

# Management and the Wealth of Nations

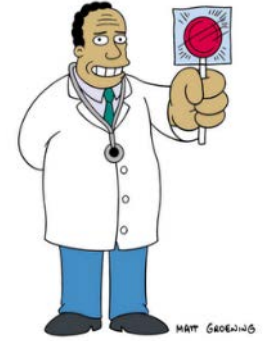
**John Van Reenen**  
**(MIT Economics Department and Sloan)**

**based on joint work with:**  
**Nick Bloom (Stanford) and Raffaella Sadun (Harvard)**

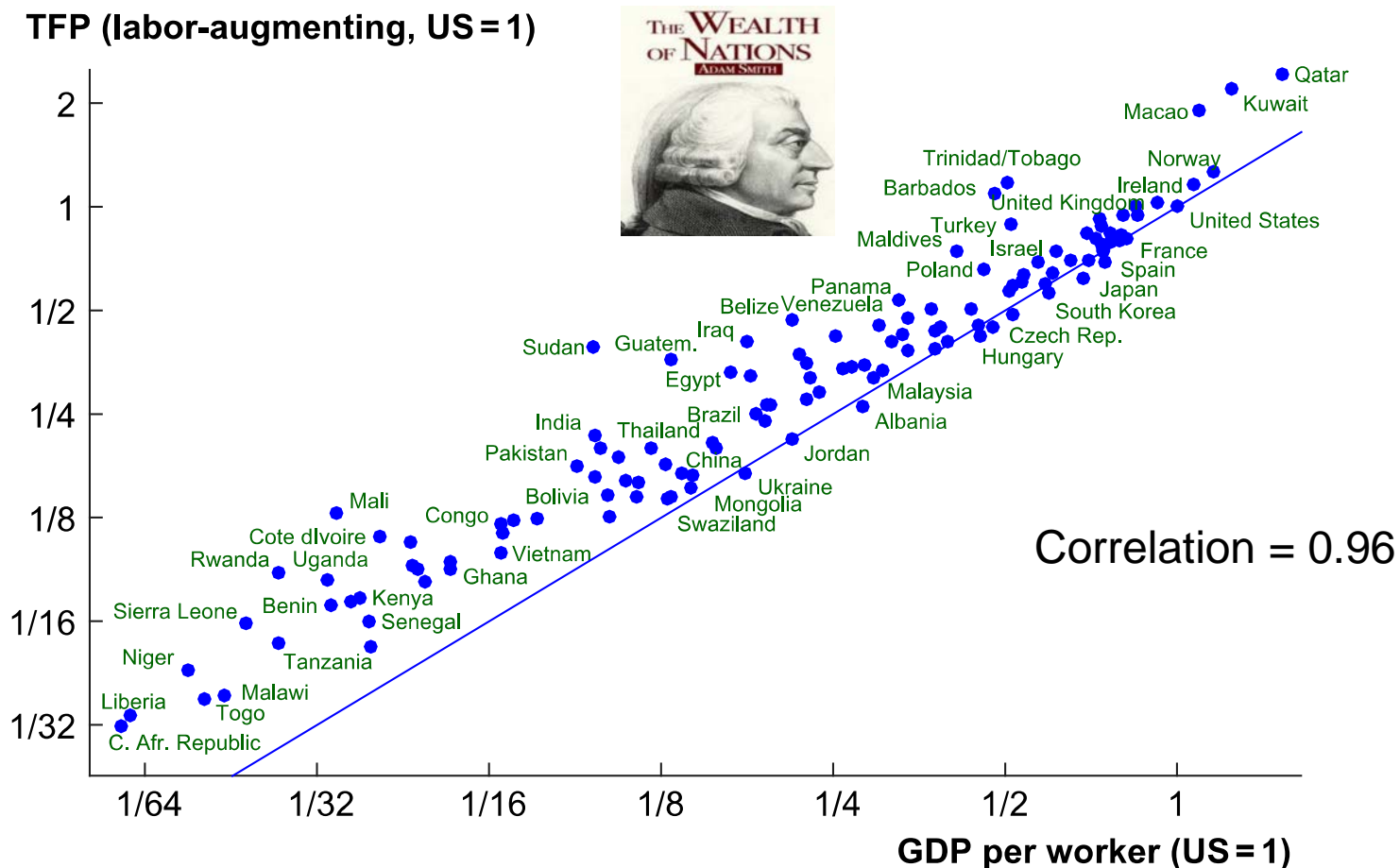
**Bank of Portugal**  
**November 19<sup>th</sup> 2018**



# OR... “BOSS-ONOMICS”



# Big spread of productivity between countries



**Notes:** 2010 data; Total Factor Productivity ( $\alpha=1/3$ );

**Source:** Penn World Tables 8.0; Jones (2015)



# Francis Walker (1840-1897), founding President American Economic Association



**But there is still a wide debate – many people claim management is “hot air**

*“No potential driving factor of productivity has seen a higher ratio of speculation to empirical study”.*

Chad Syverson (2011,  
*Journal of Economic Literature*)



# **Part of a research group looking scientifically at management, and summarize 14 years research**

1) Measuring management

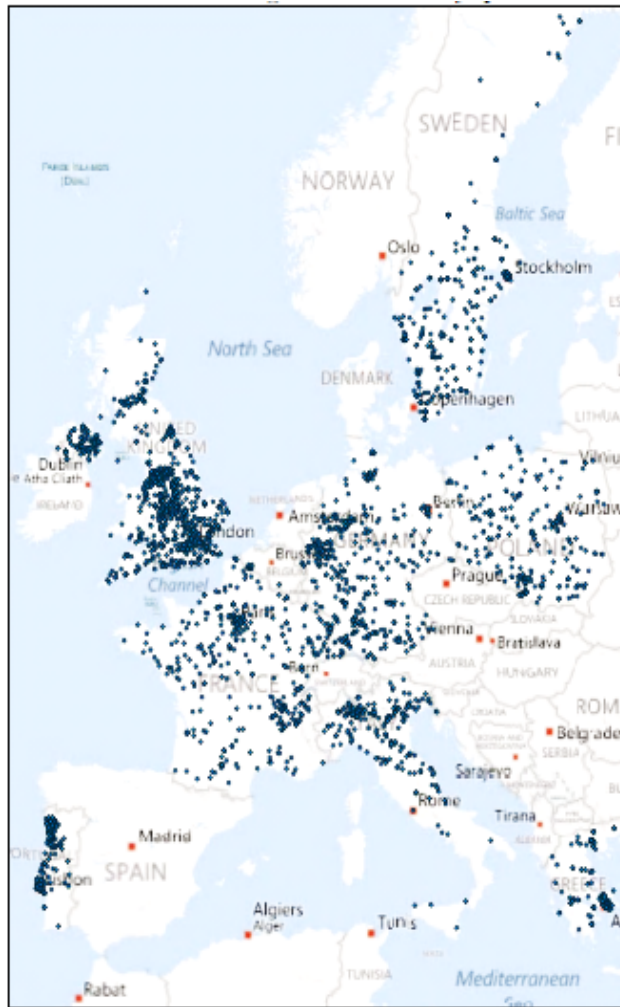
2) Impact of management on performance

3) Drivers and policy

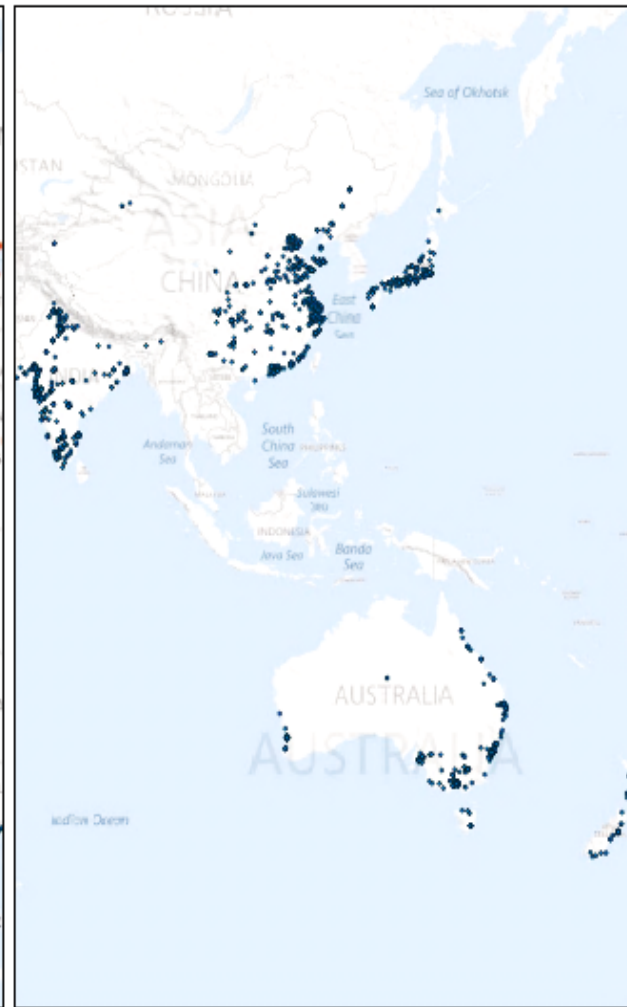
# World Management Survey (WMS) has over 20,000 interviews since 2004 in 35 countries



Americas



Europe



Asia



# 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

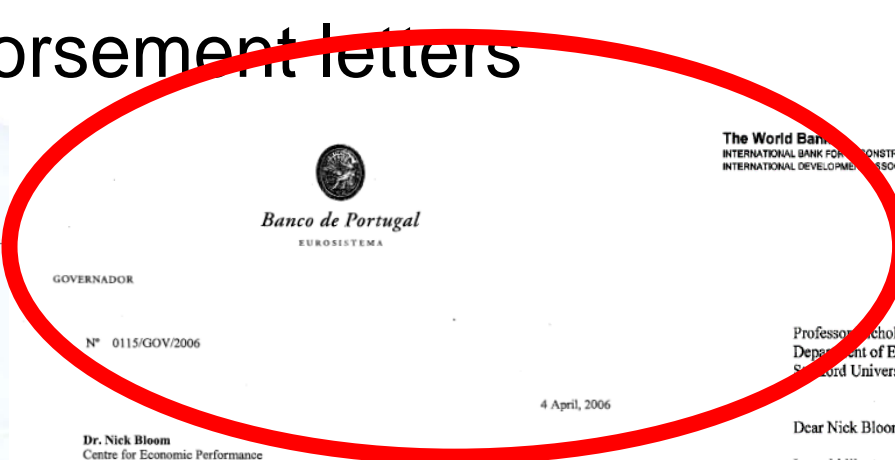
- Introduced as “Lean-manufacturing” interview, no financials
- Official Endorsement: Bundesbank, RBI, World Bank, BOJ etc.

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

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



# Some typical endorsement letters



The World Bank  
INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT  
INTERNATIONAL DEVELOPMENT ASSOCIATION

1818 H Street N.W.  
Washington, D.C. 20433  
U.S.A.

(202) 473-2111  
Cable Address  
Cable Address

May 28, 2013

Professor Nicholas Bloom  
Department of Economics  
Stanford University

Dear Nick Bloom, Renata Lemos and Daniela Scur,

I would like to confirm our enthusiastic support for the joint project between academia at London School of Economics, Stanford University, Harvard Business School, Cambridge University and Oxford University.

This study, aimed at understanding management practices across a range of organizations in African countries and at comparing these practices to practices in North American, European, Asian and Latin American countries, provides a valuable and timely contribution to sectoral competitiveness and overall regional development.

We will follow your results with great interest.

