

PUBLIC WORKFORCE PERFORMANCE AND PROSPERITY



WORLD BANK GROUP



Reproducible Research Repository

A verified reproducibility package for this publication is
available at <https://reproducibility.worldbank.org>,
click [here](#) for direct access.

PUBLIC WORKFORCE PERFORMANCE AND PROSPERITY



WORLD BANK GROUP

© 2026 International Bank for Reconstruction and Development / The World Bank
1818 H Street NW, Washington, DC 20433
Telephone: 202-473-1000; Internet: www.worldbank.org

Some rights reserved

1 2 3 4 29 28 27 26

This work is a product of the staff of The World Bank with external contributions. The findings, interpretations, and conclusions expressed in this work do not necessarily reflect the views of The World Bank, its Board of Executive Directors, or the governments they represent. The World Bank does not guarantee the accuracy, completeness, or currency of the data included in this work and does not assume responsibility for any errors, omissions, or discrepancies in the information, or liability with respect to the use of or failure to use the information, methods, processes, or conclusions set forth. The boundaries, colors, denominations, links/footnotes and other information shown in this work do not imply any judgment on the part of The World Bank concerning the legal status of any territory or the endorsement or acceptance of such boundaries. The citation of works authored by others does not mean the World Bank endorses the views expressed by those authors or the content of their works.

Nothing herein shall constitute or be construed or considered to be a limitation upon or waiver of the privileges and immunities of The World Bank, all of which are specifically reserved.

Rights and Permissions



This work is available under the Creative Commons Attribution 3.0 IGO license (CC BY 3.0 IGO) <http://creativecommons.org/licenses/by/3.0/igo>. Under the Creative Commons Attribution license, you are free to copy, distribute, transmit, and adapt this work, including for commercial purposes, under the following conditions:

Attribution—Please cite the work as follows: World Bank. 2026. Public Workforce Performance and Prosperity. Washington, DC: World Bank. DOI: 10.1596/978-1-4648-1807-3. License: Creative Commons Attribution CC BY 3.0 IGO.

Translations—If you create a translation of this work, please add the following disclaimer along with the attribution: This translation was not created by The World Bank and should not be considered an official World Bank translation. The World Bank shall not be liable for any content or error in this translation.

Adaptations—If you create an adaptation of this work, please add the following disclaimer along with the attribution: This is an adaptation of an original work by The World Bank. Views and opinions expressed in the adaptation are the sole responsibility of the author or authors of the adaptation and are not endorsed by The World Bank.

Third-party content—The World Bank does not necessarily own each component of the content contained within the work. The World Bank therefore does not warrant that the use of any third-party-owned individual component or part contained in the work will not infringe on the rights of those third parties. The risk of claims resulting from such infringement rests solely with you. If you wish to re-use a component of the work, it is your responsibility to determine whether permission is needed for that re-use and to obtain permission from the copyright owner. Examples of components can include, but are not limited to, tables, figures, or images.

All queries on rights and licenses should be addressed to World Bank Publications, The World Bank, 1818 H Street NW, Washington, DC 20433, USA; e-mail: pubrights@worldbank.org.

ISBN (electronic): 978-1-4648-1807-3

DOI: 10.1596/978-1-4648-1807-3

Cover photo: © Vincent Tremeau / World Bank Photo Collections. Further permission required for reuse.

Cover design: Na Kyoung Kang

Contents

Foreword	i
Acknowledgments	iii
Executive Summary	iv
Abbreviations	xviii
Chapter 1: Framework of the Report	1
1.1 Introduction	1
1.2 Conceptual framework	2
1.3 Methodology	4
1.4 Report structure	5
Chapter 2:	
Wage Bill—Ensuring Governments Have the Right Workers who are Effectively Paid ...	7
2.1 Introduction	7
2.2 Ensuring that governments have the “right” workers	8
2.3 Selecting the right workers	18
2.4 Effective public sector compensation	24
2.5 Ensuring fiscal sustainability of the wage bill	32
Chapter 3:	
Management Practices—Motivating and Skilling the Public Sector Workforce	38
3.1 Introduction	38
3.2 Performance evaluations for accountability and empowerment	40
3.3 Engaging communities for public service motivation	46
3.4 Promoting integrity and trust	50
3.5 Continuous learning	53
3.6 Improving coordination and collaboration	55

Chapter 4: Digital Technologies and the Workforce	58
4.1 Introduction	58
4.2 Digital technologies for managing the public sector workforce	59
4.3 Digital skills for a more effective digital public administration	63
Chapter 5: Reform Priorities for a More Effective Workforce	67
Annex I: Detailed Recommendations	72
Annex 2: Datasets Used in the Report	79
Annex 3: Methodology for Estimating Public Sector Wage Premiums	83
References	84

Boxes

2.1 The Public Sector as an Employer of Women	12
2.2 Queuing for Public Sector Jobs	26
2.3 Human Resource Management for Domestic Revenue Mobilization	35
3.1 Improving Police Capacity and Accountability	48

Figures

ES.1 Determinants of workforce performance and core development challenges	v
ES.2 There is varying use of exam-based recruitment across and within governments	vii
ES.3 Public sector workers generally earn more than their private sector counterparts	viii
ES.4 Many public sector workers do not take any training	xiv
1.1 Determinants of workforce performance and core development challenges	2
2.1 Public sector employment is higher in richer countries	9
2.2 Core service delivery staff make up the largest proportion of public workers	10
2.3 The public sector is a large source of paid and formal sector jobs	11

2.4	The public sector is a larger employer of women than the private sector	12
2.5	Women earn less than men in equivalent public sector professions	14
2.6	The public sector is a larger share of formal and paid employment in FCV contexts ...	15
2.7	A high proportion of primary school teachers are not proficient in the subjects they teach	17
2.8	Public servants are not always hired through a competition	20
2.9	Screening to hire new entrants does not always use tests and interviews	21
2.10	The extent to which job-related competencies are used as a screening criterion	22
2.11	Public sector workers generally earn more than their private sector counterparts	25
2.12	Preferences for public sector employment are correlated with longer duration of unemployment in Bosnia and Herzegovina	27
2.13	Public sector workers are generally unsatisfied with their pay	28
2.14	The public sector premium is higher for low-skilled workers	29
2.15	Public sector pay is more compressed than private sector pay	30
2.16	The wage bill, as a percentage of GDP, rises with country income	33
2.17	The public sector wage bill is uncorrelated with fiscal deficits and surpluses	34
2.18	Tax administrations are labor-intensive organizations, and low- and middle-income countries have too few tax officials	36
3.1	Performance evaluations are often not done or done poorly.	41
3.2	Management support for staff was correlated with performance during the COVID-19 pandemic	45
3.3	Citizens have low trust in the police.	48
3.4	Public sector workers do not feel safe reporting on corruption	51
3.5	In Armenia, ethics training is associated with lower workplace pressures and less witnessing of unethical behavior	52
3.6	Many public sector workers have not taken any training in the past year.	54
4.1	Payroll and human resource management information systems have increased rapidly in the past 20 years	60
4.2	Managers and staff can be resistant to the changes that digital technologies bring	62
4.3	Training on foundational digital skills is often lacking	65
4.4	There is a gap between the training given and what staff required in Malaysia	65

Foreword

Building effective, inclusive, and accountable institutions has long been central to the development agenda—but today, it is more urgent than ever. Citizens worldwide expect governments to deliver services efficiently, equitably, and with the highest standards of integrity and accountability. When these expectations are met, societies thrive, private sectors grow, and jobs are created. In an era of declining trust in public institutions, enhancing public sector workforce performance is not just a priority; it is a decisive step toward driving meaningful change and unlocking shared prosperity.

In today's rapidly evolving global context, the skills, motivation, and integrity of the world's 400 million public sector workers—both those on the front lines serving communities and the administrators managing resources and operations—is key for effective and efficient governments. Drawing on an extensive evidence base of academic research and original data, including unique surveys and cross-national indicators compiled by the World Bank's Bureaucracy Lab, this report proposes a framework for understanding and improving workforce performance. The analysis focuses on three key drivers: the wage bill (how governments hire and compensate staff), management practices (how workers are motivated and developed), and digital technologies (how innovation transforms the workplace).

The report has several important findings. Governments in low- and middle-income countries are understaffed compared to high-income countries, and the staff that they do have are poorly skilled, in part because of a lack of merit and transparency in recruitment. While government jobs tend to offer better pay and benefits—the public sector wages are, on average 9 percent higher compared to the formal private sector—weaknesses in pay structures result in weak incentives for workers to perform. Reforming pay structures, monitoring wage competitiveness, and ensuring merit-based hiring are urgent measures for a more efficient and equitable workforce.

The report also investigates the pivotal role of management practices in motivating public servants, promoting integrity, and encouraging collaboration. It advocates for a balanced approach that combines accountability with empowerment, recognizing the intrinsic motivation of public sector workers to serve the public good. Strengthening performance evaluations; supporting women's career advancement (women constitute

50 percent of clerical roles in the public sector but only 34 percent of managerial positions); promoting community engagement; and protecting whistleblowers to empower workers to act with integrity are among the recommended strategies to raise productivity and restore trust.

Digital technology emerges as both a catalyst and a challenge. Governments have made substantial investments in management information systems but often underuse these tools for strategic workforce planning and evidence-based decision-making. Digital skills, both basic ones in the use of workplace software and advanced ones to take advantage of the rapidly changing digital technologies, are lacking in governments. Providing foundational digital training, creating specialized career paths for technology specialists, and fostering a culture of innovation are essential to harness the full potential of these systems.

This report offers practical guidance for policymakers, administrators, and development partners, including both “quick wins” and longer-term reforms, such as eliminating ghost workers and improving recruitment processes; advancing pay equity; and adopting mission-driven management strategies. By prioritizing these areas and adapting to changing needs, governments can transform their workforce into engines of progress, trust, and resilience.

Arturo Herrera Gutierrez
World Bank Group Director, Governance

Acknowledgments

This report was produced by a core World Bank team consisting of Zahid Hasnain (lead author), Faisal Baig, Juan Pablo Guerrero Amparan, Ayesha Khurshid, Dimitrie Miheș, Anita Sobjak, Flavia Sacco, Turkan Mukhtarova, Suren Tripathi, Samuel Geroni, Stuart Russell, Juan Francisco Santini, Akanksha Baidya, Jorge Miranda, Sayed Madadi, and Margherita Fornasari. The team is also thankful to Pedro Gomes (Professor Birbeck College, University of London), Paula Villasenor (consultant), and Felipe Drumond (consultant) for their key contributions.

The team is grateful to government officials from Argentina, Armenia, Bosnia and Herzegovina, Brazil, Cambodia, Chile, Colombia, Croatia, Ethiopia, Estonia, Ghana, Indonesia, Kazakhstan, Kosovo, Liberia, Lithuania, Madagascar, Malaysia, Mali, Moldova, Morocco, Pakistan, the Philippines, Poland, Romania, Slovak Republic, South Sudan, and Uruguay for their cooperation, and for sharing their views in the surveys of public sector employees. The surveys were requested by our government counterparts in each country and were conducted under their guidance and with their support.

The team is grateful to Aart Kraay, Natasha Rovo, Gael Raballand, Donna Andrews, Ana Maria Munoz Boudet, Jose Romero, Nick Menzies, Camilla Knudsen, Penelope Ann Mealy, Sergio Marin, Maud Juquois, Rajul Awasthi, Ibrahim Chowdhury, Zubair Bhatti, Daniel Rogger, Adrienne Hathaway-Nuton, Lara Saade, and Rita Ramalho for their helpful comments. The team is also grateful to the Reproducibility Team of the World Bank for validating all the figures used in the report.

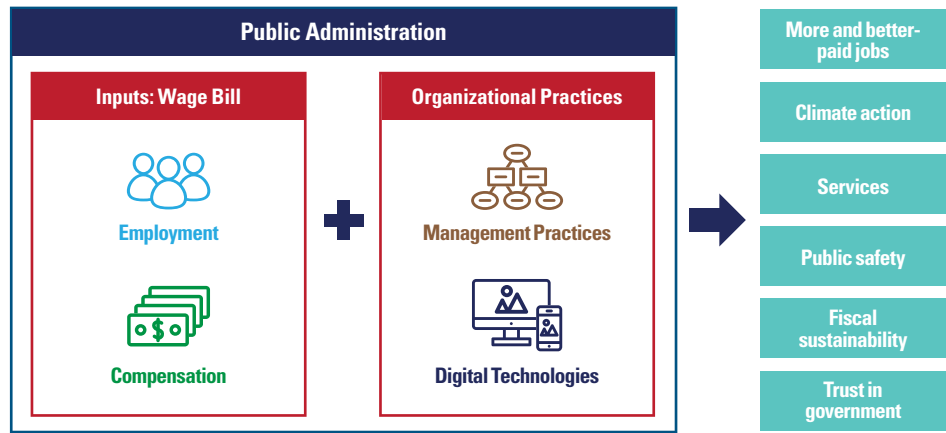
This report was produced under the overall guidance of Pablo Saavedra, Arturo Herrera, and Roby Senderowitsch.

Executive Summary

This report is about how to make the world’s 400 million public sector workers more effective in performing their core government functions. Achieving better development outcomes—more and better-paid jobs, improved education and health service delivery, climate mitigation and adaptation, peace and security, fiscal sustainability, and restored citizen trust in government—requires a capable state. This state capacity largely depends on the skills and motivations of the government workforce, both the service providers who interact daily with citizens and the administrators responsible for financing, monitoring, and supervising these frontline workers.

The report is anchored in a conceptual framework in which workforce performance depends on a combination of inputs and organizational practices to convert those inputs into outputs (Figure ES.1). The main inputs are the wage bill, or the quantity and quality of public sector employees and their compensation. Organizational practices consist of management practices and the use of digital technology in the workplace. Management practices include performance management, training, collaboration, community engagement, and integrity and transparency, all of which affect the motivation and productivity of the workforce. Digital technologies have significantly impacted the productivity of private sector firms and have been similarly transformative in the public sector. The report concentrates on the interaction between digital technologies and the workforce—particularly how digital technologies influence workforce management and how the skills of workers and managers in turn impact the adoption of these technologies in the workplace. As the report’s focus is on public sector workforce, two important drivers of state capacity, regulations and the organizational structure of the state, are not covered.

FIGURE ES.1 Determinants of workforce performance and core development challenges



Source: Authors based on Kim et. al (2026).

The report draws on a large body of rigorous academic research and original micro-level data, much of it produced by the Bureaucracy Lab of the World Bank. These datasets are as follows:

- [Worldwide Bureaucracy Indicators \(WWBI\)](#). The WWBI is a cross-national dataset on public sector employment and compensation, drawing on 67 million observations from household and labor force surveys, covering 151 countries from 2000 to 2022.
- **Surveys of public sector employees.** The Lab has conducted surveys of public sector workers in 30 countries, with over 200,000 respondents. This dataset is one of the largest survey repositories of its kind in the world. These surveys are also part of the [Global Survey of Public Servants \(GSPA\)](#), a global initiative which is a collaboration between the World Bank and academic partners that uses the Lab’s surveys, and additional ones conducted by the partners, to create a core set of cross-national indicators on human resource management.

The report is structured with chapters dedicated to each of the three key drivers of workforce performance. These are the wage bill, decomposed into employment and compensation practices; management practices; and digital technologies.

The Wage Bill: Ensuring Governments have the Right Workers who are Efficiently Paid

The government workforce in low- and middle-income countries, contrary to common perceptions, is generally understaffed but better paid than their private sector counterparts. There are nuances to this statement, as there are functional and territorial misallocations in staffing that can create relative overstaffing for certain types of workers and in urban localities. While governments pay more, on average, than the private sector, this does not imply that government wages are high, and inefficiencies in the structure of compensation do result in uncompetitive pay for some high-demand skills. But this stylized fact points to prioritizing public sector compensation reform, rather than downsizing the workforce, to achieve an effective and fiscally sustainable workforce.

Governments do not have enough staff for core functions. In poorer countries, the public sector workforce is smaller, both in per capita terms and as a share of total employment. This relative dearth of workers negatively impacts service delivery because the public sector workforce is concentrated in this sector. Over 45 percent of public sector workers in low-income countries, and 55 percent in the middle-income countries, are in health, education, and public safety. Poorer countries, given their limited resources, face severe staffing shortages in these critical functions, which can only be partially met with better staff distribution. For example, there are half as many police officers per capita in countries impacted by fragility, conflict, and violence (FCV) as in non-FCV countries despite the greater need, by definition, for security and law and order in these contexts. Poorer countries also face staff shortages for the core function of domestic revenue mobilization—high-income countries have 9 times the tax officials per capita compared to low-income countries—which, in turn, hurts their ability to raise the resources needed to deliver these services.

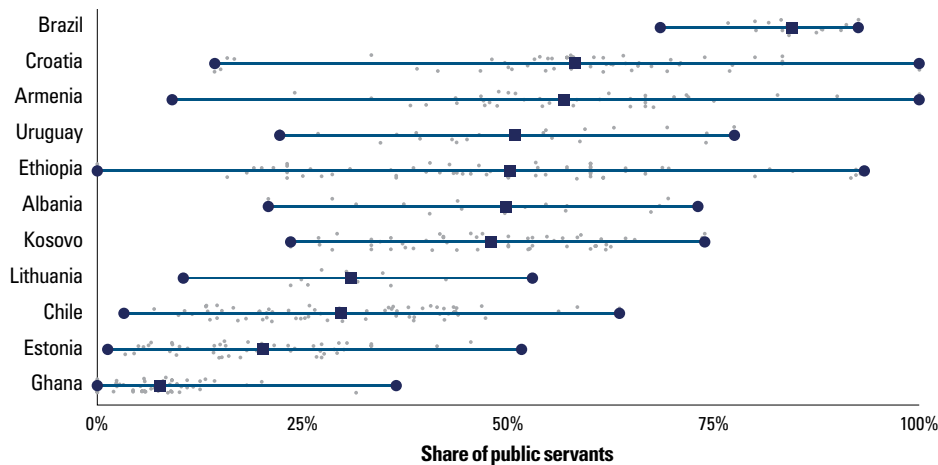
The understaffing problem is often exacerbated by the poor skills of the public sector workforce. Most primary school teachers in 10 low-and middle-income countries surveyed by the World Bank’s Education Policy Dashboard, for example, are not proficient in the subjects that they teach, and skills assessments of health workers in 9 countries in Sub-Saharan Africa using vignettes reveal that doctors having a diagnostic accuracy rate of only 67 percent. While skills assessments for administrative functions are difficult, Bureaucracy Lab surveys reveal that many civil servants, such as in Ethiopia, lack the ability to use standard software for work.

A major reason for the poor skills of the workforce is a lack of merit and transparency in recruitment. Cross-nationally, in countries across the income spectrum, open competition is well below the 100 percent threshold that should be the standard given the long tenures of civil servants. Approximately 30 percent of public servants in Armenia,

Ethiopia, and Uruguay; and over 70 percent of health workers in Mali and Madagascar, for example, entered government employment without going through a competitive selection process. Written examinations based on job-related competencies can help ensure the intake of high-quality staff, however these examinations are inconsistently used, both across and within governments (Figure ES.2). Even when exams are administered, they primarily assess legal knowledge rather than job-related competencies.

The public sector is the largest source of paid and formal sector jobs in poorer countries, particularly for women. While the public sector is small as a share of total employment in low-income countries, it is large as a share of formal sector employment. Public sector employment accounts for 30 percent of wage and 38 percent of formal employment worldwide, and 59 percent of formal employment in FCV countries. The public sector is also a more gender-equal employer, with women representing 46 percent of the public sector workforce, compared to 33 percent in the formal private sector. The gender pay gap is also lower in the public sector, with women receiving on average 88 percent of male wages, compared to 74 percent of male wages in the private sector. Women chose public sector employment for better work–life balance, greater benefits, and job security; and there is also a higher proportion of teaching and health care public sector jobs, occupations that have traditionally been viewed as more “feminine.” The importance of the public sector as a formal sector employer underscores the limitations of public sector employment policy to “right size” the government as any serious downsizing efforts in the face of fiscal problems would reduce formal sector jobs, particularly for women.

FIGURE ES.2 There is varying use of exam-based recruitment across and within governments



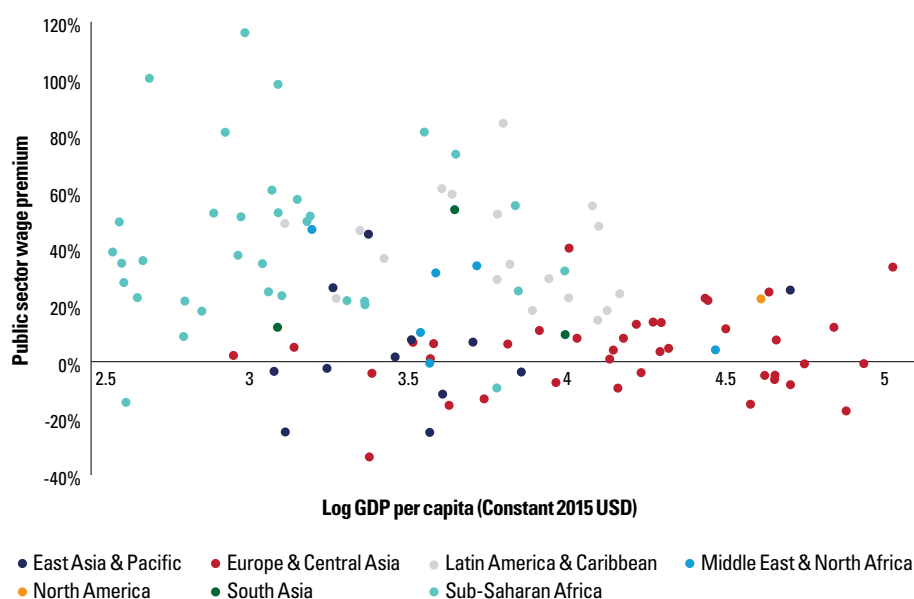
Source: Global Survey of Public Servants.

Note: Each circle represents the share of public sector workers hired based on a score for written exam-based for organizations within their respective government. The square represents the national average of organizational-level shares.

Governments generally pay more on average compared to the market, either the entire private sector or the formal private sector. Public sector workers earn 21 percent more in weekly salary, excluding allowances, than similar workers in the private sector; and 9 percent more when compared to only formal private sector workers. This public sector wage premium exists in 91 of the 115 countries for which there is data in the WWBI, and the premium is higher in lower-income countries (Figure ES.3). Public sector teachers and health workers are also better paid than their private sector counterparts. The overall compensation premium, which factors in benefits like pensions and health insurance, and job security, is even higher for the public sector.

This compensation premium can lead to queueing for public sector jobs and extended periods of voluntary unemployment, hurting overall labor market outcomes. In Bosnia and Herzegovina, for example, a Bureaucracy Lab labor force survey designed to measure workers' preferences for public versus private employment revealed that 48 percent of job seekers prefer public sector employment, compared to 28 percent who favor private sector jobs. Individuals who prefer public sector employment remain unemployed for 31 more weeks on average than those who prefer private sector employment. Such queueing has been observed in many other countries.

FIGURE ES.3 Public sector workers generally earn more than their private sector counterparts



Source: Worldwide Bureaucracy Indicators.

Note: The y-axis gives the public sector wage premium compared to all private sector paid employees.

At the same time, pay structures in the public sector lack the flexibility to attract high-demand skills. The public sector wage premium is lower for higher-skilled workers which can make public sector pay less competitive for high demand skills. Public sector workers with tertiary education have a wage premium of 6 percent compared to formal private sector workers, and those with secondary education have a wage premium of 18 percent. In some cases, this higher wage premium at the bottom of the pay distribution may be necessary to ensure a living wage for lower-skilled workers, particularly in low-income countries. Pay structures in the public sector are also flatter than those in the private sector. The pay compression ratio, which measures the ratio of the 90th percentile wage to the 10th percentile wage in the salary distribution, is lower in the public sector compared to the private sector, and the difference is particularly pronounced in low-income countries.

Public sector pay can also be inequitable in that staff with similar skills and years of experience get paid very differently. One reason for this inequity is that often public sector pay grades are not anchored in robust job evaluations, which is a standard process for ranking jobs based on the complexity of the attributes of a particular job. Other reasons are a high proportion of allowances and salary supplements that are not equally available to all public sector workers. In Croatia, for example, there were over 560 allowances and supplements that could be given to public sector workers based on location and worker characteristics; and in Cameroon and Indonesia, honoraria and per diems to attend meetings and workshops were discretionally used as de facto salaries and were, in the case of Cameroon, equivalent to three times the civil servants' base wages. In Brazil, pay varied tenfold for staff in similar occupations and similar years of experience. This pay inequity is demotivating and raises the wage bill without raising workforce productivity.

Reforming compensation practices are a policy priority for hiring high-demand talent, incentivizing performance, removing labor market distortions, and achieving fiscal sustainability. Governments should closely monitor the wage premium and the number of applicants per job vacancy to guide salary policies, while ensuring that the public sector pays a living wage at the lower pay grades. Governments should prioritize structural reforms to reduce pay inequity for workers with similar skills and experience and target performance incentives for jobs with measurable outputs. While there is no cross-national correlation between the size of the wage bill (measured either as a share of GDP or government revenues) and fiscal sustainability, the wage bill constitutes a large share of government resources. The wage bill is 26 percent of government expenditures in high-income countries, and 28 percent in low-income countries. Several economic shocks have led to considerable debt distress in low-and middle-income countries, especially given the vulnerability of these countries to future economic disruptions, and governments, therefore, often need to consider wage bill cuts in times of fiscal crises. This report argues that these reforms should prioritize improving the efficiency of public sector compensation rather than reducing employment.

Another priority is focusing on workforce reforms in revenue authorities to increase domestic revenue mobilization. While there are potential wage bill savings from compensation reform, balancing the objectives of service delivery and fiscal sustainability will require more resources. Tax administration reforms can significantly increase domestic revenues, especially in countries where tax policy reform is difficult. Improving the performance of tax administration personnel is key to strengthening the capacity of revenue authorities given that the wage bill constitutes 70 percent of operational expenditures in these organizations. Increasing staffing and implementing targeted employment and compensation reforms can improve the capacity of tax authorities. For example, revenue authorities in low- and middle-income countries are characterized by low rates of new hiring and attrition, which makes it difficult to recruit much needed talent in rapidly evolving skills for data management and forensic accounting. In low-income countries, nearly 40 percent of all tax administration staff are employed within “generalist” job functions, compared to 20 percent in high-income countries.

Management Practices: Motivating and Skilling the Public Sector Workforce

Management practices determine how workers are incentivized and motivated to deliver outputs at a given level of compensation. The report explores five sets of management practices—the annual performance evaluation process, which is traditionally the main mechanism for accountability and rewards; community engagement, which can be effective in increasing accountability to citizens and fostering public service motivation; practices that promotes integrity and trust among public sector workers; continuous learning to develop technical and behavioral competencies; and collaboration, particularly across organizational boundaries.

The analysis of these management practices is framed through two stylized worldviews on management—management for results and management by empowerment. The former, which is commonly used in the private sector, involves setting of measurable goals, regular monitoring of those goals, and performance incentives for workers linked to a set of indicators. The approach, anchored in the principal-agent framework and the theory of incentives, has the implicit assumption that workers would, given the choice, prefer to shirk rather than to work and, therefore, must be monitored and held accountable to get them to work. The latter approach draws on the psychology literature on “self-determination theory,” and rests on the assumption that ministries, unlike most firms, are mission-driven organizations and workers have an intrinsic motivation to serve the public. Managers, therefore, should empower the workers’ sense of purpose by

connecting their daily work to the broader goal of serving the community and giving them the autonomy to deliver their tasks.

Performance evaluations, traditionally the main mechanism for management by results, are not well implemented. The Bureaucracy Lab surveys in several countries revealed that large proportions of staff—87 percent for Croatia’s health workers, 56 percent of Madagascar’s teachers, and nearly 20 percent of civil servants in Armenia and Uruguay—do not have any formal performance evaluation. Regular informal performance conversations with their managers are also limited in Ethiopia, Philippines, and Romania. Women are less likely to have their performance evaluated. Even when conducted, these exercises tend to be perfunctory. In Romania, nearly 95 percent of respondents report having received the highest rating in their last performance appraisal. If implemented well, performance evaluations do matter for staff motivation. Bureaucracy Lab surveys from a diverse set of countries—Liberia, Bosnia and Herzegovina, and Romania—show positive correlations between organizational level measures of the quality of performance management and staff motivation.

Women face bias in performance evaluations and are underrepresented in leadership positions in public administrations. In Ethiopia, for example, women are significantly less likely to achieve the highest performance ratings compared to their male counterparts, with only 39 percent of women receiving the top rating compared to 52 percent of men. In Moldova, a Bureaucracy Lab survey examining gender bias in law enforcement agencies revealed that women were less likely to receive performance evaluations, and 38 percent of women reported experiencing discrimination in promotion decisions due to their greater family obligations. WWBI data shows that women make up over 50 percent of clerical and professional roles in the public sector but only 34 percent of managerial positions. This vertical occupational segregation with a dearth of women in leadership positions, even in sectors like education and health care which disproportionately hire women, is the main reason for the gender pay gap in the public sector.

Given the difficulties in objectively measuring performance in public administration, performance evaluations should be reoriented towards management by empowerment. Performance evaluations should become channels for regular performance conversations between supervisors and staff that aim at aligning public servants’ individual tasks with organizational goals and identifying and developing staff competencies to achieve these tasks. This reorientation will require better trained managers. Management training programs should combine traditional classroom training with mentoring and peer-based programs. Capacity building should be complemented with improved incentives for managers to take management seriously, which can be done by ensuring that managers are regularly evaluated on their people management skills.

Another aspect of performance management is the regular interactions between managers, usually in local administrations, and service providers in facilities. These interactions are important for both management by results and management by empowerment but are infrequent. These field visits, called “supportive supervision” in the health sector, go beyond ensuring compliance and monitoring results. They involve providing feedback and guidance to address problems collaboratively, and can improve service provider motivation, particularly for staff working in remote and rough locations. Bureaucracy Lab surveys reveal, however, that field visits are irregular and of poor quality. In Madagascar, more than 40 percent of administrative officials at central, regional, and district levels reported that supervisory visits of health care facilities were not conducted regularly. Similarly, in Ethiopia, 29 percent of administrative officials reported that supervisions of health and education facilities occur less than twice a year. Beyond limited financial resources to conduct these visits, there are also problems in management quality. For example, supervisory checklists are standardized tools in such facility visits, yet 30 percent of health administration personnel in Mali acknowledged that such checklists are rarely used when visiting health care facilities.

Management by empowerment is especially important for ensuring business continuity during crises, as evidenced by the experience of remote work during the COVID-19 pandemic. The Bureaucracy Lab conducted surveys in several countries in 2020–2021 to assess workers’ experience of remote work during the pandemic. The surveys revealed a dearth of supportive management practices to enable remote collaboration with colleagues, overall support by managers, and mental health support. Only 30 percent of respondents in Chile and 49 percent in Colombia reported that their organization provided sufficient mental health support during the pandemic. There was also considerable within-country variation across organizations regarding the extent of management support and mental health support. The extent of this support was positively correlated with staff self-assessments of productivity.

Community engagement can be an effective tool for management by empowerment, but bureaucrats often have limited connections, spatially and socially, to the communities they serve, particularly in the daily tasks that they perform. There is a concentration of public sector workers in the capital city and in urban areas. Government employees are also more likely to come from advantaged sections of society—approximately 48 percent of public sector employees hold a tertiary degree, compared to just 21 percent in the private sector, and even lower for the general population (Worldwide Bureaucracy Indicators). More profoundly though, compliance-based management places an emphasis on paperwork and documentation of adherence to rules, which comes with an opportunity cost of lack of client engagement.

