Research summary

Managers and structures of management are critical for the well-functioning of organizations of all types in all sectors of the economy, public and private. In my work I consider how managers and organizational structures affect establishment performance and their workers, and what type of policy levers can be useful in different contexts.

My work spans **two main topic areas**: in one area, I consider the **the role of managers** in making decisions about the practices they adopt as well as the impact of these decisions. In another area, I consider **the mechanisms** behind these decisions and their outcomes, such as the selection, allocation and retention of managers and workers. Further, as **measurement** is often a bottleneck in exploring the questions I am interested in, a key cross-area component of my work includes **building new datasets** that can be linked to other, existing large datasets. This both allows for a deeper analysis in my own research and also contributes to **building public goods** that, I hope, can serve as a **bridge between disciplines** exploring similar questions from different angles. While my research is primarily in the field of **organizational economics and management**, it also addresses fundamental issues in **labor** and **public** economics. I highlight these connections below in the summary of my focus topics.

Cross-area initiatives: measurement

I am a member of the core research team of the World Management Survey (WMS), along with Nick Bloom, Renata Lemos, Raffaella Sadun and John Van Reenen. The WMS is a project that systematically measures the level of adoption of "structured" management practices across countries and industries. In two papers with my WMS colleagues, "**The New Empirical Economics of Management" (*Journal of the European Economic Association, 2014*)** and **"International Data on Measuring Management Practices"** ***(American Economic Review – Papers and Proceedings, 2016)***, we describe the main findings from the original WMS survey and outline the pros and cons of alternative methods of measuring management practices. While those papers are primarily aimed at an audience of economists, our paper in the ***Oxford Review of Economic Policy, 2021*, "The World Management Survey at 18: lessons and the way forward"** is primarily aimed at policy-makers, including a policy toolkit on how to improve management practices. I also have two papers aimed at introducing this measure to adjacent fields: one aimed at strategy scholars, with Sarah Wolfolds, **"Revisiting the World Management Survey in Strategy: applications to theory and replication" (*Strategy Science, 2023*)**, and one aimed at a general science audience with Scott Ohlmacher and the global Management and Organizational Practices Survey leaders, **"Natural Laws of Management"** (preparing for submission to *PNAS*).

As my earlier work primarily focused on developing countries, I also developed a "low capacity context" version of the original WMS survey instrument with Renata Lemos. The goal of this instrument is to measure the level of adoption of structured management practices in schools in developing countries in a way that was globally comparable; we called it the Development World Management Survey (D-WMS). The D-WMS has since been used with our support by multi-disciplinary teams in Mexico, Vietnam, Tanzania, Haiti, Puerto Rico, Colombia, Brazil and Mozambique.

I have **two additional and related projects** where the focus is measurement of management and organizational structures in **biomedical labs** (with Pierre Azoulay, Paul Niehaus, Raffaella Sadun, John Van Reenen and Heidi Williams) and in **university technology transfer units** (with Lisa Ouellette, Kate Reinmuth and Heidi Williams). The goal of these projects is to understand the landscape of organizational capacity in innovation-focused industries and identify the main bottlenecks to greater productivity in scientific discovery and commercialization.

Research Area I: Management, worker flows and worker welfare

The composition of the workforce within an establishment is an important driver of their performance — whether this is measured as profitability, productivity or worker welfare. My work shows that a likely **channel** driving the positive relationship between greater adoption of "structured" **management** practices and greater **productivity** is that organizations with more structured practices are **better at hiring, retaining and dismissing workers based on worker value added.** This pattern of results holds across sectors and countries. This strand of my work cross-links with core questions in **labor** economics.

Part of my work in this area uses data from the original World Management Survey linked to Brazilian employer-employee administrative records to explore these relationships. In my ***Management Science (2021)*** paper with Chris Cornwell and Ian Schmutte (University of Georgia), **"Building a productive workforce: the role of management practices"**, we use a two-way fixed effect model (the standard Abowd, Kramarz and Margoulis (1999) decomposition) to estimate a firm-specific wage premium (FWP) and a worker-specific wage premium (WWP) and their relationship with structured management. The firm wage premium represents the portion of each worker's wage that is attributable to the firm being an organization that pays higher or lower wages relative to others in the market. The worker-specific wage premium represents the portion of the wage that is attributed a worker's transferable skills that they take from job to job, as they move through firms. We find that firms with **more structured management practices are more productive, are more likely to hire and retain, and less likely to fire workers with higher WWPs.** This is consistent with patterns found in Germany using a similar methodology, though in Brazil we find that firms with more structured management also tend to have more within-firm wage inequality.

