



Managing for Motivation as Public Performance Improvement Strategy in Education & Far Beyond

Citation

Honig, Dan. "Managing for Motivation as Public Performance Improvement Strategy in Education & Far Beyond." CID Faculty Working Paper Series 2022.409, Harvard University, Cambridge, MA, March 2022.

Published Version

<https://www.hks.harvard.edu/centers/cid/publications/faculty-working-papers/managing-motivation-public-performance>

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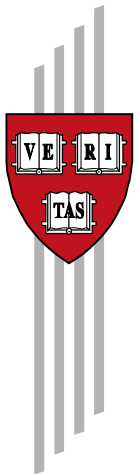
Managing for Motivation as Public Performance Improvement Strategy in Education & Far Beyond

Dan Honig

CID Faculty Working Paper No. 409

March 2022

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Working Papers

Center for International Development
at Harvard University

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March 2, 2022

People management has an important role to play in improving public agency performance. This paper argues that a ‘Route Y’ managerial approach focused on supporting the empowered exercise of employee judgment will in many circumstances prove superior to conventional reform approaches steeped in ‘Route X’ monitoring and incentives. Returns to Route Y are greater when employees are or can become more “mission motivated” – that is, aligned with the goals of the agency in the absence of monitoring and extrinsic incentives. Returns to Route Y are also greater when monitoring is incomplete or otherwise likely to unproductively distort effort, thus lowering the returns to using performance-linked rewards and penalties. I argue that education systems are one (but far from the only) setting where Route Y is a lever worth focusing on in efforts to improve public performance in the developed and developing world alike.

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Managing for Motivation as Public Performance Improvement Strategy in Education & Far Beyond

Dan Honig

There is a global learning crisis. This crisis is serious and severe; “more of the same won’t work.”² As a senior UK FCDO education official recently put it, “Let us be clear: we will not meet SDG 4 [on education]. We are nine years out and data forecasts that none of the 10 education-related SDGs is likely to be met. This was the case even before COVID-19 resulted in global school closures and set progress further back.”³ Not only is the crisis longstanding and seemingly unresponsive to reforms; it also may well be worsening over time, with evidence that in many countries education systems are not only failing to get better but rather education quality has and continues to decline over time.⁴

Education system reforms have failed to achieve results, I will argue, due in part to well-intentioned but ineffective attempts to improve management.⁵ While there are many salutary school reforms which do *not* involve personnel management – e.g. reducing school fees or free school feeding programs – personnel management is rightly at the heart of many education systems reform attempts. These management reform strategies are often steeped in a top-down, command-and-control, incentive-laden theory of change. These strategies fail in large part because it is difficult to measure all of what matters in education systems with the frequency and attributability necessary to drive system performance via a monitoring and control approach.

This misplaced focus on control and monitoring as the primary route to performance improvement is not specific to education. As Erin McDonnell puts it in her recent book highlighting pockets of excellence in the developing world public sector, “current approaches advocate for abstract monitoring systems that can monitor across large scales and at a distance, assuming only a pinnacle principal can be trusted to monitor his interests.”⁶ As a result “Currently dominant approaches to state reform... seek to limit discretion.”⁷

In my experience discussing reform efforts, the modal reaction to failures of attempts at improving monitoring and control often seems to be to try more. It is very difficult to disprove a claim of this sort – that e.g. “this effort at monitoring and incentives did not work because it was underpowered or mis-specified; so we must engage in another attempt with more monitoring and

² Quote from Kaffenberger 2019. RISE’s general page on the learning crisis here: https://riseprogramme.org/blog/learned_about_learning_crisis

³ Savage in Center for Global Development 2021, p. 118.

⁴ Le Nestour et al. 2022

⁵ In this sense it shares a diagnosis almost 500 years old; in 1632 John Amos Comenius noted that “For more than 100 years, the lack of a school management methodology has been the causes of countless complaints. But it has been only in the last 30 years that efforts have been made to find a solution to this problem. And what has resulted so far? Schools continue exactly the same as before.” (As quoted in World Bank 2007, p. vi)

⁶ McDonnell 2020, p. 208..

⁷ McDonnell 2020, p. 208.

tighter controls”, as the new intervention has not been attempted yet.⁸ Sometimes, the claim will even be correct, and greater strength or improved targeting of control *will* unlock the heretofore unrealized performance. But, this paper will argue, these cases are very likely to be few and far between. Peak performance will, for many systems, come when employees are motivated to serve the agency’s mission without the need for tight monitoring and control, and when “accountability” is not synonymous with quantifying performance or otherwise enabling greater control by those higher up the hierarchy.

This paper is divided into two parts. Part 1 outlines general theory and evidence on the conditions under which different strategies are more likely to improve system performance, and presents evidence suggesting an alternative “Route Y” approach focused on retaining, fostering, and guiding the mission motivation of public servants is an under-utilized strategy. Part 2 turns to education systems, considering when and how education systems are likely to be improved by a status quo “Route X” approach and when more Route Y may be appropriate. An overall conclusion then summarizes the key messages of this paper.

Part 1: Motivation, Management Practice, & Performance: General Theory & Evidence⁹

Part 1 develops theory on the interrelationship between managerial practice, employee motivation, and performance. I provide evidence in support of the claims that management practice itself influences motivation both by affecting the motivation of current employees (treatment effects) and by altering who exits and enters the agency (selection effects). Part 1 proceeds as follows: 1.1 introduces two stylized approaches to management – a Route X approach which aims to reorient employees via monitoring and extrinsic incentives to induce alignment and effort towards the agency’s goals and a Route Y approach which aims to support and induce alignment with an agency’s mission in ways that does not require monitoring, sanctions, or rewards. 1.2 then explores the role monitorability and motivate-ability play in determining the best management approach in a given context, from which 1.3 develops falsifiable observable implications of the theory. The rest of Part 1 provides suggestive evidence for these claims - 1.4 provides evidence that Route Y management practice and mission motivation covary; 1.5 that management practice in fact can play a causal role, altering the motivation and performance of existing employees; 1.6 that management practice can alter employee motivation by influencing selection into and out of the agency; 1.7 that Route Y often does succeed, including in horserace comparisons to Route X, in a manner consistent with (indeed, perhaps going beyond) the theory’s expectations. 1.8 concludes by summarizing Part I.

⁸ This is reminiscent of the Saturday Night Live sketch “[More Cowbell](#).” In recording a song (Blue Oyster Cult’s “Don’t Fear the Reaper”), one band member in the sketch (Will Ferrell), supported by the band’s manager (Christopher Walken), decides to ignore the wishes of the rest of the band, and attempt to resolve any problem with the song with additional banging on a cowbell. The result? The recording session devolves into a whole lot of banging; a cacophony that does not achieve the shared purpose of the band members. Sometimes, more cowbell will indeed improve a song; but not often.

⁹ Feel free to treat this as a ‘choose your own adventure’ - those uninterested in the general theory should feel very free to skip to the education-specific part 2, then coming back to sample part 1 if/as needed.

1.1 - Route X & Route Y

That tight monitoring and a focus on incentives may not be a useful approach for tasks which employees actually *want* to do well is not, in any way, a new idea. Writing in 1960 Douglas McGregor depicts two broad options for managers and organizations – X and Y.¹⁰ “Theory X” management – a tight, authoritarian system of top down control – works well, McGregor argues, for employees who would not act in ways that serve the organization’s goals in the absence of close supervision and external motivation. “Theory Y”, on the other hand, envisages internally motivated employees who *want* to accomplish their objectives, and need guidance, support, and structure. McGregor also notes that Y-type employees will be demotivated if managed in a Theory X way which suffocate their exercise of discretion and judgment. For McGregor tight controls, then, don’t just respond to employees who are not mission motivated; tight controls also create employees who are not mission motivated.

Figure 1 describes McGregor’s Theories X and Y in terms of stylized ideal-type routes to performance improvement. Route X management, depicted in red in figure 1, induces alignment of an agent’s actions with an organization’s mission– thus providing a positive contribution to agency performance – in a way directed by external parties. Management thus gets good performance from individuals who would not, in the absence of controls and constraint, fulfill the mission of the organization. Accountability is largely what Lant Pritchett & I have described as “accounting-based”; focused on ensuring employees comply with rules or achieve quantifiable targets.¹¹ Sanctions or rewards based on quantified performance are also forms of accounting-based accountability. These forms of control-based accountability in the extreme leave an agency, per McGregor, in an equilibrium of management-by-control and employees who do what they must - what management can observe and reward - but not more than that.

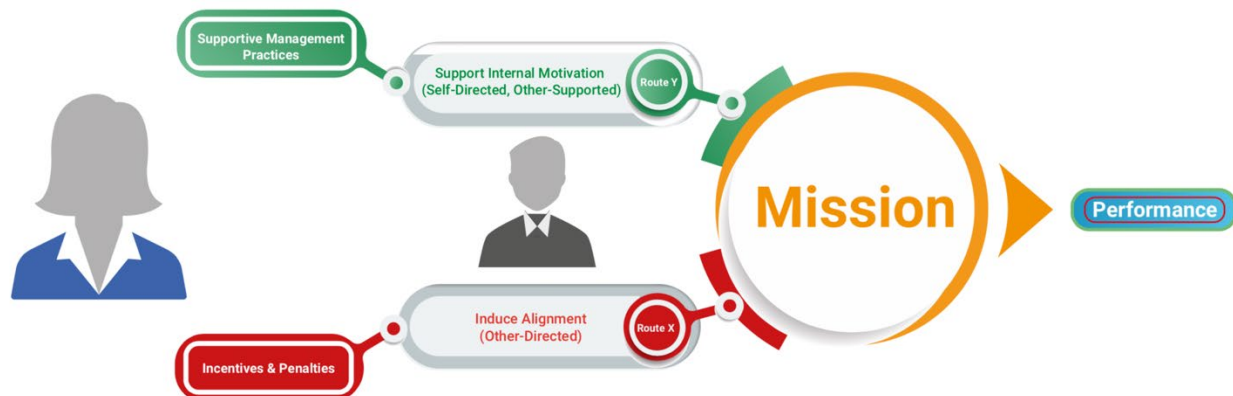


Figure 1: Mission, Managers, Employees, and Performance

Route Y management, depicted in green in figure 1, supports bureaucrats in exercising their self-directed desire to fulfill the organization’s mission. Management thus gets good performance by providing structures that support and direct agents’ motivation. The base of accountability is

¹⁰ McGregor 1960. This is not an obscure work, particularly for scholars of management and organizational behavior; as of mid-2021 it had over 20,746 Google Scholar citations in September 2021. There has, however, been vanishingly little practical application of this work in the study and management of Government.

¹¹ Honig & Pritchett 2019.

what Pritchett & I have called “account-based”; accountability not based on the clear right-and-wrong of rules and metrics, but on ‘giving account’ to some combination of managers, citizens, and peers.

In McGregor’s theory these are not just two distinct approaches but two equilibria. These are equilibrium because they are stable, and self-reinforcing; e.g. route X management is likely to induce employees to take a transactional view of their work. Thus if an organization were to relax constraints fewer employees will use the additionally granted autonomy productively than would have been the case had the Route X constraint never been put into practice. A shift from X to Y thus entails transition costs which will include, but not be limited to, the difficult and slow process of changing organizational culture.¹²

Route Y “supportive management” builds on Self-Determination Theory, arguably the most prominent approach to understanding the psychology of employees. Self-Determination Theory argues that motivation stems from relatedness (valuable to beneficiaries to whom one feels connected), autonomy, and competence (feeling one is skilled and capable at work).¹³ Route Y management practices, then, are those that give bureaucrats sufficient autonomy; support bureaucrats in the use of that autonomy; and connect bureaucrats to the positive impacts of their work. Route Y leaves an agency with an equilibrium of supportive management and employees who act in the spirit of an agency’s mission, even when unobserved.

These are, to reiterate, stylized types. Most actual workplaces will have some elements of both; even the most “Y” workplaces will very likely have some elements of “X” control. In high-performing Y workplaces, incentives can be usefully layered on top of a base of a Theory Y organizational culture, and often are.¹⁴ The difference is not in whether monitoring, or accountability, exists but rather in what monitoring is for, what accountability means in practice. The distinction at core is whether employees are supported and empowered by management practices to use their agency on behalf of the organization’s mission in a Route Y approach, or rather constrained by Route X management practices – and thus in Route X redirected towards actions these employees would not otherwise undertake in the absence of controls, incentives, and/or penalties. Management practices that aim to support and empower are often in tension with those aiming to control; an agency looking to improve performance very frequently chooses a reform intervention typified by one or the other logic.

¹² The economics literature on incomplete and relational contracts clearly articulates these difficulties and how hard it is to shift equilibria ; see e.g. Gibbons & Henderson 2012 on building and refining relational contracts.

¹³ Ryan & Deci 2000. This is far from the only psychological theory undergirding the work motivation literature, but it seems to me the most popular. Relatedness is broader than simply impact, but consistent with their description of relatedness as “the primary reason people are likely to be willing to do the behaviors is that they are valued by significant others to whom they feel (or would like to feel) connected, whether that be a family, a peer group, or a society.” In any case, a number of alternative frameworks also point towards Route Y as a more psychologically enriching management strategy for employees; e.g. Route Y could also be justified using e.g. an expectancy-valence theory or a goal-directed theory. Pinder 2008 provides a broader overview of psychological theories related to work motivation in general, and Perry 2020, Chapter 2 a discussion of a variety of psychological theories and their relationship to employee motivation in the public sector.

¹⁴ Honig & Pritchett 2019 discusses a few such examples.

The vast majority of attempts to improve public sector performance are premised on Route X. Any strategy which seeks to improve performance via e.g. better monitoring technology, new rules or targets, or linking rewards and monitored performance has an underlying Route X theory of change. Some of these strategies succeed at the margin – they do indeed improve performance. Sometimes, this is because they are the best possible strategy; I believe, and will argue, that Route X has a place. Sometimes a Route X strategy can have success at the margin, but in doing so undermine the potential for future success – reaching a ‘local’ but not a ‘global’ performance peak.

One of the most well-known – and ostensibly successful – examples of a Route X performance improvement strategies in the developing world is one from education: using time-stamped photos to verify teachers’ physical presence in Indian NGO schools, an intervention studied in a seminal paper by Duflo and coauthors.¹⁵ The study is very clear about its Route X theory of change – it is entitled simply “Incentives Work: Getting Teachers to Come to School”. The paper does indeed demonstrate that monitoring teacher attendance via time-stamped photographs increased teacher attendance, and led to modest gains in student learning.

By contrast, Yamini Aiyar and co-authors provide a Route Y counterpoint to Duflo et. al.,¹⁶ looking at teachers in Delhi schools and describing a world of so many top-down rules and instructions that teachers feel their job is largely one of following directives; “compliance with paperwork animates the hierarchical interaction between teachers and the education system.”¹⁷ In Aiyar et. al.’s account this focus on compliance is itself demotivating. The compliance burden may stem from a well-intentioned desire for accountability, but itself contributes to absenteeism; to exit of the most motivated teachers; and to classrooms where far less education happens even when teachers are present. Aiyar and coauthors argue that clearing away what I would describe as Route X management practice and instead encouraging more Route Y is likely to lead to better school system performance. They find in a pilot attempt that there are reasons to believe with sustained effort transformative change is possible – but that it will take time, sustained effort, and deep engagement with front line teachers to alter their expectations and relations with the education system to improve system performance.

These accounts are not, in fact, in conflict with one another – for the Route Y theory of change described by Aiyar et. al. to be possible does not mean that one is observing a school where use of the Duflo et. al. approach *would not* reduce absenteeism.¹⁸ This paper does not endeavor to show that Route X is always wrong; just that it is overused, and that Route Y attempts may in many circumstances be worth pursuing – particularly where Route X efforts have been tried for extended periods of time and have as-yet failed to lead to transformational change.

¹⁵ Duflo et al. 2012

¹⁶ Aiyar et al. 2021

¹⁷ Aiyar et al. 2021, p.40

¹⁸ Or, for that matter, a setting where other Route X reforms would work to a limited degree; e.g. schools where linking pay to student test scores would lead to increased test scores, though at the risk of ‘teaching to the test’ so the test became unmoored from learning.

1.2 –Key Considerations in Determining Whether Route X or Y is the Best Path: Monitorability, & Motivate-ability

Whether Route Y is a superior strategy depends on a number of features of the job itself and the work environment.¹⁹ Two key considerations are the tractability of the work to being controlled through external monitoring of process, output, and/or outcome (monitorability) and the ability of the workforce to becoming sufficiently mission motivated (mission motivate-ability).

- Monitorability

A key consideration in choosing between Route X and Route Y is the tractability of the work to effective control via external monitoring of either the work itself (process monitoring) or the output of the work (output or outcome monitoring). Route X technologies for inducing alignment between employees and an organization’s mission – rules, targets, rewards, penalties – need to stand between an individual and their actions, conceptually speaking. Thus, a Route X strategy requires bosses (or someone) to monitor the actions of – to reward those who perform well and/or punish those who don’t. Incentives, then, require monitoring to do well. Route Y requires much less monitoring. Management’s role in a Route Y reform is supporting the bureaucrat and helping structure and bound their use of autonomy and ensure the mission motivated can see the positive impacts of their efforts.