Community engagement is especially important in building trust with citizens in areas such as policing, where the state has a potentially adversarial relationship, and where there is a higher risk of conflict between public sector workers and citizens. This engagement is especially important in FCV contexts as only 40 percent of citizens

trust police in these countries, which is 20 percentage points below the global non-FCV average. Community policing centers on the idea that the police and the public should collaborate as co-producers of safety. Research in high-income country contexts has shown that community policing programs, such as town halls, community meetings, police door-to-door visits to households, awareness programs, and neighborhood watch patrols improve citizen satisfaction and trust. Field experiments in FCV contexts, such as in Liberia and in Papua New Guinea, have also been promising, showing that household visits by police officers and town halls led to a greater preference for the police over non-state actors for security provision, and to increased reporting of crime, with stronger effects among women and marginalized groups. Police forces should also be representative of the communities that they serve. Ethnic integration of minority groups into security forces is a key element of post-war peace agreements. A diverse workforce can help reduce discriminatory policing, improve police interactions with minorities, and enhance citizens' sense of connection and identification with law enforcement organizations.

Self-reports from public servants confirm that corruption is disturbingly commonplace in public administrations. In Brazil, 33 percent of the over 22,000 federal civil servants surveyed by the Bureaucracy Lab stated that they had witnessed some unethical practices within the past three years, with a similar proportion stating that they themselves had faced pressure to act unethically. In Ethiopia, the number of public sector workers witnessing an unethical practice was even higher, at 47 percent.

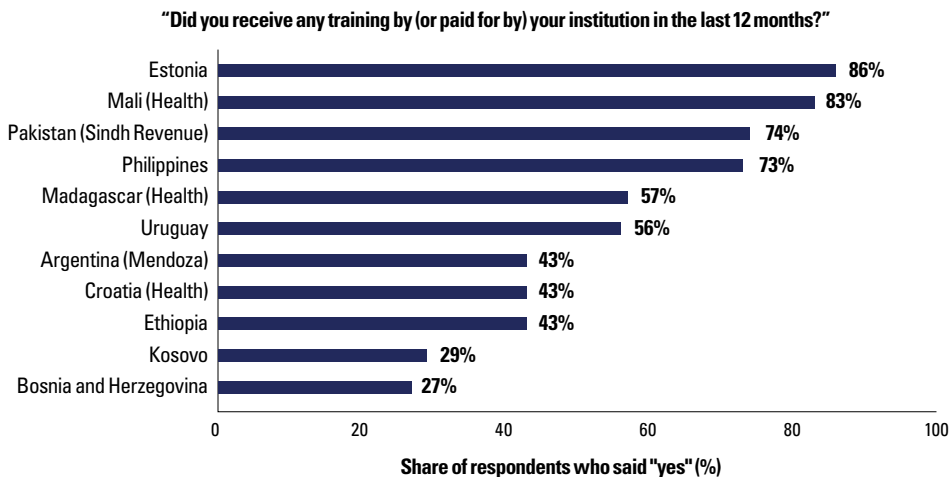
The report analyzes the role of management practices in curbing corruption and finds that there is greater potential in management by empowerment. Management by results and increased monitoring of workers is a common approach, aided by digital technologies, which can be effective for a subset of tasks, such as the delivery of administrative services like licensing and registration. For other high risk of corruption activities, notably public procurement, the evidence of increased monitoring is mixed, as there is also value in giving bureaucrats discretion in their tasks. An alternative approach is management practices that empower public servants to be ethical and in which workers will themselves report unethical behavior because it is the “right thing to do.”

The ability to safely report acts of corruption is central for public servants to feel empowered in taking an effective role in mitigating corruption. However, civil servants are often hesitant to report observed unethical acts because of fears of retaliation. The Bureaucracy Lab surveys reveal that large percentages of civil servants in Brazil, Ethiopia, Liberia, Madagascar, and Mali answered “no” when asked if they felt safe in reporting on corruption, citing concerns about lack of whistleblower protection and fear of negative repercussions. Individuals with higher levels of trust in their organization's management and confidence that there would be no reprisals were more likely to report acts of corruption. In Liberia, staff were 15 percentage points more likely to feel safe when

reporting on an unethical colleague in units with above median management quality compared to units with below median management quality. In Armenia and Brazil, the protection of whistleblowers is associated with high levels of trust between public sector workers. Anti-corruption training programs can also help create a shared understanding among public servants of what corrupt practices are, what are their rights and obligations, and the mechanisms available to them for exposing unethical practices.

Public administrations across countries provide insufficient training to staff. The Bureaucracy Lab surveys asked respondents whether they have received any training funded by the government in the past year. In several countries across regions—Ethiopia, Argentina, Kosovo, and Bosnia and Herzegovina, for example—most civil servants had not undertaken any training (Figure ES.4). Even when training is undertaken, it is often not what public sector workers need as trainings are not anchored in organizational needs or linked to the competencies required for different jobs. Competency-based approaches identify both technical and behavioral competencies; the latter entails leadership, socio-emotional skills, community engagement, and addressing biases. For example, a Bureaucracy Lab survey of environmental public workers in Amazonas state of Brazil revealed that the most demanded training was on communicating climate change to the public and on how to engage with citizens to change behaviors. Experimental studies on the police show that a variety of “soft skills” training, such as on cognitive biases and strategies to mitigate them, and on how to engage with citizens, were effective in improving the police’s interaction with citizens.

FIGURE ES.4 Many public sector workers have not taken any training in the past year



Source: Bureaucracy Lab surveys, 2016–2025.

Training should combine classroom and on-the-job learning and include action-oriented modules to solve pressing and familiar problems. Several rigorous evaluations across a variety of contexts reveal that a hybrid approach that combines classroom and on-the-job training, with an emphasis on reflective learning-by-doing and team-based learning, is more effective. Trainings may then focus on workers' technical knowledge and understanding of certain work functions or address workers' behavior, including their self-efficacy and application of that knowledge. An experimental study in Ghana showed that action-oriented training programs are also more impactful.

Many development challenges require a whole-of-government approach but collaboration and coordination between bureaucrats across ministries and levels of government is challenging. Tackling climate change, for example, requires collaboration across ministries of energy, transport, agriculture, environment, finance, and others; and local governments that are involved in frontline implementation, particularly for climate change adaptation. Bureaucracy Lab surveys reveal that collaboration across organizations is difficult. In Poland, around half of the respondents never collaborate on climate change policies with other units in their organization, and two-thirds of the respondents from central government climate change relevant agencies say that they never engage with local government on climate change. Another survey in Lithuania showed that only 40 percent of school staff stated that they worked regularly with officials in local government over the past year to create education measures and plans for youth mental health. While formal coordination mechanisms are necessary, strengthening behavioral competencies on leadership, collaboration, and communication and attitudes of civil servants to foster collaboration are critical.

Digital Technologies and the Workforce

The report explores two questions: What are the different ways in which digital technologies can improve the management of the public sector workforce; and are governments sufficiently investing in the digital skills of their workers to effectively use these technologies?

Governments have invested heavily in core digital management information systems for managing the workforce but underutilize these systems for data-informed workforce management. The number of countries with payroll and human resource management information systems (HRMIS) has increased sharply over the past two decades, and these are now an essential part of the core suite of information systems, together with tax administration, customs, and financial management information systems. These systems can be effective in strengthening workforce management, leveraging data for strategic decision-making, and improving fiscal controls. AI can expand the utility of these

systems, particularly on predictive analytics to forecast the wage bill, on estimating staff turnover, and on sourcing talent. However, the performance of these systems has been underwhelming. Many governments, even upper-middle-income countries like Brazil, underutilize their excellent HR and payroll systems, using these primarily for transaction processing and not for HR data analytics. For example, a survey of Latin American countries on the use of these systems found that HRMIS data is used less frequently for diagnostic and predictive analytics than other core systems.

Digital technologies lower the cost of monitoring workers and strengthen performance-based management, but there are also risks with excessive monitoring. The use of mobile phones to monitor government service providers, when combined with incentives, has reduced absenteeism in India, Pakistan, and Uganda. Performance incentives for tax officials can improve revenue collections. There are, however, limits and risks to digital monitoring and greater potential lies in using these technologies to improve management-by-empowerment and to spur public service motivation. Reducing absenteeism, while necessary, is not sufficient to ensure that doctors, teachers, and managers, once they show up to work, are motivated to perform well and to serve the public. Excessive monitoring, which is done in some firms, can also backfire and can be highly demotivating.

Digital technologies can help improve management by empowerment. A variety of digital tools categorized under the rubric of “civic tech” can help bureaucrats engage with communities, with regular user feedback serving as a mechanism to spur public service motivation.

Better digitally enabled management of the public sector workforce is conditional on the abilities and incentives of senior civil servants. Effective utilization of digital technologies and data requires not only managerial capacity but also a culture of using evidence to support decision-making and to enhance service delivery, which in turn requires changes to existing work practices. Bureaucracy Lab surveys in Argentina (Mendoza), Ethiopia, and Kosovo revealed that one major constraint to implementing new technologies, in addition to skills gaps and lack of training, is resistance by managers and staff to the changes to work practices that digital technologies bring.

Governments have not invested sufficiently in developing foundational and advanced digital skills in the public sector workforce. Most low- and middle-income countries do not have adequate job profiles or digital competency frameworks for public sector workers nor structured planning for future needs. Bureaucracy Lab surveys for Argentina (Mendoza province) and Kosovo, for example, reveal that only 30 percent and 55 percent of the managers respectively stated that they gathered information on the digital skills of staff in their agency to inform their human resource planning. Basic digital training in the use of IT equipment and software is limited, with a minority of staff in Argentina,

Ethiopia, Kosovo, Pakistan, and the Philippines having received such training in the past year. Managers also expressed frustration with the lack of training in data analytical skills to effectively utilize the information collected in management information systems. Low- and middle-income countries also generally do not have specialized digital occupational groups to build more advanced digital skills in government. For example, in Latin America and the Caribbean region, only 12 percent of governments have a dedicated career track for data analysts. Such professional networks are important not only for having a viable career but also as a driver of public service motivation, particularly for workers who can earn much more in the private sector.

Reform Priorities for a More Effective Workforce

The final chapter provides a set of guideposts, or strategic reform priorities, for a more effective public sector workforce. These recommendations are distinguished by some relatively easier reforms, or “quick wins”, that can be enacted in the short term even in low-income countries; and more difficult and necessary longer-term reforms, which may be more suitable for middle-income countries.

There are several potential quick wins for improving wage bill management, management practices, and the potential for digital technologies. Payroll systems can be used to eliminate ghost workers, improve the geographical and functional distribution of staff, and to conduct wage bill simulations. The quality of new hires can be improved through open competition and competency-based screening, and through recruitment campaigns and outreach to emphasize the mission of the public service. Compensation practices can be improved through regular monitoring of the number of applicants per vacancy to gauge public-private wage differentials; and elimination of distortionary allowances to improve wage equity and transparency. Management practices can emphasize management by empowerment, such as through reorienting performance evaluations as mechanism for strengthening mission orientation and alignment of individual and organizational goals; emphasizing whistleblower protection so that public servants feel safe in reporting acts of corruption; and fostering community engagement through digital tools. Short, “pulse” staff surveys using smartphones can be used to get rapid responses from employees on their experiences and perceptions of management practices, to gauge employee motivation, and to involve them in solving organizational problems. Governments can attract digital talent by appealing to public service motivation and targeting recruitment campaigns to women given their relatively higher preference for public sector employment.

Abbreviations

BRT	Business Roundtable
CCIA	Climate Change Institutional Assessment
CHW	Community Health Worker
CLP	Carbon Literacy Project
COVID-19	Coronavirus Disease
CSPS	Canada School of Public Service
DETER	Real-Time System for Detection of Deforestation
EU	European Union
FCDO	Foreign, Commonwealth & Development Office
FCV	Fragility, Conflict, and Violence
FDA	Forest Development Authority
FTE	Full-Time Equivalent
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GSPS	Global Survey of Public Servants
HR	Human Resources
HRMIS	Human Resource Management Information System
HRH	Human Resources for Health
HRM	Human Resource Management
IBAMA	Environment and Renewable Natural Resources
ICT	Information and Communication Technology
IMF	International Monetary Fund
ISCO	International Standard Classification of Occupations
ISORA	International Survey on Revenue Administration
IT	Information Technology
L&D	Learning and Development

LE	Egyptian Pound
LMICs	Lower-Middle-Income Countries
MIS	Management Information System
NASA	National Aeronautics and Space Administration
NGO	Nongovernmental Organization
OECD	Organisation for Economic Co-operation and Development
PBF	Performance-Based Financing
PPCDAM	<i>Plano de Ação para Prevenção e Controle do Desmatamento na Amazônia Legal</i> (Plan for the Prevention and Control of Deforestation in the Legal Amazon)
RCA	Revenue Collecting Agency
REDD+	Reducing Emissions from Deforestation and Forest Degradation in Developing Countries
SDG	Sustainable Development Goals
SEEA	Strategic Environmental and Economic Assessment
SEI	Sistema Eletrônico de Informações (Electronic Information System)
SOE	State-Owned Enterprise
STEM	Science, Technology, Engineering, and Mathematics
TADAT	Tax Administration Diagnostic Assessment Tool
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund
UNITAR	United Nations Institute for Training and Research
UK	United Kingdom
WEF	World Economic Forum
WHO	World Health Organization
WWBI	Worldwide Bureaucracy Indicators

Chapter 1: Framework of the Report

1.1 Introduction

State administrative capacity is central to reducing poverty and boosting shared prosperity on a livable planet. The centrality of institutions for economic development has been rigorously established by a large academic and policy literature.¹ Government bureaucracies, or public administrations, are key institutions that design and, more importantly, implement policies. A pedigreed historical literature showed how state administrative capacity was central to the formation of European states ([Tilly 1990](#)) and underpinned the East Asian miracle ([Wade 1990](#)); and a more recent micro-empirical literature underscores why it is necessary for nearly every global development goal, from building of human capital to addressing climate change.² Estimates from the results of several experimental studies on a variety of government functions reveal that investing in administrative capacity can increase the impact of public expenditures tenfold ([Muralidharan 2024](#)).

State capacity is also important for restoring citizen's trust in government. As has been well-documented in several cross-national public opinion surveys, trust in government is both low and has been declining due to citizen's skepticism about the accountability and responsiveness of public institutions and increasing political polarization ([OECD 2024](#)). A variety of factors influence trust in government, with enhancing state capacity to improve the day-to-day delivery services to citizens, reducing corruption, and effectively managing crises as among the most important.

The world's 400 million public sector workers are the most important ingredient of state administrative capacity.³ These workers are responsible for performing functions ranging from enforcing regulations, collecting revenues, managing expenditures, building infrastructure, maintaining law and order, delivering services, and engaging

1 The canonical academic work is by Daron Acemoglu, Simon Johnson, and James Robinson, recognized by the Nobel Prize in Economics in 2024, and detailed in Acemoglu and Robinson (2012). The forthcoming World Bank report *"Institutions and Prosperity: Public Institutions for Enabling the Private Sector"* provides a comprehensive review of the evidence regarding why state capacity is central to improving economic welfare.

2 See for example the review of experimental literature in [Besley and others \(2021\)](#).

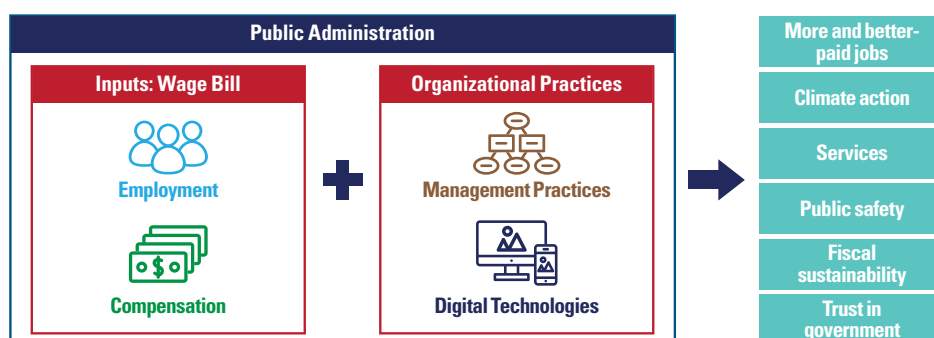
3 This number of public sector workers has been estimated using the [Worldwide Bureaucracy Indicators](#) dataset.

with citizens. The criticality of teachers, health workers, police officers, and other frontline workers has long been clear; and there is now also rigorous evidence about the importance of managers and administrators, or the archetypical “bureaucrat,” to achieving economic prosperity. Good quality teachers are necessary but not sufficient for learning; they must be part of an overall system aligned to learning that includes school principals, as well as the bureaucrats in ministries and local governments ([World Development Report 2018](#)). Experimental studies reveal that the quality of procurement bureaucrats determines the prices that governments pay for a standard set of goods ([Best and others 2023](#)); that career incentives of tax administrators matter for domestic revenue mobilization ([Khan and others 2019](#)); and that the quality of managers drives the productivity of social security administrations ([Fenizia 2022](#)).

1.2 Conceptual framework

This report is about how to make public sector workers more effective in performing core government functions. To answer this question, the report uses a conceptual framework based on the production function of public administration (Figure 1.1). The workforce of a government ministry, department, or service delivery unit produces outputs through a combination of inputs and the organizational practices to convert those inputs into outputs. The main inputs are the wage bill, or the quantity and quality of public sector employees and their compensation; and goods and services, such as textbooks, medicines, and office infrastructure and supplies. This report limits its attention to the wage bill. The personnel analyzed in this report are those who staff government organizations, spanning from central ministries to local governments, to schools, clinics, and police stations.⁴ Compensation includes both the level and the structure of pay.

FIGURE 1.1 Determinants of workforce performance and core development challenges



Source: Authors based on Kim et. al (2026).

⁴ Staff in public enterprises and the military are excluded from the analysis of the report.

Organizational practices are broadly defined in line with academic literature, consisting of management practices and the use of digital technology in the workplace. Management practices include performance management, training, teamwork, community engagement, and integrity and transparency that impact the motivation and productivity of the workforce. Digital technologies have significantly impacted the productivity of private sector firms and have been similarly transformative in the public sector. Digital technologies are, however, an enabler that requires a variety of “analog complements” for impact, particularly sound management practices that incentivizes the use of these technologies and a skilled workforce that can effectively deploy them productively ([World Bank 2016](#)). The report therefore, zeros in on the interaction between digital technologies and the workforce—how digital technologies influence workforce management and how workforce quality and management practices impact the adoption of these technologies in the workplace.

Given the focus on the public sector workforce, two important elements of state capacity—regulations and the organizational structure of the state—are not covered in the framework. A ubiquitous complaint against bureaucracies is “red tape,” which slows decision-making to a glacial pace burdened by a mountain of rules and regulations, creating a variety of inefficiencies in the economy and opportunities for rent-seeking. In many countries, this bureaucratic burden is by design, as politicians create the rules and regulations that govern bureaucracies, often for the noble goals of promoting transparency, accountability, and independence, but sometimes also for the more nefarious purposes of rent-seeking.⁵ The need for deregulation and streamlining these rules is urgent but requires detailed country-specific regulatory analysis and business process reengineering, topics that are quite different from the focus of this report. The administrative structure of the executive, which is linked to the mandates of ministries, departments, and sub-national jurisdictions, has implications for the performance of public sector workers, and on whether some functions are outsourced to the private sector. These organizational aspects of the state are taken as a given as they are also country-specific and well beyond the scope of this report.

The public sector wage bill and organizational practices influence development outcomes. A variety of state functions impact job creation, but one that has received less attention is public sector compensation. The public sector’s relatively generous compensation can hurt private sector job creation as individuals queue for public sector jobs. Climate mitigation and adaptation require much more than finance, as new public sector workforce competencies need to be built in a short time. The teaching and health workforce in low- and middle-income countries has increased considerably over the past four decades but there are significant problems with workforce quality, with many service providers absent or not proficient. FCV countries are home to approximately 1.8 billion people and two-thirds of the extreme poor, and the provision of public safety is essential

5 These are the so-called “governance dimensions” of public institutions as defined in World Bank (forthcoming). For a discussion on how the rules promoting procurement transparency leads to failures of government IT projects, see [Pahlka \(2023\)](#).

for keeping the peace in these contexts. Many low- and middle-income countries confront fiscal distress and reversal of their economic gains because of the multiple shocks of the COVID-19 pandemic and other crises, underscoring the importance of effective wage bill management for fiscal sustainability and the need for governments to “do more with less” ([World Bank 2024a](#)). Corruption within the public administration undermines trust in government, underlining the importance of management practices that promote integrity.

1.3 Methodology

This is an empirical report, drawing on a rich body of academic evidence and original micro-data, much of it were produced by the Bureaucracy Lab of the World Bank.⁶ Bureaucracy and bureaucrats is a topic that usually invites ideologically tinged and strong opinions in political and public discourse. Given the political sensitivity of the topic, it is paramount that the discussion on workforce performance be grounded in rigorous evidence. Fortunately, the evidence base to draw on is considerable. There is now an enormous theoretical and empirical literature, spanning the fields of labor economics, development economics, political science, and public administration, which has identified the core ingredients of public sector workforce productivity. There are novel micro-level datasets that provide a granular picture of the wage bill and workplace practices. These datasets, detailed in Annex 2, are as follows:

- **[Worldwide Bureaucracy Indicators](#).** The Worldwide Bureaucracy Indicators (WWBI) is a global dataset on public sector employment and compensation produced by the Bureaucracy Lab. It provides indicators on the characteristics of public sector workers, their wages, benefits, and the overall wage bill. The WWBI draws from 1,072 household and labor force surveys conducted across all regions, covering 151 countries from 2000 to 2022. With approximately 67 million household observations, it is the most extensive global dataset on public sector personnel.
- **Surveys of public sector employees.** The Bureaucracy Lab has conducted surveys of public sector workers in 30 countries, covering over 200,000 respondents. This dataset is one of the largest survey repositories of its kind in the world. These surveys are also part of the [Global Survey of Public Servants \(GSPS\)](#), a global initiative which is a collaboration between the World Bank and academic partners that uses the Lab’s surveys, and additional ones conducted by the partners, to create a core set of cross-national indicators on human resource management.

⁶ The Bureaucracy Lab is a collaboration between the Governance Department and the Development Impact Evaluation (DIME) Department of the World Bank.

This report will frequently present data from the surveys of public sector workers, and the list of these country surveys can be found in Annex 2. This reliance on original data, particularly on management practices, leads to some selectivity in the use of country examples. The generalizability of the findings, therefore, will require judgment and an understanding of country context.

1.4 Report structure

The report is structured with chapters dedicated to each of the three key drivers of workforce performance. The target audiences are policy makers and development practitioners engaged in strengthening whole-of-government workforce policies. It tries to answer the following sets of questions:

- ***The wage bill*** (Chapter 2). Are governments appropriately sized in terms of the quantity, distribution, and demographics of their workforce to deliver core functions, and what can be done to address staffing shortages given fiscal constraints? On quality, are recruitment practices meritocratic and selecting for high-ability and highly motivated individuals, and what should be done to ensure meritocracy? How do public sector employment practices promote economic opportunities for women, and can these change gender norms in the overall labor market? Are public sector wages efficient in terms of competitiveness with the private sector, and for motivating and incentivizing performance? What are the implications of compensation practices in promoting equity in the labor market? Does public sector compensation lead to queuing for public sector jobs, hurting private sector job dynamics? Does the wage bill unduly impact fiscal sustainability, and what are the priority workforce reforms needed to help tax authorities raise more revenues to improve fiscal sustainability?
- ***Management practices*** (Chapter 3). How can management practices empower public sector workers to deliver on their mission to serve the public, and to hold them accountable for delivering on results? When is it appropriate for managers to closely monitor workers for performance and when should workers be granted autonomy and discretion to pursue their tasks? How can performance management be made more effective through goal setting; alignment of staff to organizational goals; performance assessments; and the efficacy of career, financial, and non-financial incentives? Given the changing and increasingly complex demands posed by climate change and digital technologies, are public administrations promoting life-long learning? What are the practices to strengthen integrity and trust within public administrations? How do management practices foster collaboration

and coordination across organizational silos given the importance of whole-of-government policy making and implementation to address global challenges?

- ***Digital technologies*** (Chapter 4). How can digital technologies, or Gov Tech, be effectively used in the public administration to improve the management of the workforce? Are governments investing sufficiently in the digital skills of its workers and managers to effectively utilize digital technologies?

The final chapter provides a practical set of recommendations for improving the performance of the public sector workforce that can be used as guideposts for countries to adapt to their own circumstances. These recommendations have been derived from the core problems analyzed from a large sample of countries; the relevance of these problems will, naturally, vary from country to country. Therefore, the report, in addition to suggesting high-level reform priorities and serving as implementation guidance, also provides a set of guiding questions that can help assess whether the problem and the suggested reforms are applicable to a particular country, and how the recommendations need to be tailored to the local context. The report recognizes that improving the performance of the workforce often requires sustained reforms over the long term, particularly in management practices. Nevertheless, there are some relatively easier reforms, identified in this report, that can be enacted in the short term (quick wins) even in low-income countries.

Chapter 2: Wage Bill—Ensuring Governments Have the Right Workers who are Effectively Paid

2.1 Introduction

Effective management of the wage bill requires governments to achieve the difficult balance between delivering on its core functions, maintaining fiscal discipline, and ensuring competitiveness of the overall labor market. Wage bill management often gets attention from policy makers only during times of fiscal crises, necessitating short-term fixes like across-the-board wage freezes or cuts, and downsizing through voluntary or involuntary schemes to cut expenditures and meet fiscal targets. Many of these short-term measures though, have adverse impacts on long-term growth and welfare, and political viability, and often create distortions and perverse incentives. One of the objectives of this chapter is to underscore a holistic approach to wage bill management, giving equal primacy to its effects on recruitment, retention, and motivation of workers, and on possible queuing for public sector jobs and skills shortages in the private sector.

This chapter has four main findings. First, the public sector in low-and middle-income countries generally has too few workers to deliver critical functions but also has limited policy options to “right size” its workforce. Most of these countries face severe shortages of staff, particularly in rural areas, to deliver key services, and do not have the fiscal space to hire more workers. The public sector is also a large source of formal sector jobs, particularly for women, and therefore any right-sizing efforts have significant welfare, gender equity, and political economy implications. The focus of employment policy should, therefore, be to use the limited fiscal resources to allocate staff efficiently, based on data; to emphasize the quality of the workforce; and to promote gender equity and inclusion.

Second, a key factor affecting the low quality of the workforce is a lack of merit in recruitment. Many governments do not have well-defined skills and competencies for core managerial, administrative, and technical jobs; and do not effectively screen candidates for these competencies. The recruitment process is also highly vulnerable to undue political influence and patronage-based hiring. More centralized recruitment processes entailing competency-based written examinations, and behavioral interviews, can safeguard merit.

Third, government compensation practices are often ineffective as they pay more compared to the market, have pay structures that are complex and lack transparency, and do not incentivize performance. On average, the public sector pays more than the formal private sector in most countries, particularly when benefits are considered. This compensation premium can lead to queuing for public sector jobs and skills shortages in the private sector. At the same time, public sector pay structures lack the flexibility to attract and retain high-demand skills. Pay structures are often complex and non-transparent, resulting in workers with the same skills and experience being paid differently. This pay inequity is demotivating and raises the wage bill without necessarily raising productivity. Pay also often does not incentivize performance due to weaknesses in performance management. Compensation reforms should be a priority, supported by granular, evidence-based analysis to counter the inevitable political resistance to these reforms.

Fourth, workforce reforms can help improve domestic revenue mobilization. While there are potential wage bill savings from compensation reforms, governments will not be able to balance the objectives of service delivery, fiscal sustainability, and job creation unless they have more resources. Tax administration reforms have underemphasized the personnel dimension; and there are targeted staffing, compensation, and management reforms that can improve the capacity of tax authorities which should be prioritized.

2.2 Ensuring that governments have the “right” workers

Are governments overstaffed? The government wage bill is a large share of budgets and reducing it is a recurring policy objective for fiscal sustainability and to free up resources for capital spending. Policy makers, therefore, naturally want to know what is the right size of the wage bill that they should aim for, and what is the right size of public sector employment. This question also elicits strong, often ideologically motivated generalized statements about “bloated bureaucracies” without the necessary country-by-country empirical analysis to identify inefficiencies in staffing. As discussed in more detail below, there are no global benchmarks for the wage bill—the wage bill is higher as a share of GDP in high-income countries and is uncorrelated with fiscal health. The answer to the question on public sector employment is also context-specific and requires asking whether there are sufficient workers to deliver core functions; are there inefficiencies in staffing in terms of distribution, demographics, and skills; and what are the implications of any “right sizing” policies on formal sector jobs in the economy given the interactions between public and private employment.

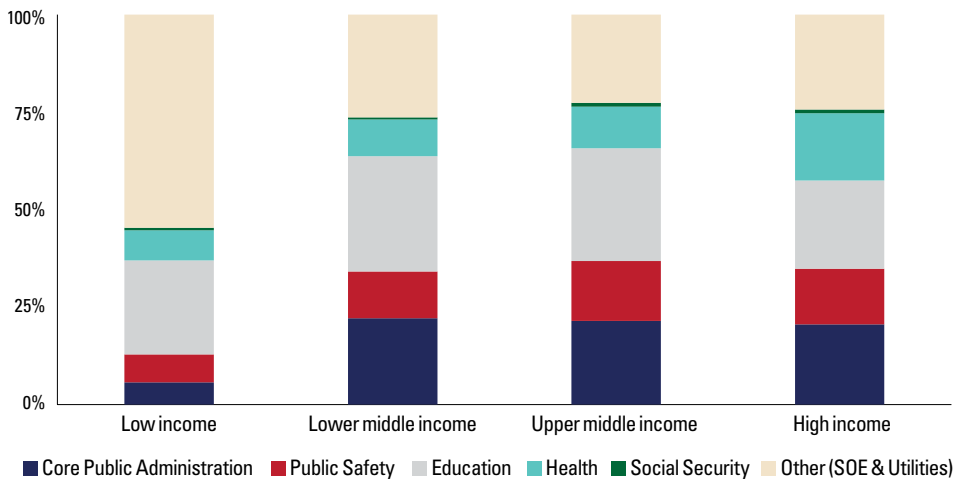
FIGURE 2.1 Public sector employment is higher in richer countries



Source: Worldwide Bureaucracy Indicators.

Note: Public sector employment includes workers in central governments, local governments, and state-owned enterprises. Each circle represents a country

In aggregate terms, poorer countries are relatively understaffed when compared to richer countries. High-income countries have per capita public employment generally ranging from 50 public sector workers per 1,000 people to 140 per 1,000 (Figure 2.1). By contrast, the range in low-income countries is mostly between 10 and 20 public sector workers per 1,000 population; and in lower-middle income countries it is concentrated in the 10 to 60 per 1,000 population range. The same pattern is observed as a share of employment, with public sector employment averaging 6 percent of total employment in low-income countries and increasing to 25 percent in high-income countries. This correlation between public employment size and country income has long been observed and is known as “Wagner’s Law.” It reflects a growth in government functions as economies become more complex with structural transformation, demographic shifts, and increasing demand from the public. There is, as expected, considerable heterogeneity around this trend, reflecting policy choices, history, and political economy factors. Nevertheless, the growth of the public sector workforce is part and parcel of the socioeconomic development process.

FIGURE 2.2 Core service delivery staff make up the largest proportion of public workers

Source: Worldwide Bureaucracy Indicators.

Note: SOE = State-Owned Enterprise.

