

Working paper

Could Poor Management be Holding Back Development?

Describing Practices
in the Public and
Private Sectors in
India

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Abstract: This paper presents the first in-depth descriptive look at the state of management practices in India. Using a unique dataset measuring the quality of management practices across countries and sectors, we find a consistent pattern of poor management practices in India in comparison to higher income countries across all the sectors studied: manufacturing, retail, education and healthcare. If we accept the link between good management and higher productivity, these findings suggest that poor management practices could be a factor behind the lower levels of development of many countries. Particularly in manufacturing and retail, the low average score is mainly due to a large tail of badly managed firms, which is thin or non-existent in higher income countries. Ownership structures, competition, education and informational barriers seem to be important drivers of the quality of management practices. Finally, when looking across regions, we also find that management quality varies in tandem with levels of development.

Keywords: management, emerging economies, development, organization, and productivity

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1. Introduction

For the past few decades, economists have thoroughly documented surprising differences in performance between establishments within countries and also across countries. The speculation as to why this difference exists, where it stems from, and how it affects economic development has populated economics journals ever since.¹

One factor long thought to be linked to these differences is the quality of management practices implemented at the establishment level. The management of an establishment can have a number of distinctive features, and, thus, it becomes clear that differences in the perception of how and what management practices to implement will arise. Understanding the diversity in management quality and their relationship to economic performance is a crucial step towards understanding the emergence and expansion of a sector as well as the contribution to economic development as whole. However, because of dearth of good data, especially in low- and middle-income economies, it is only recently that empirical economists have started giving this topic any attention.

To address this absence of management data, the research team of the World Management Survey (WMS) has been refining and implementing a methodology that systematically measures the quality of management practices at the establishment level across sectors and countries. We use an interview-based evaluation tool that defines and scores a set of 18 to 20 basic management practices from one ('worst practice') to five ('best practice'), depending on the sector.² After collecting management data for over 7,500 manufacturing firms, nearly 900 retail firms, 1,700 hospitals and 1,300 schools, we have seen interesting patterns emerge that start to shed some light on this topic.

Previous studies have found that management practices – defined in terms of monitoring, targets and incentives – are robustly linked to firm and national performance. In short, these studies find that, on average, better managed manufacturing firms have higher productivity (as measured by sales per employee, Tobin's Q, and ROCE), better managed retail stores have higher sales per employee performance, better managed hospitals have lower risk-adjusted heart attack mortality rates, and better managed schools have higher standardized test scores (Bloom and Van Reenen, 2007; Bloom et al., 2012b). A recent field experiment on 28 large Indian textile factories go beyond an analysis of conditional correlations and attempt to establish a causal relationship between management and productivity (Bloom et al., 2012a). Free management consulting was provided to a set of randomly selected treatment plants to help them adopt modern management practices and compared their performance to another randomly chosen set of control. This experiment revealed that the adoption of these management practices for monitoring, targets, and incentives was highly profitable, leading to an average increase in productivity of 18%.³

¹ For survey on the different studies on the determinants of productivity, see (Syverson, 2011). For an exploration of differences across countries, see, (Hsieh and Klenow, 2009) on the contribution of resource misallocation of total factor productivity to aggregate productivity in China and India versus the United States.

² For more information and for the full survey grids for each sector, see www.worldmanagementsurvey.org.

³ Considering the broader literature on management and productivity, Ichniowski et al. (1997) document higher levels of productivity associated with using sets of modern or innovative practices instead of traditional practices. They also find that clusters of complementary human resource management practices have large and positive effects on productivity, while individual work practices show little to no effect on productivity. Black and Lynch (2001) also find similar results when estimating a standard Cobb-Douglas production function with cross-sectional data in the US. More importantly, they find that the manner in which a practice is implemented is more important for the productivity effect than whether the practice is said to be used or not. Bertrand and Schoar (2003) use a panel of manager-firm matched data to isolate the manager fixed effects and find that there

Another main finding relevant to this paper is that manufacturing firms in middle-income countries have, on average, much worse management practices than firms in high-income countries (Bloom et al., 2012b; Lemos and Scur, 2012). Despite the existence of a few firms with world-class management practices in middle-income countries, the low average management quality in these countries seems to be due to a large tail of badly managed firms. These poorly managed firms are typically operating without the types of basic monitoring, targets and incentive mechanisms common in firms in high-income countries, with correspondingly low productivity.

This finding suggests that poor management practices is likely an important factor behind the lower levels of productivity in the manufacturing sector in many countries. Further, with the more recent expansion of this research project we find similar patterns of poor management quality across other sectors such as retail, healthcare, and education in middle-income countries. If we accept the existence of a positive link between management quality and performance across sectors, is poor management holding back development across the public and private sectors in middle-income countries?

Until now, our sample was mostly populated by OECD countries with a few emerging economies in the manufacturing sector. However, in order to explore the question pertaining to differences between middle and high income countries, we collected the first dataset measuring the quality of management in India's retail, healthcare and education sectors. In this paper, we will first describe how these sectors function in India and, subsequently, provide a detailed account of how the establishments in these sectors are managed, organized and staffed in order to provide an insightful picture of the state of management practices in these sectors in India. Although a more incisive analysis is out of the scope of this paper, it will lay the groundwork for future research exploring the *reasons* behind the differences we encounter between India and other countries as well as within India between states and districts.

The structure of this paper is as follows: section 2 briefly reviews the literature on management practices. Section 3 describes the methodology of the survey and the data used in this paper. Section 4 describes the data we collected and the patterns that emerged. Section 5 explores a set of factors we have found to be linked to the variation of management practices in different regions. Section 6 outlines the next steps in this research project and section 7 concludes.

2. Literature Review

In terms of theory, there are three main schools of thought regarding the role of management practices in a production function: management as a factor of production, management as a technology and management as design (or contingent management) (Bloom et al., 2012c).

2A. Management as a Factor of Production

If we consider management as another factor of production, akin to labour or capital, we would observe a market price for the management input. This price would in turn determine the optimal level of usage of the input. Thus, assuming we are properly measuring the managerial inputs, although differences in management practices will be correlated with differences in productivity, these should not be systematically correlated with differences in profitability.

are significant patterns that indicate management “style” is related to manager fixed effects in performance, who in turn are more likely to be in better managed firms.

Our results show some evidence for this type of approach. We find evidence, albeit not causal, that variations in management practices are at least in part driven by a firm's supply of skills. That is, we see a strong correlation in our results between better management practices and measures of manager as well as worker education.

2B. Management as a Technology

The other way to look at management is as a technology, and we would follow the notion that better management should strictly increase establishment-level profitability. The idea is that management is a type of process innovation that can be used by many establishments and can be thought of as a "soft technology." Alexopoulos and Tombe (2010) use an index based on counts of management-related publication titles from the Library of Congress as a proxy for the introduction of new practices to measure the effect of an unanticipated increase in publications on Gross Domestic Product (GDP) as well as Total Factor Productivity (TFP).⁴ In the United States, they find that the impulse response of an unanticipated increase in book titles (ie. introduction and dissemination of a new practice) is as high as 16% and 28% respectively after 5 years.

More generally, the concept is easily illustrated by examples of major process innovations in the past hundred years, such as Total Quality Management, Scientific Management and Lean Manufacturing, all of which have been implemented across the world. These process innovations, which were initially largely implemented in the manufacturing sector but are now often guiding practices in retail, healthcare and schools, are similar to product innovations in the sense that they are non-rivalled but diffuse slowly because of the informational complexity around their introduction. Empirically, there is also some evidence for treating management as a technology in observing that well-managed establishments make higher profits on average, suggesting good management is more than just a paid-for factor.

2C. Management as Design

Finally, management can also be viewed as design through the lens of contingency theory in management science which espouses the view that all practices are contingent on the industry and environment faced by the establishment.⁵

We understand that, despite our focus on "best practice" management, these practices will still not be universally equally important. For example, aspects of the environment such as labour regulations and the level of human capital will make some styles of management more attractive for some countries and establishments than others. In these circumstances establishments will optimally specialize in some forms of managerial practices rather than others. However, our view is that the practices we focus on are likely to be performance enhancing for most establishments. For example, having entrenched processes to identify top performers who should be deemed valuable for the establishment as well as set processes to document and follow-up with poor performers can safely be considered

⁴ In short, the idea is that the objective of publishing is to educate and disseminate new ideas. As soon as an idea surfaces, there is a large increase in publications on that topic. As time goes on, the number of new publications goes down but it does not mean the practices are not still in use. The authors use the example of publications on penicillin. While no one could question the widespread use of the drug today, searches for articles on penicillin would not be about how penicillin is used to treat customary bacterial infections, as this is already well understood and applied.

⁵ This approach has a long history in management science, going back at least to (Woodward, 1958), and in fact is now the dominant paradigm in fields like organizational behavior, human resource management, and organizational and personnel economics.

best practices regardless of the economic and legal environment of individual national labour markets. Our hypothesis that these processes are likely to improve productivity is based both on the WMS empirical results throughout the years and also on field experiments showing a large causal impact of better management quality (Bloom et al., 2012a).

3. Methodology

3A. Measuring Management Practices

i. Defining and Scoring Management Practices

To measure management practices, we have developed a new survey methodology described in (Bloom and Van Reenen, 2007). We use an interview-based evaluation tool, initially developed by an international consulting firm, that defines and scores from one (“worst practice”) to five (“best practice”) a set of 18 to 20 basic management practices (depending on the sector) on a scoring grid. These practices are listed in Appendix A. A high score represents a best practice in the sense that an establishment that adopts the practice will, on average, improve their performance. The combination of many of these indicators reflects “good management” as commonly understood, and our main measure of management practices represents the average of these 18 to 20 scores.

This evaluation tool can be interpreted as attempting to measure management practices in three broad areas:

First, *operations management & performance monitoring practices* - testing how well modern management techniques have been introduced, what the motivation and impetus behind changes were, whether processes and attitudes towards continuous improvement exist and lessons are captured and documented, whether performance is regularly tracked with useful metrics, reviewed with appropriate frequency and quality, and communicated to staff, and whether different levels of performance lead to different process-based consequences.

Second, *target setting practices* - testing whether targets cover a sufficiently broad set of metrics, including short and long-term financial and non-financial targets, and whether these targets are based on solid rationale, are appropriately difficult to achieve, are tied to the establishment’s objectives, are well cascaded down the organization, are easily understandable and are openly communicated to staff.

Third, *talent management practices* - testing what emphasis is put on overall talent management within the establishment and what the employee value proposition is, and whether there is a systematic approach to identifying good and bad performers and rewarding them proportionately, to dealing with bad performers, and to developing, promoting and retaining good performers.⁶

ii. Obtaining interviews with managers

We used a variety of procedures to obtain a high response rate and to remove potential sources of bias from our estimates. First, we monitor interviewers’ performance in contacting firms and scheduling interviews. The interviewers were encouraged to be persistent, that is, they run on average two interviews a day lasting approximately 45 minutes each and spend the remainder of their time

⁶ These practices are similar to those emphasized in earlier work on management practices, by for example Ichniowski et al. (1997) and Black and Lynch (2001).

repeatedly contacting managers to schedule interviews. Second, we presented the study as a “piece of work” (never using the word “survey” or “research”) and the interview as a confidential conversation about management experiences, starting with non-controversial questions of management practices within the establishment. Third, we never ask interviewees or mention the establishment’s financial performance. Instead, we obtain such data from independent sources or company accounts. Fourth, we always send informational letters, and, if necessary, copies of country endorsements letters as well.

For interviews in India, these procedures helped yield response rate of 38.58% for eligible retail outlets, 35.36% for eligible hospitals, and 39.36% for eligible schools. Appendix B gives a detailed breakdown of response rates in each sector.

iii. Collecting accurate responses

To ensure the collection of accurate responses, we hired 15 MBA students from top universities in Mumbai who had some business experience and training to conduct the interviews. In addition to the analysts, the research team included 6 supervisors and 2 project managers. Our interviewees were store managers in the retail outlets, clinical service leads in hospitals, and headteachers in schools. Due to being part of the middle management team, these managers have an overview of their establishment’s overall management practices without being detached from its day-to-day operations.

During the interview itself, we used a double-blind technique by:

- 1) conducting a telephone survey without informing the managers that their answers would be evaluated against a scoring grid and thus, gathering information about actual management practices (as opposed to manager’s aspirations, perceptions and interviewer’s impressions).
- 2) not informing the interviewers about the establishment’s performance. Interviewers are only provided with the establishment’s name and telephone number.

We also follow several other steps to guarantee the quality of the data such as:

- 3) asking open-ended questions until an accurate assessment of the actual management practices could be made, for example, on the first performance monitoring dimension we start by asking the open question “what kinds of indicators do you use for performance tracking”, rather than closed questions such as “do you use indicators for performance tracking” which may lead to a yes/no answer. The second question on the performance monitoring dimension is “how frequently are these measured? Who gets to see this data?” and the third is “If I were to walk through your establishment what could I tell about how your are doing against your indicators?” The combined responses to this dimension are scored against a grid which goes from 1 which is defined as “*Measures tracked do not indicate directly if overall business objectives are being met. Tracking is an ad-hoc process (certain processes aren’t tracked at all).*” up to 5 which is defined as “*Performance is continuously tracked and communicated, both formally and informally, to all staff using a range of visual management tools.*” During their training session, the interviewers are also encouraged to ask follow-up questions beyond the ones we give them as guides, whenever necessary.
- 4) ensuring that each interviewer conducted a minimum amount of interviews in order to correct any inconsistent interpretation of responses.
- 5) double-scoring, i.e, having another interviewer silently listening and scoring the responses provided during the interview to be discussed with the primary interviewer.

6) collecting a series of noise controls on the interview process itself (such as the time of day and the day of the week), characteristics of the interviewee and the identity of the interviewer. We include these controls in the regression analysis to help improve the precision of our estimates by reducing some of the measurement error.⁷

3B. Sampling Frame

For previous waves of this survey, we procured sampling frames for schools, hospitals and retail firms from large companies or government organizations that could provide these. For India, there was not one central place we could source the sampling frames from. Instead, we used a variety of sources to build our own comprehensive list from which to draw a random sample to interview.⁸ We address each sector in turn and provide detailed information on all sampling frame sources in Appendix C.

i. Retail stores

We used three major sources to construct the retail stores sampling frame: 1) the Retailers Association of India (RAI)'s directory of its core members, comprising 95% of all formal retailers incorporated or registered in India, 2) FundoData, and 3) Bureau van Dijk Orbis database. We extracted the retail company names, headquarters phone number and website from these sources, yielding 1,013 unique companies. We then used their websites or contacted them directly to get a list of their retail store establishments, yielding a total of 28,344 stores. From this list, we extracted a random sample of 2,028 retailers.

Batches of 100 to 150 retail stores were distributed to analysts randomly. During the scheduling process, analysts verified eligibility to participate in the survey by checking whether the establishment was a retail store (not a distributor or a restaurant), had 10 or more employees in the store, was part of a company with 100 or more employees, had a store manager available for the interview who had been in their position for 1 or more years (unless previously held assistant manager position for a year and was in charge of goal-setting/HR along with the manager).

ii. Hospitals

We used 5 major sources to build our hospital sampling frame. 1) the National Accreditation Board for Hospitals & Healthcare Providers (NABH), 2) Medicards.in, 3) Hospital Khoj⁹, 4) Cite HR, and 5) Hospitals in India. Appending all these lists yielded a total of 15,431 entries. When we excluded specialty hospitals outside our purview, such as nursing homes, Ear, Nose & Throat clinics and psychologists (among many others), we had a list of approximately 7,191 hospitals left. This number

⁷ To validate our survey data, we re-surveyed 5% of the manufacturing sample collected in 2006 using a second interviewer to independently interview a second plant manager in the same firm. Two independent management interviews on different plants within the same firms should help to reveal how consistently we are measuring management practices within that firm. In the sample of 222 additional interviews, we found that the correlation of the score between our independently run first and second interview was 0.51. Part of this difference across plants within the same firms is likely to be real internal variations in management practices, with the rest presumably reflecting survey measurement error. However, the correlation across the two interviews is highly significant (p-value 0.001). This suggests that while some substantial noise exists in our interview process there are significant differences in management quality across firms.

⁸ The lists were downloaded and sampling frames were constructed between December 25th 2011 and January 20th 2012.

⁹ We thank Hospital Khoj for kindly providing us with an excel version of their extensive hospitals list. The online version of the list is available at <http://www.hospitalkhoj.com/>

is in line with a document from the Ministry of Health reports that there are about 7,000 rural and urban hospitals in India.¹⁰ We extracted a random sample of 3,892 hospitals to interview.

Batches of approximately 250 to 300 hospitals were distributed to analysts randomly. During the scheduling process, analysts verified eligibility to participate in the survey by checking whether the hospital had a Orthopaedics or Cardiology department, provided acute care (not just critical care), offered overnight beds, had a clinical service lead, such as a medical superintendent/nurse manager/administrator of specialty, available for the interview who had been in their position for 1 or more years.

iii. Schools

We constructed the sampling for schools from primarily three sources: 1) the District Information System for Education (DISE), the Central Board for Secondary Education (CBSE), and the India Council of Secondary Education (ICSE). Their records included, respectively, approximately 94,500, 12,000 and 1,900 schools. As some CBSE and ICSE schools were included in the DISE database, once we eliminated the duplicates the list included 108,688 unique schools, though only about half (55,492) had over 75 students.

From this smaller list, we extracted a random sample of 2,900 schools and had to find phone numbers for these schools. This was a serious issue in India which we did not encounter in our previous waves: it was very difficult to identify the school and find a phone number for it. Sometimes, the only phone available for the school was the principal's cell phone. To find the phone numbers, we searched Google, JustDial (Indian equivalent of yellowpages), the Economic Census from MOSPI (India's Ministry of Statistics Programme Implementation), called School Boards of all states, and personally visited the ones which were within reach of our office. Once we exhausted the direct ways of finding phone numbers, we called businesses and other schools in the area to ask for the phone number of the school in our random sample. At the end, we were able to find phone numbers for 927 schools.

Batches of approximately 125 to 175 schools were distributed to analysts randomly. During the scheduling process, analysts verified eligibility to participate in the survey by checking whether the school offered general education to 15 year olds (Standards X), had more than 75 students, and had a headteacher responsible for the operations of the school who was available for the interview and who had been in their position for 1 or more years.

5. Describing Management Practices

5A. Management practices across countries

When the WMS started nearly a decade ago, the survey initially targeted manufacturing firms. As our dataset grew to over 7,000 manufacturing firms, a telling picture of the state of management across the world started to emerge: the usual suspects (US, Germany, Japan, Sweden) have the best management, while emerging economies such as Brazil, China and India had worse management practices, on average. Since then, we have adapted the survey to other sectors of the economy, including the retail, education and healthcare sectors. Astoundingly, we see the same story across all these sectors and countries.

¹⁰ Available at: <http://cbhidghs.nic.in/hia2005/8.01.htm>

5B. Management practices in India

We find Indian management practices in manufacturing, retail, education and healthcare to be, on average, poorer than in Europe and North America. The spread of management practices within India is very wide, particularly for the healthcare and retail sectors, again suggesting that, while it is possible to implement management best practices across these establishments in India, for some reason they are not being implemented.

i. Private Sector

Manufacturing

Indian manufacturing sector's current contribution to the country's GDP is just above 16%, and output in manufacturing grew by 5.7% per year in the period 1993-2005 (Reserve Bank of India, 2008). In terms of government policy towards the sector, the past 20 years have seen some good developments. For instance, the government has emphasized trade liberalization and FDI reforms, has implemented more permissive industrial licensing policies, and, over the past decade, has carried out limited yet promising labour market reforms and reforms in the service sector which supplies to the manufacturing industry (Arnold et al., 2012). More recently, the government released its National Manufacturing Policy, aiming to create 100 million jobs by 2022.¹¹

Our survey results indicate that the Indian median firm is 24 years old, employs 250 workers, operates across 2 production plants and exports 15% of its production. Approximately 14% of the firms in our Indian sample report being part of multinationals, and these multinationals are owned by Indian firms (27%), Germany and US (17% each), other European countries (20%) and other Asian countries (19%). Across the 21 countries for which we have management data, the median firm is privately owned and around 38 years old. It employs approximately 330 workers, operates across two production plants, and exports 20% of its production.