Sincerely,

Nick Bloom



FROM :

FROM NO. :

2007.09.18 09:08

P1

nt Department

中國人民銀行  
THE PEOPLE'S BANK OF CHINA

32 Chungfeng Street, West District, Beijing, China 100800

Professor Nicholas Stern  
Director of the Asia Research Centre  
London School of Economics

September 12, 2007

Dear Professor Nicholas Stern,

Thank you for your email of August 20 addressed to Governor Zhou. On his behalf, I would like to congratulate you on your appointment as the first holder of the IG Patel Chair at the London School of Economics and the Director of the Asia Research Centre.

Governor Zhou thanks you for informing him of the joint London School of Economics and Stanford research project led by Professor John Van Reenen. He agrees with you that improving productivity and management practices is important for ensuring economic growth and employment, and believes that this project would be valuable in understanding managerial strengths and weaknesses. Personally he welcomes this project. He suggests that Professor Van Reenen approach the concerned firms directly. I believe many Chinese firms looking for international acknowledgement would be happy to take part in such a high-level academic survey.

LE SOUS-GOUVERNEUR

Monsieur le Professeur,

Je vous remercie de m'avoir tenu informé de votre projet de recherche sur pratiques managériales des entreprises en France, en Allemagne, au Royaume-Uni et Etats-Unis.

Décrire scientifiquement ces pratiques et évaluer leur impact sur la productivité d'un intérêt manifeste pour les entreprises et pour les politiques publiques qui visent à soutenir en France et en Europe.

Convaincu de la grande portée de ces travaux, je tiens donc à vous assurer de notre total soutien dans la conduite de votre enquête auprès des entreprises françaises.

# **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

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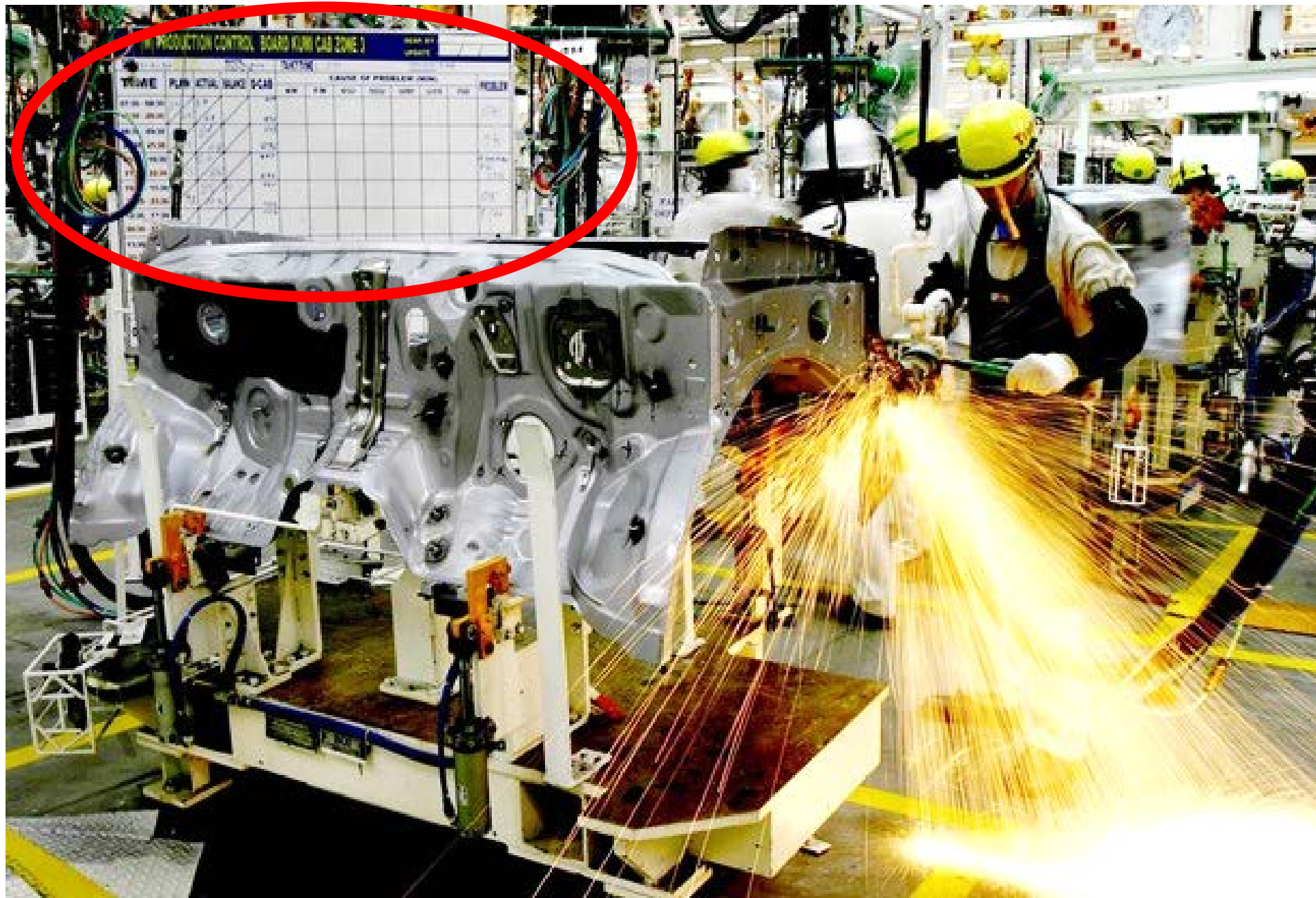
- Interviewers do not know the company’s performance
- Managers are not informed (in advance) they are scored

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

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

# Examples of performance metrics – Car Plant





# Examples of a performance metrics – Hospital



## Example of no performance metrics: Textile Plant

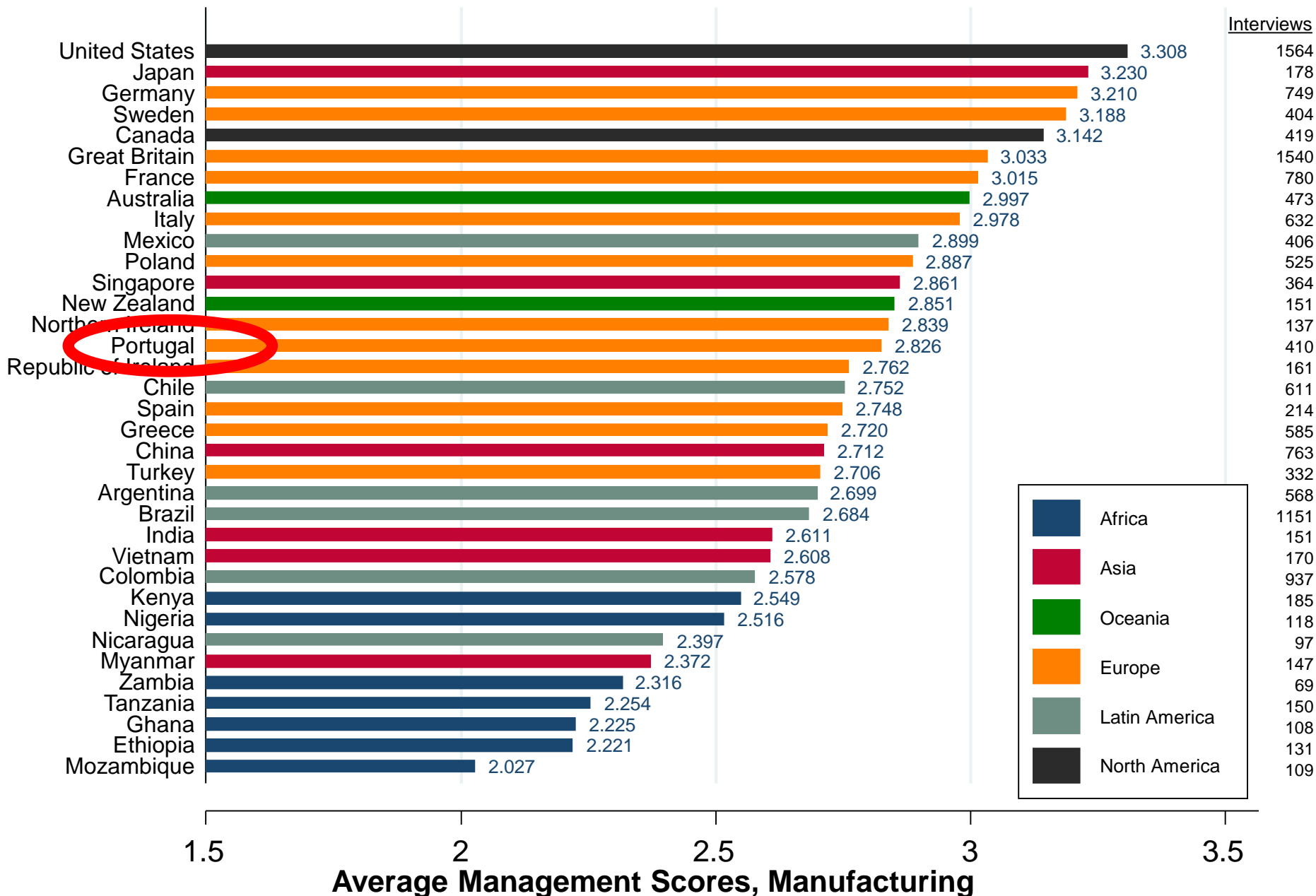


# **Example incentives question, scored based on questions starting with “*How does the promotion system work?*”**

<b>Score</b>	<b>(1) People are promoted primarily upon the basis of tenure, irrespective of performance (ability &amp; effort)</b>	<b>(3) People are promoted primarily upon the basis of performance</b>	<b>(5) We actively identify, develop and promote our top performers</b>
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**Note:** All 18 questions & 50+ examples in <http://worldmanagementsurvey.org/>