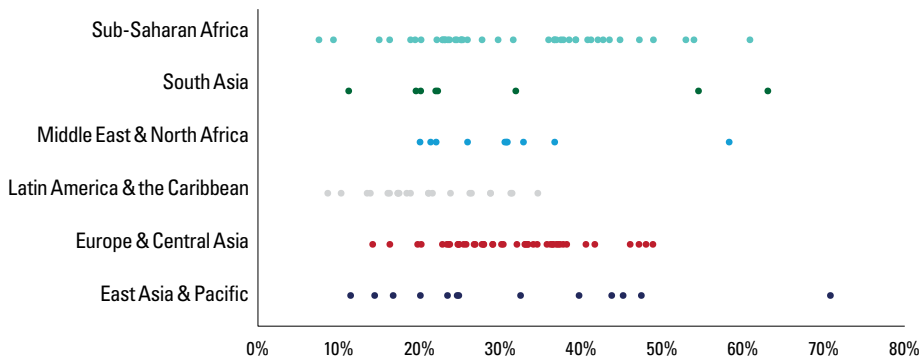
Low- and middle-income countries confront shortages of staff in core functions. The public sector workforce is concentrated in the core service delivery sectors, with over 45 percent in the low-income countries, and 55 percent in the middle- and upper-income countries, in health, education, and public safety (Figure 2.2). Poorer countries face severe staffing shortages in these critical functions. An estimated 44 million additional primary and secondary teachers are needed to meet Sustainable Development Goal (SDG) 4, quality education for all, by 2030. These countries need an additional 10 million health workers by 2030 (WHO 2024). There are half as many police officers per capita in FCV countries as in non-FCV countries despite the greater need, by definition, for security and law and order in these contexts (Small Arms Survey 2017). There are significantly fewer forest personnel per hectare of forest in the tropical rainforest countries compared to those in the temperate forests of Europe and North America; and even countries that are relatively better staffed, like Brazil, rely increasingly on cheaper contracts instead of permanent workers.⁷ India needs four times as many health workers and three times as many police officers to meet global norms, and 20 percent of district management positions were vacant ([Muralidharan 2024](#)). Nigeria has a primary school pupil–teacher ratio of 64.1 ([World Bank 2024b](#)). Bureaucracy Lab surveys of health personnel in Croatia, Madagascar, and Mali reveal that these shortages have become worse since the COVID-19 pandemic, particularly for nurses.

⁷ World Bank calculations based on data extracted from Brazil government transparency portals.

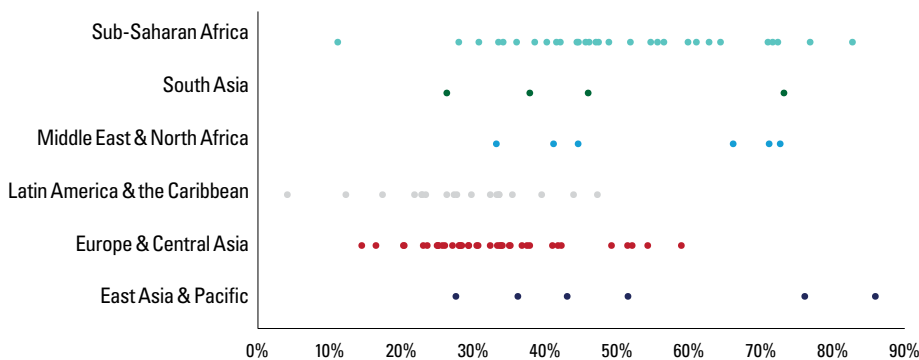
The public sector is the largest source of paid and formal sector jobs in poorer countries. Understaffing in low- and middle-income coexists with the fact that the public sector is often the largest source of formal sector jobs given the underdeveloped private sector in these countries. Public sector employment accounts for 30 percent of wage and 38 percent of formal employment worldwide, with higher proportions in low-income and FCV countries. There is considerable regional and cross-country variation around these global averages with public sector shares of formal employment ranging from less than 10 percent to over 80 percent. In regions such as the Middle East and North Africa and Sub-Saharan Africa, the public sector provides most of the formal sector jobs (Figure 2.3).

FIGURE 2.3 The public sector is a large source of paid and formal sector jobs

a. As percentage of paid employment



b. As percentage of formal employment



Source: Worldwide Bureaucracy Indicators.

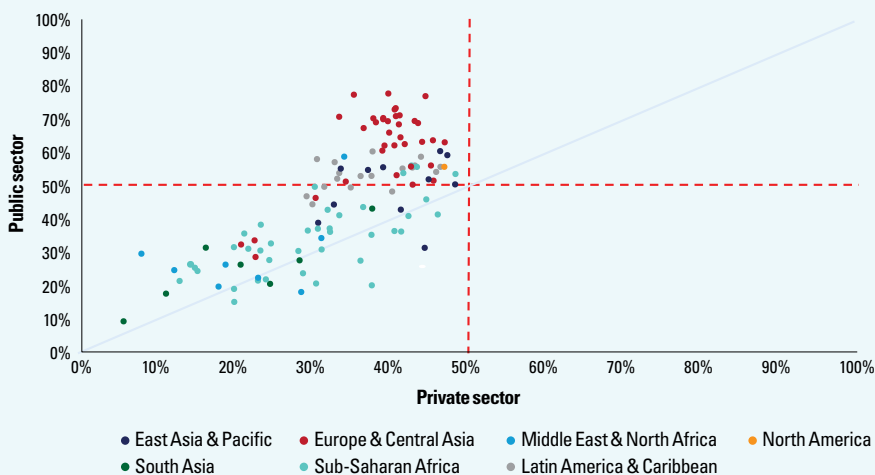
Note: Each point in the graph represents a country.

The public sector is an even more important source of formal sector jobs for women and pays women a fairer wage (Box 2.1). Any adjustments to public sector employment can therefore have deleterious effects on the livelihoods of women.

Box 2.1 The Public Sector as an Employer of Women

The public sector is a disproportionately large employer of women across all regions. Although women have a lower labor force participation rate than men in most countries, they are highly represented in the public sector workforce, consistently across all regions. Globally, women represent 46 percent of the public sector workforce, compared to 33 percent in the private sector. The public sector is more representative of women in all but a handful of countries (Figure 2.4). Studies reveal that the reasons have to do with women's preference for public sector jobs and not governments actively hiring more women (Gomes and Kuehn 2024). Women chose public sector employment because of better work–life balance, greater benefits, and job security. There is also a higher proportion of teaching and health care public sector jobs, occupations that have traditionally been viewed as more “feminine.” A Bureaucracy Lab labor force survey in Bosnia and Herzegovina found that women's stronger preference for public sector employment was primarily driven by superior working conditions and job security, in contrast to men who cited higher salaries as their main reason for preferring public sector jobs. Women's representation in the public sector rises with country income, which is consistent with Wagner's Law and the expansion of government services that employ more women.

FIGURE 2.4 The public sector is a larger employer of women than the private sector

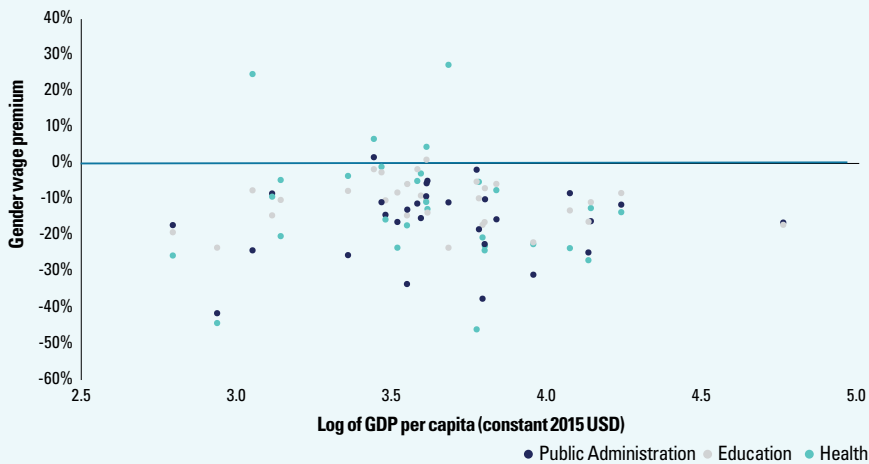


Source: Worldwide Bureaucracy Indicators.

Note: The 45-degree line denotes parity between the two sectors

Women, however, concentrate in a few occupations and are underrepresented in leadership positions. Occupational segregation, both horizontally in specific job families, and vertically in terms of seniority, is as much a feature in the public sector as in the private sector. Women are concentrated in education and health care, where they constitute over 60 to 70 percent of the public sector workforce in Latin America and the Caribbean, East Asia, and Europe and Central Asia regions. This occupational segregation may also be reinforcing biases in educational choices, with women under-enrolling in STEM fields and creating a self-perpetuating cycle. In this cycle, women who aspire to work primarily in public sector jobs may tailor their education to acquire skills relevant to such roles, restricting their ability to compete in the private sector, which often demands different qualifications. Women also dominate clerical and professional roles in the public sector, where they make up over 50 percent of the workforce, and are underrepresented in managerial roles, with only 34 percent of these positions held by women. The persistent underrepresentation of women in leadership roles underscores the structural barriers and cultural norms that continue to impede gender equality in the public sector. These constraints, detailed in Chapter 3, include discriminatory hiring practices, limited access to mentorship and professional networks, and the disproportionate burden of balancing work and family responsibilities, which continues to weigh more heavily on women.

There is a gender pay gap in the public sector, but it is smaller than the pay gap in the private sector. Globally, women's average wages are 88 percent of male wages in the public sector, compared to 74 percent of male wages in the private sector. As a result, women have a higher public sector wage premium than men. Unlike the private sector, public sector salary scales are typically regulated by legislation, reducing the likelihood of wage discrimination against women. Yet, wage equity remains an elusive goal in the public sector, largely due to occupational segregation, with women of similar education and age filling more junior positions and earning less than their male counterparts in the main job families of education, health care, and public administration (Figure 2.5).

FIGURE 2.5 Women earn less than men in equivalent public sector professions

Source: Worldwide Bureaucracy Indicators.

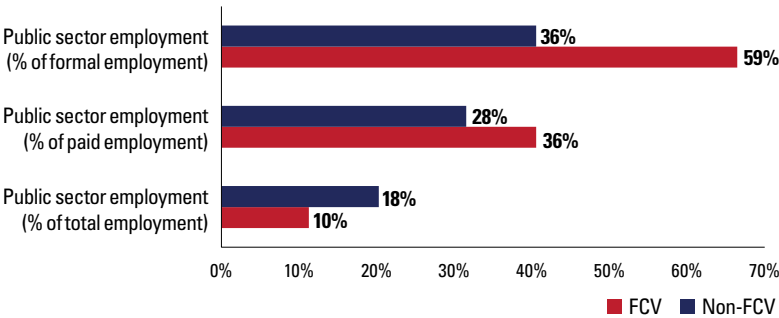
Promoting women leadership requires tackling structural barriers and cultural norms that impede gender equity in the public sector. A Bureaucracy Lab survey in Moldova found that fewer women receive performance assessments, particularly in managerial roles; that men apply for promotions at significantly higher rates than women; and a significant proportion of women believe that assumptions about motherhood or caregiving responsibilities negatively impact their chances of promotion. Other surveys from Ethiopia and Mali also found differences in performance evaluation and more limited access to training opportunities for women.

Public sector employment is often the only source of formal sector jobs in fragile and conflict-affected (FCV) situations. Public sector employment accounts for nearly 59 percent of all formal employment opportunities in FCV contexts, compared to 36 percent in non-FCV contexts (Figure 2.6). This higher employment, and the resulting higher wage bills (10.1 percent of GDP in FCV and 8.7 percent of GDP in non-FCV) are partially explained by significant security and military expenditures that were off-budget being progressively brought on-budget, and the allocation of public sector jobs as a means of “keeping the peace” through providing jobs to rival groups.

These two stylized facts of understaffing for core functions and a large labor market footprint limit the ability of poorer countries to use employment policies to “right size” the government. Any serious downsizing effort would need to reduce core service delivery staff, worsening the understaffing problem for these functions. Cutting employment can

also result in a fiscal shock and loss of livelihoods, particularly for women, given that the public sector is a source of formal sector jobs, and the alternatives to such these jobs in low- and middle-income countries is often informal employment and self-employment ([Donovan and others 2023](#)). Political economy factors also invariably create pressure for increasing public sector employment, and therefore downsizing is likely to be reversed and does not save fiscal resources in the medium term.

FIGURE 2.6 The public sector is a larger share of formal and paid employment in FCV contexts



Source: Worldwide Bureaucracy Indicators.

Note: FCV = fragility, conflict, and violence.

Countries often try to right size by using lower-paid contract or volunteer workers to provide critical functions, but these strategies are risky. Contract and temporary teachers and health workers, for example, are common in poorer countries, are paid less than their permanent counterparts, and have time-bound appointments. In the Lao People’s Democratic Republic, for example, 30 percent of the teaching force and 26 percent of health workers are temporary. In Cameroon, contract teachers were paid half as much as teachers with civil servant status. Some experimental studies have shown that, in the short term, contract teachers can outperform regular teachers as they are ostensibly more accountable and have an incentive to work harder to get civil servant status ([Bruns and others 2011](#)). In the long run however, these dual track labor regimes are often not sustainable. Most contract staff, with the backing of employee unions, successfully transition to permanent status, as has been the case in India ([Somanathan and Natarajan 2022](#)). Contract teachers also are hired less meritocratically. In Madagascar, contract teachers were 50 percent less likely to have been selected competitively (Bureaucracy Lab Survey 2022). The lower and more unpredictable salary is also demotivating—in Madagascar, 80 percent of contract teachers, compared to 30 percent of civil servant teachers, received their salary late.

Some of these staff shortages can be met through better functional distribution and deployment of the public sector workforce. The broad industry distributions of

employment in Figure 2.2, for example, reveal that low- and middle-income countries have a relatively high share of public sector workers in the “other” classification, which includes state-owned enterprises operating in manufacturing and mining sectors, and utilities. In many countries of Sub-Saharan Africa and Eastern Europe and Central Asia, the state undertakes commercial functions that result in misallocation of public resources, fiscal costs, and competitiveness of the economy. Urban–rural differences in public sector workers, and variations in staffing across facilities even within subnational administrative units are common and underline the importance of data-informed staffing policies. A recent analysis of the health workforce in 10 Sub-Saharan African countries found that the sub-optimal distribution of staff meant that the average provider was under-employed but that the average patient saw a relatively busy provider ([Daniels et al. 2025](#)). In Lao PDR, there are four times as many doctors per capita, and three times as many nurses, in urban as in rural areas. In Nigeria, there is almost no correlation between school enrollment and teacher deployment, with 88 percent of the variation in pupil–teacher ratios explained by factors other than student enrollment, and with significant inequity across facilities within states ([World Bank 2024b](#)). In Mali, there is a 27-fold variation in staff per health facility across communes. In the Central African Republic, most public workers are concentrated in the capital, Bangui.

A multi-pronged approach is usually required to address the problem of staffing shortage in rural areas. Such an approach includes regulations for compulsory rural service, monetary and career incentives, and developing a “rural pipeline” of service delivery staff.⁸ Incentive schemes for rural retention include strategies such as scholarships and loan programs linked to obligatory rural service, higher salaries and rural allowances, and various interventions to make working and living conditions in rural areas as amenable as possible. A rural pipeline describes purposely designed rural career paths, starting with selecting future health workers from underserved areas; training them locally (ideally by locally available teachers who will later continue to act as mentors and support persons); and ensuring adequate working conditions, targeted support, networking opportunities, and most importantly career development paths. The evidence for the efficacy of these schemes in poorer countries is however limited, underlining the persistence of this problem of rural staffing shortages.

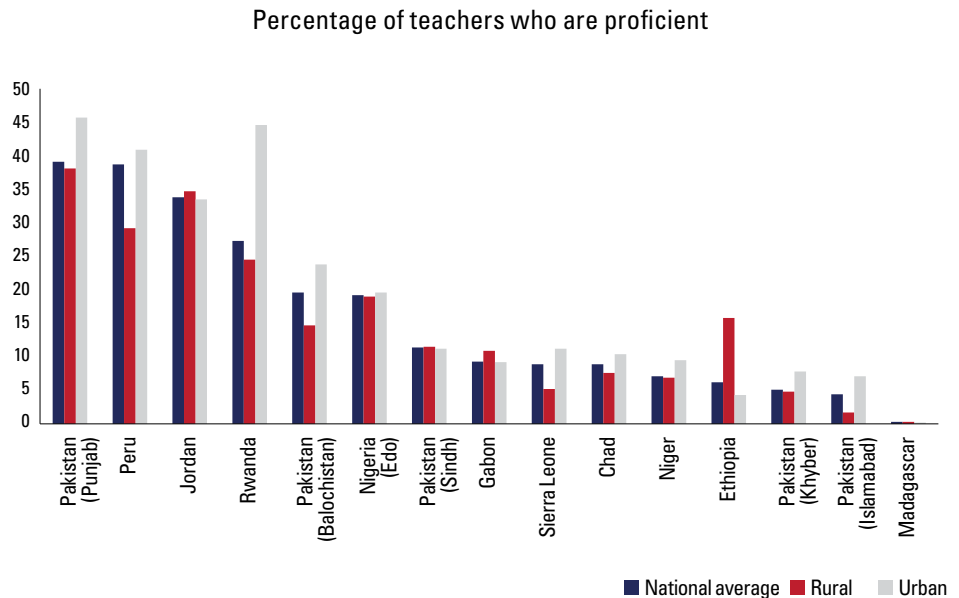
Data-informed workforce planning is essential in achieving the difficult balance between fiscal sustainability, state capacity to deliver core functions, and protecting formal sector jobs. There should be a clear line of sight between an organization’s medium-term strategy, staffing needs, and available resources. Integrated payroll and human resource management systems, as discussed in more detail in Chapter 4, provide the essential data for workforce planning and help evidence this line of sight. They can

⁸ See [World Bank \(2024d\)](#) for a review of the literature.

identify inefficiencies in staff distribution, enable wage bill projections, and offer different options to help reduce the risk of fiscal unsustainability without compromising the other objectives of service delivery and maintaining livelihoods. In Brazil, for example, analysis of administrative data revealed that reforms in pay structures, in particular limiting automatic annual salary increases, yielded 5 times as much reduction in the medium-term wage bill as staffing reductions (World Bank 2020).

The bigger problem is poor skills within the public sector workforce. Staffing shortages are often compounded by the poor quality of the workforce. Without addressing the quality problem spending, scarce fiscal resources on new hires would be inefficient and ineffective. Most teachers in low- and middle-income countries are not proficient in the subjects that they teach (Figure 2.7). Skills assessments of health workers using vignettes reveal similarly alarming skills gaps, with doctors in 9 countries in Sub-Saharan Africa having a diagnostic accuracy rate of only 67 percent (World Bank 2021a). While there are no standardized assessments of competencies of managers and administrators, Bureaucracy Lab surveys of the use of basic information technology tools in the workplace are revealing. In Ethiopia, for example, only half of the civil servants, as self-assessed, could create an Excel spreadsheet or PowerPoint presentation.

FIGURE 2.7 A high proportion of primary school teachers are not proficient in the subjects they teach



Source: Based on data from Global Education Policy Dashboard.⁹

9 Details can be found at <https://www.educationpolicydashboard.org/>.

These quality problems are reflective of political pressures that often drive public sector employment and underline the importance of meritocracy in hiring. Politicians use public sector jobs as a major source of patronage, targeting hiring of their supporters ([Brierly 2021](#); [Grindle 2012](#); [Hassan and others 2024](#)). The literature has revealed political business cycles in hiring, the interplay between public employment and ethnic divides, and perverse incentives created by decentralization to grow the public sector workforce. Ensuring a transparent and meritocratic recruitment process is among the most important policy priorities for public sector employment policies. Meritocracy was the foundation for building professional “Weberian” civil services in the United States and Western Europe in the late 19th century with, for example, the passage of the Pendleton Act that transformed hiring in the US bureaucracy from a “spoils system” to one that was non-partisan and based on skills.

2.3 Selecting the right workers

Merit-based recruitment is essential for selecting high-ability and highly motivated individuals into the public service, and for bestowing prestige to working in the public sector. Merit as the basis for hiring was introduced in China in the 7th century CE with the use of examinations to select individuals with core Confucian values into the civil service. Cross-national studies show that transparent and competitive hiring practices that select workers based on their competencies, rather than on political affiliation, are correlated with economic growth, lower corruption, and bureaucrats’ self-reported motivation and job satisfaction ([Evans and Rauch 1999](#)). There is also a growing body of experimental evidence that hiring service delivery workers based on merit results in better student learning, improved delivery of preventative health services, faster delivery of mail, and reduced crime rates ([Araujo and others 2020](#); [Estrada 2019](#); [Ornaghi 2019](#)). Merit-based competitive recruitment is also a source of considerable prestige for civil servants in elite administrative services, for example, in Brazil, India, the Republic of Korea, and Pakistan, who know that they belong to a highly select group. This high value of public sector employment can, however, create incentives for patronage and corruption, underscoring the importance of institutional guardrails to protect merit.

Merit-based recruitment is also important in poorer countries given the weaknesses in pre-service training and in licensing and accreditation systems. In Ethiopia, for example, the rapid expansion of medical education—where the government required existing public medical schools to increase their enrollment by three to four times—has outpaced institutional capacity. As a result, over 90 percent of students report dissatisfaction with their training, highlighting serious quality gaps that leave graduates ill-prepared for frontline service delivery and place greater pressure on downstream quality

assurance mechanisms. In contexts where pre-service training systems are weak, robust accreditation, licensing, and recruitment standards become even more critical ([World Bank 2023](#)). Accreditation and licensing can compensate for training shortfalls by setting enforceable minimum standards and mandating ongoing professional development. However, these systems are often under-resourced and poorly implemented, as seen in Ethiopia’s national licensing system, which lacks both the capacity and technological resources needed to effectively manage the growing health workforce, often prioritizing theoretical over practical competencies ([World Bank 2023](#)). In the absence of strong licensing systems, recruitment processes must act as a final safeguard, ensuring that only competent and well-prepared individuals are selected to serve in critical frontline roles.

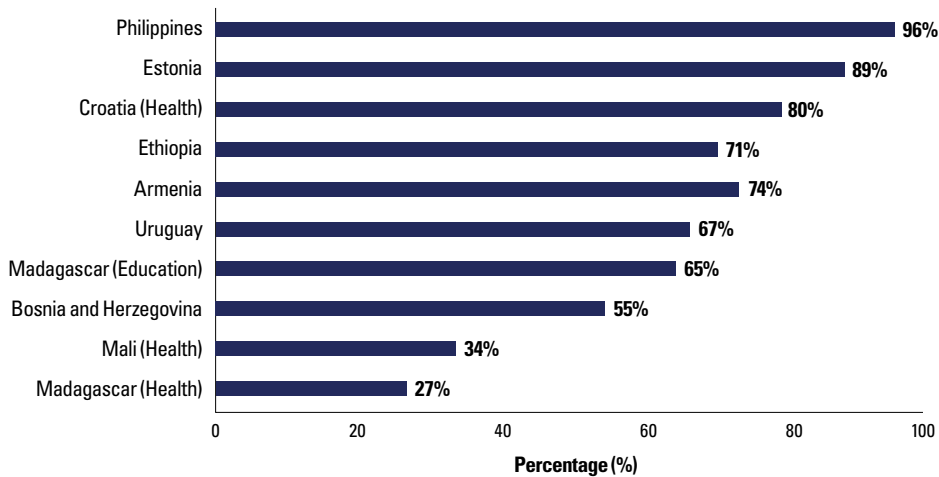
Open competition, however, is limited across a diverse set of countries. The Bureaucracy Lab surveys ask public sector workers whether they got their first job in the public administration through a recruitment competition. Cross-nationally, in countries across the income spectrum, open competition is well below the 100 percent threshold that should be the standard, given the generally long tenure of civil servants (Figure 2.8).¹⁰ For example, in countries as diverse as Bosnia and Herzegovina, Mali, Madagascar, and Uruguay, significant proportions of public sector workers were hired without any competition.

Politicization and corruption in recruitment are also commonplace. In Bosnia and Herzegovina, the two most important criteria given by survey respondents for finding a job in the public sector were support from a politician or someone with political links, and personal connections with individuals in the public sector. Sixty-nine percent of public sector workers stated that political connections were important in finding a job. Similarly, In Croatia, nearly 40 percent of health workers reported that political and personal connections played a significant role in hiring decisions, despite formal criteria emphasizing education and job-specific skills. In Mali, 78 percent of health facility staff identified recruitment as the human resource management practice most susceptible to corruption. In Madagascar, only 53 percent of teachers considered recruitment processes to be transparent and competitive. These survey findings confirm countless stories and anecdotes about corruption and politicization in hiring. For example, in India, there are regular media exposes on corruption in the recruitment of teachers, health workers, and railway employees ([Muralidharan 2024](#)).

10 There are no cross-national estimates of the average tenure of public workers. Bureaucracy Lab surveys have asked questions on the intent to leave government work, which reveal that the likely turnover is very low.

FIGURE 2.8 Public servants are not always hired through a competition

Proportion of public sector workers who secured their first job through competition



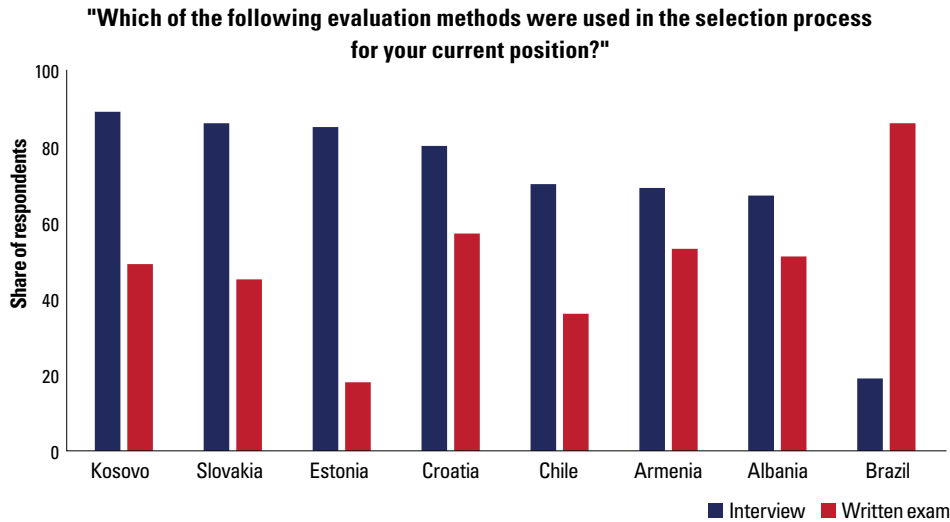
Source: Bureaucracy Lab surveys, 2016–2025.

Beyond open competition, a necessary condition for merit-based recruitment are screening criteria that can discern candidates' future performance on the job. Written examinations, which are a common element of open competition, and often used as a first screen before interviews, may not be predictive of future job performance. A literature in education, for example, shows that selecting teachers based on licensing requirements, educational attainment, or performance on standardized exams does not necessarily lead to better educators ([Staiger and Rockoff 2010](#)). Certainly, for experienced, mid-career hires, work experience is likely to be a more important criterion than test-taking ability, but it is unclear what better, practical alternatives there are to screen the often thousands of candidates that apply for any given entry-level job opening in low- and middle-income countries. The screening process should ideally be multi-tiered, with a written test as first screen, followed by an interview to better assess public service motivation and socio-emotional skills.

Countries vary in terms of the emphasis given to written exams and interviews for new hires in public administration (Figure 2.9). Brazil, for example, relies almost exclusively on examinations (*concurso*), and the content of these tests differs by occupational groups and are usually conducted in partnership with an academic institution. France and India also have systems that rely heavily on examinations. In India, the exams for the national, or All-India Services, such as the Indian Administrative Service, the Indian Police Service, and the Indian Revenue Service are conducted by the Union Public Services Commission, which has a reputation for independence and excellence. Chile,

Estonia, and Slovakia by contrast rely more on interviews for hiring new entrants. In general, position-based systems, where candidates are hired for a particular job rather than for a job family or career, rely less on written tests and more on interviews.¹¹

FIGURE 2.9 Screening to hire new entrants does not always use tests and interviews



Source: Global Survey of Public Servants.

Note: Survey respondents can choose both criteria if interviews and written examinations were used in the assessment.

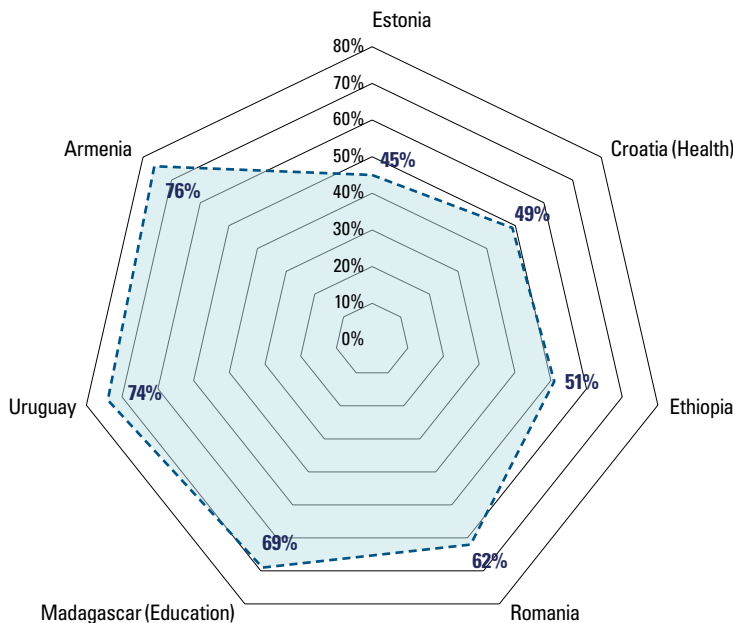
A common problem irrespective of the screening criteria used is the underemphasis on job-related competencies and an overreliance on general or legal knowledge. Traditionally, written tests and interviews have emphasized general, and especially legal, knowledge. OECD countries have shifted to screening for general and job-specific competencies of candidates in addition to technical expertise, including the ability to work in teams, leadership or strategic skills, and critical and innovative thinking—competencies that are transferrable from one organization to the other ([Van Acker 2019](#)). The Bureaucracy Lab surveys reveal, however, that competency-based screening is not common, even in upper-middle-income and high-income countries. In Romania, for example, most interview questions focused on knowledge of the country’s laws rather than on competencies. In Croatia and Ethiopia, only half of the respondents viewed job-specific skills as an important criterion in exams (Figure 2.10).

In addition to general and technical competencies, the recruitment system needs to also screen for candidates with public service motivation and other beliefs that are

¹¹ In position-based systems, the hiring is for a particular job vacancy, whereas in career-based systems, the hiring is done for a job family or occupational group.

conducive to serving all members of the public. In Bosnia and Herzegovina, Croatia, Ethiopia, and Romania, job security and pay were listed as the two most important reasons expressed by civil servants for joining the public administration, with opportunity to serve the public cited as one of the least important reasons. Bias toward certain members of society is another rarely screened trait which can significantly impact future performance on the job. For example, in Lithuania, like in many other countries, there is a youth mental health crisis, and a Bureaucracy Lab survey revealed widespread stigma toward mental health among school teachers and school management, which impeded their ability to identify mental health challenges and to deliver services to the youth to address these problems ([World Bank 2022](#)). Racial, ethnic, and caste-based biases can similarly lead to discrimination and poor outcomes, for example, in policing.

FIGURE 2.10 The extent to which job-related competencies are used as a screening criterion



Source: Bureaucracy Lab surveys, 2016–2025.

One approach to address systemic bias in public administration is through diversity in hiring, via quotas and affirmative action, to ensure that public sector workers are representative of the populations that they serve. Do these policies improve workforce performance? The evidence, though limited, suggests that they do. In India, for example, where there are quotas based on caste, affirmative action in the elite Indian Administrative Service resulted in improved outcomes in a large government welfare program ([Bhavani and Lee 2021](#)). Diversity in police forces has also resulted in improving police interactions

with minorities, and in enhancing citizens' sense of connection and identification with law enforcement organizations ([President's Task Force on 21st Century Policing 2015](#)). Another aspect of diversity is ensuring that local communities are represented, especially for functions that entail community outreach, such as preventive health care. For example, community health workers (CHWs), who are usually women from local communities hired on either permanent or temporary contracts to address the problem of shortages of health workers in remote areas, have improved child health outcomes in Brazil and Pakistan; ([Khan 2024](#); [Tendler 1997](#)).