When considering the significantly lower score for India compared to other countries (Figure 1a), Bloom and Van Reenen (2010) argue that this low average score is due to a large tail of badly managed firms, which is thin or non-existent in the countries with the highest average management scores (Figure 1b). That is, there are several firms in India which have implemented top-notch management practices (the average score for the top quartile of manufacturing firms in India is 3.5), but comparing the distribution of management scores for firms in the US, the country with the highest average, and India, we see that badly managed firms are simply not there in the US sample. In fact, the percentage of firms which have very little or no modern practices implemented (below 2 in our management measure) in the US is 2%, while this left tail includes 25% of Indian firms.

Recent work by Bloom et al. (2012a) also finds evidence that this lower quality of management is holding firms back in terms of their productivity. As mentioned in the introduction, through a field experiment with large, multi-plant textiles firms in India, they found adopting modern management practices raised productivity by 18% on average in the first year, and after three years had led to firm expansion at the extensive margin through more plant openings. Thus, it is clear that better management practices *can* be adopted in Indian firms and *can* lead to significant improvements in performance. Why don't they? It seems "informational barriers" as well as constraints affecting the

¹¹ *Manufacturing to contribute 25% of GDP within a decade*, The Hindu, October 25, 2011. Available at: <http://www.thehindu.com/business/Industry/article2570702.ece>

efficient reallocation of resources are the most likely culprits (Bloom and Van Reenen, 2007; Bloom et al., 2012b). We will discuss this further in section 6.

Turning our attention to regional differences within India, we find that Jharkhand is the best-managed region within India, though its average score is not statistically different from that of Orissa. It is, however, better than Madhya Pradesh at the 5% significance level (Figure 2).

If we consider the types of firms, we see quite substantial variation across the sub-industries within the manufacturing sector. In India, transportation equipment manufacturers seem to be the best managed on average, while furniture and fixtures manufacturers are the worst managed (Figure 3).

Retail

Retailing in India, a \$590 billion market,¹² is widely recognized as one of the key sectors of their economy and intrinsic to their society. The sector has historically been mostly populated by informal retailing (family owned and operated ‘mom and pop shops’), a result of stringent Foreign Direct Investment (FDI) rules on single-brand and multi-brand stores ownership. Since 1997, the Indian government has embarked on a road to more liberalization of the sector. More recently in September 2012, they passed a law lifting the previous 51% maximum ownership restriction that kept many global players such as Carrefour, Tesco and Ikea away from the Indian market.¹³

In India, our survey results indicate that the median firm is 20 years old, with 4,800 employees and 163 stores in their chain. Approximately 47% of stores report being part of a multinational chain, and they are overwhelmingly Indian-owned (73% of those firms identifying themselves as part of a multinational). The median store in the Indian sample is 5 years old, with 13 full-time employees and approximately 2,000 square feet. Approximately 77% of the stores we interviewed used electronic Point Of Sale (POS) systems, and, on average, 88% of managers in these stores had at least a university degree.

In contrast, the US retail sector is much older and larger. The median firm in the US is 49 years old, with 100,000 employees and 1,000 stores in their chain. Approximately 38% of stores report being part of a multinational chain, and they are overwhelmingly US-owned (95% of those firms identifying themselves as part of a multinational). The median store in the US sample is 15 years old, with 120 full-time employees and approximately 77,000 square feet. On average, approximately 37% of managers in these stores had at least a university degree.

The British retail sector, however, is smaller than in India yet still better managed. The median firm is 38.5 years old, with 1,320 employees and 80 stores in their chain. Approximately 60% of stores report being part of a multinational chain, and although the majority of firms are British (58%), the list of country of origin is much more diverse, including several European countries (such as France, Germany and Italy) as well as Japan and the US. The median store in the GB sample is 8 years old, with 16 full-time employees and approximately 4,000 square feet. On average, approximately 33% of managers in these stores had at least a university degree.

¹² *The Uneasy Compromise*, The Wall Street Journal, Available at: <http://online.wsj.com/article/SB10001424053111903461104576461540616622966.html>

¹³ Although some restrictions, such as the requirement that 30% of goods be sourced from India, could still be too stringent for retailers to choose to enter India, it is a positive first step. This discussion, however, is outside the scope of this paper.

Comparing to the other countries in our sample, India's retail sector is significantly worse managed than the US, Great Britain and Canada, even after we account for firm size (Figure 4a). Looking at the distribution of scores (Figure 4b), we see that only 10% of Indian stores score better than the average UK store. Although this is a very small percentage, it is clear that best practices *can* be implemented though they are not yet widespread, a finding we continue to see throughout.

When looking at the four areas of management we study - that is, operations, monitoring, targets and people management – we see some interesting patterns (Figure 5). Although the score gaps between the Anglo countries vary depending on the area, India's is fairly similar across operations, monitoring and targets, but substantially lower for people management. The gaps in each area, respectively, are 0.76, 0.75, 0.70 and 0.42. Considering that the standard deviation across the full retail management sample is 0.65, these are quite substantial gaps.

Across the different states, we find that the state with the highest average score is Gujarat, though its score is not statistically different from the other states, with the exception of the two lowest-scoring states, Tamil Nadu and Uttar Pradesh. (Figure 6)

If we consider the types of stores, we see quite substantial variation across the sub-industries within the retail sector (Figure 7). Grocery and general merchandise stores seem to be the best managed across the sample, while Women's clothing stores and household appliance stores are the worst managed.

ii. Public Sector

Hospital

India's healthcare sector has been growing rapidly and is estimated to be worth US\$ 40 billion (Pricewaterhouse Coopers, 2007). Overall, in terms of employment and physical resources, there were 793,305 practicing doctors (0.66 per 1,000 population), 1,073,638 practicing nurses (0.89 per 1,000 population) and 576,793 hospital beds (0.48 per 1,000 population) in 2009 (OECD, 2012b). Given Indian population's rising life expectancy, demand for healthcare services tends to grow exponentially as a result of a growing old-age population with rising incidence of lifestyle diseases as well as rising incomes. The government seems concerned with the issue and has pledged to increase public spending in healthcare to 2.5% of GDP over the next five years, though it may be a daunting task given it currently only spends 1.4% of GDP in the sector.¹⁴ Government-run facilities are commonly known to have inadequate equipment and poor quality. As a result, private players are able to capitalize on the opportunity. In fact, the healthcare private sector comprises of 93% of all hospitals and 64% of all beds nationwide (World Bank, 2001).

Our survey results in India show that the median hospital is 15 years old, with 140 employees, including 16 full-time doctors and 55 nurses on staff. It has 100 beds, and it is not a teaching hospital. It has approximately 5 perceived direct competitors and nearly no doctor or nurse unions. Approximately 94% of the hospitals in our sample are private, 87% are for-profit, and 23% report being part of a network. The average manager in our sample had been in their position as manager for approximately 7 years and nearly 9 years in the hospital. Approximately 30% of managers within these hospitals had an MBA degree or some sort of equivalent business training, and 54% have a clinical degree.

¹⁴ *Healthcare spend to rise to 2.5% of GDP*, The Indian Express. Available at: <http://www.indianexpress.com/news/healthcare-spend-to-rise-to-2.5--of-gdp/918380>

Again in contrast, the US healthcare sector is much older and larger. The median hospital in the US is 54 years old, with 500 employees, including 185 nurses. Also it has 100 beds, and reports approximately 3 perceived direct competitors. Approximately half of the hospitals in the sample are private, though only 26% of these are for-profit, and 55% of all hospitals report being part of a network. In terms of the managers, the average manager we interviewed has been working in the hospital for 14 years and has been in the post of manager for 6 years. On average, 22% of the managers have an MBA degree or equivalent business training, while 74% have a clinical degree.

The UK healthcare sector is even larger than the US. The median hospital in the UK is 30 years old, with 1200 employees, including 55 full time doctors and 250 nurses. It has 300 beds, and also reports approximately 3 perceived direct competitors. Approximately 35% of the hospitals in the sample are private, 75% of which are for-profit, and nearly 80% of all hospitals report being part of a network. In terms of the managers, the average manager we interviewed has been working in the hospital for 12 years, and has been in the post of manager for 5 years. On average, 23% of the managers have an MBA degree or equivalent business training, while 58% have a clinical degree.

Comparing to the other countries in our sample, India's hospitals are significantly worse managed than the European and North American ones, even after we account for hospital size (Figure 8a). Considering the standard deviation is 0.64 for the whole hospitals sample, India is 1.14 points behind the best managed country, the US, or nearly 1.8 standard deviations. When looking at the distribution of score, only 4% of Indian hospitals are better managed than the average US hospital. When comparing France, the second-lowest scoring country in our sample, the figure is still quite low, with only 15% of Indian hospitals being better managed than the average French hospital. Still, we do observe this *very* small yet existent tail of very well managed hospitals (Figure 8b).

When considering the four dimensions of management practices – operations, monitoring, targets and people management – we see that the gap between India and the US is large and significant throughout. However, it is interesting to see that the gap between India and France is large and significant in the first three areas, and while still significant, it is much smaller in the people management scores.

Across the different states, we find that the state with the highest average score after controlling for hospital size is Haryana, though its score is not statistically different from Punjab, West Bengal, Assam, Maharashtra, Karnataka, Delhi or Rajasthan (Figure 10). It is, however, statistically better managed than Uttar Pradesh and below.

Schools

India's school systems comprises of approximately 200 million children. Public spending on education has reached to 3.85% of the country's GDP in 2009-10 (UNESCO Institute of Statistics (UIS), 2011). In terms of education personnel, Indian schools employed 7,222,772 classroom teachers and academic staff in 2004, out of which 47.8% were in primary education, 35.8% were in secondary education and the remaining 16.3% were in tertiary education and other types of research programs (OECD, 2012a).

Enrolment levels have reached 97% but attendance levels are at 71% in primary schools (Indian Ministry of Human Resource Development, 2011). Furthermore, enrolment of students in private schools has seen a sharp increase: 18.7% of children between the age group 6-14 years were enrolled in private schools in 2006 while in 2011 this number has risen to 25.6%. Nonetheless, student achievement is low. At the primary school level, only 53.4% children in Std. V can read a Std. II level

text. This suggests that even after five years in school, close to half of all children are not even at the level expected of them after two years in school. At the secondary school level, schools from Tamil Nadu and Himachal Pradesh participated in the PISA 2009 examinations but performed poorly, being placed at 2nd from bottom position in the ranking out of 73 participating countries.(OECD, 2009)

Our survey results indicate that the median school in India is 28 years old, with 850 students, 35 teachers, and 48 employees in total. The average head teacher/principal in our sample spends approximately 22% of their time teaching, 58% of their time in administrative duties, 15% of their time with parents and the remainder in other activities. The median US school is 50 years old, with 470 students, 40 teachers and a total of 60 school employees. The median UK school is 53 years old, with 1030 students, 72 teachers and 125 school employees.

Comparing to the other countries in our sample, India's schools are significantly worse managed than the European and North American ones, even after we account for school size (Figure 11a). Considering the standard deviation is 0.63 for the whole schools sample, India is 1.23 point behind the best managed country, the UK, or nearly two standard deviations away. When looking at the distribution of scores, only 8% of US and 1% of UK schools are worse managed than the top 10% Indian schools (Figure 11b). This figure is troubling, as we do not see such a stark differences in the private sector.

When considering the four dimensions of management practices – operations, monitoring, targets and people management – we see that the gap between India and all other countries is large and consistent throughout all four areas, though operations and monitoring scores are relatively stronger than targets and people management (Figure 12).

Across the different states, we find that the state with the highest average score after controlling for hospital size is Tamil Nadu, though its score is not statistically different from Gujarat, Jammu and Kashmir, Orissa, Karnataka, Jharkhand and Chhattisgarh (Figure 13). It is, however, statistically better managed than Madhya Pradesh and below.

5C. Management practices across regions

There are notable differences in the quality of management practices in India across sectors, but also *within* sectors across states. Figures 14 and 15 plot the data in maps for each sector. The maps indicate states that are better than the Indian average (blue shades) or worse (red shades) for that sector, after controlling for establishment size. For a handy comparison, figure 16 presents state-wise economic and human development indicators for state which we have surveyed, providing an overall picture of development levels within India. We understand that the more interesting question is, of course, *why* we see such widespread differences across states. While exploring this variation is in our future research plans, our description here is only to establish a basic “background story” on which we hope to build on in the near future.

These figures show some interesting patterns. Starting with the private sector, the manufacturers seem to have the most regional variability, but theirs is also the most heterogeneous industry among the four sectors. That is, in this map we are not controlling for systematic differences between industries within the manufacturing sector (ie. concrete firms versus textile firms). The retailers display slightly less stark regional variability when compared to the manufacturers, but it is still notable.

Figure 14 shows several similarities across states in both industries of the private sector. In both manufacturing and retail, Maharashtra, Karnataka and Madhya Pradesh have above average scores in

their respective industries. This is not surprising as the relatively more developed state of Maharashtra in the west region is well-known for its hard-industrial capacity, its financial and commercial hub and for being a hotspot for foreign direct investments. In turn, Karnataka in the south region is one of the high economic growth states that evolved as a strong manufacturing base and an information technology hub in India. In fact, its capital of Bangalore is commonly known as the Silicon Valley of India. Finally, despite its low levels of human development, Madhya Pradesh in the central region has an intense road network and provides a centralized manufacturing and distribution hub.

On the other hand, Rajasthan and Uttar Pradesh in the north, Andhra Pradesh in the south, and West Bengal in the east have relatively low levels of human and economic development and are well-worse than average in both manufacturing and retail sectors. The north states of Haryana and Punjab, despite relatively higher levels of development, also have below sector average management quality in their firms. Finally, management in Gujarat, another relatively more developed state in the west (albeit less developed than Maharashtra), and in the National Capital Territory of Delhi are slightly below industry average in manufacturing while slightly above industry average in retail. Tamil Nadu, a relatively more developed region in the South, alternatively, is well above the average in manufacturing management and well-below the average in the retail management.

Figure 15 presents results for the public sector, where we find fewer similarities across the two industries we studied. Karnataka and Chandigarh seem to be the only states that are above the average while Bihar and Maharashtra are below average in both industries. Andhra Pradesh, Gujarat, Madhya Pradesh, Orissa, Rajasthan, Tamil Nadu and Uttar Pradesh present higher than average scores in education but lower than average scores in healthcare. Assam, the National Capital Territory of Delhi, Haryana, Kerala, Punjab, and West Bengal, on the other hand, are the opposite: below average scores in school management and above average scores in hospital management. A natural next step in this research project will be to match our dataset to external sources to further understand these patterns.

Despite the preliminary nature of this analysis, these maps paint the first picture we have of the quality of management practices across these states and sectors in India, showing striking differences as well as several similarities in both the private and public sectors across Indian states. The next step is exploring why we see such stark differences, and what this can mean in terms of public policy interventions.

6. Factors Linked to Differences in Management Practices

Beyond describing the patterns of quality of management practices across countries, regions and industries, we also examine factors associated with the large differences in these practices across firms and countries. In the most recent paper describing the World Management Survey management data, Bloom et al. (2012b) identify several factors linked to management practices. For example, publicly (i.e., government) owned organizations have worse management practices across all sectors. Among private-sector firms, those owned and run by the founders or their descendants, especially firstborn sons, tend to be badly managed. Firms with professional (external, nonfamily) CEOs tend to be well managed.

In addition, multinationals appear able to adopt good management practices in almost every country in which they operate when compared to domestic firms. There is also strong evidence that tough product market competition is associated with better management practices, within both the private

and public sectors. Light labour market regulation is correlated with the systematic use of monetary and nonmonetary incentives (related to hiring, firing, pay, and promotions), but not monitoring or target management. The level of education of both managers and non-managers is strongly linked to better management practices. In this section, we explore five factors that appear to be relevant in India: ownership, competition, workforce education, and informational barriers.¹⁵

6A. Ownership

i. Private sector

Within the private sector, we consider a set of ownership types including founder-owned, family-owned, founder/family-owned but externally managed, dispersed shareholders, private owners, government, or other ownership.¹⁶

In manufacturing, we find that the most widespread type of firm ownership in India is “founder-owned, founder CEO,” with 43% of all firms falling in this category. The second most popular ownership structure was “Dispersed Shareholders” with 13%, but “Family-owned, primogeniture rule” was a close third. This is an important factor, as we have continually found that family owned and operated firms tend to be systematically worse managed than firms which are family owned but externally operated, or owned by investors or shareholders. In the manufacturing sector, we see this trend clearly holding (Figure 17).

Dispersed shareholder structures are by far the best managed, with an average score of above 3 in our scale. The interesting point to note, however, is that family ownership is not associated with poorer management practices when the family delegates the management of the firm to an external CEO. This ownership structure group is not statistically different from the “Private” ownership structure, which includes private investors as well as private equity/venture capital.

In retail, like manufacturing, the most widespread type of firm ownership in India is family-owned, with 44% of firms identifying themselves as family or founder owned. However, “dispersed shareholders”¹⁷ is a close second with 41% of the stores under this type of ownership structure, a much larger number than in manufacturing. Interestingly, the result we find in manufacturing regarding the quality of management in family firms in India is not as straightforward in the retail sector where we don’t find dispersed shareholder firms to be significantly better.

Possibly a result of the different sector structure we find in the country, Family/Founder owned firms are both the largest firms and largest stores in terms of number of employees, and the literature in this area generally finds that larger firms are better managed. In fact, Family/Founder owned firms are, on average, approximately 22% larger than Dispersed Shareholder firms. In terms of stores, Family/Founder owned stores are nearly three times larger (280%) than stores belonging to a Dispersed Shareholder owned firm. In India, it seems the normally negative effects of Family/Founder ownership are offset by their general propensity to be larger firms and stores. We find that there is no

¹⁵ Several other environmental and structural constraints are considered to be obstacles to the functioning of firms, such as the inefficiency of the judicial system in resolving commercial disputes, the administrative burden of paying taxes and contributions, and the difficulty of registering property. However, these obstacles are not directly linked to the day-to-day shop floor management practices measured in the World Management Survey and, therefore, not considered in this paper.

¹⁶ For more detailed definitions, please refer to Lemos and Scur (2012).

¹⁷ We define dispersed shareholders as “No single entity (person, family, or firm) owns more than 25.01% of the shares, i.e. no entity owns a controlling stake.”

statistically significant difference in average scores across ownership types, after controlling for firm and store size.

ii. Public sector

Across the healthcare and education sectors, we consider three different ownership structures: private for profit, private not for profit, and public. For the healthcare sector, when we look at raw averages, it looks like the private not for profit hospitals are the best managed out of the three (Figure 18). However, they also tend to be the largest, with a median employee count of 390 people. Public hospitals are similarly large, with a median of 350 employees. Private for profit hospitals are significantly smaller, at a median of 120 employees, but also constitute a sizeable majority of our sample, at 86%.

Once we control for hospital size, there is no statistical difference between the private for profit and not for profit hospitals, but there is a significant difference between the private for profit and public.¹⁸

Similarly within the education sector, we find that Indian private schools are significantly better managed than public schools (Figure 19).

6B. Competition

i. Private sector

In manufacturing, we have found competition to be an important driver of management (Bloom and Van Reenen, 2007). In the Indian manufacturing sector we continue to find the same pattern. Firms with more than 5 competitors tend to be better managed than those with none to 5 competitors (Figure 20).

Curiously, in retail competition at the store level does not seem to be a major driver of management in the Indian retail sector. The majority of the sample (62%) report facing competition from 1 to 5 stores in their retail sub-industry, while approximately 32% report facing competition from more than 5 stores. There is no statistical difference in scores between perceived competition ranges.

