

Management, Productivity & Reallocation

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Draws on joint work with Nick Bloom (Stanford) & Raffaella Sadun (HBS)

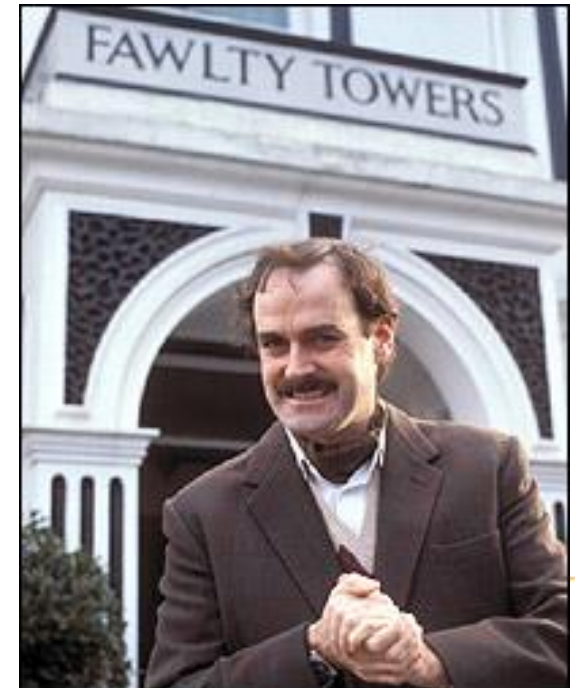
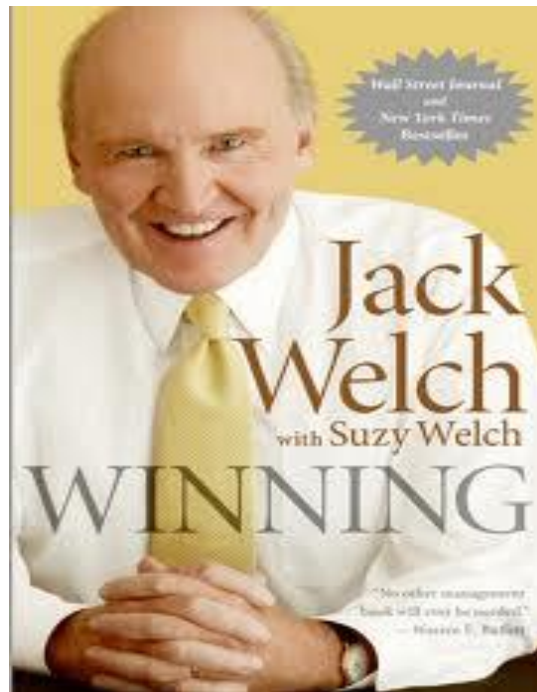
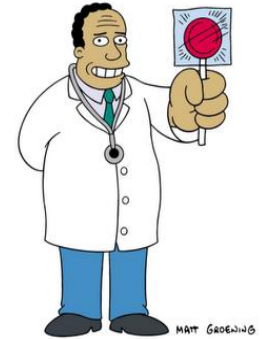
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THE LONDON SCHOOL
OF ECONOMICS AND
POLITICAL SCIENCE

BOSS-ONOMICS

CENTRE for ECONOMIC
PERFORMANCE



Ways in which management could matter

- Key part of “intangible capital” accounting for some of TFP variation (cf human capital)?
 - Bloom, Sadun & Van Reenen (2015) “Management as Technology”
- An indicator of fundamental TFP/performance. Reallocation towards “better managed” firms?
 - Bloom & Van Reenen (2007, QJE)
- Are well managed firms better at internal reallocation (e.g. across plants of the same firms)?
 - Bloom, Van Reenen et al (2015) “Management in America”
- Complementarity between management & exogenous shocks. E.g. Do firms/countries that have greater managerial capacity respond more to technological shocks (e.g. ICT)?
 - Bloom, Sadun & Van Reenen (2012, AER) “Americans do IT Better”
- If answer is “yes”, what drives the distribution of management
 - And what can policy makers do?

World Management Survey (~20,000 interviews, 4 major waves: 2004, 2006, 2009, 2014; 35 countries)



WMS
World Management Survey

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The WMS generates data and reports that help managers and policy makers understand the drivers of better management practice.