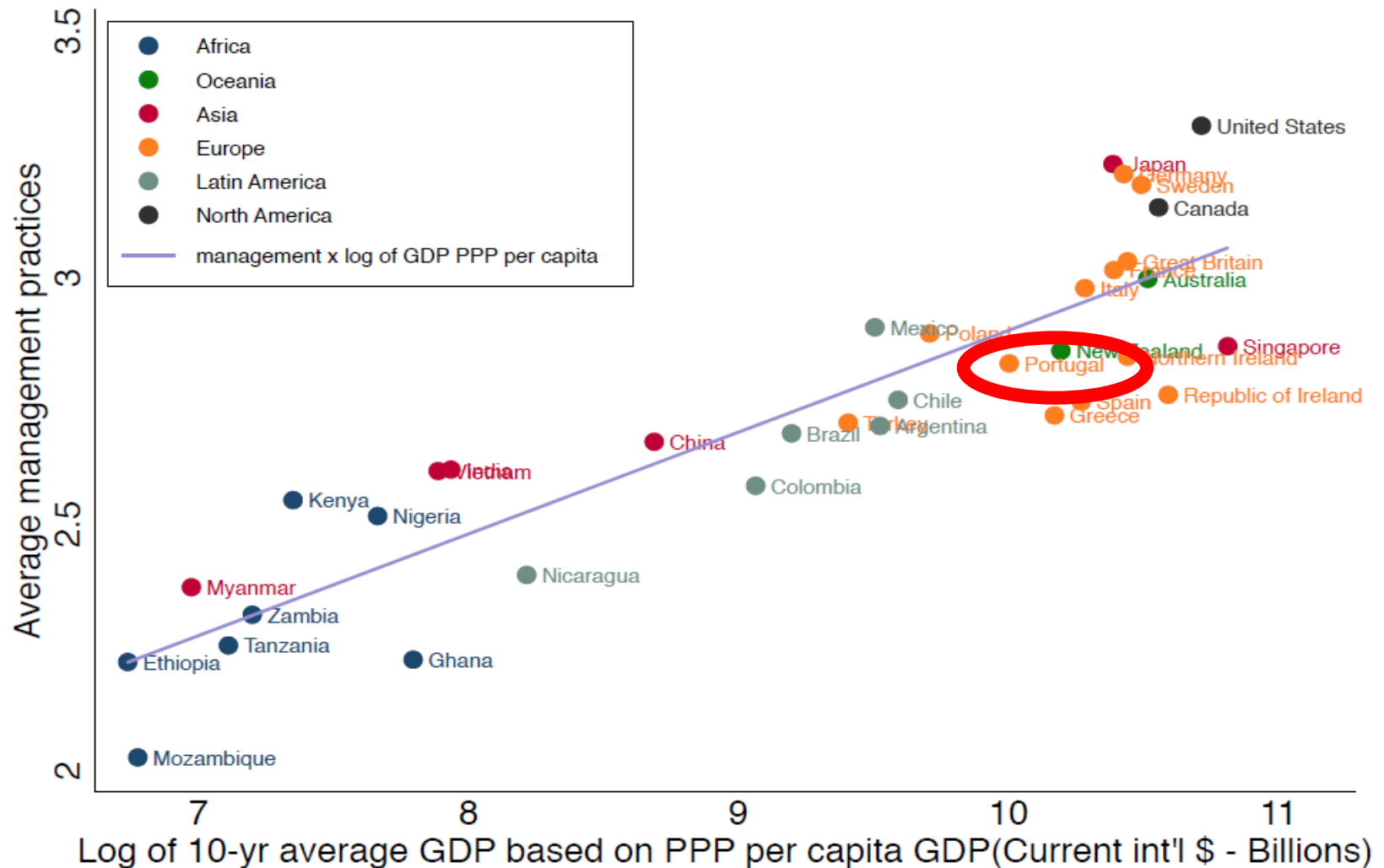
# Average Management Scores by Country



**Note:** Unweighted average management scores; # interviews in right column (total = 15,489); all waves pooled (2004-2014)

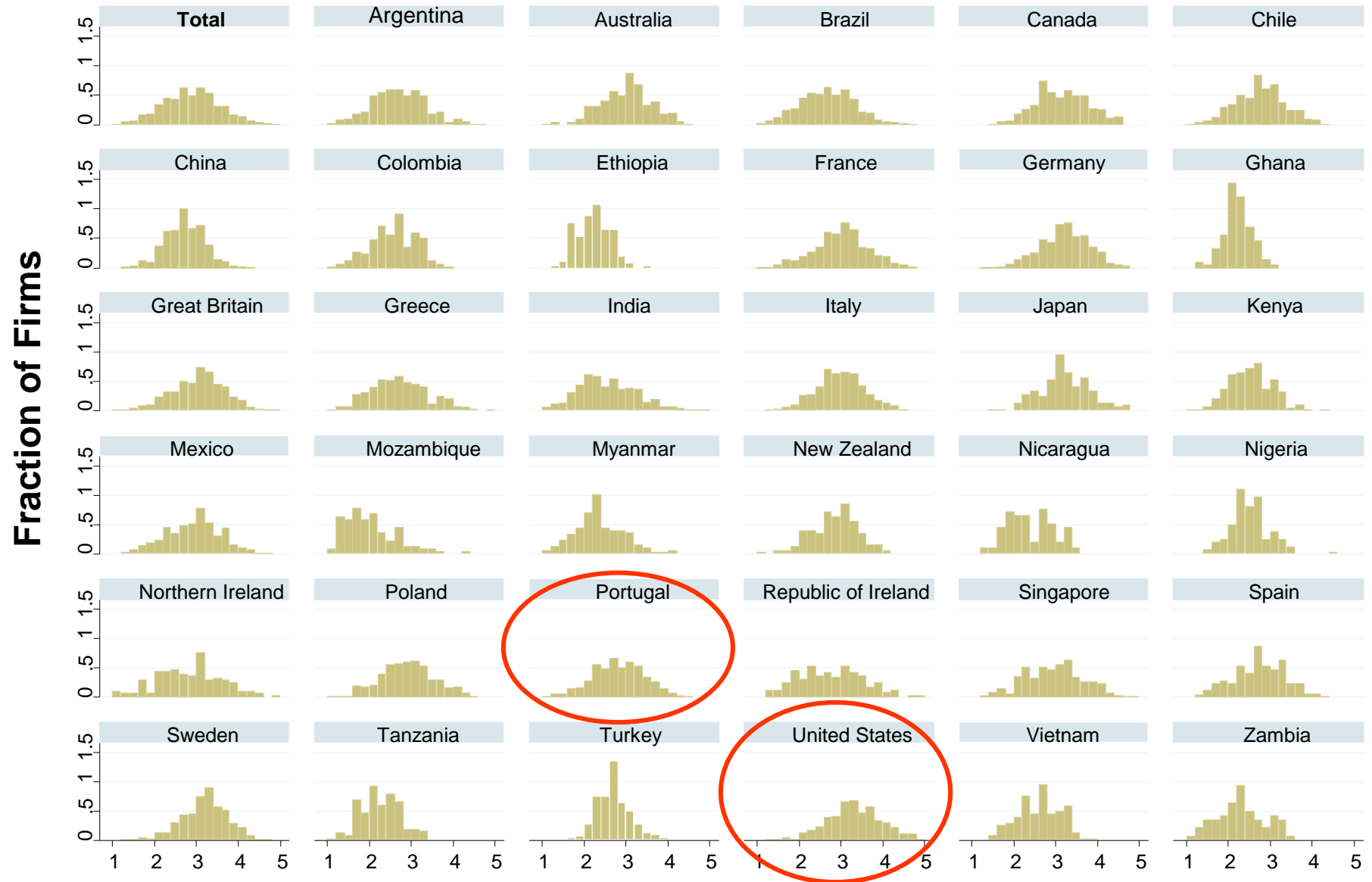


# Average management scores across countries are strongly correlated with GDP per capita



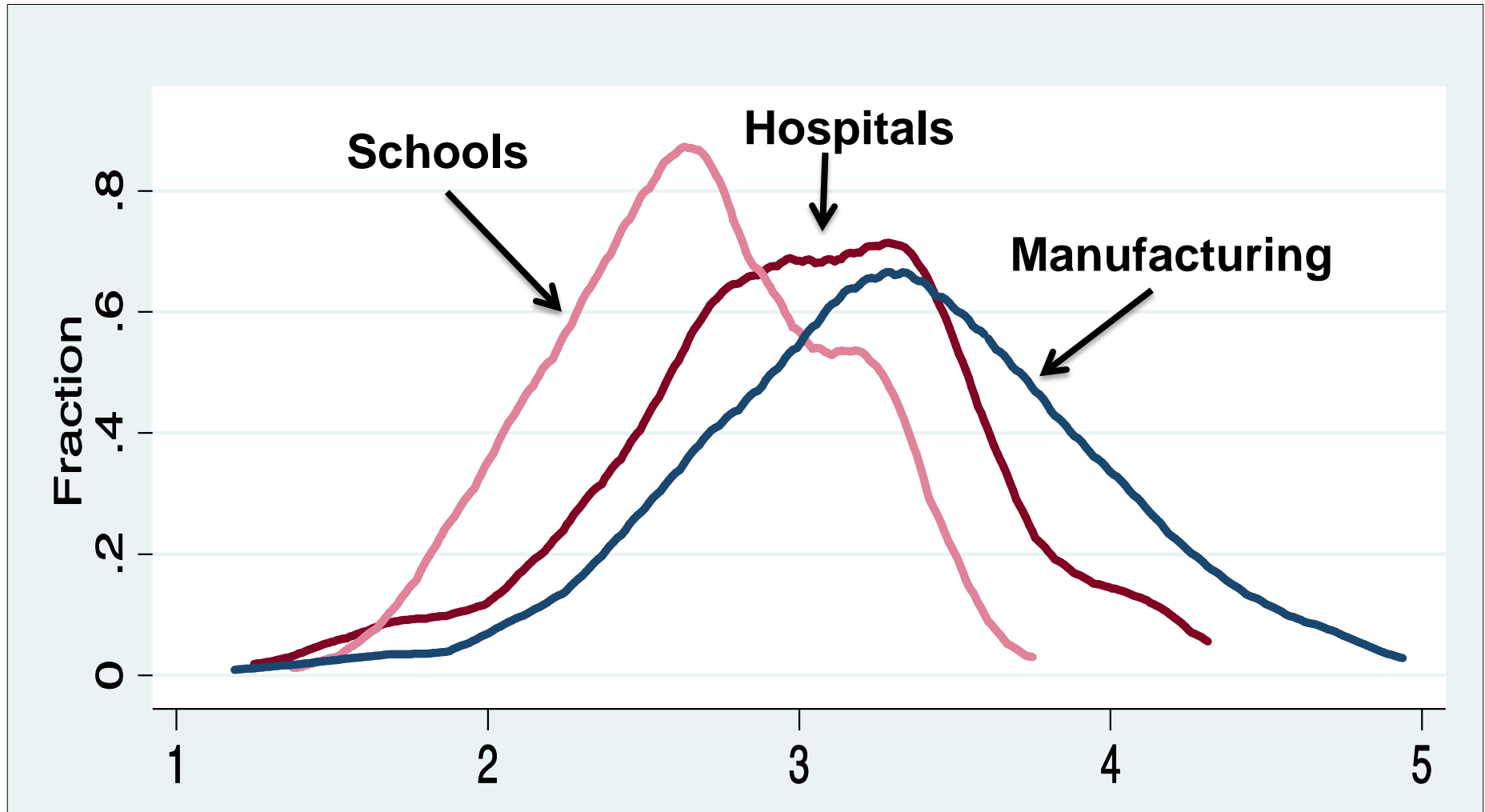
Note: Data from April 2013, World Economic Outlook (IMF) indicator

# Management also varies heavily within countries



Firm level average management scores, 1 (worst practice) to 5 (best practice)

**On the subset of identical questions in the US can compare across industries of the same practices**



**Source:** Bloom, Lemos, Sadun, Scur & Van Reenen (2014)

**One Problem with WMS is scale – we've collected 20,000 interviews over 14 years like this**





**To get 40,000 in one quick wave we'd need this!**





# Survey run with the US Census Bureau (MOPS)

1st MOPS delivered to ~48k manufacturing plants (US ASM) asks about practices in 2010 and 2005.

2<sup>nd</sup> US MOPS covered 2015 & 2010

Quick to fill out - and mandatory - so ~80% of plants responded

Now being done in many other countries (Canada, China, Japan, Mexico, Pakistan, UK, etc.)

U.S. DEPARTMENT OF COMMERCE  
Economics and Statistics Administration  
U.S. CENSUS BUREAU  
FORM  
MP-10002 (DRAFT)

2010 MANAGEMENT AND ORGANIZATIONAL PRACTICES SURVEY

OMB No. 0607-0963; Approval Expires 2/28/2014

MP-10002

*Need help or have questions about filling out this form?*  
Visit [www.census.gov/econhelp/mops](http://www.census.gov/econhelp/mops)  
Call 1-301-763-4673, between 8:00 a.m. and 4:30 p.m., Eastern time, Monday through Friday.  
- OR -  
Write to the address below. Include your 11-digit Census File Number (CFN) printed in the mailing address.

Mail your completed form to:  
  
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1201 East 10th Street  
Jeffersonville, IN 47132-0001

(Please correct any errors in this mailing address.)

**YOUR RESPONSE IS REQUIRED BY LAW.** Title 13, United States Code, requires businesses and other organizations that receive this questionnaire to answer the questions and return the report to the U.S. Census Bureau. By the same law, **YOUR CENSUS REPORT IS CONFIDENTIAL.** It may be seen only by persons sworn to uphold the confidentiality of Census Bureau information and may be used only for statistical purposes. Further, copies retained in respondents' files are immune from legal process.