Considering the popular demonstrations and media frenzy that surrounded the proposal of more lax foreign direct investment (FDI) laws for the retail sector in India, we also asked the managers whether they were aware of these new proposals at that time, and also whether they thought the effect of these laws would be negative, neutral or positive. Just over 53% of managers were aware of that the laws were changing, and out of those who knew, only 15% thought they would negatively affect their business. 33% responded that they did not think it would affect them at all, and 52% said it would affect them positively. Although it is important to note that we only surveyed formal retailers, it is still encouraging to see that most managers see increased foreign investment and increased competition as a positive development.

Finally, we also asked managers about their perceptions on direct competition (Figure 21). The question we asked was “If a new competitor opened a store next to yours, how do you think this would affect your business in [customer volume/supplier availability/human resources]?” Managers have a neutral-negative view of the effect on customer volume, a neutral view on supplier availability, and neutral-negative view on human resources.

¹⁸ There is also no difference between the private not for profit and public scores.

Overall, in the formal retail sector we do not find evidence of any relationship between management and competition, and while most managers have positive attitudes towards opening the borders to more competition, the majority also has either a neutral or negative view of how it would affect their business across three areas that they could see change when more competition is introduced.

ii. Public sector

Particularly for the healthcare sector, in previous research, we have found that competition does matter for the quality of management practices in hospitals. In a recent working paper, Bloom et al. (2010) analyse the English public hospital sector and find evidence of a causal impact of competition on the quality of management.¹⁹ In fact, adding a rival hospital increases the quality of management by “0.4 standard deviations, and increases survival rates from emergency heart attacks by 8.8%.” Although we find evidence of better management practices in areas with higher competition across the sample, we still need to match our data with establishment counts of hospitals in India to get an appropriate measure of competition in that context. We also need to consider the individual structure of the healthcare sector in India, and how it differs from the places where we have already found competition to have an impact on managerial quality.

6C. Workforce Education

i. Private sector

Across all sectors we have consistently found that firms with higher percentage of managers with at least a university degree tend to be better managed (Figure 23). One reason this could be the case is that managers with higher levels of education may be more willing or better able to seek out information about best practices and implement them.

In India, we find that the management scores of stores where the manager has a graduate or post-graduate degree are higher than where managers only have a secondary degree or less. Alternatively, if we rank the management scores of all stores and separate them into quartiles, the bottom quartile of stores has a lower average percentage of managers holding a graduate or post-graduate degree, while nearly all the managers in the stores in the top quartile do hold such degrees (Figure 24).

ii. Public sector

For the healthcare sector, we find that nearly all hospital managers we interviewed in India had at least a graduate degree. However, one-third of the hospitals in our sample report having no managers with any business training at all, and nearly 80% of hospitals report having no more than half of their managers holding a business degree. We also see that hospitals with a greater share of managers with a business degree tend to be better managed than those with lower shares (Figure 25).

For the education sector, there is little variation of *level* of education of head teachers. That is, the vast majority of the head teachers/principals we interviewed had at least a bachelors degree. A more interesting avenue of research we will explore in the future is the *type* of degree they hold, and whether there is a relationship between the type of degree (science, humanities, etc.) and a head teacher’s ability to implement best practices of management in their schools.

¹⁹ In England, the entry and exit of hospitals is controlled by the central government. The authors address the endogeneity of market structure by using “political marginality” as an instrument for the concentration of hospitals in a geographical area.

6D. Informational barriers

Finally, another important driver of quality of management stems from the manager's perception of the quality of management of their establishment. The last question in our survey asks managers to score the quality of the management practices in their firm on a scale of 1 to 10²⁰, and the average results are quite telling. Dividing their "own score" in half to match our management score scale and taking the difference, it is obvious that Indian managers believe the management practices followed by their establishments are substantially better than our measures would indicate across all four sectors we study. The main issue this raises is that if managers are not aware of the opportunities for improvement they are not likely to pursue any initiatives to do so.

The gap for each sector is shown in figure 26. While stores in the US, Canada and GB tend to overscore themselves by about 1-1.2 points, Indian managers on average overscore themselves by 1.8 points. This is an important point to notice, as the first step to driving improvements is accepting that such improvements need to be implemented. It is also 80% larger than the gap we find in manufacturing, which suggests managers in the Indian retail sector are even less aware than manufacturers of the latest innovations in management processes and how to implement them. This pattern of over-confidence continues across the healthcare and education sectors as well.

8. Conclusion and policy implications

Using a unique dataset spanning the manufacturing, retail, education and healthcare sectors across over 20 countries, we compare the quality of management practices in India and a set of OECD countries as well as Brazil and China in manufacturing. We broadly find that Indian management practices in across all sectors we study to be, on average, poorer than in Europe and North America. Furthermore, the spread of management practices within India is very wide, particularly for the healthcare and retail sectors, suggesting that, while it is possible to implement management best practices across these establishments in India, for some reason they are not being implemented.

Although this latest work cannot yet establish causality, a few initial policy implications arise:

- 1) **Product market competition:** much of the cross-country variation is due to the tail of badly managed establishments. We find that manufacturing, schools and retail establishments in India facing higher competition are better managed, suggesting that policies fostering greater competition should be encouraged.
- 2) **Labour market regulation:** countries which have higher labour regulation tend to have lower management scores. In general, less labour regulation from the government gives more room for establishments to implement optimal incentive structures for employees in terms of merit-based promotions as well as disciplining poor performers.
- 3) **Human capital:** firms with better educated managers tend to be better managed. Creating incentives for continuing education of managers as well as employees is a policy action point.

²⁰ Excluding themselves, of course.

- 4) **Information diffusion:** our research indicates that managers are often unaware that they are not following best practices. Policies aimed at the diffusion of information regarding best practices in management across sectors can be the first step towards improving management practices.

If we accept the link between firm management and productivity, these findings suggest that poor management practices could be a factor behind the lower levels of development of many countries. This is also an opportunity for policy development: many improvements in management practices can be effected with relatively low capital investment, which is particularly important in middle-income economies. Understanding the drivers of better management in establishments is a fruitful area for policy development.

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Appendix A: Management Practices across Sectors

Practices	Manufacturing	Retail	Hospital	Education
Operations Management & Performance Monitoring				
<u>Introducing Modern Techniques</u> : Tests how well modern management techniques have been introduced	Yes	Yes	Yes	
<u>Rationale for Introducing Modern Techniques</u> : Tests the motivation and impetus behind changes to operations and what change story was communicated	Yes	Yes	Yes	
<u>Standardization</u> : Tests how well procedures are standardised, aligned, applied and monitored systematically			Yes	Yes
<u>Good Use of Human Resources</u> : Tests whether staff are deployed to do what they are best qualified for, but nevertheless help out elsewhere when needed			Yes	
<u>Data Driven Planning and Student Transition</u> : Tests if schools use assessment to verify learning outcomes at critical stages, make data easily available and adapt student strategies accordingly				Yes
<u>Personalization of Instruction and Learning</u> : Tests for flexibility in teaching methods and student involvement ensuring all individuals can master the learning objectives				Yes
<u>Adopting Best Practices</u> : Tests how well the organization incorporates best practices and the sharing of these resources across the organization				Yes
<u>Process Documentation and Continuous Improvement</u> : Tests processes for and attitudes to continuous improvement and whether learnings are captured/ documented	Yes	Yes	Yes	Yes

<u>Performance Tracking</u> : Tests whether performance is tracked using meaningful metrics and with appropriate regularity	Yes	Yes	Yes	Yes
<u>Performance Review</u> : Tests whether performance is reviewed with appropriate frequency and communicated to staff	Yes	Yes	Yes	Yes
<u>Performance Dialogue</u> : Tests the quality of review conversations	Yes	Yes	Yes	Yes
<u>Consequence Management</u> : Tests whether differing levels of performance (not personal but plan/ process based) lead to different consequences	Yes	Yes	Yes	Yes
Target Setting				
<u>Types and Balance of Targets</u> : Tests whether targets cover a sufficiently broad set of metrics and whether financial and non-financial targets are balanced	Yes	Yes	Yes	Yes
<u>Interconnection of Targets</u> : Tests whether targets are tied the organization’s objectives and how well they cascade down the organisation	Yes	Yes	Yes	Yes
<u>Time Horizon of Targets</u> : Tests whether organization has a ‘3 horizons’ approach to planning and targets	Yes	Yes	Yes	Yes
<u>Target Stretch</u> : Tests whether targets are based on a solid rationale and are appropriately difficult to achieve	Yes	Yes	Yes	Yes
<u>Clarity and Comparability of Goals</u> : Tests how easily understandable performance measures are and whether performance is openly communicated to staff	Yes	Yes	Yes	Yes
Talent Management				
<u>Instilling a Talent Mindset/ Managing Talent</u> : Tests what emphasis is out on overall talent management within the organization	Yes	Yes	Yes	Yes
<u>Building a High-Performance Culture through Incentives and Appraisals</u> : Tests whether there is a systematic approach to identifying good and bad performers and rewarding them proportionately	Yes	Yes	Yes	Yes
<u>Removing Poor Performers/ Making Room for Talent</u> : Tests how well the organization is able to deal with underperformers	Yes	Yes	Yes	Yes
<u>Developing Talent and Promoting High-Performers</u> : Tests whether promotion is performance based and whether talent is developed	Yes	Yes	Yes	Yes

within the organization				
<u>Distinctive Employee Value Proposition</u> : Tests the strength of the employee value proposition	Yes	Yes	Yes	Yes
<u>Retaining Talent</u> : Tests whether the organization will go out of its way to keep its top talent	Yes	Yes	Yes	Yes

Note: Survey instruments with full set of questions asked available at www.worldmanagementsurvey.org

Appendix B: Survey Response Rates

As shown in table below, 38.58% of all eligible retail stores, 35.36% of all eligible hospitals, and 41.68% of all eligible schools we contacted took part in the survey: a high success rate given the voluntary nature of participation.

The reason for this high share of “establishment contacted” entries was the need for interviewers to keep a portfolio of firms who they cycle through when trying to set up interviews. Since interviewers only ran an average of 2 interviews a day the majority of their time was spent trying to contact managers to schedule future interviews. The ratio of successful interviews to rejections (ignoring ‘scheduling in progress’) is above 1 in every sector. Hence, managers typically agreed to the survey proposition when interviewers were able to connect with them.

The total number of interviews conducted is as follows: 233 in retail, 471 in hospitals, and 318 in schools. After cleaning the dataset, 211 retail interviews, 449 hospitals interviews, and 316 school interviews remained for analysis.

Response	Retail			Hospitals			Schools		
	Total (#)	All (%)	Eligible (%)	Total (#)	All (%)	Eligible (%)	Total (#)	All (%)	Eligible (%)
1) Interviews conducted	233	11.48	38.58	471	12.1	35.36	318	34.3	41.68
2) Establishment contacted	239	11.78	39.57	582	14.95	43.69	375	40.45	49.15
3) Manager refused	131	6.46	21.69	279	7.17	20.95	70	7.55	9.17
4) Establishment not eligible	1425	70.23	--	2560	65.78	--	164	17.69	--
5) Total	2028	99.95	99.83	3892	100	100	927	100	100

Appendix C: Sampling Frame Sources

Source Name	Web address	Summary
Retail Stores		
Retailers Association of India (RAI)	www.rai.net.in	This association provides a directory of all its 249 core members (with website, email and contact information for the headquarters) which comprise of approximately 95% of all formal retailers incorporated and/or registered in India (this list does not contain real estate companies which are classified by RAI as retailers).
FundoData	www.fundoodata.com	This business directory provides contact information for 405 top retailers in India.
Bureau Van Dijk Orbis		This company directory provides information on 359 retail companies operating in India.
Hospitals		
National Accreditation Board for Hospitals & Healthcare Providers (NABH)	www.nabh.co/main/hospitals/credited.asp www.nabh.co/main/hospitals/aplicants.asp	This association is a constituent board of Quality Council of India, set up to establish and operate accreditation programme for healthcare organisations. The first list contains the names, accreditation number and validity dates of all 118 accredited hospitals in India (as of March 21 st , this number has increased to 126). The second list contains the names, date and status of application of 440 accredited hospitals in India (as of March 21 st , this number has increased to 445).
Medicards.in	www.medicards.in	An online buyer's guide/directory for the India healthcare industry which collects visiting cards for professionals in the healthcare industry and updates the information online. The website provides information about products/ services, details about companies, dealers, hospitals, colleges, events, trade shows related to Indian healthcare industry. Its hospital directory contains 6,821 entries.
Hospital Khoj	www.hospitalkhoj.com	This is an online search engine for general as well as non-allopathy, women's hospital and specialist hospitals and clinics in India (the website is run by a private company). This site

		contains the name and contact info for 4,731 hospitals and clinics in India.
Cite HR	www.citehr.com/110771-all-india-hospitals-adresses-contact-nos.html	A community knowledge base for HR professionals. One of the members has published a list of 3,226 hospitals in India on the website.
Hospitals in India	www.hospitalsinindia.org	An online search engine for the best hospitals in India. It contains the name and contact info of 95 hospitals.
Schools		
District Information System for Education (DISE)	www.dise.in	The District Information System for Education provides detailed information on school name, location, category, management type, enrolment, numbers of classrooms and teachers for over 1.3 million recognised schools imparting elementary education across 635 districts spread over 35 States and Union Territories in India. Despite DISE's focus on primary and upper primary education, they also provide information for 94,501 schools offering secondary/higher secondary education as well as primary education. This database includes schools affiliated with State Boards as well as pan-India Boards (such as CBSE and ICSE, see below). This database, however, contains neither phone numbers nor any other contact information.
Central Board for Secondary Education	164.100.50.30/SchoolDir/userview.aspx	This directory provides detailed information for 12,367 schools (elementary, secondary, and higher secondary) affiliated with CBSE.
Indian Council of Secondary Education (ICSE)	www.cisce.org/	This directory provides detailed school name and contact information for 1,869 schools (elementary, secondary, and higher secondary) affiliated with the (ICSE)

