

I study organizations, broadly exploring the role of management and managers on organizational performance. My work focuses on three main areas. The first area considers managers' decisions about their own labour supply, including the practices they adopt, their allocation of time across different tasks, and their execution of authority *at the intensive margin*. The second area considers organizational decisions and practices about selection, allocation and retention of managers and workers *at the extensive margin*. The third area considers how management can help mitigate macro-level shocks leading to uncertainty, as ecological, epidemiological and political crises become more prominent, as well as how these shocks shape management practices. I briefly describe each area of my research below.

My research thus far has mostly focused on the management of public service delivery in the education sector in Latin America, as it is tightly linked to my ongoing engagement with policy work in the region. However, my research spans other contexts including different regions (such as Southeast Asia) and other industries (such as manufacturing and healthcare). This work provides insights for understanding the role of management under different institutional settings — often less rigid — as we think about potential innovations in the organizational structures of generally more rigid public settings. As the questions I am interested in often do not have good measures, an important component of my research approach includes designing novel instruments and building new datasets, often linked to large administrative data that allows for a deeper analysis. I use a variety of tools in my work beyond new descriptive stylized facts, including randomized experiments in field projects as well as quasi-natural experiments to evaluate particular organizational policies.

There are tangible policy implications that can be drawn from my research. One of the binding constraints for growth in developing countries is adequate financing. In Latin America, demands for expanding coverage and increasing quality of public services are stretching available resources, while fiscal tightening and the recent pandemic are expected to push the region into recession. My research informing how to improve public sector management for better service delivery is particularly timely and relevant. For example, my recent work showing that central-level test-based managerial selection and allocation policies in Peru are good predictors of educational outcomes but its implementation has led to a short-term yet persistent learning loss (equivalent to half a year) in rural areas (but not urban areas). As a direct result of this work, the Ministry of Education is introducing a proposal to amend its legislation and improve its manager selection process to target the needs of the local context.

## I. MANAGERIAL PRACTICES, DELEGATED AUTHORITY & TIME ALLOCATION

The labour supply of managers – such as the practices they adopt, their time allocation, and delegated authority *at the intensive margin* – is an important driver of the performance of service delivery. The first step to understanding what explains variation across organizations in this area is to create credible measures that can capture how managers run their organizations.

My early work with N. Bloom, R. Sadun, and J. Van Reenen included the first adaptation of the World Management Survey, originally used to collect data on management practices in the private sector, to schools and hospitals. In our papers published in the *Economic Journal* in 2015, **Does Management Matter for Schools?** and published in the *Review of Economic and Statistics* in 2020, **Healthy Business? Managerial Education and Management in Healthcare**, we document wide dispersion in the adoption of management practices across and within countries using the adapted instrument. We find that management seems to matter for organizational performance such as student test scores and patient mortality rates. In schools, management differences across organizational types can be largely explained by leadership and accountability mechanisms. In hospitals, we find that those closer to universities offering *both* medical and managerial training had better management. Two features from this early work spurred additional lines of inquiry that might affect managerial labour supply and are thus relevant for service delivery: (i) the importance of how accountability, governance and authority is used across the public sector, and (ii) the importance of building on both managerial as well as sector-relevant skills needed to improve day-to-day practices.

On the first point, one useful way to understand how differences in governance and accountability are related to managerial labour supply is to turn to family and non-family firms in the private sector. In our paper published in *The Review of Financial Studies* in 2018 work with O. Bandiera, A. Prat, and R. Sadun, **Managing the Family Firm: Evidence from CEOs at Work**, we build a dataset of time use of CEOs and find family CEOs allocate 9% less time for business activities. To understand the source of variation across governance types, we exploit firm and industry heterogeneity, and quasi-exogenous meteorological and sport events and suggest that family CEOs value (or can pursue) leisure activities relatively more than non-family CEOs. In work with D. Scur, **The ties that bind: implicit contracts and the adoption of management technology in the firm**, we collect new data on ownership successions to show that maintaining family control leads to lower adoption of managerial best practices. We explore firm reputation costs as a novel mechanism constraining investment in management, building a new proxy using data on eponymy (firms bearing the family name), and suggest that implicit contract between managers and workers matter management adoption.

Related to these concepts, delegated authority might also affect labour supply, but there is a dearth of data on this topic across different layers of bureaucracy. In my work with M. Adelman, R. Nayar, and M. J. Vargas, **Managing for learning: (in)coherence in education systems in Latin America**, we develop a new conceptual framework and build a new dataset measuring coherence of *de jure* and *de facto* authority in ten core functions of education bureaucracies in Latin America. We show that on average local education officials and schools fail to identify 33% and 39% of tasks that are theirs according to regulation, respectively. On average there is approximately 44% coherence in terms of *de facto* understanding of how tasks are allocated between schools and officials. Coherence matters: a 10 p.p. increase in coherence is associated with gains equivalent to 3 months of learning.