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User ID:  Password:

Public reporting burden for this collection is estimated to be 30 minutes. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to: Paperwork Project 0607-0963, U.S. Census Bureau, 4600 Silver Hill Road, ASMD - 3K138, Washington, DC 20233. You may e-mail comments to [Paperwork@census.gov](mailto:Paperwork@census.gov); use "Paperwork Project 0607-0963" as the subject.

An Office of Management and Budget (OMB) approval number is printed in the upper right corner of this form. Without displaying this number, we could not collect this information or require your response.

The reporting unit for this form is an **establishment** which is generally a single physical location where business is conducted or where services or industrial operations are performed.

10002012

# MY FAVOURITE QUOTES:

## The difficulties of defining ownership in Europe

*Production Manager:* “We’re owned by the Mafia”

*Interviewer:* “I think that’s the “*Other*” category.....although I guess I could put you down as an “*Italian multinational*” ?”

## Americans on geography

*Interviewer:* “How many production sites do you have abroad?”

*Manager in Indiana, US:* “Well...we have one in Texas...”

# **Part of a research group looking scientifically at management, and summarize 14 years research**

1) Measuring management

2) Impact of management on performance

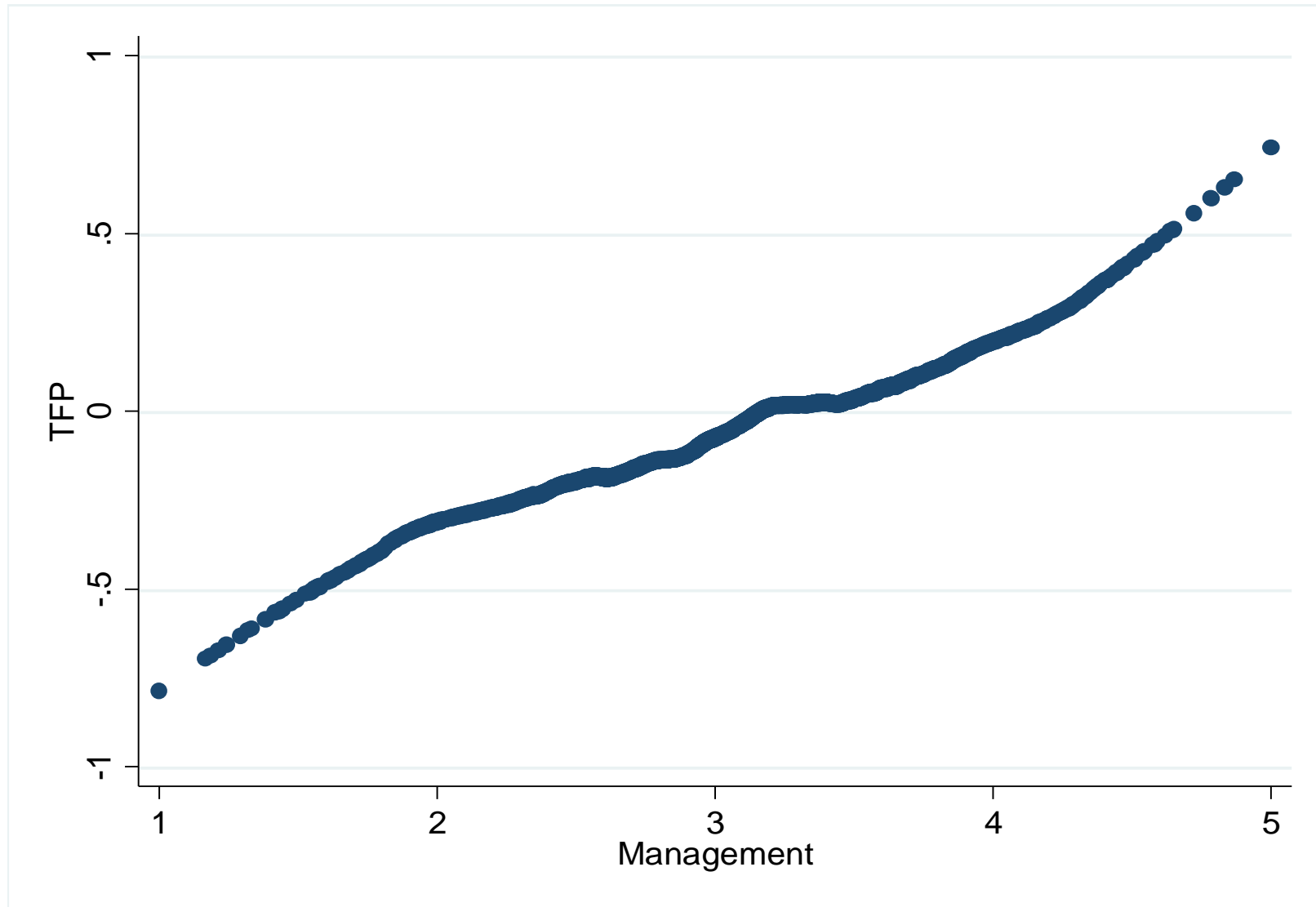
3) Drivers and policy



# ECONOMETRIC RESULTS

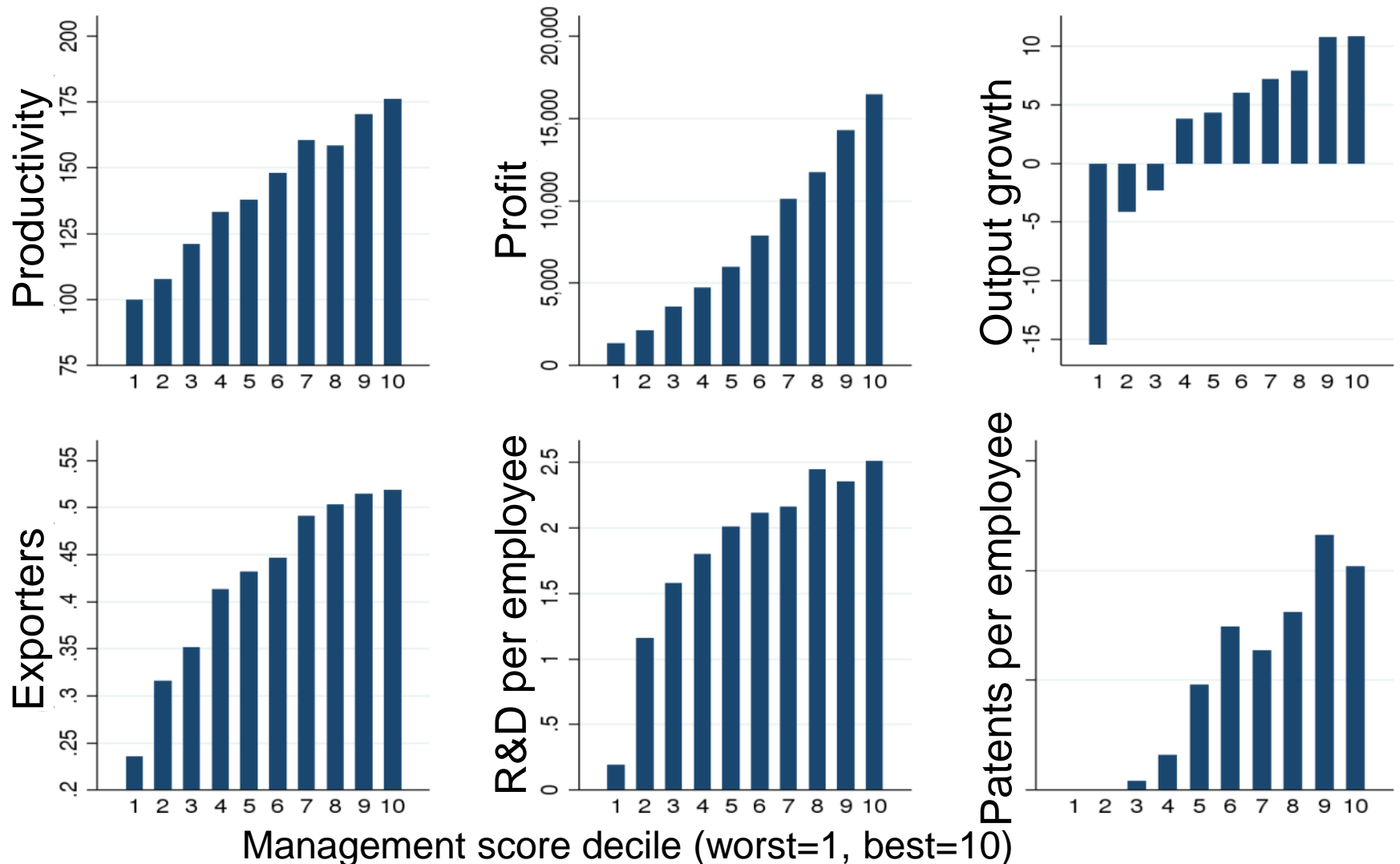
- Management has an important effect on firm performance
  - **Non-experimental evidence:** e.g. Bloom & Van Reenen (2007, 2010 survey); Bloom, Sadun and Van Reenen (2017); Giorcelli (2018); Huber et al (2018)
  - **Randomized Control Trials:** e.g. Bloom et al (2013); Bruhn et al, (2016); Fryer, 2017; McKenzie & Woodruff (2013, 2016)

# Productivity (TFP) & Management (WMS)



**Notes:** 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=10,900; **Source:** Bloom, Sadun & Van Reenen (2017) “Management at as Technology”