Appendix D: Figures

Figure 1a

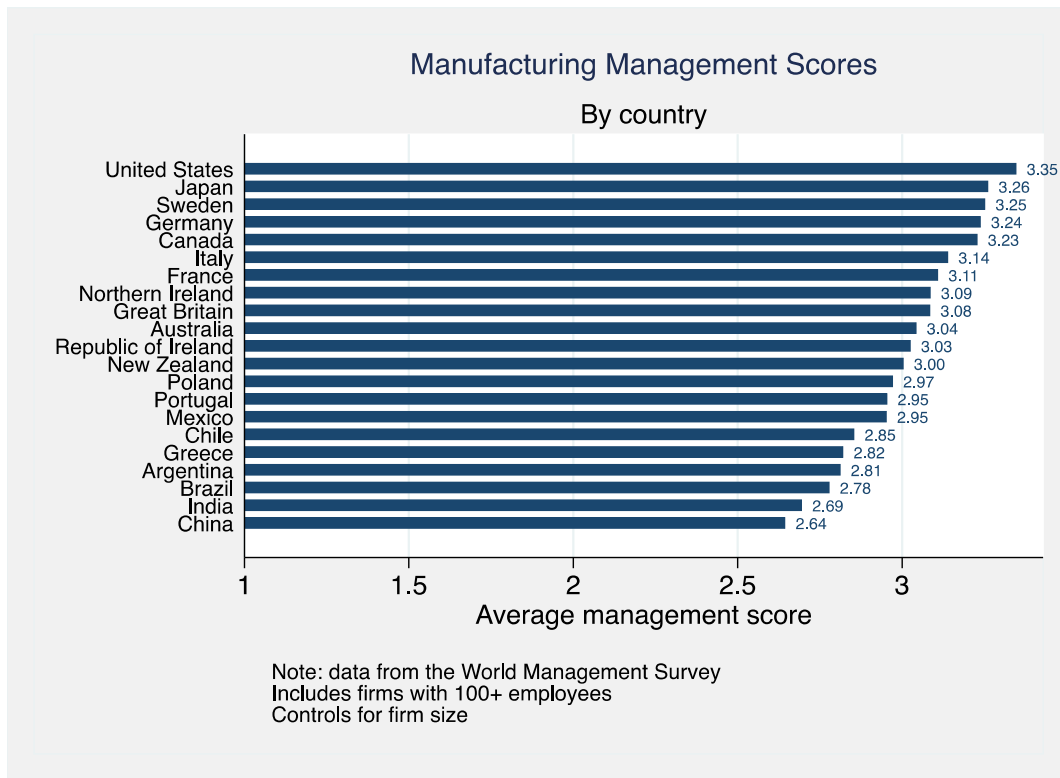


Figure 1b

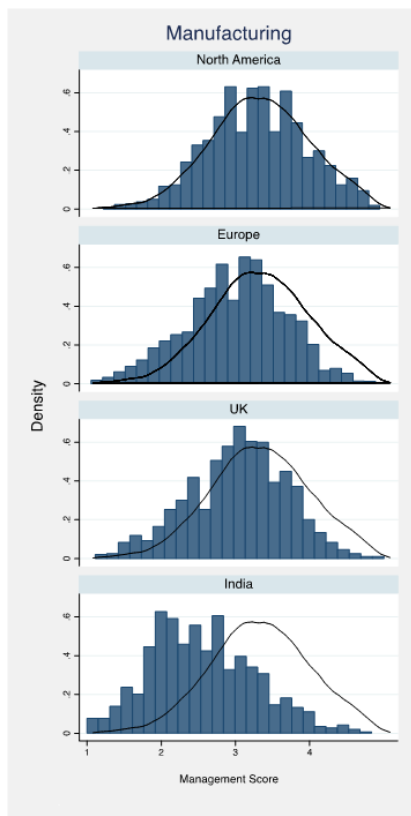


Figure 2

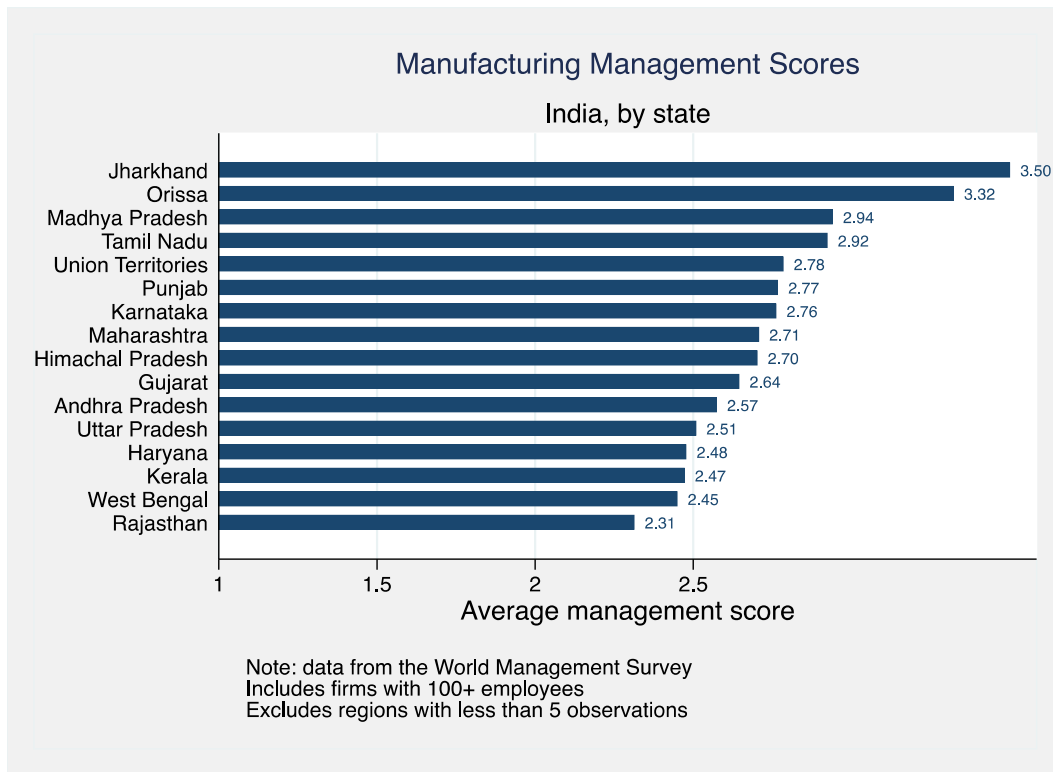


Figure 3

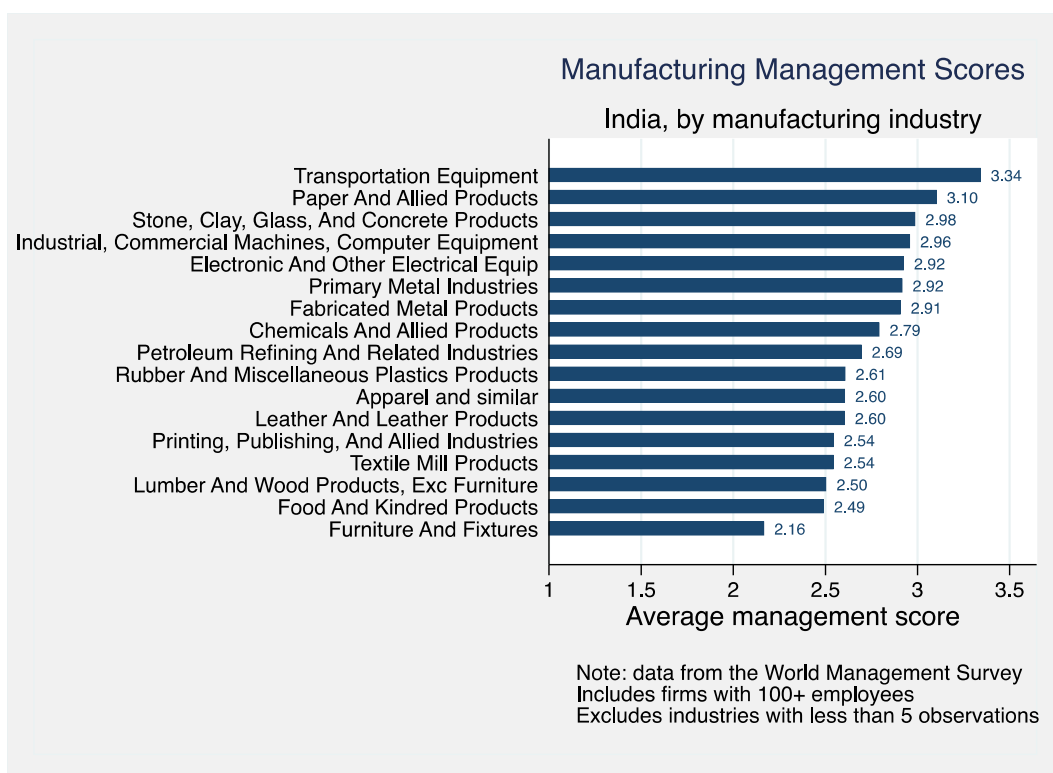


Figure 4a



Figure 4b

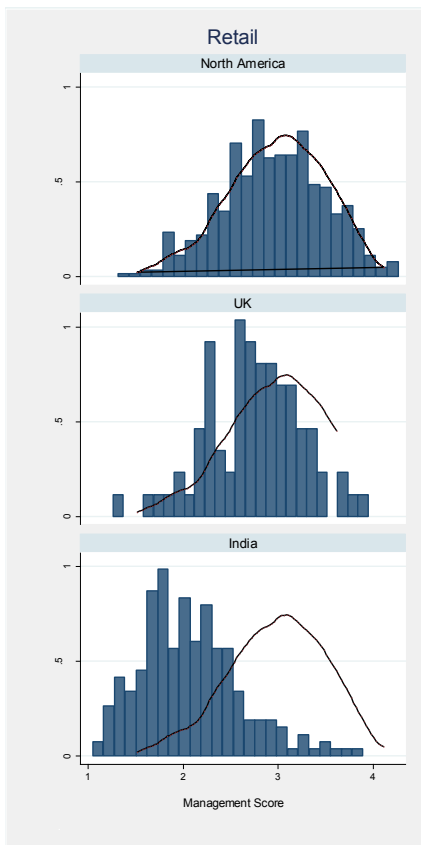
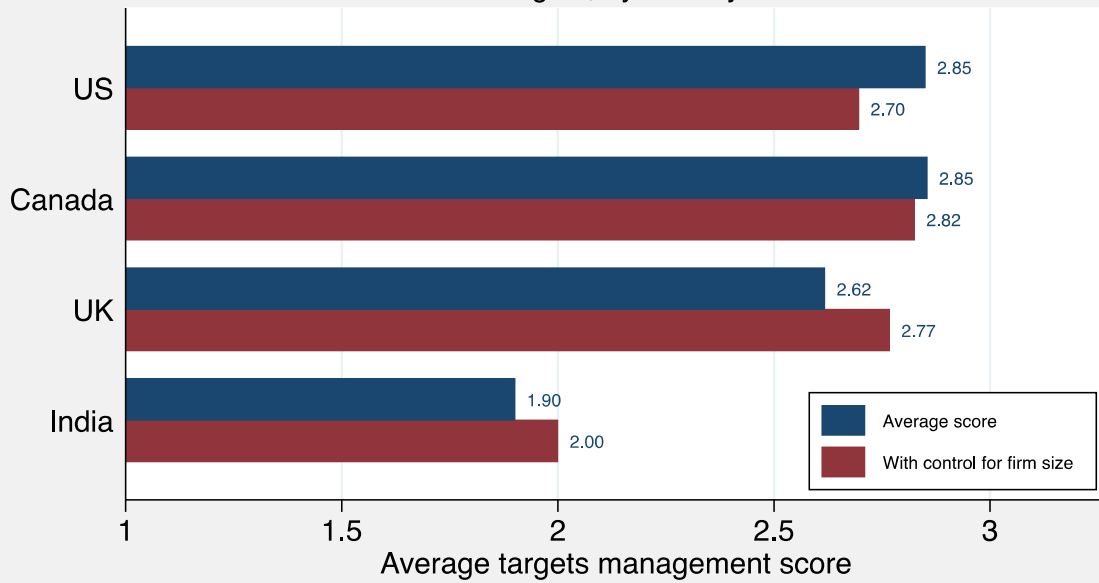


Figure 5



Retail Management Scores

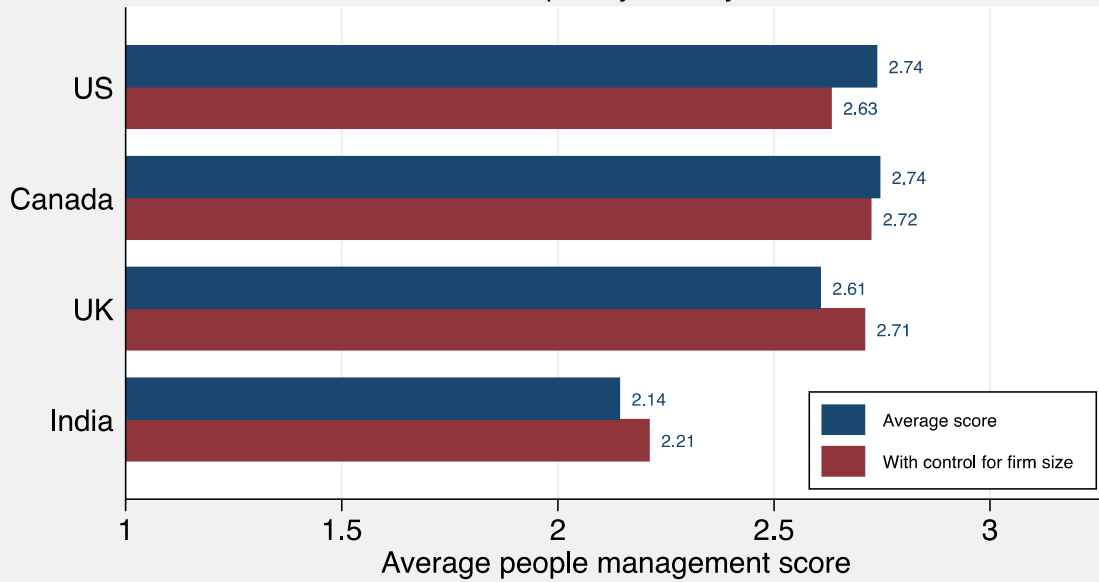
Targets, by country



Note: data from the World Management Survey
Includes stores with 10+ employees, firms with 100+ employees

Retail Management Scores

People, by country



Note: data from the World Management Survey
Includes stores with 10+ employees, firms with 100+ employees

Figure 6



Figure 7



Figure 8a

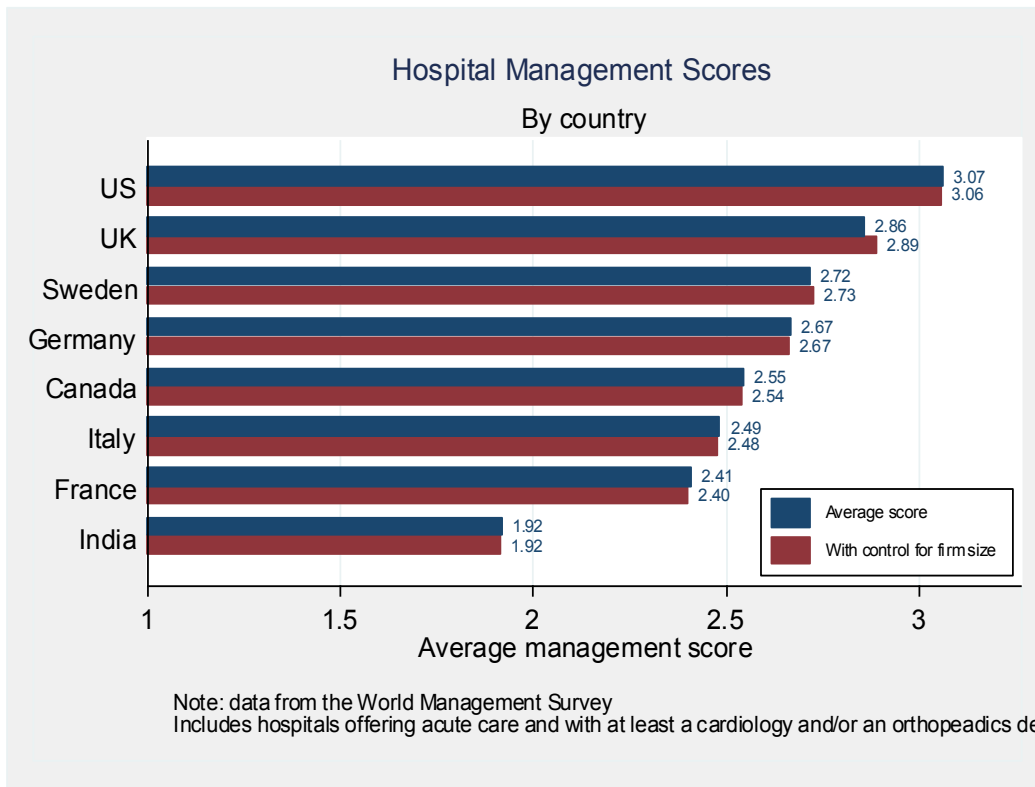


Figure 8b

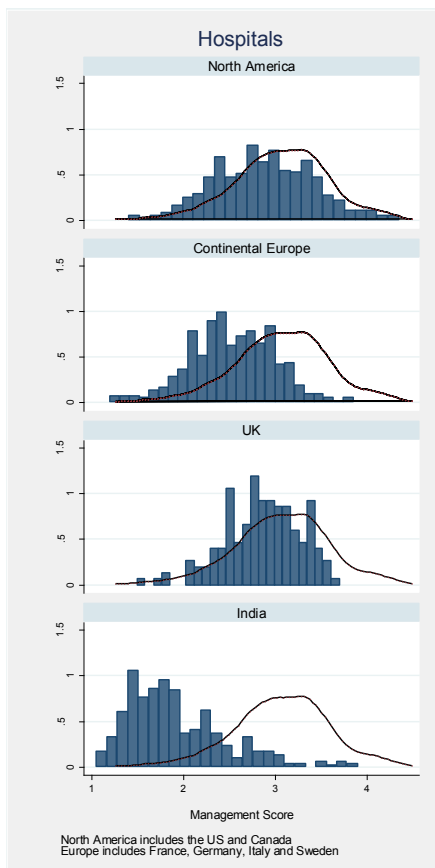
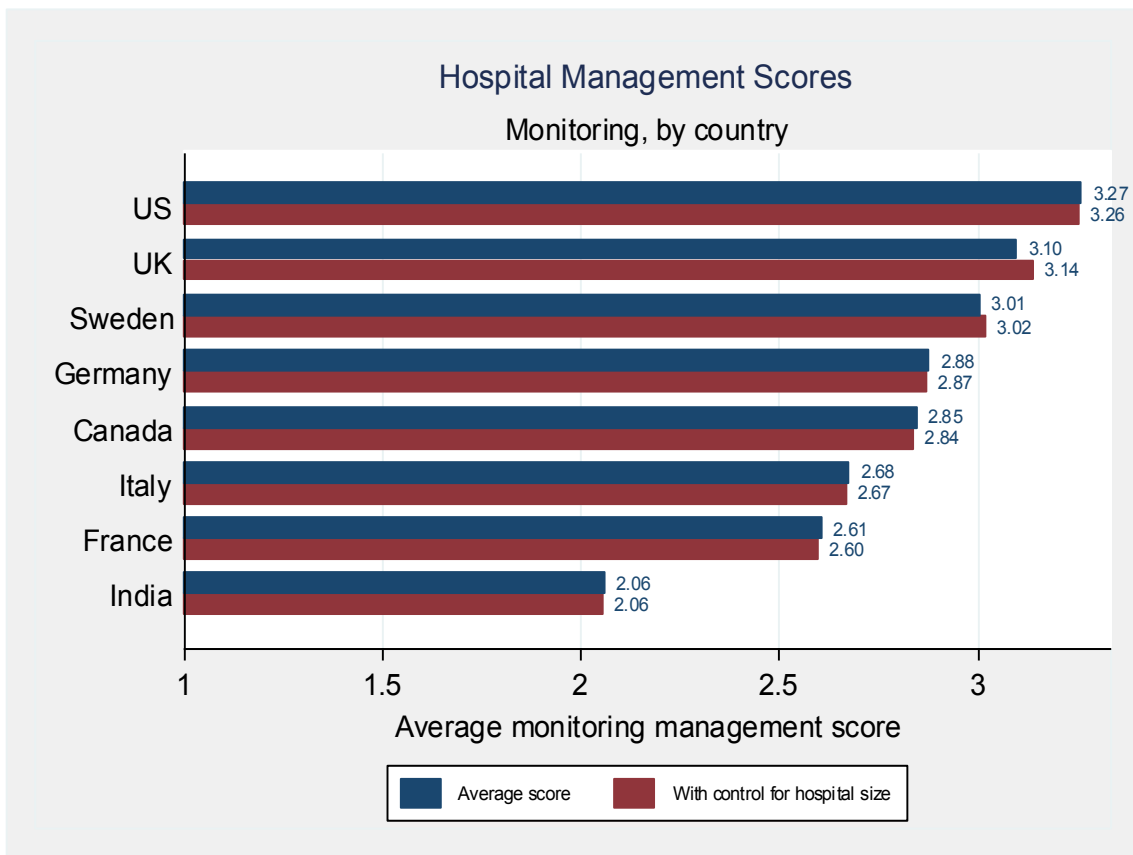
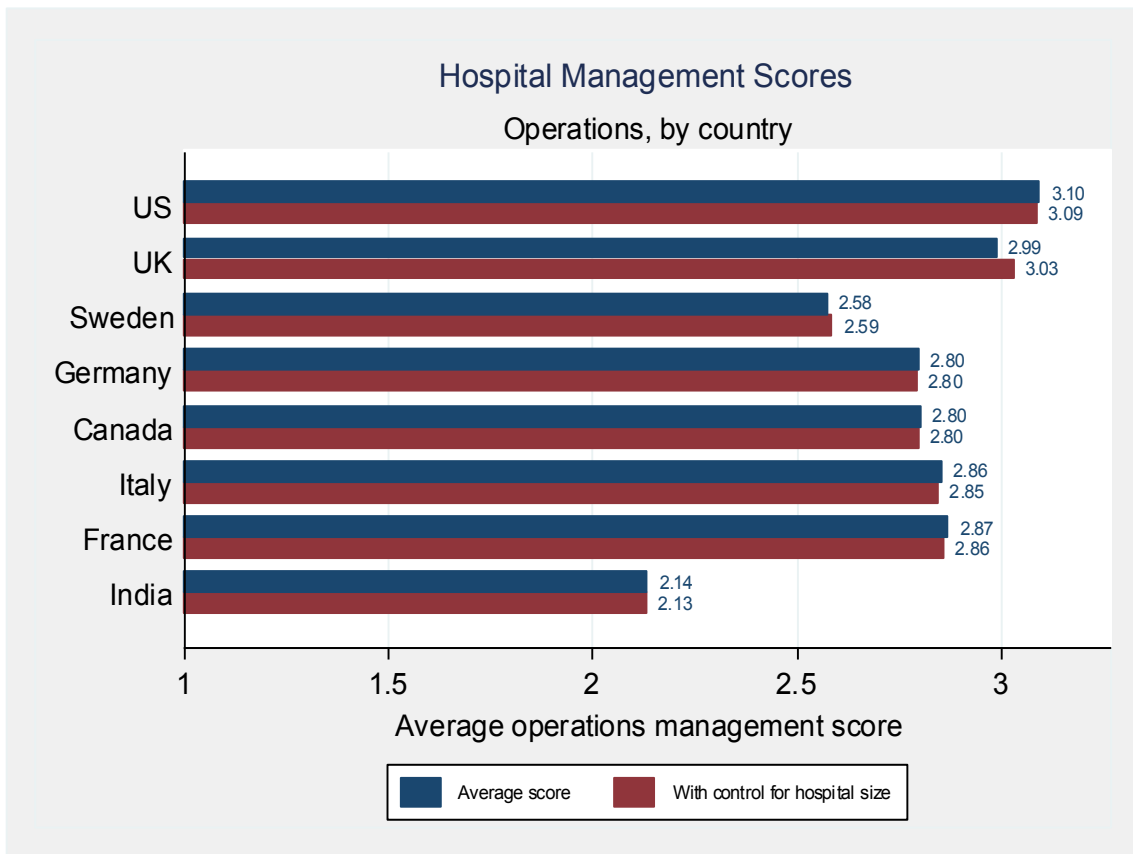


