to contribute in the form of useful medicines or proven procedures. Here, we were dealing with a situation where they were all public servants already, and we now need to change their professional norms and make them care. He did not think that a clever mechanism design would do it.

Nirvikar Singh worried that adding a closely integrated training and certification program to a dysfunctional system may not work. It is more than likely that an apprentice teacher working with senior teachers would eventually be trained to be a part of the same system. An equilibrium exit payment that could change this would have to be equal to the present discounted value of future rents, which could be huge. The paper was attempting to overcome the difficulties in the contract teacher arrangement that has been tried in India for some years now. Apprenticeship and training were critical, but we should also think about other ways of doing this that are not tied to the existing systems or the existing bureaucracy. Examples include the various Teach for India or Teach for America programs.

Rajnish Mehra felt that one way of insulating the system from political pressure and corruption was to build in a mandatory separation after the apprenticeship, with candidates not allowed to take a job at their school

but encouraged to apply elsewhere. He gave the example of the habilitation program in German universities: after completing a PhD, the person cannot be hired by his university. Otherwise, apprenticeships would simply push corruption by three-four years out at the time of retention, rather than preventing it. Only mandatory separation and having to compete in the job market would solve the problem.

Premila Nazareth differed with Nirvikar Singh and thought that the apprenticeship idea had a lot of merit. However, she felt that there was no need for an exit payment, and instead the money saved should be spent on building the capacity of the trainees and developing better training modules. She pointed out that a large number of private schools would be desperate to recruit the apprenticed teachers, so that the apprenticeships would create a market for skilled teachers. A key to its success would lie in ensuring that the certification was credible and portable, particularly in rural areas. She agreed that however it is done, there would be intense political pressure and potential corruption in any such certification, even if school management committees were involved—the *Pradhan* would still want his people favored. She also worried about what would happen to the regular teacher who may shirk work with two effective teaching assistants now available.

Vijay Joshi suggested that the author may want to take a look at the work of George Akerlof on identity economics, which might have important ideas on how to ensure that public hires providing public services actually internalize the public objectives of their organization.

Anupam Khanna wanted to know if the paper's proposal could be taken beyond highly decentralized services in healthcare and education to other government services such as in infrastructure, for example, in road repair, railways, airline services, and airports, where the solution being pursued seemed to be either outsourcing or PPPs.

Devesh Kapur went back to the West Bengal example in his discussant's comments and cited the clever way they had tried to overcome corruption in selection of the local trainees. They decided to take only those candidates who ranked high in their high school board examination at the district level, and this information was posted at the district level. The selection process was, thus, more transparent and fairer than otherwise, even though it had its limitations.