Monitoring well enough to make Route X work is quite hard. It is all too easy to end up with the façade of accountability without in fact inducing better performance in the short-term, or to achieve short-term results that cannot be built upon. “Good but not great” monitoring is often not enough; for Route X to work monitoring needs to be very, very good. When I say good but not great monitoring, I have in mind not just incomplete monitoring but also when monitoring will distort performance in unhelpful ways. Good but not great monitoring includes cases such as teacher attendance, cases where the things we really care about are not the things observed and monitored – where, as the title of a scholarly classic puts it, we need worry about “The Follow of Rewarding A, While Hoping for B.”²⁰ The relationship between the objective of monitoring and the item being monitored may, in these situations, break down.²¹

Good but not great monitoring includes when an employee needs to do multiple things but only one of them can be monitored, which will induce greater investment in the monitored component of the job but under-investment in the others in what is known as a “multitask” problem.²² Good but not great monitoring also includes when the nature of a job involves making judgments about cases, or incorporating information, which cannot be observed – and thus where monitoring may

¹⁹ This is also consistent with McGregor, with Theory X and Theory Y differentially appropriate depending on features of the job, and Perrow’s summary of organizational theory in *Managing Complex Organizations* (Perrow 2014).

²⁰ Kerr 1975.

²¹ This is known as Goodhart’s Law, named after economist Charles Goodhart; see Muller 2018 for a fuller account of the law and the mis-applications of metrics and monitoring across a variety of domains.

²² Holmstrom Milgrom 1991.

induce employees to restrict their judgments only to the incomplete set of things that can be observed, ignoring other forms of knowledge and judgment.²³

When monitoring is good but not great it is quite easy for a Route X strategy to *seem* to work on its own terms – improving the only things that can be measured and monitored – but to leave a public agency and ultimately the public the poorer for it. “Teaching to the test” is very, very likely to improve test scores. Whether it ultimately benefits children, or the society as a whole, is a very different – and, of course, hotly contested – question.

In addition to being costly and complicated, if monitoring and attribution to individual performance is not done quite well – either because a lack of capacity to monitor, or because the task is very hard to observe, or for any other reasons – monitoring has the potential to induce not the productive, mission-aligned behavior management seeks, but rather distort individuals’ effort towards hitting the target but missing the point, or its cousin following the letter of the rule but missing the purpose the rule was intended to serve. Whatever the merits of Route X in the abstract, if the monitoring can’t be done well this strengthens the argument for dusting off long-neglected Route Y.

As a thought experiment I find useful are to think of so-called “work-to-rule” strikes; attempts by employees to ‘strike’ not by refusing to come to work, but by refusing to do anything not required by existing contract and monitoring regimes. Education is, I believe, a domain where for almost every professional – teachers, principals, district administrators, etc. – a work-to-rule strike would mean a marked reduction in performance. We can infer that these are roles that have ‘good but not great’ monitoring and where substantial elements of the job cannot be prespecified and contracted on. These are thus systems where we should expect monitorability challenges and distortions in attempting Route X system reforms.

Of course, set against the risks of Route X must be the risks of Route Y; a system which relies less on monitoring is more prone to abuse, fraud, and corruption. Where employees do not or cannot be induced to care about the goals of the agency, Route Y risks lowering performance. Neither Route X nor Route Y is a perfect strategy; they both carry both risks and rewards. Theory and empirics can help us determine which on net is better, when, and why.

- Mission Motivate-ability

The more mission motivated or motivateable a workforce, the more Route Y is likely to improve performance; mission motivated individuals will pursue actions which will forward an agency’s mission even in the absence of constraints.

I believe we too frequently frame motivation as if it is a function of agent’s type, as if there are some ‘good types’ who are mission motivated and other ‘bad types’ who are not. Motivation is often changeable by ‘treatment’ with management practice, with more mission motivation

²³ This then crowds out tacit knowledge & soft information (Honig 2018), which will not be cultivated by an employee who cannot make use of them (Aghion & Tirole 1997).

resulting from more route Y management practices.²⁴ This is a claim which I'll support with empirical evidence below.

To argue motivation is mutable is not to suggest that all individuals are equally capable of being mission motivated. I recognize this may sound contradictory to what I just said in the last paragraph, so let me draw an analogy to football. Football players improve with good coaching.²⁵ Good managers can get more out of the same players than bad managers can. That this is true – that who the manager is and how they manager matters to performance - doesn't imply talent is irrelevant. The best manager (imagine whomever you like) cannot make the worst player (imagine me if you wish – I'm impressively uncoordinated and stand a towering 5 feet 6 inches tall) a superstar. The worst player can get better; but if the goal is to win the championship starting with good talent is extremely helpful.

An agency's mission motivation is like a sports team's talent. It can be improved with good management. But it's also quite useful for the workforce to have substantial mission motivation even before management acts upon it. It's thus important to attract mission motivated people to apply; to hire them when they do apply; and to keep them from leaving. Below I'll show evidence that Route X management differentially repels, and Route Y management differentially attracts and retains, the mission motivated. But contexts are also different – in some labor markets and for some tasks or agencies, there may be very few mission motivated individuals not just in the agency but also in the general population.

Where current employees of an agency are highly mission motivated, I consider that a highly mission motivateable workforce. Where there are mission motivated individuals who could be attracted to the agency (even if they are not currently employed), the agency has middling motivateability. Where there are no such individuals who could be attracted, mission motivateability is low. The lower mission motivateability, the less likely a Route Y (and the more likely a Route X) reform strategy is the better choice.

1.3 Observable Implications of the Argument

If mission motivation is in part a function of route Y management practice, then we should expect to see that route Y management and mission driven motivation move together; more route Y management should be associated with more mission driven motivation.

²⁴Aleksandr Solzhenitsyn (1974) once wrote of his experiences in the Soviet gulag that “the line separating good and evil passes not through states, nor between classes, no between political parties either – but right through every human heart – and through all human hearts. This line shifts. Inside us, it oscillates with the years.” The American singer Dolly Parton captured much the same spirit in remarking that “Some of us are saints; some of us are sinners; but for most of us, well it depends.” (though this is possibly apocryphal; I can't find a firm citation. In any case her song “Halos and Horns” describes “Sinners and saints/hearts that are torn between what's wrong and ain't”.) In any case, if basic morality is mutable as both these perceptive observers of the human condition assert, surely mission motivation is.

²⁵ Do I mean American Football or Association Football (Soccer), you might wonder? I think this argument equally applies to both... and to baseball, rugby, basketball, and almost every other sport I can think of.

We should also expect to see that mission motivation can actually be influenced by management practice. As Route Y management increases, this should, if I'm right, increase the mission motivation of employees who are already at the organization.

In addition, we should see Route Y management associated with changes in who exits the agency. As Route Y management increases, mission driven bureaucrats working at the agency should be less likely to leave, and those who share the agency's mission in the broader population more likely to apply for new job openings.

Finally, it should be true that there is evidence of changes towards route Y management leading to improvements in performance. This will be increasingly the case where monitoring is incomplete and mission motivated individuals already work for or can be recruited to the agency.

The nature of this argument is there cannot be a single, clear-cut, empirically unassailable test of this theory. In the rest of part 1 I try to do two things: First, I'm going to show you general, broad evidence in support of these arguments; that is, data which suggests they apply not just in special 'edge' cases, but pretty broadly. Second, I'm going to show you evidence that Route Y works even in what my theory would predict are quite "hard" places for it – with monitorable tasks, in settings where we might be particularly worried that employees are not or cannot become mission motivated, etc. In doing this I'm going to draw on the work of other scholars, all of whom have (to my knowledge) never heard of "Route Y" much less framed their work through this lens.

1.4 - Evidence People Care How They're Treated: Route Y Management & Mission Motivation Move Together In the Public Sector

Public servants' motivation is a function in part of how they are managed. Specifically, the more people are managed in a Route Y way which encourages feelings of autonomy and competence and sense that one's judgments and actions 'matter' – that they contribute to substantive impact – the more employees will engage in self-directed action in service of an agency's goals.²⁶

I initially believed this claim so intuitive and consistent with lived experience as to need little empirical support– that basically everyone who's ever had a job (or more precisely, a boss) would agree with the claim from their direct experience.²⁷ But it turns out this is not the case, and there are many who either believe (or act as if they believe) that motivation is an unalterable fact of a given individual, or the related claim that behavior is primarily tractable to changing extrinsic incentives, the carrots and sticks of Route X. So at the risk of belaboring the point, let me provide some evidence for the claim that mission motivation and Route Y management are related to one another.

²⁶ I don't think this is primarily because public sector employees are special, but because they're like everyone else. An individual's actions at work depend in part on how they are treated by their bosses, whether they are empowered, what they are asked to do. This is true in the public sector, the private sector, NGO/"third sector" jobs, and I predict will be true in whatever our society coins the "fourth sector", if that ever happens.

²⁷ Akin to the claims "Sun is preferable to rain for most outside activities" and "McDonalds' hamburgers taste good but make you feel bad later" – both claims I have no systematic evidence for but believe an overwhelming majority of human beings would agree are true.

Many public administration scholars have theorized or demonstrated empirically in particular cases that motivation is not a fixed feature of individuals, and that organizational practices can and do influence motivation.²⁸ In an attempt to demonstrate the breadth and accuracy of this claim – that it holds as a general matter - in a 2021 paper I published in the *Proceedings of the National Academy of Sciences (PNAS)* I collect all available observational data from existing civil servant surveys and analyze the relationship between management practices and mission motivation.²⁹ In the aggregate the dataset comprises over four million individual and two thousand agency observations across five countries.

I find quite consistently that the higher the perceived level of Route Y-type management practices, the higher individuals’ level of mission motivation. Figure 2 below shows that this also holds for within-agency changes; that as perceptions of Route Y management practices increase over time, so does employees’ mission motivation.³⁰ This pattern is also observed when looking across individuals and agencies in cross-sectional analysis.

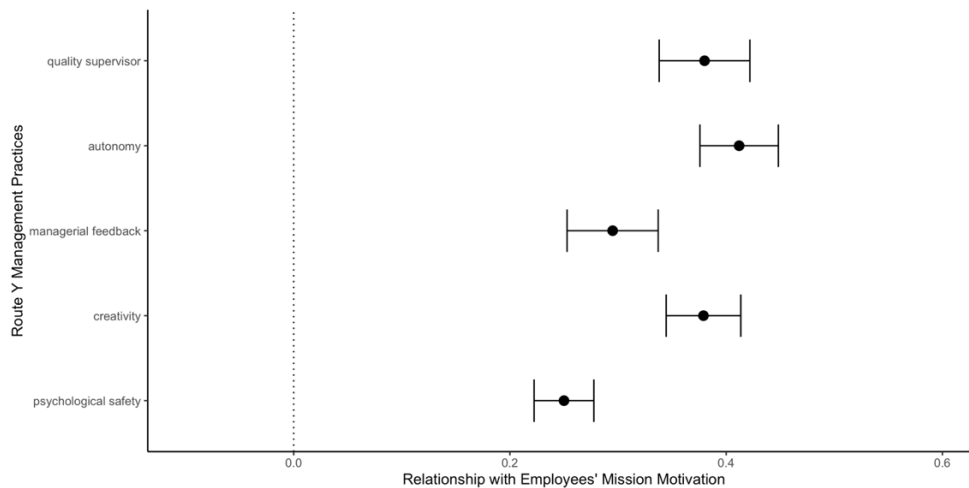


Figure 2: Association of selected Route Y management practices and employees’ mission motivation; organization-level results with agency, year, and survey fixed effects.

Notably, it appears that the relationship of non-financial elements of job design (e.g. how much autonomy employees perceive themselves to have) with intrinsic motivation is stronger than things like pay satisfaction or perceived recognition of having done a good job.³¹ This suggests that not only does management matter to motivation, it also may be relatively low hanging fruit – that there may be unexploited margins of performance improvement to be tapped by focusing on managerial practice.

Of course, that claim depends on a causal interpretation – on interpreting this as evidence that changes in management practice are in fact altering public servants’ motivation. But all I’ve

²⁸ See e.g. Esteve & Schuster 2019; Herzberg 1959; Moynihan & Pandey 2007; Wright & Pandey 2008.

²⁹ Honig 2021. I don’t use these terms in the paper; I call “Route Y management” instead “supportive management practices”, so as to obviate the need for the theory development earlier in this paper; I also look specifically at intrinsic motivation as a prominent (though far from the only) form of mission driven motivation.

³⁰ This figure a subset of Honig 2021, fig. 2, page 7. Axes relabeled to be consistent with this paper’s use of terms.

³¹ Honig 2021

shown you here is a correlation – evidence that route Y management and mission driven motivation move together, but not evidence as to *why* this is the case. In the sections below I endeavor to provide a convincing answer as to “why”, and establish that it is indeed the case that management practice alters the motivation of existing employees who remain on the job, as well as influencing who chooses to exit, and who to enter, the agency.

1.5 - Evidence of Treatment Effects: Management Practices as Altering the Motivation & Performance of Existing Employees

The notion that management actually shapes motivation is core to the private and public sector management literatures. As Christensen et al. succinctly put it, “Employee public service motivation (PSM) is changeable by both intended and unintended organizational and management practices.”³² A recent book by James Perry is entitled “Managing Organizations to Sustain Passion for Public Service”, overviewing the public management literature on this point.³³ Management that leads employees to feel powerless, or that their work is meaningless to clients or society, experience “policy alienation”, which in turn leads to reduced motivation, effort, and effectiveness.³⁴ Greater “red tape” – that is, administrative processes and procedures that public servants must follow – is also associated with lower levels of mission motivation.³⁵

It is not simply that management practice can prevent the decline of mission motivation, however; evidence from a variety of sources, experimental and observational, show that management can promote higher levels of mission motivation.³⁶ A study of Danish teachers finds that management which enables greater satisfaction of self-determination theory’s autonomy, competence, and relatedness at work leads to greater mission motivation.³⁷

One important channel via which management practice influences motivation is by making work feel more, or actually be more, meaningful. Connecting public servants with beneficiaries or altering the framing and conduct of tasks to make more salient the welfare impact of individual effort leads to higher levels of mission motivation.³⁸ Just as individuals can feel “alienated” by a disconnection from the job’s meaning, so can greater connection foster mission-driven motivation and effort.³⁹ Management practice influences whether employees can indeed make a difference, and feel themselves to be doing so.

One thing that appears not to systematically increase mission motivation is adding extrinsic incentives via pay-for-performance or results-based financing schemes. Studies of health workers in Zambia (a randomized control trial) and Zimbabwe find no motivational benefits of

³² Christensen et al. 2017, 529.

³³ Perry 2020

³⁴ Tummers 2012; see Usman et al. 2021 for a developing world example from Pakistan.

³⁵ See George et. al. for a meta-analysis and overview of this literature.

³⁶ E.g. Belle 2013; Moynihan & Pandey 2017; Vogel & Willems 2020

³⁷ Jensen & Bro 2018.

³⁸ I mean by this to incorporate the job crafting literature (see Perry 2020, chapter 4 for an overview) as well as experimental work such as Belle 2013. The beneficiary exposure work has a clear and well-known private sector parallel in Grant (2008)’s work on prosocial motivation.

³⁹ As one American social worker put it, when asked “what do you make”, she responds “I make a difference... What do you make?” Arrington 2008, as quoted in Perry 2020, page 87.

attempts to induce greater effort via a Route X, incentive-laden approach.⁴⁰ This is not to say such schemes cannot improve performance, of course. But even where such schemes appear to be well-executed, they do not appear to increase mission motivation.

While I think the notion that management changes motivation is fairly well-demonstrated without recourse to any of my work, the evidence presented in Figure 2 – that there is a stable within-agency relationship between Route Y management practice and employee intrinsic motivation over time - is also suggestive of within-person changes in motivation in response to management practice. It is the rare agency that experiences significant enough turnover in a single year that systematically detectable changes in agency-level management perceptions and intrinsic motivation could occur without particular individuals experiencing increases or decreases in their level of motivation. I also find in empirical work in Thailand that the mission motivation and behavior of district-level public servants is strongly influenced by the management practice of district heads.⁴¹ The more employees feel they are trusted and supported in the exercise of their judgment the more mission motivated they are, and the more they in turn value citizens' welfare over other concerns (e.g. career concerns such as promotion).

An individual employee's mission motivation changes over time. The more managers give employees respect, a sense of agency, and the ability to engage in meaningful work towards things they care about, the more mission motivation a given individual will have. Treating one's employees with route X management is very likely to lead to low levels of mission driven motivation; treating one's employees with route Y management is very likely to lead to mission-driven motivation, and thus sustain an equilibrium of managerial trust and delegation, psychologically fulfilling jobs, and mission motivated employees.

People are not fixed types with regard to their mission motivation; one of the things that influences the level of an individual's mission motivation, and thus what they do on the job in the absence of being monitored, is how they're managed.