Figure 9



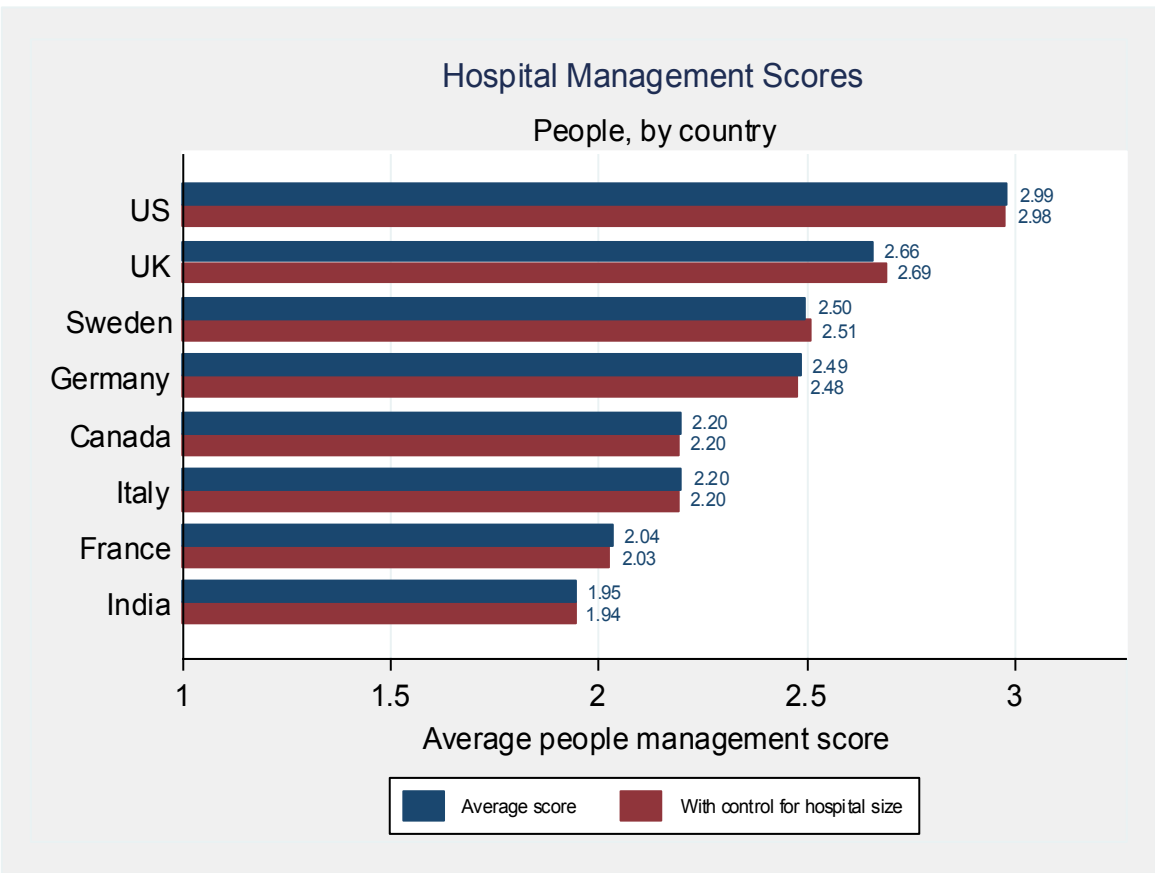
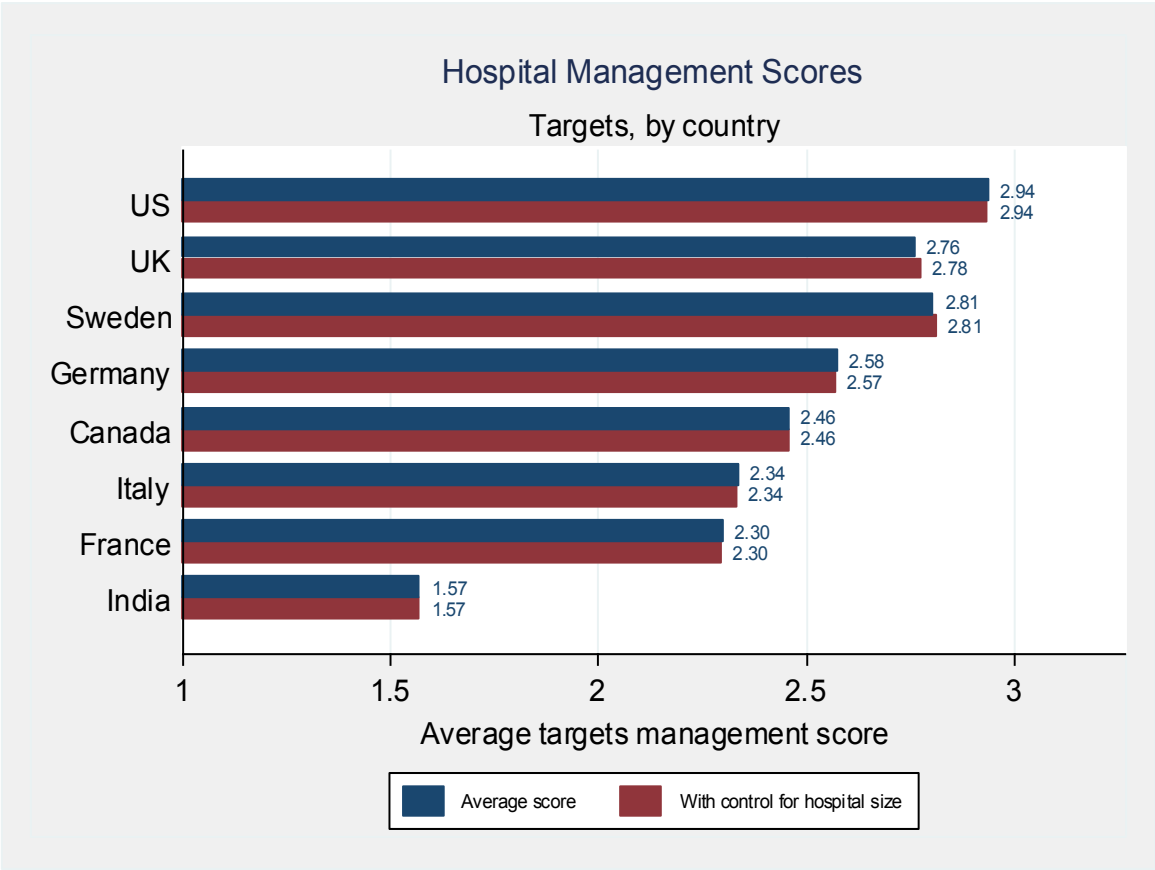


Figure 10

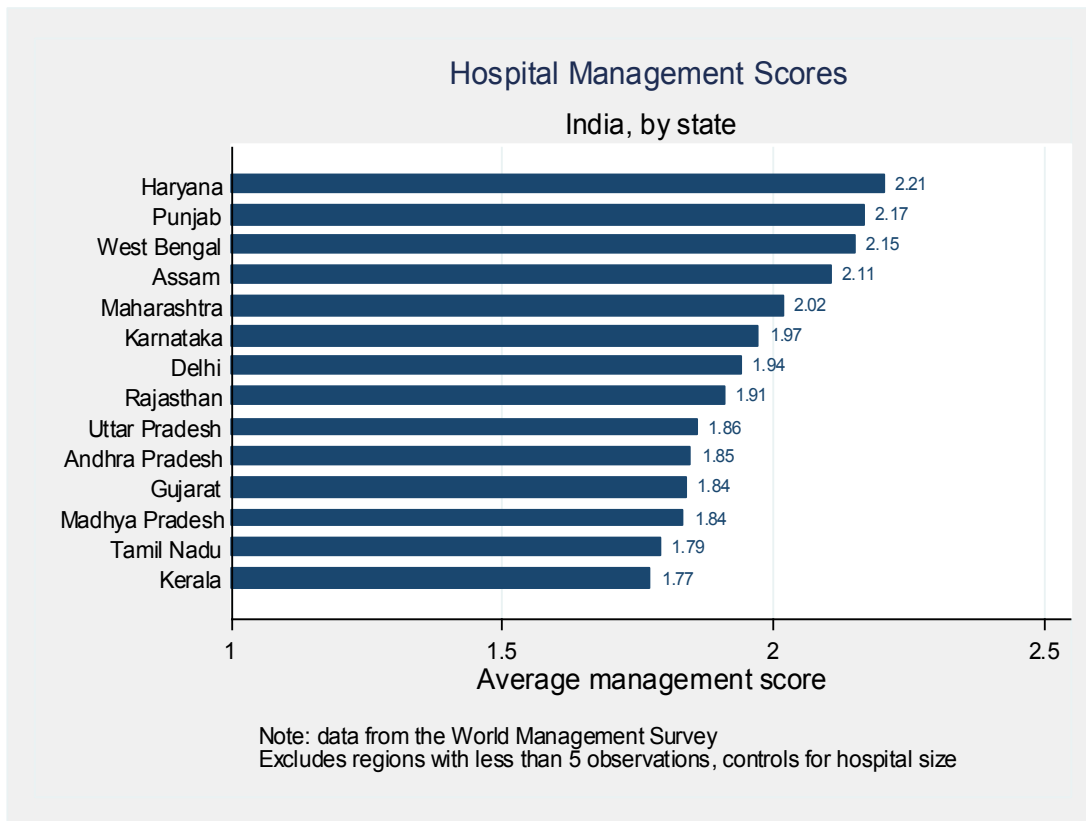


Figure 11a

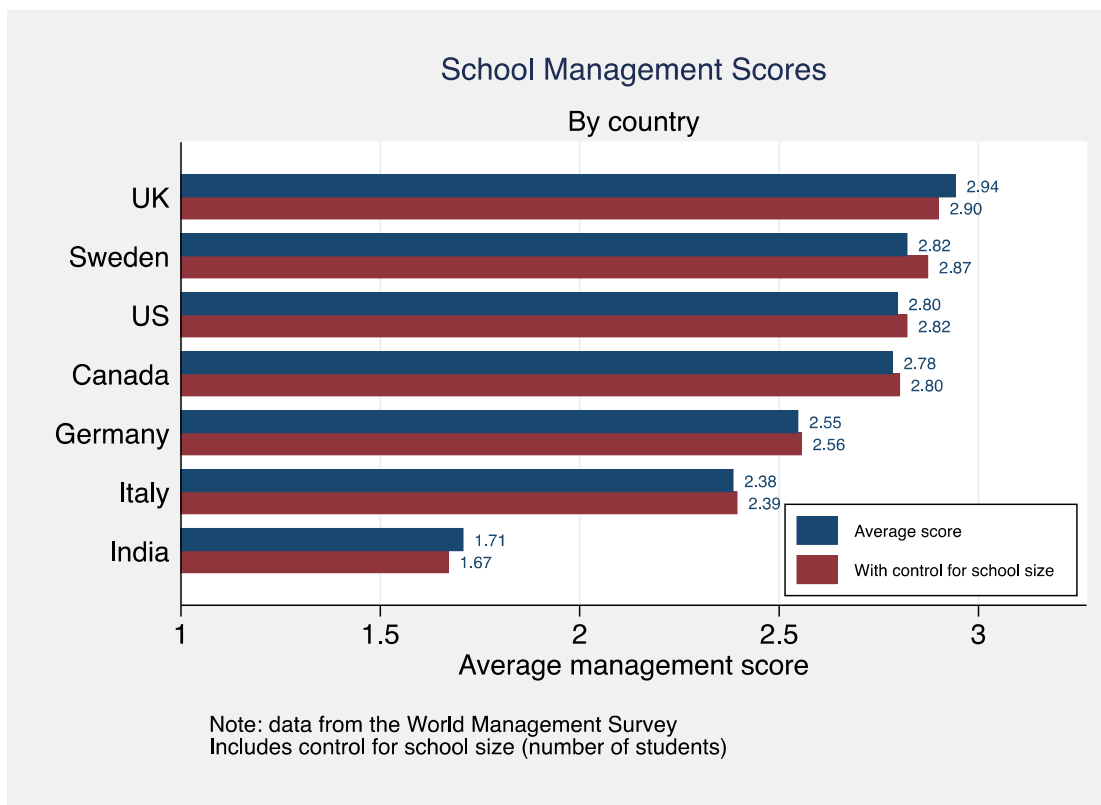


Figure 11b

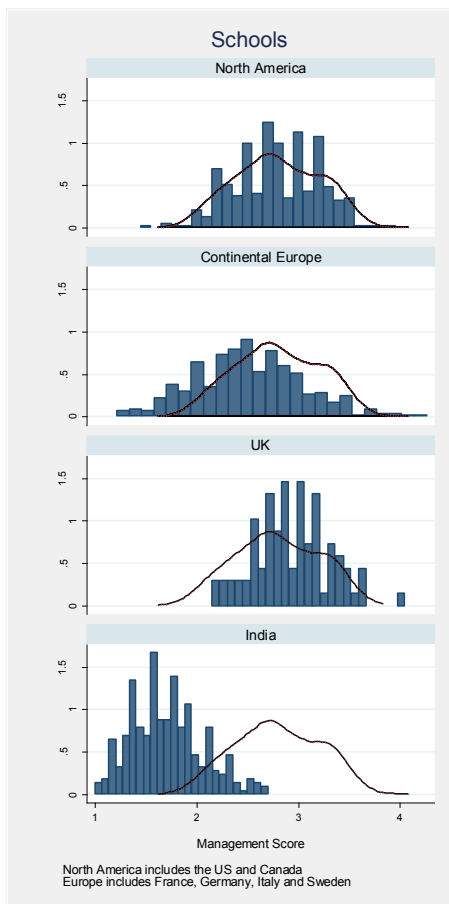
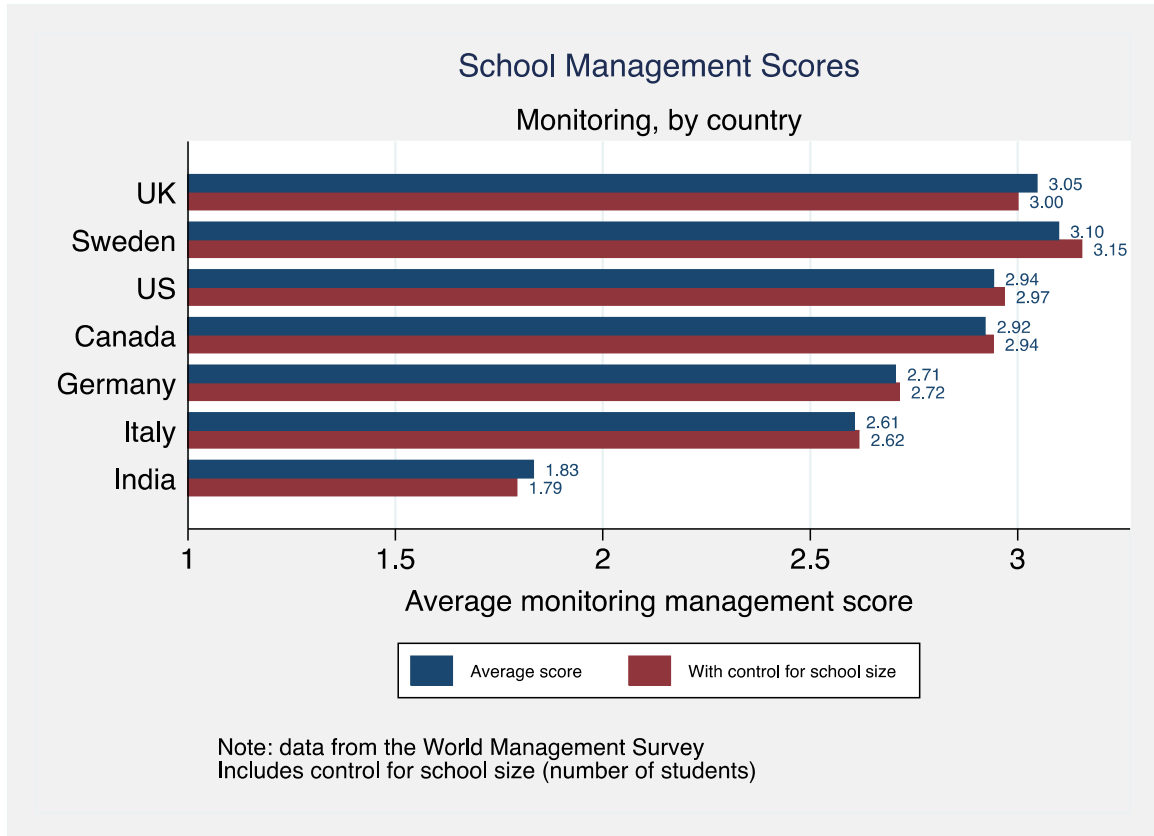
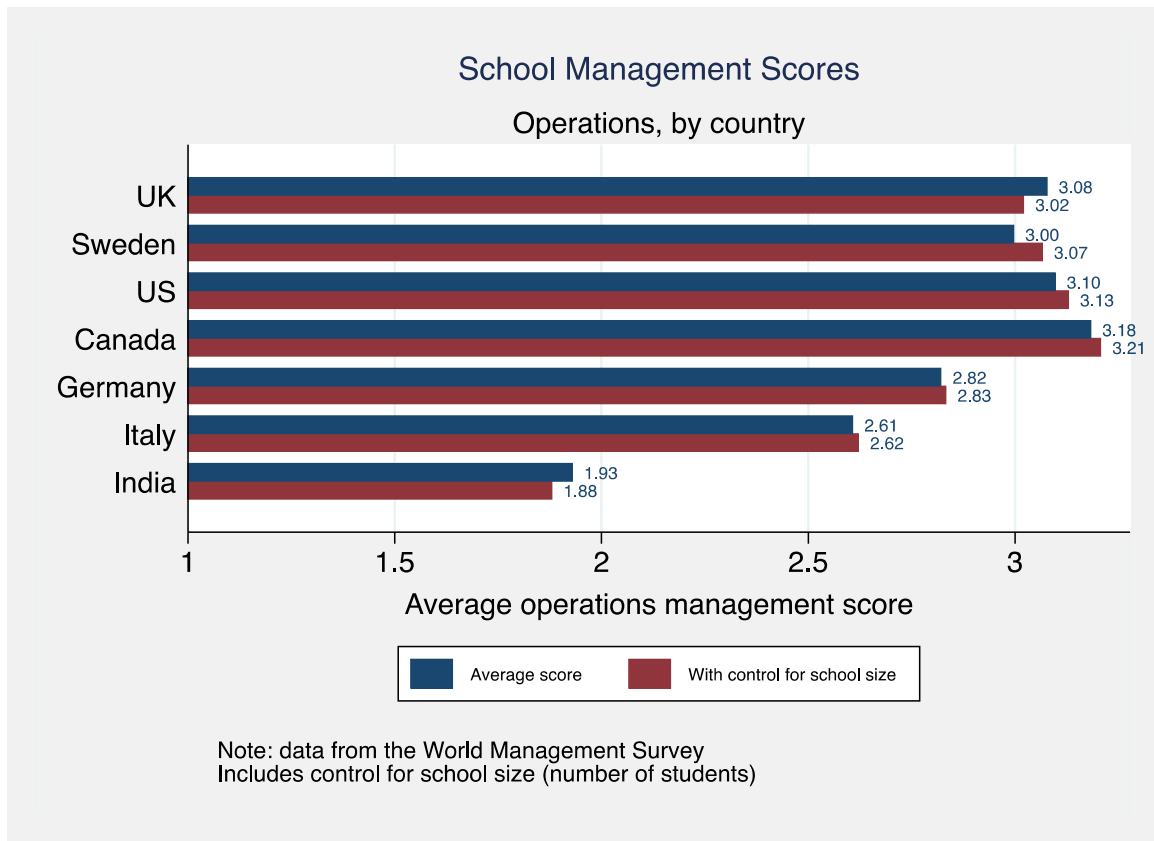


