

Intangible Managerial Capital in Hospitals

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NIESR, SPINTAN

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World Management Survey (~10,000 firms, 5 major waves: 2004, 2006, 2009, 2013, 2014; 34 countries)

<http://worldmanagementsurvey.org/>



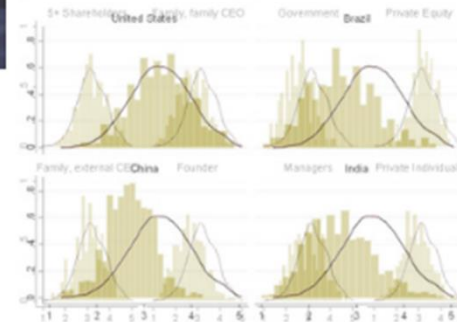
Home	Policy & Business Reports	Academic Research	Teaching Material	Survey Data	Media	Network
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Benchmark your manufacturing firm, hospital, school, or retail outlet against others in your country, industry or size class.

Benchmark your organization

Management scores across firms by ownership type. WMS team analyses the distribution of management practices within countries by type.

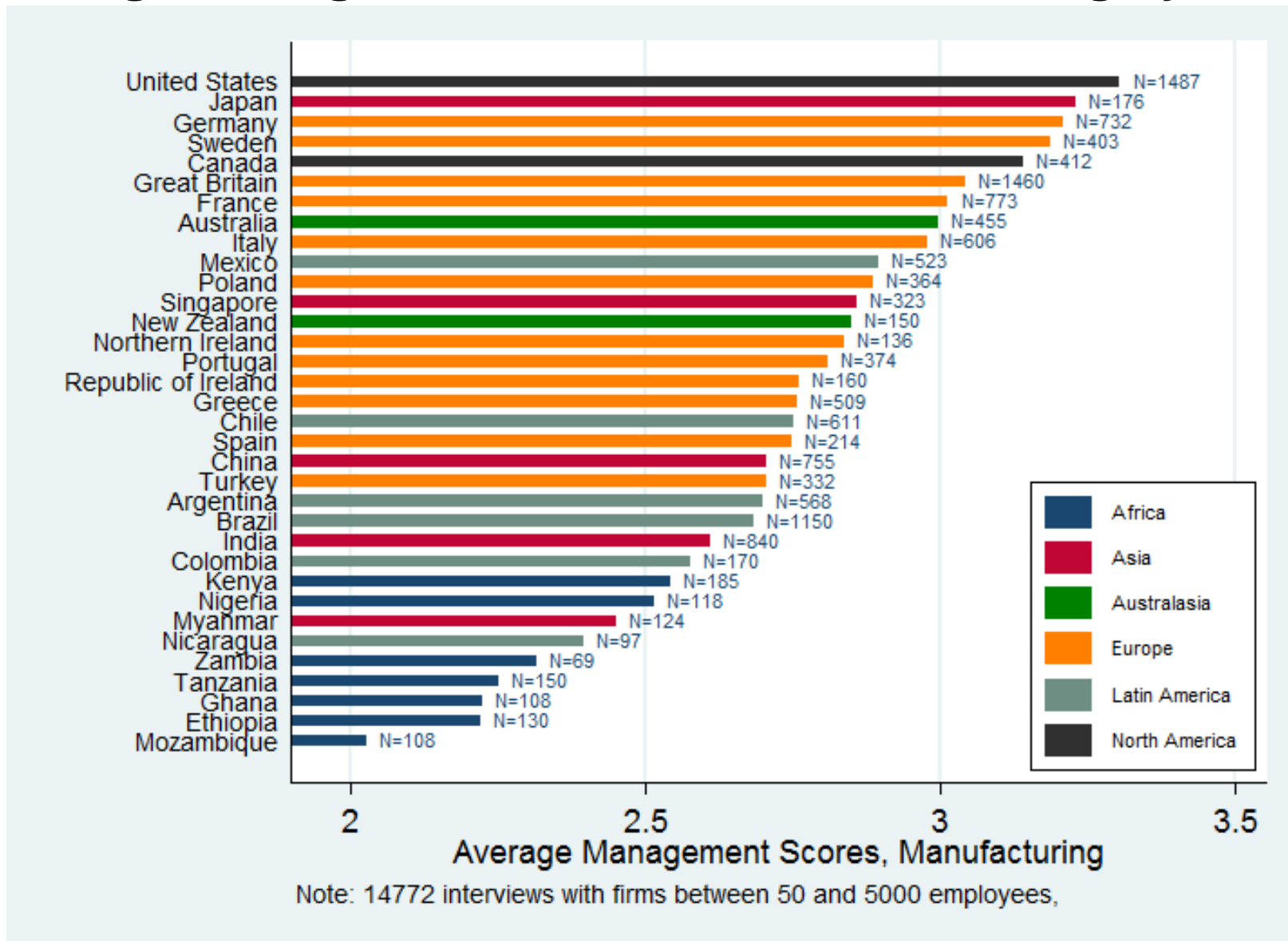


Featured publications

- » [Why do management practices differ across firms and countries?](#)
- » [Management Practice and Productivity: Why They Matter](#)
- » [Management in Healthcare: Why good practice really matters](#)

Today focus on **hospitals** but started with medium sized manufacturing firms. Extended to Schools, Retail, Nursing Homes, Universities, Civil service, etc.

Average Management Scores in Manufacturing by Country



Source: Bloom, Sadun & Van Reenen (2015)

Note: Unweighted average management scores with # observations. All waves pooled (2004-2014)

Does management matter in healthcare?

- **Management and Hospital performance**
 - Started in 2006 to measure management practices
 - About 2,000 interviews across 9 countries
- **Some Findings:**
 - A lot of variation within & between countries
 - Higher management scores **associated** with better hospital outcomes (e.g. lower mortality rates)
 - Competition improves management quality

Measuring Management

Measuring Management

Management & Performance

Drivers & Policy

The management survey methodology

1) Developing management questions

- 20 practice scorecard: “lean”, monitoring, targets & people/incentives
- Interviewed managers, nurses & doctors in orthopaedics & cardiology departments for ~1 hour

2) Getting hospitals to participate in the interview

- Performance indicators from external sources (not interview)
- Endorsement letters
- Run by 25 MBA-types (loud, assertive & experienced)

3) Obtaining unbiased responses (“Double-blind”)

- Interviewers do not know the hospital’s performance
- Interviewees are not informed (in advance) they are scored

Q1 LEAN – layout of patient flow

- Can you briefly describe the patient journey for a typical episode?
- How closely located are the wards, theatres and consumables?
- Has the patient flow and the layout of the hospital changed in recent years

Score	(1): Layout of hospital and organisation of workplace is not conducive to patient flow, e.g., ward is on different level from theatre, or consumables are often not available in the right place at the right time	(3): Layout of hospital has been thought through and optimised as far as possible; but workplace organisation is not regularly challenged (and changed)	(5): Hospital layout has been configured to optimize patient flow; workplace organization is challenged regularly and changed when needed
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Typical process improvement: BEFORE