1.6 - Evidence of Selection Effects: Management Changes Who Stays and Who Goes, & Has Performance Impacts

Route Y management is much more likely to lead to good outcomes if the people who hold the job are those who care about the job. Lots of people in fact take jobs not at random, or based solely on the material benefits of the position, but because they care about, and want to devote energies to, the particular thing the organization wants to do. Indeed, Tim Besley & Maitreesh Ghatak have, in their work on mission match, argued this is generally true – that workers (including public sector workers) are “*typically motivated agents*, i.e., agents who pursue goals because they perceive intrinsic benefits from doing so”.⁴² Consistent with my argument, Besley & Ghatak argue that the more this is true, the less need for management relying on Route X-type control and incentives. Empirical work supports this, finding that the more mission motivation one has the less likely one is to engage in acts of malfeasance or corruption.⁴³

⁴⁰ Shen et al. 2017; World Bank 2016

⁴¹ Honig 2020a.

⁴² Besley & Ghatak 2005, p. 616.

⁴³ See e.g. Gans-Morse et al. 2021; Olsen et al. 2019.

Luckily for our purposes, a great number – perhaps the vast majority – of public sector workers are sufficiently ‘motivated agents’ for Route Y to take hold. That this is generally true is consistent with the finding that public sector workers’ motivations are broadly responsive to management practice presented above, in that a worker with no interest in the mission would not, in expectation, respond to changes in management practice with changes in motivation. This is also consistent with the world of public sector employees that we observe more generally.

In discussing the public sector I often hear that public sector workers are “overpaid”. Whether a given sector’s workers are overpaid is, of course, a matter of judgment, tied up in questions of the social value of a particular occupation; but from a market perspective, this is rarely true. American public school teachers, for example, are paid about 20% less than other workers with similar experience and characteristics.⁴⁴

Why would someone choose a job where one is not maximizing income? In this case the simplest answer is, in my view, often the right one: because the people doing the job find it meaningful – they care. As a senior official of the largest US federal workers’ union put it in explaining why federal employees kept showing up during a Government shutdown during which they were not being paid at all, “It sounds corny, I know... federal employees are extremely devoted to the mission of their agencies.” She went on to say bureaucrats “Don’t just fall into these jobs. They believe in public service; they believe in what they do.”⁴⁵

Fine, some may say; it is possible that some developed country public servants are not maximizing their labor market income, and indeed are deeply devoted to their work; that, consistent with the literature, developed world public servants are more likely to have mission driven motivations.⁴⁶ It may even be true of a small number of developing world public servants. But in general, people join the public service – particularly in the developing world – to get *paid*, not because they’re particularly interested in the task or are mission driven.

This view is, as a general matter, wrong. It is surely the case that some highly educated or qualified people take public sector jobs (as some do in taking private sector jobs) with the express purpose of working very little, or even committing fraud, of course; but it is demonstrably *not* the case that most bureaucrats and middle managers in the public sector are, conditional on their expertise, maximizing their earnings. Drawing from the Worldwide Bureaucracy Indicators – which assembles data from over 132 countries – Ali Baig and coauthors find that while there indeed is a public sector wage premium for “clerks’ and “elementary occupations”, there is in fact a public sector wage *penalty* for “technicians”, “professionals”, and “senior officials”.⁴⁷ The public servants most consequential to outcomes – encompassing both street level bureaucrats like teachers and nurses, but also the vast majority of

⁴⁴ Allegretto & Mishel 2020.

⁴⁵ Tankersley & Kaplan, 2019. “Why Don’t Unpaid Federal Workers Walk Off the Job?” *New York Times*, January 16.

⁴⁶ See e.g. Crewson 1997; Steijn 2008; Vandenabeele 2008

⁴⁷ Ail Baig et al. 2021, p. 570, figure 6b. A public sector wage premium is an additional amount an employee could expect to get in the public sector, relative to outside options. Figure 6b draws from 79 countries or the 132 countries in the overall dataset, according to the article.

the mid-level bureaucrats most readily disparaged in the public imagination – are earning substantially less money than they would in the private sector labor market.

Consistent with this, evidence from a two possibly “hard” settings - Indonesia and Russia - suggests that the public sector continues to differentially attract the mission motivated.⁴⁸ These mission motivated individuals are likely to engage in greater effort in response to seeing that their effort will translate into fulfillment of the organization’s mission,⁴⁹ and may in fact see their mission motivation deepen the more time they spend on the job.⁵⁰ In general, people who care about the job are differentially attracted to a job; indeed, many are willing to take a lower wage to do work that they believe in.

- Management Practices Influence Which Public Servants Stay and Go

Management practice has an important role to play in determining whether or not those with mission motivation stay on the job. Before I appeal to data to support this claim, let me first appeal to intuition – to common sense.

Imagine a job you took where you cared about the mission of the organization; if this has never been the case, imagine what it might be like to do so. Now imagine that you were managed in a very Route X way, with a great deal of monitoring and control. Your days fill with rules and paperwork to ensure you are complying with those rules, so much so that it crowds out your ability to actually contribute to the mission. You may start to wonder if it makes any difference if you stay. Also, imagine that you knew you’d likely be able to make more money if you left.

What would you do? I, personally, think I’d leave.

It turns out I’m not alone; and in that sense, Route Y practices can act as an excellent retention strategy. Giving Brazilian teachers greater autonomy improved student learning, in large part because autonomy reduced teacher turnover by over 20 percentage points.⁵¹ Giving teachers more ability to do the things that brought them to the job made them more likely to stay in the job.

In my own work discussed above – the econometric analysis drawing on over 4 million individual observations over 5 countries - I find not only that more Route Y management practices are associated with lower intention to leave the public service, but that those with greater levels of mission motivation are differentially more sensitive to the levels of Route Y management practices. In response to higher levels of Route Y management practices, those with higher levels of mission motivation were less likely to express an intention to leave the agency; this is depicted graphically in Figure 3 below.⁵²

⁴⁸ The Indonesia study is Banuri & Keefer 2016, the Russia study is Gans-Morse et al. 2020.

⁴⁹ Banuri & Keefer 2016

⁵⁰ Gans-Morse et al. 2020.

⁵¹ Piza et al. 2021

⁵² These practices are a subset of those examined in Honig 2021, fig. 3. Relabeled to be consistent with this paper’s use of terms; mission motivation called “intrinsic motivation” in the original article, which (per the theory above) it is a subset of.

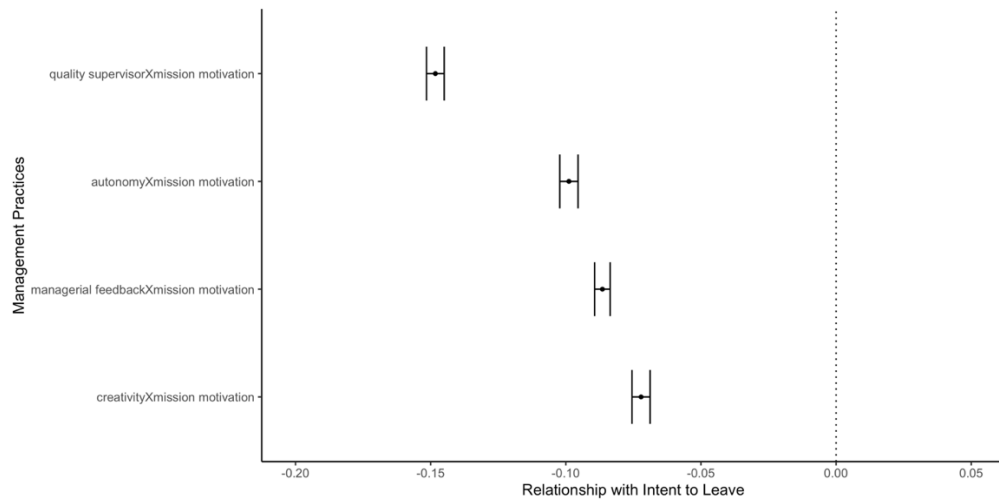


Figure 3: Interaction of Selected Route Y Management Practices with Individual-level Mission Motivation on Intent to Leave

The converse is also true; that is, in response to lower levels of Route Y management practices, those with greater levels of mission motivation were more likely to express their intent to exit. Those who care about an organization’s mission wish to be able to forward that mission; thus when management practice allows mission driven bureaucrats to do so, they are all the more likely to stay; when management practice does not support mission driven bureaucrats, they are all the more likely to exit.

While many can *become* more mission motivated, it’s all the better if the agency’s employees arrive with a high level of mission motivation. Encouraging those who are more mission driven to apply is an important part of this process; and indeed, careful advertising can crowd in more or less mission driven, or skilled, applicants.⁵³ A thread of the public administration literature goes beyond this, noting that what employees actually get to do once taking the position (not merely how the job is framed) influences who is attracted to employment in the first place.⁵⁴ In that sense, then, Route Y management is itself a potential draw, with greater scope for impact attracting more intrinsically motivated applicants. Reforms which put more power in the hands of bureaucrats are associated with changes in the composition of the workforce, attracting more mission motivated bureaucrats.⁵⁵

Let me close with one more case on the importance of management practice to retaining the most motivated, one particularly close to my heart: child protective services in my hometown of Detroit. I was back home and went over to visit a friend I hadn’t seen in a few years. She had pursued a Masters in Social Work with the explicit purpose of working for the city’s vulnerable children, and had won a very competitive scholarship for people who wanted to do just that; so I was surprise to hear she had left her job at Child Protective Services. I asked why – and she told

⁵³ See e.g. Ashraf et al. 2020; Deserranno 2019; Linos 2018. For more of the literature and theory on attracting the differentially motivated see Perry 2000, particularly chapter 3.

⁵⁴ See e.g. Bertelli 2012 for a discussion of a fair bit of this literature, or Gailmard & Patty 2012 for a well-known example of a model depending on differential selection into the public sector.

⁵⁵ Zarychta et al. 2020

me a tale of process compliance and Route X management that meant that her day to day experience had very, very little to do with actual impact as she defined it – of actually helping children.

Working with Lena Boraggina-Ballard and Joanne Sobeck of Wayne State University’s School of Social Work we decided to study this more systematically, interviewing and surveying graduates of that highly competitive scholarship program – a program that specifically selected recipients through a rigorous screening process including in-person interviews in an effort to select those with the greatest commitment to child welfare.⁵⁶ We found, in my view rather tragically, that my friend was typical. That is, the screening mechanism did an *excellent* job – people who received the scholarship were very, very committed to child welfare. However, when faced with a job that did not allow them to have the positive impact on children – that led to “diminished feelings of autonomy, competence, and relatedness”, consistent with self-determination theory – they left. Indeed, the greater an individual’s level of mission motivation, the more likely that individual was to *exit*.

It strikes me like a really, really, *really* good idea to have the people who are working on behalf of my hometown to ensure the safety and health of abused and neglected children be those people who care the most about helping abused and neglected children. Those who were willing, indeed eager, to take lower pay than they would otherwise receive to do the job. Those who were willing, indeed eager, to take on an incredibly stressful and difficult job. Those who were willing, indeed eager, to do a job I think is incredibly valuable but I honestly think I’m not strong enough, or skilled enough, to do. These folks were willing to make lots of sacrifices – but they weren’t willing to make those sacrifices and *not actually be able to help kids*. Honestly, I don’t blame them. And while I’m sad for their lost time and investment, I’m sadder still for the children of Detroit.

Management matters in no small part because it affects who comes, who stays, and who goes. If we want people who care to do the difficult jobs of public service – jobs that oft come with some sacrifice, financially and emotionally – we need to manage those individuals in a way that lets them, in fact, do the job they came to do.

1.7 - Evidence of Route Y’s Success in Improving Performance & Citizen Welfare (Including in Comparison to Route X)

All of the above suggests that the more Route Y management, the less necessary it is to monitor individuals tightly to ensure they engage in action consistent with a given organization’s mission. This is because Route Y management will attract and retain people who are by disposition more mission driven (selection); it is also because Route Y management itself will foster greater mission motivation (treatment).

The careful reader will note that everything above is about showing that Route Y management and mission motivation are related to each other, and why that’s the case. None of this as-yet demonstrates that Route Y management actually improves agency performance and thus citizen welfare, or that attempts to promote more Route Y management are likely to induce performance

⁵⁶ Borragina-Ballard et al. 2021.

improvements relative to either the status quo or Route X attempts at improvement. If above I've demonstrated "there's a path from Route Y management to mission motivation and thus improved performance", here I endeavor to convince you that that's a path worth traveling, worth investing in.

- Route Y Success Stories: Pretty Easy To Find Once You're Looking For Them

If I ask you to imagine an organization or unit or team that works really, really well, I'll wager the place that comes to mind is one that is managed in a broadly Route Y way. As Charles Goodsell once put it: "If we look at government agencies around us that stand out as 'best', we will find they consist of cohesive groups of women and men who are 'turned on' by something. But by what? Not their paychecks, nor the latest reform gimmicks, but by the very work they are doing: stopping child abuse, fighting forest fires, battling epidemics."⁵⁷ This quote is from his book *Mission Mystique*, in which he articulates how the highest performing public agencies he observes seem to attract and retain mission motivated individuals, who are then empowered to exercise judgment and autonomy in service of the mission.⁵⁸

Goodsell's examples of high performing agencies that evince these qualities include a number of US federal agencies (the National Weather Service), but also state (the Virginia State Police) and local (Mecklenburg County, North Carolina's Department of Social Services) cases.⁵⁹ Dan Carpenter's work on the US Food and Drug Association's exceptional performance highlights the self-reinforcing dynamics between the Food and Drug Association's organizational autonomy, Route Y management practices, and well-earned reputation for competence and excellence;⁶⁰ Jon DiIulio articulated the notion of "principled agents" in the US Federal Bureau of prisons, focusing on the esprit de corps and mission-driven motivation of this high-performing agency;⁶¹ multiple generations of students have now had the pleasure of reading Herbert Kaufmann's classic account of US forest rangers, who cannot be supervised and thus are supported in the autonomous execution of their duties, with accountability steeped in a sense of shared culture and commitment to organizational norms.⁶² Collectively, these are a lot of agencies, doing a lot of different kinds of things; I also think it fair to say they collectively represent arguably the most (academically) famous examples of exceptional US agency performance. They are all, I would argue, cases of Route Y management; and in fact I can think of no academically prominent case of exceptional US agency performance which is steeped in Route X management.

The examples above are all in the US because (in my view troublingly) the study of public agency performance has historically been focused in the US and other developed countries.⁶³

⁵⁷ Goodsell 2010

⁵⁸ I understand what Goodsell calls "internal commitment" to the agency's "central mission purpose" to be a close equivalent – indeed, essentially an alternative wording – of my "mission driven motivation".

⁵⁹ Goodsell 2010

⁶⁰ Carpenter 2014

⁶¹ DiIulio 1994

⁶² Kaufman 1960.

⁶³ See Bertelli et al. 2020 for an overview of my, and co-authors', concerns on this front and our view of how the study of public administration in developing countries might proceed, with benefits to developed and developing countries alike.

But to the unfortunately limited extent to which scholars have cast sustained attention to the developing world – and to the even more limited extent to which scholars have highlighted successes of developing country public administration – there too the paradigmatic examples of success are heavily laden with Route Y management.

Judith Tendler's *Good Government in the Tropics* describes exceptionally high performing public agencies in Ceará, Brazil focused on health services, employment provision, agricultural extension services, and public procurement. Tendler describes good performance as typified by “greater worker discretion and autonomy”, and both greater cooperation and greater trust between workers and management.⁶⁴ She summarizes the key elements of success as ensuring that government workers “demonstrated unusual dedication to their jobs”; that the government “created a strong sense of ‘calling’ and mission”; that workers with autonomy exercised discretion in what tasks to carry out “in response to their perception of what their clients needed, and out of a vision of the public good”; and that “workers wanted to perform better in order to live up to the new trust placed in them”.⁶⁵ If this is not a description of a Route Y equilibrium, I'm not sure what is.

Tendler is the rare scholar to highlight good public performance in the developing world, but she is far from the only one. Drawing on evidence from 29 public agencies in Bolivia, Central African Republic, Ghana, Morocco, Sri Lanka, and Tanzania, Merilee Grindle concludes that “when public organizations perform well in developing countries” it is where agencies are managed so as to give employees the autonomy to make consequential decisions and where employees feel a strong “sense of mission”.⁶⁶ Perhaps the clearest description of good bureaucratic performance in developing countries to emerge in the past few years is Erin McDonnell's description of “pockets of bureaucratic effectiveness in developing states” in *Patchwork Leviathan*, drawing on evidence from Brazil, Ghana, Kenya, and Nigeria.⁶⁷ McDonnell highlights the importance of management practice which empowers its members to take collective ownership and internalize a commitment to the organization's goals. As McDonnell eloquently puts it, “If you let a small group of officials make important, consequential decisions about how a house will be built, they will defend it for a lifetime. We have been so fearful that public servants will live down to our worst fears of them that we have also robbed them of the discretion and agency that might enable them to rise to their own best hopes for themselves.”⁶⁸

⁶⁴ Tendler 1997, p. 5. ; for those interested in reading more but not able to acquire the book see Tendler & Freedheim 1994's wonderful description of public health workers in Ceará.

⁶⁵ Tendler 1997, pgs. 14-15

⁶⁶ Grindle 1997. Grindle refers to this sense of mission as “organizational mystique”, in an echo of Goodsell 2010. It is interesting that two scholars seemingly independently (as Goodsell does not cite or refer to Grindle) felt the word ‘mystique’ appropriate here, suggesting there does seem to be something somewhat mystical, or magical, about the culture of a high-performing Route Y agency.