Featured publications

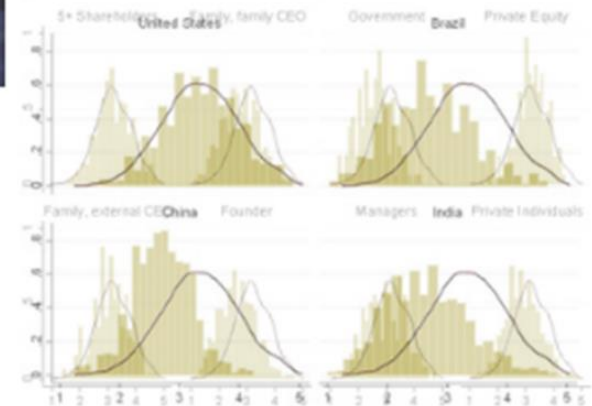
- » [Why do management practices differ across firms and countries?](#)
- » [Management Practice and Productivity: Why They Matter](#)
- » [Management in Healthcare: Why good practice really matters](#)

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

WMS team analyses the distribution of management practices within countries by type.



Medium sized manufacturing firms(50-5,000 workers, median≈250)
Now extended to Hospitals, Retail, Schools, etc.

Summary: Productivity & management practices

- Large unexplained component in TFP spreads between & within countries related to management
- **Findings** (summary in Bloom, Lemos, Sadun, Scur & Van Reenen, 2015, JEEA)
 - Big spreads in management
 - Closely related to TFP
 - Helps account for large fraction of TFP gaps (~30%)
 - Some systematic causes of management spreads: competition, labor regulation, FDI, ownership/governance, skills, information
 - Weak competition (& other frictions) means poorer management within firms and less allocation of economic activity to better managed firms

Survey methodology (Bloom & Van Reenen, 2007, QJE)

1) Developing management questions

- Scorecard for 18 monitoring, targets & people management practices ≈45 minute phone interview of plant managers

2) Getting firms to participate in the interview

- Introduced as “Lean-manufacturing” interview, no financials
- Official Endorsement: Bundesbank, RBI, World Bank etc.

3) Obtaining unbiased comparable responses, “Double-blind”

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

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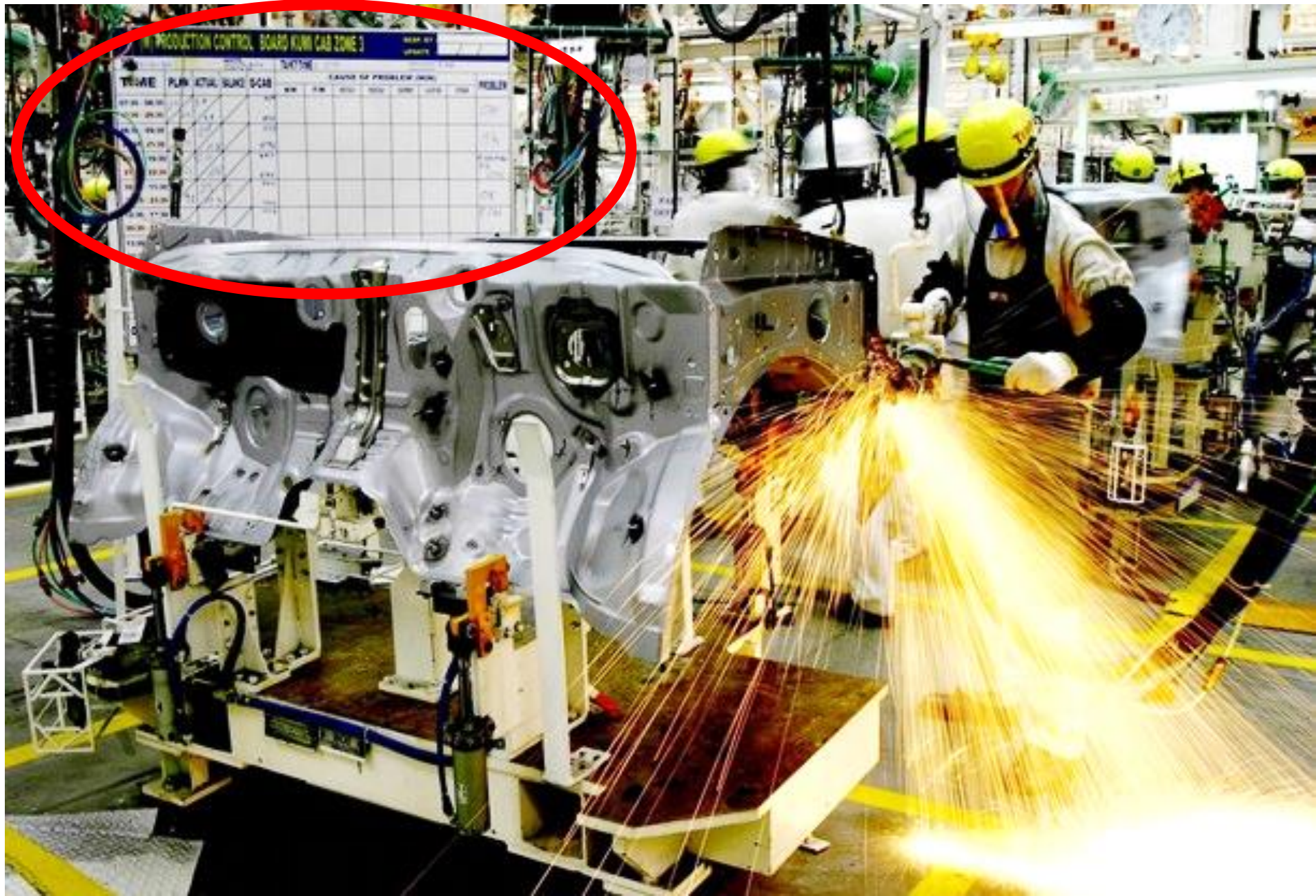
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Example monitoring question, scored based on a number of questions starting with “*How is performance tracked?*”