# These management scores are positively correlated with firm performance (MOPS)



**Source:** Bloom, Brynjolfsson, Foster, Jarmin, Patnaik, Saporta-Eksten & Van Reenen (2017) “Drivers”

**Bloom et al (2013) RCT. Took 28 textile plants near Mumbai & randomized into treatment & control**



# Factory operations: Before

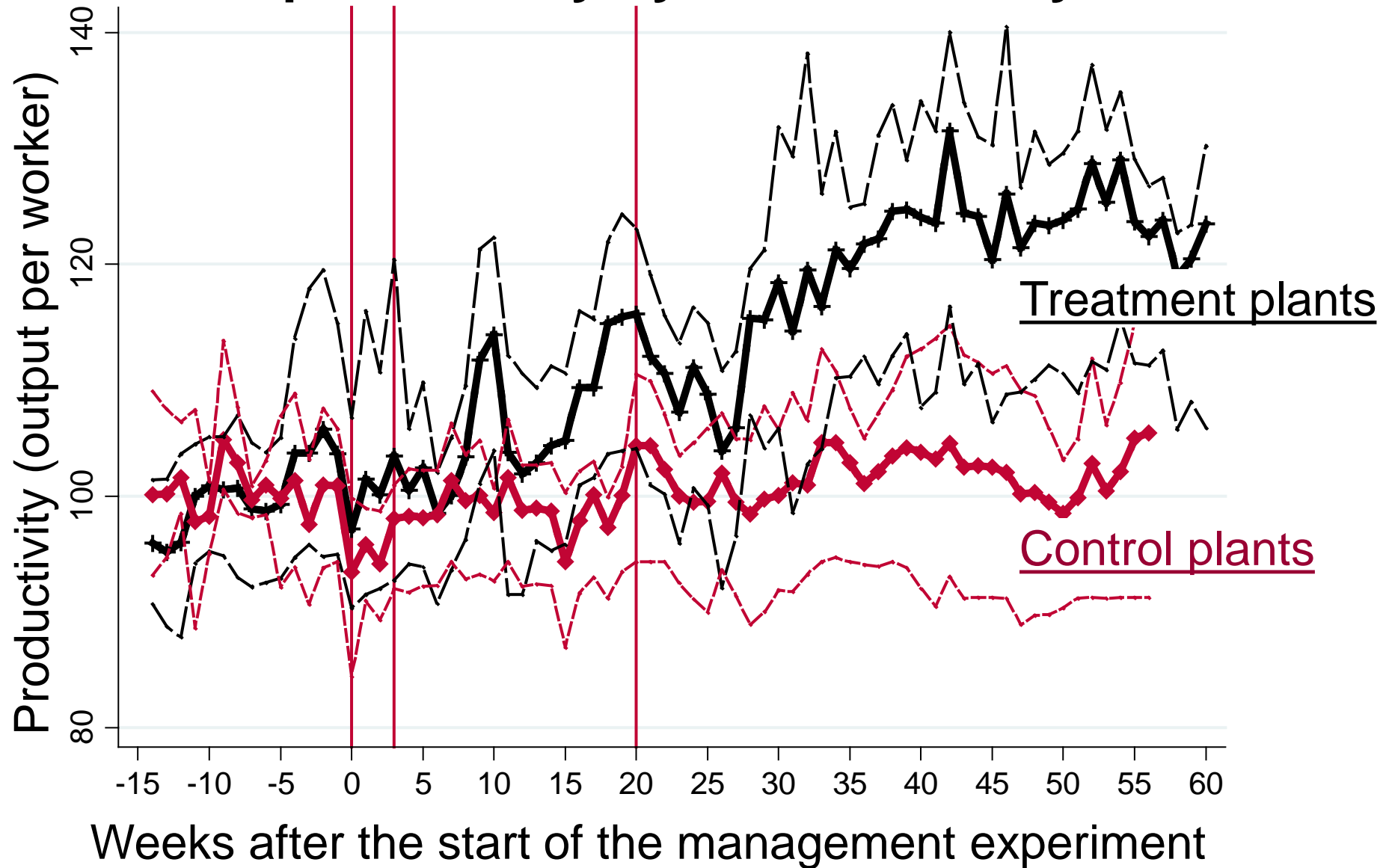




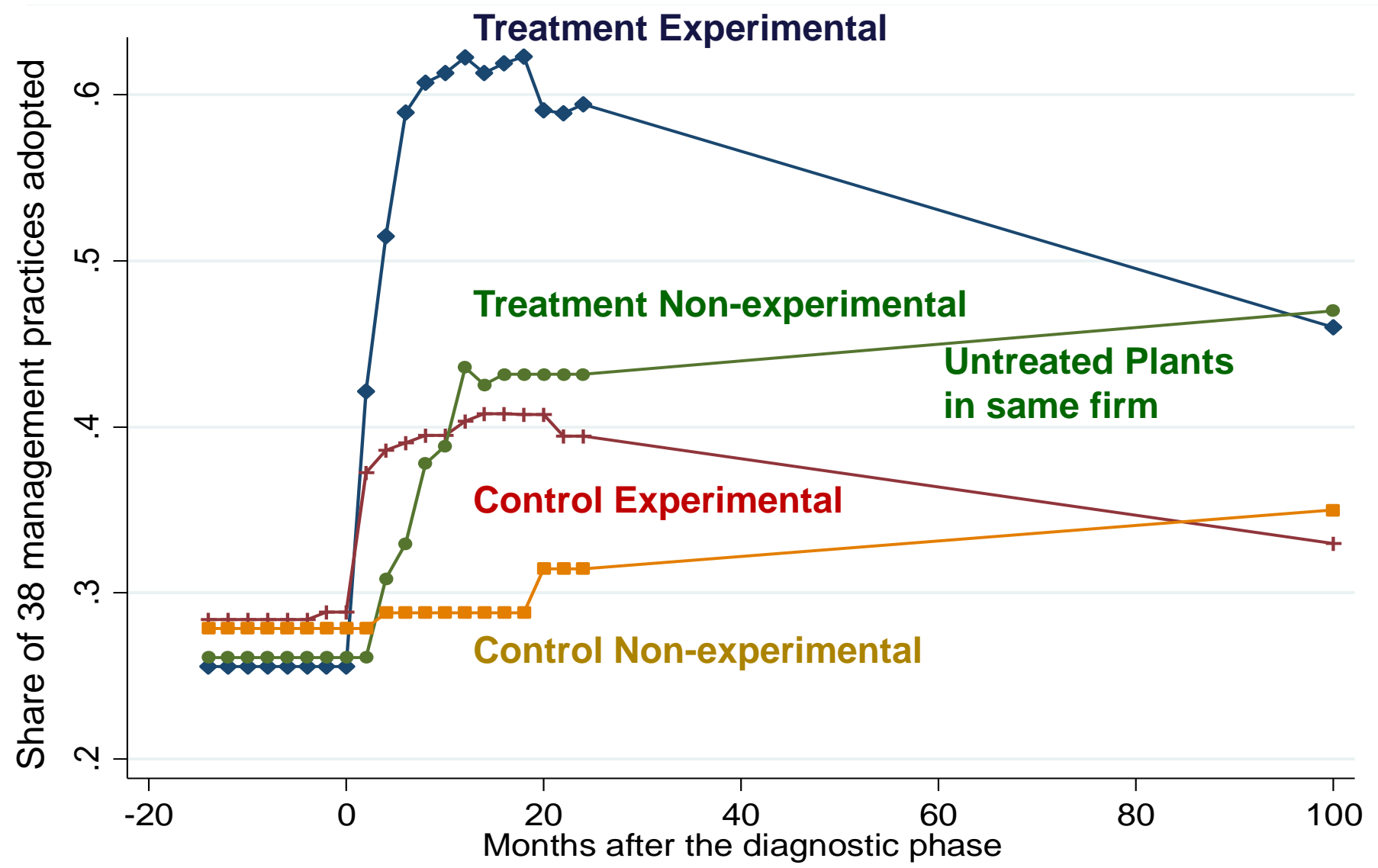
# Factory operations: After



# These simple management improvements increased productivity by 20% within 1 year alone



# The management intervention was surprisingly persistent



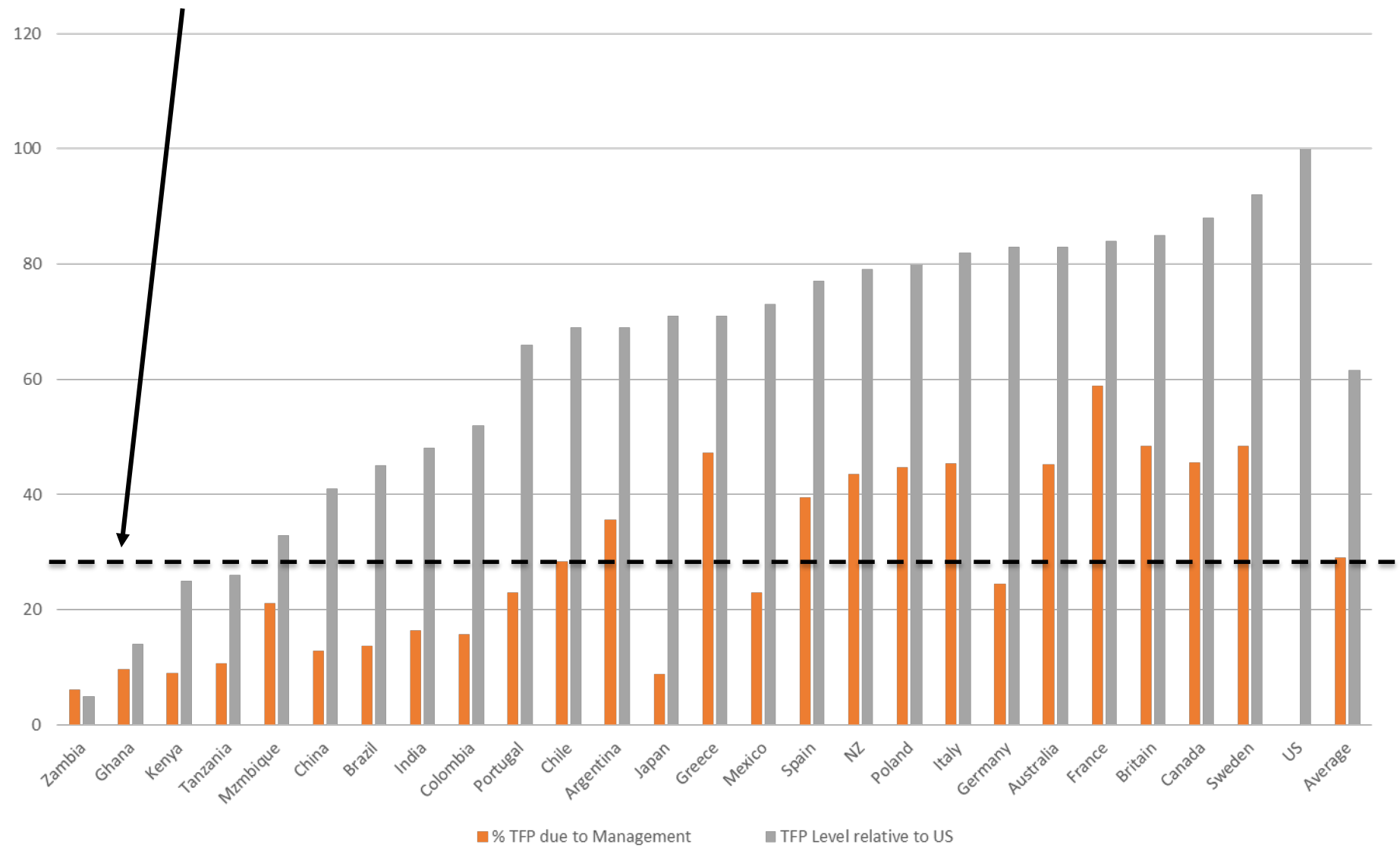
**Notes:** Sample comprised of the balanced panel of plants from 2008 to 2017 (11 treatment experimental, 6 treatment non-experimental, 6 control experimental and 2 control non-experimental). **Source:** Bloom et al (2018)