⁶⁷ Ang 2016; McDonnell 2020.

⁶⁸ McDonnell 2020, p. 206

- When Route Y Practices or Reforms Are Compared to Route X, Route Y Often Works Better – With Increasing Returns the Harder the Monitoring Challenge

That so many cases of extraordinarily good bureaucratic performance evince a Route Y approach to management does not, in and of itself, prove that Route Y is a strategy worth pursuing; something can be true of high performers but not beneficial on the margin for those of more modest performance levels. Roger Federer has an unusual training strategy, steeped much less in metrics and performance tests than most elite tennis players; he relies instead on the empowered judgment and wise eye of his long-time fitness coach (who interestingly does not play tennis), Pierre Paganini.⁶⁹ This does not mean that such a strategy would improve my, far inferior, play more than would a fitness regime which instead followed the conventional wisdom of tight monitoring via quantitative performance testing. To establish under what conditions more Route Y is likely to work better, we need to look to cases where there is variation in some important characteristic of the situation – e.g. the task itself, or the abilities and motivations of the agents to doing the task.

In their work in Nigeria, Imran Rasul and Dan Rogger find that the more Route Y the management approach, the more likely projects are to be completed across the Nigerian civil service; the more Route X the management approach, the less likely project completion. As they put it, “increasing bureaucrats’ autonomy is positively associated with completion rates, yet practices related to incentives/monitoring of bureaucrats are negatively associated with completion rates.”⁷⁰ That this is true in Nigeria – a country tied for 149th of 180 countries on Transparency International’s 2020 corruptions perception index⁷¹ - suggests that even in a system where there are well-founded concerns about the potential misuse of discretion, it is *still* the case that on the margin more discretion leads to better outcomes, and more incentives and monitoring less. This finding is confirmed by their work, joint with Martin Williams, in Ghana, where a similar empirical strategy examining the performance of 45 organizations finds that “the provision of incentives or monitoring to bureaucrats are *negatively* correlated with the likelihood of tasks completion”, but that “monitoring practices providing bureaucrats more autonomy and discretion are *positively* correlated with task completion.”⁷² This echoes my own work, where I find that foreign aid agencies which engage in more monitoring and reporting often undermine their own performance, as-compared to agencies which provide those in the field the autonomy and discretion to exercise empowered judgment.⁷³

It appears that, consistent with this paper’s theory, monitorability plays an important role in explaining these findings. I find that foreign aid agencies which empower more judgment by agents in the field do better where tasks are difficult to monitor or environments are more unpredictable.⁷⁴ Rasul & Rogger find that in Nigeria an incentives & monitoring-laden managerial approach are even more strongly associated with performance declines the more

⁶⁹ Clarey 2017.

⁷⁰ Rasul & Rogger 2018.

⁷¹ <https://www.transparency.org/en/cpi/2020/index/nga>. This description actually slightly overstates Nigeria’s performance; it is a 7-way tie for 149th, so it would also be accurate to say Nigeria scores better than only 24 of 180 countries on the measure.

⁷² Rasul et al. 2021

⁷³ Honig 2019

⁷⁴ Honig 2018, 2019

ambiguous the project.⁷⁵ The Ghana paper goes still further, focusing on variation across tasks in the clarity of what needs to be done (and thus tractability to monitoring). As the authors put it, “organizations could benefit from providing their staff with greater autonomy and discretion, especially for types of tasks that are ill-suited to predefined monitoring and incentive regimes.”⁷⁶ In all three of these empirical settings – the Nigerian civil service, the Ghanaian civil service, and foreign aid agencies – the more difficult it is to monitor the task at hand, the more deleterious Route X management and the more beneficial Route Y management proves to be.

- Experimental Evidence From Randomized Controlled Trials

The findings above are all observational; that is, they rely on looking across units (agencies, projects, etc.) and seeing how performance and management practices covary. While this can provide us with broad evidence of a relationship between management and performance consistent with Route Y performing better than Route X, what it is less able to do is provide us with evidence that an attempt to *change* management practices in the direction of more Route Y is, in fact, likely to improve an agency’s performance. It is possible that those agencies which are performing less well and engaging in more Route X monitoring are still doing the best they can – perhaps some agencies are engaging in greater use of Route X controls because these are precisely the kinds of agencies that will not be responsive to Route Y management. An emerging literature suggests this concern, while certainly plausible, does not hold; that what we observe across agencies and units is also consistent with what we observe in those too-rare cases when agencies engage in Route Y management reforms. What’s more, these Route Y attempts to improve performance clearly outperform Route X attempts to improve performance in the same agency when rigorously evaluated in randomized controlled trials.

Working with the Department of Health in Pakistan, Muhammad Yasir Khan examines the relationship between what he calls “mission motivation” and performance. In a randomized controlled trial, workers are either offered “performance-linked financial incentives” for increasing home visits consistent with Route X, or are asked to watch a video “describing and emphasizing the mission and then participate in reflection sessions with a facilitator to discuss the mission.”⁷⁷ So, then, one group of workers is offered money; the other is offered none, just the opportunity to reflect on the mission of the organization once a month for three months. I believe that conventional wisdom on public sector performance improvement would suggest that the Route Y treatment will be unlikely to work; or at the very least substantially underperform the Route X pay-for-performance approach.

For Pakistani government health workers the Route Y reform is *more* effective in improving child health outcomes than a scheme which rewards them financially for putting forward more effort. This is not because the Route Y encouragement of mission induces more home visits than does the Route X payments; those who are financially incentivized to show up do, indeed, show up the most. But it turns out promoting child health requires much more than just showing up;

⁷⁵ Rasul & Rogger 2018, Figure 1.

⁷⁶ Rasul et al. 2021

⁷⁷ Khan 2021. There is also a combined treatment arm, which I’m not drawing on here; that is, there are also workers offered both treatments. This is for expositional clarity, not because it’s inconsistent with the point I want to make; the combined treatment also outperforms the finance-only arm of the study.

and the Route Y kindling of mission driven motivation – but not the Route X payment – leads workers to put more effort into lots of other things which contribute to child health outcomes but would be very hard to monitor and incentivize, such as the quality of the mother and child health checks performed and their efforts and success in improving parents’ understanding of practices that are likely to prevent disease. The Route Y reform clearly works better here; it does so for exactly the reasons this paper’s theory and the observational results above would predict: because this is a task where the ability to monitor is good but not great, meaning that good performance needs to rely ultimately on the unmonitorable actions of those doing the work.

Let me close with another randomized controlled trial comparing a Route Y and Route X reform in a much harder case for my underlying theory. Working with procurement officers in Punjab, Pakistan, Oriana Bandiera and an illustrious group of coauthors explore different strategies for increasing value for money in the purchase of generic goods for which quality is easily observed and verified such as stationery, furnace oil, and the purchase of newspapers.⁷⁸ One group of procurement agents is given greater ability to make decisions, and is exempt from reporting and monitoring requirements. Another group is given bonuses ranging from half a month’s salary to two months’ salary for those who achieve the greatest value for money.⁷⁹

By construction, this is a case where the goods are comparable, and monitoring is quite close to complete. It is also, if I’m honest, one of the public service tasks that I would have imagined least likely to evince mission motivation – unlike the task of actually helping a child thrive, or constructing a physical good that benefits citizens, buying cheaper stationary to save the Government money feels, to me at least, a bit less likely to inspire a sense of mission and intrinsic motivation. Procurement is also a task where it is quite easy to line one’s own pockets with e.g. kickbacks from winning vendors, and Pakistan is – like Nigeria in the last section – a country where some Government agents are broadly perceived by fellow citizens as likely to do so, with Pakistan 124th of 180 countries on Transparency International’s 2020 Corruption Perceptions Index.⁸⁰

I do not believe that Route Y is always the best way forward. On learning of this study while it was underway I thought this a case where Route X would perform better. I was wrong.

The Route Y more autonomy approach lowered prices paid for equivalent items by 9%; the effect of the pay for performance Route X approach is statistically indistinguishable from zero. The amount saved just from the Route Y pilot in a single year is sufficient to operate an additional 5 schools or add 75 hospital beds, the authors estimated. Route Y worked better even in one of the public sector’s most easily monitored tasks. Route Y worked better even in a task where without monitoring it is particularly easy to engage in acts that use public office for private gain. Route Y worked better even in a setting where the public perceives corruption to be quite high, and thus where we might expect some bureaucrats not to use additional discretion in ways that fulfill the agency’s mission. Route Y worked better even when the attempt to improve public performance in no way tried to cultivate a sense of mission or purpose but merely relaxed

⁷⁸ Bandiera et al 2022.

⁷⁹ There is also a combined treatment which outperforms the pay for performance arm (it’s indistinguishable from the autonomy arm), which I’m not discussing here for simplicity.

⁸⁰ <https://www.transparency.org/en/cpi/2020/index/nga> .

monitoring and control. Route Y worked better *when all of these things were simultaneously true*.

We have every reason to believe that procurement of generic goods in Pakistani Punjab is a hard case for a Route Y strategy; there are many, many, many ‘lower hanging fruit’ contexts. That Route Y succeeded in this careful well-identified trial suggests that my argument that Route Y will often be more effective may, if anything, be a somewhat *conservative* claim.⁸¹

1.8 - Part I's Argument in Sum: Why Route Y Is Worth Pursuing, and Why and When It's Likely to Work

A few years ago I was giving a talk about the book I referenced briefly in the last section, *Navigation by Judgment*, to some senior leaders of a public agency in charge of distributing that country's foreign aid.⁸² The talk focused on the benefits that could accrue were the agency to implement what I've here called more Route Y management, giving staff in the field more autonomy and decision-making power. If I'm honest, I didn't expect this to be an easy sell; the agency was in my view notable for its high and seemingly continually increasing reliance on what I call here Route X management, and my audience were the people devoted to that management philosophy. Afterwards one of the senior agency managers came up to me and said some nice things about the talk. Then he said “you know, when I got here, the people who worked here.... I would have trusted them to make the right judgments, they cared about doing the right thing. Now, though, I don't think so. These people? No way. They don't have the ability to think for themselves, and even if they did I wouldn't trust 'em. If we were able to bring in the right people, maybe then I'd be willing to give this kind of thing a try.”⁸³

The manager's diagnosis of his own staff may well be incorrect.⁸⁴ But let's assume, for a moment, that his diagnosis was entirely accurate. That is, let's suppose this senior leader was right that staff mission motivation had declined and some of those of higher ability and commitment had left the agency, or decided not to apply in the first place. Let's even grant that agency-wide mission motivation had fallen to such a low level that current staff would use any additional autonomy and decision-making authority in ways that would not forward the agency's objectives. I still think the implied prescription for how to get to a higher-performance Route Y equilibrium – that is, that the first step is through changing personnel, with management practice following behind – is exactly backwards in sequencing. Management practice needs, I believe the evidence strongly suggests, not to follow but rather to *lead* a reform effort.

⁸¹ In stating this, to reiterate, I in no way mean to imply I think Route Y a “silver bullet” solution; Route Y *will not* always be an effective, or better-than-Route X, alternative. I only mean to suggest that this study should update us in the direction of believing Route Y more applicable than some very narrow range of ‘most likely’ contexts, all else equal. The authors' view is the result reflects in part that the reform shifted power from (more corrupt) supervisors to (less corrupt) front line workers – a reminder that principals may be imperfect as well.

⁸²Honig 2018. This description is anonymized to protect the utterer; for more on the internal organization and state of aid agencies (including what I learned from giving talks at them), see Honig 2020b, which I draw on in this section.

⁸³ This is a reconstruction/wording likely not precisely as uttered but rather as accurately as I can remember.

⁸⁴ I personally think it was – I felt I met lots and lots of earnest, caring, committed, seemingly quite capable folks - but then I spent only a few days at the agency in question.

Earlier in this paper I outlined some observable implications of my theory. They were that Route Y management and mission driven motivation should ‘move together’; that management practice can cause within-person changes in motivation and thus performance; that management practice also effects employee motivation via its effects on who enters and exits an agency; and that public performance can in fact often be improved with more Route Y on the margin, particularly where monitoring is incomplete. I have, I hope, provided sufficient evidence consistent with these to suggest why I believe the manager at that agency – well intentioned though he might have been – is likely incorrect, despite his long experience at the agency and the hubris implicit in some outsider (me) suggesting I have a better plan than he does.

It is highly likely that those ‘right people’ the manager wants to bring in would either become demotivated or leave when exposed to the agency’s extremely Route X management practices. Indeed, some of the people who currently are demotivated actually would make better use of additional autonomy and decision-making authority than the manager anticipates. This isn’t because this particular agency is unusual, but because mission motivation and Route Y management practice generally move together. Our prior should be that there *will* be a relationship between greater levels of Route Y management and more mission driven employees.

Discretion is not an unmitigated good thing. If given discretion some may abuse it, undesirable though that is. The right question, however, is not “Is it possible discretion will be abused?” but rather “What is the net benefit of an increase in discretion – the benefits, as compared to the costs?” The answer depends on the nature of the task, the ability to monitor, and the people you can recruit. The performance maximizing degree of discretion for a given task is rarely “as much as possible.” But it is equally rarely “as little as possible.” It appears that in a great number of systems the current degree of discretion is suboptimally low, and a shift towards greater Route Y support and less Route X control will move systems towards greater performance.

The focus here on Route Y is not meant to imply that Route Y is always and everywhere likely to prove superior to Route X; simply that Route X is overused and Route Y underused. There is certainly a place for Route X performance improvement. When tasks are easily and accurately monitored and/or agents not mission motivated, monitoring can and does reduce malfeasance.⁸⁵ Where a holistic summary performance measure can be regularly and accurately monitored (thus avoiding the multitask problem – that is, underinvestment in what is not monitored) and tied to compensation, pay for performance and other extrinsic incentive schemes can and have proven effective.⁸⁶ Route X practices can also be layered onto a system with a high performing Route Y ‘core’ of mission motivation and supportive management.⁸⁷

Route Y appears deserving of a great deal more attention than it has received to date, particularly given the promising empirical results in the limited circumstances in which Route Y and Route X reforms have to date been compared. There seems to be pretty good evidence that actually shifting management practice towards Route Y is often a prudent first step for the manager in question to take in attempting to improve performance. Even in circumstances that appear to be

⁸⁵ E.g. Olken 2007; Gans-Morse et al. 2018; Wholey & Hatry 1992

⁸⁶ E.g. Ashraf 2014; Khan et al. 2016, 2019; Leaver et al. 2021; Muralidharan & Sundararaman 2011.

⁸⁷ See Honig & Pritchett 2019 for a description of this in the context of accounting vs. account-based accountability.

quite ‘hard’ tests of the underlying theory – that is, in situations where we might have been particularly skeptical a Route Y approach would work – greater Route Y management seems to lead to substantial performance gains.

Part 2: Back to School: Route X, Route Y, and Education System Performance

There are lots of reasons for thinking education is an *excellent* domain in which to think about Route X and Route Y.

First, education systems have very, very large variation in performance, both within and across countries.⁸⁸

Second, education systems are systems in which citizens broadly have a stake, and personal experience, variously as educators, citizens, parents, community members, and students. Thus they are, relatively uniquely, cases where I believe most of us can imagine ways in which system performance might be tractable to Route X intervention (e.g. teachers not showing up to school) and Route Y intervention (e.g. systems which orient teachers towards compliance rather than learning, or that demotivate teachers who cannot teach what they believe best for students).

Third, many individuals are drawn to work in education systems – as teachers, principals, administrators, etc. – because they believe in the mission of schools, and wish to be part of an organization devoted to that mission.

Fourth, education systems are also systems where the core ‘action arena’, a classroom in which students and teachers interact, is only imperfectly observable. In what I believe the best book ever written on bureaucracy (*Bureaucracy*, by James Q. Wilson), Wilson notes that teachers “perform a task of supreme importance but one that cannot be easily observed or accurately evaluated.”⁸⁹ Both common sense and a substantial part of the literature suggest, as Ehren & Baxter put it, that “the high level of specialist knowledge and skills required to teach, as well as the independence needed to accommodate various student needs, requires a degree of trust in teachers.”⁹⁰ In Rasul & Rogger’s work in Nigeria, tasks that are sufficiently ambiguous for incentives & monitoring to have a net negative effect include procurement, the building of buildings, and the digging of boreholes.⁹¹ I would submit that educating a child is *substantially* more difficult to monitor than any of these.

Fifth, there is a substantial body of research supporting the view that management of schools, and school systems, matters. Wilson also observed that “well-run public schools are possible when talented, dedicated people are at work in sympathetic communities”, and that this emerged

⁸⁸ On ‘between countries’ see e.g. Pritchett 2013, or more recent analysis of TIMSS data showing e.g. 19 percent of grade 4 children in the Philippines “meet the low international benchmark in math” and in many countries even the 95th percentile students “are getting less than a mediocre education by global standards” see Akmal et. al. 2020. There’s a massive literature on the achievement gap within countries, almost too big to refer to cogently; see e.g. Cohen et. al. 2005 & Haycock 2001 on the US racial gap, though there is also of course massive variation by socioeconomic status and, to the thrust of this paper, school system quality.