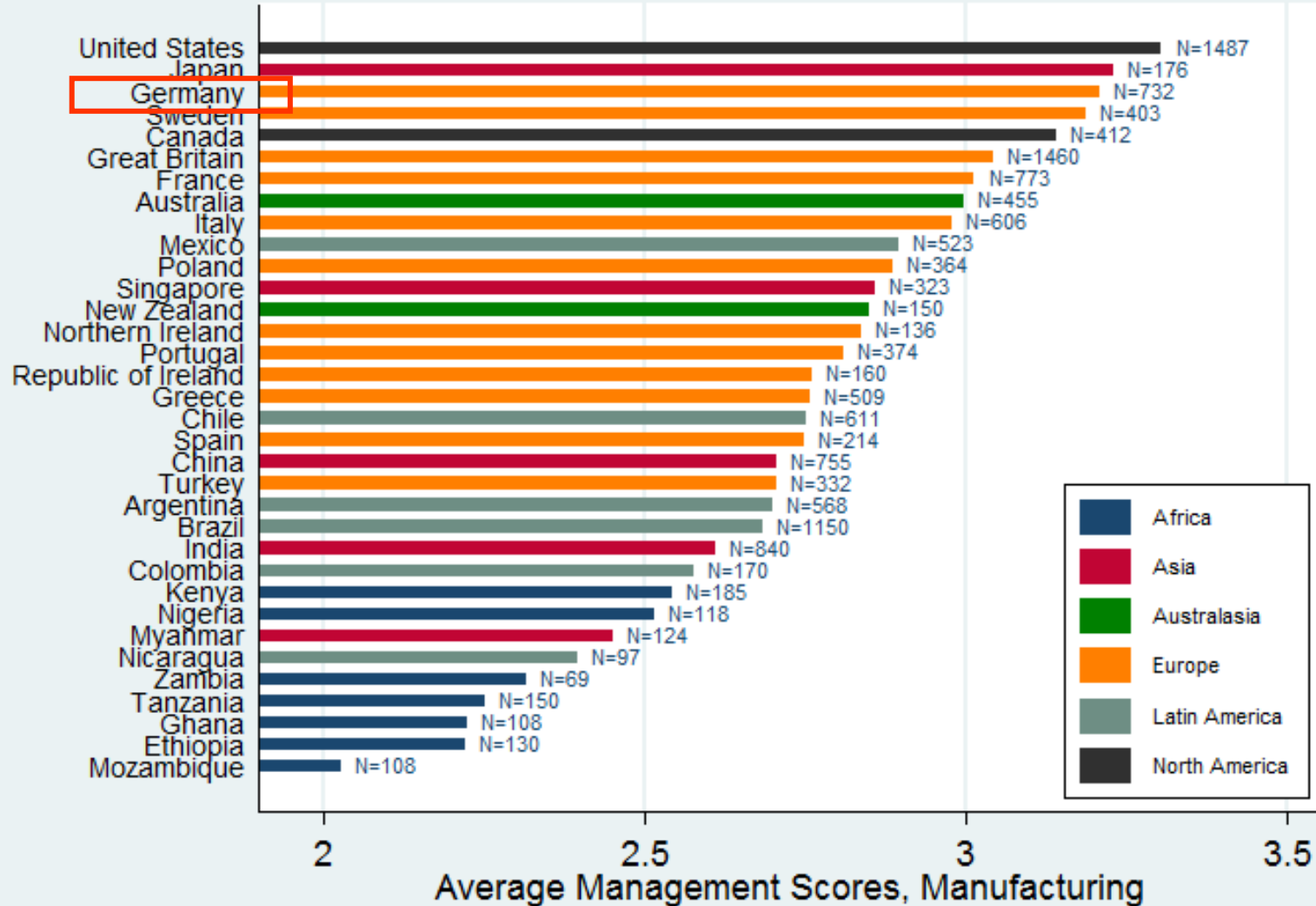
Score	(1): Measures tracked do not indicate directly if overall business objectives are being met. Many processes aren't tracked at all	(3): Most key performance indicators are tracked formally. Tracking is overseen by senior management	(5): Performance is continuously tracked and communicated, both formally and informally, to all staff using a range of visual management tools
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Note: All 18 questions & 50+ examples in <http://worldmanagementsurvey.org/>