Centralizing recruitment responsibility, or alternatively, centralizing the recruitment standards, with the government organization responsible for personnel policies is preferable for low- and middle-income countries to strengthen merit-based recruitment. Position-based systems are more likely to delegate recruitment responsibilities to line ministries compared to career-based systems, with the logic that decentralization results in more specialized recruitment methods and a better match between the job requirements and the selected candidate ([Van Acker 2019](#)). Most countries in the European Union have decentralized recruitment systems. However, this flexibility can be abused, particularly if there are strong pressures for patronage-based recruitment, and agencies lack the specialized skills to develop rigorous screening criteria. In low- and middle-income countries, centralizing recruitment authority in civil service commissions is advisable. These authorities can develop competency standards and assessment tests, often in partnership with academia. They can either conduct the exams themselves (e.g., Union Civil Service Commission in India) or outsource the testing to specialized agencies. Alternatively, a central personnel agency can establish competency standards and screening criteria and delegate recruitment responsibilities to line ministries, with follow-up audits to ensure compliance.

Public administrations confront difficulties in hiring for new high-demand skills, such as climate and digital skills, and for recruiting technical and managerial expertise for mid-career and senior jobs. Elite administrative services, such as those in the UK, France, India, and Commonwealth countries, traditionally fill senior positions only through promotion from within the service (and are therefore called “closed services”) and have been justifiably criticized for being insular and staffed by generalists ([Muralidharan 2024](#)).¹² Flexibility in recruitment is necessary to bridge gaps in climate-related, specialized and technical skillsets, for which civil services might otherwise not be able to recruit due to their generally standardized and less favorable employment and compensation arrangements, relative to private sector comparators. These types of arrangements can consist of special, limited term, or contractual arrangements for specialized professionals, which could be filled via secondment or temporary assignments from the private or

12 In India, recent reforms have opened up senior positions to external hires on fixed-term contracts

nongovernmental sector, under streamlined recruitment processes, and governed by distinct compensation policies. Examples of these technical, specialized arrangements are the *contratación por honorarios* (contract workers) in Latin America. Flexible recruitment and sourcing arrangements must be underpinned by reliable safeguards to protect merit and against automatic conversion to civil servant status given the risks with dual-track labor regimes discussed in Section 2.2.

Targeted recruitment campaigns emphasizing the value of public service can help recruit high-demand skills. In general, the public sector has an oversupply of applicants in poorer countries (see Box 2.2), thus recruitment campaigns are not necessary. Emphasis should be placed on competency-based screening and selecting for more public service motivated workers. Organizational branding and shaping public sector job advertisement to emphasize organizational mission and public values is more needed in high-income countries where there is more competition for hiring from the private sector.¹³ Low- and middle-income countries can adopt this approach for recruiting digital, climate, and other high-demand skills, appealing particularly to university students and younger workers who may be more mission-oriented.

Normal recruitment practices can be complemented by more flexible arrangements for building surge capacity in times of crisis. Flexible recruitment and appointment arrangements can allow governments to build surge capacity to respond quickly to crises. For example, in Australia, the Australian Public Service Surge Reserve can mobilize large numbers of staff in emergency situations, such as during severe weather events and bushfires. Being part of the Reserve does not require specific technical skills, but rather public servants who have interest in public service and are willing to move to other agencies while retaining all the entitlements provided by their home department.

2.4 Effective public sector compensation

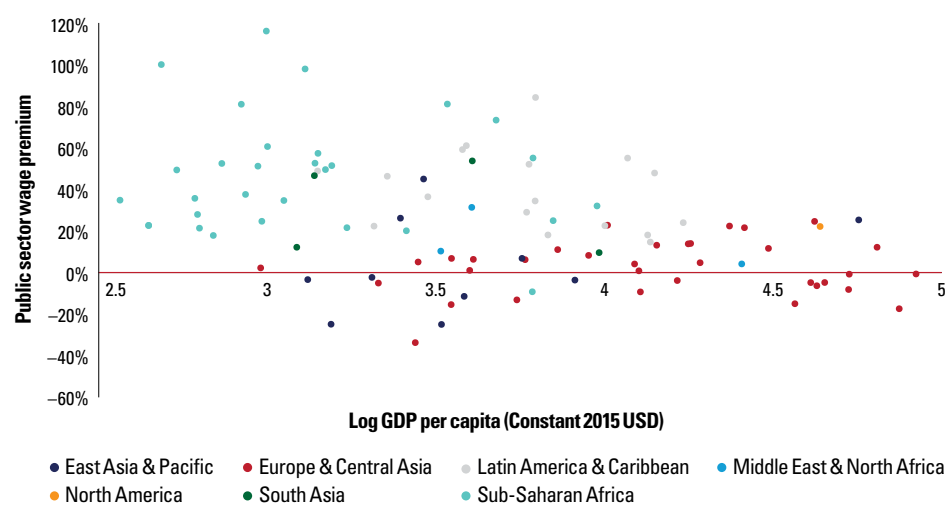
Effective public sector compensation practices are ones in which public sector wages are competitive, equitable and incentivize performance. Wage competitiveness is usually measured in comparison to the domestic private sector given that the likely alternative work opportunities for most public sector workers are in the local economy.¹⁴ Low public sector wages compared to the private sector hurt recruitment and retention. Wage equity, a concept of “equal work for equal pay,” is ingrained in individuals’ sense of fairness and self-worth and measures pay differentials within an organization.

¹³ See (Perry 2020) for examples from the US and European countries.

¹⁴ For some jobs, such as medical workers, an alternative to public sector employment is to migrate, such as those from EU member countries, or the Philippines; thus the comparator may also include a broader regional, or even global, labor market.

Workers compare their wages to their peers in an organization, and wage differentials that are not perceived to be justifiable can be demotivating ([Rosenfeld 2021](#)). Wage incentives measure performance-based compensation increases, either through career advancement or through annual bonuses.

FIGURE 2.11 Public sector workers generally earn more than their private sector counterparts



Source: Worldwide Bureaucracy Indicators.

Note: The y-axis shows the public sector wage premium compared to all private sector paid employees.

Public sector workers, on average, earn more wages than their private sector counterparts, both when compared to all private paid workers and relative to formal private paid workers. This report uses the standard statistical techniques from the academic literature, detailed in Annex 3, to calculate public–private wage differentials that control for workers’ demographic characteristics. Based on this measure, public sector workers, on average, earn 21 percent more in weekly salary, excluding allowances, than similar workers in the private sector.¹⁵ There is a wage premium in 91 of the 115 countries for which there is data in the WWBI, and the premium is higher in lower-income countries (Figure 2.11). Public sector workers earn a smaller wage premium of 9 percent when compared to formal private sector workers. The public sector wage premium is also higher when measured in hourly wages compared to weekly or monthly wages because public sector workers typically work fewer hours. This wage premium is one of the stylized facts about public sector compensation, also evidenced by several academic cross-national and country-specific empirical studies, irrespective of the statistical methodology used for estimation.¹⁶

15 Data from WWBI. This premium is calculated using Mincerian wage regressions that are one of the standard statistical techniques in the literature. Other methodologies, such as Oaxaca-Blinder wage decompositions, give similar findings. See [Gindling and others \(2020\)](#) for elaboration.

16 See [Gindling and others \(2020\)](#) for a review of the literature.

There is also a public sector wage premium for core service delivery workers. For example, public education workers earn, on average, 33 percent higher and public health workers 22 percent higher than their private sector counterparts.

The overall “compensation premium” of public sector workers is even higher when the value of benefits is factored in. Compared with private sector workers, a much higher proportion of public sector workers have a written employment contract, receive health insurance and pensions, and have greater job security. For example, 71 percent of public sector workers have a written contract, compared to only 17 percent in the private sector. Studies have estimated the “job security premium” to be approximately 7 percent of wages in contexts of high unemployment risk and limited unemployment insurance, which is the situation in most low- and middle-income countries ([Fontaine and others 2020](#)).

This relatively higher pay can lead to queuing for public sector jobs and skills shortages in the private sector. Studies have noted that premiums are higher for entry-level civil servants than for senior civil servants, which may be particularly disruptive to the overall labor market. For example, in Brazil, the public sector wage premium is 45 percent for new entrants in the federal civil service. Given these high premia, it is not surprising that there is a high demand for public sector jobs, with hundreds of applicants for each vacancy (see **Box 2.2**).

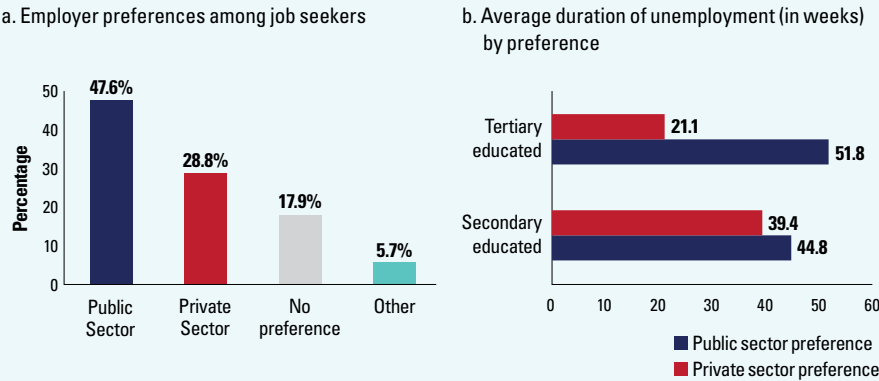
Box 2.2 **Queuing for Public Sector Jobs**

The impact of public sector employment and compensation policy on private sector jobs depends on the balance of substitution and income effects. Higher public sector wages, better job security, and the perceived desirability of public sector jobs can crowd out private sector jobs if workers, particularly skilled workers, reject private jobs and wait for government job openings. During recessions or periods of high unemployment, however, public sector hiring can have Keynesian effects—stimulating consumption and creating demand that supports private sector job growth. Estimating the impact is also complicated by reverse causality as governments are more likely to expand public employment during economic recessions to counteract adverse labor market conditions. Given the difficulties in untangling these different causal mechanisms, it is unsurprising that the few studies in developing country contexts find mixed results. For example, a recent study in Ghana found that public sector employment crowds out private sector jobs, particularly in agriculture ([Ranzani and Tuccio 2017](#)); while another study in Brazil showed that public sector jobs had stimulated job creation in the non-tradable sectors of construction and local services ([Lemos 2004](#)).

Despite these methodological complications, it is reasonable to assume that relatively high public sector compensation can create queuing for public sector jobs. In the state of Uttar Pradesh in India, for example, 2.3 million people applied for just 368 government positions—primarily entry-level roles—resulting in 6,250 applicants per job (Muralidharan 2024). In Italy, 85,000 people applied for 30 vacancies in the central bank (Geromichalos and Kospentaris 2020).

A Bureaucracy Lab labor force survey in Bosnia and Herzegovina quantified the extent of public sector job preference, particularly among the youth who have very high unemployment rates (Figure 2.12). The country has a high public sector wage premium, and the survey revealed that 48 percent of job seekers prefer public sector employment as compared to 28 percent who favor private sector jobs, with 18 percent expressing no preference. This preference for public sector jobs contributes to longer unemployment duration as job seekers wait for these positions to become available. Tertiary-educated individuals who prefer public sector employment remain unemployed for 31 more weeks on average than those who prefer private sector employment. Moreover, despite the apparent excess supply of labor, many job seekers reject job offers. Among those preferring public sector jobs, 57 percent reported turning down a job offer in the three months prior to the survey, compared to 35 percent of those who prefer private sector jobs.

FIGURE 2.12 Preferences for public sector employment are correlated with longer duration of unemployment in Bosnia and Herzegovina

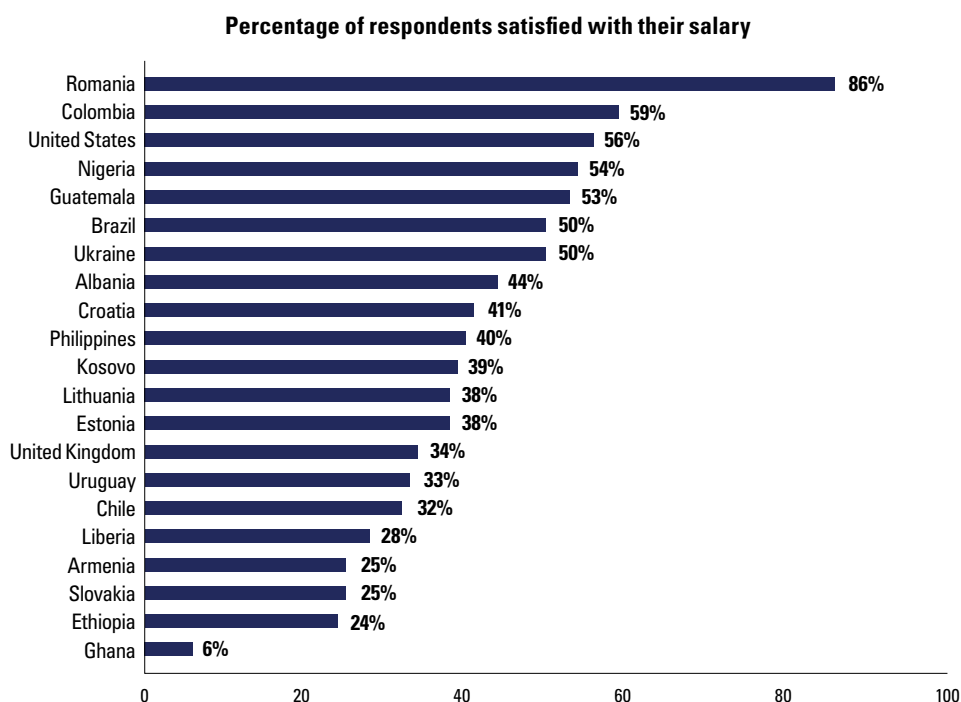


Source: Bureaucracy Lab Labor Force Survey in Bosnia and Herzegovina, 2022.

The premium does not necessarily imply that public sector workers earn high salaries.

While the public sector may pay higher salaries than the private sector, overall salaries may still be very low and may not offer a living wage for many categories of employees. For example, in Ethiopia, 47 percent of civil servants in 2024 were paid less than \$3 per day (the international low-income poverty line).¹⁷ This fact may be behind the widespread opinion that public sector salaries are too low and are demotivating. These data suggest that two things can be true at the same time: the public sector pays high wages compared to the local market, but wages are insufficient to provide earners with a decent quality of life. This fact may be behind the widespread salary dissatisfaction observed in surveys of public sector workers, with the majority of public servants across a spectrum of countries stating that they are not satisfied with their pay (Figure 2.13).

FIGURE 2.13 Public sector workers are generally unsatisfied with their pay

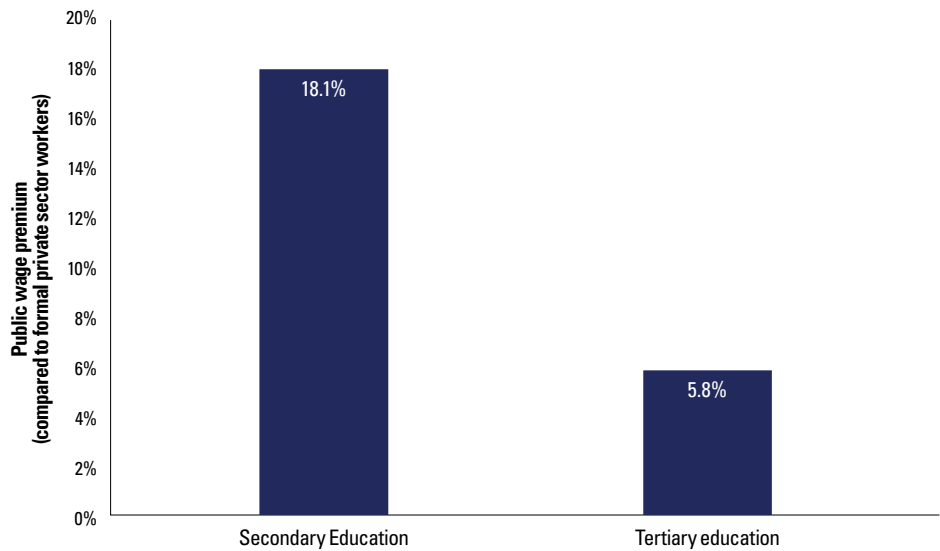


Source: Global Survey of Public Servants.

17 World Bank staff calculations based on government payroll data. Share of civil servants earning below the \$3/day poverty line was calculated using 2024 PPP conversion factor for private consumption from the World Development Indicators that corresponds to approximately 2,204 Ethiopian birr per month in 2024 prices. In December 2024, the Ethiopian government revised the pay scale to ensure that workers in the lowest grade wages had received a living wage.

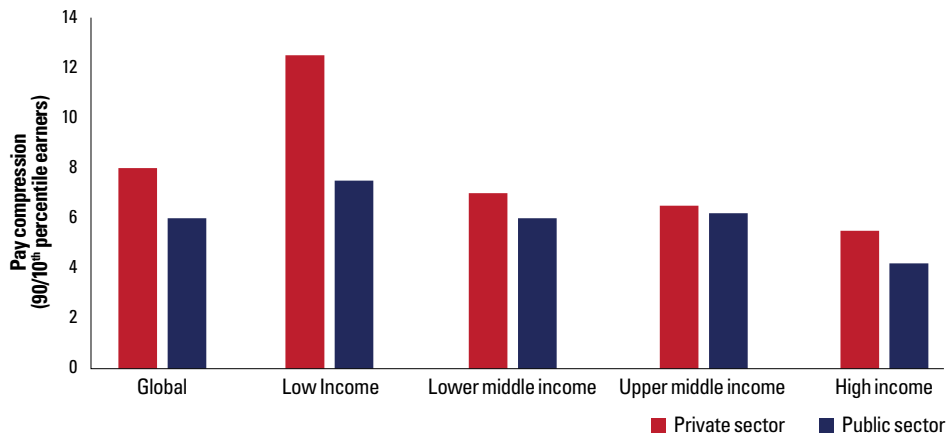
The public sector wage premium is lower for higher-skilled workers which can make public sector pay less competitive for high demand skills. Public sector workers with tertiary education have a wage premium of 6 percent compared to formal private sector workers, and those with secondary education have a premium of 18 percent (Figure 2.14). In many countries, the public sector pays a wage penalty for the most skilled employees (Hausman, Nedelkoska, and Noor 2020). Public sector pay progression is also often lower than in private sector organizations, which can make pay uncompetitive at the higher ends of the pay distribution. As noted in many studies, pay dispersion in the private sector has increased greatly over the past four decades; and some occupations like finance and information technology can pay multiples for similarly educated workers than other occupations (Borjas 2002). One common metric for wage dispersion is the wage compression ratio which is the ratio of the 90th percentile wage to the 10th percentile wage in the salary distribution. This ratio is lower in the public sector compared to the private sector, and the difference is particularly pronounced in low-income countries (Figure 2.15). Flat pay structures are also a problem for teachers and medical workers where individuals essentially do the same job for most of their careers and workers can see little pay progression.

FIGURE 2.14 The public sector premium is higher for low-skilled workers



Source: Worldwide Bureaucracy Indicators.

Note: “Low skill” here means low-skilled based on the qualification standards for public sector workers.

FIGURE 2.15 Public sector pay is more compressed than private sector pay

Source: Worldwide Bureaucracy Indicators.

Governments should consistently monitor public–private wage differentials for different jobs to guide their compensation policies. Under the theory of “compensating wage differentials,” a particular job should pay more or less than another if that job has other undesirable or desirable non-wage characteristics that need to be compensated for. Given its higher pecuniary and non-pecuniary benefits, monetary compensation therefore, in theory, should be lower in the public sector to equalize overall compensation between the two sectors. In practice however, it is difficult to apply such a simple rule of thumb given the sensitivity of the premium to the choice of comparable jobs, the potential gender impact of compensation reforms, and the need to provide a “livable wage” to public sector workers. Regular, evidence-based monitoring of the wage premium and of the length of queues for public sector positions is necessary to determine the competitiveness of public sector compensation. Persistent long queues may indicate that public sector compensation is too generous, suggesting that further salary increases for these positions is not justifiable. Conversely, short or no queues can suggest the need for salary increases to attract high-demand skills.

Problems often exist in the pay and grading structure of the public sector, resulting in pay inequity and distortions that weaken the links between pay and productivity. Public sector pay can be highly unequal with workers in similar jobs earning very different salaries. There are many reasons for pay inequity in the public sector. Often, public sector pay grades are not anchored in robust job evaluations, which is a standard process for assigning numeric values to jobs and ranking them based on the complexity of a particular job. A high proportion of allowances and salary supplements that are not uniformly applied across all public sector workers can also cause salary dispersion even if the pay and grading structure is reasonably robust. In Croatia, for example, there were

over 560 allowances and supplements that can be given to public sector workers based on location and worker characteristics; and in Cameroon and Indonesia, honoraria and per diems to attend meetings and workshops were used as de facto salaries and were, in the case of Cameroon, equivalent to three times the civil servants' base wages ([World Bank 2018](#)). Salary regulations also vary for different occupational groups, reflecting the bargaining power of certain interest groups. In Brazil, for example, there are different pay scales for the hundreds of distinct federal “careers” and therefore pay can vary tenfold for staff with similar education and years of experience.¹⁸

Job-evaluation-based pay reforms are a standard approach to reducing pay inequity but do come with a fiscal cost. The rationale for this approach is that pay levels should be linked primarily to the attributes of a job and not to the characteristics of the individual occupying the job. The job attributes are then based on an evaluation of some key traits of jobs, such as complexity, leading to scores and an ordinal ranking to define pay grades. There are a variety of design options in these systems, such as whether to have a single grading structure for all jobs or to have different pay systems for administrators and service delivery personnel; and whether to have fewer grades with broad pay ranges or several ones with narrow ranges. Job-evaluation-based pay and grading reforms usually increase the wage bill as governments often choose to protect the wages of workers whose jobs get graded lower to prevent a backlash, while those who are underpaid experience a pay increase.

Public sector pay increases, either through career progression or through incentive bonuses, are weakly linked to performance. There is increasingly rigorous evidence that unconditional salary increases have, unsurprisingly, no impact on staff performance. In Indonesia, for example, a doubling of teacher salaries had no effect on improving student learning outcomes ([De Ree and others 2017](#)). The two main channels for wage growth that can potentially be conditioned on performance are pay progression linked to promotions and annual bonuses or pay increments tied to the achievement of yearly goals. Both are dependent on the extent to which competencies and performance inform promotion decisions and performance pay, which in turn depends on the robustness of performance management practices. These, as explored at length in the next chapter, are often weak in a variety of country contexts. As a result, seniority-based promotions and significant automatic annual within-grade pay increases are common. In Brazil for example, generous automatic annual pay increases imply that most staff can more than double their real wages after 10 years of service (World Bank 2020).

Performance bonuses can improve incentives but need to be targeted to jobs with more easy-to-measure outputs. The fundamental challenges of performance management in

18 World Bank staff calculations based on administrative data.

public administrations are the multidimensional nature of tasks that workers do, the difficulty of measuring individual effort, and limited causal links between individual effort and outcomes given the complexity of the work and circumstances beyond the control of workers impacting the outcomes. Given these constraints, performance bonuses are at best ineffective or at worse create a “gaming behavior,” including cheating and manipulation of performance targets. However, not all public administration jobs have this problem. The available evidence shows that performance incentives can improve productivity for tasks with standardized delivery processes and relatively easily measurable outputs. These include processing of welfare payments, licensing and registration, and tax and customs administration ([Hasnain and others 2014](#)).

2.5 Ensuring fiscal sustainability of the wage bill

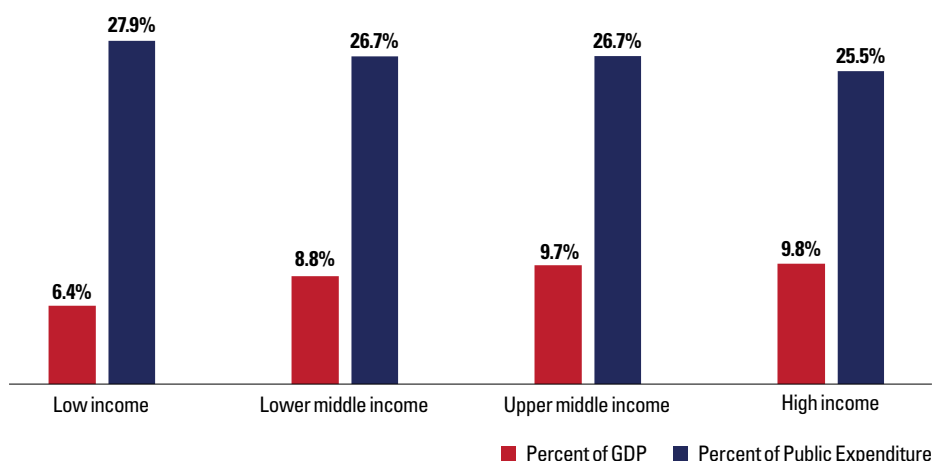
The public sector wage bill is, on average, over a quarter of government spending and therefore has implications for fiscal sustainability. Globally the wage bill averages 9 percent of GDP and 27 percent of expenditures, with the wage bill rising as a share of GDP, but declining as a share of expenditures, with country income (Figure 2.16). In many low- and middle-income countries, public sector wage bills can reach up to half of total expenditures, reflecting limited fiscal flexibility and underscoring the strain on constrained resources. When viewed as a share of government revenues, the wage bill globally averages 30 percent, further highlighting its significant impact on fiscal space, especially in countries with narrow revenue bases. These numbers likely underestimate the size of the wage bill as they may not include contract or temporary workers, or staff paid from extra-budgetary funds; or allowances and honoraria that may be recorded in goods and services. These wage bill numbers also often do not capture current payments on pensions, or future fiscal obligations to retirees, which can be significant. In Brazil, for example, public sector pension expenditures were 4.5 percent of GDP in 2024.¹⁹

Fiscal crises present governments with tough choices and require painful cuts to government expenditures. However, decisions on the wage bill size must be different from discussions on other expenditure categories of government given the impact on service delivery and on formal sector jobs. While misallocations in staffing and inefficiencies in compensation are legitimate targets for consolidation, significant cuts in the wage bill hurt core government functions. For example, during the European debt crisis, Greece implemented large wage cuts and hiring freezes that forced experienced health and education professionals into early retirement or layoff, which in turn led to deteriorating service quality and a 17-fold increase in HIV outbreaks (Karanikolos

19 WB staff calculations based on government fiscal data available from: (<https://www.tesourotransparente.gov.br/publicacoes/estatisticas-fiscais-do-governo-geral/2021/22>)

and others 2013). Given that women are disproportionately represented in service delivery jobs, these cuts can also have significant gender implications. Wage bill cuts are also often not politically sustainable given the high value of public sector jobs. For example, in higher-income countries, wage bill increases during economic upturns are not matched by similar reductions during downturns (IMF 2016). Evaluations of public sector voluntary retirement schemes and downsizing programs reveal that these are generally reversed (IEG 2008).

FIGURE 2.16 The wage bill, as a percentage of GDP, rises with country income



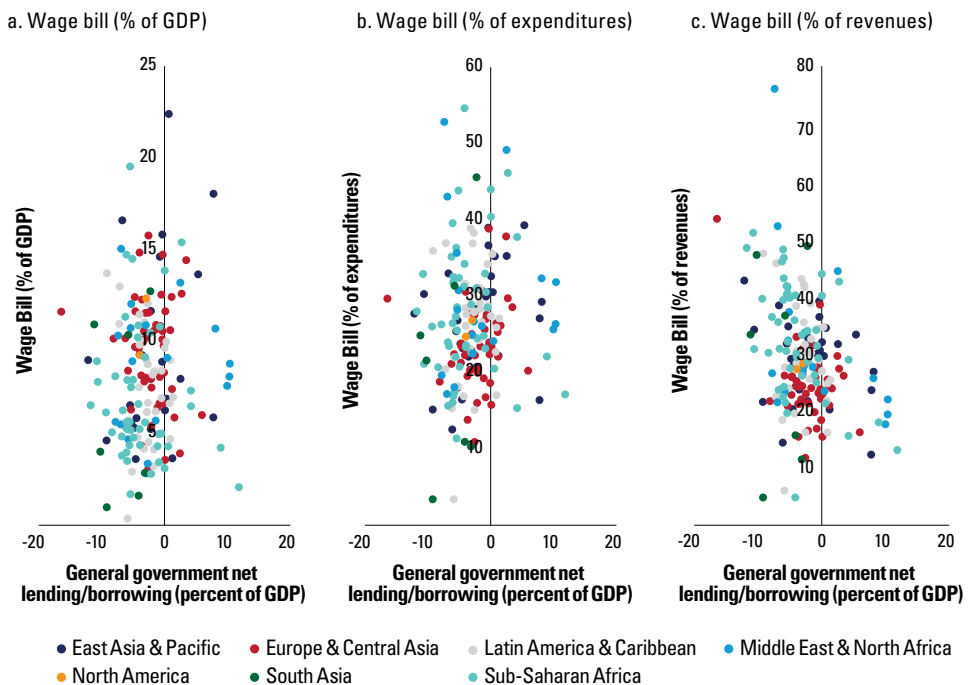
Source: Worldwide Bureaucracy Indicators.

There is no global benchmark for the correct size of the wage bill to guide these tough choices. Cross-nationally, there is no correlation between the wage bill—whether measured as a percentage of GDP, expenditures, or revenues—and net government lending/borrowing (Figure 2.17).²⁰ Empirical analysis using different specifications of regressions confirms this lack of association. These findings point to the importance of contextual and institutional factors that need to be examined on a country-by-country-basis rather than any generalizable conclusion of the appropriate size of the wage bill. For example, as of 2020, both Norway and Eritrea had wage bills exceeding 15 percent of GDP, yet their fiscal outcomes diverged markedly, with Norway having a 5 percent fiscal deficit and Eritrea a 4.5 percent surplus.

20 Net lending (+)/ borrowing (-) is calculated as revenue minus total expenditure. This is a core Government Finance Statistics (GFS) balance that measures the extent to which general government is either putting financial resources at the disposal of other sectors in the economy and nonresidents (net lending), or utilizing the financial resources generated by other sectors and nonresidents (net borrowing).

These country examples highlight the importance of understanding structural drivers for crafting policies that align wage bill expenditures with fiscal sustainability. Countries adopt varying approaches to wage bill management, shaped by their economic capacity, revenue structures, and policy priorities. High-income countries benefit from broader and more stable revenue bases, efficient tax systems, and better access to international debt markets at lower interest rates, giving them more flexibility to manage temporary fiscal imbalances associated with wage bills. Additionally, the higher productivity and efficiency of their public sectors, coupled with advanced management practices, offset the cost implications of larger workforces. Public demand for quality services and infrastructure in these countries further justifies larger wage bills, as citizens are often willing to support these costs through taxation. In contrast, low- and middle-income countries face unique challenges like limited fiscal space, weaker revenue bases, and competing non-wage expenditures which often push these governments toward higher deficits to manage rising wage bills. The public sector in these contexts frequently acts as an employer of last resort, leading to inefficiencies and overemployment. Irrespective of country context, however, the impact of wage bill reductions on labor market outcomes and on the government administrative capacity to implement policies and deliver outputs should be given at least equal weight as concerns about fiscal sustainability.

FIGURE 2.17 The public sector wage bill is uncorrelated with fiscal deficits



Source: Based on World Bank Worldwide Bureaucracy Indicators, World Bank World Development Indicators, IMF World Economic Outlook.

There are organizational aspects of wage bill management, such as strengthening the capacities of ministries of finance, that are non-controversial in developing country contexts. Ministries of finance need to have the necessary legal authority and sufficient competent personnel to be able to forecast the wage bill over the medium term and to enforce wage bill ceilings on spending units. An International Monetary Fund (IMF) review found that most low- and middle-income countries do not undertake such forecasting as part of budget planning. It is also advisable to have centralized and established control (i.e., the authority to create new positions), with staff in ministries of finance collaborating with staff in ministries of public administration to select and authorize new positions as part of the budget process from the myriad request that line ministries send. Ministries of finance also need the capacity to enforce payroll controls with the help of digital technologies (see Chapter 4).