⁸⁹ Wilson 1989, p. 150

⁹⁰ Ehren & Baxter, p. 11

⁹¹ Rasul & Rogger 2016, fig. 1, p. 437

from the management practices of “educational leaders”.⁹² Schools are thus good examples of the general phenomenon noted when he said “The key difference between more and less successful bureaucracies... has less to do with finances, client populations, or legal arrangements than with organizational systems.”⁹³ This insight is confirmed by a wealth of contemporary empirical research, which finds that variations in school management – including as-measured by the World Management Survey – are associated with substantial variations in school performance.⁹⁴

Education systems, then, appear to be settings where examining management practice and public servants’ (both teachers and school system employees) motivation is likely to be quite important. Efforts to increase the positive welfare impacts of the education system for students and society more broadly are likely to require careful thought about how teachers, principals, and other schools system staff are, and can be, motivated and managed.

The next section of this paper (2.1) attempts this, using the framing of part 1 to draw contestable stylized facts from my reading of the education reform literature. 2.2 then proposes a variety of ways to productively shift towards greater Route Y practices where appropriate in education systems. 2.3 raises a special issue in system reform efforts where, as is the case in education, it is difficult to monitor and control sufficiently well to prompt optimal performance – the prospect of Route X ‘dead ends’ that improve systems in the short term but may leave them further from the truly large performance improvements some systems appear to require to provide adequate education to students. 2.4 suggests a series of diagnostic questions to ask in assessing the prospects or results of education system reform efforts. 2.5 concludes by discussing why a greater focus on Route Y education reforms is likely to be worth the effort.

2.1 – Education Reform Through X and Y-Colored Lenses

- Mission Driven Educators are Associated with Better Performance, and Can be Attracted by the Opportunity to Contribute

Intrinsic and altruistic motivation are, in the words of a meta-analysis examining 130 studies of teacher motivation, “major reasons accounting for the decision to teach”, as well as for remaining in the profession.⁹⁵ Teachers enter a job typified in many countries by high levels of professional stress and low levels of social esteem and, conditional on their level of education, salary.⁹⁶

Mission motivated teachers are, it appears, better teachers. Intrinsically motivated teachers engage in superior teaching practices;⁹⁷ make more effort to learn about new pedagogical

⁹² Wilson 1989, p. 153

⁹³ Quote from Wilson 1989, p. 23.

⁹⁴ For World Management Survey see e.g. Leaver et al 2019 & Lemos et al. 2021. For more on school management mattering see e.g. Crawford 2017; Hwa & Leaver 2021; World Bank 2007.

⁹⁵ Han & Yin 2016. Most of the studies cited in this section are small-N studies (as is common, or historically has been, in psychology), and should be interpreted in that light. In part as a result I primarily cite synthesis articles, meta-analyses, and findings that have been shown in multiple prominent (>100 citation) studies.

⁹⁶ de Jesus & Lens 2005; Han & Yin 2016

⁹⁷ Han & Yin 2016; Thoonen et al. 2011

techniques and practices;⁹⁸ are more likely to advocate for and implement educational reforms that benefit students;⁹⁹ and are more effective in motivating their students.¹⁰⁰

What, then, determines teacher mission motivation once on the job? Deci & Ryan, the fathers of self-determination theory – the psychological theory this paper, and much of the literature on motivation, draws on – argued with coauthors forty years ago that management practice is key to teacher motivation.¹⁰¹ Their key finding is that efforts at control – including “impressing upon teachers that they are responsible for their students’ performing up to standards” – lowered teachers’ mission driven motivation and made teachers more controlling, critical, and demanding of their students.¹⁰² There is little evidence that much has changed in this regard in the past half-century; as one prominent piece puts it, “teachers’ sense of self-efficacy appeared to be the most important motivational factor for explaining teacher learning and teaching practices.”¹⁰³ Feeling that one can make a difference is critical to sustaining motivation and thus good performance on the job for teachers, consistent with the need for mission-driven motivation in this hard to monitor task.

Many teachers, or potential teachers, see teaching as a calling – and so do others who work in the education system in administrative roles. Sarah Thompson, who has worked with me on projects related to the thesis of the paper, reflected on her former job recruiting highly educated professionals from other fields (finance, law, etc.) to potentially enter the Broad Residency, an “opportunity for outstanding management professionals to apply their skills and knowledge to meet the challenges faced by [US] urban public school systems”- that is, to serve in school district middle-management.¹⁰⁴ This meant that Sarah often was in the position of asking highly paid professionals if they would be interested in making far less money at what for many would be a substantially more stressful job with longer hours. Additionally, she offered an “opportunity” that in many cases their peers and community would hold in less esteem than their current roles. Some reacted the way standard economic theory would predict – “Would anyone actually apply for this ‘opportunity?’”¹⁰⁵ For others, however, “they saw the same grim proposal instead as a gift... they could still be paid to do work that had meaning to them.... [and] were ready to use their considerable talents to instead serve their community.” Sarah reports that more than one person described receiving her unsolicited email as “divine intervention”. That many are willing to take such an offer suggests a large extensive margin for mission motivated public servants – that this is a profession that in many circumstances has, and where it has not could, be comprised substantially of mission motivated teacher, principals, and school system administrators.

⁹⁸ Han & Yin 2016; Thoonen et al. 2011

⁹⁹ de Jesus & Lens 2005

¹⁰⁰ Atkinson 2000; Han & Yin 2016

¹⁰¹ Deci et al. 1982

¹⁰² Deci et al. 1982

¹⁰³ Quote from Thoonen et al. 2011; the broader literature on the importance of self-efficacy in teacher motivation summarized in Richardson & Watt 2010

¹⁰⁴ Quote from their website; <https://www.broadcenter.org/broad-residency/>

¹⁰⁵ All quotes in this para from Sarah Thompson Email, March 2, 2021. When Sarah started talking about this I asked her to write it down so I could cite it someday – apparently that day is today.

Mission motivation in school systems is associated with better performance. Management practice, and particularly the feeling that one has the ability to make a positive impact on students influences who enters and exits a given school and the broader profession (selection effects); it also influences the performance of teachers once on the job (treatment effects). That said, it is not universally true; there certainly are teachers who are not, and are unlikely to become, mission motivated.

- There are Examples of High Performing Systems That Evince both X and Y Management Practices

The actual de facto equilibrium of a given school varies not just across, but also within, education systems. Systems vary with regards not just to results but to the experience of being a student, teacher, supervisor, parent, or other stakeholder in the system. In some systems there is an equilibrium of empowered, knowledgeable teachers; in others, teachers do not have basic knowledge of the materials they are teaching.¹⁰⁶ How management works, what is expected of teachers and students, the role of parents and of accountability based on accounting (e.g. test scores) vs. more nuanced account-based accountability (e.g. horizontal professional norm-based accountability), and much more vary substantially even within the same national or subnational education system.¹⁰⁷ This in turn suggests the success of any intervention is likely to be substantially conditioned by what, precisely, are the features of the equilibrium it seeks to change.

In one notable recent example, a randomized controlled trial finds that Route X teacher pay for performance in Rwandan primary schools quite clearly does *not* lead to performance reduction via a tradeoff in attracting intrinsically and extrinsically motivateable teachers and *does* lead to increases in performance.¹⁰⁸ Teachers who join expecting pay for performance contracts and those for whom the pay for performance contract is a post-hiring surprise both performing better when the top 20 percent of teachers are rewarded with extra pay for learning outcomes and teacher presence, preparation, and pedagogy.¹⁰⁹

Some of the highest performing education systems have a good deal of Route X-type accountability; in other very high performing systems, there is much more emphasis on Route Y. Hwa documents this in an elegant comparison of two extremely high performing education systems in Singapore (which has quite a lot of Route X-type monitoring and assessment of educators and students) and Finland (which has a much more Route Y approach to accountability).¹¹⁰ What typifies a high performing education system appears in Hwa's account not to be the simple presence or absence of any given practice, but rather the presence of mission motivated teachers who are empowered to act autonomously and connected to the fruits of their

¹⁰⁶ Bold et al. 2017.

¹⁰⁷ See e.g. Hickey & Hossain 2019 on Bangladesh or Levy et. al. on South Africa subnational (and more granular) variation.

¹⁰⁸ Leaver et al. 2021; gains are approximately .2 standard deviations, or of a similar magnitude to Duflo et al. 2021 (discussed in more detail in section 2.3 below)

¹⁰⁹ Ibid; presence is measured via unannounced visits to schools to check attendance; preparation via audits of lesson plans; pedagogy through classroom observations. The performance measure is 1/2 student test scores, 1/6 presence, 1/6 preparation, and 1/6 pedagogy.

¹¹⁰ Hwa 2019, 2021.

labors – this interestingly suggests that where X practices succeed in high performing systems they may do so by making themselves compatible with self-determination theory’s autonomy, competence, and relatedness in the workplace.

- Some Route X education reforms have improved performance, but many have not – particularly where it is hard to monitor the ultimate goal of the reform effort

While Route X education reforms can and do fail to obtain their objective, some do also succeed – at least insofar as achieving greater production for whatever is incentivized, e.g. inputs like teacher school attendance¹¹¹ or outputs like student performance.¹¹² This is also true at the system level; clear system-level targets e.g. on outcomes like foundational learning¹¹³ or inputs like the Millennium Development Goals’ primary enrolment rates¹¹⁴ do indeed accomplish their goals.

It does often require tight controls for Route X reforms to work, particularly when the goal is to alter the behavior of individual teachers or administrator. In a systematic review of over 200 impact evaluations, Ganimian and Murnane find that individual rewards for teacher attendance “work only when monitoring is systematic and nondiscretionary.”¹¹⁵ Glewwe and Muralidharan come to a similar conclusion in reviewing this literature, finding that the monitoring needs to be “high stakes”; that is, “monitoring with positive (negative) consequences for teacher presence (absence).”¹¹⁶ Multiple meta-reviews and analyses also establish a quite small but consistently positive effect on student performance of pay-for-performance or merit pay schemes.¹¹⁷ Route X reforms can and do improve educational performance, it seems, with both sanctions and rewards capable of working – e.g. both firing teachers for not showing up and rewarding them financially for doing so will, in fact, lead more teachers to appear.

That said, consistent with the multitask framework (wherein investment in an observed and measured component of a job induces under-investment in other components), there are also signs of distortions. Arguably the clearest evidence supporting the effectiveness of the Millennium Development Goals’ primary enrolment target in catalyzing primary school enrolment also finds evidence of some (but not all) countries’ substitution away from secondary and tertiary enrolment.¹¹⁸ Ganimian & Murnane note that the same pay for performance schemes which show benefits need to be considered in light of what the authors call “dysfunctional responses”.¹¹⁹ Rewarding teachers for test performance can lead them to drill the specific test items – to “teach to the test” – in ways that do not improve students’ actual knowledge. A rewards strategy can also lead to teachers and principals “discouraging low-

¹¹¹ Duflo et al. 2012

¹¹² E.g. Leaver et al. 2021; Muralidharan & Sundararaman 2011. Leaver et al. uses an admirably broad measure of observable teacher inputs and observable student performance, and thus may represent a plausible ‘high bar’ for what can be measured and contracted upon in an education system.

¹¹³ Crouch 2020

¹¹⁴ Bisbee et al. 2019

¹¹⁵ Ganimian & Murnane 2016, p.739.

¹¹⁶ Glewwe & Muralidharan 2016, p. 714

¹¹⁷ Ganimian & Murnane 2016; Pham et al. 2020

¹¹⁸ Bisbee et al. 2019

¹¹⁹ Ganimian & Murnane 2016, p.740

achieving students from enrolling or taking the tests”.¹²⁰ These types of effects are particularly concerning given that the vast majority of the evidence we have on the effects of Route X are from pilots; however likely these distortions are to occur in a small sample, they are surely far more likely to occur if a given Route X intervention was implemented system-wide.

In sum, Route X attempts to improve education systems have in some settings modest but real gains in student achievement, normally as measured by tests. They have done so in ways consistent with the “good but not great monitoring” diagnosis; that is, by causing greater investment in the measurable bits of the tasks, which have in some contexts led to underinvestment in other (potentially more) important elements of the job. In at least some circumstances, then, Route X reforms have led what is measured as achievement to cease to be well-correlated with the actual broader goals of education systems.

- Achieving Substantial Improvements in System Performance Often Occurs by Altering Culture, Management Practice, & Motivation – Even When the Logic of the Intervention is “Route X”

When system performance improves it seems this is often because of the extent to which the Route X reform does not just change rewards and punishments, but rather organizational *culture*, and thus how teachers and managers feel about, and go about, their work.

A prominent recent study examines the randomized rollout of a program called Kiufunza in 350 Tanzanian public schools and over 120,000 students by the NGO Twaweza.¹²¹ Twaweza’s program had two components; unconditional grants to schools and teacher performance pay. The performance pay “aimed to improve teacher motivation and effort”¹²²; and in that sense this intervention had a Route X theory of change. But the intervention is successful only where teachers report greater “job support” from management.¹²³ As the final report from Twaweza, entitled “A Twist on Performance Theory,” puts it, teacher bonuses led to a school environment that “focuses on learning, solutions, and performance...”, one in which “teachers, students, and parents become bonded in their joint pursuit of performance” and “teacher’s self-image recovers as they identify as purposeful professionals.”¹²⁴ In this case, performance pay worked by changing not just the incentives of individual teachers, but also the culture, sense of community, and management practice of the institution. That the NGO themselves came to this very Route X conclusion – contrary their initial assessment of why such an intervention might affect

¹²⁰ Ibid.

¹²¹ Mbiti et al. 2019

¹²² Ibid, pgs. 1628-1629

¹²³ Mbiti & Schipper 2021. The pay for performance arm of the initial randomized controlled trial (Mbiti et al. 2019) finds no impact on student performance for the standard exams which the researchers pre-specified in their pre-analysis plan, with modest performance gains coming only on the exams for which teachers are rewarded. Performance improves across all tests – and to a substantially higher degree – for those schools that are given *both* the grants and where teachers are given performance incentives, which is supportive of this “change of culture prompted by performance pay” conclusion, in my view.

¹²⁴ McAlpine et al. 2018, p. 4

motivation – is particularly notable.¹²⁵ Hwa’s description of both highly Route X Singapore and highly Route Y Finland suggests that both systems’ success is predicated on teachers’ mission motivation – that high performance may be able to exist with Route X accountability routines, but cannot exist without highly intrinsically motivated educators.¹²⁶

Governance or accountability reforms often seek to involve citizens in the process of school governance as a form of monitoring and oversight. However when these reforms are effective, it appears to be the case that in this domain too effectiveness is a product of achieving not greater Route X control, but greater Route Y empowerment – an equilibrium where teachers, principals, and administrators feel empowered to focus on achieving actual results, rather than simply monitoring as a form of external control.¹²⁷ Ehren and coauthors find in a wide variety of settings that where they are most effective it is because these types of reforms have been tools for fostering teacher intrinsic motivation and building trust among and between teachers, other education system officials, and community members.¹²⁸

Just as seemingly Route X interventions can sometimes be effective because they do in fact serve to change culture and management practice in the direction of empowered teachers, so too can ostensibly Route Y interventions fail because they are effectively captured by the fundamental monitoring and compliance logic of the broader system. One recent example is a program to improve school management practices at scale implemented by the Government of the Indian state of Madhya Pradesh in 1,774 primary schools, studied via a randomized controlled trial by Karthik Muralidharan and Abhijeet Singh.¹²⁹ This program did not change incentives – there were no rewards or sanctions - but rather provided information and guidance to schools in the form of assessments and improvement plans. Plans were made, performance against them was reported, and one looking simply at these data would conclude the program was a rousing success.

In part on the back of this pilot program’s apparent success the program was rolled out to *600,000* schools nationally, with plans to eventually expand to *1.6 million schools*. This may

¹²⁵ For a non-education example of a similar phenomenon, see Lohmann et al. 2018, exploration of why a pay for performance scheme for Malawian health providers succeeded. They report it was “(1) by acting as a periodic wake-up call to deficiencies in their day-to-day practice; (2) by providing direction and goals to work towards; (3) by strengthening perceived ability to perform successfully at work and triggering a sense of accomplishment; (4) by instilling feelings of recognition; (5) by altering social dynamics, improving team work towards a common goal, but also introducing social pressure; and (6) by offering a ‘nice to have’ opportunity to earn extra income.” (p. 183); the Route X logic is the sixth and perhaps least important of the six pathways they document, with the others invoking a Route Y logic.

¹²⁶ Hwa 2019, 2021. As Hwa puts it, “interview participants in both the countries [Finland & Singapore] expressed a strong sense of intrinsic motivation to teach well, despite the vast differences in the extrinsic incentive structures that circumscribe their work”. (2021, p. 245) As Hwa puts it, “with “the crux of the matter is how to design accountability instruments that influence teacher motivation in desirable ways.” (2019, p.29)

¹²⁷ See e.g. Pradhan et al. 2014, Levy et al. 2018, Levy et al. 2018, and relatedly Hickey & Hossain 2019, focus on the political context in which successful education reforms can take root; when they do, it is through a system which is committed to improving learning rather than the façade of having done so, and appear in school-level case studies to be achieved by a system that is Route Y in nature, relying on empowered educators supported by (rather than “policed by”) management and accountability practices.