I have also explored these **patterns of management and worker sorting in the education sector**, an industry that has both public and private sector establishments operating in the same market. As the production function of education is distinct from other industries, in my paper

"Measuring and Explaining Management in Schools: New Approaches Using Public Data" (R&R at JPE Micro) with Clare Leaver and Renata Lemos, we propose a theoretical framework to consider how management affects productivity in education. We propose that **operations and people management practices in a school affect learning through selection and incentive channels** (or, extensive and intensive margins). Actors in the education sector include teachers, students and parents, as well as managers (i.e., principals). These practices can affect learning via the movement of actors into and out of schools (selection channel), and also via in-school incentivizing of productive activities (incentive channel). We build a new dataset using public data from PISA and Prova Brasil 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.

The importance of these channels is reinforced in my paper with Renata Lemos and Karthik Muralidharan (UCSD), **"Personnel Management and School Productivity: Evidence from India (forthcoming in The Economic Journal"**. Here we also decompose management into operations and people practices and study their relationship with productivity across public and private schools, but in a low-capacity context — rural Andhra Pradesh. 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 are associated both with **paying better teachers higher wages** at private schools, and in general having **better teachers on staff** (higher minimum value added levels) and a **smaller difference** between the best and worst teacher on staff.

The mediating effect of management practices on labor flows has become even more relevant as organizations and workforce systems were tested following the COVID-19 pandemic. Firms (and managers) were forced to make difficult decisions regarding their workforce, including potentially large layoffs and furloughs. In **"The Effect of Preserving Job Matches During a Crisis" (Labour Economics, 2023)** with Morten Bennedsen, Birthe Larsen and Ian Schmutte, we study a pandemic-era **furlough support scheme** offered by the Danish government and find that firms with **more structured** practices were **more likely to take up aid**, and seemed to be better able to use it towards higher furloughs and lower layoffs. This is consistent with these firms having better job matches worth preserving in first place, as suggested by my earlier work, but it was also interesting to see that these firms seemed to **value matches with low-wage workers** as well as high-wage workers.

An important component of personnel management practices involves decisions around pay and pay transparency. In a working paper with Morten Bennedsen, Elena Simintzi, Margarita Tsoutsoura and Daniel Wolfenzon, **"Pay Transparency and Mental Health"**, we focus on how firms' pay practices and disclosure affect workers' mental health. Using administrative data on prescription use and the full employment records from the population of Danish workers over 6 years, we use a pay transparency law in Denmark that requires firms with more than 35 employees to disclose pay information by gender after 2006. We find the legislation led to a **short-run decline** in the relative growth rate of **anti-depressant use for women** working in the affected firms. We find that the likely **channel** is the **positive impact of organizational changes** leading to the reduction of pay disparity, as the impact is driven by women that had wages below median in the pre-period, who were working in firms that had larger pre-period gender wage gaps and went from no female managers to at least one female manager.

While the work above shows that managers are important in setting workplace culture and making decisions about their workers' careers, especially those being and promotions, it is less clear what happens to workers who get dismissed – especially if they are managers themselves. In my working paper **"Blame the manager? Displacement Events and Job-Driven Scarring"** with Fabiano Dal Ri and Ian Schmutte, we study how **job loss** affects the **earnings**, **employment**, and **wage** of workers and managers. We use event studies around mass layoff events for Brazilian firms and find that, on average, displaced workers lose around 60 percent of their earnings in the year after job loss, and after three years have earnings 25 log points below comparable non-displaced workers. The earnings effect comes from a sharp, but temporary drop in the number of months worked per year, combined with a sharp but persistent drop in wages of around 20 log points. For managers, **the wage penalty is over twice as large relative to non-managers.** Less than 15 percent of the wage losses for managers can be explained by movements to employers that pay all workers less. These results are consistent with a model in which managers either accumulate significant job-specific rents that are destroyed on separation, or they face worse market conditions and scarring after displacement, perhaps because they held responsible for the mass displacement event that precipitated their termination.

Research Area II: Management, performance and adoption of best practices

Managerial practices and organizational structures are a type of "soft" technology that has been shown to have a causal positive impact on productivity of establishments. But is this impact **homogeneous** across **establishment types** and different performance outcomes? And if so, **why don't** more establishments **adopt** these practices? This area of my work shares core questions with the management and **strategy** fields, as well as **public** economics.