# **We can use our data to estimate the 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)

# Management accounts for ~30% of TFP Gap with US

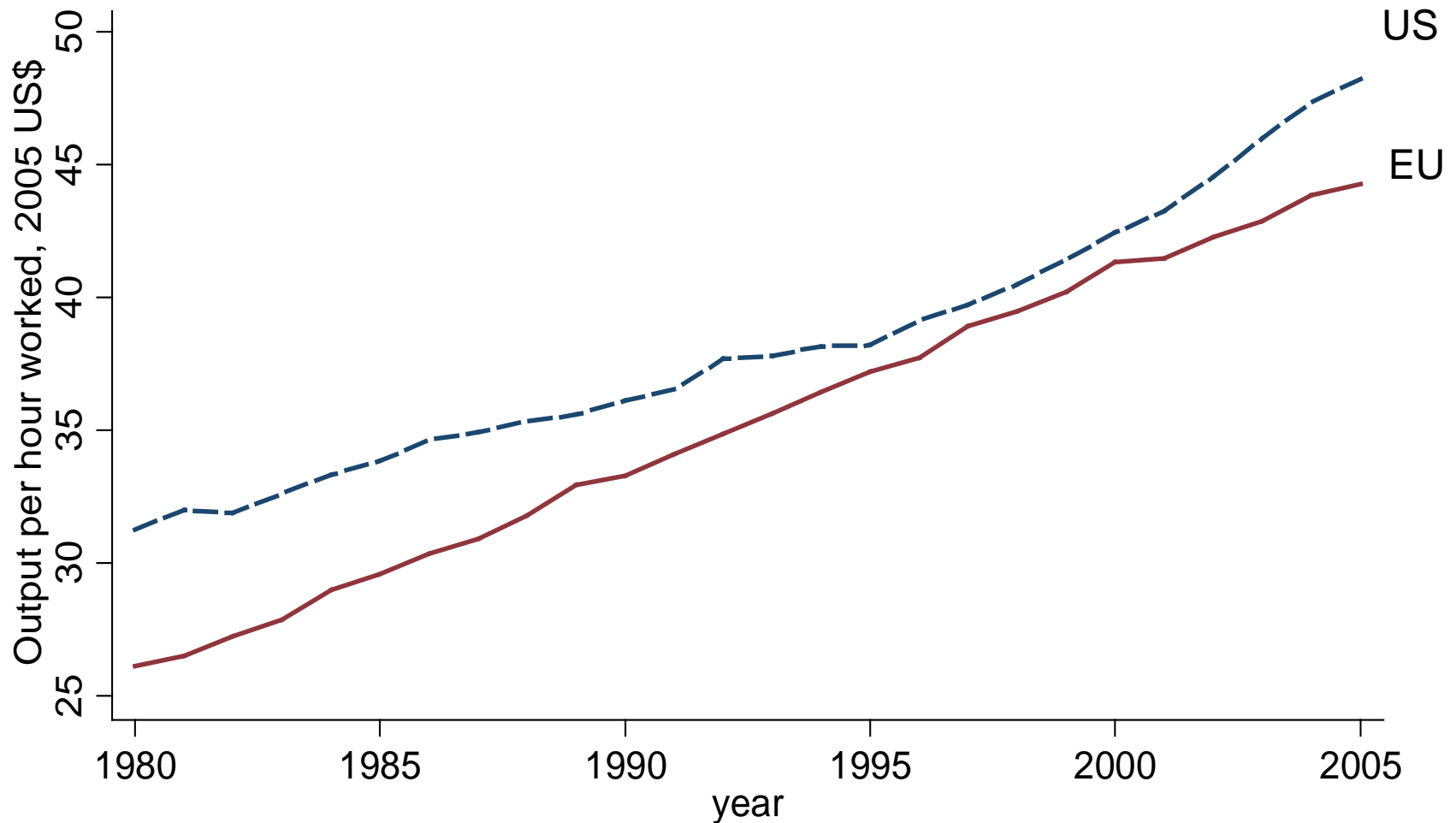


**Source:** Bloom, Sadun & Van Reenen (2015)

**Notes:** TFP gaps from Penn World Tables; fraction accounted for by management uses the weighted average management scores and an assumed 10% impact of management on TFP



# Why did productivity growth accelerate in US 2005-1995 (especially in ICT using sectors), but not in EU?



## Management can also help explain Growth

- “Americans do I.T. better” (Bloom, Sadun and Van Reenen, AER, 2012)
  - Use management data + IT data (ONS & Harte-Hanks)
  - What happens to establishment productivity after changes in ICT investment?
- Firms with better people management, don't just spend more on IT, but enjoy bigger productivity boost from each \$ of IT spend
  - Well managed firms get **double** the productivity boost from IT compared to poorly managed
  - Accounted for half of the faster productivity growth in US compared to Europe in decade since mid 1990s

1) Measuring management

2) Impact of management on performance

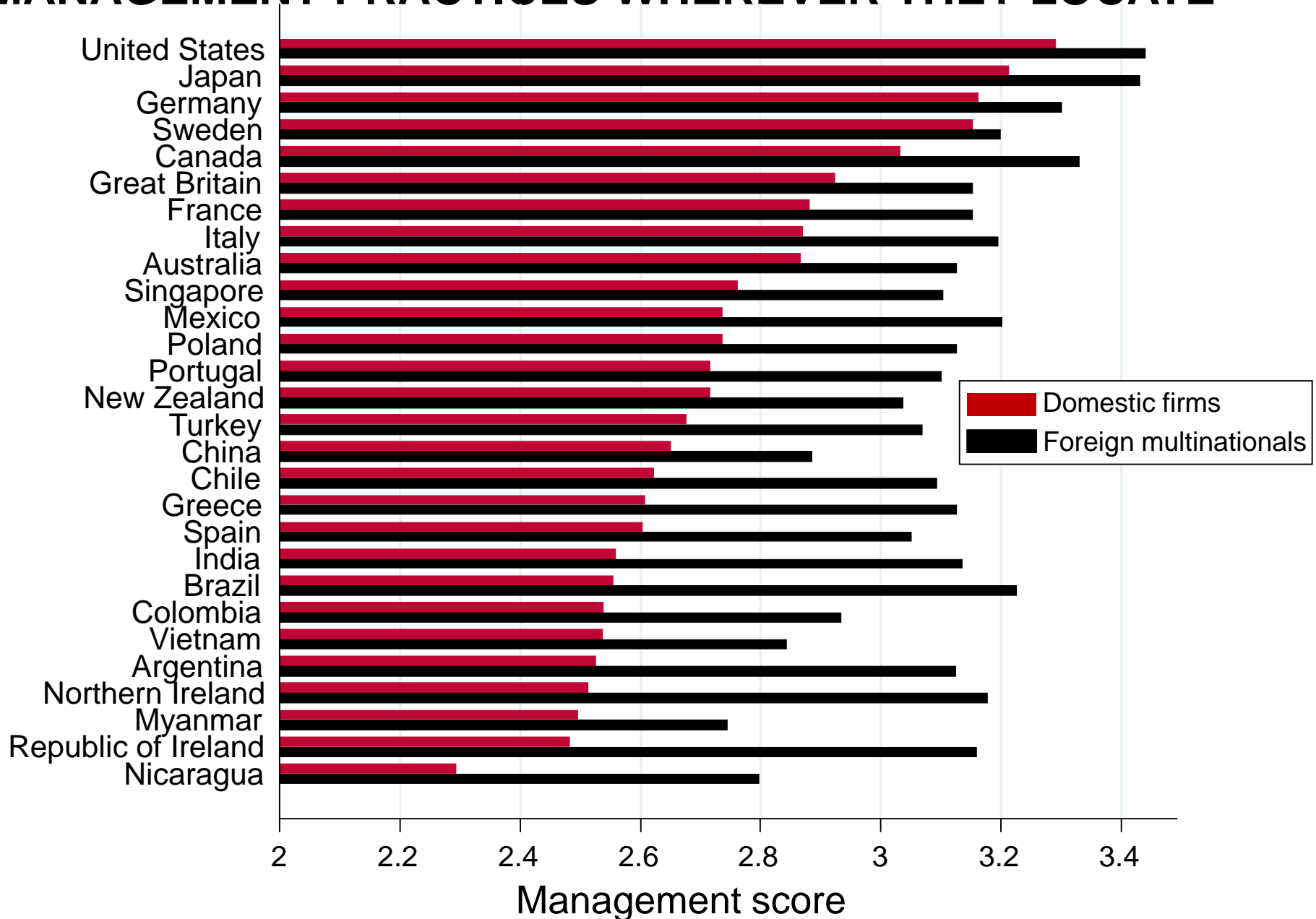
- Regression results
- Field experiments

**3) Drivers and policy**

# **Are there policies Governments could enact?**

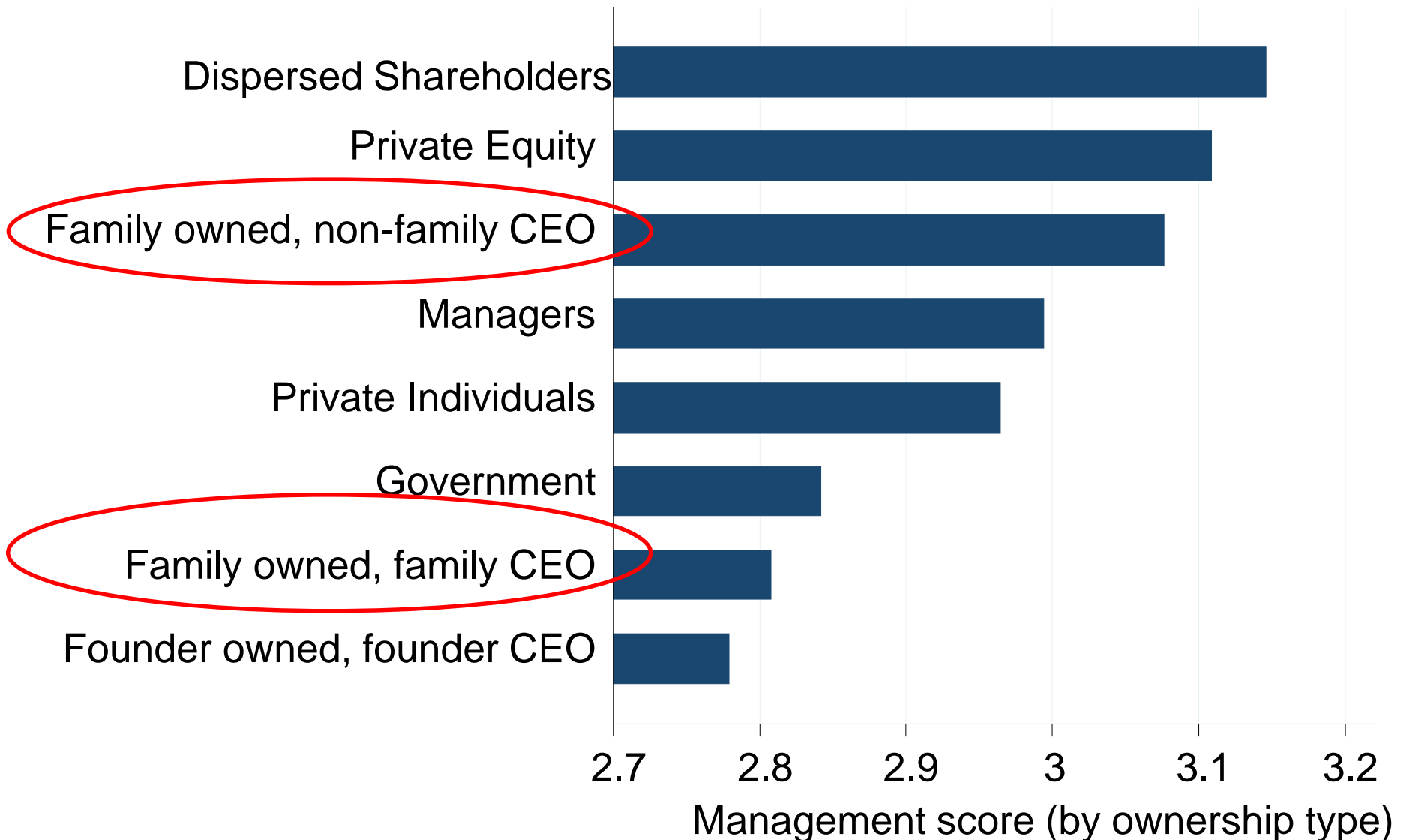
- Ownership & governance
- Competition
- Education
- Regulation
- Information