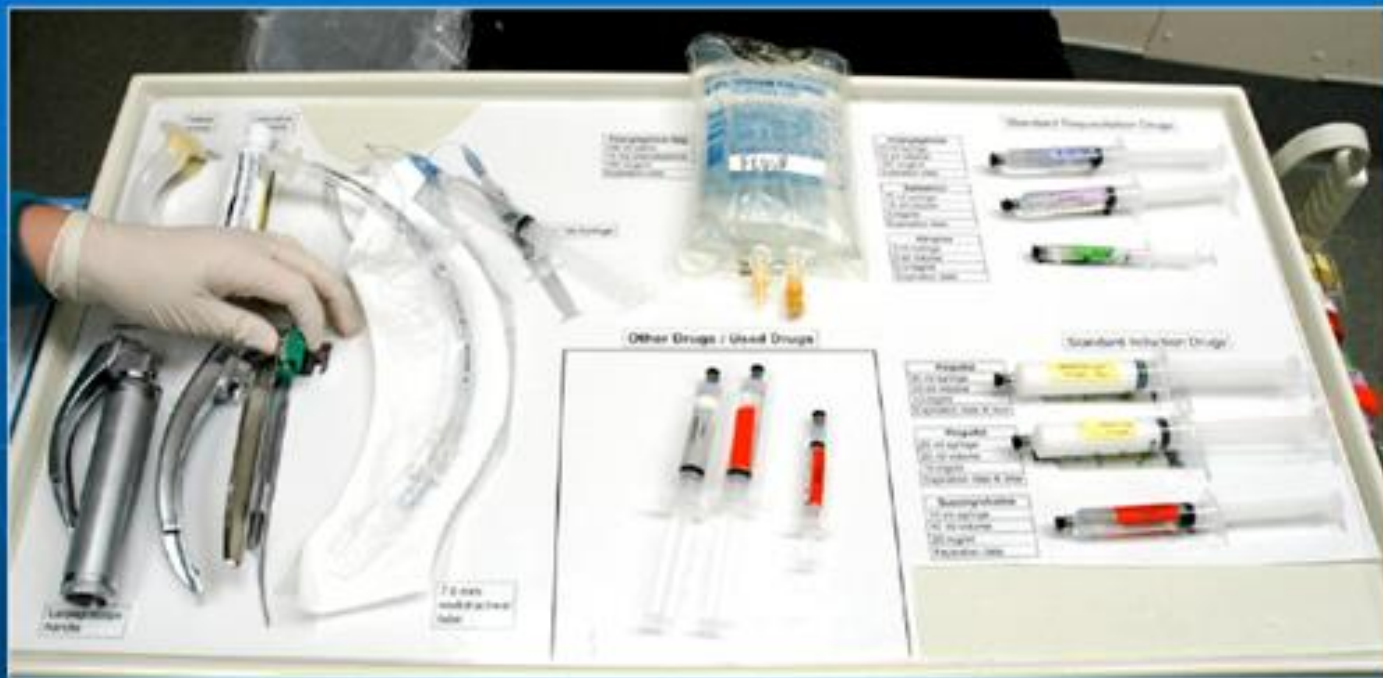
Visual Control for Safety



5S Anesthesia "Shadow Board" - Before

Typical process improvement: AFTER

Visual Control for Safety



5S Anesthesia Shadow Board - After

Q5 MONITORING – Performance review

How do you review your department's performance? Tell me about a recent meeting. Who is involved in these meetings? Who gets to see the results. What is the follow-up plan? Can you tell me about the recent follow-up plan?

Score			
	<p>(1): Performance is reviewed infrequently or in an un-meaningful way e.g. only success or failure is noted</p>	<p>(3): Performance is reviewed periodically with both successes and failures identified. Results are communicated to senior staff. No clear follow up plan is adopted.</p>	<p>(5): Performance is continually reviewed, based on the indicators tracked. All aspects are followed up to ensure continuous improvement. Results are communicated to all staff.</p>

Regular performance monitoring

Tuesday "Stand Up"



Q15 INCENTIVES - Fixing poor performers

- If you had a nurse who could not do her job adequately, what would you do? Could you give me a recent example?
- How long would underperformance be tolerated?
- Do some individuals always just manage to avoid being re-trained/fired?

Score

(1): Poor performers are rarely removed from their positions

(3) Suspected poor performers stay in a position for a few years before action is taken

(5): We move poor performers out of the hospital/department or to less critical roles as soon as a weakness is identified