¹²⁸ See Ehren & Baxter (eds) 2021, particularly chapter 3 (by Frederique Six), 4 (by Baxter), and 14 (by Ehren & Baxter).

¹²⁹ Muralidharan & Singh 2020

appear to be a wonderful triumph of a Route Y intervention – but it is not. As the authors put it, “even after over five years of iterating on the design of the program and expanding its scale, it had no discernible effect on student learning.”¹³⁰ This is because “the program was reduced to an exercise in administrative compliance, i.e. ensuring that the required paperwork was submitted on time.”¹³¹

It is notable that the education system Muralidharan & Singh study was so steeped in a Route X logic to effectively convert an intervention aimed at creating greater autonomy and agency into the paperwork, control, and compliance of Route X. That this happened is consistent with Aiyar et. al.’s description of the Delhi education system as “built around an assessment, training and administrative system that coheres around the goals of rote learning and maximizing examination results; one with demotivated teachers who feel they have very little agency and autonomy, and must focus instead on following instructions and regulation (“circulars and orders”) rather than what is in their student’s best interests.”¹³² That a school-wide management plan did not change this fundamental logic is, if disheartening, perhaps predictable. It too is a thin, broad-brush intervention that did not engage deeply with the underlying logic of the system it aimed to alter.

That the logic of the system was so ingrained that this failure was *called a success by the system* is perhaps particularly troubling. As Muralidharan & Singh put it, “senior officials do monitor performance. The problem is that they can only do so based on what they observe. It is noteworthy that the program we studied worked till the point where outcomes were visible to senior officials (school assessments were completed, and school improvement plans uploaded), but stopped working at the point where outcomes were no longer easily visible (classroom effort, and learning outcomes).”¹³³ This is the heart of the “good but not great” monitoring challenge, married with a Route X theory of top-down management and controls. It confuses what, precisely, success and failure *are*, and has the potential to call a reform that actually improves the education system a failure, and one that in fact further adds to the compliance regime while having no performance effect a success.

2.2 Incorporating a Greater Degree of Route Y: Different Approaches for Different Education Systems

In cases of system reform success many elements of the system change – when the system as a whole becomes more “coherent for learning”, in the language of RISE.¹³⁴ There are a variety of ways of achieving this coherence – but achieving it nearly always involves something more than simply changing the rewards, punishments, and monitoring that some group (usually teachers) face. Achieving systems change involves changing deeper understandings about the nature of the work. The first step to improvement is diagnosis. Who populates the system? What is their current understanding, constraints, abilities?

¹³⁰ Ibid

¹³¹ Ibid

¹³² Aiyar et al. 2021

¹³³ Muralidharan & Singh 2020.

¹³⁴ See e.g. Pritchett 2015, Scur 2016.

Even where the answers to these questions are seemingly least hospitable for a Route Y theory of change – where e.g. teacher capacity is quite low – the evidence suggests that managing for motivation, and thus incorporating some Route Y elements, can be useful. In some settings providing teachers’ guides, sometimes referred to as “scripts”, has been effective in improving students’ scores on the margin.¹³⁵ However – consistent with the notion that even in these cases encouraging teacher agency, empowerment, and mission motivation is a critical element of success - the most effective scripts appear to be those that do not actually script the lesson, but rather provide structure while preserving agency. As the Center for Global Development’s David Evans & Ben Piper have put it, allow “teachers [to] adapt the lessons to make them their own.”¹³⁶ While teacher’s guides are often framed as a form of Route X control on teachers, they work better when rather than treating teachers simply as unthinking implementers, they empower teachers’ use of their own agency rather than controlling them – thus providing the opportunity for teachers to see that their efforts and investment are helpful in improving students’ knowledge, cultivating an (accurate) sense of self-efficacy. Often, teacher capacity will be greater; and thus the level of autonomy and support (rather than control) should rise in parallel.

Another important element of diagnosis is to understand what the current system *in fact* takes as its goal. Where the answer is not student learning but rather process compliance – as e.g. Aiyar et. al. depict in Delhi – then one central question is how to alter that goal. This means not just shifting the stated objective of the system, or adding improvement plans, but requires – as Aiyar et al. put it – “a granular understanding of the precise ways in which the low-level performance culture and practices shape belief systems and attitudes.”¹³⁷

How best to alter that understanding – how to change what is in the minds not just of ‘reformers’ sitting at the top of the system but in the individuals whose collective action aggregates to performance – depends on the nature of the status quo and the tools available. Sometimes system understandings can be altered by focusing on a very few clear quantitative indicators which map onto clear goals (e.g. student learning) – on re-orienting *system* (rather than individual) performance via a focus on *collective* performance measures. Crouch documents examples of this working in parts of Brazil, Mexico, and Kenya.¹³⁸ In these cases, as Crouch documents, data can re-orient the understandings of the system – and thus help motivate all actors towards the system’s goals, increasing mission motivation. In these cases, metrics and targets do not constrain system actors and encourage process compliance, but rather act at the collective level – thus creating space for greater effective support and empowerment of teachers.

Reasonable people can disagree about what will alter the foundational logic of the system. The very rich discussion of Girin Beeharry’s recent proposal that education reform efforts refocus on foundational literacy & numeracy is a case in point.¹³⁹ While some experts have great hope for such an approach, others question whether foundational literacy can be accurately measured; whether it might usurp other goals; and (in my view most importantly) when and where such an

¹³⁵ Piper et al 2018; see Stockard et al. 2018 for a recent metaanalysis.

¹³⁶ Piper & Evans 2020, describing the findings of Piper et al 2018.

¹³⁷ Aiyar et al. 2021, p. 72

¹³⁸ Crouch 2020

¹³⁹ See Center for Global Development 2021 for both Beeharry’s initial essay and the variety of comments & responses referred to here. Crawford & Hares’ contribution on “The (Mis)Alignment of Global and National Priorities for Education” frames in the multitask problem.

approach might contribute to *ending* a culture that focuses on compliance and accounting-based accountability and where such attempts might instead reinforce such a culture. One thing is clear in all of this conversation: Positive change needs to come with the buy-in – not just the control of – the district officials, teachers, and others who populate the system.

There *are* cases where targets, incentives, and other Route X technologies can help achieve this broader change in beliefs and understandings, and thus coherence for learning. Where this is true, it seems to be done largely by changing *collective* focus – by reorienting the system, not the rewards and penalties facing the individual. There is also no reason to believe such a solution generalizes in a thin, broadly applicable way; these results are deeply conditioned by the nature of the system they intervene on, inasmuch as results depend on changing understandings and management practice, often in response to greater clarity regarding collective goals, and the collective mission towards which the system aspires.

An often more direct, and tractable, way to alter a system in a Route Y-compatible way is to attempt (following careful diagnosis) Route Y-type reforms. There *are* organizations already centering managing for motivation, with models focused on both ‘selection’ (altering who enters and exits the education system) and ‘treatment’ (cultivating mission motivation and autonomy). Education Pioneers works “to ensure that the education sector has the talent to transform”.¹⁴⁰ Global School Leaders sees leadership development and the management practices of school system leaders as critical to education system success.¹⁴¹ STiR Education aims “to reignite intrinsic motivation in every teacher and official”, working in multiple countries to “increase autonomy, mastery, and purpose” in public servants working in the education system.¹⁴² Edwell seeks to provide one-on-one peer coaching for teachers to “fight burnout and improve educator well-being”.¹⁴³ Where there are motivate-able teachers, or they can be attracted, to a system interventions such as these hold a great deal of promise.

It appears to me that a clear emerging ‘consensus’ Route Y approach in the education sector is some form of coaching (that is, monitoring with a logic of Route Y support and improvement, not Route X control).¹⁴⁴ Cohort-building also appears to be increasingly common; a number of the programs above aim not just to improve the particular schools and even school systems in which they operate, but to catalyze a global movement. Finally, creating space – through, for example, professional fora or training – for development of an individual and collective sense of mission and agency can also be effective in catalyzing changed beliefs and accountability relationships that are more ‘horizontal across’ (towards fellow professionals) and ‘down’ (towards students and their learning) rather than ‘up’ (towards superiors, report-filing, and compliance). As one study of Rwandan school trainings put it, “constructing school leaders as autonomous professionals through management and leadership training constitutes the first step to releasing their potential to improve school quality.”¹⁴⁵

¹⁴⁰ <https://www.educationpioneers.org/who-we-are>

¹⁴¹ <https://www.globalschoolleaders.org/about>

¹⁴² <https://stireducation.org/what-we-do/our-approach/>

¹⁴³ <https://www.edwell.org/mission>

¹⁴⁴ There is also empirical evidence that coaching can be a component of improved education systems; see e.g. Angrist et al. 2021 & Wilichowski et al 2020

¹⁴⁵ Uworwabayeho et al. 2020

Route Y reforms that are worth adding to our toolkit (when and where a careful diagnosis suggests they are likely to be useful, either independently or in addition to more Route X elements) include (but are not limited to) attempts to give teachers and educators more autonomy, and support in the exercise of their autonomy; cultivate a sense of shared mission amongst those working in the education system; build professionalism, horizontal accountability, and esprit de corps through communities of practice;¹⁴⁶ and altering governance and management arrangements directly to improve performance. The general evidence presented above suggests that changes in management practice like introducing greater managerial support and feedback, providing more autonomy, promoting a climate with greater trust and psychological safety, or simply encouraging a sense of mission can be useful in transforming education systems for the better. As the school improvement plan experience studied by Muralidharan & Singh and Aiyar et. al.'s account of attempts at system improvements make clear, any intervention – whatever its theory of change – that attempts to actually alter system-wide understandings will need to proceed with care and a careful attention to context, to ensure they are not absorbed by a culture of compliance and top-down, accounting-based accountability.¹⁴⁷

2.3 – Beware Route X Dead Ends: Local and Global Maxima in Systems Transformation

Reforms are normally thought of as if we're in what an economist might call a world of additive utility, with various reform efforts as independent goods – as if we should consider the success or failure of each reform effort separately, seeking to get to the best possible performance by getting the most impact from each reform, and adding it up to a total impact. This is how soccer (football) leagues work – adding up the points from each game gives you a season total. But it's not how system reform efforts work.

A given reform effort, if successful, leaves the system on which it intervenes in a different place – at a different equilibrium – than that system was at prior to the reform. Assuming that no single reform effort can fully solve the challenge at hand – e.g. create the perfect education system – we need to consider not just starting points but also ending points when contemplating reforms.

It is perfectly possible for a reform to improve things on the margin but head towards, or even reach, a local maximum that is *further* from the global maximum than was the system before the reform began. Figure 4 depicts such a case based on no data whatsoever – that is, figure 4 is a theoretical illustration, not a description of empirical results.

¹⁴⁶ Those interested in cultivating communities of practice – which I see as a promising, relatively light touch way to move towards Route Y equilibria in many settings – may find Wegner et. al. 2002, which in my experience is little-read amongst those interested in improving public systems despite having over 15,000 google scholar citations as of June 2021, of interest.

¹⁴⁷ Aiyar et al. 2021; Muralidharan & Singh 2020

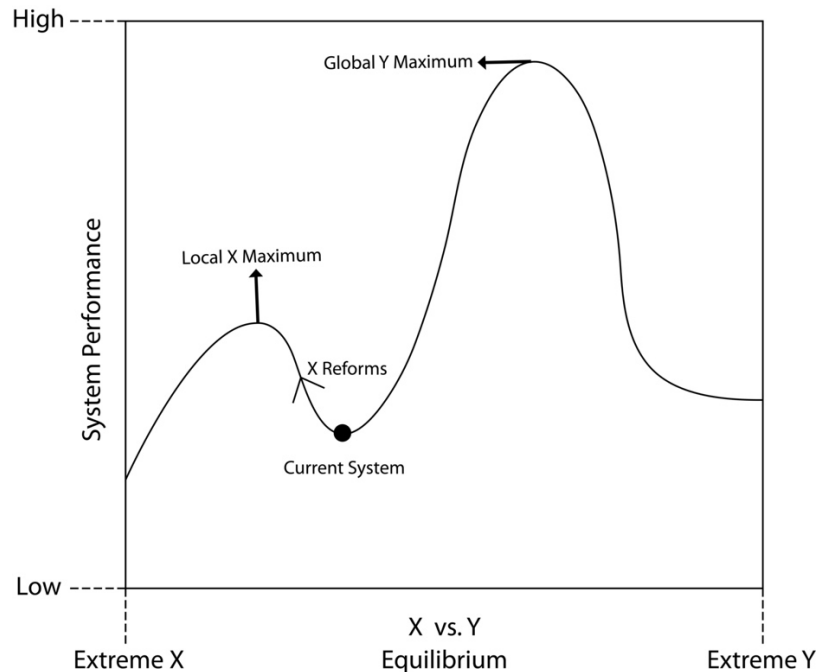


Figure 4: Possible Local & Global Maxima in System Reforms

Duflo et. al.’s famous study “Incentives Work” – in which time stamped photos and incentive payments increase teacher attendance and ultimately performance – is a candidate for a route X reform which fits figure 4’s stylized depiction. If Part 1 of this paper is correct, we should expect that the tight monitoring regime which this reform produces is likely to induce mission motivated agents to exit – to shift the system towards a Theory X equilibrium of teachers who only do what is incentivized. The reform is difficult to intensify for those teachers who do attend school in response to the intervention – a single teacher cannot show up more than once a day, and thus tighter monitoring of attendance cannot induce additional effort. What’s more, the reform leaves schools *full of teachers who would not otherwise be there*. These are teachers who, I suspect, will not put forward sufficient effort on all the parts of the role of being a teacher that cannot be as easily monitored as physical presence. In exchange for these potential weaknesses the attendance monitoring reform offers student learning gains of .17 of a standard deviation – enough to move a student from approximately the 50th to the 57th percentile.¹⁴⁸ These are real gains – but they are in an education system where 25% of grade 4 students could not read a single word and the top level of performance (being able, in grade 4, to read a story intended for grade 2) was achieved by only 30% of students.¹⁴⁹ It thus matters quite a bit whether these gains can be built upon – if this .17 standard deviation gain is a first step, it is a substantial one. If, however, this reform is a dead end that leaves the system further from its potential global maximum than it was before, it is far from sufficient.

¹⁴⁸ Based on a normal distribution. Discussed in slightly greater detail in Honig & Pritchett 2019.

¹⁴⁹ These are 2008 India ASER scores, to match the 2007 endline of Duflo et. al. 2012; ASER results are India-wide, not in the specific locations Duflo et. al. study (and so may be higher or lower performing on average). ASER results as summarized in Pritchett 2013, p. 29. Grade 4 in UK/India is equivalent to US 3rd grade, grade 2 in UK/India equivalent to US 1st grade.

Monitorability imposes a limit to where Route X reforms can go; Route Y reforms face no such limit. Thus it is much more likely that Route X steps will lead to a local maximum dead end which leaves systems even further from the equilibrium that would deliver to students the education they, and all children, deserve.

Duflo seems to genuinely hold the view that Route X can get education systems where they need to go. In preparing this paper I read for the first time a 15 year old forum (that is, an argument and responses) in which Pritchett & Murgai argue that the reaction to “high levels of [teacher] absenteeism and very high levels of not being engaged in teaching even when present” in Delhi schools is *not* a Route X monitoring and control regime.¹⁵⁰ Instead they propose a new governance, management, and accountability model focused on attracting and retaining mission motivated and capable educators. Duflo was one of the respondents; she argued for Route X monitoring and incentives, noting that “Getting teachers to come to school and to teach while there, appears a logical and intuitive first step” to systems improvement.¹⁵¹ This is because, in her view, “teacher compensation structure is at the heart of the teacher motivation problem.”¹⁵²

Duflo is a Nobel laureate whose work I deeply respect; that said, on this point I strongly disagree. I think it is undoubtedly correct that in many contexts stricter controls and payments linked to attendance will often get teachers to come to school, and that this will improve performance at the margin. But the evidence from programs focusing on teachers’ motivation suggests that while teacher compensation *certainly* matters, it is not the heart of the teacher motivation problem; far from it.¹⁵³

Getting teachers to come to school in a Route X manner may appear to be a logical, evidence-supported intuitive first step – but in this case, appearances can and do in many cases deceive. This is because very little of what it means to have a high functioning education system is tractable to oversight via cameras and tight Route X controls. But it is also because of what it means to take a “step”. The first step on a given path leaves whomever makes that step in a different place than when they began; the same is true of systems. “Incentives work” may be exactly the wrong approach if our goal is “transforming education systems to improve learning and livelihoods for students” rather than “improving systems on the limited number of things that can be reliably measured and contracted upon”.

It is possible that Route X steps improve performance relative to current levels while leaving the system further from more substantive medium-term performance gains.¹⁵⁴ Route Y steps are more likely to create space for further reform, as they do not rely on intervening to alter what agents would otherwise do – and thus are not subject to the same natural limit to what can be monitored and contracted on with penalties and/or rewards.

¹⁵⁰ Pritchett & Murgai 2007

¹⁵¹ Duflo writing in Pritchett & Murgai, p. 169.

¹⁵² Ibid, p. 170.

¹⁵³ See programs that focus on teachers’ motivation, e.g. the Broad Residency (broadfoundation.org) and STiR education (stireducation.org).

