

Research Statement

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My research explores the impact of management and organizational practices on productivity, and further considers the possible mechanisms behind low levels of innovation and adoption of these practices in emerging economies and low income countries. My current work has two complementary strands. The first strand focuses on entrepreneurship and family businesses, where I have collected a vast amount of new data and am engaged in projects to continue expanding the scope of what we can measure from private firms. The second strand takes the learnings from my private sector research and applies it to the public sector. The focus of this strand is to understand how management affects labour outcomes exploiting detailed datasets matching schools and teachers across countries. I develop below a summary of the key aspects of my research agenda. The unifying theme is that my research focuses on emerging and low-income countries, and on the effect and barriers to adoption of good management practices in the private and public sectors.

Theme 1: Private sector

The first strand of my research agenda is related to family firms and what affects the rate of adoption of good management practices in these firms. Family firms are the most prevalent type of firm ownership around the world, accounting for the majority of firms and employment share in emerging economies.

My **job market paper**, [“All in the family? CEO choice and firm organization”](#), explores the importance of management practices specifically for family firms, and proposes that the lack of managerial innovation by family CEOs is an important channel that could

be leading to their relative underperformance. We show the first evidence of a causal relationship between a succession to a family CEO and lower adoption of best-practice management. We use detailed new datasets to characterize the possible mechanisms, and suggest reputational constraints which have been shown to lead to better outcomes for the first-generation managers can constrain management innovation by the second-generation heirs. We show empirical evidence that information asymmetries and lack of skills cannot fully explain the management quality gap and propose a model where implicit employment commitments within family firms increase the relative cost of firing workers, which in turn reduces the incentive of investing in better management practices. The project behind this data collection, [The Ownership Survey](#), is still ongoing and we are currently collecting this rich data for firms in African countries, where over 65% of firms are still owned and controlled by their founders. This dataset will allow for the richest characterization of large-scale entrepreneurship in Africa, as the firms in our sample have more than 50 employees and thus can be classified as mid-sized firms.

Beyond my job market paper, I am expanding on this research agenda in a number of ways. I am currently working with the World Bank on a large-scale randomized controlled trial (RCT) on management upgrading in the northeastern region of Brazil. [Bloom et al. \(2013\)](#) presented results from one of the first large management upgrading projects and showed substantial improvements to productivity and quality. Although the original study included 17 firms and the treatment was administered by a large consultancy firm, further studies have attempted using local partners to administer the treatment with varying degrees of success; for example, [Higuchi et al. \(2017\)](#), [Iacovone et al. \(2017\)](#). The focus of our study is not to estimate the impact of improving management on productivity in another country, but rather to **understand why firms are not already innovating** their practices and disentangle which constraints are holding firms back. In our partnership with the northeastern development bank (BNB), we will be able to include **a credit treatment** where firms will have the option of taking up the management treatment via a credit line with BNB. This will help us understand whether credit constraints are a reason for under-investment. For the subset of firms that are family firms, we will also conduct lab-in-the-field **risk preference games** with the CEOs to explore whether it is a high level of risk aversion that might be behind low rates of management innovation. It is plausible that family firm managers are more risk averse than non-family firm managers, as they might have a personal attachment to the business. If we find that it is an issue of risk

preferences, the policy answer may be related to insurance contracts. We will survey over 2000 firms in the manufacturing sector to collect baseline management data, and expect the management intervention to be administered in early- to mid-2018.

Another exciting avenue is taking advantage of the excellent datasets in Brazil, which include linked industrial censuses of production as well as a full register of all formal employees in the country. It is increasingly accepted that firms play an important role in **rising wage inequality**, but the nature of that role is not well-understood. Recent evidence from the US and Germany points to growing disparities in pay between firms as the source of the problem, rather than within-firm pay variance, which has changed relatively little. One possible explanation is that heterogeneous application of modern management practices has led to increasing firm-specific productivity differences, which, in turn, may have induced a greater degree of worker sorting. In a paper with Chris Cornwell and Ian Schmutte at the University of Georgia, [“Compensation practices, worker mobility and wage dispersion: evidence from Brazilian employer-employee matched data”](#), we explore this question using data from Brazil’s employee register (RAIS) matched with data from the World Management Survey (WMS). We characterize different personnel management profiles that firms use to affect recruiting, motivation, and retention of high-quality workers, and examine how different personnel management profiles are associated with management quality.

Another well-known source of detailed datasets is Denmark, where national accounts rosters covering the entire population can help shed light on a number of economic questions and allow for careful identification. I am working with Morten Bennedsen to collect management data in Denmark for about 15,000 firms and combine this with the detailed Danish datasets. This new large dataset will allow us to explore questions on **female entrepreneurship** and **female leadership** — questions previously impossible to consider due to extremely small sample sizes.