Figure 12



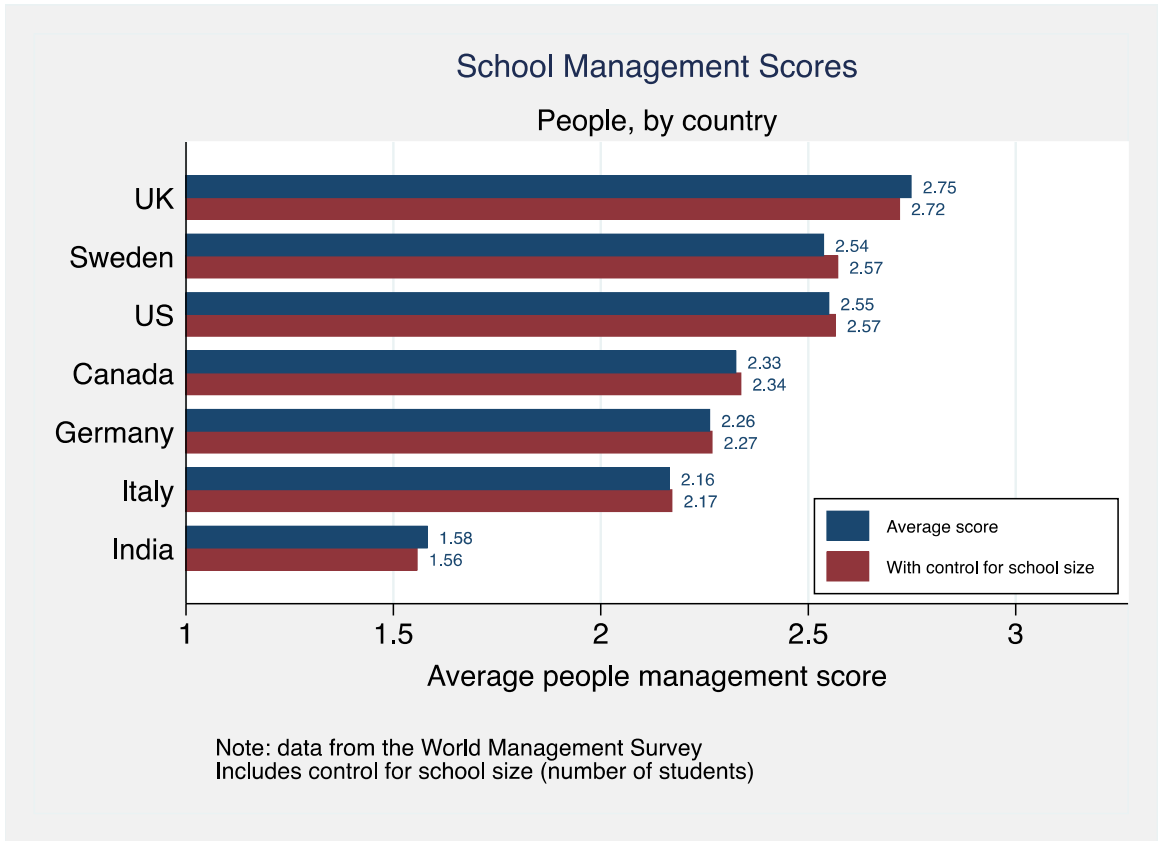
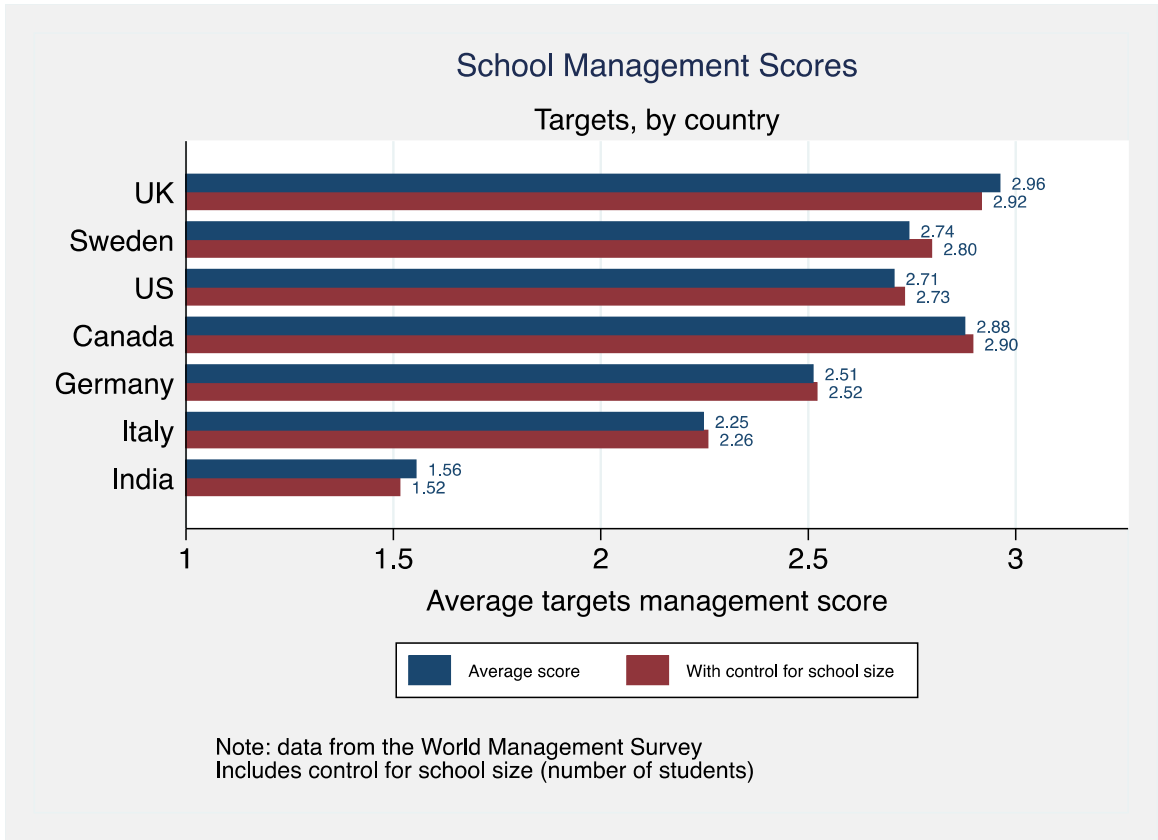


Figure 13

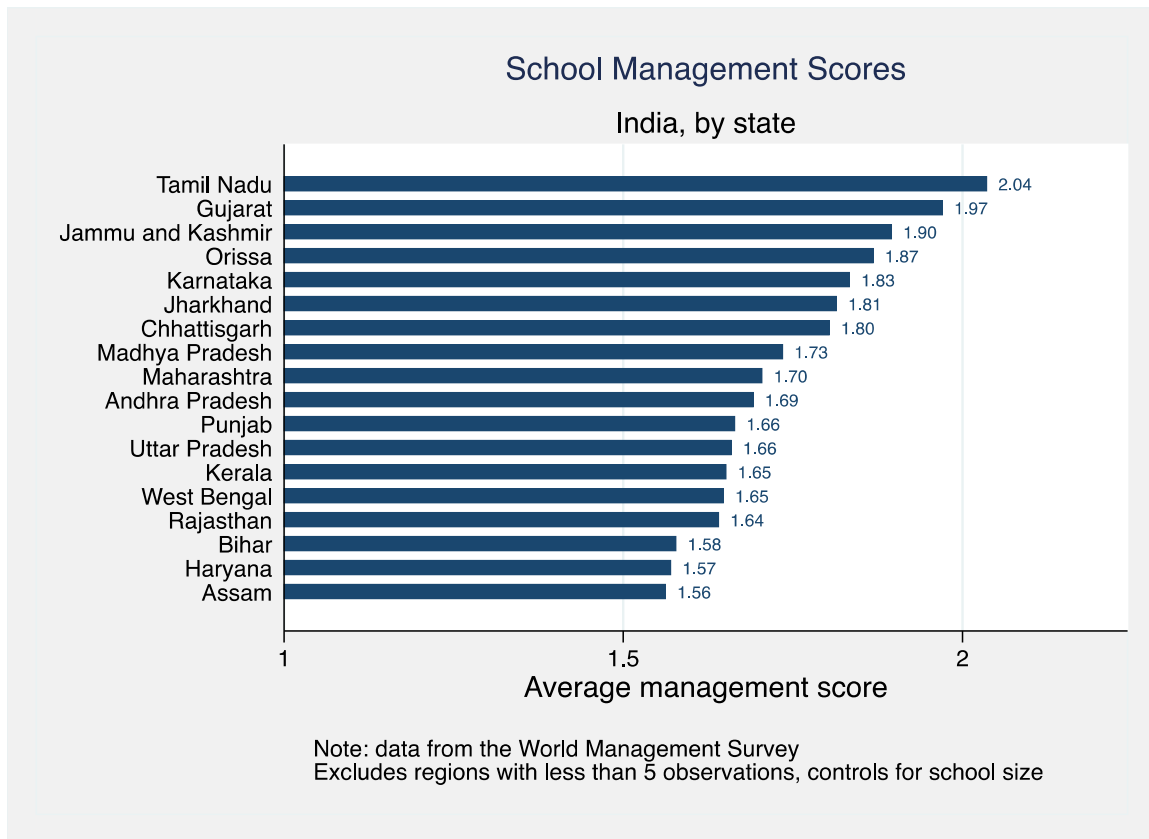


Figure 14

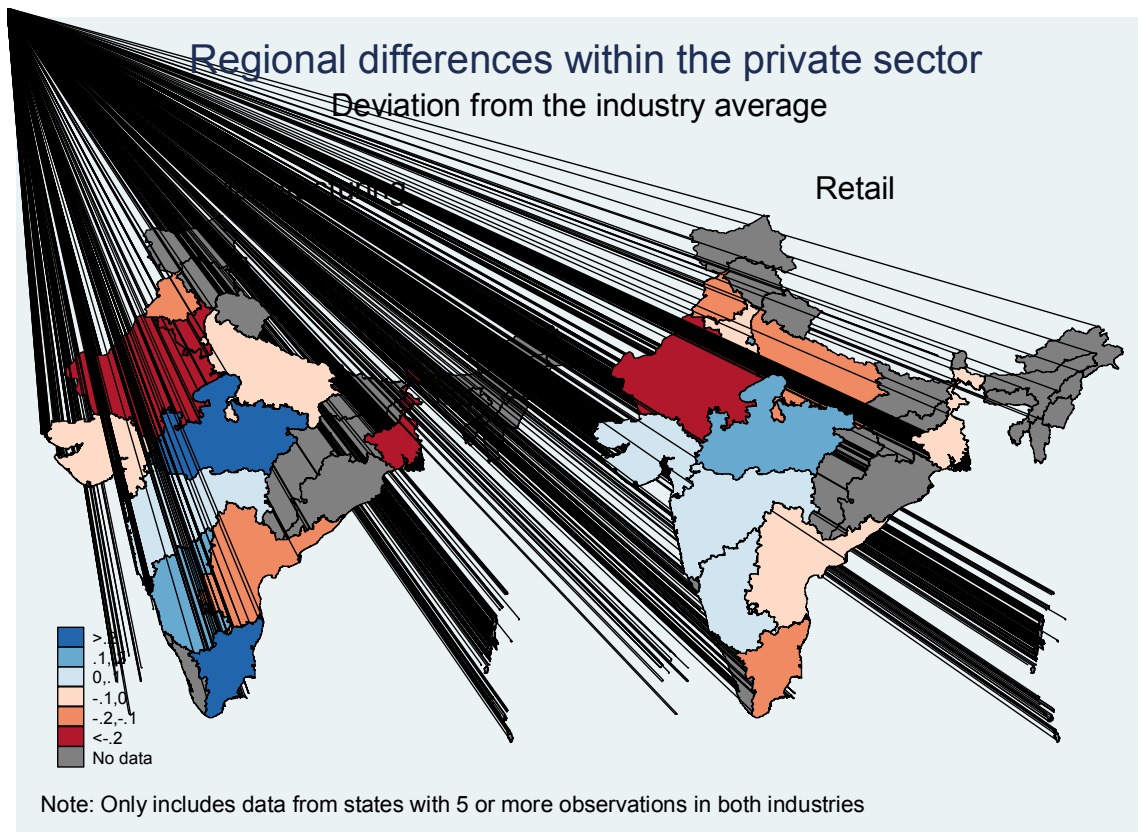


Figure 15

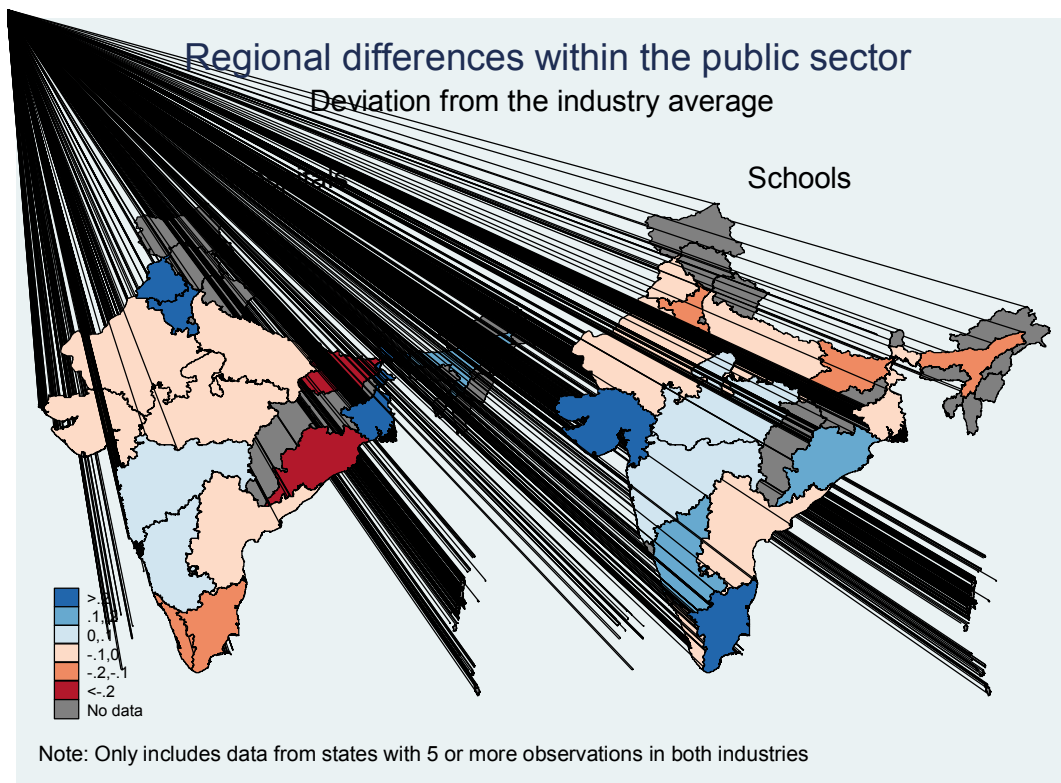


Figure 16

State	Per Capita Net State Domestic Product at Factor Cost at Constant Prices 2009-10 (Indian Rupees)	Human Development Index 2007 - 08	Lower or Higher than Industry's Average			
			Manufacturing	Retail	Hospital	School
Chandigarh	90,051	--	ND	ND	H	H
Delhi	89,037	0.750	L	H	H	L
Maharashtra	57,458	0.572	H	H	H	H
Haryana	55,214	0.552	L	L	H	L
Gujarat	49,030	0.527	L	H	L	H
Tamil Nadu	46,823	0.570	H	L	L	H
Kerala	46,511	0.790	ND	ND	L	L
Punjab	43,539	0.605	L	L	H	L
Karnataka	37,464	0.519	H	H	H	H
Andhra Pradesh	36,345	0.473	L	L	L	L
West Bengal	30,504	0.492	L	L	H	L
Orissa	24,098	0.362	ND	ND	L	H
Rajasthan	23,669	0.434	L	L	L	L
Assam	20,279	0.444	ND	ND	H	L
Madhya Pradesh	19,736	0.375	H	H	L	H
Uttar Pradesh	16,182	0.380	L	L	L	L
Bihar	11,558	0.367	ND	ND	L	L

Source: RBI Handbook of Statistics on Indian Economy and Economic Survey of India 2010-11; India Human Development Report 2011, IAMR and Planning Commission

Note: ND stands for “No Data”, L for “lower than average”, and H for “higher than average”