¹⁵⁴ This is not to suggest *all* Route X steps are steps in the wrong direction; indeed, many high functioning systems layer Route X reforms and accountability technology onto a solid Route Y base.

2.4 – Questions to Ask Ourselves of Education Reform Attempts

I would propose that we ask of any attempt to improve education systems whether they:

- *Open the path to further performance improvements, or alternately reach a dead end?* Route X reforms will shift the system towards a route X equilibrium. Even where a given reform (e.g. getting teachers to show up to school) results in a marginal improvement, there are only so many possible reforms based on observation and control – as there are only a small number of things that can be observed and controlled in education systems, raising the risk of X reform dead ends.

The Route X theory of change has only so far it can go – and when it ultimately reaches a dead end, it will often (but not always) have gotten there at the cost of displacing the mission motivated. A system that runs on monitoring and control can only go as far as the monitoring is good enough, the control tight enough. Given the inherent unmonitorability of the core tasks of education, it is in my view exceedingly unlikely that the best plausible Route X equilibrium achievable in a given education system over, say, the next 10 years will be better than the best plausible Route Y equilibrium. Thus in evaluating what path to take, we should think not just about *this* reform, but about where a given reform will leave the system.

- *Work with what distortions – and would we know if there were any?* If we focus only on the outcome measures pre-specified and incentivized, but have no ability to pick up on whether these outcome measures are leading us in the wrong direction, we may end up with a façade of success – and thus learn the wrong lessons from a particular reform effort.¹⁵⁵
- *Work to what degree?* In the academic discourse something “works” if it shows an effect that is non-zero.¹⁵⁶ But a non-zero effect can be very big, or very small. It seems to me at least that education system reforms should prioritize efforts that have a chance of leading to very large gains, even if they do so with less certainty; that is, to use a baseball metaphor, reform efforts should try to hit home runs, even if that leads to more strikeouts. A high reform ‘on base percentage’ – a lot of small-effect ‘singles’ – is not without its use... but the parlous state of many education systems’ performance suggest more transformational approaches.

¹⁵⁵ While this is true of *all* reform efforts, not just Route X reforms, and thus a question worth asking, distortions are more likely when we’re in a multitask environment, in the sense of Holmstrom Milgrom 1991 (as many public sector jobs, and nearly every education sector job, is); thus setting up one’s evaluation to capture potential distortions are more of a concern for a Route X reform effort. This is also more of a concern when monitoring and evaluation are reduced to metrics, which seems to be more often (but far from always, to be clear) the case for Route X reforms given the epistemic lenses and backgrounds of those who disproportionately advocate for and study these types of reform efforts (i.e., development economists). Honig & Pritchett 2019 discusses the potential downsides of an ‘accounting-based accountability’ measurement approach in education more broadly.

¹⁵⁶ More precisely, very likely differentiable from zero; something just at the bound of the conventionally employed 95% confidence interval (vs. a null hypothesis of no effect) has a 5% likelihood of being a ‘false positive’.

- *Why, how, and for whom did it work – and what does that tell us about whether it will work anywhere else?* This is a question we need to ask of all reforms – including Route X reforms. Incentives, or controls, or reforms studied via a randomized controlled trial, are no more inherently universal in their effects than would be, say, an intervention that promoted singing of the country’s national anthem, or feedback and coaching sessions, or any other reform efforts. We have good reason to believe not just that “context matters”, as has become fashionable to opine, but that context *dominates*.¹⁵⁷ Understanding where any particular finding can travel is not about adjusting an intervention on the margins, but about thinking deeply about the various elements of a given system, its current reality, and the levers of change that might be tractable in that setting.¹⁵⁸

Intervening in systems to improve them is somewhat prescribing treatment for a complex ailment; while there are commonalities between systems (patients), each is sufficiently different that good prescription requires a system (patient)-specific diagnosis. It also requires thinking carefully about not just whether a given prescription will fight the disease, but whether the system (patient) will be better off at the end – more capable of continued improvements in their condition - than they were at the beginning. Unlike in the health case, however, in systems reforms we’re just beginning to learn what different medicines even *do*, in specific patients. System improvement thus requires careful and systematic study and aggregation.

2.5 – Incorporating Route Y Into Education Reforms Is Worth the Effort

Systems are unlikely to be transformed relatively simple, fast, low-cost, easily scaled approaches, be they information technology-enabled monitoring¹⁵⁹ or school performance plans.¹⁶⁰ This promise of speed and scale is often an appealing feature of Route X reforms with their promise of relatively rapid, measurable results. This focus on speed makes sense – it is a learning *crisis*, after all, and crises focus the mind on rapid response. But education systems will not often be tractable to this kind of rapid approach; indeed, even the successful Route X approaches noted above tended to involve longer-term systemic change.

Transforming a system takes time, care, and deep attention to the details - the particulars of the individuals, tasks, labor markets (i.e. what the dispositions are of new entrants we expect the agency to attract), organizational culture (and ability of that culture to change), and much more.¹⁶¹ But potential payoffs are large, and Route Y is worth greater consideration in those efforts - particularly where Route X reforms have failed.

¹⁵⁷ See e.g. Pritchett & Sandefur 2015, and Pritchett 2021 for why ‘systematic reviews’ don’t solve the problem.

¹⁵⁸ Such efforts are also critical to thinking systematically and aggregating knowledge on Route Y approaches as well, of course. This is a question we should absolutely ask of *all* reform efforts, whatever form they take. In this regard for education systems I have hope for efforts currently underway to study why particular delivery approaches in education over the medium term, including UK DFID/FCDO’s proposed “What works” hub (which will also it seems focus on the “why”, “when”, and “how”), and the DeliverEd Initiative’s plans to take a mixed-methods approach to understanding comparative education policy delivery efforts. See Williams et al. 2021 for on the latter.

¹⁵⁹ Honig & Pritchett 2019

¹⁶⁰ Muralidharan & Singh 2020

¹⁶¹ Nor will moving towards a Route Y equilibrium always work, or work better than alternative (e.g. Route X-laden controls, incentives, and monitoring) prescriptions, which would be easier to implement, might. I’ve suggested one important dimension which is going to determine when Route Y is worth trying – when monitoring and target-setting are less than perfect.

I believe it will often be the case that, when presented with a Route X-type educational reform effort, we would do well to ask if there is an alternative, better way to improve the education system in question. I suspect there sometimes, perhaps even often, will be such a path. These Route Y paths will often be more difficult to execute, require longer time horizons, and require much more attention to the specifics of the current system and the people who populate it. Route Y reforms are, however, much more likely to leave education systems on the path to global maxima – with initial reforms “first steps”, rather than “dead ends”.

That education system reform should focus on ‘managing for motivation’ seemingly has increasing support in prominent places. The Director for OECD’s Directorate of Education and Skills, Andreas Schleicher, recently articulated a Route Y approach in arguing that “Some people say one cannot give teachers and education leaders greater autonomy because they lack the capacity and expertise to deliver on it. There may be some truth in that. But simply perpetuating a prescriptive model of teaching will not produce creative teachers: those trained only to reheat pre-cooked hamburgers are unlikely to become master chefs. It is when teachers feel a sense of ownership over their classrooms and when students feel a sense of ownership over their learning that productive teaching takes place. That is the fundamental problem of systems where administrative accountability arrangements stifle autonomy, they do not generate and sustain capacity. So the answer is to strengthen trust, transparency, professional autonomy and the collaborative culture of the profession all at the same time.”¹⁶²

The way forward in shifting conventional wisdom will be far from easy– but it offers the potential for transforming education systems that Route X alternatives do not. We owe it to the public servants who labor in education systems, and to the beneficiaries of those systems – students, and ultimately society – to try.

Conclusion: More Route Y and Managing for Motivation as a Viable Path for Reform Across the Public Sector

In the 1990’s then-US Vice President Al Gore led a “National Performance Review” of the Government whose final report was entitled “From Red Tape to Results: Creating a Government That Works Better and Costs Less.”¹⁶³ The commission sought to achieve this goal primarily through more monitoring & control – a regime of targets and reports that pushed bureaucrats’ eyes and accountability upwards towards the superiors to whom they reported. The goal is right – but for many (but by no means all) public sector tasks the proposed method is ineffective at best, and frequently counterproductive.

However frequently this approach is unhelpful in improving a nation’s physical capital by building a road, it is even *more* likely to be unhelpful in improving a nation’s human capital by educating students. The more difficult it is to monitor performance effectively due to limitations of technology, supervisory capacity, or the nature of the task, the less often a regime focused on monitoring & control or pay-for-performance (which requires monitoring performance

¹⁶² Schleicher 2021

¹⁶³ Gore 1993.

accurately to reward it) is likely to be an effective path to performance improvements of a scale which meets the magnitude of the global learning crisis.

Judith Tandler, writing in 1997, described (by way of critiquing) two pillars of “mainstream development thinking” for improving public performance as 1) eliminating autonomy and discretion, as these “provide opportunities for bureaucrats to exert undue influence” and 2) “subjecting agencies and their managers and workers to market-like pressures and incentives to perform.”¹⁶⁴ An additional quarter-century of following this Route X philosophy has not led to a great many successes in education systems or the public sector more broadly. A true ‘evidence-based approach’ necessitates rethinking conventional wisdom. This paper has endeavored to outline what a different, Route Y, approach to systems improvement in education and far beyond might aim towards, and why it would be a good to give such an approach more serious consideration than has been the case to date.

Route Y is by no means a universal prescription for all ailments. While Route X reforms are susceptible to “dead ends” – with Route X reforms capable of marginal gains that reach a local maximum but not systems transformation – this is not to suggest that there are *never* situations where Route X reforms can be effective catalysts for greater systems change.¹⁶⁵ As Leaver & Pritchett put it in a thoughtful discussion of teachers’ pay for performance schemes, “the answer to any question requires a pause for thought about conditions and context rather than a presumption that there is an easy and universal answer.”¹⁶⁶

Whether an agency’s leadership will benefit by Route Y’s “managing for mission” depends on whether it has or can have (by recruitment or motivating existing employees) mission driven bureaucrats. The success of Route Y management also depends on how well the alternative – that is, a focus on control and extrinsic carrots and sticks – is like to fare. The more easily observed an employee’s aims – e.g. procuring basic goods, as compared with providing psychosocial counseling to veterans – the less to be gained by managing for mission.

Route Y solutions are also unlikely to produce ‘quick wins’ – indeed, the available evidence suggests while there may be rapidly scalable and generalizable (usually Route X) ways to improve performance modestly, systems transformation in education and beyond needs to begin with careful diagnosis. The appropriate means via which to foster a virtuous cycle of mission motivated public servants and supportive management practice will depend on circumstance, and is likely to take substantial time, investment, and adaptation.

That said, there are reasons to believe Route Y reforms a path often worth pursuing. The evidence on my read suggests that the error of ‘too little control’ is far less frequent than the error of ‘too much control’ at present in the education sector, and far beyond. We’ve gotten caught in a vicious cycle of believing that tight oversight and control is the way to get the best

¹⁶⁴ Tandler 1997, p. 2

¹⁶⁵ Crouch 2020 suggests examples of Route X-catalyzed broader transformation, though with some ambiguity over whether the systems are left in position for further transformation (“first steps”) or have reached local maxima post-reform (“dead end”).

¹⁶⁶ Leaver & Pritchett 2019

performance in the public sector; and that's often not the case.

“Good management” often does not mean “tight, controlling, top-down management” in the public sector. Instead good management often rests on the three-legged stool of 1) autonomy; 2) support and structure in exercising that autonomy; and 3) the ability to see one's autonomous efforts have meaningful, welfare-improving, consequences.

Tight control often seems an appropriate response to employees who are not devoted to the mission; but tight controls can also be a cause of demotivation in an organization. Tight controls often minimize the damage done by the worst bureaucrat at the expense of preventing *beneficial* work by other bureaucrats. When bureaucrats who want to get the job done can't, this risks the exit of just those individuals whose service may lead to the greatest welfare gains.

One important way to improve public welfare is in many cases management practice and organizational rules which support those who choose to work for a public purpose they care deeply about, and encourage more of the many of us who care to join this effort. There are a lot of Mission Driven Bureaucrats – and where there aren't, organizations will often be better served by changing management practice so as to encourage greater mission devotion amongst current staff and attract and retain more Mission Driven Bureaucrats.

Management practice is sometimes the problem to be overcome in allowing Mission Driven Bureaucrats to deliver welfare-enhancing public services. When management observes a bureaucrat shirking, it is natural to imagine that more controls, or more incentives, are the way forward. What we believe to be an unmotivated individual may be instead a demotivated one – an individual whose behavior is the result of management practice which has sought to control too tightly, or rules that prevent them from having the impact they desire.

I have argued here for simple facts we seem to have collectively forgotten at some point, or at least have failed to incorporate into our attempts at system reform. People matter; what motivates a person has a lot to do with what they're going to do; how a person is treated on the job has a lot to do with how motivated they are, and whether they'll stick around at all. Efforts to improve education systems will often be improved by remembering, and acting upon, these simple truths, and to ensuring public system can deliver on their ultimate mission: to make citizens' lives better.

Works Cited

Aiyar, Y., V. Davis, G. Govindan, T. Kapur. (2021) Rewriting the Grammar of the Education System: Delhi's Education Reform (A Tale of Creative Resistance and Creative Disruption). *RISE Working Paper*.

Akmal, M., S. Carvalho, S. Hares & A. Le Nestour. (2020) The Education Year in Review: Five Big "Non-COVID" Stories of 2020. Blog, *Center for Global Development*.

Ali Baig, F., Han, X., Hasnain, Z., & Rogger, D. (2021). Introducing the Worldwide Bureaucracy Indicators: A New Global Dataset on Public Sector Employment and Compensation. *Public Administration Review*.

Allgretto, S. & L. Mishel. (2020). Teach Pay Penalty Dips but Persists in 2019. *Economic Policy Institute*.

Andrabi, T. & C. Brown (2021). Subjective versus Objective Incentives and Employee Productivity. *Unpublished manuscript*.

Ang, Y. Y. (2016). *How China escaped the poverty trap*. Cornell University Press.

Angrist, N., de Barros, A., Bhula, R., Chakera, S., Cumiskey, C., DeStefano, J., Floretta, J., Kaffenberger, M., Piper, J. & Stern, J. (2021). Building back better to avert a learning catastrophe: Estimating learning loss from COVID-19 school shutdowns in Africa and facilitating short-term and long-term learning recovery. *International Journal of Educational Development*, 84, 102397.

Ashraf, N., Bandiera, O., Davenport, E., & Lee, S. S. (2020). Losing prosociality in the quest for talent? Sorting, selection, and productivity in the delivery of public services. *American Economic Review*, 110(5), 1355-94.

Ashraf, N., Bandiera, O., & Jack, B. K. (2014). No margin, no mission? A field experiment on incentives for public service delivery. *Journal of public economics*, 120, 1-17.

Atkinson, E. S. (2000). An investigation into the relationship between teacher motivation and pupil motivation. *Educational Psychology*, 20(1), 45-57.

Bandiera, O., Best, M. C., Khan, A. Q., & Prat, A. (2021). The allocation of authority in organizations: A field experiment with bureaucrats. *Quarterly Journal of Economics* 136(4), 2195-2242.

Banerjee, A. V., Duflo, E., & Glennerster, R. (2008). Putting a band-aid on a corpse: incentives for nurses in the Indian public health care system. *Journal of the European Economic Association*, 6(2-3), 487-500.

- Banuri, S., & Keefer, P. (2016). Pro-social motivation, effort and the call to public service. *European Economic Review*, 83, 139-164.
- Bellé, N. (2013). Experimental evidence on the relationship between public service motivation and job performance. *Public Administration Review*, 143-153.
- Bertelli, A. M. (2012). *The political economy of public sector governance*. Cambridge University Press.
- Bertelli, A. M., Hassan, M., Honig, D., Rogger, D., & Williams, M. J. (2020). An agenda for the study of Public Administration in Developing Countries. *Governance*, 33(4), 735-748.
- Besley, T., & Ghatak, M. (2005). Competition and incentives with motivated agents. *American economic review*, 95(3), 616-636.
- Bisbee, J. H., Hollyer, J. R., Rosendorff, B. P., & Vreeland, J. R. (2019). The millennium development goals and education: Accountability and substitution in global assessment. *International Organization*, 73(3), 547-578.
- Bold, T., Filmer, D., Martin, G., Molina, E., Rockmore, C., Stacy, B., ... & Wane, W. (2017). What do teachers know and do? Does it matter? Evidence from primary schools in Africa. *Does it Matter*.
- Boraggina-Ballard, L., Sobeck, J., & Honig, D. (2021). What motivates highly trained child welfare professionals to stay or leave?. *Children and Youth Services Review*, 124, 105958.
- Brown, C. & T. Andrabi. (2021) Inducing Positive Sorting through Performance Pay: Experimental Evidence from Pakistani Schools. *Unpublished manuscript*; available at https://christinalbrown.github.io/Christina_Brown_JMP_Teacher_Sorting.pdf
- Carpenter, D. (2014). *Reputation and power: Organizational image and pharmaceutical regulation at the FDA*. Princeton University Press.
- Center for Global Development. (2021). The Pathway to Progress on SDG 4: A Symposium.
- Christensen, R. K., Paarlberg, L., & Perry, J. L. (2017). Public service motivation research: Lessons for practice. *Public Administration Review*, 77(4), 529-542.
- Cohen, G. L., Garcia, J., Apfel, N., & Master, A. (2006). Reducing the racial achievement gap: A social-psychological intervention. *science*, 313(5791), 1307-1310.
- Crawford, L. 2017. School Management and Public-Private Partnerships in Uganda. RISE Working Paper Series. 17/013. https://doi.org/10.35489/BSG-RISE-WP_2017/013
- Crewson, P. E. (1997). Public-service motivation: Building empirical evidence of incidence and effect. *Journal of public administration research and theory*, 7(4), 499-518.