On the second point, understanding how training, a policy lever often used by governments, affects managerial labour supply has important implications for team composition, the distribution of tasks, and service delivery. In work with R. Almeida, L. Costa, and I. Lautharte, **Managerial Time Allocation and Student Learning: Evidence from Brazil**, we focus on time allocation across different tasks as a measure of labour supply and developed an instrument to collect data with principals across two distinct levels — early childhood and secondary education. We find principals spend just over half of their time on tasks related to instructional program, which is strongly correlated with learning, and only about a quarter of this time with teachers. They also overestimate by 22 p.p. how much time they spend on the former. We ran two experiments where we randomly introduced principals to improvements in managerial and education-related skills and found no differences in time allocation nor in student learning across treatment and control groups post interventions. This result highlights the resistance to change in such settings (as in Gibbons & Roberts 2013), and underscores the importance of carefully thinking about training design and how it affects labour supply.

## II. SELECTION, ALLOCATION, AND RETENTION OF MANAGERS & WORKERS

Another important channel governments can use to improve the performance of public service delivery is by strengthening their system for selecting, allocating, and retaining managers and workers *at the extensive margin*. My work shows that personnel policies enacted from the top, but tailored to the local context, as well as flexible personnel policies adopted through better management could help attract and retain better managers and workers.

From a theoretical lens, my work with C. Leaver and D. Scur, **Measuring and Explaining Management in Schools: New Approaches using Public Data**, builds a framework to understand the channels through which management practices ultimately affect learning. We propose that operations and people management affects learning because school actors such as teachers, students and parents become more productive (incentive channel), and new actors join the school (selection channel). We build a new dataset using public data from PISA to build new management indices covering 15,000

schools across 65 countries. We find evidence of these mechanisms at different levels across public and high-cost private schools in Latin America. Our combination of theory and descriptive empirical analysis offers a novel insight into how management matters for attracting and motivating school actors and, consequently, improving performance.

This finding is reinforced in a vastly different context in my paper with K. Muralidharan and D. Scur, **Personnel Management and School Productivity: Evidence from India**, suggesting our framework has some external validity. In this paper, we also decompose management into operations and people practices and study their relationship with productivity across public schools and low-cost private schools. As in Latin America, we find that private schools are better managed relative to public schools mainly because of differences in people management, and that this matters for student value added and teacher practices. In particular, we find evidence that better people management practices at private schools (but not public) are associated both with paying higher wages to better teachers as well as keeping better teachers and letting go of worse teachers.

While there is substantial heterogeneity in the selection of public school managers and teachers in the region, there has been a strong push for selection via centralized public service examinations. My work with C. Piza, **Manager Selection and Student Learning: Evidence from Peru**, we evaluate a policy change where a new mandatory examination was put in place for school managers, shielding it away from the local political process. Relative to other types of more costly evaluations – trainer end-of-course evaluations, on-the-job observations, and teacher, parent and student interviews –, we show that sit-in examinations are good predictors of manager effectiveness. Yet, replacing managers based on the results of sit-in examinations led to worse outcomes in rural areas – equivalent to a 6-month learning loss – and a null effect in urban areas. This was driven largely by a combination of low supply of candidates and poorer time management by incoming managers in rural areas. Reassuringly, the Ministry of Education based a new policy proposal on these results to amend legislation to target the needs of the local context.

Once selected, managers and workers must be assigned to jobs in public sector organizations and the quality of this matching process is important for worker retention. In work with J. Davis, **Managing the Centralized Assignment of Teachers in Peru**, we estimate the efficiency of the current design of teacher-school matching process and investigate whether schools attempt to mitigate the effect of an inefficient school-teacher matching through internal teacher-grade assignments. Using detailed administrative data we observe that there is substantial room for improvement, and as this work is being carried out in partnership with the Ministry of Education we expect this will directly inform the implementing regulation for the next round of assignments in 2021.

### III. MANAGING DURING UNCERTAIN TIMES

The third area looks at how management can mitigate the effects of macro shocks, as they become more regular and more intense, and in turn how these shocks can affect the adoption of better management. This is particularly relevant for developing countries, as fragile and cash strapped governments have much lower capacity to handle such adverse events relative to rich nations. For example, better management can help identify areas of need and enable the rapid reallocation of budget or human resources in response to changing conditions while at the same time changing conditions can hinder the adoption of better management.

My work with M. Adelman and J. Baron, **Managing Shocks in Education: Evidence from Hurricane Matthew in Haiti**, shows the first evidence of the role of management practices in mitigating the impact of a natural disaster. We collected new management and learning data before and after the hurricane, and developed a new instrument to collect data emergency response and recovery measures immediately after the hurricane. We find that, even with low average day-to-day management quality and limited variation, routinely better managed schools were significantly more resilient and better

able to mitigate the impacts of the hurricane on short-term recovery, from reconstruction to having teachers and students back at school, and learning in the long run.

I also have ongoing work in this area in other sectors. In the manufacturing sector, my work with A. Choudhary and J. Van Reenen, **Management in Pakistan: Performance and Conflict**, investigates the relationship between terrorist events and firm management and performance across Pakistan. In the healthcare sector, new work with K. Andrews, R. Gatti, and M. Macis, we are exploring the role of recent cholera outbreaks in Kenya on managerial turnover, management practices and quality of care in healthcare facilities.