Figure 17

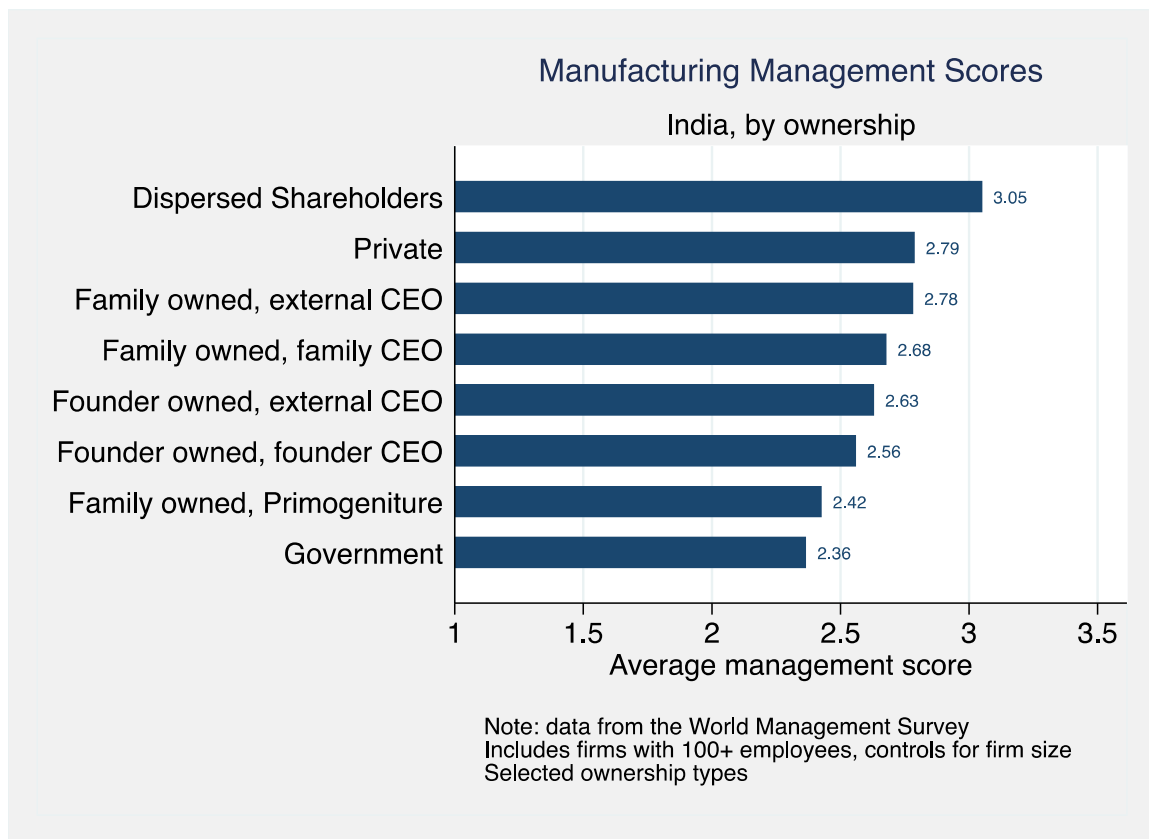


Figure 18

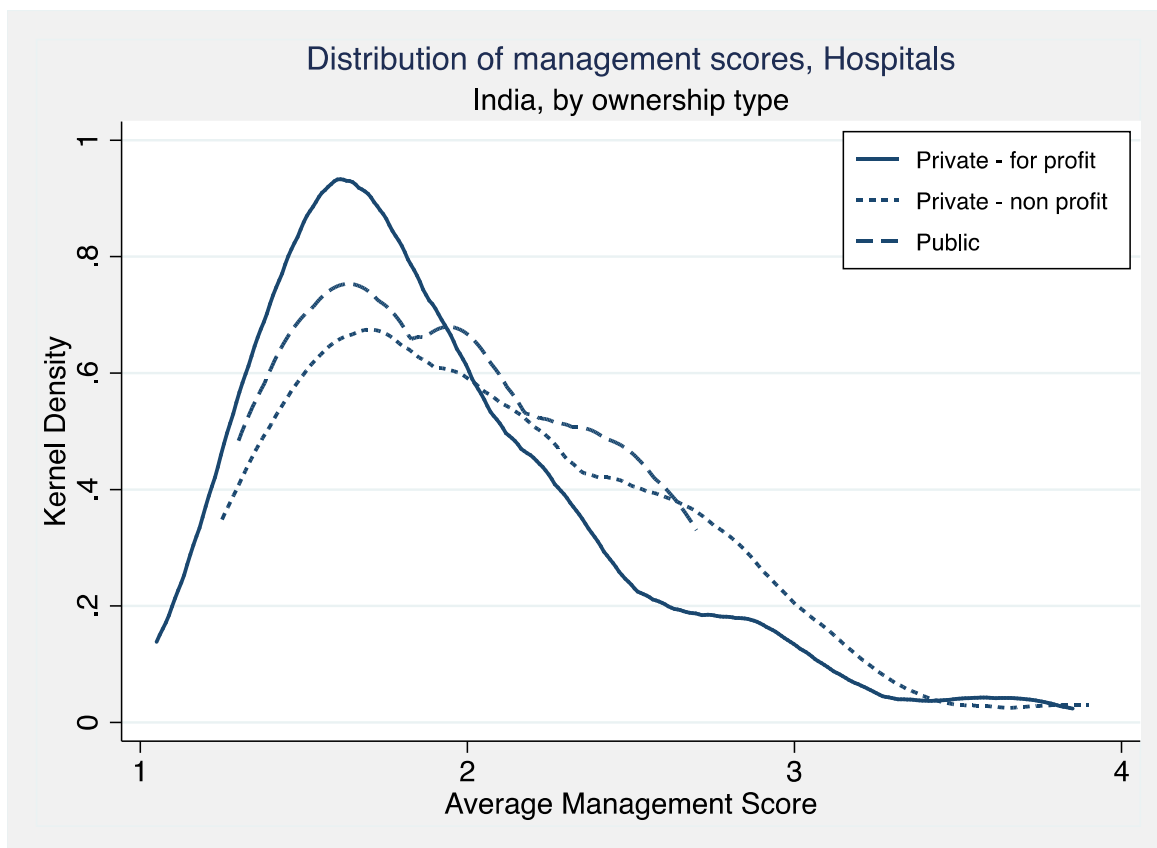
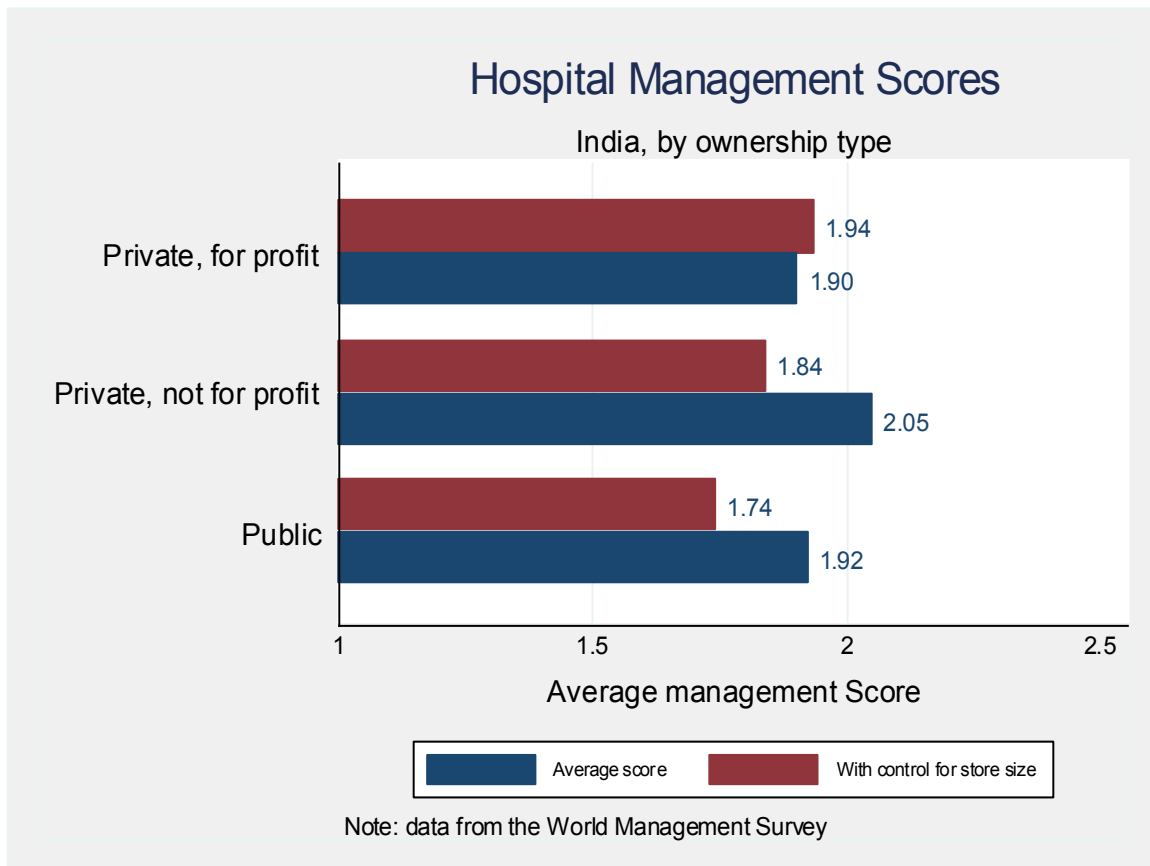


Figure 19

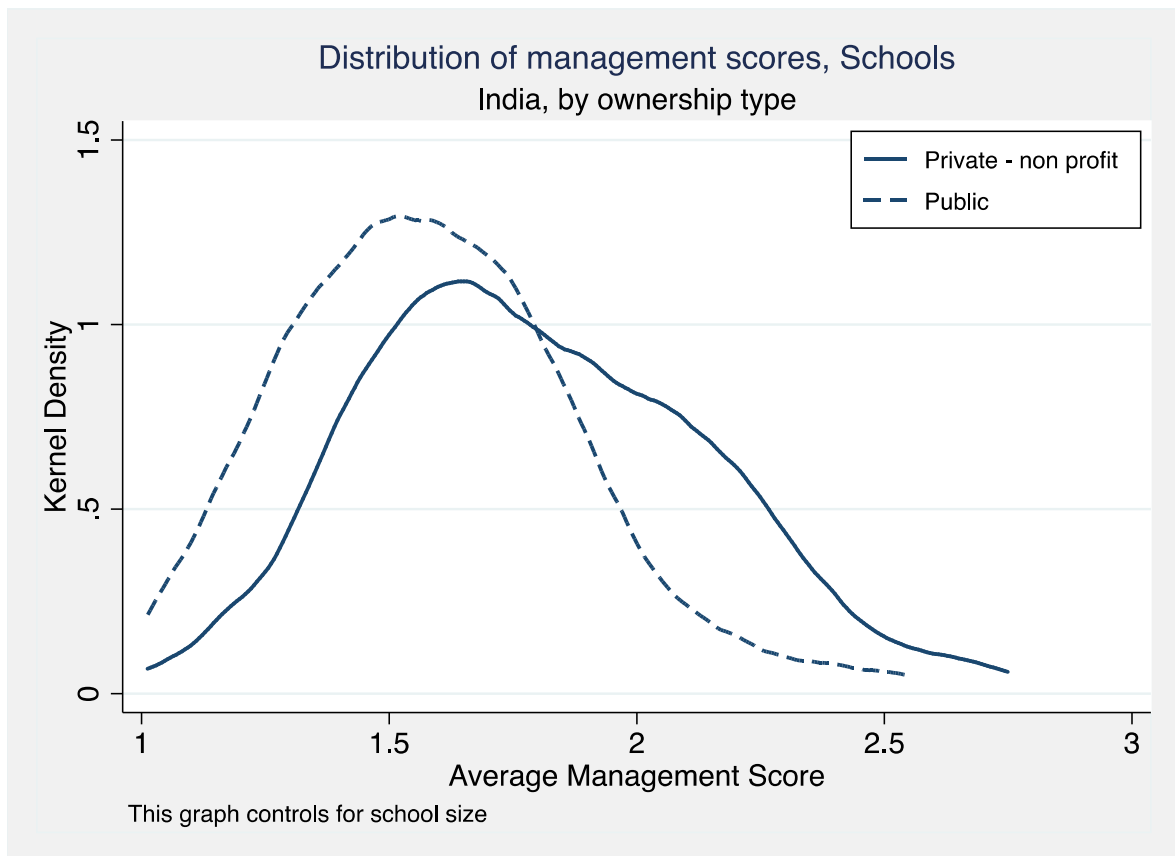
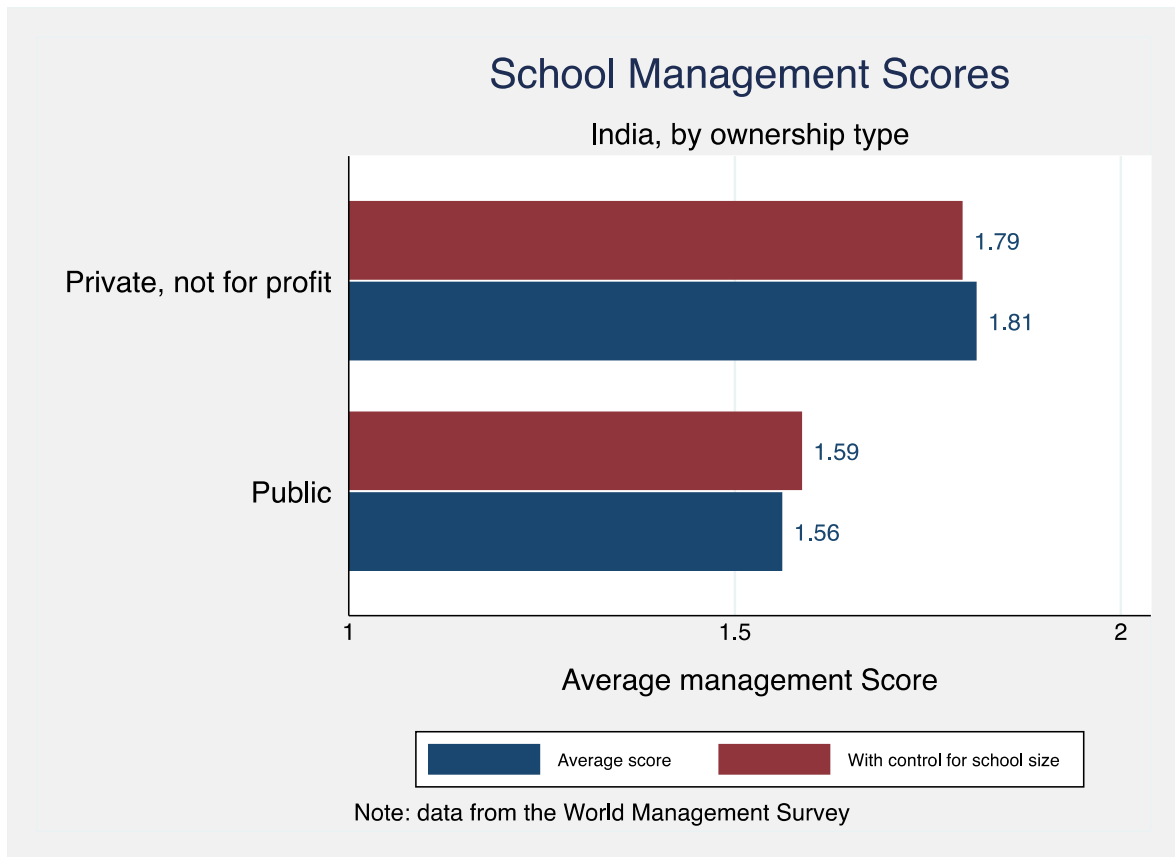