Crouch, Luis. (2020). System Implications for Core Instructional Support: Lessons from Sobral (Brazil), Puebla (Mexico), and Kenya. RISE Insight Note.

Deci, E. L., Spiegel, N. H., Ryan, R. M., Koestner, R., & Kauffman, M. (1982). Effects of performance standards on teaching styles: Behavior of controlling teachers. *Journal of educational psychology*, 74(6), 852.

Deserranno, E. (2019). Financial incentives as signals: experimental evidence from the recruitment of village promoters in Uganda. *American Economic Journal: Applied Economics*, 11(1), 277-317.

Dhaliwal, I., & Hanna, R. (2017). The devil is in the details: The successes and limitations of bureaucratic reform in India. *Journal of Development Economics*, 124, 1-21.

Dilulio J. D. (1994). Principled agents: The cultural bases of behavior in a federal government bureaucracy. *Journal of public administration research and theory*, 4(3), 277-318.

Duflo, E., Hanna, R., & Ryan, S. P. (2012). Incentives work: Getting teachers to come to school. *American Economic Review*, 102(4), 1241-78.

Ehren, M. & J. Baxter. Trust, Accountability, and Capacity: Three Building Blocks of Education System Reform. In Ehren & Baxter (Eds). *Trust, Accountability, and Capacity in Education System Reform*. Routledge.

Evans, D. & B. Piper. (2020) Guiding Teachers Rather than Scripting Them. Blog, Center for Global Development.

Fazzio, I., Eble, A., Lumsdaine, R. L., Boone, P., Bouy, B., Hsieh, P. T., Jayanti, C., Johnson, S., & Silva, A. F. (2021). Large learning gains in pockets of extreme poverty: Experimental evidence from Guinea Bissau. *Journal of Public Economics*, 199, 104385.

Frey, B. S. (1997). On the relationship between intrinsic and extrinsic work motivation. *International journal of industrial organization*, 4(15), 427-439.

Gailmard, S., & Patty, J. W. (2012). *Learning while governing: Expertise and accountability in the executive branch*. University of Chicago Press.

Gans-Morse, J., Kalgin, A., Klimenko, A., Vorobyev, D., & Yakovlev, A. (2020). Public service motivation and sectoral employment in Russia: New perspectives on the attraction vs. socialization debate. *International Public Management Journal*, 1-20.

Ganimian, A. J., & Murnane, R. J. (2016). Improving education in developing countries: Lessons from rigorous impact evaluations. *Review of Educational Research*, 86(3), 719-755.

Gans-Morse, J., Kalgin, A., Klimenko, A., Vorobyev, D., & Yakovlev, A. (2021) Public Service Motivation as a Predictor of Corruption, Dishonesty, and Altruism, *Journal of Public Administration Research and Theory*.

Gans-Morse, J., Borges, M., Makarin, A., Mannah-Blankson, T., Nickow, A., & Zhang, D. (2018). Reducing bureaucratic corruption: Interdisciplinary perspectives on what works. *World Development*, 105, 171-188.

George, B., Pandey, S. K., Steijn, B., Decramer, A., & Audenaert, M. (2020). Red tape, organizational performance and employee outcomes: meta-analysis, meta-regression and research agenda. *Public Administration Review*.

Glewwe, P., & Muralidharan, K. (2016). Improving education outcomes in developing countries: Evidence, knowledge gaps, and policy implications. In *Handbook of the Economics of Education* (Vol. 5, pp. 653-743). Elsevier.

Goodsell, C. T. (2010). *Mission mystique: Belief systems in public agencies*. Sage.

Grant, A. M. (2008). Does intrinsic motivation fuel the prosocial fire? Motivational synergy in predicting persistence, performance, and productivity. *Journal of applied psychology*, 93(1), 48.

Grindle, M. S. (1997). Divergent cultures? When public organizations perform well in developing countries. *World Development*, 25(4), 481-495.

Han, J., & Yin, H. (2016). Teacher motivation: Definition, research development and implications for teachers. *Cogent Education*, 3(1), 1217819.

Haycock, K. (2001). Closing the achievement gap. *Educational leadership*, 58(6), 6-11.

Hickey, S. & N. Hossain (eds) (2019) *The Politics of Education in Developing Countries: From Schooling to Learning*. Oxford University Press.

Honig, D. (2018). *Navigation by Judgment: Why and When Top-Down Management of Foreign Aid Doesn't Work*. Oxford University Press.

Honig, D. & Pritchett, L. 2019. The Limits of Accounting-Based Accountability in Education (and Far Beyond): Why More Accounting Will Rarely Solve Accountability Problems. RISE Working Paper Series. 19/030.

Honig, D. (2019). When reporting undermines performance: The costs of politically constrained organizational autonomy in foreign aid implementation. *International Organization*, 73(1), 171-201.

Honig, D. (2020a). Caught Between Bangkok & Bumrung-Sook: Motivation & Mission-Principal Tension in Thai Districts. *Unpublished Manuscript*.

Honig, D. (2020b). Actually Navigating by Judgment: Towards a New Paradigm of Donor Accountability Where the Current System Doesn't Work. *Center for Global Development Policy Paper #169*.

Honig, D. (2021). Supportive management practice and intrinsic motivation go together in the public service. *Proceedings of the National Academy of Sciences*, 118(13).

Hwa, Y. & C. Leaver. (2021). Management in Education Systems. *Oxford Review of Economic Policy*, 37(2), 367-391.

Hwa, Y. (2021) Contrasting Approaches, Comparable Efficacy?: How Macro-level Trust Influences Teacher Accountability in Finland and Singapore. In Ehren & Baxter (Eds). *Trust, Accountability, and Capacity in Education System Reform*. Routledge.

Hwa, Y. (2019). *Teacher accountability policy and sociocultural context: A cross-country study focusing on Finland and Singapore* (Doctoral thesis). <https://doi.org/10.17863/CAM.55349>

Jensen, U. T., & Bro, L. L. (2018). How transformational leadership supports intrinsic motivation and public service motivation: The mediating role of basic need satisfaction. *The American Review of Public Administration*, 48(6), 535-549.

Kaffenberger, M. (2019) What Have We Learned About the Learning Crisis? *RISE Blog*, 20 May.

Khan, M. Y. (2021) Mission Motivation and Public Sector Performance: Experimental Evidence from Pakistan. Working paper; online at https://y-khan.github.io/yasirkhan.org/muhammadyasirkhan_jmp.pdf. Accessed version dated August 31, 2021

Khan, A. Q., Khwaja, A. I., & Olken, B. A. (2016). Tax farming redux: Experimental evidence on performance pay for tax collectors. *The Quarterly Journal of Economics*, 131(1), 219-271.

Khan, A. Q., Khwaja, A. I., & Olken, B. A. (2019). Making moves matter: Experimental evidence on incentivizing bureaucrats through performance-based postings. *American Economic Review*, 109(1), 237-70.

Kijima, Rie, and Phillip Y Lipsky. 2020. "International Assessments and Education Policy: Evidence from an Elite Survey." In *The Power of Global Performance Indicators*, edited by Judith Kelley and Beth Simmons, 174–202. Cambridge University Press.

Leaver, C., Lemos, R., and Scur, D. 2019. Measuring and Explaining Management in Schools: New Approaches Using Public Data. RISE Working Paper Series. 19/033. https://doi.org/10.35489/BSG-RISE-WP_2019/033

Leaver, C. & L. Pritchett. (2019) Should "Pay for Performance" be Used for Teachers? (With a Plea to Pause Before you Answer). *RISE Blog*.

Leaver, C., Ozier, O., Serneels, P., & Zeitlin, A. (2021). Recruitment, effort, and retention effects of performance contracts for civil servants: Experimental evidence from Rwandan primary schools. *American economic review*, *111*(7), 2213-46.

Lemos, R., Muralidharan, K. and Scur, D. 2021. Personnel Management and School Productivity: Evidence from India. RISE Working Paper Series. 21/063. https://doi.org/10.35489/BSG-RISE-WP_2021/063

Le Nestour, A., Moscoviz, L., and Sandefur, J., 2022. "The Long-Run Decline of Education Quality in the Developing World." CGD Working Paper 608. Washington, DC: Center for Global Development

Levy, B.m R. Cameron, U. Hoadley, & V. Naidoo (editors) (2018). *The Politics and Governance of Basic Education: A Tale of Two South African Provinces*. Oxford University Press.

Linos, E. (2018). More than public service: A field experiment on job advertisements and diversity in the police. *Journal of Public Administration Research and Theory*, *28*(1), 67-85.

Lohmann, J., Wilhelm, D., Kambala, C., Brenner, S., Muula, A. S., & De Allegri, M. (2018). 'The money can be a motivator, to me a little, but mostly PBF just helps me to do better in my job.' An exploration of the motivational mechanisms of performance-based financing for health workers in Malawi. *Health policy and planning*, *33*(2), 183-191.

McAlpine, K., Kagucia Omsa, N., Semwene, J., & Mbise, A. (2018). *A Twist on Performance. Twaweza*.

McDonnell, E. M. (2020). *Patchwork leviathan: Pockets of bureaucratic effectiveness in developing states*. Princeton University Press.

Moynihan, D. P., & Pandey, S. K. (2007). The role of organizations in fostering public service motivation. *Public administration review*, *67*(1), 40-53.

Muralidharan, K., & Singh, A. (2020). *Improving Public Sector Management at Scale? Experimental Evidence on School Governance India* (No. w28129). National Bureau of Economic Research.

Muralidharan, K., & Sundararaman, V. (2011). Teacher performance pay: Experimental evidence from India. *Journal of political Economy*, *119*(1), 39-77.

Neves de Jesus, S., & Lens, W. (2005). An integrated model for the study of teacher motivation. *Applied Psychology*, *54*(1), 119-134.

Olken, B. A. (2007). Monitoring corruption: evidence from a field experiment in Indonesia. *Journal of political Economy*, *115*(2), 200-249.

Olsen, A. L., Hjorth, F., Harmon, N., & Barfort, S. (2019). Behavioral dishonesty in the public sector. *Journal of Public Administration Research and Theory*, 29(4), 572-590.

Perry, J. L. (2020). *Managing organizations to sustain passion for public service*. Cambridge University Press.

Pham, L. D., Nguyen, T. D., & Springer, M. G. (2020). Teacher Merit Pay: A Meta-Analysis. *American Educational Research Journal*, 0002831220905580.

Piper, B., Sitabkhan, Y., Mejia, J., & Betts, K. (2018). Effectiveness of teachers' guides in the global south: Scripting, learning outcomes, and classroom utilization. *RTI Press*, 9857.

Piza, C., A. Zwager, M. Ruzzante, R. Dantas, & A. Loureiro. (2020) Supporting Teaching Autonomy to Improve Education Outcomes: Experimental Evidence from Brazil. *Work Bank Policy Research Working Paper #9371*.

Pradhan, M., Suryadarma, D., Beatty, A., Wong, M., Gaduh, A., Alisjahbana, A., & Artha, R. P. (2014). Improving educational quality through enhancing community participation: Results from a randomized field experiment in Indonesia. *American Economic Journal: Applied Economics*, 6(2), 105-126.

Pritchett, Lant. (2013) *The Rebirth of Education: Schooling Ain't Learning*. Washington DC: Center for Global Development.

Pritchett, L., & Sandefur, J. (2015). Learning from experiments when context matters. *American Economic Review*, 105(5), 471-75.

Pritchett, L. (2015) Creating Education Systems Coherent for Learning Outcomes: Making the Transition from Schooling to Learning. RISE Working Paper RISE-WP-15/005

Pritchett, L. (2021). Let's Take the Con Out of Randomized Control Trials in Development: The Puzzles and Paradoxes of External Validity, Empirically Illustrated. Harvard CID Working Paper 399.

Pritchett, L. (2013). *The rebirth of education: Schooling ain't learning*. CGD Books.

Pritchett, L. & R. Murgai. Teacher Compensation: Can Decentralization to Local Bodies Take India from the Perfect Storm Through Troubled Waters to Clear Sailing?. In *India Policy Forum 2006-07: Volume 3* (Vol. 3, p. 123-177). SAGE Publications India.

Rasul, I., & Rogger, D. (2018). Management of bureaucrats and public service delivery: Evidence from the nigerian civil service. *The Economic Journal*, 128(608), 413-446.

Rasul, I., Rogger, D., & Williams, M. J. (2021). Management, organizational performance, and task clarity: Evidence from Ghana's civil service. *Journal of Public Administration Research and Theory*, 31(2), 259-277.

Richardson, P. W., & Watt, H. M. (2010). Current and future directions in teacher motivation research. In *The decade ahead: Applications and contexts of motivation and achievement*. Emerald Group Publishing Limited.

Schleicher, A. (2021) Foreword to Ehren & Baxter (Eds). *Trust, Accountability, and Capacity in Education System Reform*. Routledge.

Scur, D. (2016). What do we mean by "Coherent Education Systems?" RISE blog.

Shen, G. C., Nguyen, H. T. H., Das, A., Sachingongu, N., Chansa, C., Qamruddin, J., & Friedman, J. (2017). Incentives to change: effects of performance-based financing on health workers in Zambia. *Human resources for health*, 15(1), 1-15.

Solzhenitsyn, A. (1974). *The Gulag Archipelago 1918-56*.

Steijn, B. (2008). Person-environment fit and public service motivation. *International public management journal*, 11(1), 13-27.

Stimson, Henry L. 1945. Memorandum on the Effect of Atomic Bomb.

Stockard, J., Wood, T. W., Coughlin, C., & Rasplica Khoury, C. (2018). The effectiveness of direct instruction curricula: A meta-analysis of a half century of research. *Review of Educational Research*, 88(4), 479-507.

Tendler, J., & Freedheim, S. (1994). Trust in a rent-seeking world: health and government transformed in Northeast Brazil. *World Development*, 22(12), 1771-1791.

Tendler, J. (1997). *Good government in the tropics*. Johns Hopkins University Press.

Thoonen, E. E., Slegers, P. J., Oort, F. J., Peetsma, T. T., & Geijsel, F. P. (2011). How to improve teaching practices: The role of teacher motivation, organizational factors, and leadership practices. *Educational administration quarterly*, 47(3), 496-536.

Tummers, L. (2012). Policy alienation of public professionals: The construct and its measurement. *Public Administration Review*, 72(4), 516-525.

Usman, M., Ali, M., Mughal, F., & Agyemang-Mintah, P. (2021). Policy Alienation and Street-level Bureaucrats' Psychological Wellbeing: The Mediating Role of Alienative Commitment. *Journal of Public Administration Research and Theory*, 31(2), 278-294.

- Uworwabayeho, A., Flink, I., Nyirahabimana, A., Peeraer, J., Muhire, I., & Gasozi, A. N. (2020). Developing the capacity of education local leaders for sustaining professional learning communities in Rwanda. *Social Sciences & Humanities Open*, 2(1).
- Vogel, D., & Willems, J. (2020). The effects of making public service employees aware of their prosocial and societal impact: A microintervention. *Journal of Public Administration Research and Theory*, 30(3), 485-503.
- Vandenabeele, W. (2008). Government calling: Public service motivation as an element in selecting government as an employer of choice. *Public administration*, 86(4), 1089-1105
- Wenger, E., McDermott, R. A., & Snyder, W. (2002). *Cultivating communities of practice: A guide to managing knowledge*. Harvard business press.
- Wholey, J. S., & Hatry, H. P. (1992). The case for performance monitoring. *Public Administration Review*, 604-610.
- Wilichowski, T., Purshaparatnam, A., Ding, E., & E. Molina (2020). Building back better: accelerating learning when schools reopen, and what Kenya's Tusome program can teach us. *World Bank Blogs*.
- Williams, Martin J., Clare Leaver, Karen Mundy, Zahra Mansoor, Dana Qarout, Minahil Asim, Sheena Bell, and Anna Bilous. (2021). "Delivery Approaches to Improving Policy Implementation: A Conceptual Framework." DeliverEd Initiative Working Paper. Education Commission and Blavatnik School of Government.
- Wilson, J. Q. (2019). *Bureaucracy: What government agencies do and why they do it*. Basic Books.
- World Bank (2007). What Do We Know About School-Based Management? Report #44921
- World Bank (2016). Rewarding Provider Performance to Improve Quality and Coverage of Maternal and Child Health Outcomes. Report #106518-ZW
- Zarychta, A., Grillos, T., & Andersson, K. P. (2020). Public Sector Governance Reform and the Motivation of Street-Level Bureaucrats in Developing Countries. *Public Administration Review*, 80(1), 75-91.