Fiscal sustainability also depends on a country's domestic revenue mobilization capacity, and there are personnel reforms that can build capacities of revenue administrations. While there are potential wage bill savings from compensation reform, governments will realistically not be able to balance the objectives of service delivery and fiscal sustainability unless they have more resources. Tax administration reforms can significantly increase domestic revenues, and improving the performance of tax administration personnel is a core ingredient of strengthening the capacity of revenue authorities. Revenue authorities are labor-intensive organizations (**Box 2.3**), and targeted workforce reforms can help increase domestic revenues.

Box 2.3 Human Resource Management for Domestic Revenue Mobilization

Strengthening tax administration can significantly increase tax revenues. Research shows that enhancing tax administration capacity—for example, through improved compliance risk management, transparency, and workforce modernization—from the 40th to the 60th percentile correlates with an increase in tax revenue of 1.8 percent of GDP (Adan and others 2023). Similarly, strategic management of tax officials, improved taxpayer identification and registration, and better use of third-party for collection facilitation and enforcement can significantly enhance compliance and revenue collection (Okunogbe and Tourek 2024).

Tax administrations are labor-intensive organizations, underlining the importance of workforce reforms. The wage bill of revenue administrations, across country income groups, accounts for 70 percent of their operating expenditures (Figure 2.18, left panel).²¹ Low- and middle-income

21 World Bank staff estimates based on ISORA 2023 data.

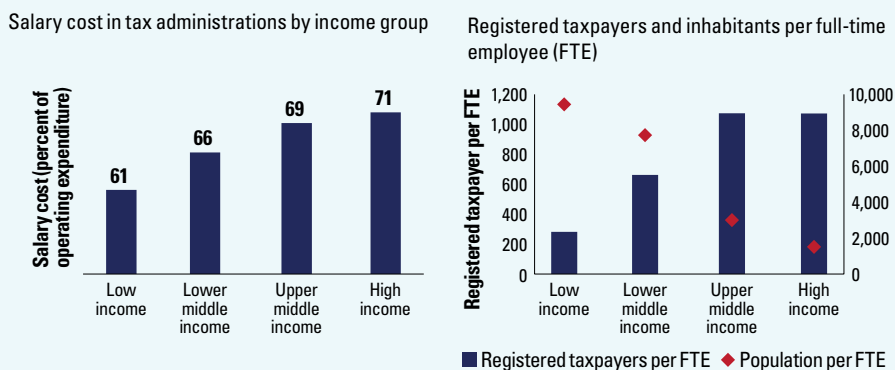
countries face shortages in staffing in their revenue administrations—there is approximately one tax official for every 15,600 inhabitants in low-income countries, compared to one tax official for every 1,800 inhabitants in high-income countries (Figure 2.18, right panel). Increasing staffing can increase tax revenues. A study found that increasing the ratio of tax officials per firm in Indonesia had helped double tax collections (equivalent to raising the marginal corporate tax rate on all firms by about 8 percentage points) (Basri and others 2021). Training tax administrators can help embed digital technologies in the day-to-day activities of revenue collecting officers, thereby improving their productivity (Bentley 2020).

Tax administrations generally have autonomy to implement their own human resource policies.

Data from the International Survey on Revenue Administration (ISORA) reveal that revenue administrations generally have more freedom in designing their human resource policies than in managing their finances. Drawing on the different country applications of the World Bank’s Tax Administration Diagnostic Assessment Tool (TADAT), there are a set of recruitment, performance management, and incentive reforms that can help increase domestic revenue mobilization.

Many LMIC tax authorities lack a competency-based approach to managing their staff. Only 22 percent of low-income countries, and 38 percent of lower-middle-income countries, have documented job competencies for tax administrators, compared to 58 percent of high-income countries (ISORA 2023). Other weaknesses in talent management include the absence of medium-term staffing plans, particularly for hiring technical competencies like behavioral science and data science that are increasingly necessary in the modern risk-based approach to tax audits and for improving taxpayer engagement.

FIGURE 2.18 Tax administrations are labor-intensive organizations, and low- and middle-income countries have too few tax officials



Source: ISORA (2023) dataset.

Note: Registered taxpayers include registered taxpayers under the corporate income tax (CIT), personal income tax (PIT), Value added tax (VAT), Excise, and employers withholding tax regimes. Double counting is possible if taxpayers are registered from various regimes.

Low- and middle-income countries also do not hire enough technical specialists in their tax administrations. Tax administrations should ideally specialize their workforce either by the types of tax instrument (income, property, value added, or excise taxes); the specific function those officials perform (enforcement, collections, auditing, investigation, taxpayer services, dispute resolution); and the type of taxpayer that they service (large enterprises, small and medium firms, or wage earners). In low-income countries, however, nearly 40 percent of all tax administration staff are employed within “generalist” job functions compared to 20 percent in high-income countries; and almost universally report a dearth of skills in data science and behavioral science.²² One reason for this dearth of technical specialists is the difficulty in competing for high-demand skills, which in turn underscores the need to use non-monetary incentives and appeals to public service motivation to attract talent given that public sector pay scales lack the flexibility to provide pay at high ends of the private sector salary distribution.

Given the relative ease of measuring outputs, there is a potential for using performance incentives for tax administrators. Nearly 90 percent of high-income countries have performance management systems in place within revenue collecting agencies, compared to less than 80 percent in low-income countries. Similar differences exist in their ability to develop individual development plans, identify specific objectives of employees, and undertake annual formal evaluations. Moreover, 77 percent of tax authorities in high-income countries link employee performance to pay and reward. Only 53 percent in low-income countries utilize performance incentives and even fewer are effective enough to adequately differentiate between high and low performers.²³ Given that revenue collection agencies produce tangible outcomes (i.e., actual revenue), empirical evidence from Pakistan finds that utilizing highly motivating financial incentives such as bonuses and recognition tied to measurable metrics (e.g., fostering accountability and motivating staff) increases revenue collection by 64 percent and 46 percent, respectively (Khan, Khwaja, and Olken 2016).

Investing in digital transformation and upskilling within tax administrations can yield significant fiscal benefits by simultaneously modernizing operational processes and strengthening human resource management. Implementing digital solutions (automated taxpayer registration, electronic filing systems, and advanced data analytics) boosts revenue collection between 1 and 2 percent of GDP in the short to medium term (Bentley 2020), and when integrated with broader reform packages, can generate cumulative gains exceeding 3 percentage points of GDP within six years (Okunogbe and Tourek 2024). These systems also reduce compliance costs and risks of corruption by reducing face-to-face contact between citizens and tax administrators (Kochanova, Hasnain, and Larson 2020). To fully capitalize on these benefits, it is critical to conduct a comprehensive workforce planning, including regular skills gap analyses and workload assessments, and to develop structured training and professional development programs that address technical tax skills, leadership, and digital competencies.

22 World Bank staff estimates based on ISORA 2023 data.

23 World Bank staff estimates based on ISORA 2023 data and TADAT data.

Chapter 3: Management Practices—Motivating and Skilling the Public Sector Workforce

3.1 Introduction

The productivity of organizations fundamentally depends on “management practices”, or how workers and other financial resources are effectively combined to deliver outputs. This utilization of inputs reflects attributes of management, organizational culture, individual motivation, and the use of digital technology in the workplace. This chapter explores “management practices,” broadly defined to include a variety of factors that influence how public sector workers interact and collaborate, how they are motivated and held accountable, and whether they are supported through training and opportunities for career development. A large body of academic literature has shown that the quality of management helps explain the significant variations in firm productivity within countries and industries ([Bloom and Van Reenan 2007](#)). The analogy with private sector organizations, however, is imperfect given that government bureaucracies are not disciplined by market forces and price signals to drive productivity, placing an even greater primacy on these internal workplace factors.

The report explores several aspects of management practices using data from surveys of public servants. These areas are the annual performance evaluation process, which is traditionally the main mechanism accountability and rewards, such as in determining raises, promotions, and layoffs; community engagement, which can be effective in increasing accountability to citizens and fostering public service motivation; rules and a culture that promotes integrity and trust; continuous learning to develop technical and behavioral competencies; and collaboration, particularly across organizational boundaries.

The analysis of these management practices is framed through two stylized worldviews on management—management for results and management by empowerment.²⁴ Management for results is essentially a private sector approach, involving setting of clear measurable goals, regular monitoring of those goals, and performance incentives for workers linked to a set of indicators. The approach is anchored in the principal-agent framework and the theory of incentives and has the implicit assumption that workers

24 These two options from management are based on [Honig \(2024\)](#) and [Kreps \(2018\)](#).

would, given the choice, prefer to shirk rather than to work and, therefore, must be monitored and held accountable to get them to work. Management by empowerment draws more on the psychology literature on “self-determination theory,” and rests on the assumption that ministries, unlike most firms, are “mission-driven” organizations and workers have an intrinsic motivation to serve the public. Managers should, therefore, empower workers’ sense of purpose by connecting their daily work to the broader goal of serving the community and giving them the autonomy to deliver their tasks.

Both approaches face two main management challenges in public bureaucracies: the measurability of outputs and the complexity of tasks workers perform. These challenges render management reforms difficult, requiring incremental improvements over a long time. The efficacy of the management by results approach is clearly reliant on the feasibility of measuring outputs. Less obviously, management by empowerment also rests on the “line of sight” that workers have between their daily tasks and the mission of the organization, and this connection is easier to make for outputs that are more measurable. This measurement problem varies by organization and job. Robust quantitative output and outcome measures are possible, for example, for tax administration, vaccination, agricultural extension, social security administration, and administrative services like licensing and registration. By contrast, it is extremely difficult to measure workers’ outputs in foreign affairs, economic planning, or a variety of policy functions. Education and health services are somewhere in the middle between these two extremes. One of the few studies that systematically categorized tasks in public administrations found that only 30 percent of the over 3,600 tasks analyzed across a range of ministries and agencies could be relatively easily measured and monitored ([Rasul and others 2021](#)).

Difficulty in measurement is compounded by the problem of multi-tasking. “Street-level bureaucrats” like teachers, medical workers, and police officers do many tasks that require constant individual judgment and discretion; and they work in teams so that individual attribution for outcomes is difficult. For example, police are tasked with protecting life and property, maintaining public order, providing crisis counseling, dealing with mental health, and other social issues. Multi-tasking and individual discretion are even more prevalent in the day-to-day work of civil servants in administrative and management roles, with tasks ranging from budget planning, procurement, preparing policy briefs, and monitoring. Multi-tasking can easily lead to measurement fatigue, or asymmetries in worker effort between tasks that are measured, and those that are not, with potential perverse effects.²⁵ Management by empowerment is more suitable for these complex tasks, but requires high levels of trust in an organization since, by definition, workers need to be given more autonomy, and also need to be authorized to be able to act on their intrinsic motivations ([Besley and Ghatak 2018](#)). Studies have shown that autonomy is a bigger

25 This is the infamous multi-tasking problem studied by [Holstrom and Milgrom \(1991\)](#) and extended to the public sector by [Dixit \(2002\)](#).

driver of productivity than incentives for tasks like public procurement and infrastructure provision ([Bandiera and others 2009](#); [Rasul and Rogger 2018](#)).

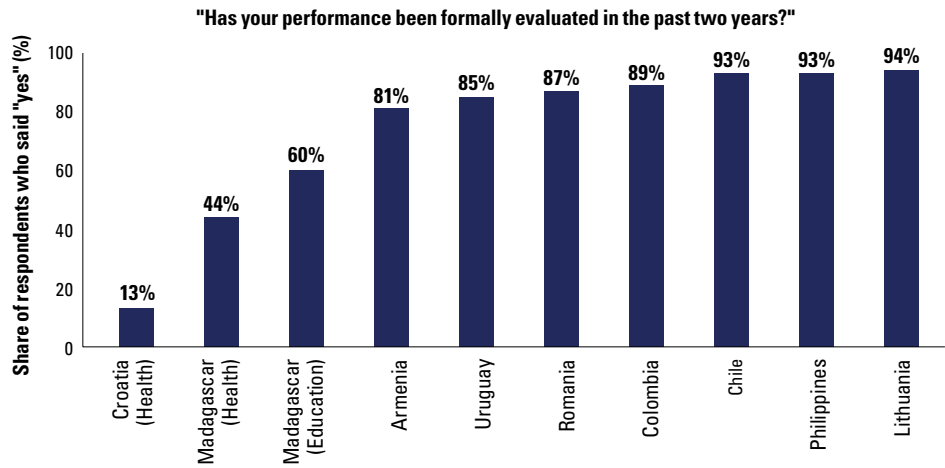
The main finding of this chapter is that management practices are weak in low- and middle-income country bureaucracies, and that these can be strengthened through a relatively greater emphasis of either management by results or management by empowerment. The report assumes that public sector workers are neither “knights” nor “knaves” and a combination of both approaches are necessary to drive performance. This report cannot parse management practice by the nature of the task given the huge variations across and within countries. Instead, it examines the different management practices through the lens of these two worldviews, and highlights which approach requires more attention to strengthen workforce performance.

3.2 Performance evaluations for accountability and empowerment

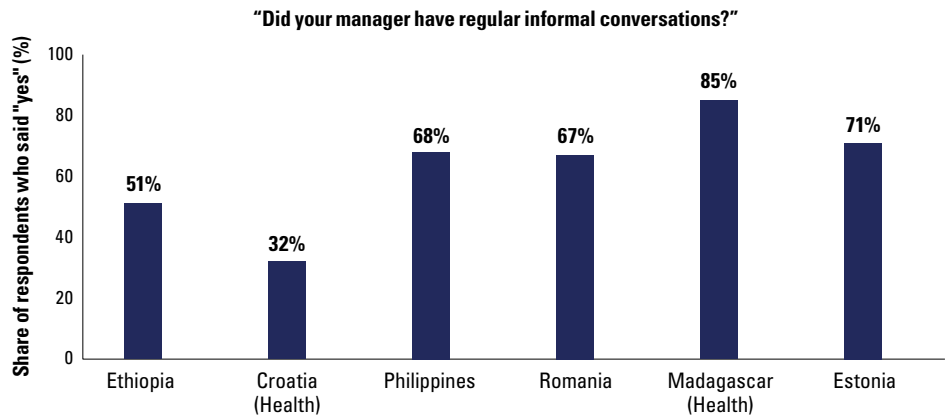
Performance evaluations have traditionally been the main vehicle for management by results but are either not always done or done poorly. Most government regulations require staff appraisals as tools for accountability and rewards, such as in determining raises, promotions, and layoffs. Evidence from several Bureaucracy Lab surveys reveal that performance appraisals are not universal. Large proportions of staff did not have any formal performance evaluation in the two years prior to the survey, ranging from 87 percent for Croatia’s health workers to less than 10 percent in Chile, Philippines, and Romania (Figure 3.1, panel a). Women were less likely to have their performance evaluated. In Mali, for example, 41 percent of male doctors receive monthly performance evaluations compared to only 21 percent of female doctors. Similarly, in Madagascar, 29 percent of male doctors are evaluated monthly, compared to 7 percent of female doctors. Regular informal feedback, an indicator of whether managers go beyond the regulatory requirements of conducting a performance evaluation, is also well below the 100 percent threshold in Croatia, Ethiopia, Estonia, Madagascar, Philippines, and Romania (Figure 3.1, panel b).

FIGURE 3.1 Performance evaluations are often not done or done poorly

a. Formal performance evaluations are not universal



b. Informal feedback from managers is often not given



Source: Based on Bureaucracy Lab surveys and Global Survey of Public Servants, 2016–2025.

Even when conducted, however, these exercises tend to be perfunctory. In Romania, for example, nearly 95 percent of respondents reported having received a rating of “very good” (highest score on a four-grade scale) in their last performance appraisal. Unpacking the performance evaluation process also reveals weaknesses, even in upper-middle-income countries. For example, in Romania, individual civil servants have a limited role in formulating their own objectives, with 25 percent of staff stating that they were not involved in objective setting. In Croatia, only half of the health workers stated that their manager had set and discussed their objectives with them or had discussed their last evaluation results with them.

Given the difficulties in objectively measuring performance, the surveys also revealed significant concerns about bias and unfairness in performance evaluations, particularly against women. This perception of bias can be because managers are trying to quantify tasks and outputs that are not quantifiable; or because staff believe that there is favoritism in subjective performance evaluations. In Ethiopia, women are significantly less likely to achieve the highest performance ratings compared to their male counterparts, with only 39 percent of women receiving the top rating compared to 52 percent of men.

Public sector workers have mixed views about the impact of performance evaluations on incentives and motivation. Contrary to popular beliefs, most public sector workers do want performance appraisals to matter for their career. A study based on a cross-national survey of public servants found that perceptions that performance evaluations matter for career growth were correlated with general job satisfaction ([Meyer-Sahling and others 2018](#)). Similarly, Bureaucracy Lab surveys from a diverse set of countries—Liberia, Bosnia and Herzegovina, and Romania—show positive correlations between organizational level measures of the quality of performance management and staff motivation. In Ethiopia, approximately half of civil servants stated that performance evaluations are used to improve performance and motivation levels. However, 22 percent reported that the results are not used at all. In Croatia, 58 percent of civil servants stated that a performance evaluation has no impact on their promotion or pay prospects, while 25 percent stated that it helps them get feedback on their performance or it motivates them. These mixed views are reflective of the considerable within-country heterogeneity in management quality that has been observed in academic studies and in Bureaucracy Lab surveys. The robustness of performance evaluations depends on the attributes of individual managers; therefore, it is not surprising to see a range of responses to survey questions on the impact of performance evaluations, and considerable variation across ministries and agencies in the quality of performance evaluations.

The potential of performance appraisals for management by results is limited by the reality that it is very difficult to dismiss poor performing civil servants given the tenure protections that they enjoy. Tenure protections are necessary to shield public sector workers from harmful politicization, but they can come with the cost of weakening the accountability of non-performing staff. To address poor performance, many civil service laws provide for mechanisms that try to find a balance between tenure protection and accountability. The standard procedure usually involves presenting credible evidence of poor performance, preparing a performance improvement plan with a time-bound set of actions to improve performance, and reviewing evidence against those actions. Given the problems of measurability, identifying poor performers with the necessary evidence and implementing performance improvement plans is difficult. There is also often considerable pressure from employee unions to protect employees from accountability. In Croatia, for example, almost half of managers stated they felt pressure from staff to give the highest

rating, and 27 percent stated that staff would take legal action against them, with the help of employee unions, if they were to give low performance ratings.

Given these constraints, the way forward for strengthening performance appraisals is to use it more for management by empowerment. Performance evaluations can enable a better “line of sight” between individual career aspirations and the organization’s goals, and help managers and staff identify the necessary competencies and training needs to better achieve the organization’s mission ([DeNisi and Murphy 2017](#); [Schnell and others 2021](#)). To better achieve this reorientation, most OECD countries use competency frameworks for senior managers to guide human resource management, including workforce planning, recruitment, training, and performance evaluation ([OECD 2017](#)). These competency frameworks emphasize the main aspects of management by empowerment and focus on strengthening managers’ socio-emotional skills. Diversifying the sources of information for performance evaluations— for example, including feedback from several peers, and from clients where feasible—can also help address problems of bias and improve the value of performance appraisals as a mechanism for staff empowerment.

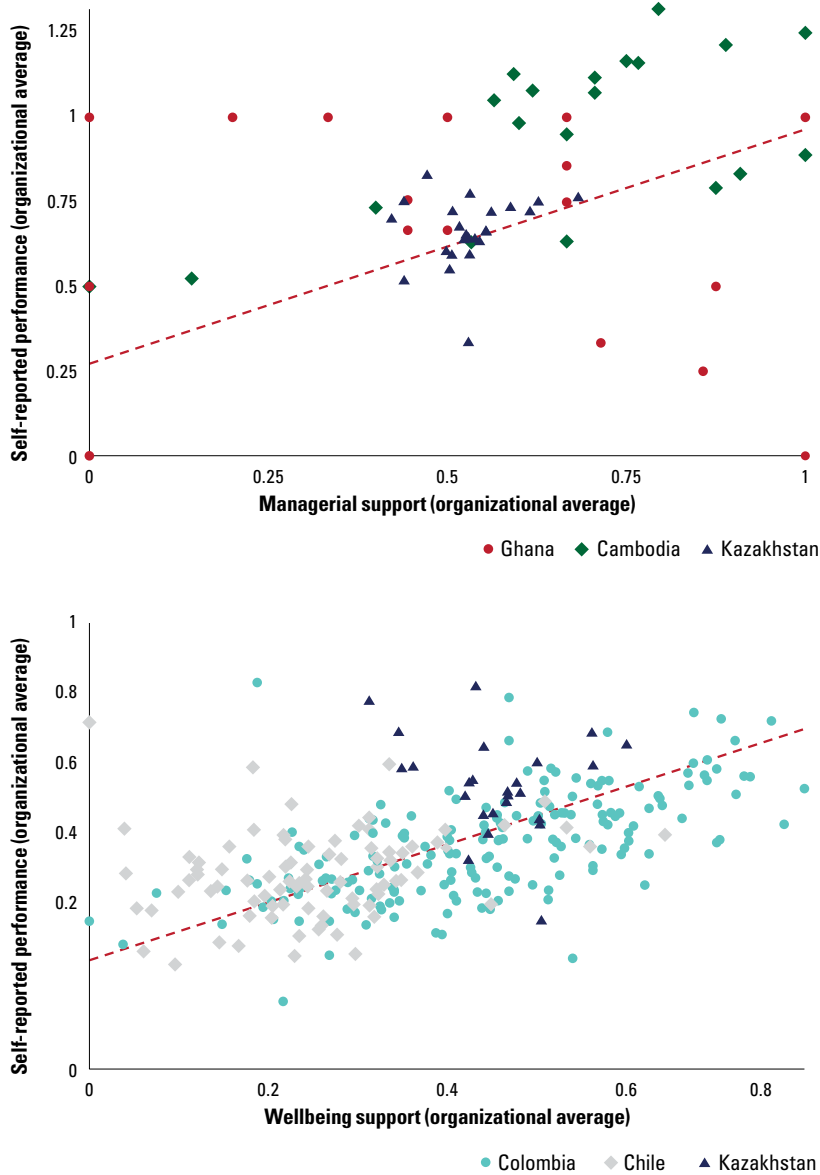
Management training programs can be highly effective in improving both management quality and workplace productivity ([McKenzie and Woodruff 2023](#)). These trainings should combine traditional classroom training with mentoring and peer-based programs, which are most impactful when lower-performing managers get matched with better-performing ones who are not seen as competitors ([McKenzie and Woodruff 2023](#)). Capacity building should be combined with improved incentives for managers to take management seriously. These include managers’ own performance evaluations which, like in OECD countries, should have a different performance appraisal system than in the rest of the civil service, with an emphasis on their achievement of strategic organizational goals as well as their managerial and leadership skills ([Kuperus and Rode 2016](#)). Managerial competencies, for example, are a big reason why Shanghai has consistently been ranked as having one of the best performing school systems in the world. Shanghai has a rigorous system for training principals and holding them accountable for results based on a core set of competencies that include organizational management, teacher management, school culture, and community engagement. The training includes group lectures, individual research projects, field visits, and mentoring by experienced principals. Shanghai also uses the concept of professional communities to foster collaboration and peer-to-peer learning among teachers and principals. Administrators evaluate the performance of principals along these competencies, and this performance evaluation impacts salaries and promotions ([Kidwai and others 2016](#)).

Another aspect of performance management is the regular interactions between managers, usually in local administrations, and service providers in facilities, but which are infrequent. These field visits, called “supportive supervision” in the health

sector, are important for both management for results and management by empowerment, and go beyond just ensuring compliance and monitoring results and involve providing feedback and guidance to address problems collaboratively. They can improve service provider motivation, particularly for staff working in remote and rough locations, as evidenced in Tanzania and Pakistan (Cilliers, Dunford, and Habyarimana 2022; Rabbani and others 2016). Bureaucracy Lab surveys reveal, however, that field visits are irregular and of poor quality. In Madagascar, more than 40 percent of administrative officials at central, regional, and district levels said supervisory visits of health care facilities were not conducted regularly. Similarly, in Ethiopia, 29 percent of administrative officials reported that supervisions of health and education facilities occur less than twice a year. Beyond limited financial resources to conduct these visits, there are also problems in management quality. For example, the use of supervisory checklists are standardized tools in such facility visits, but 30 percent of health administration personnel in Mali acknowledged that such checklists are rarely used when visiting health care facilities. Health facility staff in Mali gave equal importance to supervisors' poor attitudes and a dearth of resources as key obstacles to better supervision of health facilities.

Management by empowerment is especially important for ensuring business continuity during times of crisis, as evidenced by the experience of remote work during the COVID-19 pandemic. The Bureaucracy Lab conducted surveys in several countries in 2020–2021 to measure workers' experience of remote work during the COVID-19 pandemic. Beyond the information technology issues related to remote connectivity, the surveys revealed a dearth of supportive management practices—the ability to collaborate remotely with colleagues, overall support by managers, and mental health support. Thirty percent of respondents in Chile and 49 percent in Colombia indicated that their organization provided sufficient mental health support during the pandemic. Staff had varying views on the support that managers extended to them (53 percent of respondents in Kazakhstan expressed they were supported by their managers, 55 percent said so in Ghana, and 72 percent in Cambodia). There was also considerable country variation across organizations in the extent of management support and mental health support; and the extent of this support was positively correlated with staff self-assessments of productivity (Figure 3.2).

FIGURE 3.2
Management support for staff was correlated with performance during the COVID-19 pandemic



Source: Based on Bureaucracy Lab surveys, 2016-2025.

3.3 Engaging communities for public service motivation

Public service motivation should distinguish bureaucrats from their private sector counterparts given that the nature of their work is meant to serve society. A cross-national survey of 27,000 workers in 37 countries found that while 75 percent of all workers, irrespective of employment sector, stated that “their job was useful to society,” almost 100 percent of frontline public sector workers in service delivery and public safety jobs believed that their jobs were valuable ([Dur and van Lent 2018](#)). The Bureaucracy Lab surveys also reveal that service providers are highly motivated, despite challenging working conditions. In Mali, for example, 70 percent of rural health facility staff reported being more motivated than when they initially joined the health facility, citing intrinsic factors like the exciting and challenging nature of their work, alignment of their skills to their work, and the opportunity to serve the public. The work of administrators and managers, however, often does not directly engage with citizens and therefore, public service motivation may be more difficult to maintain for these typical bureaucratic jobs. For example, in Romania, when civil servants were asked to characterize the nature of their work, the most common response was “following public administration rules.” In Ethiopia, civil servants across various agencies reported significant declines in motivation since they first joined the service, citing low wages and benefits, as well as limited development and promotion opportunities as key reasons.

Management by empowerment practices that emphasize community engagement can be an effective approach to fostering public service motivation, even for workers who do not directly engage with citizens. This approach to community engagement is different from the traditional, management by results one that is informed by the principal-agent framework, and which emphasizes the need to hold shirking bureaucrats accountable. The World Development Report 2004 coined such citizen engagement, or social accountability, approaches the “short route” of accountability whereby citizens could exercise direct oversight over public sector workers, without requiring politicians as intermediaries in the relationship between citizens and bureaucrats ([World Bank 2003](#)). There is a large body of literature on citizen engagement and provider accountability that explores different institutional mechanisms for citizen voice, such as participatory budgeting, community report cards, and digital feedback and complaint platforms; however, these studies have mixed evidence of impact.²⁶ One lesson that has emerged is that while the main focus of these interventions has been on citizen action, a key success factor is the complementarities between bottom-up accountability and management practices within the bureaucracy (Brinkerhoff and Wetterberg 2015).²⁷

²⁶ See [Fox \(2015\)](#) for a review of the literature.

²⁷ This was also the conclusion of [World Development Report \(2016\)](#) after reviewing several cases of digital social accountability tools.

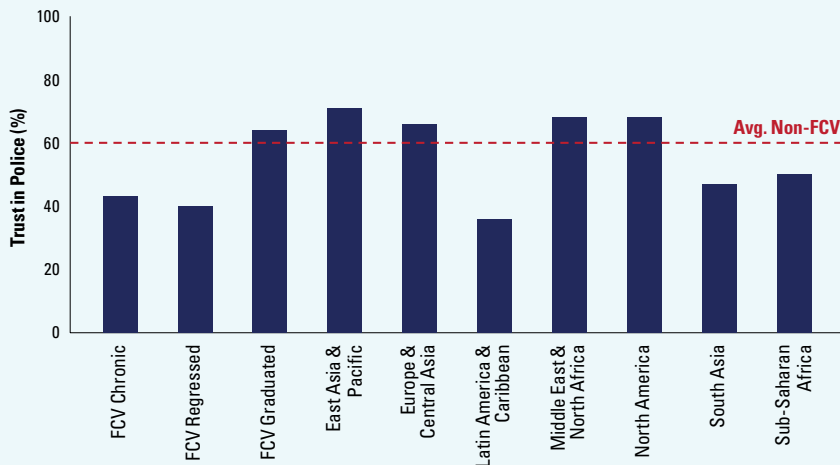
Bureaucrats often have limited connections to citizens, spatially and socially, in the daily tasks that they perform. There is a concentration of public sector workers in the capital city and in urban areas, as detailed in the previous chapter. Government employees are also more likely to be from advantaged sections of society—approximately 48 percent of public sector employees hold a tertiary degree, compared to just 21 percent in the private sector, and even lower for the general population (Worldwide Bureaucracy Indicators). More profoundly though, compliance-based management emphasizes paperwork and documentation of adherence to rules, which comes with an opportunity cost of lack of client engagement. India is referred to as the “paperwork” state, with bureaucrats spending their time on files, as evidenced by several time-use studies that reveal that government social workers spend 30 percent of their time on paperwork instead of providing nutritional services to poor children, with similar problems besetting several other functions ([Muralidharan 2024](#)).

One management practice for fostering community engagement is hiring members of the community to perform core functions. The previous chapter discusses the example of community health workers, who are usually women from local communities hired on either permanent or temporary contracts to address the problem of shortages of health workers in remote areas, and who perform vital preventative health functions. The meritocratic hiring of community health workers, with strong messaging on their mission, has resulted in improvement of child health outcomes in Brazil and Pakistan ([Khan 2024](#); [Tendler 1997](#)). Other channels for community engagement entail regular forums between service providers and local communities, and behavioral training. Community engagement has been emphasized in building trust with citizens, such as in policing, where the state acts as an enforcer, creating a potentially adversarial relationship (see **Box 3.1**); and in civil works, wherein a high risk of conflict may arise between the public sector and the affected citizens.

Community engagement should be a key competency of civil servants, and regular interactions with beneficiaries of government programs should be a part of performance conversations. Digital technologies have greatly reduced the transactional costs of community engagement, and carefully designed platforms can enable bureaucrats to get actionable feedback on a variety of policies and government outputs. These approaches are discussed in the next chapter.

Box 3.1 Improving Police Capacity and Accountability

FIGURE 3.3 Citizens have low trust in the police



Source: Based on World Value Survey (average of 2014 and 2022).

Note: FCV = fragility, conflict, and violence.

Police capacity and accountability are central to state legitimacy and citizen welfare, particularly in FCV contexts. Beyond the immense and tragic human toll, the economic costs of conflict in FCV countries are estimated to be about 20 percent of GDP ([Institute for Economics and Peace, 2023](#)). Serving as the first, and often the only, point of contact between citizens and the state, the quality and legitimacy of policing is critical for citizen safety, and has broader consequences on citizens' perceptions of public institutions, and their overall willingness to obey the law and state authorities. However, only 40 percent of citizens trust the police in FCV countries, 20 percentage points below the global non-FCV average (Figure 3.3).

Building better police organizations requires management practices that emphasize community engagement, personnel diversity in identity and skills, and reliable tools to measure and manage performance. Community policing centers on the idea that the police and the public should collaborate as co-producers of safety. Unlike punitive enforcement models, community policing focuses on organizational initiatives that foster cooperative relationships between law enforcement and the communities they serve. It encourages public involvement in setting police priorities through non-enforcement interactions, such as town halls, community meetings, police door-to-door visits to households, awareness programs, and neighborhood watch patrols. Research in high-income country contexts has shown that community policing

programs improve citizen satisfaction and trust.²⁸ The few field experiments in FCV contexts—in Liberia and Papua New Guinea—have also been promising, showing that household visits by police officers and town halls led to a greater preference for the police over non-state actors for security provision, and increased reporting of crime, with stronger effects among women and marginalized groups ([Blair, Karim, and Morse 2019](#); [Cooper 2019](#); [Karim 2020](#)).