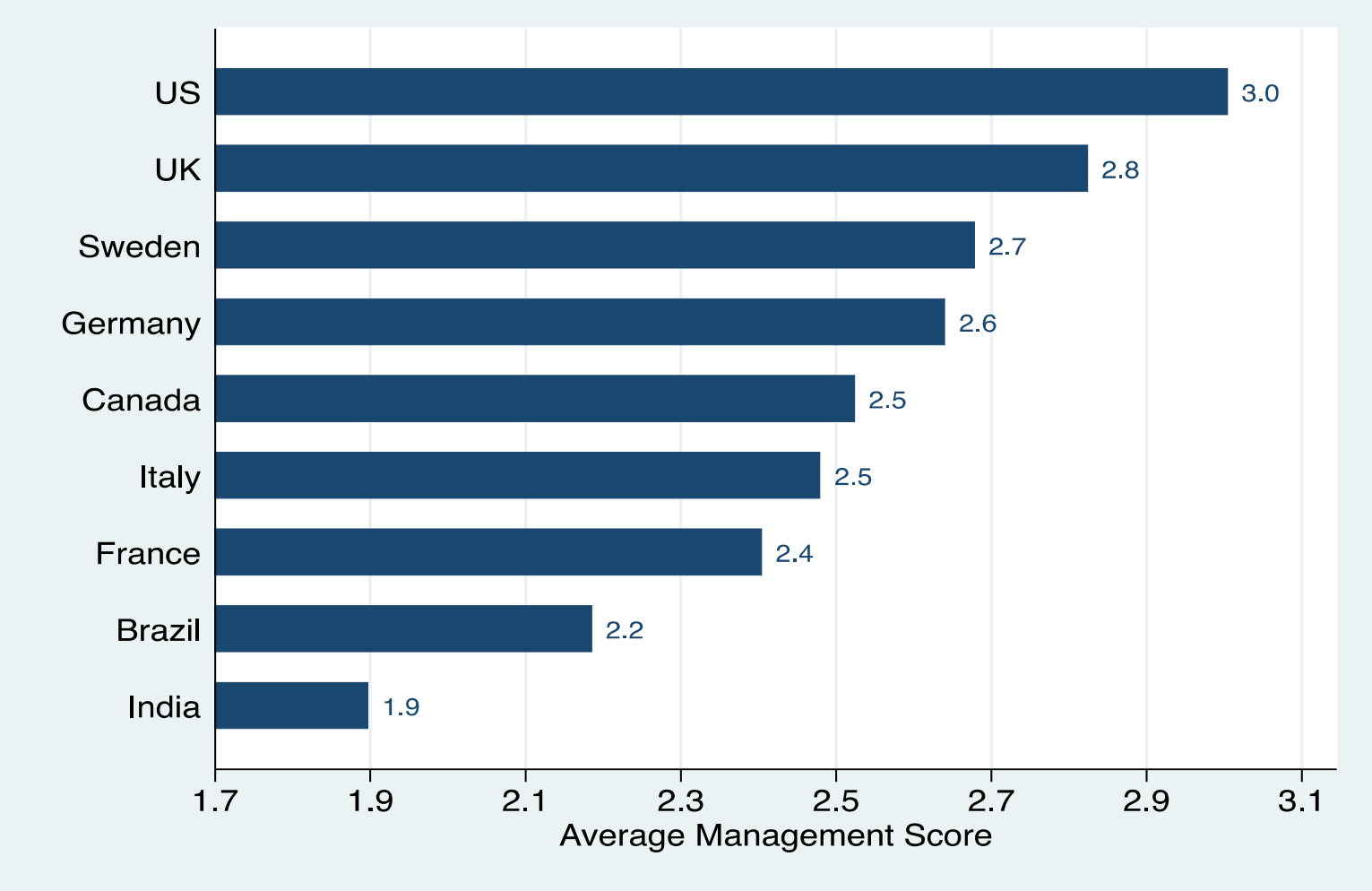
Measuring Management

Describing Management

Management & Performance

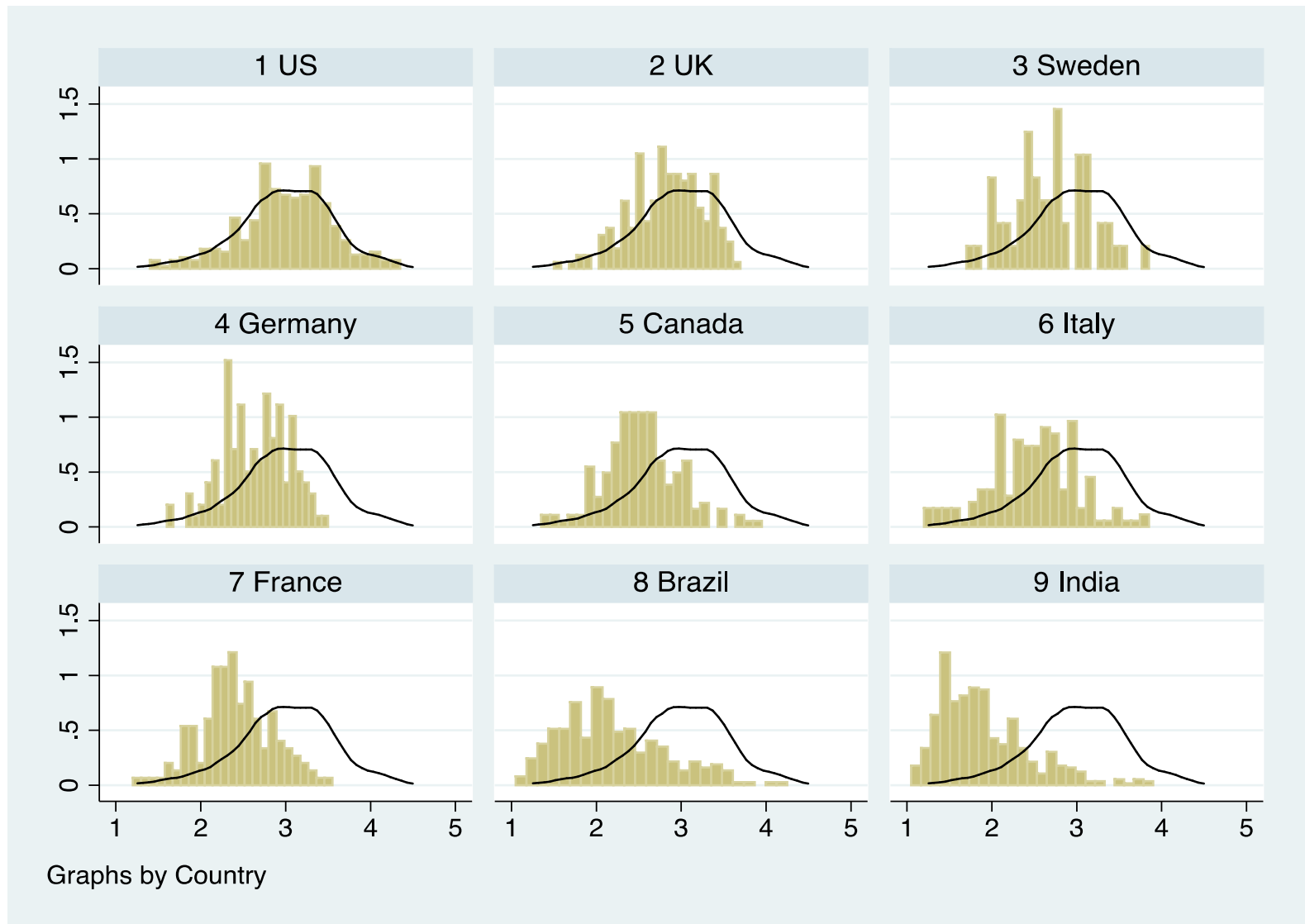
Drivers & Policy

MANAGEMENT IN 2,000 HOSPITALS ACROSS COUNTRIES



SOURCE: Bloom, Sadun & Van Reenen (2013)