Examples of performance metrics – Car Plant



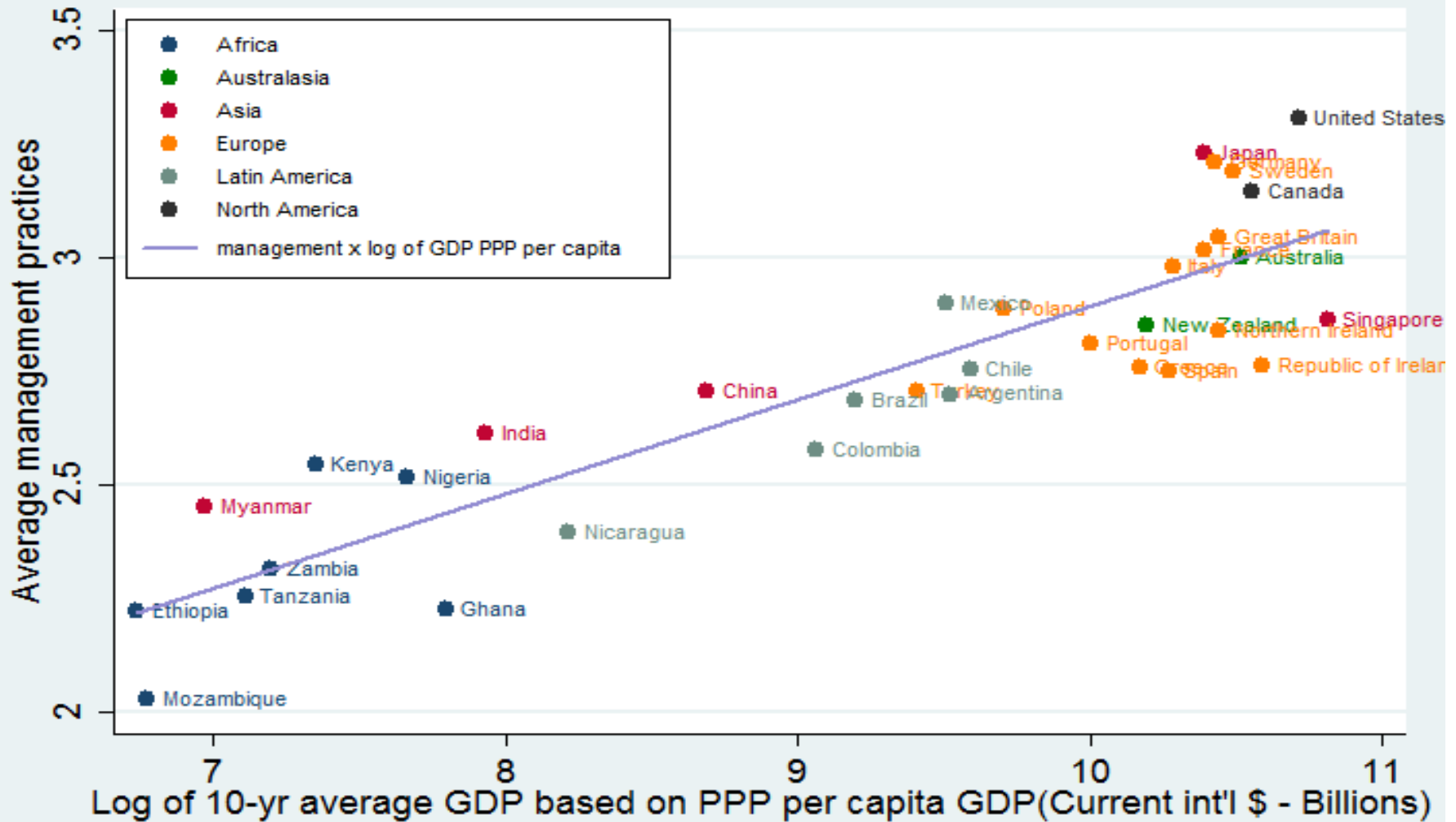
AVERAGE MANAGEMENT SCORES BY COUNTRY



Note: 14772 interviews with firms between 50 and 5000 employees,

Note: Unweighted average management scores (raw data) with number of observations. All waves pooled (2004-2014), **Source:** <http://worldmanagementsurvey.org/>

Average management scores across countries are strongly correlated with GDP per capita



Note: April 2013, World Economic Outlook (IMF) indicator
Firms between 50 and 5000.