Theme 2: Public sector

One of the binding constraints for growth and development in emerging economies and low income countries is a lack of capital, both tangible and intangible. Investments in tangible capital, such as better machines or other hard technology, are relatively straightforward

and often enacted by governments because of their greater visibility and ease of procurement, but there are large costs associated with such tangible capital upgrading programs. However, investment in intangible capital, such as human capital (ie. education) or organizational innovation (ie. management practices), can often yield similar returns with lower levels of cash injections. For example, managerial innovations in firms can yield a return that could be comparable to increasing the workforce by 15% or capital by 40% ([World Management Survey 2013](#)). In education, a one standard deviation improvement in the quality of management in a school is associated with better student outcomes in year-end exams to the order of 0.2-0.4 standard deviations ([Bloom et al. 2015](#)).

With Renata Lemos, I led two projects to include India ([Lemos & Scur 2012](#)) and Brazil ([Lemos & Scur 2015](#)) in the general World Management Survey schools dataset. To understand the types of processes being used at these schools and to identify where the bottlenecks lie, we developed an expanded survey tool based on the existing and tested WMS instrument, but tailored to research in the public sector of developing countries: we call it the [Development WMS \(D-WMS\)](#). In this process, we identified three management activities within each management topic: (1) process adoption, (2) process usage, (3) process monitoring. The development of this tool and preliminary observations with the pilot data have been published in a working paper, [“Developing management: an expanded evaluation tool for developing countries”](#). As there has been considerable interest in this survey tool from other researchers, and are in the final stages of building a MOOC for training researchers on key management concepts and also how to use the survey. The aim of building a large and high-quality public dataset on management practices in schools around the world, mirroring the WMS project success.

Using the pilot data from the Development WMS project, in a paper with Renata Lemos and Karthik Muralidharan, I have started exploring the relationship between management and productivity in the public sector [“School management and productivity in the public sector: evidence from Indian schools”](#). The literature on management and productivity is incipient, and this is the first detailed measure of management in schools from a developing country. In the pilot project of the D-WMS, we collected data on nearly 300 schools in Andhra Pradesh, India. Muralidharan had collected five years of panel data on characteristics of students, teachers and schools for these schools in a previous project, the Andhra Pradesh School Choice Project ([Muralidharan & Sundararaman 2015](#)), which we used to calculate teacher value added. We merged the two datasets to look at the

relationship between teacher productivity (value added) and management across public and private school systems. We find that private schools in India are better managed relative to public schools mainly because of differences in people management. We also find that the private school advantage over public schools in student value-added is largely accounted for by differences in management practices, and that the private school advantage in measures of people management is consistent with independent measures of personnel policy. Specifically, private school teacher pay is positively correlated with measures of teacher value-added, and private schools are more likely to retain teachers with higher value-addition and let go teachers with lower value-addition. Neither pattern is seen in public schools. Finally, measures of school-management quality are more correlated with measures of effective teacher practice in public schools than in private schools. These results suggest that once a school is able to optimize their selection and retention practices — that is, get their personnel policy right — continuous oversight of what happens in the classroom is less important. When this channel is shut down (as is the case in public schools), school management may be more important.

On the similar topic of worker effectiveness using the case of teachers, I also look at the case of Brazil in an ongoing project with Thomaz Theodorovicz and Damian Clarke. Teachers account for one of the largest chunks of expenditures of public school systems, and teachers are also one of the key inputs into the education production function. Researchers have considered the relationship between teacher salaries and student outcomes, but evidence has been mixed. (de Ree et al. 2016) find that an exogenous and unconditional doubling of teacher wages in Indonesia did not lead to improvements in student outcomes. Evidence from India on pay-per-performance and contract teachers has suggested compensation conditional on performance has some effect. Despite this evidence, public school systems are often constrained in wage-setting and cannot make use of such conditional tools. So **what works in improving teacher performance in public schools?** We explore a change in the funding formula for public schools in Brazil that mandates an exogenously set share of resources that must be used in the teacher wage bill of school systems. This change affected Brazil's municipalities differently as some received different amounts of funds, and also chose to spend their funds in different ways. For example, some municipalities increased the number of teachers while others increased teacher salaries. In this paper we first provide a long-term look at 20 years of data and document how teacher salaries, number of teachers employed and student-teacher ratios have changed over time in Brazilian

municipalities. Secondly, we employ an event study to document how different municipalities responded to the funding change and explore the characteristics that may help explain the heterogeneity in resource usage as well as student outcomes. We dig into the black box of state capacity and propose that **management practices across different school systems** explains part of the superior/inferior ability of school systems to **effectively use and distribute the increase in resources** they experienced after the funding formula change of this policy.

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