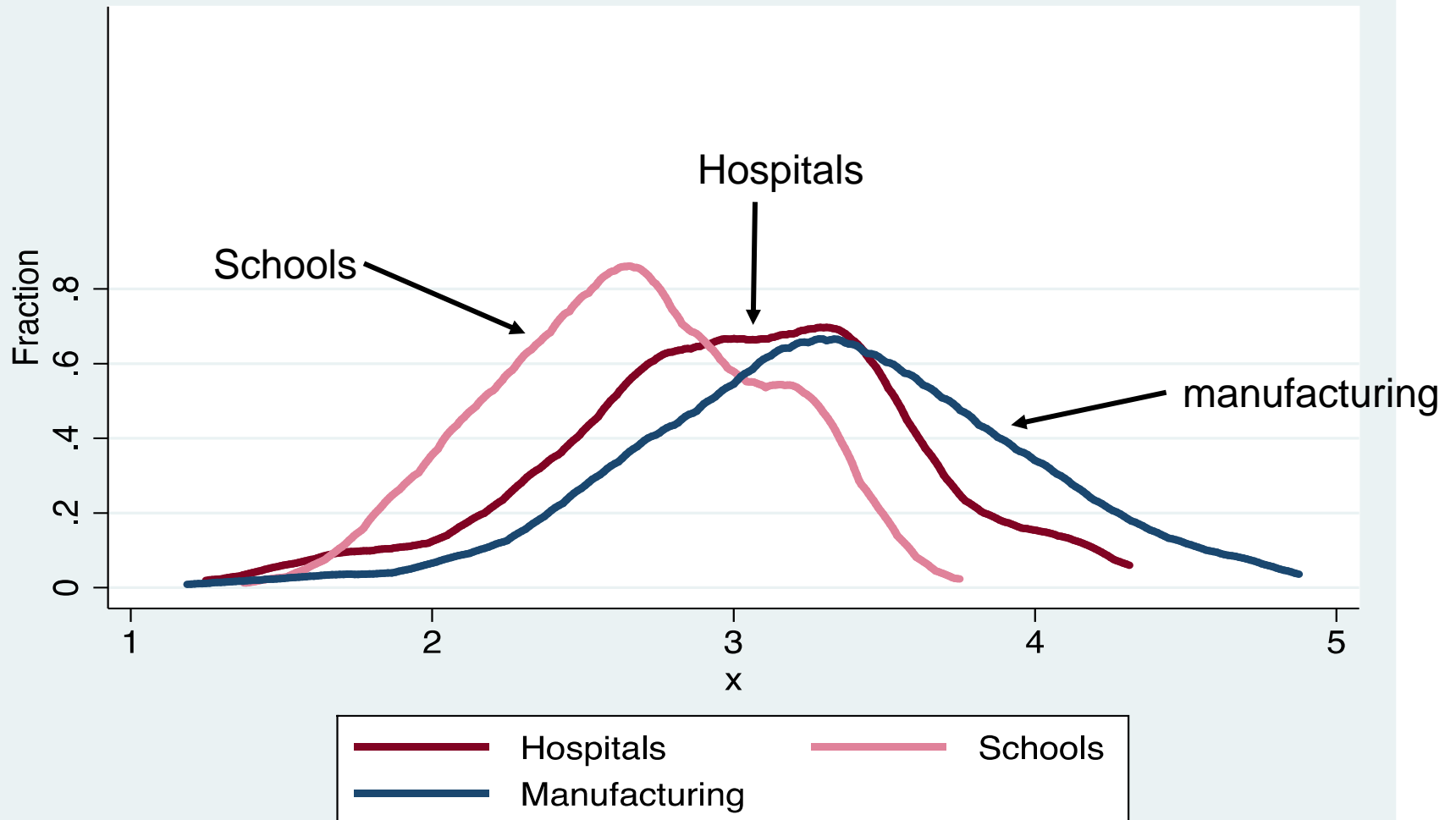
There is also substantial variation across hospitals in management within countries



Source: Bloom, Sadun & Van Reenen (2013)

Hospital distribution shifted to left relative to manufacturing (Particularly on people management)

US



Measuring Management

Describing Management

Management & Performance

Drivers & Policy

External validity: Positive relationship between management & health outcomes

Case mix adjusted 30 days AMI mortality rates

Table 3: Management and Hospital Performance (AMI mortality rates)

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent Variable: Case mix adjusted AMI 30 days mortality rates (z-scored by country)						
Countries	All		US	UK	Canada	Sweden
Management (z-score)	-0.162*** (0.056)	-0.246*** (0.075)	-0.211** (0.100)	-0.416* (0.224)	-0.717** (0.316)	-0.543*** (0.193)
R-squared	0.023	0.230	0.242	0.193	0.690	0.689
Observations	324	324	178	74	24	48
Country dummies	Y	Y	Y	Y	Y	Y
Hospital controls	Y	Y	Y	Y	Y	Y
Region dummies		Y	Y	Y	Y	Y
Noise controls		Y	Y	Y	Y	Y

Notes. All columns estimated by OLS. In all columns standard errors are in parentheses under coefficient clustered by hospital. Hospital controls are hospital size (number of employees), age, specialty, percentage of managers with a clinical degree. “Noise controls” are 13 interviewer dummies, the seniority and tenure of the manager who responded, the duration of the interview, and an indicator of the reliability of the information as coded by the interviewer, interviewee type (nurse, doctor or non clinical manager). AMI mortality rates data refer to 2009 in the US and UK, to 2008 in Sweden and the average between 2007 and 2009 in Canada (See Appendix A for details). All regressions except column 1 include a full set of regional dummies.

Source: Bloom, Sadun & Van Reenen (2013)

HOSPITAL PERFORMANCE & MANAGEMENT in ENGLAND

	(1)	(2)	(6)	(7)	(3)	(4)
	Mortality rate (28 day) from emergency AMI	Mortality rate from emergency surgery	Intention of staff to leave in next 12 months	Healthcare Commis- sion rating	Average Length of Stay	Finished Episodes per spell
Mean	17.08	2.21	2.70	2.25	1.99	1.14
Managemnt Practices z- Score	-0.968** (0.481)	-0.099** (0.044)	-0.031** (0.013)	0.108*** (0.041)	-0.060 (0.050)	0.005 (0.007)
Obs	140	157	160	161	160	160

Notes: Management index is z-scored (mean=0, sd=1). SE clustered at county level (42). All columns control for casemix (e.g. age-gender of patient), hospital type & size, a London dummy, % managers with clinical degree, % auto ownership, joint decision making dummy & “noise controls” (interviewer dummies, respondent’s tenure & whether a manager or clinician).