Note: Unweighted average management scores (raw data) with number of observations. All waves pooled (2004-2014)

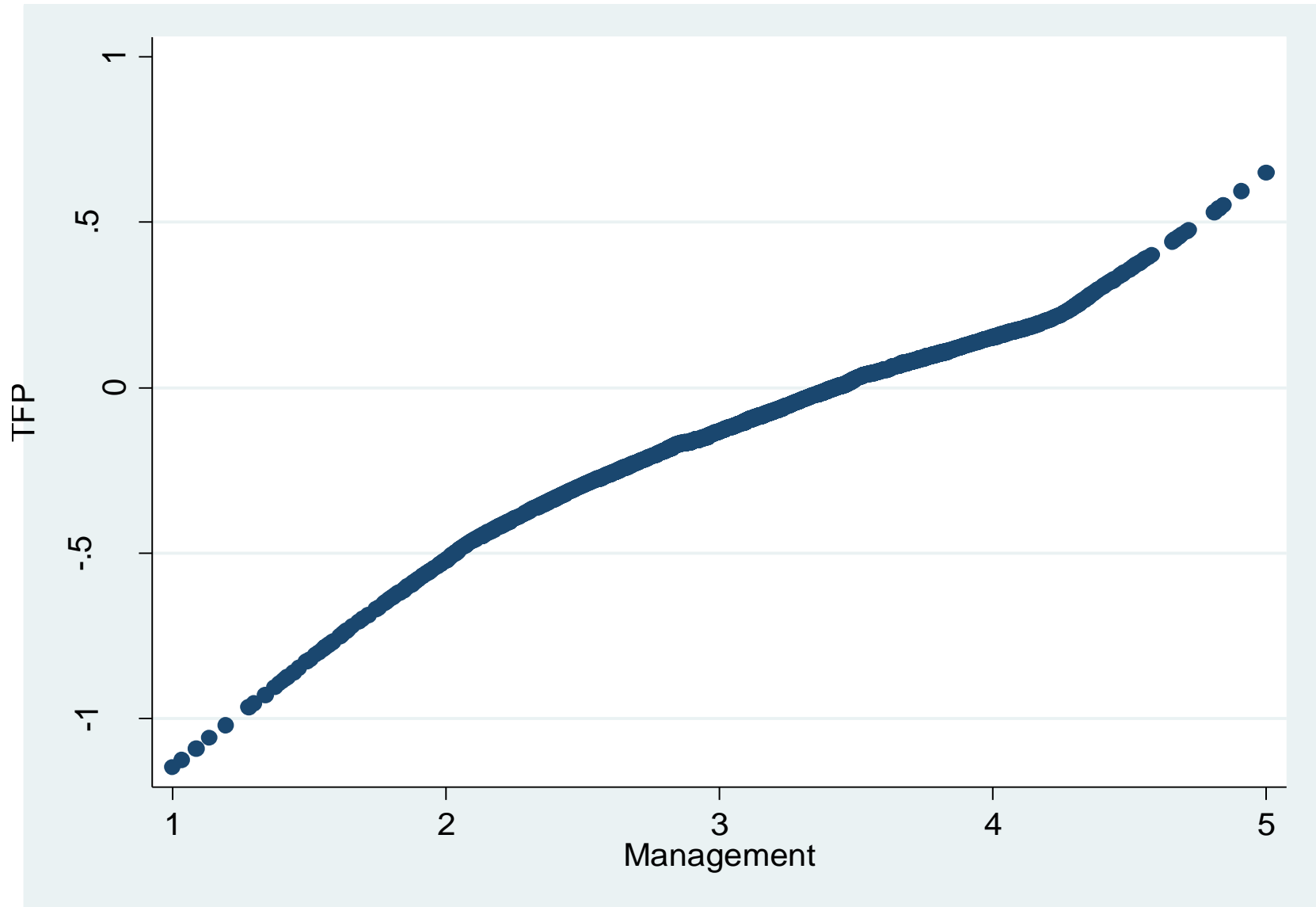
Large variation of firm management within countries