The police should be representative of the communities they serve. Ethnic integration of minority groups into security forces is a key element of post-war peace agreements, and a diverse workforce can help reduce discriminatory policing, improve police interactions with minorities, and enhance citizens' sense of connection and identification with law enforcement organizations. One survey experiment in Iraq showed that better representation of the different religious sects in field units can reduce citizens' fear of repression ([Nanes 2020](#)). Gender representation can also play a significant role in improving police work, such as increased reporting of violence against women, and less use of force by the police without reducing effectiveness on the job ([Miller and Segal 2019](#); [Shoub, Stauffer, and Song 2021](#)). Studies also show that women's help desk in police stations are more responsive to cases of violence against women when led by women rather than men ([Sukhtankar, Kruks-Wisner, and Mangla 2022](#)). Women, however, are significantly underrepresented in the police, comprising less than 10 percent of the force in FCV countries, compared to 18 percent in non-FCV contexts. Women and minorities also often face unfair treatment in promotion and assignment decisions, experience discrimination by colleagues, and endure underestimation of their physical and psychological capabilities ([Shelley, Morabito, and Tobin-Gurley 2011](#)).

These community engagement and representation initiatives can only work if police organizations have the necessary staff and effective internal management information systems. Policing is also a function beset with multi-tasking and measurement difficulties. Even in upper-middle-income countries like Mexico, nearly half of municipal police forces fail to collect basic crime indicators for their local context (Canales, Zarkin, & Gabaglio 2020). In FCV contexts, some feasible approaches to generate performance indicators can involve the use of citizen surveys measuring perceptions of safety, victimization, reasons for not reporting crimes, and satisfaction and trust with the police. Policing, however, is a complex task, and assessing the individual contributions of police officers is even more challenging; management by empowerment approach is therefore more feasible. For example, some practitioners and researchers advocate for the adoption of competency-based frameworks for career management, rather than performance-based models, where career progression is tied to training hours, completion of different types of training, performance in these trainings, and engagement in mental health support programs.²⁹

28 See for example [Gill et al., \(2014\)](#) for a review.

29 See for example [Muralidharan \(2024\)](#).

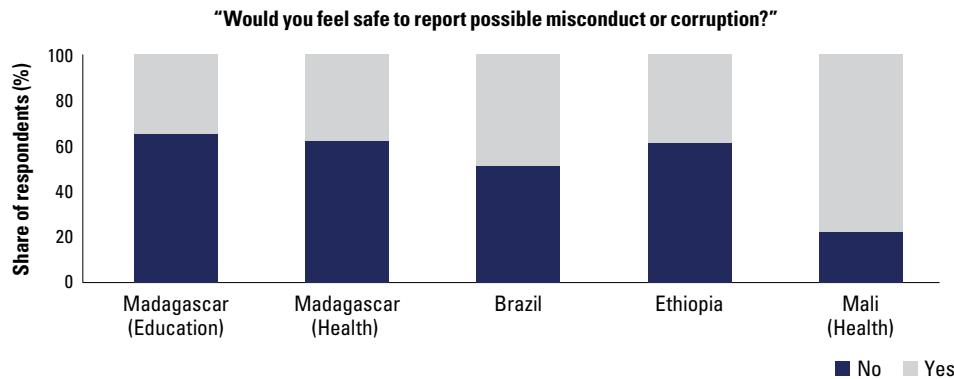
3.4 Promoting integrity and trust

Corruption in public administration hurts the investment climate, creates leakages in revenue collection compromising fiscal sustainability, and lowers trust between citizens and the state. Public perceptions of corruption, and firms' experiences of corruption, are widespread. Approximately 75 percent of citizens, according to Gallup World Poll data, believe that governments are corrupt; and 10 percent of firms, based on World Bank Enterprise survey data, report making informal payments, or gifts, to tax inspectors. Public procurement is especially vulnerable to corruption, with estimates of bribes ranging from 8 percent to 25 percent of the value of procurement spending, which, given the estimated USD 11 trillion that governments annually spend on procuring goods, works, and services, represents an enormous inefficiency ([Bosio 2021](#)). Many low-income countries have problems of ghost workers and rent-seeking in recruitment.

Self-reports from public servants in Bureaucracy Lab surveys confirm that corruption is disturbingly commonplace in public administrations. In Brazil, 33 percent of the over 22,000 federal civil servants surveyed stated that they had witnessed some unethical practices within the past three years, with a similar proportion stating that they themselves had faced pressure to act unethically ([World Bank 2022](#)). In Ethiopia, the number of public sector workers witnessing an unethical practice was even higher, at 47 percent. The most common unethical practices cited in Brazil were in the design of policies, projects, or programs; in the award of procurement contracts; and in contract execution.

This report limits itself to the role of management practices, and the choice of management by results or management by empowerment, in tackling corruption in the public administration. Management by results and increased monitoring of workers is a common approach, aided by digital technologies. Biometric registration, authentication, and payments in India's National Rural Employment Guarantee Scheme, the world's largest workfare program, reduced the time for paying beneficiaries by 29 percent and leakages by 35 percent ([Muralidharan and others 2016](#)). Co-locating administrative services in one-stop-shops have also reduced the prevalence of bribes and improved services in Karnataka state in India ([Bussell 2019](#)). The evidence on the impact of increased monitoring on corruption risks in procurement, however, is mixed. A study in Italy found that the administrative costs of monitoring corruption, imposed by excessive regulations, were several times greater than the costs of the bribes ([Bandiera and others 2009](#)). Another study found that the adoption of e-procurement systems reduced the likelihood of firms needing to pay bribes to secure contracts only in high-income countries ([Kochanova and others 2018](#)). Increased monitoring of public servants to reduce their discretion can also lower productivity. Studies show that limiting procurement officials' autonomy results in higher prices as these bureaucrats are unable to use their private information and experience to award contracts to better suppliers (Bandiera and others 2021).

FIGURE 3.4 Public sector workers do not feel safe reporting on corruption

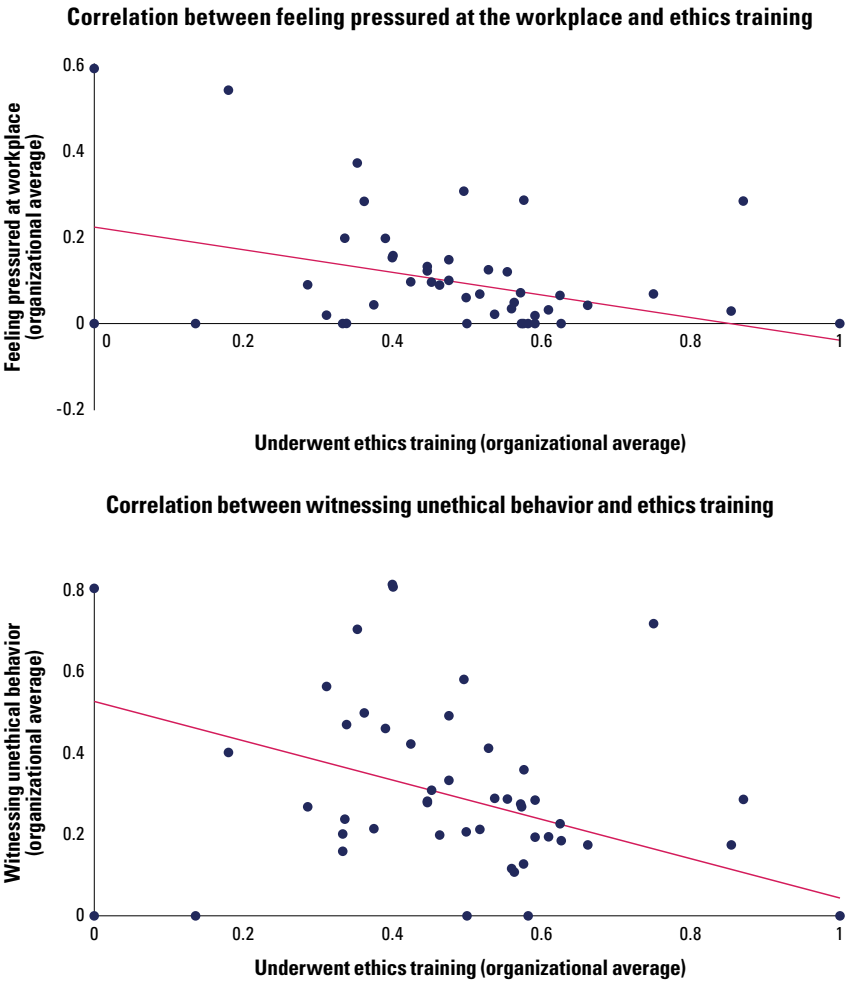


Source: Bureaucracy Lab surveys, 2016-2025.

Given the limits of monitoring and recognizing the reality of allowing bureaucrats to have discretion, an alternative approach is management practices that empower public servants to be ethical and in which workers will themselves report unethical behavior because it is the “right thing to do.” The role of management by empowerment in fostering a trusting and ethical work environment has received less academic and policy attention, even though any external pressures to engage in corruption from politicians will require willing collaborators among managers and the technical staff responsible for executing that particular action. For example, of the Brazilian civil servants who reported being pressured to act unethically, 65 percent stated that the pressure came from their supervisor.

The ability to safely report acts of corruption is central for public servants to feel empowered in having a role in controlling corruption. However, civil servants are often hesitant to report observed unethical acts because of fears of retaliation. In Brazil, while a third of civil servants witnessed unethical practices in the past three years, only 12 percent reported these occurrences. A major reason for this hesitation in reporting is fear of retaliation. The Bureaucracy Lab surveys reveal that large percentages of civil servants in Brazil, Ethiopia, Madagascar, and Mali answered “no” when asked if they felt safe in reporting on corruption, citing concerns about lack of whistleblower protection and fear of negative repercussions (Figure 3.4). Individuals with higher levels of trust in the management of their organization and a belief that there would be no reprisals were more confident in reporting acts of corruption. In Liberia, staff were 15 percent more likely to feel safe reporting on an unethical colleague in units with above-median management quality compared to units with below-median management quality. The effectiveness of whistleblower systems that clarify reporting procedures, along with fostering a culture that supports anonymous reporting, is essential for improving trust and combating corruption effectively.

FIGURE 3.5 In Armenia, ethics training is associated with lower workplace pressures and less witnessing of unethical behavior



Source: Armenia. Bureaucracy Lab. Survey on Human Resource Management, Integrity, and Public Procurement Practices. 2022.

Anticorruption training programs can help create a shared understanding among public servants of what are corrupt practices and encourage them to report corrupt actions. Public sector workers often do not have a clear understanding of what practices are corrupt. In Armenia, for example, only 44 percent of survey respondents stated that it was not justifiable to use direct contracting to speed up procurement. Public servants also need to know their rights and obligations when witnessing corruption, such as the rules and procedures for officials to follow, the formal chain of responsibility, and the protections available to them when they expose wrongdoing. Anticorruption training programs

are a valuable tool for strengthening ethical behavior and reducing corruption-related pressures. In Armenia, there is a high demand for this training, with 22 percent of public servants requesting more anticorruption training, 15 percent for information on rights and responsibilities, and 15 percent for more information on redress mechanisms. There is also a link between integrity training and the incidence of integrity risks. Public servants who reported receiving training on the Code of Conduct are less likely to experience undue pressure from colleagues or supervisors or to witness unethical behavior in their organizations (Figure 3.5). Similarly in Brazil, 68 percent of public sector workers who undertook integrity trainings stated that they felt safe to report on corruption, compared to 36 percent for the workers who had not taken this training.

3.5 Continuous learning

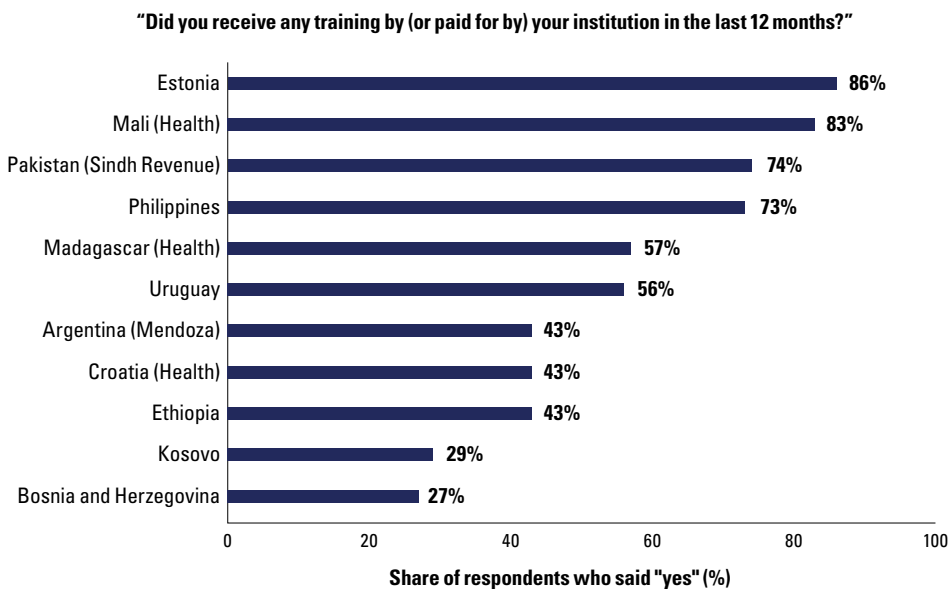
Many public sector workers have large skill deficiencies in performing their current jobs and are not being trained for the changing nature of their jobs. As the previous chapter noted, there are well-evidenced skill gaps in the fundamental professions of teaching and medical care, as well as in a range of public sector jobs, for both technical and “soft” skills. There is an urgent need to improve the skills for the changing nature of jobs due to digital technologies (discussed in more detail in Chapter 4), and because of the need to address climate change, which requires new skills in climate-specific jobs, as well as for general managerial and administrative jobs.

Public administrations across countries generally provide insufficient training to staff. The Bureaucracy Lab surveys asked respondents whether they have received any training funded by the government in the past year. In several countries across regions—Ethiopia, Argentina (Mendoza province), Kosovo, and Bosnia and Herzegovina, for example—most civil servants had not undertaken any training in the past year (Figure 3.6). Even when training is undertaken, it is often not what public sector workers need. Civil servants need training on specific subject matters and on the use of digital technologies but often receive training on laws and regulations and administrative processes.

These findings are reflective of the larger problem that trainings are often not anchored on organizational needs or linked to the competencies required for different jobs. Competency-based approaches identify both technical and behavioral competencies; the latter entails leadership, socio-emotional skills, community engagement, and addressing biases. In most cases, there are no standards for training (learning goals and minimum hours of training are only set up in staff performance agreements with managers) nor incentives for staff to undertake them. Behavioral competencies are underemphasized, even though public sector workers demand these skills. For example, a Bureaucracy Lab

survey of environmental public workers in Amazonas state of Brazil revealed that the highly demanded training was on communicating climate change to the public and on how to engage with citizens to change behaviors. Experimental studies on the police show that a variety of soft skills training, such as on cognitive biases and strategies to mitigate them, and on how to engage with citizens, were effective in improving the police's interaction with citizens ([Banerjee and others 2021](#); [Dube, MacArthur, and Shah 2025](#)).

FIGURE 3.6 Many public sector workers have not taken any training in the past year



Source: Bureaucracy Lab surveys, 2016–2025.

There should be a variety of modalities for delivering training, such as utilizing government training institutes, public-private partnerships, and digital learning platforms. Training for civil servants has been traditionally done through national schools of public administration that are quasi-government bodies. They are good in imparting knowledge on laws and regulations, and on core functions related to policy making and budget management but have insufficient technical expertise to be forward looking and build capabilities for new priorities. There are exceptions, like Brazil's Escola Nacional de Administração Pública (ENAP) and South Africa's National School of Government, that do provide technical training, including on climate and digital skills. Most low- and middle-income governments will need to partner with academia, the private sector, and think tanks to deliver subject matter technical training. The delivery of training should also make use of online learning platforms, with short modules, to greatly lower the transaction costs to civil servants and to make training more demand based,

enabling workers to take the courses whenever they have time. A good example is India's Mission Karmayogi, developed in collaboration with nongovernmental partners, which has introduced a national learning platform with hundreds of short courses for federal civil servants.³⁰ The platform enables user interaction, allowing for example, users to rate the quality of the content, thereby creating a better match between training supply and demand. It also provides workers with personalized competency profiles and a system of certification based on the courses undertaken.

Training should combine classroom and on-the-job learning and include action-oriented modules to solve pressing and familiar problems. Several rigorous evaluations across a variety of contexts reveal that a hybrid approach that combines classroom and on-the-job training, with an emphasis on reflective learning-by-doing and team-based learning, is more effective (Choonara and others 2017). Trainings may then focus on workers' technical knowledge and understanding of certain work functions or address workers' behavior, including their self-efficacy and application of that knowledge (DeCorby-Watson and others 2018). An experimental study in Ghana showed that action-oriented training programs are also more impactful (Azulai and others 2020). In one treatment, trainees collaborated to identify challenges within their units and discussed how to overcome barriers to reforms through an action plan. This team-based training approach was tailored to the reality that most civil servants work primarily in teams and that there are complementarities in the contributions of different team members to the overall output. The evaluation found that this action-oriented training module has improved the self-assessed productivity of civil servants.

3.6 Improving coordination and collaboration

Many development challenges require a whole-of-government approach and collaboration and coordination between bureaucrats across ministries and levels of government. Tackling climate change, for example, requires collaboration across ministries of energy, transport, agriculture, environment, finance, and others; as well as with local governments that are involved in frontline implementation, particularly for climate change adaptation. Addressing the problem of shortage of rural health workers may require ministries of education to prioritize enrolling medical students from rural areas, ministries of infrastructure to build public housing, and ministries of finance to authorize incentive payments. Coordination was vital for effective response to COVID-19 crisis, as shown by the ministries in some European countries who collaborated to redeploy staff to strengthen emergency response capacity.

30 See Igot Karmayogi website at <https://igotkarmayogi.gov.in/#/>.

Bureaucrats often do not have the incentives to collaborate across organizations.

Formal government coordination structures, like inter-ministerial committees under the president or prime minister's office, are clearly important. But without the day-to-day interpersonal cooperation among the civil servants responsible for policy implementation in their respective organizations, these formal structures will not be effective. Budget practices and career incentives often militate against collaboration. While the organization of government follows the classic multi-departmental, or M-form, structure which drives coordination from the hierarchically superior center while enabling each department to specialize in its functions, ministries and departments also compete against one another for scarce budgetary resources, leading to a territorial mentality among senior civil servants. The specialization of function means that most rank-and-file public sector workers spend most of their careers working for one or two ministries or agencies, and therefore, their personal and career networks are likely to be parochial.

Bureaucracy Lab surveys reveal that collaboration across organizations is difficult.

In Poland, around half of the respondents never collaborate on climate change policies with other units in their organization, nor with other institutions, while 1 in 5 do so only on an ad-hoc basis. Vertical collaboration is even less established in Poland, as two thirds of respondents from central government climate change relevant agencies say that they never engage with local government on climate change, while 20 percent only do so on an ad-hoc basis. Another survey in Lithuania showed that only 43 percent of school staff stated that they worked regularly with officials in local government over the past year to create education measures and plans for youth mental health.

Whole-of-government career structures and distinct performance management schemes for senior civil servants are two formal mechanisms to foster collaboration.

Many countries—e.g. Chile, India, the Republic of Korea, Singapore, and the United States—have cadres for senior managers that enable staff to move both vertically across levels of government, and horizontally across ministries, through their careers. The oldest of these is the Indian Administrative Service that was formed in the 19th century (when it was called the Indian Civil Service) as the “steel frame” of the British colonial administration. These groups have distinct leadership competencies emphasizing strategic thinking, collaboration, communication, and results-orientation. There is also a greater use of performance incentives for these senior managers, both as a device to hold the bureaucracy accountable to its political bosses, and to align individual incentives to government-wide policy goals ([World Bank 2012](#)).

Training civil servants on “soft skills” like communication, empathy, problem-solving, and teamwork can foster collaboration.

A variety of training programs aim to help managers and technical staff identify problems and build coalitions of reformers to implement change (e.g., Leadership for Results and Rapid Results Initiatives developed

by the World Bank). In Cambodia, for example, a training and coaching program engaged with over a thousand senior government officials to identify key bottlenecks to public sector reform, devise solutions collaboratively, and foster a network of reformers within government.³¹ Informal networks of civil servants can also be effective in fostering collaboration. For example, interviews with public servants in Brazil, Ecuador, Kenya, and Peru showed that the most common semiformal mechanisms to coordinate the work on climate change, both within and across institutions, is the organization of working groups, technical seminars, and roundtable discussions. Such events help raise awareness on climate change related goals, reach consensus, and pave the way for specific legislation of implementation action. Coordinating through such events seems particularly important for the collaboration between agencies with conflicting objectives on climate change, like the ministries of the environment and agriculture, which tend to have opposite views on land use.

31 See World Bank (forthcoming) for a detailed discussion of the different interventions to foster collaboration and reform coalitions.

Chapter 4: Digital Technologies and the Workforce

4.1 Introduction

This chapter explores two questions: What are the different ways in which digital technologies can improve the management of the public sector workforce; and are governments sufficiently investing in the digital skills of their workers to effectively use these technologies? This report zeros in on a key determinant of the impact of digital technologies on workers and the workplace—the race between technology and skills ([Goldin and Katz 2009](#); [World Bank 2016](#)). The vast literature on this subject, mostly on firms, has examined how digital technologies augment some jobs and workers, and replace others, with the outcome depending on the nature of the tasks in a job and, critically, whether technical and behavioral skills can keep pace with the changing technology. There is also a substantial literature on how higher level cognitive and socioemotional skills are essential complements for effectively deploying these technologies to improve labor productivity. This is particularly true for core government management systems that are large and high-risk projects requiring specialized information technology, procurement, and project management skills for them to be successfully implemented. The AI revolution has only accelerated this race.

The main finding of this chapter is the unfulfilled potential of digital technologies. Governments are underemphasizing leadership competencies that are necessary for using digital technologies for better management of the public sector workforce; and are underinvesting in the foundational and advanced digital skills necessary to effectively deploy digital technologies in the public sector.

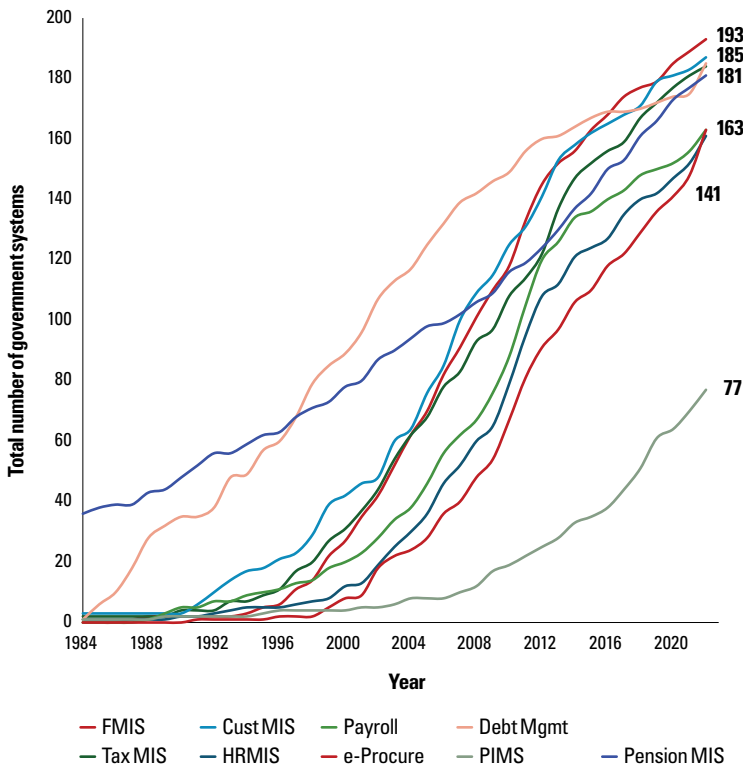
4.2 Digital technologies for managing the public sector workforce

Governments have invested heavily in core digital management information systems for managing the workforce. The number of countries with payroll and human resource management information systems (HRMIS), including in FCV countries, has increased sharply over the past two decades, and these are now an essential part of the core suite of information systems, together with tax administration, customs, and financial management information systems (Figure 4.1). Ghost employees—those who get paid from the government payroll without being employed by the government, or public sector workers getting multiple illegal salary payments—are a major problem in many low-income and FCV countries. These systems can help solve this problem as these are comprehensive databases of authorized staff positions, uniquely identified personnel, and payroll with all elements of compensation that are regularly updated with appropriate safeguards and audit trails. Cloud solutions for these systems can also make them more affordable for low-income countries ([World Bank 2023](#)). These systems also help in wage bill planning, enabling simulations that estimate the fiscal impact of different scenarios, such as freezing salaries or decreasing the rates at which salaries are readjusted; reducing the size of annual pay progressions or increasing the time interval between them; reducing staff replacement rates (hiring freezes); and reducing pay dispersion. Mobile payment systems can also help address the problem of salary delays, particularly for service delivery staff in remote locations.

Low- and middle-income countries, however, underutilize these systems, using these mostly for transaction processing and not for data analytics. For example, a survey of Latin American countries on the use of these systems found that HRMIS data is used less frequently for diagnostic and predictive analytics than other core systems ([World Bank 2024](#)). Only 21 percent of these countries use their HRMIS for predictive analytics compared to 60 percent who use their tax information systems for these purposes. AI can expand the utility of these systems, particularly in conducting predictive analytics to forecast the wage bill, estimating staff turnover, and sourcing talent. Private sector companies are using AI to screen resumes of applicants for jobs, and to search for talent on online job posting platforms. Public sectors, such as in the Republic of Korea, are following suit and beginning to use these tools to improve talent planning and recruitment.³²

32 Based on World Bank staff interviews with officials of the Ministry of Personnel Management, Government of the Republic of Korea.

FIGURE 4.1 Payroll and human resource management information systems have increased rapidly in the past 20 years



Source: Based on World Bank GovTech Maturity Index.

Note: FMIS = Financial Management Information System, MIS = Management Information System, PIMS = Public Investment Management Information System

Digital technologies lower the cost of monitoring workers, which can strengthen performance-based management. The use of mobile phone to monitor government service provider absenteeism has been a topic of several field experiments—for example, in India, Pakistan, and Uganda—with generally positive results, particularly if the monitoring is combined with incentives ([Callen and others 2016](#); [Cilliers and others 2013](#)). In Uganda, absenteeism was reduced by combining teacher incentive pay with the monitoring technology. In Pakistan, smartphone-based monitoring of district health supervisors in rural clinics doubled inspections of health facilities and reduced medical worker absenteeism. In India, the monitoring of health workers improved attendance, though many local governments did not use the data to sanction absent workers because of cumbersome civil service rules or for political reasons. Digital technologies, like body-worn cameras, that record both audio and video of police-citizen interactions, have also improved monitoring and accountability in policing. Evidence from developing countries

suggests that these cameras reduce the use of force, handcuffing and arrests, while enhancing criminal reporting.³³ There is also evidence of digital technologies reducing the discretion of tax officials and lowering corruption (as discussed in Box 2.3, Chapter 2).

There are, however, limits and risks to digital monitoring and using these technologies for management by results. Reducing absenteeism, while necessary, is not sufficient to ensure that doctors, teachers, and managers, once they show up to work, are motivated to perform well and to serve the public. Excessive monitoring, which is done in some firms, can also backfire and can be highly demotivating. There is limited evidence of the efficacy of the “Delivery Unit” model in which central units in the country or subnational jurisdictions office of the chief executive use dashboards and high-frequency management meetings to hold bureaucrats to account. A rigorous study in the Punjab province of Pakistan found that it had no meaningful impact on key elements of the education production function, highlighting that data, coupled with top-down accountability mechanisms, do not drive performance alone ([Gulzar and others 2025](#)). Bureaucracy Lab surveys of health administrators in Madagascar and Mali also revealed problems of utilizing management information system data for decision-making, with 72 percent of respondents in Madagascar, and 55 percent in Mali, stating that they face difficulties in compiling, interpreting, and effectively using the data for management ([World Bank 2024](#)).

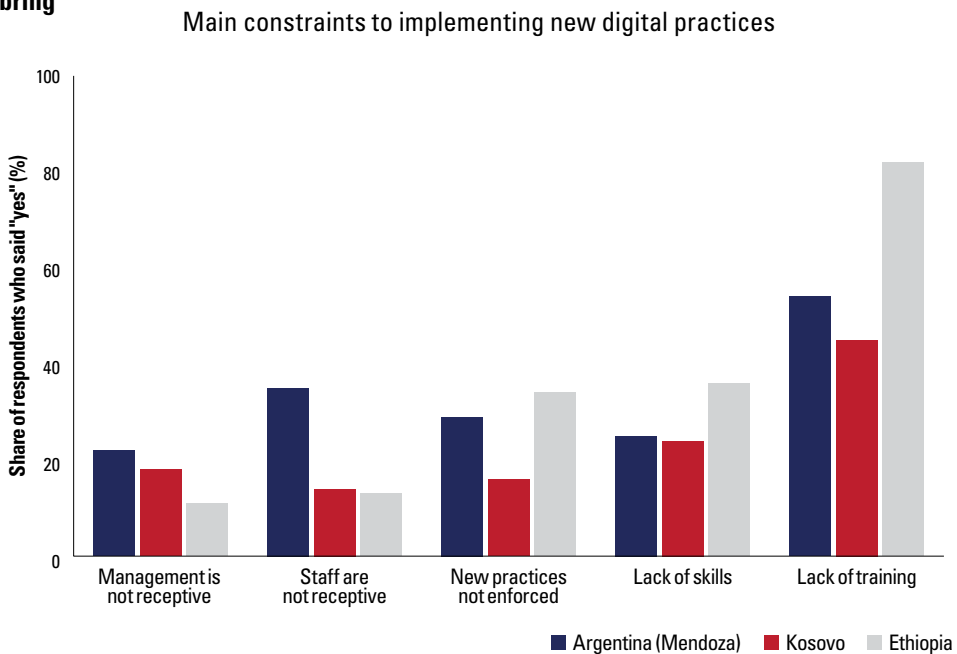
There is potential in using these technologies to improve management by empowerment and to spur public service motivation. Digital technologies, through a variety of tools under the rubric of “civic tech,” can help bureaucrats engage with communities. However, the evidence of civic tech initiatives that are designed to monitor and hold service providers and bureaucrats accountable is generally underwhelming. A review of 17 digital platforms in poorer countries found that only 3 had impact, as measured by public sector workers taking some action based on the feedback and information provided by citizens on the platform ([Peixoto and Fox 2016](#) cited in [World Bank 2016](#)). The successful initiatives are those in which public administrations have partnered with the civil society organization that developed the platform. This greater success of collaborative initiatives points to the potential for civic tech to augment management by empowerment approaches, by linking bureaucrats to citizens, and using regular feedback as a motivational device. User feedback mechanisms, particularly if they are integrated into the government systems that enable tracking and resolution of complaints, can create a virtuous circle between citizens’ voice and public sector workers responding to citizens’ demands ([World Bank 2016](#)).

Better digitally enabled management of the public sector workforce is conditional on the abilities and incentives of senior civil servants. Effective use of digital technologies and data often requires changes to existing work practices, and a shift

33 See for example [Barbosa and others \(2021\)](#).

from punitive, compliance-driven management approaches to collaborative, learning-based environments where data informs support to staff and capacity building ([Honig 2024](#)). Administrations that treat digital technologies as a tool for support, rather than just for monitoring, create an environment where officials feel empowered to use insights meaningfully. Surveys of private sector firms reveal the importance of management and organizational culture in the effective use of technology and data on the job. OECD's Survey of Adult Skills, conducted in 40 countries, measures workers' proficiencies in information processing skills, including the use of digital technologies on the job. The survey found that "high performing work practices"—defined as including aspects of both organizational culture (teamwork, job rotation, applying new learning, and mentoring) and the quality of management (performance incentives, work flexibility, and training practices)—were more important than individual competencies in driving the use of digital technologies in daily work ([OECD 2016](#)). Bureaucracy Lab surveys revealed that a major constraint to implementing new technologies, in addition to skills gaps and lack of training, is resistance of managers and staff to, or lack of enforcement of, the changes to work practices that digital technologies bring (Figure 4.2).