Measuring Management

Describing Management

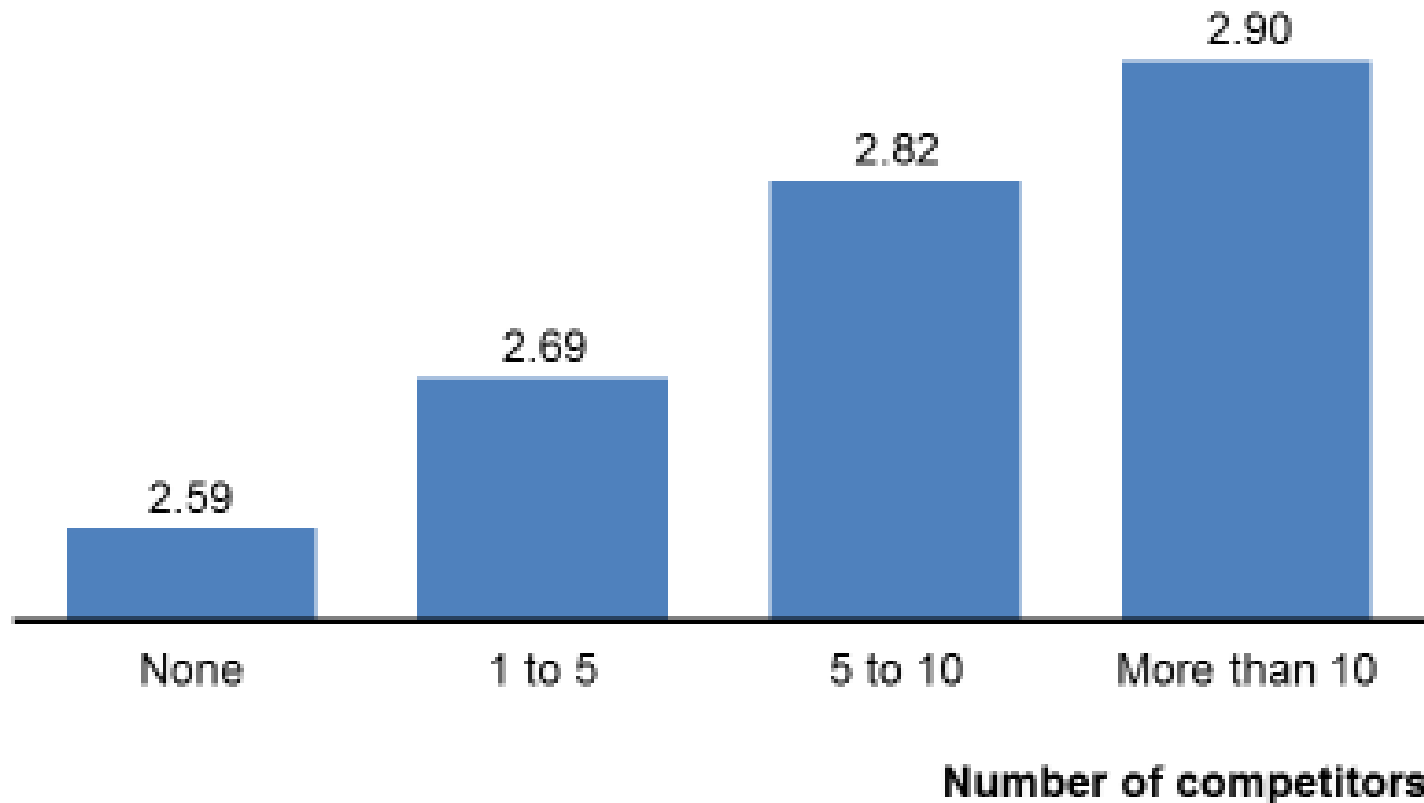
Management & Performance

Drivers & Policy

Explaining variation in management scores

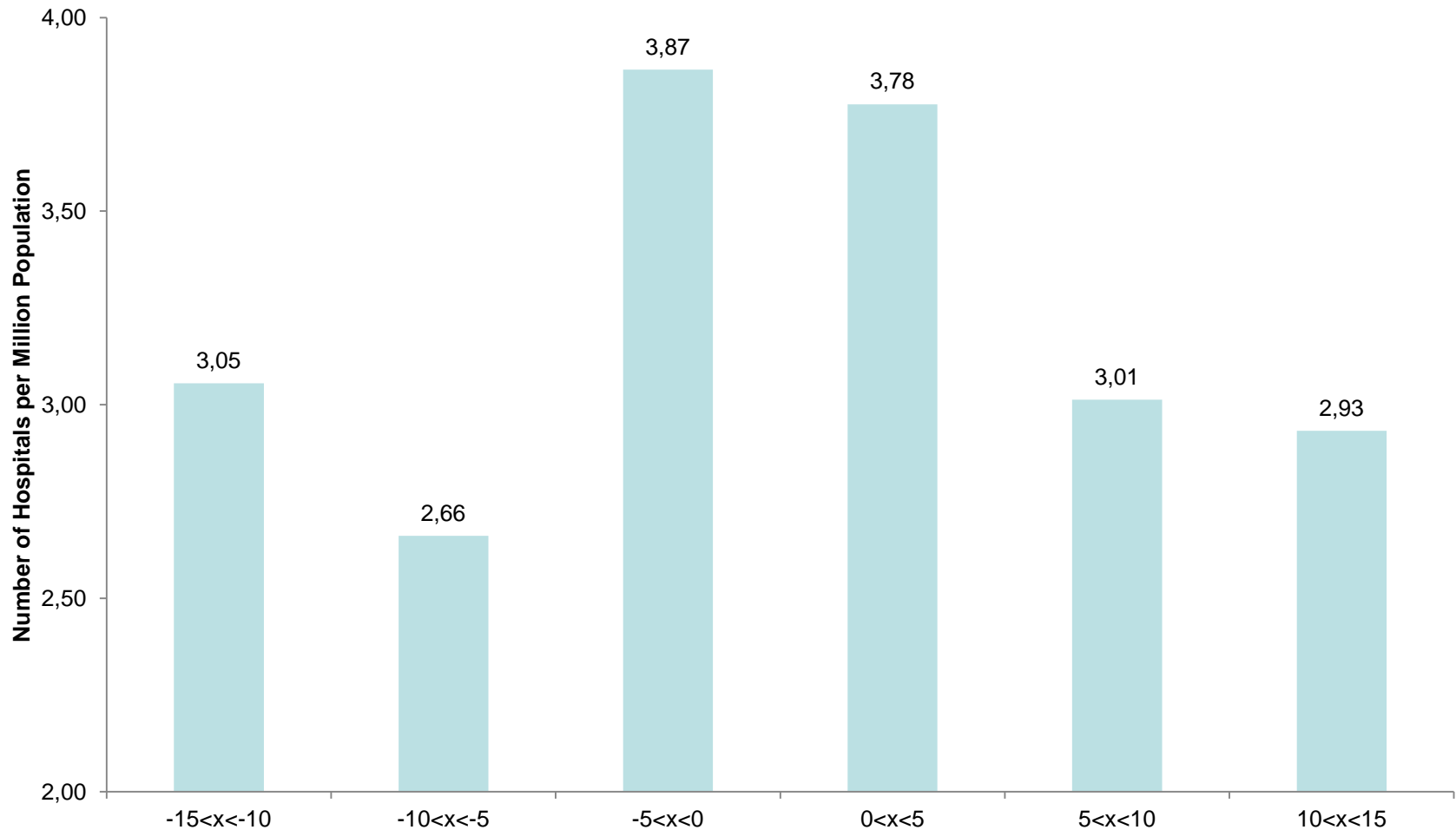
- Hospital characteristics that are positively correlated with management include:
 - Hospital size
 - Human capital (% managers with a clinical degree)
 - Competition
- Striking similarities with correlates of management score in other sectors

MANAGEMENT PRACTICE SCORES ALSO HIGHER WITH MORE COMPETING HOSPITALS



Notes: # rival hospitals as perceived by manager
Source: Bloom, Sadun and Van Reenen (2013b)

TO ADDRESS CAUSALITY OF COMPETITION USE POLITICAL INSTRUMENTAL VARIABLES



Note: percentage point margin (x) = by which the ruling party won the 1997 election

Source: Bloom, Propper, Seiler, Van Reenen (2015, ReStud)

COMPETITION IMPROVES MANAGEMENT QUALITY

	OLS	IV: 1 ST Stage	IV: 2 ND Stage	OLS	IV: 1 ST Stage	IV: 2 ND Stage
Dependent variable	Management	# Rival Hospitals	Management	Management	# Rival Hospital	Management
# rival hospitals	0.161*** (0.042)		0.325* (0.178)	0.181*** (0.049)		0.366** (0.168)
% marginals		4.955*** (1.382)			7.228*** (2.115)	
F-statistic		12.85			11.68	
Full Controls	No	No	No	Yes	Yes	Yes
Obs	161	161	161	161	161	161