Graphs by country_rank

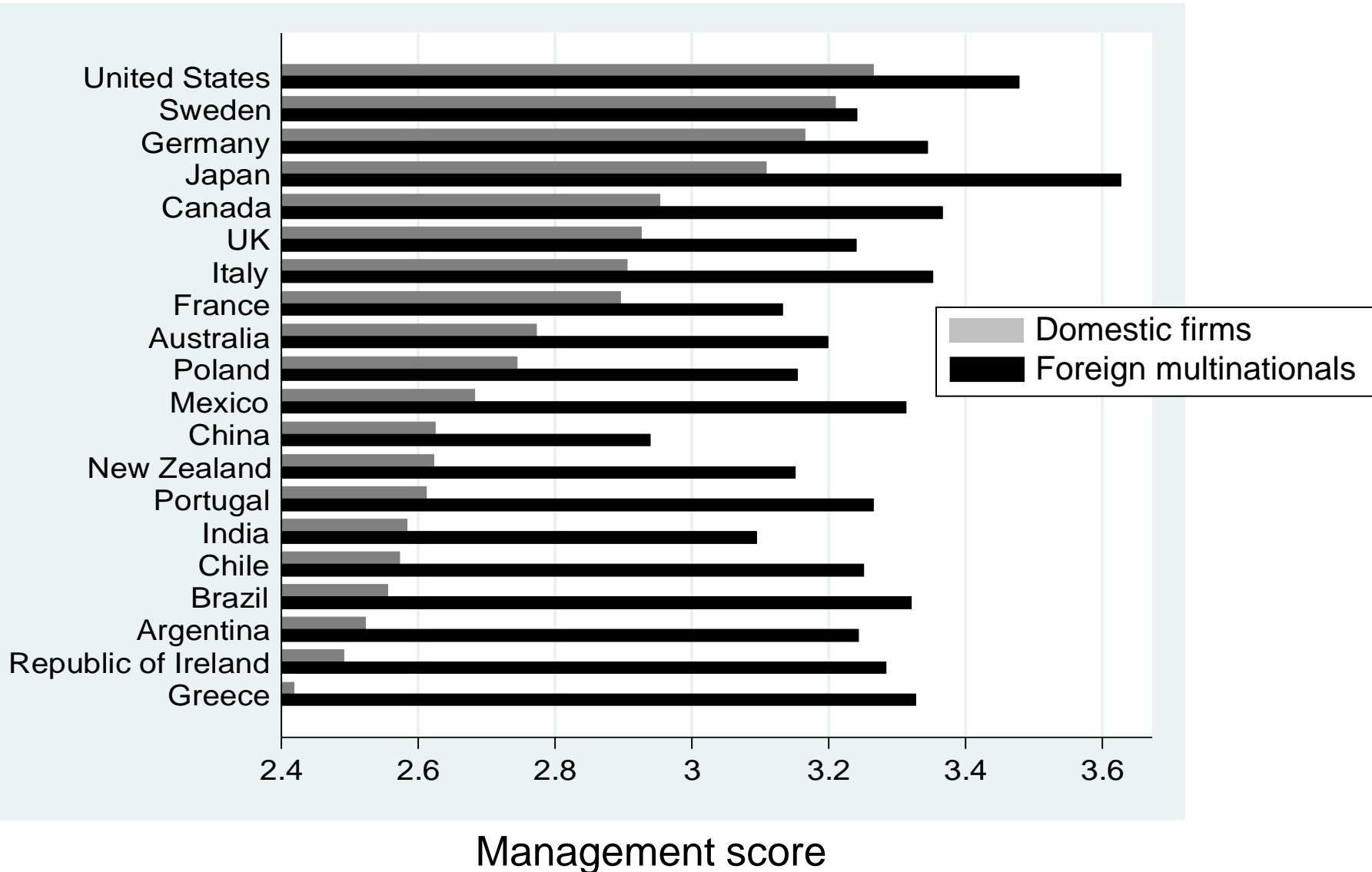
Firms with 50 to 5000 employees randomly surveyed from country population.

Data: TFP is increasing in management



Management is an average of all 18 questions (set to sd=1). TFP residuals of sales on capital, labor, skills controls plus a full set of SIC-3 industry, country and year dummies controls. N=8314

Three other stylized facts (interesting but not directly related to this paper): Multinationals



Sample of 7,303 manufacturing firms, of which 4,926 are purely domestic and 2,377 are foreign multinationals. Domestic multinationals are excluded – that is the domestic subsidiaries of multinational firms (like a Toyota subsidiary in Japan).