# OWNERSHIP: MULTINATIONALS ACHIEVE GOOD MANAGEMENT PRACTICES WHEREVER THEY LOCATE





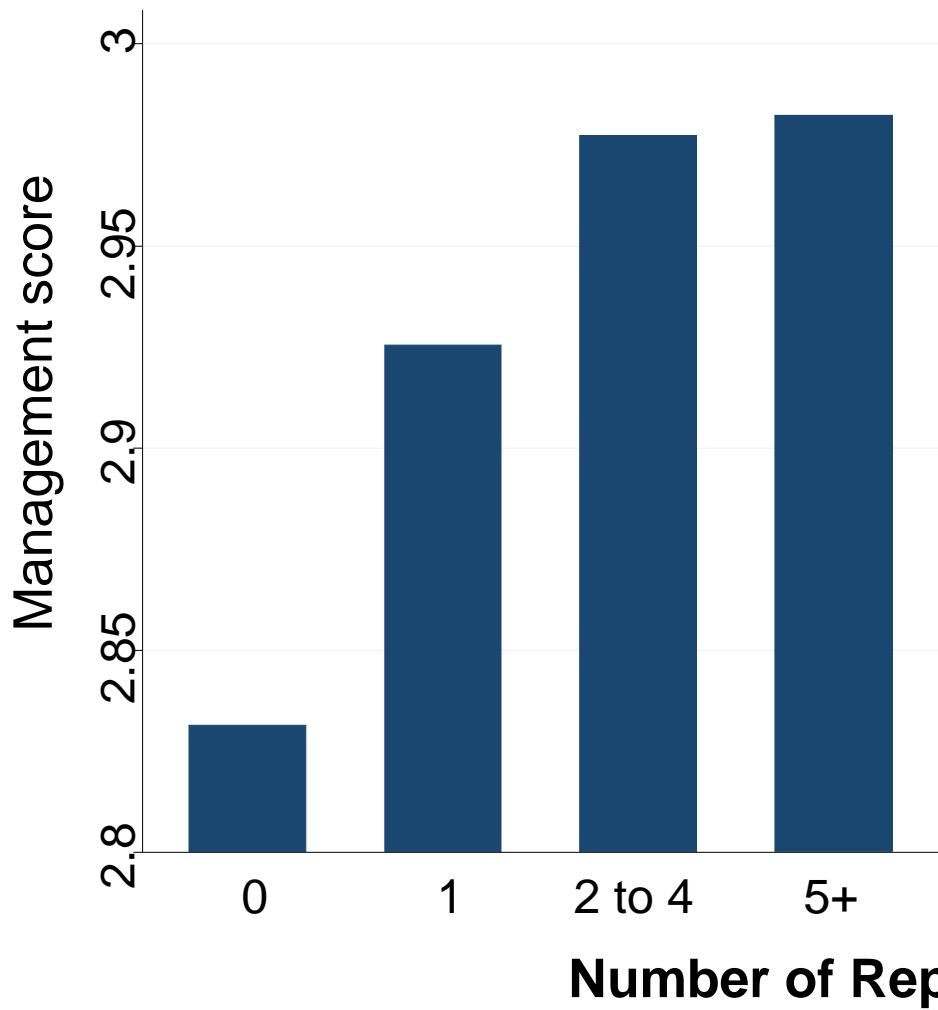
# OWNERSHIP: FAMILY-RUN AND GOVERNMENT FIRMS TYPICALLY HAVE VERY POOR MANAGEMENT



Management scores after controlling for country, industry and number of employees. Data from 9085 manufacturers and 658 retailers. “Founder owned , founder CEO” firms are those still owned and managed by their founders. “Family firms” are those owned by descendants of the founder “Dispersed shareholder” firms are those with no shareholder with more than 25% of equity, such as widely held public firms.

# COMPETITION ASSOCIATED WITH BETTER MANAGEMENT

## Manufacturing and Retail

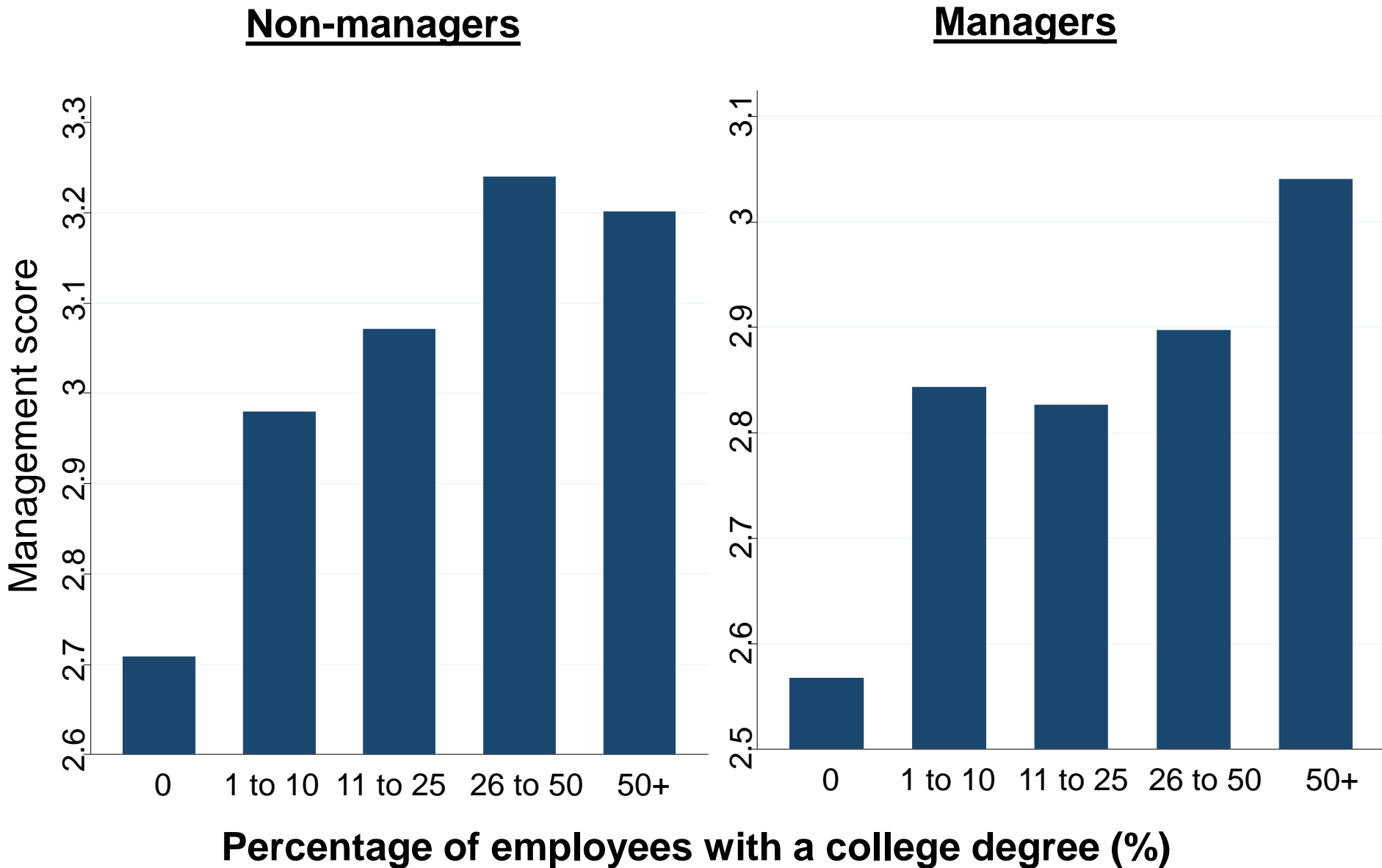


Sample of 9469 manufacturing and 661 retail firms (private sector panel) Reported competitors defined from the response to the question “How many competitors does your [organization] face?”

# IS COMPETITION EFFECT CAUSAL?

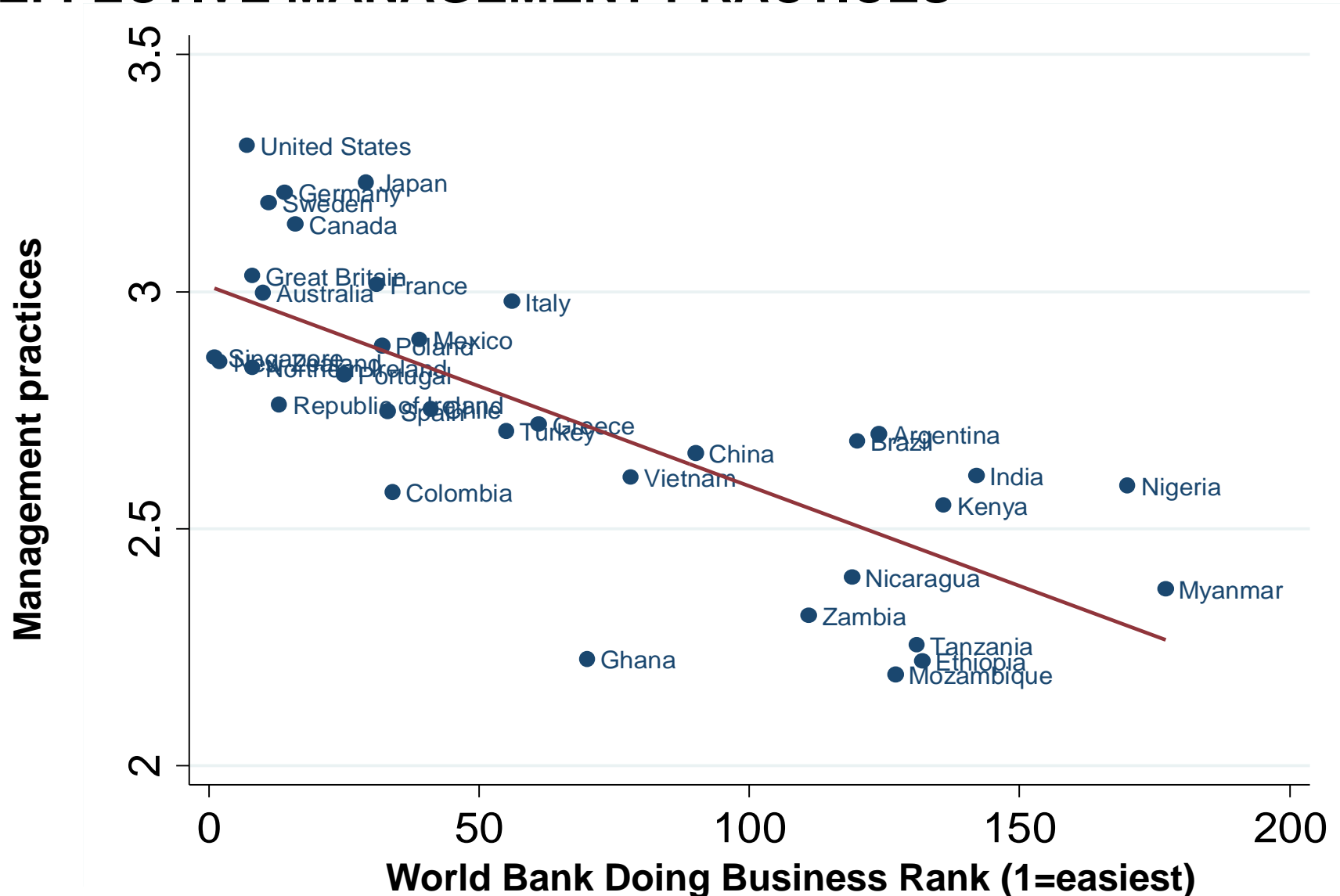
- Also use natural experiments to generate exogenous increases in competition
- Trade liberalization following China accession to WTO & subsequent phase out of MFA quotas in textiles & apparel industries in 2005. Bloom, Draca & Van Reenen (2016, ReStud)
  - Strong first stage on Chinese imports into EU
  - Big improvement in management & productivity in more affected sectors
- Hospital competition in UK under Blair reforms (Bloom, Propper, Seiler & Van Reenen, ReStud, 2015)

# EDUCATION FOR NON-MANAGERS AND MANAGERS APPEAR LINKED TO BETTER MANAGEMENT



Sample of 8,032 manufacturing and 647 retail firms.

# HEAVY REGULATIONS CORRELATED WITH LESS EFFECTIVE MANAGEMENT PRACTICES



**Note:** Management scores for the 15,454 interviews in the WMS survey plotted against the World Bank's 2014 doing business "Ease of Doing Business" rank, where 1 is best and 189 is worst. See <http://www.doingbusiness.org/rankings>. Smaller and larger firms in China, Nigeria and Mozambique have been re-stratified in order to balance the sampling frame.