Notes: All columns include population density, area age profile (11 categories), Foundation Trust, Number of sites, “case-mix” (22 age/gender bins), respondent tenure & interviewer dummies. “**Full controls**” = Size, proportion Labour votes, number of political constituencies, London dummy, teaching hospital & Proportion managers with clinical degree

COMPETITION IMPROVES CLINICAL OUTCOMES

	OLS	First Stage	IV: 2 ND Stage
Dependent variable	AMI deaths	# Rival Hospitals	AMI deaths
# rival hospitals	-1.022*** (0.285)		-1.502** (0.654)
% Labour marginals		7.613*** (1.851)	
F-Statistic		16.91	
Observations	140	140	140

Notes: All columns include population density, age profile (11 categories), Foundation Trust, #sites, total admissions, “case-mix” specific to AMI admission (22 age/gender bins), respondent tenure & interviewer dummies, %Labour votes, #political constituencies, London dummy, teaching hospital status, % managers with clinical degree, dummy for joint decision making identity of winning party

Conclusions

- WMS useful indicator of intangible managerial capital
- Correlated with hospital performance measures
- Many similarities to other sectors of economy
- Striking similarities with correlates of management score in other sectors. Common issues of information, incentives, co-ordination
- **Policy**
 - Public sector competition can improve performance
 - Opportunities to learn from management best practice
(Simon Stevens' *NHS 5 Year Forward View*
<http://www.england.nhs.uk/ourwork/futurenhs/>)

MY FAVOURITE QUOTES:

Don't get sick in Britian

Interviewer : “Do staff sometimes end up doing the wrong sort of work for their skills?”

NHS Manager: “You mean like doctors doing nurses jobs, and nurses doing porter jobs? Yeah, all the time. Last week, we had to get the healthier patients to push around the beds for the sicker patients”

Don't do Business in Indian hospitals

Interviewer: “Is this hospital for profit or not for profit”

Hospital Manager: “Oh no, this hospital is only for loss making”

MY FAVOURITE QUOTES:

Don't get sick in India

Interviewer : “Do you offer acute care?”

Switchboard: “Yes ma'am we do”

Interviewer : “Do you have an orthopaedic department?”

Switchboard: “Yes ma'am we do”

Interviewer : “What about a cardiology department?”

Switchboard: “Yes ma'am”

Interviewer : “Great – can you connect me to the ortho department”

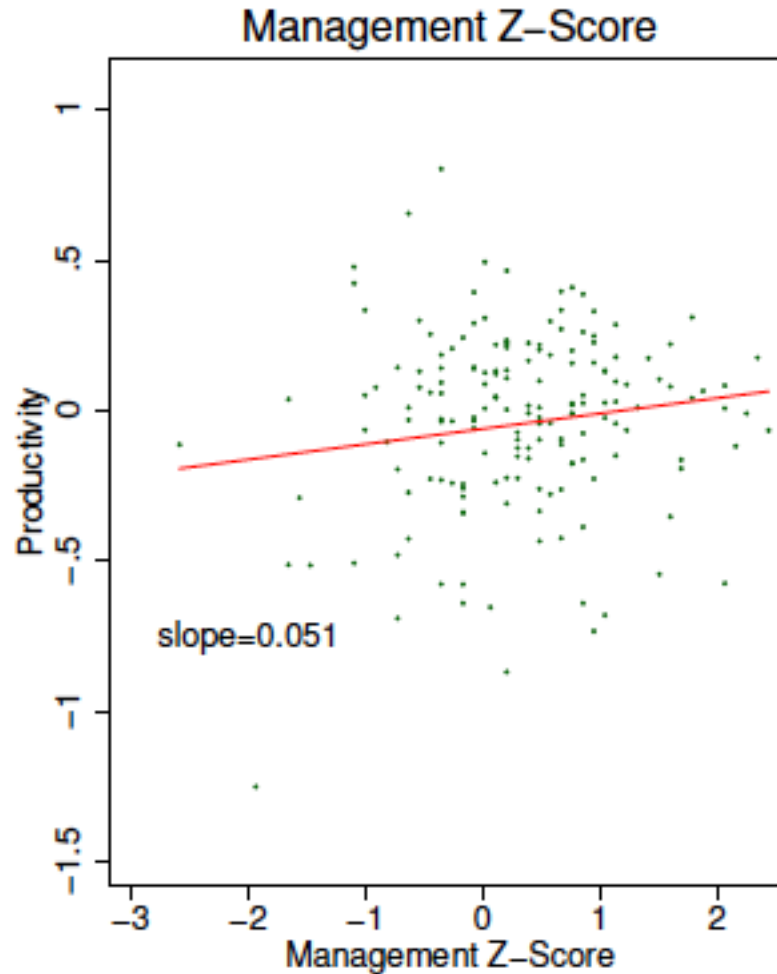
Switchboard?: “Sorry ma'am – I'm a patient here”

Further Reading

Further Reading

- “The Impact of Competition on Management Quality: Evidence from Public hospitals” (Nick Bloom, Carol Propper, Stephan Seiler and John Van Reenen), *Review of Economic Studies* (2015) 82: 457-489 <http://cep.lse.ac.uk/pubs/download/dp0983.pdf>
- “The new empirical economics of management” with (Nick Bloom, Renata Lemos, Raffaella Sadun, Daniella Scur and John Van Reenen), *Journal of the European Economic Association* (2014) 12: 835–76, <http://cep.lse.ac.uk/pubs/download/occasional/op041.pdf>
- “Management in Healthcare: Why Good Practice Really Matters” (Nick Bloom, Stephen Dorgan, Rebecca Homkes, Dennis Layton Raffaella Sadun and John Van Reenen) http://cep.lse.ac.uk/textonly/_new/research/productivity/management/PDF/Management_in_Healthcare_Report.pdf