Covariance of management strongest in US & weakest in Southern EU

Dependent Variable	Employees	Employees	
Management (US=base)	201.7*** (19.9)	371.9*** (64.3)	} Reallocation towards better managed firms significantly worse in other countries than in US
MNG*Africa		-237.0*** (75.9)	
MNG*Americas		-192.1*** (66.7)	
MNG*(“Northern” EU)		-164.2* (93.7)	
MNG*(“Southern” EU)		-292.0*** (66.9)	
MNG*Asia		-131.2* (77.1)	
Observations	8,895	8,895	

Notes: US is the omitted country in columns 2 and 3. Includes year, country, 3-digit SIC dummies, firm and noise controls

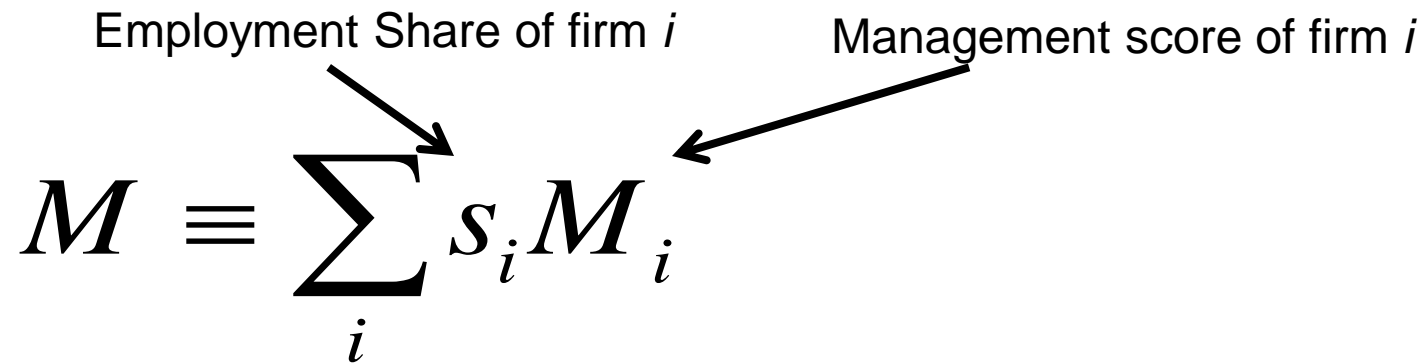
Following MAT we can estimate contribution of management to cross-country TFP differences

1. Estimate country differences in size weighted management
2. Impute impact of size weighted management on TFP

Requires many assumptions so rough magnitude calculation
(in spirit of Development Accounting, Caselli, 2005)

Decomposition of the size weighted management (M) in each country we surveyed

Employment Share of firm i Management score of firm i


$$M \equiv \sum_i s_i M_i$$

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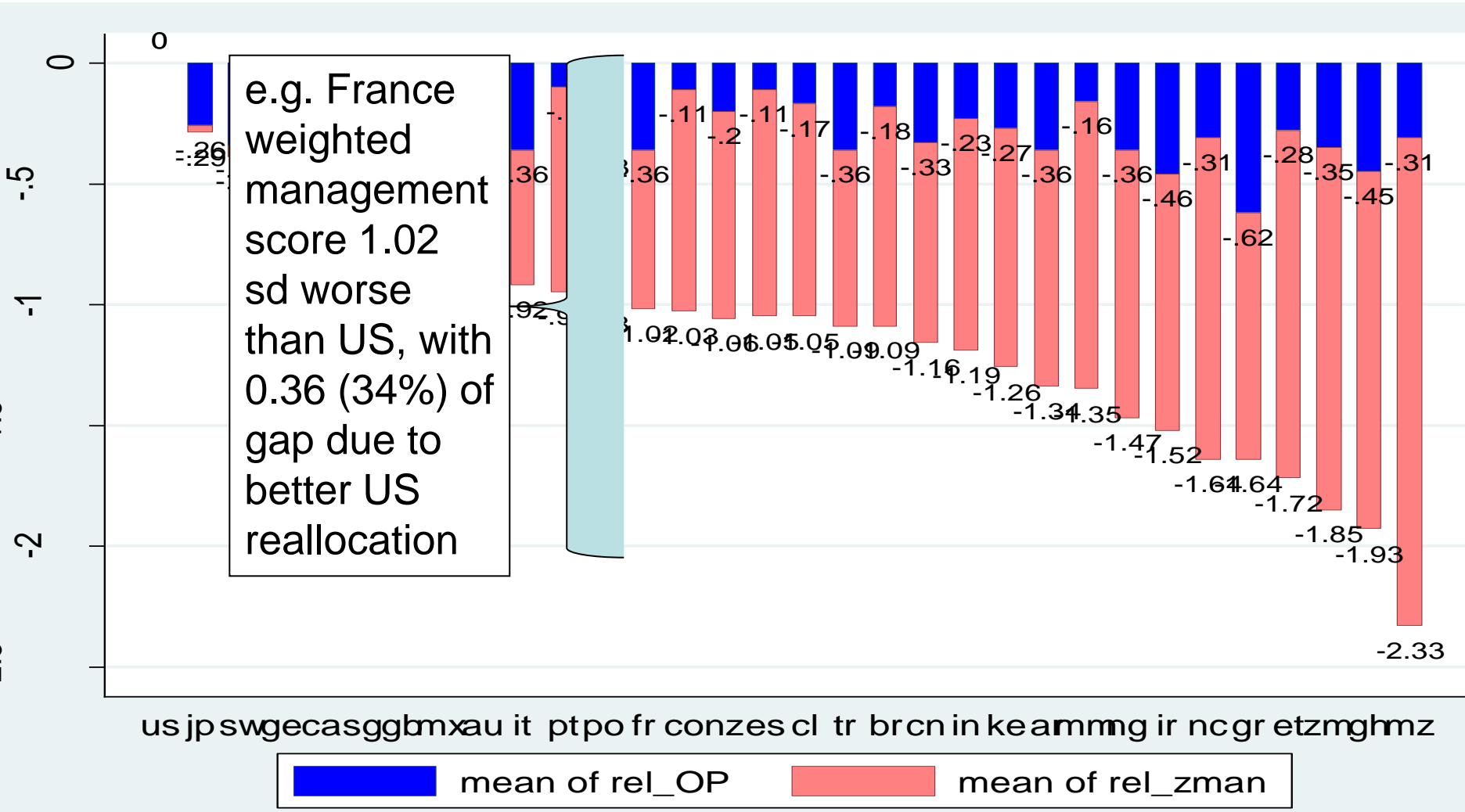
$$= \sum_i [(s_i - \bar{s})(M_i - \bar{M})] + \bar{M}$$