Figure 20

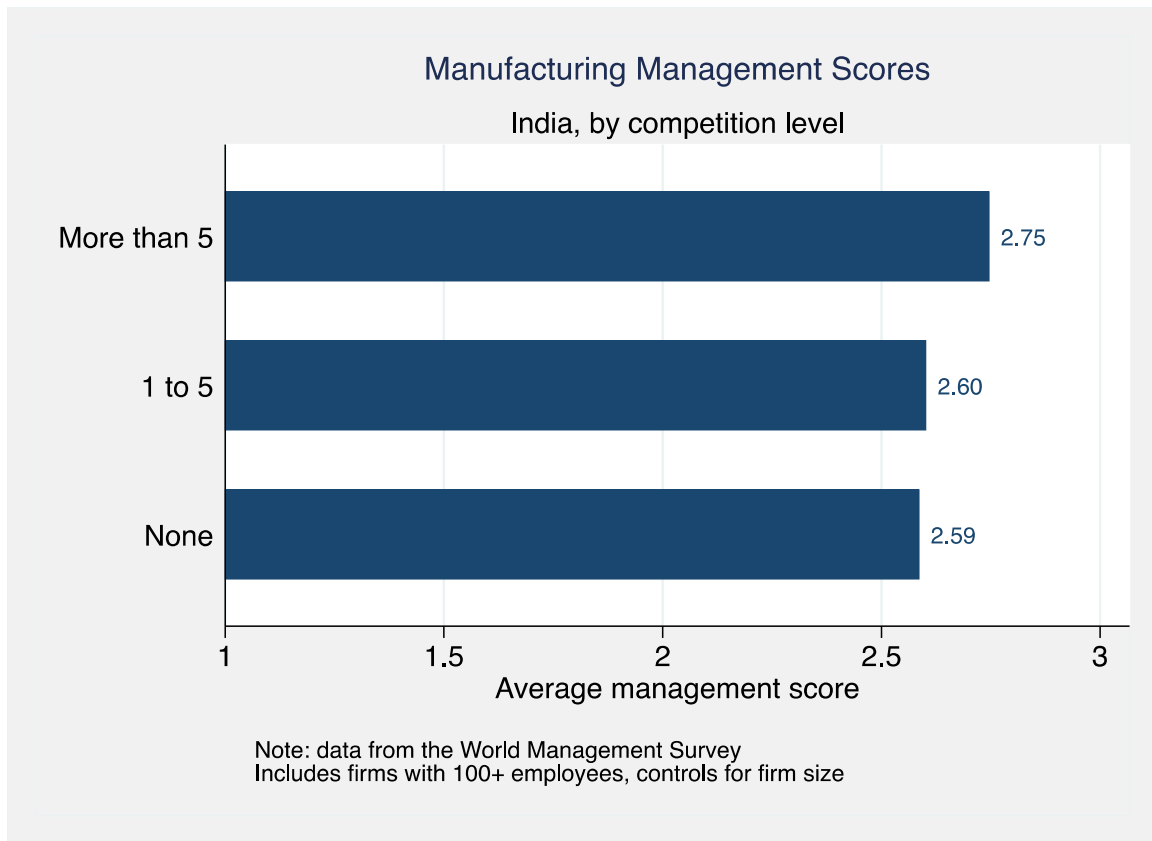


Figure 21

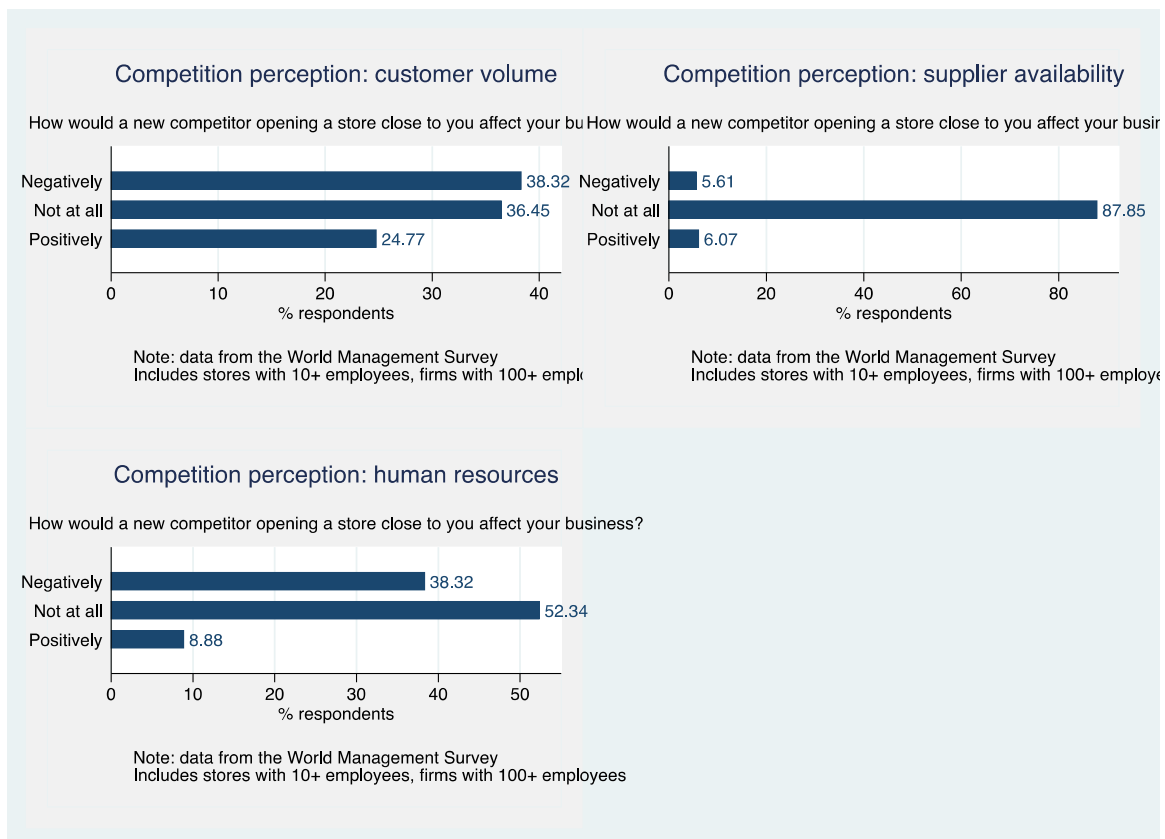


Figure 22

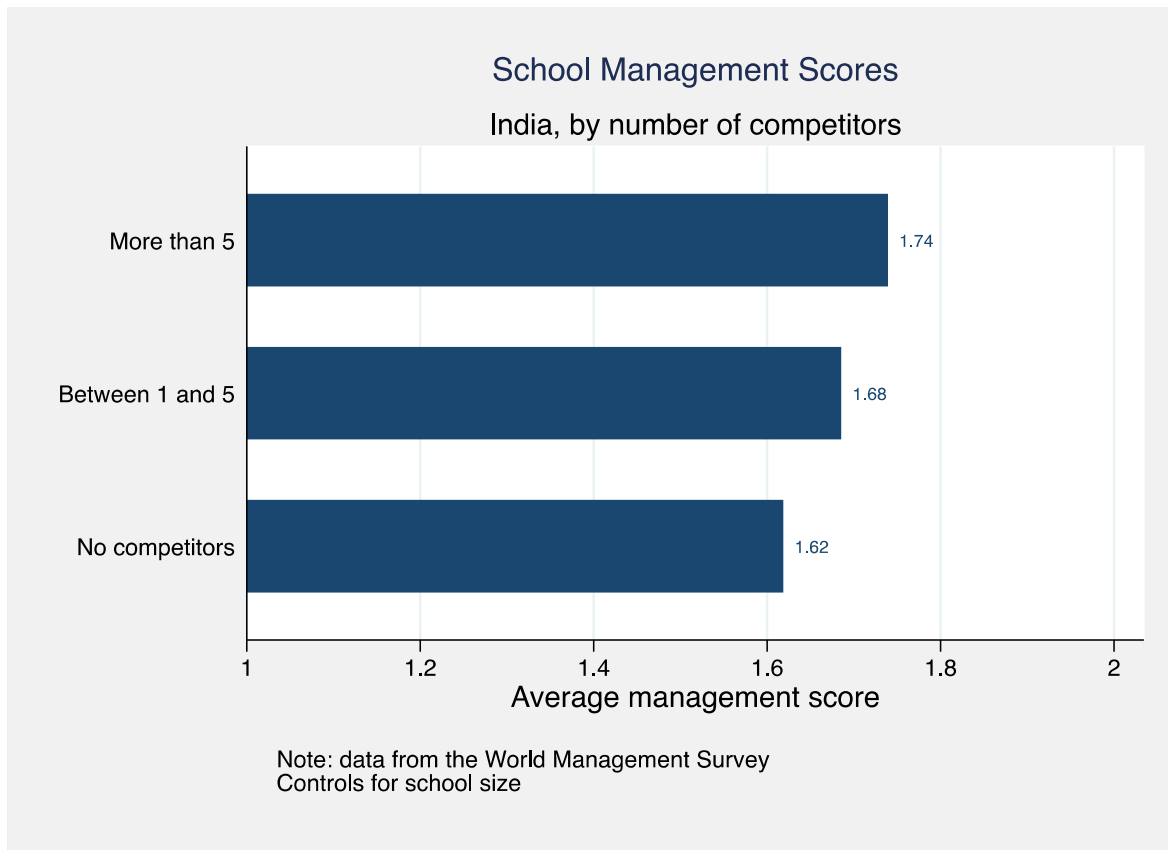


Figure 23

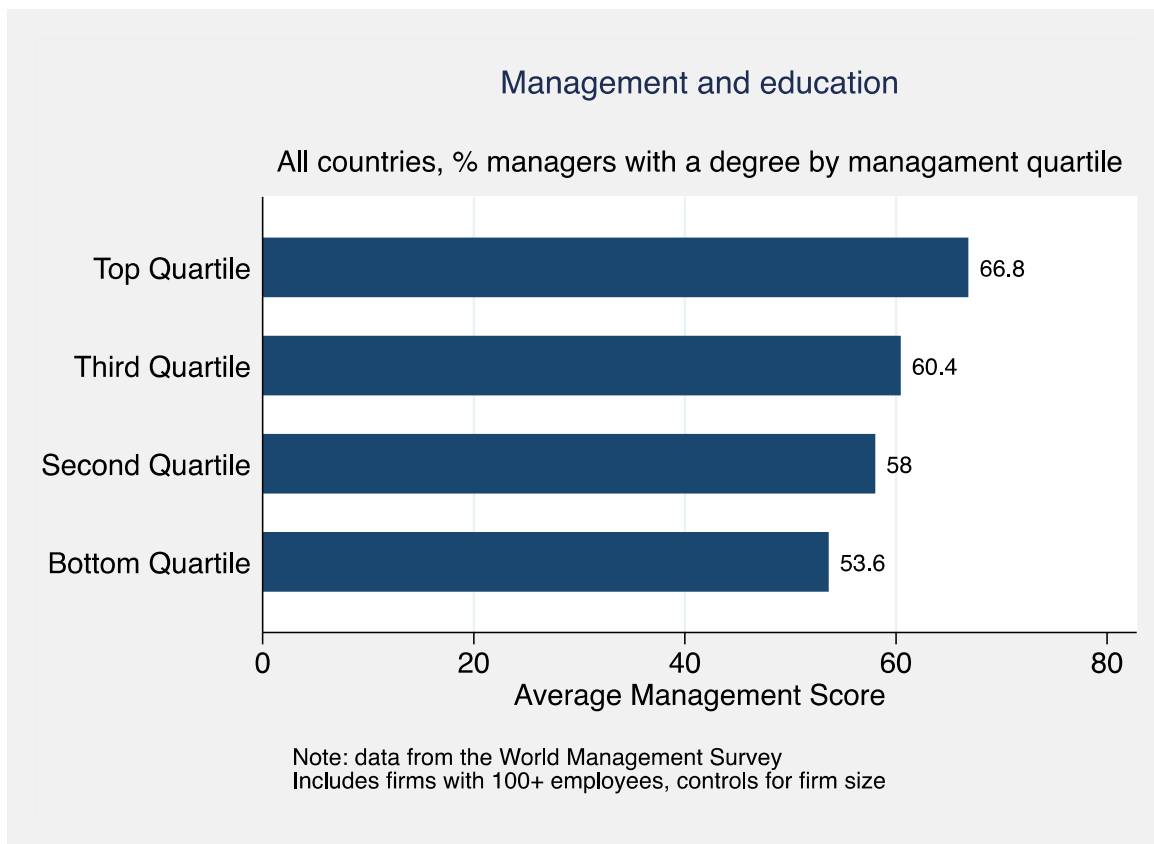


Figure 24

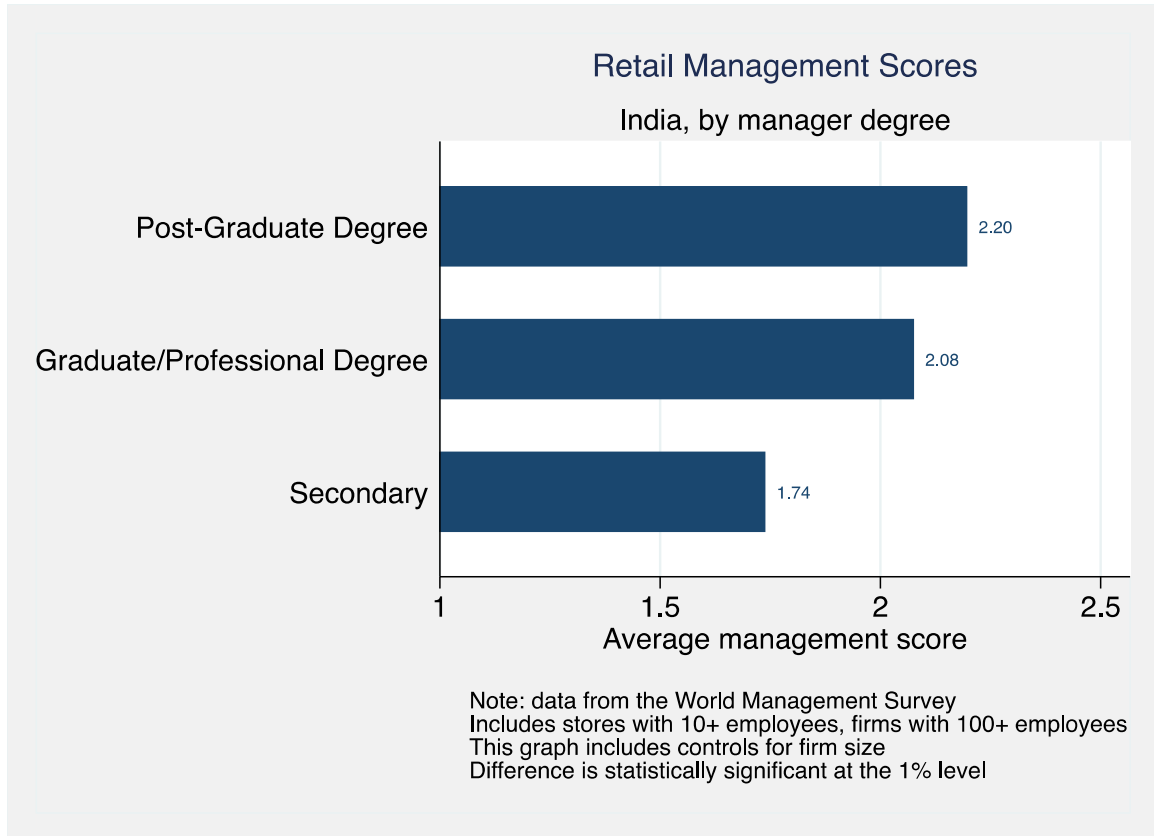


Figure 25

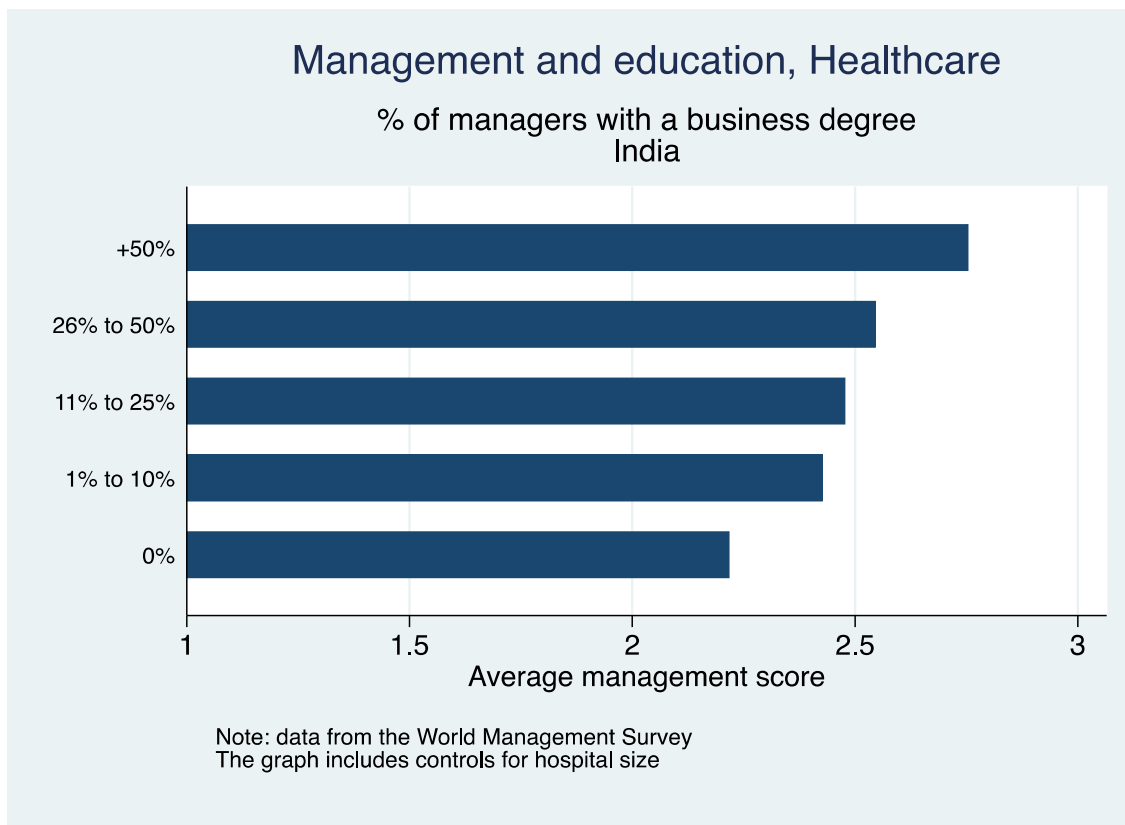
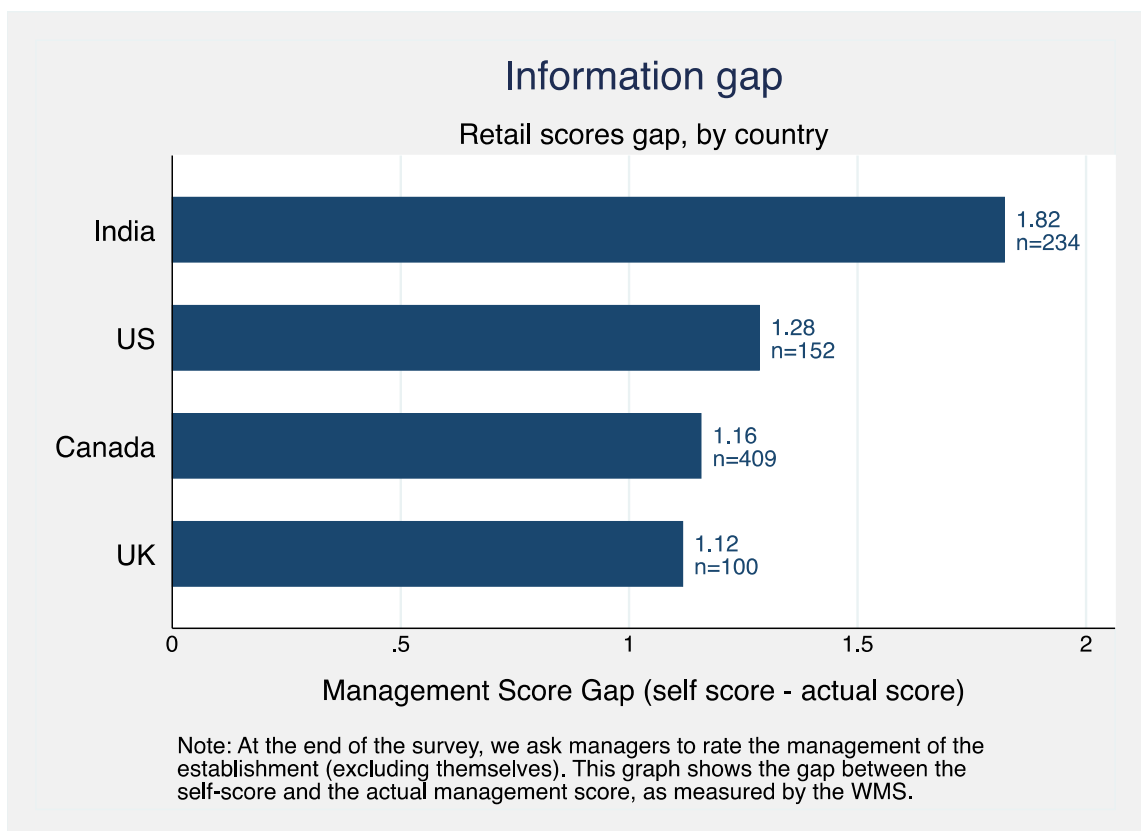
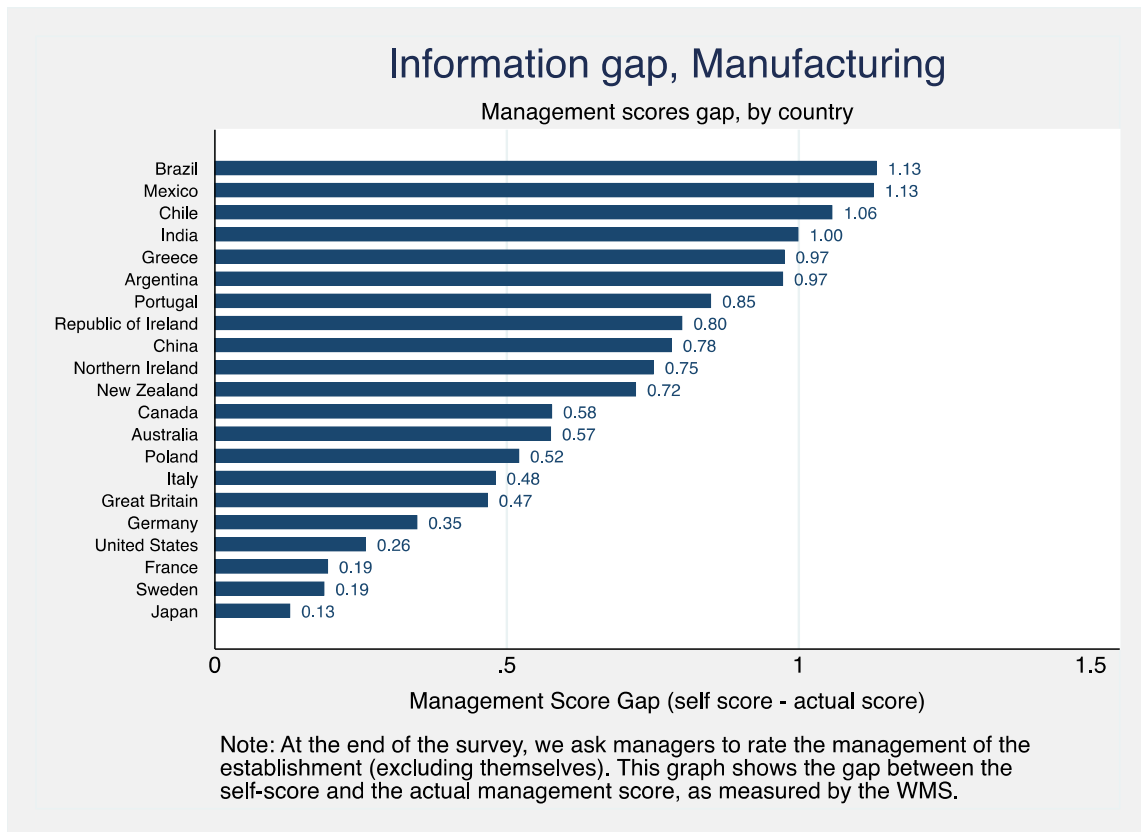
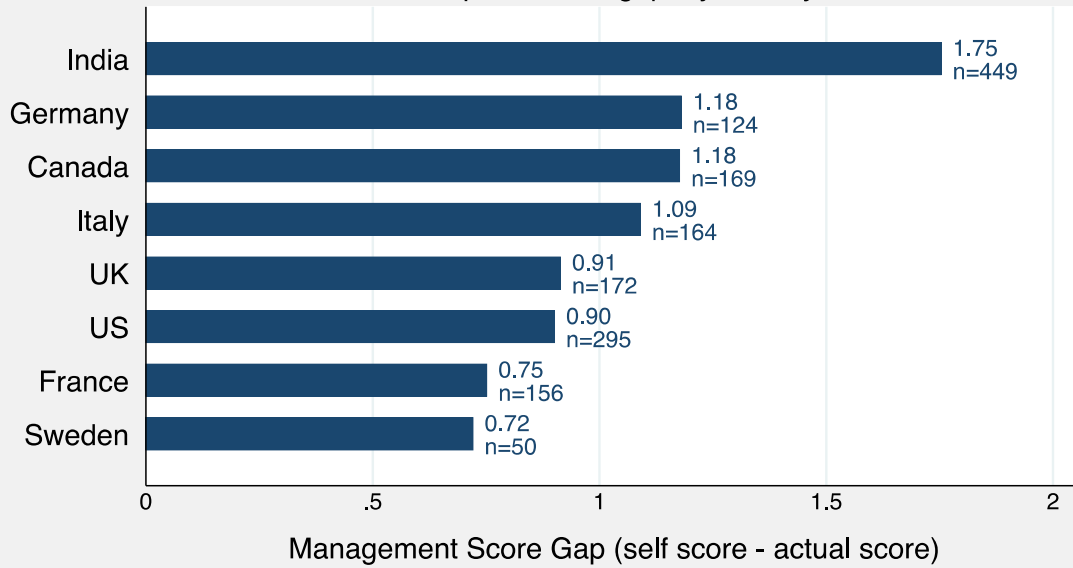


Figure 26



Information gap

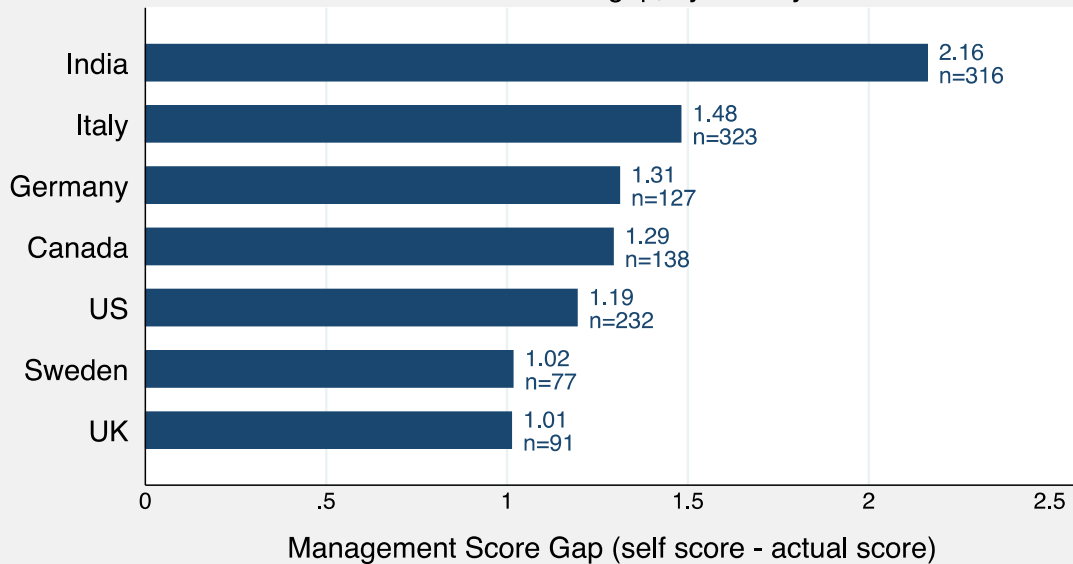
Hospital scores gap, by country



Note: At the end of the survey, we ask managers to rate the management of the establishment (excluding themselves). This graph shows the gap between the self-score and the actual management score, as measured by the WMS.

Information gap

School scores gap, by country



Note: At the end of the survey, we ask managers to rate the management of the establishment (excluding themselves). This graph shows the gap between the self-score and the actual management score, as measured by the WMS.

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