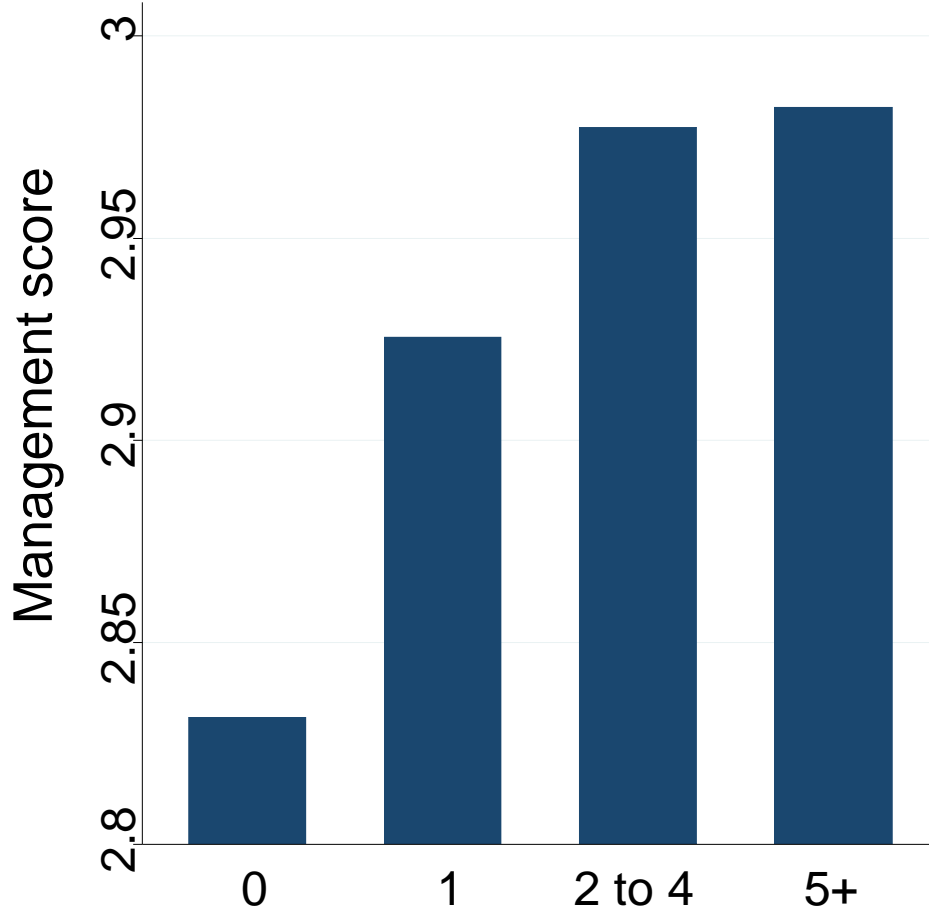
Management also correlated with measures of Hospital TFP (Chandra et al, 2013)



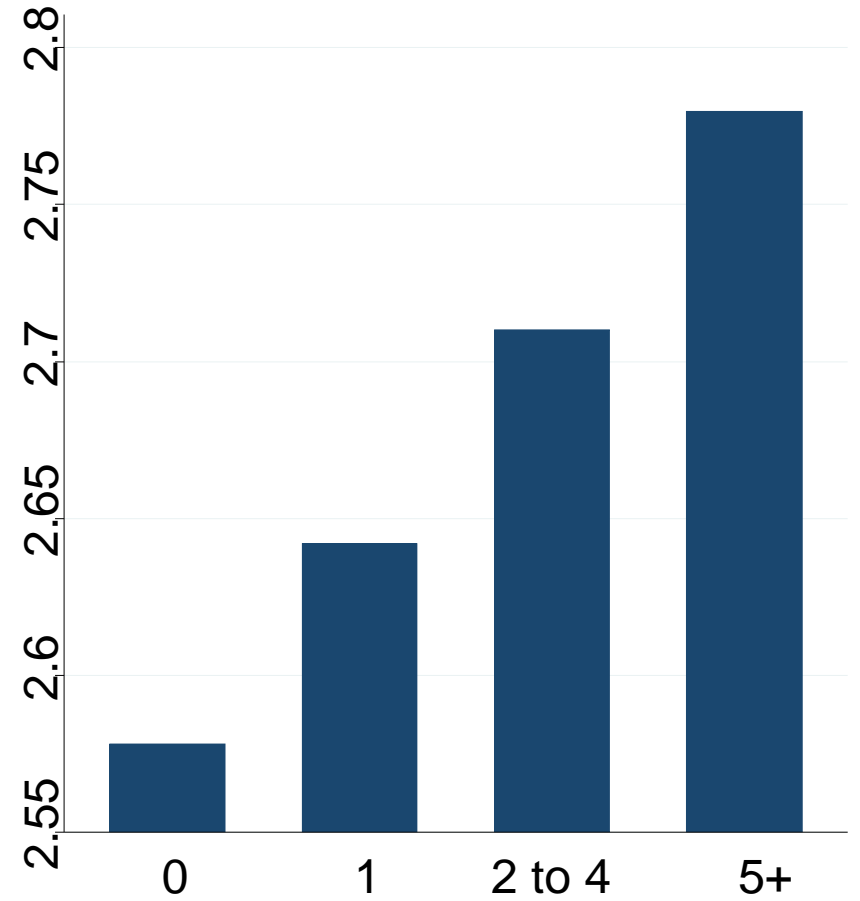
(4b)