FIGURE 4.2 Managers and staff can be resistant to the changes that digital technologies bring



Source: Bureaucracy Lab surveys, 2016–2025.

4.3 Digital skills for a more effective digital public administration

Reaping the full potential of digital technologies and minimizing the risks of job displacement depends on the foundational and advanced technical digital skills of public sector workers. Contrary to common perceptions, governments have a high proportion of jobs that require digital technologies in daily work. Survey data on the use of digital technologies (computers, mobile phones, and the internet) in non-agricultural jobs from 30 countries show that in all but one country, a higher share of public sector jobs require frequent use of technology in daily work compared to private sector workers ([World Bank 2016](#)). Foundational skills, which most public sector workers should have, involve basic competencies in using office productivity software, navigating digital platforms, and conducting online communication ([World Bank 2022b](#)). Advanced skills, such as cybersecurity, coding, and advanced data analytics, are required only for a small cadre of specialists, who need to be embedded in all public sector organizations. Public administrations can strengthen digital skills through recruitment, training, or contracting, underpinned by strategic workforce management to predict future demand and the appropriate human resource approaches to fill that demand.

Most low- and middle-income countries do not have adequate job profiles or digital competency frameworks for public sector workers nor a structured planning for future needs. It is difficult for public administrations to keep pace with the rapidly changing nature of digital jobs. Most government job catalogs, which are the repositories of job titles and descriptions, are outdated. The World Bank's Gov Tech Maturity Index shows that 47 percent of countries do not have a strategy to improve digital skills in the public administration. Bureaucracy Lab surveys confirm the weaknesses in strategic planning. In Argentina (Mendoza) and Kosovo, for example, only 30 percent and 55 percent of the managers interviewed respectively stated that they gathered information on the digital skills of staff in their agency to inform their human resource planning. Digital competency frameworks, such as the European Digital Competence Framework or the UK's Digital, Data, and Technology Profession Capability Framework, can help develop a digital skills strategy, improve the screening criteria for recruitment, and guide an assessment of foundational digital skills that can be included in recruitment examinations.

Recruitment for digital skills in the public sector is more challenging given the high demand for these skills in the market. As discussed in Chapter 2, while in general, the public sector pays a wage premium, and there is a high demand for public sector jobs, it is likely that the wages for digital jobs are lower in the public sector, given the higher pay dispersion in the private sector. In Kosovo, for example, 68 percent of managers stated that it was difficult or very difficult for the government to attract candidates with strong digital

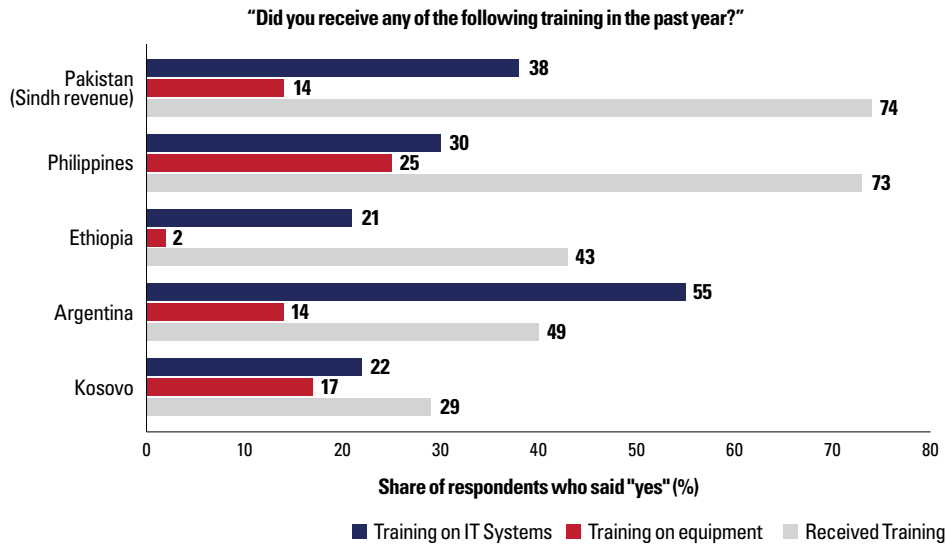
skills, primarily because of relatively low salaries. The high demand in the private sector also likely leads to higher turnover of digital professionals than for other occupational groups, underlining the need for more regular recruitment to make up for the higher turnover. In Kosovo, two-thirds of managers stated that there was a higher turnover of IT professionals.

The public sector will need to rely on the attributes of jobs other than salaries to recruit this talent, including more opportunities for learning, management by empowerment, and public service motivation given that it cannot realistically match high private sector salaries. Additional salaries can be given to digital professionals, like the case in Latvia and the Czech Republic. These incentives, however, are unlikely to be sufficient to match the high salaries in the market and will need to be complemented with appeals to candidates' public service motivation. These strategies can include recruitment campaigns targeted at the youth; at women, given that women have a relatively higher preference for public sector employment; and flexible work arrangements that may also be especially attractive to younger, and female workers. For example, Estonia, Germany, and Singapore have recruitment strategies targeted to recent university graduates that emphasize the non-pecuniary benefits of public sector employment ([Chinn and others 2020](#)). Other aspects of digital recruitment campaigns include providing opportunities for digital professionals to rotate across government departments to give them more opportunities to learn, and focusing their work on activities with a clear citizen impact or a core global challenge to appeal to their public service motivation.³⁴

Foundational digital training for staff and managers is often lacking in public administrations. Bureaucracy Lab surveys reveal, for example, that Ethiopia and Argentina (Mendoza) face significant challenges in implementing digital practices due to critical gaps in training and digital skills, with 82 percent in Ethiopia and 54 percent in Argentina citing a lack of training as a key barrier. Foundational training, particularly in the use of IT equipment and software, remains limited across a range of countries (Figure 4. 3). In Argentina, Ethiopia, Kosovo, Pakistan, and the Philippines, a minority of staff had received training on digital systems in the previous year. Bureaucracy Lab surveys of health managers revealed their frustration with the lack of training on data analytical skills to effectively utilize the information collected from management information systems, with 76 percent and 39 percent of managers in in Madagascar and Mali respectively stating that they had received any training on digital skills. Another Bureaucracy Lab survey in Malaysia revealed that the gap between what civil servants demand and the trainings delivered is highest for advanced digital and data skills (Figure 4. 4).

34 This was the approach taken for the UK's Government Digital Service. See World Bank report, *Fit for the Future* (forthcoming), for more details.

FIGURE 4.3 Training on foundational digital skills is often lacking



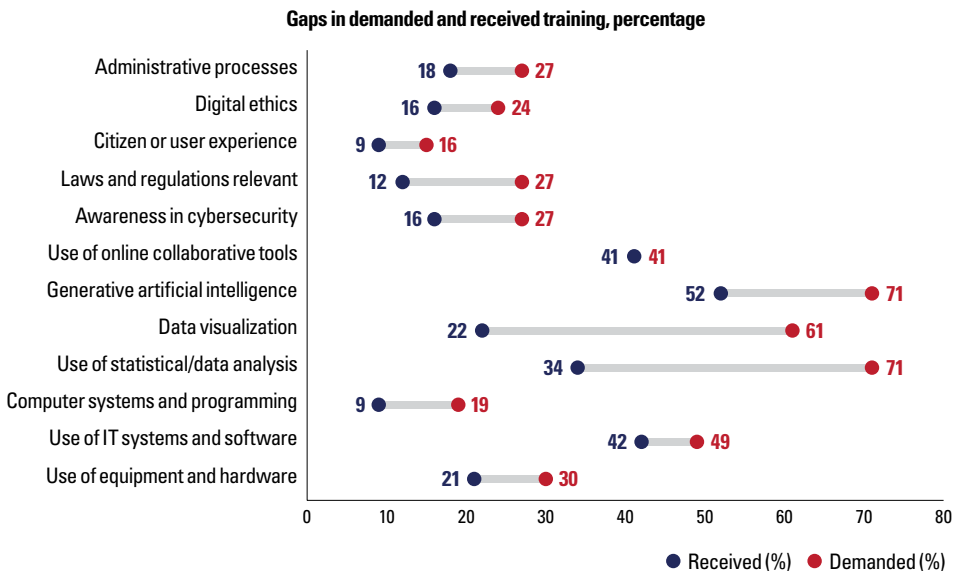
Source: Bureaucracy Lab surveys, 2016–2025.

Note: “Received training”: This asks whether the respondent has received any training in the last 12 months.

“Training on equipment”: For those who answered “yes” to receiving training, this inquires whether the training was in the use of equipment and hardware.

“Training on IT systems”: For those who answered “yes” to receiving training, this asks whether the training was in the use of IT systems and software.

FIGURE 4.4 There is a gap between the training given and what staff required in Malaysia



Source: Malaysia. Bureaucracy Lab. Survey on Gov Tech Skills in the Civil Service. 2025.

Foundational digital training should follow the hybrid delivery approaches discussed earlier, as observed in several OECD countries.³⁵ For example, Canada’s School of Public Service Digital Academy, Singapore’s Infocomm Media Development Authority, and Denmark’s Government Digital Academy focus on a core set of digital competencies for civil servants with courses on AI, cybersecurity, data analytics, and ethics. They blend structured instruction with mentoring and on-the-job training and provide support in finding solutions to real-world challenges.

To enhance advanced digital skills, OECD countries have also created specialized digital occupational groups. Professional networks are important not only for having a viable career but also as a driver of public service motivation, particularly for workers with advanced digital skills who can earn much more in the private sector. Many poorer countries do not have distinct occupational groups for digital professionals. For example, in Latin America and the Caribbean, only 12 percent of governments have a dedicated career track for data analysts ([World Bank 2024c](#)). The United Kingdom’s Government Digital Service defines clear career paths for digital professionals; Singapore’s Smart Nation Initiative similarly provides managed opportunities for horizontal movement of digital experts across ministries; and the United States Digital Service acts as a problem-solving team that could be deployed across the federal bureaucracy to provide technical expertise on digital projects. These digital occupational groups explicitly appeal to non-pecuniary aspects of working in the public sector, appealing to the mission motivation of younger digital talent, and emphasizing training opportunities, flexible work, teamwork, and a sense of community.

35 For more details, see World Bank (forthcoming).

Chapter 5: Reform Priorities for a More Effective Workforce

This report has analyzed three determinants of public sector workforce performance and its implication for development priorities. These are (1) the wage bill, decomposed into employment levels and distribution and compensation; (2) management practices, broadly defined to include a variety of workplace aspects relevant to both management for results and management by empowerment; and (3) the use of digital technologies for managing the workforce, and building the digital skills of the workforce to reap the full potential, and minimize the risks, of these technologies. The various claims made in the report have been supported by cross-national data, though the scope and strength of this data vary. The findings on employment and compensation are the most robust, as they draw on the largest available global dataset, the Worldwide Bureaucracy Indicators. Those on management practices and digital technologies have more caveats attached to them because the available data relies on surveys from a limited number of countries. More importantly, the report cannot do justice to the variety of country-specific factors that influence how these elements function in public sector organizations.

These findings provide a set of guideposts, or strategic reform priorities, for a more effective public sector workforce to address development challenges. While the report recognizes that improving the performance of the workforce often requires sustained reforms over the long term, particularly in management practices, there are nevertheless some relatively easier reforms, or “quick wins”, that can be enacted in the short term. The main recommendations on the three determinants of workforce performance are summarized below, with Annex 1 providing more details. The recommendations in Annex 1 are also color coded—green for relatively easy reforms that most countries, even low-income countries, should be able to implement in a relatively short time, and yellow for more medium-term and complex reforms. Annex 1 also provides a set of guiding questions that can help assess whether the problem and the suggested reforms are applicable to a particular country, and how the recommendations need to be tailored to the local context.

Wage bill management

Ensuring that governments have the right workers: The focus of employment policy should be to address staff shortages for critical functions and to use the limited available fiscal resources available to allocate staff efficiently; to emphasize the quality of the workforce; and to promote gender equity and inclusion. To meet these objectives, governments need to use data for evidence-based workforce planning. Payroll systems can be used to eliminate ghost workers, improve the geographical and functional distribution of staff, and to conduct wage bill simulations. Measures of the quality of the administrative workforce can be developed using survey-based skills assessments, to complement available quality measures for teachers and medical workers. Governments should be cautious in the use of contract workers given the risks that these workers may be selected less meritocratically. Encouraging a better geographical distribution of staff in rural areas will generally require a combination of career incentives, monetary incentives, and an emphasis on hiring local service delivery staff.

Selecting the right workers: Ensuring meritocratic selection is essential given the long tenures of public sector workers. The quality of new hires can be improved through open competition and multi-tiered screening involving written examinations to assess technical competencies and problem-solving skills, and structured interviews to assess public service motivation and socio-emotional skills. Governments should conduct recruitment campaigns and outreach to emphasize public service mission, particularly for attracting high demand talent. Recruitment should also ensure gender and community representativeness by, for example, eliminating gender bias in public sector employment rules and regulations. There should be flexibility in hiring practices to attract mid-career technical and managerial talent, such as through secondments and temporary assignments from the private sector. Centralizing recruitment responsibility, or alternatively, centralizing the recruitment standards, with the government organization responsible for personnel policies is preferable to strengthen merit-based recruitment in countries where patronage-based hiring is prevalent.

Effective public sector compensation: Compensation reform should be holistic and consider wage competitiveness, wage equity, and wage incentives. Governments should consistently monitor public–private wage differentials for different jobs using labor force surveys to guide their compensation policies and to ensure that public sector wages are competitive and do not distort the overall labor market. Governments should also monitor the number of applicants per vacancy to give an indirect estimate of public–private wage differentials. Pay equity can be improved through job-evaluation-based pay and grading reforms, though transitioning to a new pay and grading system often entails a significant fiscal cost. Eliminating distortionary allowances can also help reduce pay inequity and improve pay transparency and may be fiscally more feasible in the short

term. Governments can consider introducing team-based performance incentives in a few high priority jobs with measurable outputs, such as in tax administration, forest policing, and administrative services.

Ensuring fiscal sustainability: In addition to the above actions on employment and compensation, governments should prioritize the workforce reforms needed to strengthen revenue administration. This “HRM for DRM” reform agenda may include increasing staffing in revenue authorities and hiring of specialized skills by types of tax instrument (income, property, value-added, or excise taxes), by function (enforcement, collections, auditing, investigation, taxpayer services, dispute resolution), and the type of taxpayer (large enterprises or wage earners).

Management practices

Performance evaluations: Performance evaluations need to be improved as they are a common management practice across governments, but to do so will require reorienting them towards management for empowerment. Governments need to recognize that there are limits to performance by results given the difficulties in measuring outputs in public administrations and that quantitative output measures are only feasible for a subset of jobs. Performance management can be a device for management by empowerment through regular discussions emphasizing the linkage between individual tasks and organizational mission and goals; including feedback from peers and, where feasible, from clients; non-monetary rewards such as recognition for high performers; and an emphasis on staff capacity development and training goals. Given the dearth of women in managerial positions, it is important to ensure that performance evaluations do not perpetuate gender bias. Improving performance evaluations also requires incentivizing managers and one approach is to have a distinct performance evaluation scheme for managers that assesses them on their people management skills.

Fostering community engagement: Community engagement can be a powerful source for public service motivation and should be a key aspect of the job descriptions and required competencies of public sector workers, including for the civil servants in administrative and managerial roles who do not regularly interact with citizens. Managers should encourage regular interactions with beneficiaries of government programs and include these interactions as a part of performance conversations with staff. Training should be provided in soft skills, such as on cognitive biases and strategies to mitigate them, and on how to engage with citizens. Community engagement is especially important for activities, like policing, where the state acts as an enforcer, creating a potentially adversarial relationship. Community engagement can be improved through town halls

and community meetings and digital tools can help facilitate such interactions with citizens and spur public service motivation. Another management practice for fostering community engagement is hiring members of the community to perform core functions.

Promoting integrity: Corruption in public administration is common and governments should regularly measure perceptions and drivers of corruption using a variety of approaches, including surveys of public sector workers' experience with corruption. Management by results and increased monitoring of public servants can curb corruption for some activities, such as in the provision of administrative services. Given the limits to monitoring, management by empowerment approaches are necessary to build an ethical culture in the public administration in which workers report unethical behavior without a fear of retaliation. Whistleblower protection that clarifies reporting procedures, along with fostering a culture that supports anonymous reporting, can help workers feel safe in reporting corruption. Anticorruption training programs can create a shared understanding of corruption, public servants' rights and obligations when witnessing corruption, and the mechanisms available to them for exposing unethical practices.

Continuous learning: Governments provide insufficient technical and behavioral training to public sector workers, and often the training is not aligned to what workers demand. Training should be anchored in an organizational needs assessment and linked to the competencies required for different jobs. The needs assessment should measure the key competencies required to meet organizational objectives, and the gaps between those competencies and the existing skills of staff, emphasizing both technical and behavioral competencies, including soft skills. There should be a standard for the number of training hours expected for public sector workers, and the completion of such training should be assessed in the annual performance evaluations of these staff. Governments can consider a variety of organizational modalities for the delivery of training, and digital learning platforms can greatly lower the transaction costs of training and make them more demand based. Training curricula, particularly for managers, should combine classroom and on-the-job learning, particularly through mentorships, and include action-oriented modules.

Improving coordination: Collaboration across organizations and jurisdictions is essential to address multi-sectoral problems. Whole-of-government managerial and technical cadres, and horizontal mobility schemes, can help improve coordination and collaboration across ministerial and territorial boundaries. Training civil servants in soft skills like communication and teamwork and establishing informal networks and communities of practice within government, can also foster collaboration.

Digital technologies and the workforce

Digital technologies for managing the workforce: Digital technologies can help strengthen both management by results and management by empowerment. For the former, digital technologies can be used for service provider attendance monitoring and for better measurement of outputs to condition performance incentives. Given the risks of excessive monitoring, more emphasis should be on empowering public sector workers through using digital platforms to better connect workers with each other, and workers to citizens, and to strengthen problem-solving and public service motivation. Digital technologies can be used to improve goal setting, goal alignment, and performance feedback between managers and staff. Short, “pulse” staff surveys can be used to get rapid responses from employees on their experiences and perceptions of management practices, to gauge employee motivation, and to involve them in solving organizational problems. The ubiquity of smartphones makes such within-organization feedback channels feasible in even low-income countries. These pulse surveys can, for example, be used to identify why staff and managers may be resistant to change some workplace practices to implement digital technologies.

Improving digital skills: Digital competency frameworks can help support a comprehensive digital skills strategy for government, improve screening criteria for recruitment, and guide foundational and advanced digital skills training. Governments should invest in foundational digital training for most staff that includes the use of basic office software and data analytical skills; and establish specialized digital cadres to build advanced digital skills. In recruiting advanced digital skills, governments will likely need to appeal to non-pecuniary aspects of working in the public sector to counteract the higher salaries for digital talent in the private sector; and target recruitment campaigns to the youth and women, given that women have a relatively higher preference for public sector employment. Flexible work arrangements that may also be especially attractive to younger, and female workers. Whole-of-government digital occupational groups can help drive public service motivation and strengthen the non-pecuniary appeal of working in the public sector.

Annex I:

Detailed Recommendations

The recommendations in the table are color coded—green for relatively easy "quick win" reforms, and yellow for more medium-term and complex reforms.

Strategic Reform Priority	General Policy Advice	Diagnostic Questions to Guide Country-Specific Recommendations
Ensuring governments have the "right" workers		
Staffing policy should have three objectives: fiscal sustainability, state capacity to deliver core functions, and preserving formal sector jobs, particularly for women.	Governments should be cautious in untargeted reductions in the workforce that worsen staffing shortages for critical functions and hurt livelihoods. A data-informed approach is essential, focusing on better distribution of staff and stronger payroll controls, rather than on workforce reductions.	• How big is the public sector as a formal sector employer? • How important is it as a source of formal sector for women? • Are there staffing shortages for core functions? • Can some of these shortages be addressed through better distribution of staff? • How effective are payroll controls? Is there a high incidence of ghost workers?
Invest in evidence-based workforce planning	Use payroll and HR data to identify staffing inefficiencies and better distribution of the workforce, and to conduct wage bill projections. This data-informed strategic workforce management can be implemented even in low-income countries and FCV contexts given that many of these countries have functional payroll information systems.	• Is the wage bill data in budget documents comprehensive and accurate? Does the data cover all government employees paid from the budget and from extra-budgetary funds? • Is there a payroll and HR system that enables analysis at the individual staff level?
Develop a competency framework for public sector workers, which is particularly important for new high demand skills like digital and climate change.	Incorporate competency frameworks to ensure skill alignment with public sector demands and strategic workforce allocation to address staffing shortages and surpluses. This includes institutional coordination mechanisms for more effective deployment of human resources to optimize public employment structures.	• Is there a formal workforce planning framework in place at the central or sectoral level? • Does the government have a standardized job classification system? Does this system include climate-related job profiles and skill taxonomies? • Are staffing needs regularly assessed against current and projected demands? • Does the government use a competency framework to align skills with job requirements across the public sector?

Be cautious and strategic in the use of contract workers to increase staffing at lower cost.	Be mindful that dual track labor regimes, which are very common in low-income countries, are often not sustainable as contract workers get regularized; therefore, ensure that contract workers follow the same meritocratic recruitment practices as permanent employees. Use contracts for targeted, short-term needs, such as pandemic response and remedial education programs.	• Is there a large proportion of contract workers and is this workforce growing over time? • Where are contract workers necessary, if at all? • Is it difficult to estimate the wage bill of contract workers? • Is the legal and regulatory framework for contract workers sufficient to ensure merit?
Use a combination of policies to increase staffing in rural areas.	Policies should combine career incentives, monetary incentives, and an emphasis on hiring local service delivery staff.	• Is there an urban bias in the distribution of the public sector workforce? • Are there significant shortages of workers in rural areas?
Develop measures of the quality of the workforce.	Quality measures, through learning assessments and vignettes, are increasingly used for teachers and medical workers in poorer countries. Some basic competency measures can also be introduced for administrative staff in these countries, such as measures of foundational digital literacy.	• Are there existing data sources that can be used to assess the quality of service delivery staff? • Is there a disproportionately high percentage of public servants with low educational qualifications?
Elevate the professional status of frontline service roles	Strengthen entry requirements, enhance job competitiveness, offer financial incentives, and increase professional autonomy. Invest in pre-service training and infrastructure to enhance career appeal. Adopt a data-driven workforce planning to ensure that higher standards do not inadvertently worsen staffing shortages.	• How can the system create an environment that both gives workers appropriate incentives and sufficient space to perform? • In what specific positions or geographic areas might higher standards lead to staffing shortages? Can these potential shortages be counterbalanced?
Selecting the right workers		
Ensure merit in recruitment by selecting public sector workers through open competition and a multi-tiered screening process. Select for mission motivation in addition to competence.	The screening process should ideally be multi-tiered, with a written test as a first screen, followed by an interview. Evaluate technical competencies and problem-solving abilities with written assessments. Use structured interviews to assess public service motivation and socio-emotional skills.	• Is there open competition for recruitment? • Are examinations used to screen candidates? • Do examinations screen for different technical competencies? • Are interviews being used to assess public service motivation?
A centralized recruitment approach is more suitable for countries with problems of patronage.	Recruitment responsibility should be centralized in the government organization responsible for personnel policies; or the personnel organizations should set, and then monitor, the assessment standards.	• How serious is the problem of patronage in hiring in the large employers like ministries of education, health, agriculture, and interior? • Are there spikes in hiring immediately following elections?
Emphasize the mission of public service in recruitment campaigns and outreach.	Emphasizing mission is especially important for high-demand jobs, such as digital jobs and climate jobs, where the public sector cannot compete on compensation, particularly in low- and middle-income countries.	• Are there difficulties in hiring for certain jobs? • Are there difficulties in hiring some demographic groups, like women and certain ethnic groups?

Try to make the workforce representative of the communities they serve.	Diversity in hiring should be emphasized for certain functions that require community engagement, such as policing, forest management, and community health.	• Are there racial or ethnic cleavages in the country? • Are there institutional mechanisms for public sector to engage with local communities?
Eliminate gender bias in public sector employment rules and regulations.	Remove restrictions that bar women from participating in some occupations or work during night hours, or those that have lower retirement age for women.	• Are diversity targets or employment equity laws in place for public sector recruitment and promotion? If so, are they enforced effectively?
Adopt flexibility in recruitment practices to enable hiring of new skills and to have surge capacity in times of crisis.	These flexible strategies for climate and digital skills, for example, include secondments and temporary assignments from the private sector. Reserve corps from existing public servants can be developed to identify skilled staff who can be rotated to meet crisis demands.	• Is there sufficient availability of these skills in the private sector? Is there a diaspora that can be tapped into? • Is there an HR database that can enable the development of a reserve corps?
Effective public sector compensation		
Monitor and publish the overall wage premium and queues for public sector job vacancies.	Data and transparency will be needed to counter the considerable political opposition to curtailing public sector compensation growth. Credible calculations of the public-private salary differential and data on the number of applicants per vacancy can help manage the political economy and create space for targeted wage reforms. Produce and publish annual reports on public sector employment and wages to track reform progress, guide policy decisions, and enhance transparency. Engaging academics, think-thanks, and institutions like fiscal councils can improve fact-checking and credibility.	• Taking into account all elements of compensation, does the public sector overpay or underpay compared to the private sector—in aggregate, and for different industries, occupations, locations, and demographic groups? • Are there high numbers of applicants for a typical vacancy?
Regularly monitor the number of applicants per position.	An important indicator for wage alignment is the number of applicants per position. That is, excessive suitable applications (hundreds or thousands) signal that public sector jobs offer disproportionately high compensation or benefits while low applicant interest suggests a need for higher wages or enhanced benefits, particularly in sectors facing recruitment challenges.	• Is data on the number of applicants per vacancy systematically collected and analyzed across sectors and regions? • Are applicant-to-position ratios compared across public and private sector roles where similar positions exist? • Is there evidence of excessive hiring bottlenecks or inefficiencies in high-demand roles due to limited vacancies despite high interest?
Address pay inequity through job-evaluation-based pay and grading reforms, and by eliminating distortionary allowances.	Base pay should be determined by job complexity; and allowances should be limited to work in rough locations or should be linked to performance. Additional allowances for working in remote and rural locations are recommended for service delivery staff in low- and middle-income countries.	• Is there “equal pay for equal work”? Do workers in similar jobs with similar skills get similar wages? • Is there gender equality in pay? Does the government have a policy to address gender inequity? • Are pay relativities in salary scales derived from robust job evaluations? Are there discretionary elements of pay, such as cash payments or allowances?

Explore the targeted use of performance incentives for jobs with relatively easy-to-measure outputs.	Modest team-based performance incentives can be introduced for some high priority jobs, such as tax administration, forest policing, and administrative services.	• Are there robust quantitative performance data available for these high priority jobs to condition incentives?
Ensuring fiscal sustainability of the wage bill		
Give equal weight to the service delivery and jobs implications of wage bill cuts, in addition to fiscal sustainability considerations.	Anticipate and measure the impact of wage bill reductions on core government functions, particularly labor-intensive functions like education and health service delivery; and on formal sector jobs, particularly for women.	• Is there a functional HR and payroll system to enable data-informed wage bill planning and control? • Can labor force surveys be used to explore the impact on formal sector jobs?
Strengthen the workforce of ministries of finance to improve wage bill planning and control.	Focus on data analytical skills for wage bill forecasting and payroll fraud identification.	• Is the Ministry of Finance able to recruit for analytical talent?
Emphasize the workforce reforms needed to strengthen revenue administration.	Hire more tax officials; emphasize the specialization of the tax administration workforce by types of tax instrument (income, property, value-added, or excise taxes), by function (enforcement, collections, auditing, investigation, taxpayer services, dispute resolution), and the type of taxpayer (large enterprises or wage earners); consider the use of performance incentives.	• Is there a problem of domestic revenue mobilization? • Does the revenue administration have autonomy to introduce performance pay?
Performance evaluations for empowerment and accountability		
Recognize the limits to performance by results given the difficulties in measuring outputs in public administrations	Quantitative outputs are feasible for only a subset of jobs in public administration, such as those in administrative services and in tax administration. For most jobs, the performance evaluations will necessarily need to be subjective. Forcing quantitative measures for difficult to measure tasks can backfire.	• Is there a pressure in government to using quantitative measures of performance for most jobs?
Performance management should be reoriented toward "management by empowerment," with an emphasis on the "line of sight."	Performance appraisals are more meaningful when they are used as a mechanism to support staff mission orientation rather than for sanctions and rewards. Regular discussions emphasizing the linkage between individual tasks and organizational mission and goals is a key empowerment mechanism.	• Are performance appraisals conducted regularly? • What percentage of staff receive the highest performance ratings? • Are there perceptions of bias in performance evaluations?
Performance appraisals as a tool for staff empowerment can be improved in several ways.	These reforms include having multiple sources of information to inform performance appraisals, including feedback from peers and, where feasible, from clients; non-monetary rewards such as recognition for high performers; and an emphasis on staff capacity development and training goals.	• Are there information systems to enable feasible and low-cost collection of feedback from different sources?
There should be a distinct performance evaluation scheme for managers	Managers' own performance evaluations should emphasize their achievement of strategic organizational goals as well as their managerial and leadership skills.	• Is there an organizational performance management framework in place to link to managers individual goals?

Monitor and address gender bias in performance evaluations. Expand work–life balance policies to advance gender representation in leadership positions.	Given the dearth of women in managerial positions, it is important to ensure that performance evaluations do not perpetuate gender bias. Performance management should also relax some of the structural constraints from care giving that women face. These include flexible schedules and enhanced parental leave, to support career progression without penalizing caregiving responsibilities.	• Are flexible work arrangements (e.g., telework, part-time work, flexible schedules) formally available and widely accessible in the public sector? • Do parental leave policies offer adequate duration and compensation for both mothers and fathers? Are men encouraged to take paternity or shared parental leave? • Is there a significant gender gap in access to or uptake of leave and flexible work policies?
Management by empowerment is especially important for ensuring business continuity during times of crisis.	Greater staff autonomy and mental health support are required during times of crisis. This is especially important in FCV contexts.	• Are there mental health professionals in the country that can provide support?
Engaging communities for public service motivation		
Community engagement should be part of the required competencies of public workers.	Community engagement should be also included in the competencies of administrators who normally do not regularly interact with citizens. These competencies then can guide performance evaluations and training.	• Is community engagement included in job descriptions and competencies of public workers? • Is there training given on citizen interaction and communication?
Management practices should make citizen-centricity explicit in the work programs of public sector workers.	A variety of approaches can foster community engagement, such as recruiting from communities, ensuring adequate geographic dispersion of public workers, regular forums for interacting with citizens, training on citizen engagement, and online tools for regular citizen feedback.	• Are there more citizen-facing ministries or local governments that are open to more community engagement?
Promoting integrity		
Regularly measure public sector workers' experiences with corruption	Use surveys of public sector workers to measure observed corruption; attitudes in reporting on corruption; and knowledge of their rights and obligations?	• Does the government undertake any such measures of corruption in the public administration?
Use management by results approaches to monitor public workers for a subset of activities	Compliance monitoring, particularly with the use of digital technologies, can be used for administrative services like licensing and registration	• Are there citizen service centers and “one-stop-shops” that facilitate increased monitoring?
Empower public servants to be ethical and foster an environment conducive for workers to report unethical behavior (emphasizing that it is the “right thing to do.”)	Emphasize whistleblower protection so that public servants feel safe in reporting acts of corruption. Use anticorruption training programs to create a shared understanding among public servants of what corrupt practices are, their rights and obligations when witnessing corruption, and the protections available to them when they expose wrongdoing.	• Are whistleblower regulations already in place or does the legal framework first need to be established?