$$= OP + \bar{M}$$

“Between Firm”
Covariance
(Olley-Pakes, 1996,
reallocation term)

“Within Firm” Unweighted mean
of management score

Calculate the size weighted management gap with the US in terms of average and reallocation terms



Source: Management as a Technology by Bloom, Sadun and van Reenen (2015)

Step 2: What fraction of country's TFP gap (with the US) can this management gap explain?

$$\begin{array}{l} \% \text{ TFP gap accounted} \\ \text{for by management} \end{array} = \gamma \times \frac{(\bar{M}^k / \bar{M}^{US})}{TFP^k / TFP^{US}}$$

where γ = impact M on TFP

Fraction of country TFP Gaps accounted for by management

	(1) Weightd Man- agement	(2) Covariance	(3) Unwghtd Man- agement	(4) Weighted Mng. Gap with US	(5) % reallo- cation	(6) TFP Gap With US	(7) % TFP due to Man- agement
Average					24.93		31.4
US	.91	.47	.44	0	1	1	
Japan	.61	.21	.41	-.3	89.1	.71	8.82
Sweden	.52	.13	.39	-.39	87.34	.92	48.46
Germany	.45	.29	.16	-.46	38.9	.83	24.46
Canada	.32	.27	.05	-.59	34.71	.88	45.55
Singapore	.25	.43	-.18	-.66	5.95		
Britain	.2	.26	-.05	-.71	30.46	.94	107.81
Mexico	.17	.4	-.23	-.74	9.51	.73	23.04
N. Ireland	.16	.58	-.42	-.75	-15.18		
Australia	.05	.21	-.16	-.86	30.65	.83	45.24
Italy	0	.12	-.12	-.91	38.96	.82	45.4
Portugal	-.04	.37	-.41	-.95	10.55	.66	23.04
Poland	-.07	.14	-.21	-.98	33.89	.8	44.74
France	-.11	.11	-.22	-1.02	36.08	.84	58.87
Colombia	-.12	.37	-.48	-1.03	10.25	.52	15.69
NZ	-.14	.27	-.42	-1.05	18.68	.79	43.54

Source: Management as a Technology by Bloom, Sadun and van Reenen (2015)

Conclusions

- One proximate factor for TFP differences could be management capabilities
- Improvements in measuring
- Appears to matter for firm level & aggregate TFP maybe ~30%
- Major challenge is what causes this variation & what can be done

Preliminary estimates of contribution of management to within-country TFP spread ~1/3

Country	90-10 gap in: TFP	90-10 gap in: Management	% accounted for by management	TFP spread source:
US	90%	2.7 SDs	30%	Syverson (2004)
UK	110%	3.0 SDs	38%	Criscuolo, Haskel and Martin (2003)

Note: Management share imputed assuming that $\uparrow 1$ SD management $\approx \uparrow 10\%$ TFP
 Using US MOPs on entire firm size distribution US figure is 21%

FURTHER READING

- CEP Election Analysis Series

http://cep.lse.ac.uk/_new/publications/series.asp?prog=CEPEA

- World Management Survey

<http://worldmanagementsurvey.org/>

- LSE Growth Commission Final Report

<http://www.lse.ac.uk/researchAndExpertise/units/growthCommission/documents/pdf/GCReportSummary.pdf>

Three other stylized facts (interesting but not directly related to this paper): Family CEO firms