Competition appears to matter in every industry we studied

Manufacturing and Retail



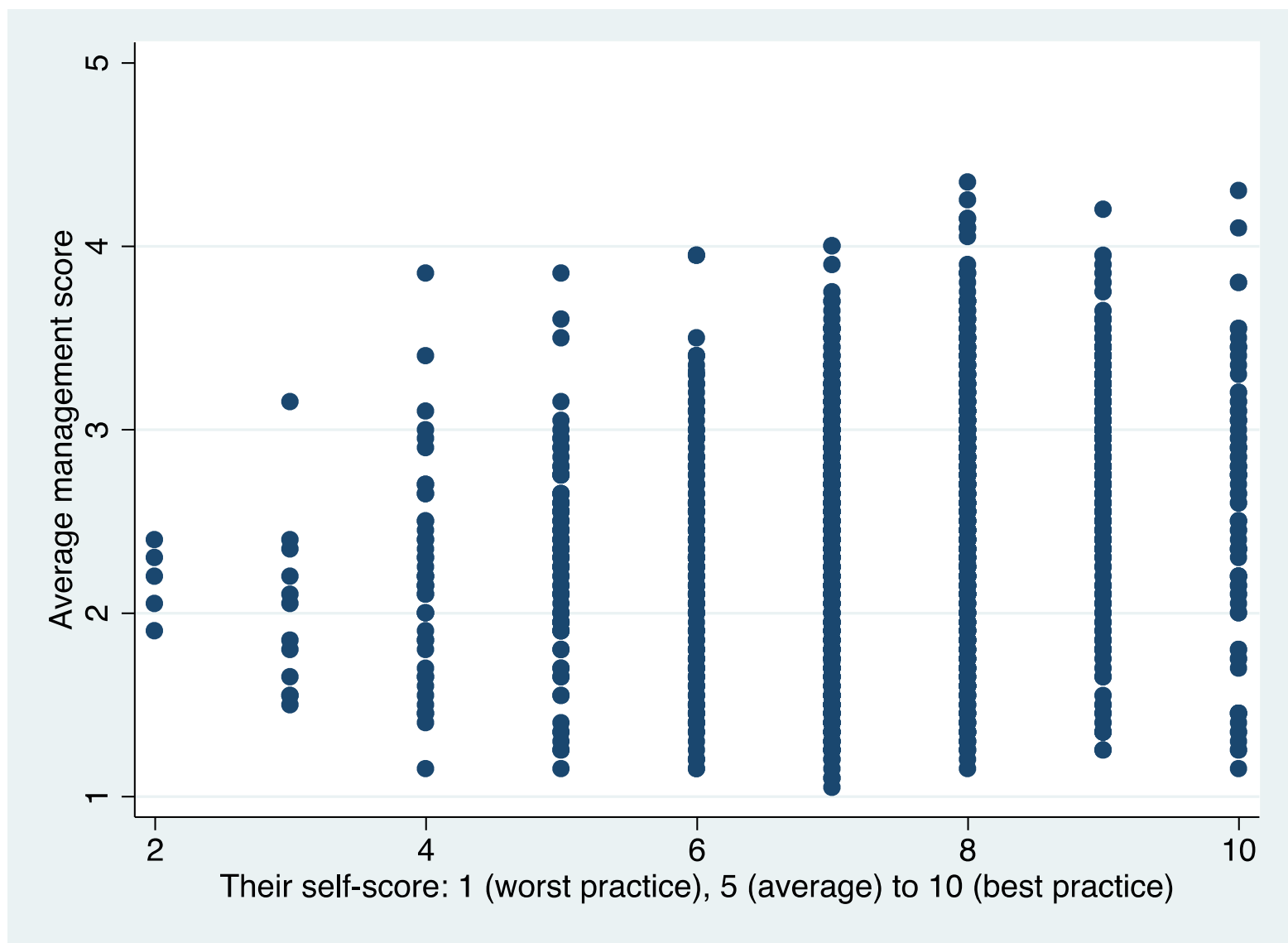
Hospitals



Number of Reported Competitors

Sample of 9469 manufacturing and 661 retail firms (private sector panel) and 1183 hospitals and 780 schools (public sector panel). Reported competitors defined from the response to the question “How many competitors does your [organization] face?”

But self assessment is generally poor also across middle managers

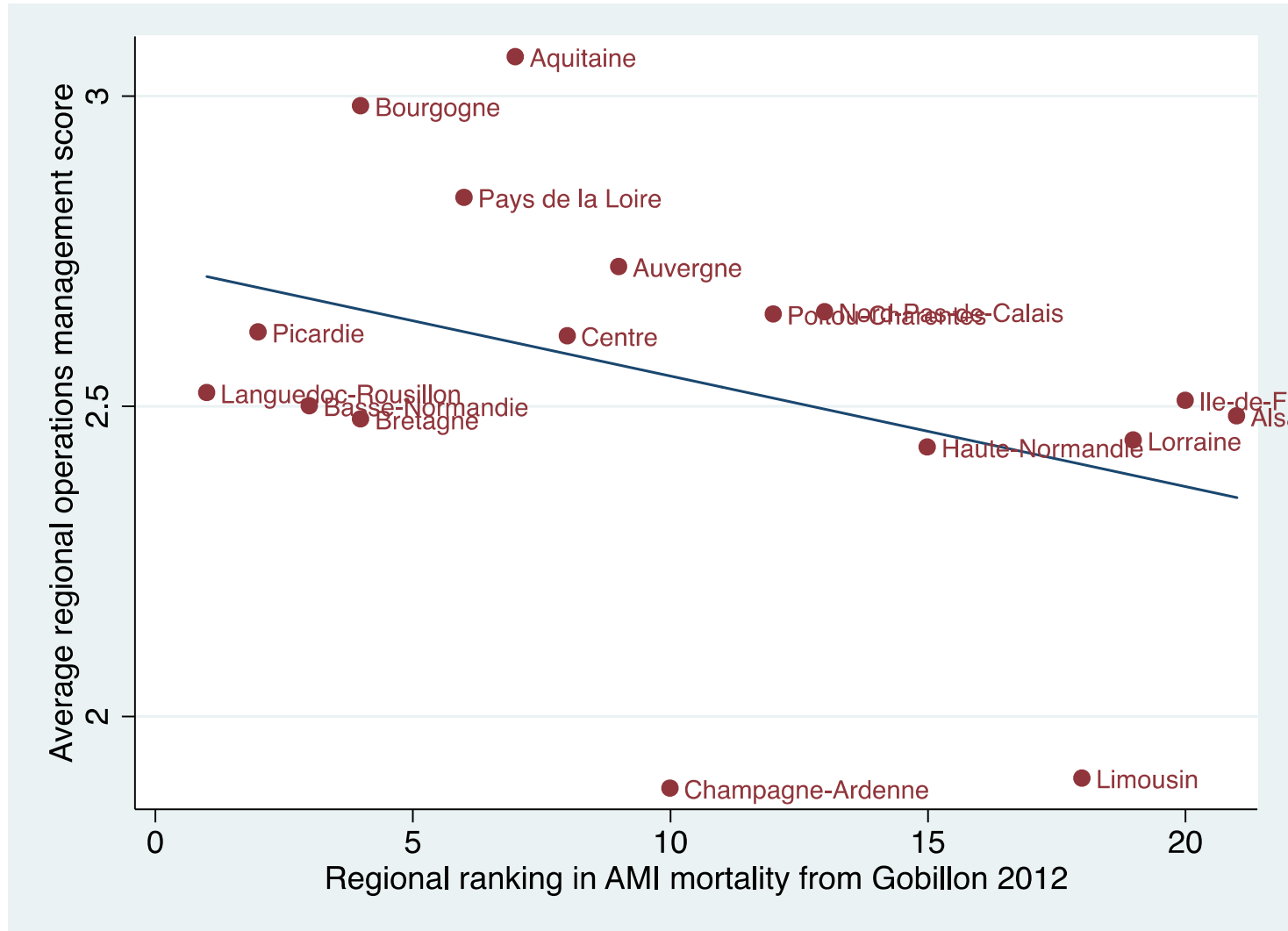


Note: Based on a sample of 42 interviews (7 hospitals, 7 interviews per hospital). C level=CEO, CMO, CNO; Dept head: Cardio and Ortho; Nurse managers: Cardio and Ortho.

THANK YOU!

www.worldmanagementsurvey.org

External validity: Management also correlated with rankings of AMI mortality rates across regions in France (Gobillon 2012)



We found good management is also correlated with better financial performance

A one point increase in management practice is associated with:

UK Hospitals

- 33% increase in income per bed
- 20% increase in the probability that the hospital is above average in terms of patients satisfaction

US Hospitals

- 14% increase in EBITDA per bed
- 0.8 increase in the percentage of people that would recommend the hospital

Performance monitoring: Manufacturing



Performance monitoring: Manufacturing

Daily Efficiency Report

Sl. No.	Wearer Name	Production	Efficiency %	Sl. No.	Wearer Name	Production	Efficiency %
1	विभव	152		25	अरवि	180	
2		150		26		180	
3		133		27		178	
4		43		28		178	
5		148		29		180	
6		187		30		180	
7	सुकनी कुमार	191		31		180	
8		180		32		180	
9		161		33		180	
10		180		34		180	
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12	राधेश्याम	180		36		180	
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17	राजेश भात	180		41		180	
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100		180					

Jacquard Division

Loom No	Total Picks 'A'	Eff% 'A'	Total Picks 'B'	Eff% 'B'
1	76800	57	72000	51
2	112	55	180000	50
3	18750	46	176640	42
4	59760	28	104160	45
5	180000	79	196000	51
6	95040	46	80640	42
7	104160	57	187520	43
8	104160	63	158240	52
9				
10	136000	60	92000	33
11	160000	54	80000	39
12	134000	45	120400	44
13	89600	61	124640	55
14				
15	153600	65	147200	54
16				

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