Continuous learning		
Design and deliver training based on systematic needs assessment.	The needs assessment should measure the key competencies needed to meet organizational objectives, and the gaps between those competencies and the existing skills of staff. These should emphasize both technical and behavioral competencies, including soft skills.	• Are there organization-specific strategic documents that identify objectives and targets, and which can be used to identify competencies needed to achieve these targets? • What technical topics are particularly deficient and for which parts of the workforce?
There should be clear standards for training and incentives for staff to undertake the training.	There should be a standard for the number of training hours expected for public sector workers, and the completion of such training should be assessed in the annual performance evaluations of these staff.	• Are there such standards in government regulations? • Are the achievement of learning goals a part of the annual performance evaluations?
There should be a variety of modalities for the delivery of training.	Digital learning platforms greatly lower the transaction costs of training and make training more demand-based, enabling workers to take the courses whenever they have time.	• Is there adequate internet connectivity to enable a basic digital learning platform and access to free online courses?
There should be a competency framework for managers and hybrid training content	Training should combine classroom and on-the-job learning and should include action-oriented modules.	• Is there sufficient capacity in the country to deliver this hybrid training? • Are there feasible twinning arrangements possible with training institutes from other countries? • Are there some relatively high-performing ministries, departments, or service delivery units that can provide mentor managers?
Improving coordination and collaboration		
Establish thematic “communities of practice” to help foster collaboration across ministerial and organizational boundaries	Such communities can focus on multi-sectoral objectives like addressing climate change or growing more and better-paid jobs	• Are there existing forums for collaboration that can be used to support communities of practice?
Develop whole-of-government managerial and technical cadres, and horizontal mobility schemes.	Examples include Senior Executive Services in many OECD countries; performance appraisals of senior managers can incentivize cross-departmental objectives.	• Is there a whole-of-government career track for managers? • Is there a distinct performance management scheme for senior managers?
Digital technologies for managing the workforce		
Use digital technologies for targeted performance management of workers.	These can include some compliance-based approaches like attendance monitoring; but more importantly, for incentivizing some important outcomes like revenue collection.	• Is there a basic performance management system in place with a set of quantitative indicators and digital tools for collecting them? • Is it possible to have unit-level indicators linked to team-based incentives?

Use digital technologies more for empowering workers than for monitoring them.	Digital platforms offer opportunities for citizen engagement, client connection, and reinforcing public service motivation. These platforms can enable frontline service providers to connect with supervisors and peers, facilitating knowledge sharing and problem solving. Use smartphones to conduct pulse surveys of staff to elicit their views on management practices and to involve them in solving organizational problems.	• Is there a willingness among ministries and local governments to engage with citizens and to create platforms for feedback? • How do service providers in otherwise isolated or remote areas want to use digital tools?
Identify the key management practices that need to change to effectively deploy digital technologies	Assess, through focus groups and public administration surveys, the main organizational and management constraints to deploying digital technologies. Use the assessment for change management initiatives.	• Have there been problems of implementation for core government digital systems?
Digital skills for more effective digital public administration		
Develop digital competency frameworks	Digital competency frameworks can help develop a digital skills strategy, improve the screening criteria for recruitment, and guide an assessment of foundational digital skills that can be included in recruitment examinations.	• Is there a generic competency framework for public servants that can serve as a foundation for a digital competency framework?
Appeal to public service motivation to attract digital talent into the government.	Given that the public sector will likely not be able to match private sector salaries for digital skills, emphasize recruitment campaigns targeting youth and women. Women have a relatively higher preference for public sector employment; and flexible work arrangements may also be particularly attractive to younger, and female workers.	• Is it hard to recruit digital talent given high private sector salaries? • Is there sufficient digital talent being produced by local universities that can be targeted in recruitment campaigns? Is there a diaspora that can also be engaged?
Invest in foundational digital training for all staff	This training can cover use of software for daily work, and in basic data analytical skills to strengthen data-informed management.	• Is there adequate training on foundational digital skills? • Is there a demand for more advanced digital training?
Establish specialized digital cadres to build advanced digital skills.	Professional groups are important not only for having a viable career but also as a driver of public service motivation and to strengthen the non-pecuniary appeal of working in the public sector.	• Is there a whole-of-government career track for digital professionals?

Annex 2: Datasets Used in the Report

Worldwide Bureaucracy Indicators

The main data source used for cross-national analysis is the [Worldwide Bureaucracy Indicators \(WWBI\)](#). The objective of the WWBI is to provide comprehensive, cross-national data on public sector employment and compensation to better enable researchers, development practitioners, and policy makers identify and implement evidenced-based reforms. The WWBI country-level indicators are constructed from nationally representative household surveys that are designed and implemented by national statistical agencies. The WWBI draws from 1,072 household and labor force surveys conducted across all regions, covering 151 countries from 2000 to 2022. With approximately 67 million household observations, it is the most extensive global dataset on public sector personnel.

The WWBI encompasses five categories of variables:

1. The size and demographics of the public and private sector workforces (107 indicators)
2. Public sector wage premiums (39 indicators)
3. Relative wages within the public sector (35 indicators)
4. Gender pay gaps (9 indicators)
5. The public sector wage bill (2 indicators)

The demographics of public and private employment track key characteristics including the size of the public sector workforce (in absolute and relative numbers), their age, and distributions across sex, rural and urban locations, academic qualifications, wage quintiles, industry categories, and occupation groups. The indicators on public sector wage premiums capture the overall competitiveness of public sector wages (compared to the private sector) as well as the decomposed public-private wage differentials by sex, academic qualifications, industry category, and occupation groups. Indicators on pay compression ratios present the relative wages of the top and bottom earners in the public and private sectors, the ratios of wages for employees of occupational categories in the public and private sector, the relative wages of key occupations within the public sector, and the cross-country comparisons of the compensations of public sector workers by occupation. Indicators on gender pay gap compare the wages of females to their male colleagues in the public and private sectors as well as by industry of employment. Finally, indicators on the relative size of the wage bill offer a glimpse into the structure and affordability of the public sector within the larger economy.

The wage data in the WWBI denotes the income associated with the occupation of employment used in the analysis (for which the individual dedicated most of their time in the week preceding the survey). The analysis excludes bonuses, allowances, and other in-cash or in-kind payments from the same job as well as all additional sources of income (from other jobs) or investments and transfers. Due to the almost complete lack of information on taxes, the wage from primary job is not net of taxes. For those who are self-employed or who own a business, this corresponds to net revenues (net of all costs excluding taxes) or the amount of salary withdrawn from the business.

Surveys of public sector employees

This report draws on the following surveys of public sector employees conducted by the Bureaucracy Lab:

1. Argentina, Mendoza. Bureaucracy Lab. Survey on Digital Government and Innovation (GovTech). 2021.
2. Armenia. Bureaucracy Lab. Survey on Human Resource Management, Integrity, and Public Procurement Practices. 2022.
3. Bosnia and Herzegovina. Bureaucracy Lab. Labor Force Survey. 2022.
4. Brazil. Bureaucracy Lab. Survey on Corruption and Public Sector Integrity. 2021.
5. Brazil, Amazonas. Bureaucracy Lab. Survey on Environmental Governance and Public Administration. 2024.
6. Cambodia. Bureaucracy Lab. Survey on Public Sector Connectivity and Service Delivery. 2021.
7. Cambodia. Bureaucracy Lab Survey on Remote Work during the COVID-19 pandemic. 2021
8. Chile. Bureaucracy Lab Survey on Remote Work during the COVID-19 pandemic. 2020.
9. Colombia. Bureaucracy Lab Survey on Remote Work during the COVID-19 pandemic. 2020
10. Croatia. Bureaucracy Lab. Survey on Human Resource Management in the Public Sector. 2023.
11. Croatia. Bureaucracy Lab. Subnational Survey on Human Resource Management in Local Governments. 2024.
12. Ethiopia. Bureaucracy Lab. Survey on Human Resource Management in the Civil Service. 2024.

13. Estonia. Bureaucracy Lab. Evaluation of Local Government Service Level Monitoring and Its Impact on Service Improvement. 2021–2022.
14. Fiji. Bureaucracy Lab. Survey of Human Resource Management for Climate Action. 2025.
15. Ghana. Bureaucracy Lab Survey on Remote Work during the COVID-19 pandemic. 2020
16. Indonesia. Bureaucracy Lab. Survey on Human Resource Management in the Civil Service. 2012.
17. Kazakhstan. Bureaucracy Lab Survey on Remote Work during the COVID-19 pandemic. 2020
18. Kosovo. Bureaucracy Lab. Survey on Digital Transformation and Government Technology (GovTech). 2021.
19. Liberia. Bureaucracy Lab. Liberia Forestry Development Authority Institutional Capacity Survey. 2018.
20. Lithuania. Bureaucracy Lab. Assessment of the Service Delivery Chain for Youth Mental Health Services. 2021.
21. Madagascar. Bureaucracy Lab. Survey on Integrity and Accountability in the Education Sector. 2021.
22. Madagascar. Bureaucracy Lab. Health Facility and Service Delivery Chain Assessment. 2023.
23. Malaysia. Bureaucracy Lab. Survey on Gov Tech Skills in the Civil Service. 2025.
24. Mali. Bureaucracy Lab. Health Facility and Service Delivery Chain Assessment. 2022.
25. Moldova. Bureaucracy Lab. Survey on Gender and Access to Justice. 2024.
26. Morocco. Bureaucracy Lab Survey on Remote Work during the COVID-19 pandemic. 2020
27. Morocco. Bureaucracy Lab. Survey on Skills for the Future Public Sector Workforce. 2023.
28. Pakistan (Sindh). Survey of Human Resource Management in the Revenue Board. 2019.
29. Philippines. Bureaucracy Lab. Survey on Human Resource Management in the Public Sector. 2018
30. Poland. Bureaucracy Lab. Survey of Human Resource Management for Climate Action. 2024.

31. Romania. Bureaucracy Lab. Survey of Public Officials on Management and Motivation. 2019.
32. Sao Paulo State, Brazil. Bureaucracy Lab. Survey on Corruption and Institutional Integrity. 2023.
33. Slovakia. Bureaucracy Lab. Assessment of Public Sector Productivity and Performance Management. 2022.
34. South Sudan. Bureaucracy Lab. Survey on Human Resource Management and Workforce Capacity. 2022.
35. Uruguay. Bureaucracy Lab. Survey on Human Resource Management Systems in the Public Sector. 2021.

Annex 3:

Methodology for Estimating Public Sector Wage Premiums

The two main empirical approaches in the literature for estimating public sector wage premiums are Mincerian wage regression with a dummy variable indicating whether the worker is employed in the public sector or private sector; and the Oaxaca-Blinder decomposition which does not assume that the returns to education, gender, age, and other observable worker characteristics are the same in the public and private sector. The latter method decomposes the wage differential into a part that can be explained as resulting from worker endowments, and an unexplained part presumably due to economic rents that the public sector enjoys. The two approaches in general give similar results (Gittleman and Pierce 2011).

The Mincerian regression is simpler to present and used in the WWBI. The basic specification is:

$$\log w_i = \alpha + \beta \cdot \text{Public}_i + X_i \cdot \gamma + \epsilon_i \quad (1)$$

Where β is the adjusted public-private wage differential; $\log w_i$ is log weekly wages in local currency of employee i winsorized to exclude the top 0.01 percent of the wage distribution; Public_i is equal to 1 if the worker is employed in the public sector and 0 otherwise; and X_i is a vector of standard controls consisting of age, age squared, level of education, location (urban or rural), and gender.

Reported premiums are transformed based on equation (2) as the untransformed $\hat{\beta}$ only provides an approximation of the actual premium and the discrepancy becomes larger when the $\hat{\beta} > \pm 20\%$. This simple transformation allows for a more precise estimation of premiums.

$$\% \Delta y = 100 * (e^{\beta \Delta x} - 1) \quad (2)$$

The decision to use a simple regression specification was due to the relative trade-off between a more well-specified equation and the inability to provide a large set of observations because of an inability to apply such a precise specification across multiple countries. Similarly, there is no variable in the raw data that may reasonably allow for a more precise instrument for wage differentials while controlling for selection or endogeneity. Further, incomes within the data are also limited to self-reported wages and do not include bonuses, allowances, and in-kind payments, which can be significant in the public sector. Certain surveys do include information on work benefits, such as health insurance and social security, but these are not monetized and therefore cannot be combined with the wage data to provide an estimate of total compensation.

References

- Acemoglu, Daron, James A. Robinson. 2012. *Why Nations Fail: The Origins of Power, Prosperity, and Poverty*. New York, NY: Random House, Crown Currency.
- Adan, H., J. M. B. Atsebi, N. Gueorguiev, M. J. Honda, and M. Nose. 2023. "Quantifying the Revenue Yields from Tax Administration Reforms." *IMF Working Paper*, WP/23/231. Washington, DC: International Monetary Fund.
- Andrews, M., L. Pritchett, and M. Woolcock. 2017. "Premature Load Bearing: Doing Too Much Too Soon." *Building State Capability: Evidence, Analysis, Action*. Oxford University Press. pp. 53–76.
- Araujo, Maria, Heineck Guido, and Yyannu Cruz-Aguayo. 2020. "Does Test-Based Teacher Recruitment Work in the Developing World? Experimental Evidence from Ecuador." Discussion Paper Series, IZA Institute of Labor Economics.
- Assunção J., R. McMillan, J. Murphy, and E. Souza-Rodrigues. 2023b. "Optimal environmental targeting in the Amazon rainforest." *The Review of Economic Studies* 90 (4): 1608–41.
- Azulai, Michel, Imran Rasul, Daniel Rogger, and Martin J. Williams. 2020. "Can training improve organizational culture? Experimental evidence from Ghana's civil service." Working Paper, Economic Development and Institutions.
- Bandiera, O., A. Prat, and T. Valletti. 2009. "Active and passive waste in government spending: Evidence from a policy experiment." *American Economic Review* 99 (4): 1278–1308.
- Banerjee, A., R. Chattopadhyay, E. Duflo, D. Keniston, and N. Singh. 2021. "Improving Police Performance in Rajasthan, India: Experimental Evidence on Incentives, Managerial Autonomy, and Training." *American Economic Journal: Economic Policy* 13 (1): 36–66.
- Bentley, D. 2020. "Digital Tax Administration: Transforming the Workforce to Deliver." *eJournal of Tax Research* 18 (2): 353–81.
- Bertrand, M., R. Burgess, A. Chawla, and G. Xu. 2020. "The Glittering Prizes: Career Incentives and Bureaucrat Performance." *The Review of Economic Studies* 87 (2): 626–655.
- Besley, T., R. Burgess, A. Khan, and G. Xu. 2021. "Bureaucracy and Development". *National Bureau of Economic Research Working Paper Series*, 29163.
- Besley, T. and M. Ghatak. 2018. "Prosocial Motivation and Incentives." *Annual Review of Economics* 10: 411–438.
- Best, M., J. Hjort, and D. Szakonyi. 2023. "Individuals and organizations as sources of state effectiveness." *American Economic Review* 113 (8): 2121–2167.
- Bhavnani, R., and A. Lee. 2021. "Does Affirmative Action Worsen Bureaucratic Performance? Evidence from the Indian Administrative Service." *American Journal of Political Science* 65 (1): 5–20.
- Blair R., S. Karim, and B. Morse. 2019. "Establishing the Rule of Law in Weak and War-torn States: Evidence from a Field Experiment with the Liberian National Police." *American Political Science Review* 113(3):641-657

- Bloom, N., and J. V. Reenen. 2007. "Measuring and Explaining Management Practices Across Firms and Countries." *Quarterly Journal of Economics* 122 (4): 1351–1408.
- Borjas, G. 2002. "The Wage Structure and the Sorting of Workers into the Public Sector." Working Paper 9313, *National Bureau of Economic Research*.
- Bosio, E. 2021 "Reducing Corruption in Public Procurement." *World Bank Blogs*.
- Brierly, S. 2021. "Combining Patronage and Merit in Public Sector Recruitment." *The Journal of Politics* 83 (1): 182–197.
- Brinkerhoff, D. and A. Wetterberg. 2015. "Gauging the Effects of Social Accountability on Services, Governance, and Citizen Empowerment." *Public Administration Review* 76 (2): 274–286.
- Bruns, B., D. Filmer, and H. Patrinos. 2011. *Making Schools Work: New Evidence on Accountability Reforms*. Washington, DC: World Bank.
- Callen, M., S. Gulzar, S. A. Hasanain, M. Khan, and R. Arman. 2015. "Personalities and Public Sector Performance: Evidence from a Health Experiment in Pakistan." HKS Working Paper No. RWP15-023. <http://dx.doi.org/10.2139/ssrn.2613671>.
- Canales, R., J. Zarkin, and C. Gabaglio. 2020. "The Importance of Managerial Quality for Police Organizations." Mimeo
- Cavalcanti, T., and M. Santos (2020): "(Mis)Allocation Effects of an Overpaid Public Sector," *Journal of the European Economic Association*.
- Chassamboulli, A., and P. Gomes (2023): "Public-sector employment, wages and education decisions," *Labour Economics*, vol. 82(C).
- Chinn, David, Solveigh Hieronimus, Julian Kirchherr, and Julia Klier. 2020. "The Future Is Now: Closing the Skills Gap in Europe's Public Sector." *McKinsey & Company*.
- Choonara, S., J. Goudge, N. Nxumalo, and J. Eyles. 2017. "Significance of informal (on-the-job) learning and leadership development in health systems: Lessons from a district finance team in South Africa." *BMJ Global Health* 2 (1): e000138. <https://doi.org/10.1136/bmjgh-2016-000138>.
- Cilliers, J., E. Dunford, and J. Habyarimana. 2022. "What Do Local Government Education Managers Do to Boost Learning Outcomes?" *The World Bank Economic Review* 36(3): 629–645.
- Cilliers, J., I. Kasirye, C. Leaver, P. Serneels, and A. Zeitlin. 2013. "Improving Teacher Attendance using a Locally Managed Monitoring Scheme: Evidence from Ugandan Primary Schools". *Policy Note, International Growth Center*.
- Cooper, J. 2019. "State Capacity and Gender Inequality: Experimental Evidence from Papua New Guinea". Mimeo.
- Daniels, B., J. Das, R. Gatti, & A. Chang. 2024. "Caseloads and Competence in Sub-Saharan Africa." *Policy Research Working Paper* 11043. World Bank
- DeCorby-Watson, K., G. Mensah, K. Bergeron, S. Abdi, B. Rempel, and H. Manson. 2018. "Effectiveness of capacity building interventions relevant to public health practice: A systematic review." *BMC Public Health* 18 (1): 684. DOI: 10.1186/s12889-018-5591-6.
- DeNisi A. S., and K. R. Murphy. 2017. "Performance appraisal and performance management: 100 years of progress?" *Journal of Applied Psychology* 102 (3): 421–433.
- De Ree, J, K. Muralidharan, M. Pradhan, & H. Rogers. 2017. "Double for Nothing? Experimental Evidence on an Unconditional Teacher Salary Increase in Indonesia". *Quarterly Journal of*

- Economics*, 133 (2): 993-1039
- Dixit, A. 2002. "Incentives and Organizations in the Public Sector: An Interpretative Review." *The Journal of Human Resources* 37 (4): 696-727.
- Donovan, Kevin, Will Lu, and Todd Schoellman. 2023. "Labor Market Dynamics and Development." *Quarterly Journal of Economics* 138 (4): 2287-2325
- Dube, O., S. MacArthur, and A. Shah. 2025. "A Cognitive View of Policing" *The Quarterly Journal of Economics*, 140 (1): 745-791
- Dur, R., and M. van Lent. 2018. "Socially Useless Jobs." IZA Discussion Paper Series No. 11927.
- Estrada, Ricardo. 2019. "Rules versus Discretion in Public Service: Teacher Hiring in Mexico." *Journal of Labor Economics* 37 (2).
- Evans, Peter, and James E. Rauch. 1999. "Bureaucracy and growth: A cross-national analysis of the effects of 'Weberian' state structures on economic growth." *American Sociological Review* 64 (5): 748-765.
- Fenizia, Alessandra. 2022. "Managers and Productivity in the Public Sector." *Econometrica* 90 (3): 1063-1084.
- Finan, F., B. A. Olken, and R. Pande. 2017. "The personnel economics of the developing state." *Handbook of economic field experiments* 2: 467-514.
- Fontaine, I., I. Galvez-Iniesta, P. Gomes, and D. Vila-Martin. 2020. "Labour market flows: Accounting for the public sector." *Labour Economics* 62 (101770).
- Fox, J. 2015. "Social Accountability: What Does the Evidence Really Say?" *World Development* 72: 346-361.
- Geromichalos, A., and I. Kospentaris. 2020. "The Unintended Consequences of Meritocratic Government Hiring." Working Papers 335, University of California, Davis, Department of Economics.
- Gindling, T., Z. Hasnain, D. Newhouse, and R. Shi. 2020. "Are Public Sector Workers in Developing Countries Overpaid? Evidence from a New Global Dataset." *World Development* 126.
- Goldin, C. and L. Katz. 2009. *The Race Between Education and Technology*. Cambridge MA: Belknap Press.
- Gomes, P., and Z. Kuehn. 2019. "You're the one that I want! Public employment and women's labour market outcomes." Discussion Paper, Birkbeck, University of London.
- Grindle, Merilee S. 2012. *Jobs for the boys: Patronage and the state in comparative perspective*. Harvard University Press.
- Gulzar, S., J. Ladino, M. Mehmood, and D. Rogger. 2025. "Command and Can't Control: Assessing Centralized Accountability in the Public Sector". *Policy Research Working Paper 11200*. The World Bank
- Hallegatte, S., C. Godinho, J. Rentschler, P. Avner, I. I. Dorband, C. Knudsen, J. Lemke, and P. Mealy. 2024 "Within Reach: Navigating the Political Economy of Decarbonization." *Climate Change and Development Series*. Washington, DC. p. 58.
- Hasnain, Z., N. Manning, and J. Pierskalla. 2014. "The Promise of Performance Pay? Reasons for Caution in Policy Prescriptions for the Core Civil Service." *World Bank Research Observer* 29 (2): 235-264.

- Hassan, M., H. Larreguy, and S. Russel. 2024. "Who Gets Hired? Political Patronage and Bureaucratic Favoritism." *American Political Science Review* 118 (4): 1913–1930.
- Hausman, R., L. Nedelkoska, and S. Noor. 2020. "You Get What You Pay For: Sources and Consequences of the Public Sector Premium in Albania and Sri Lanka." HKS Working Paper.
- Holmstrom, B., and P. Milgrom. 1991. "Multitask Principal-Agent Analyses: Incentive Contracts, Asset Ownership, and Job Design." *Journal of Law, Economics & Organization* 7: 24–52.
- Honig, D. 2024. *Mission Driven Bureaucracies: Empowering People to Help Governments Do Better*. Oxford University Press.
- Independent Evaluation Group. 2008. *Public Sector Reform: What Works and Why? An IEG evaluation of World Bank Support*. Washington, DC: World Bank Group.
- Institute for Economic Peace. 2023. *Global Peace Index 2023*.
- International Monetary Fund. 2016. *Managing Government Compensation and Employment: Institutions, Policies, and Reform Challenges*. Washington, DC: International Monetary Fund.
- Karanikolos, M, P. Mladovsky, J. Cylus, S. Thomson, S. Basu, D. Stuckler, J. P. Mackenbach, M. McKee. 2013. "Financial Crisis, Austerity, and Health in Europe." *Lancet* 381: 1323–31
- Karim, S. 2020. "Relational State Building in Areas of Limited Statehood: Experimental Evidence on the Attitudes of the Police." *American Political Science Review*. 114(2):536–551.
- Khan, A. Q., A. I. Khwaja, and B. Olken. 2016. "Tax Farming Redux: Experimental Evidence on Performance Pay for Tax Collectors." *The Quarterly Journal of Economics* 131(1): 219–71
- Khan, Adnan, Asim Khwaja, and Benjamin Olken. 2019. "Making Moves Matter: Experimental Evidence on Incentivizing Bureaucrats through Performance-Based Postings." *American Economic Review* 109 (1): 237–270.
- Khan, Yasir. 2024. "Mission Motivation and Public Sector Performance: Experimental Evidence from Pakistan." Mimeo.
- Kim, G., T. Kumar, R. Ramalho, and S. Russell (2026). "Institutional Capacity for Policy Implementation: An Analytical Framework." *World Bank Policy Research Working Paper* 11279
- Kreps, D.M. 2018. *The Motivation Toolkit: How to Align Your Employees' Incentives With Your Own*. W.W. Norton & Company.
- Kuperus, H., and A. Rode. 2016. *Top Public Managers in Europe: Management and Employment in Central Public Administrations*. EUPAN.
- Kidwai, H., X. Liang, and M. Zhang. 2016. *How Shanghai Does It: Insights and Lessons from the Highest Ranking Education System in the World*. Washington DC: World Bank.
- Kochanova, A., Z. Hasnain, and B. Larson. 2020. "Does E-Government Improve Government Capacity? Evidence from Tax Compliance Costs, Tax Revenue, and Public Procurement Competitiveness," *The World Bank Economic Review* 34(1): 101–120.
- Lemos, S. 2004. "The Effects of the Minimum Wage in the Private and Public Sectors in Brazil" Discussion Papers in Economics, University of Leicester.
- McKenzie, D., and C. Woodruff. 2023. "Training Entrepreneurs." *VoxDevLit* 1 (3).
- Meyer-Sahling, J., C. Schuster, and K. Mikkelsen. 2018. *Civil service management in developing countries: What works?*

- Miller, M. and C. Segal. 2019. "Do Female Officers Improve Law Enforcement Quality? Effects on Crime Reporting and Domestic Violence." *The Review of Economic Studies*, 86 (5): 2220–2247
- Muralidharan, K. 2024. *Accelerating India's Development: A State-Led Roadmap for Effective Governance*. Penguin Random House, India.
- Musgrave, R. A. 1982. "Why Public Employment." In *Public Finance and Public Employment*, edited by R. H. Haveman, 9–20. Wayne State University Press.
- Nanes, M. 2019. "Police integration and support for anti-government violence in divided societies: Evidence from Iraq." *Journal of Peace Research*, 57(2), 329–343.
- OECD. 2024. *OECD Survey of Drivers of Trust in Public Institutions-2014 Results*.
- OECD. 2017. *Skills for a High Performing Civil Service*.
- OECD 2016. *Skills Matter: Further Results from the Survey of Adult Skills*.
- Okunogbe, O. and G. Tourek. 2024. "How can lower-income countries collect more taxes? The role of technology, tax agents, and politics." *Journal of Economic Perspectives*, 38(1): 81–106
- Ornaghi, A. 2019. "Civil Service Reforms: Evidence from U.S. Police Departments." Mimeo.
- Pahlka, J. 2023. *Recoding America: Why Government is Failing in the Digital Age and How We Can Do Better*. Macmillan.
- Peixoto, T. and J. Fox. 2016. "When does ICT-Enabled Citizen Voice Lead to Government Responsiveness?" *Institute of Development Studies Bulletin* 47 (1)
- Perry, J. 2020. *Managing Organizations to Sustain Passion for Public Service*. Cambridge University Press.
- Pierskalla, Jan, and Audrey Sacks. 2019. "Personnel Politics: Elections, Clientelistic Competition and Teacher Hiring in Indonesia." *British Journal of Political Science* 50 (4): 1283–1305.
- President's Task Force on 21st Century Policing. 2015. <https://www.ojp.gov/ncjrs/virtual-library/abstracts/final-report-presidents-task-force-21st-century-policing>.
- Rabbani, F., L. Shipton, W. Aftab. 2016. "Inspiring health worker motivation with supportive supervision: a survey of lady health supervisor motivating factors in rural Pakistan." *BMC Health Serv Res* 16, 397
- Ranzani, M. & M. Tuccio. 2017. "The Impact of Public Employment on Labor Market Performance: Evidence from African Countries". Mimeo. The World Bank.
- Rasul, I., and D. Rogger. 2018. "Management of bureaucrats and public service delivery: Evidence from the Nigeria civil service." *The Economic Journal* 128 (608): 413–446.
- Rasul, Imran, Daniel Rogger, and Martin J. Williams. 2021. "Management, organizational performance, and task clarity: Evidence from Ghana civil service." *Journal of Public Administration Research and Theory* 31 (2): 259–277.
- Rosenfeld, J. 2021. *You're paid what you are worth: And other myths of the modern economy*. Harvard University Press.
- Schnell, S., D. Mihes, A. Sobjak, and W. van Acker. 2021. *Performance Management in the Public Administration: Seven Success Factors*. World Bank
- Shelley, T. O., Morabito, M. S., & Tobin-Gurley, J. 2011. Gendered institutions and gender roles: understanding the experiences of women in policing. *Criminal Justice Studies*, 24(4), 351–367

- Shoub, K., K. Stauffer, and M. Song. 2020. "Do Female Officers Police Differently? Evidence from Traffic Stops" *American Journal of Political Science* 65(3): 755-769.
- Small Arms Survey. 2017. <https://www.smallarmssurvey.org/databases>.
- Somanathan, T. V., and Gulzar Natarajan. 2022. *State Capability in India*. New Delhi: Oxford University Press.
- Staiger, Douglas, and Jonah Rockoff. 2010. "Searching for Effective Teachers with Imperfect Information." *Journal of Economic Perspectives* 24 (3): 97–118.
- Sukhtankar, S., G. Kruks-Wisner, and A. Mangla. 2022. "Policing in Patriarchy: An Experimental Evaluation of Reforms to Improve Police Responsiveness to Women in India". *Science* 377 (6602): 191-198
- Tendler, Judith. 1997. *Good Government in the Tropics*. Baltimore: Johns Hopkins University Press.
- Tilly, Charles. 1990. *Coercion, Capital and European States: A.D. 990–1990*. Wiley-Blackwell.
- United States Department of Justice. 2015. *Final Report of the President's Task Force on 21st Century Policing*.
- Van Acker, Wouter. 2019. *Civil Service Recruitment: Recruiting the Right Persons the Right Way*. Washington, DC: World Bank.
- Wade, Robert. 1990. *Governing the Market: Economic Theory and the Role of Government in East Asian Industrialization*. Princeton, NJ: Princeton University Press.
- World Bank. 2003. *World Development Report 2004: Making Services Work for Poor People*. Washington, DC: World Bank.
- World Bank. 2016. *World Development Report 2016: Digital Dividends*. Washington, DC: World Bank.
- World Bank. 2017. *A Fair Adjustment: Efficiency and Equity of Public Spending in Brazil*.
- World Bank. 2018. *World Development Report 2018: Learning to Realize Education's Promise*. Washington, DC: World Bank.
- World Bank. 2020. *Brazil: Public Sector Wage Bill and Personnel Management*. Washington, DC: World Bank.
- World Bank. 2021a. *The Quality of Health and Education Systems Across Africa*. Washington, DC: World Bank.
- World Bank. 2021b. "Public Sector Employment and Compensation: An Assessment Framework." *Equitable Growth, Finance & Institutions Insight – Governance*. Washington, DC: World Bank.
- World Bank. 2022a. *Governance of the Service Delivery Chain for Youth Mental Health in Lithuania*. Washington, DC: World Bank.
- World Bank. 2022b. *Tech Savvy: Advancing GovTech Reforms in Public Administrations*.
- World Bank. 2023. *Trained but not Gainfully Employed: An Assessment of Ethiopia's Health Labor Market*.
- World Bank. 2024a. *The Great Reversal: Prospects, Risks, and Policies in International Development Association (IDA) Countries*. Washington, DC: World Bank.
- World Bank. 2024b. *Human Capital Public Expenditure and Institutional Review*. Washington, DC: World Bank.
- World Bank. 2024c. *Data for Better Governance: Building Government Analytics Ecosystems in Latin*

America and the Caribbean.

World Bank. 2024d. Determinants of Health Worker Performance: A Review of the Evidence.

World Bank, forthcoming. "Institutions and Prosperity: Public Institutions for Enabling the Private Sector".

World Health Organization. 2024. *Health and Care Workforce: Global Strategy on Human Resources for Health: Workforce 2030*. Report by the Director-General, Provisional agenda item 12, EB156/15. Geneva: World Health Organization.