Decades of empirical research suggest an unambiguous positive impact of improving simple **management** practices and establishment **productivity**. In the private sector, improvements in productivity have an expected **positive macro** effects as firms can grow and generate employment and higher wages. In principle it should also yield **higher tax revenues** from higher sales volume or mark-ups, **but does it**? In my paper with Katarzyna Bilicka, **"Organizational Capacity and**

Profit Shifting" (*R&R at the Journal of Public Economics*), we show that firms with more structured practices have higher productivity, but the relationship with **profitability depends** on whether the plant is in a **high-tax or low-tax** jurisdiction. Using an event-study design, we also find that firms with structured practices are more responsive to tax reduction policies in terms of their profit allocation choices, and **increase the reported profits** in jurisdictions that enacted a **tax cut**. Our results are consistent with more structured practices **enabling profit shifting** behaviour in multinational enterprises, which has important implications for government fiscal and investment policies.

Like multinationals, family firms have a distinctive ownership structure and culture that could, in theory, impact their adoption of management best practices and how useful these practices are. In my working paper with Renata Lemos and Simon Quinn, **"Succession: Implicit contracts and the adoption of management technology in the firm"**, we explore how implicit relational contracts between firm owners, managers and employees are linked to the adoption of these practices. We focus on family firms and succession to family and non-family CEOs as a natural experiment in the continuity of relational contracts between managers and workers. We use gender composition of the outgoing CEO's children as identifying variation at the succession point, as founders with male children are systematically more likely to keep firms in the family. We propose firm "**reputation costs**" as a novel **mechanism** constraining investment in management, and build a new proxy using data on eponymy — firms named after the family's name. Our evidence suggests that **relational contracts**, such as those relying on intangibles like relationships between workers and managers, seem to **matter** for the adoption of **management structures**.

In a long-term project in this area, with Gustavo Bobonis and Marco Gonzalez-Navarro and in partnership with the Puerto Rico Department of Education, we collected new panel data on **management practices in schools in Puerto Rico** to support a set of projects to understand how to **improve education policy**. The project's main goal is to use a Randomized Control Trial (RCT) to **evaluate a principal training program** and pilot an additional informational intervention to support **longer-term adoption** of best practices. As the COVID-19 pandemic hit halfway through our project, we also collected data on COVID-19 responses and will explore how principals responded to the shock, and how practices changed or supported changes in learning practices and learning outcomes.

A more recent project in this area links my work with questions in **public** economics, but with an organizational lens. Despite the growth in evidence on the economic impact of major climate disasters such as hurricanes or earthquakes, there is still a dearth of evidence on disruptions from **"day-to-day"** climate **shocks** such as harsher seasonal **flooding**. As climate change intensifies these regular events, understanding their impact, how governments and firms can invest in mitigation strategies, and how they can handle recovery and reconstruction will be key to preserving functioning labor markets in emerging economies. In Brazil, handling natural disasters is under the purview of municipalities, but they can call on federal funds to support them. This creates a moral hazard problem for mayors: costly investments in disaster preparedness are likely under-provided given an expectation of federal relief funds. In the first stage of this project, our goal is to build an evidence base on the level of disruption from "day to day floods" for firms and labor markets in Brazil, as well as the status-quo of investment in climate preparedness and use of currently available federal funds for such purposes. In the second phase, with Michael Best, Marina Da Justa Lemos and Renata Lemos, we plan to conduct an RCT with Brazilian mayors (or, managers of municipalities) where the goal is to **nudge mayors** to **increase** their expenditures in **disaster preparedness**.

Final thoughts

My work and broad area of research can be summarized as understanding how and why managers matter, and whether their impact and careers are different across different types of organizations. I am excited to continue this research agenda that brings an organizational lens to "classic" economics questions, and builds new datasets that can be useful for colleagues in management and strategy, where new public data can serve to test well-defined theories. I believe improving management practices has the potential to be transformative for workplaces around the world: in resource-constrained developing country contexts, it is a matter of re-arranging how things are done rather than needing to find extra cash or people. In developed countries, re-organizing how work is done can lead to better work culture and inclusive growth. And I am particularly excited to continue working with policy makers and building new relationships in this space to ensure my research is policy relevant.