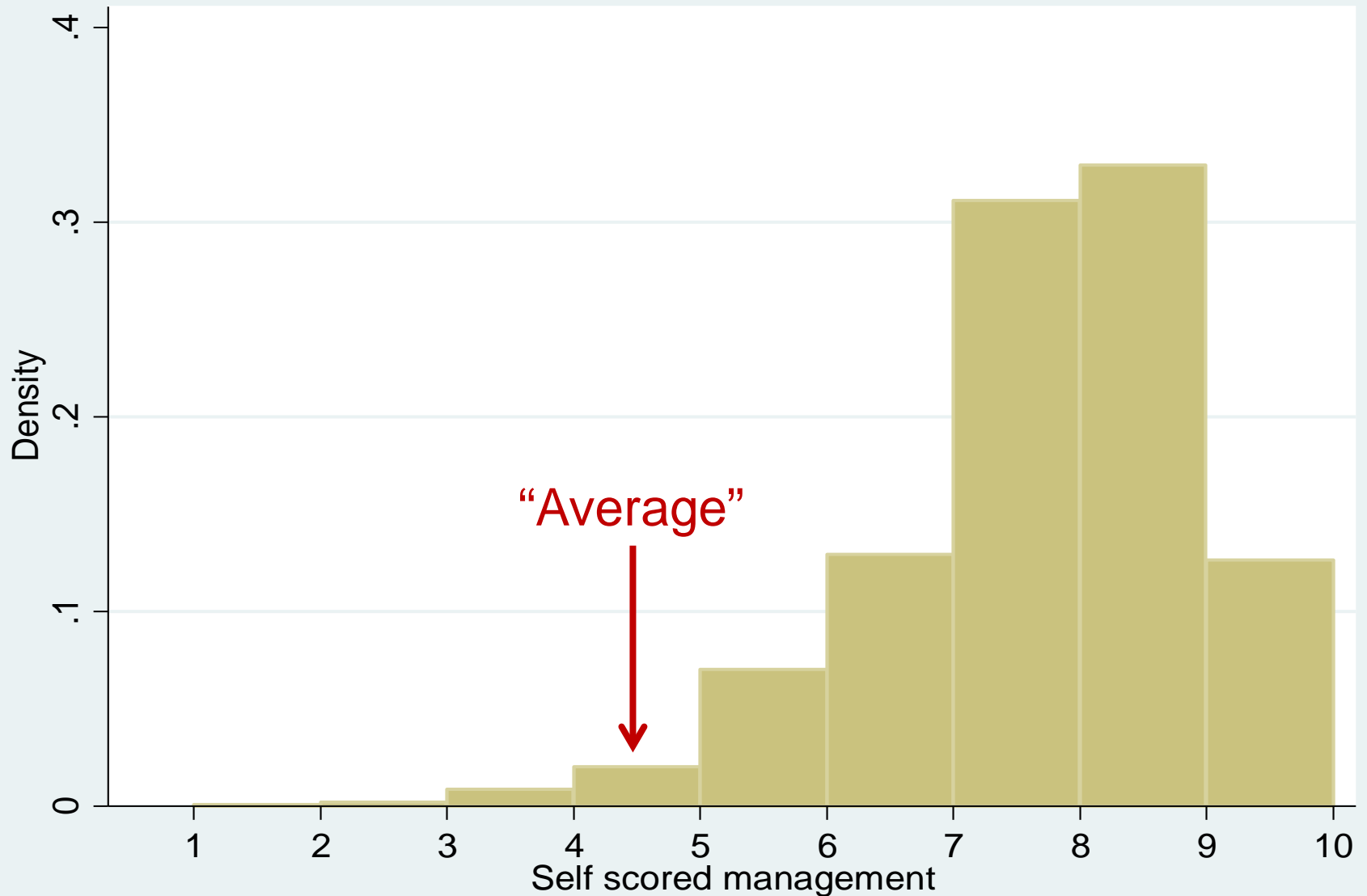


**So why don't firms just improve their management practices – one reason is they cannot self assess**

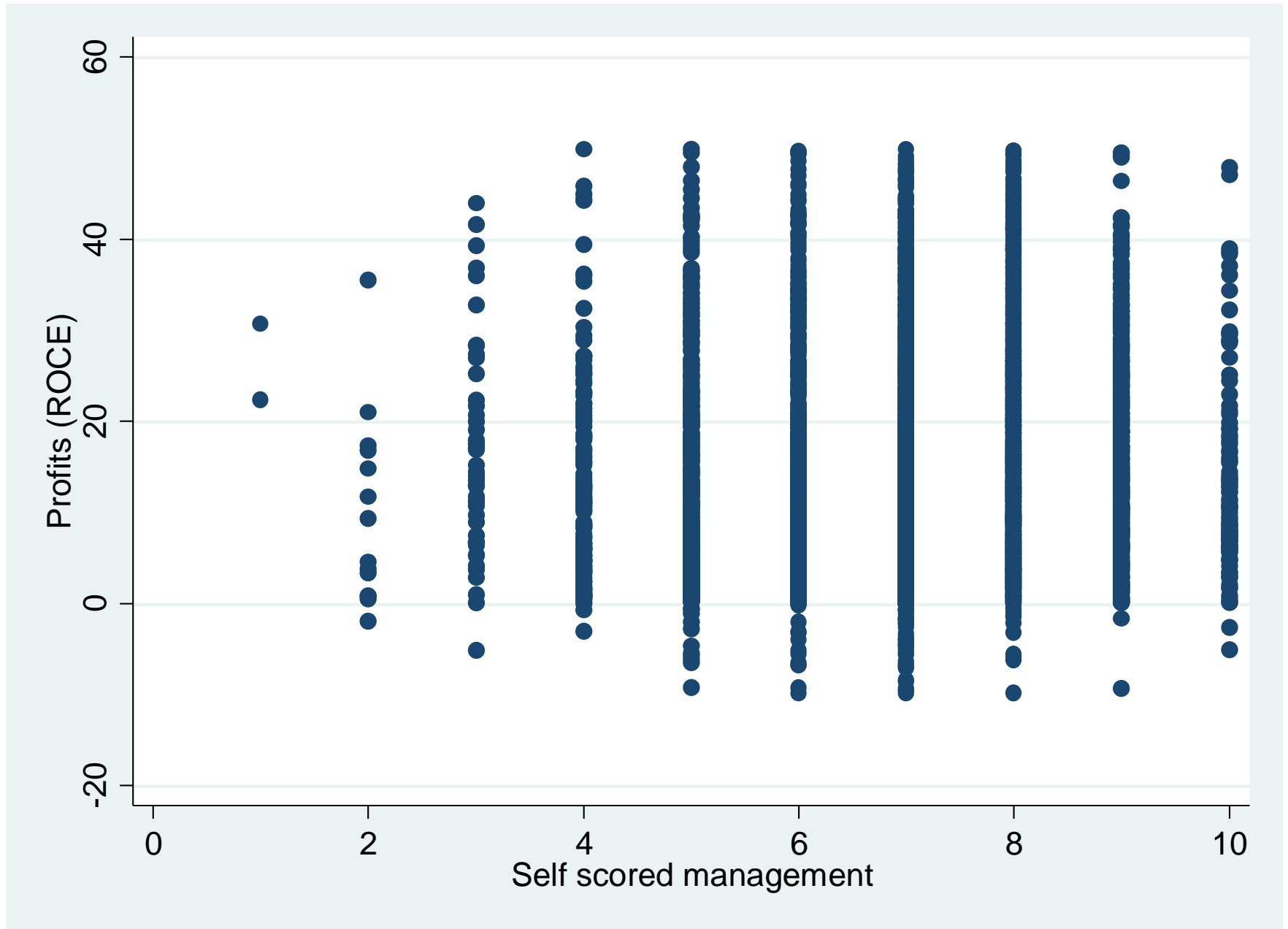
At the end of the survey we asked:

*“Excluding yourself, how well managed would you say your firm is on a scale of 1 to 10, where 1 is worst practice, 5 is average and 10 is best practice”*

...and found firms are too optimistic on management



**...and self-scores show no link to performance**



# Conclusions

- Some core **management** practices can be measured
- Management **accounts for**:
  - about 1/3 of cross-country & firm productivity spreads
  - About ½ of slower EU growth than US since 1995
  - Maybe why technology hasn't lifted growth more over last decade
- Key **drivers** appear to be:
  - Ownership & governance
  - Competition
  - Skills
  - Regulation
  - Information
- All of these affected by government & business **policy**

# MY FAVOURITE QUOTES:

## Don't get sick in Britain

*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”

# MY FAVOURITE QUOTES:

## The traditional British Chat-Up

[Male manager speaking to an Australian female interviewer]

*Production Manager:* “Your accent is really cute and I love the way you talk. Do you fancy meeting up near the factory?”

*Interviewer* “Sorry, but I’m washing my hair every night for the next month....”

# MY FAVOURITE QUOTES:

## The traditional Indian Chat-Up

*Production Manager:* “Are you a Brahmin?”

*Interviewer* “Yes, why do you ask?”

*Production manager* “And are you married?”

*Interviewer* “No?”

*Production manager* “Excellent, excellent, my son is looking for a bride and I think you could be perfect. I must contact your parents to discuss this”

More research, policy briefs & media available here  
[www.worldmanagementsurvey.com](http://www.worldmanagementsurvey.com)



ACADEMIC

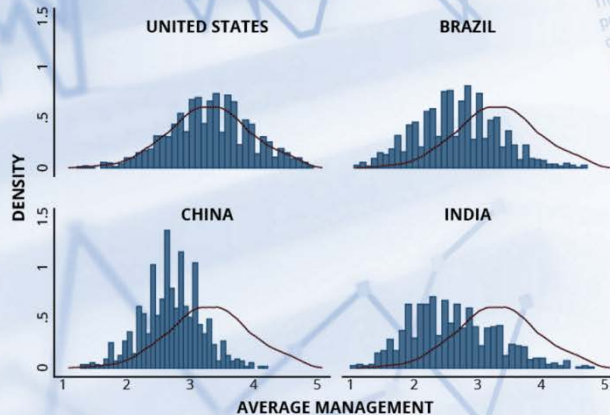
POLICY & BUSINESS

TEACHING

SURVEY DATA

MEDIA

ABOUT US



## RESEARCH

We have worked with thousands of managers from nearly 40 countries to measure performance in their firms.



### LATEST NEWS

**DATE FOR YOUR CALENDARS: NEXT EMPIRICAL MANAGEMENT CONFERENCE AT MIT ON DECEMBER 8-9, CALL FOR PAPERS COMING IN JULY.**

**NEW PAPER: INTERNATIONAL DATA ON MEASURING MANAGEMENT PRACTICES**



### Benchmark your organization

Using our web-based tool, answer a set of questions to benchmark your organization against our full dataset in the four main sectors of the WMS research.

[BENCHMARK NOW](#)



[Survey Data](#)

# Key papers:

## **Summary of the work (Harvard Business Review):**

[https://hbr.org/2017/09/why-do-we-undervalue-competent-management?utm\\_campaign=hbr&utm\\_source=twitter&utm\\_medium=social](https://hbr.org/2017/09/why-do-we-undervalue-competent-management?utm_campaign=hbr&utm_source=twitter&utm_medium=social)

## **Survey paper (JEEA):**

<http://cep.lse.ac.uk/pubs/download/occasional/op041.pdf>

## **Measuring management (QJE):**

<https://people.stanford.edu/nbloom/sites/default/files/measuringmanagement.pdf>

## **What Drives Differences in Management (R&R, AER)**

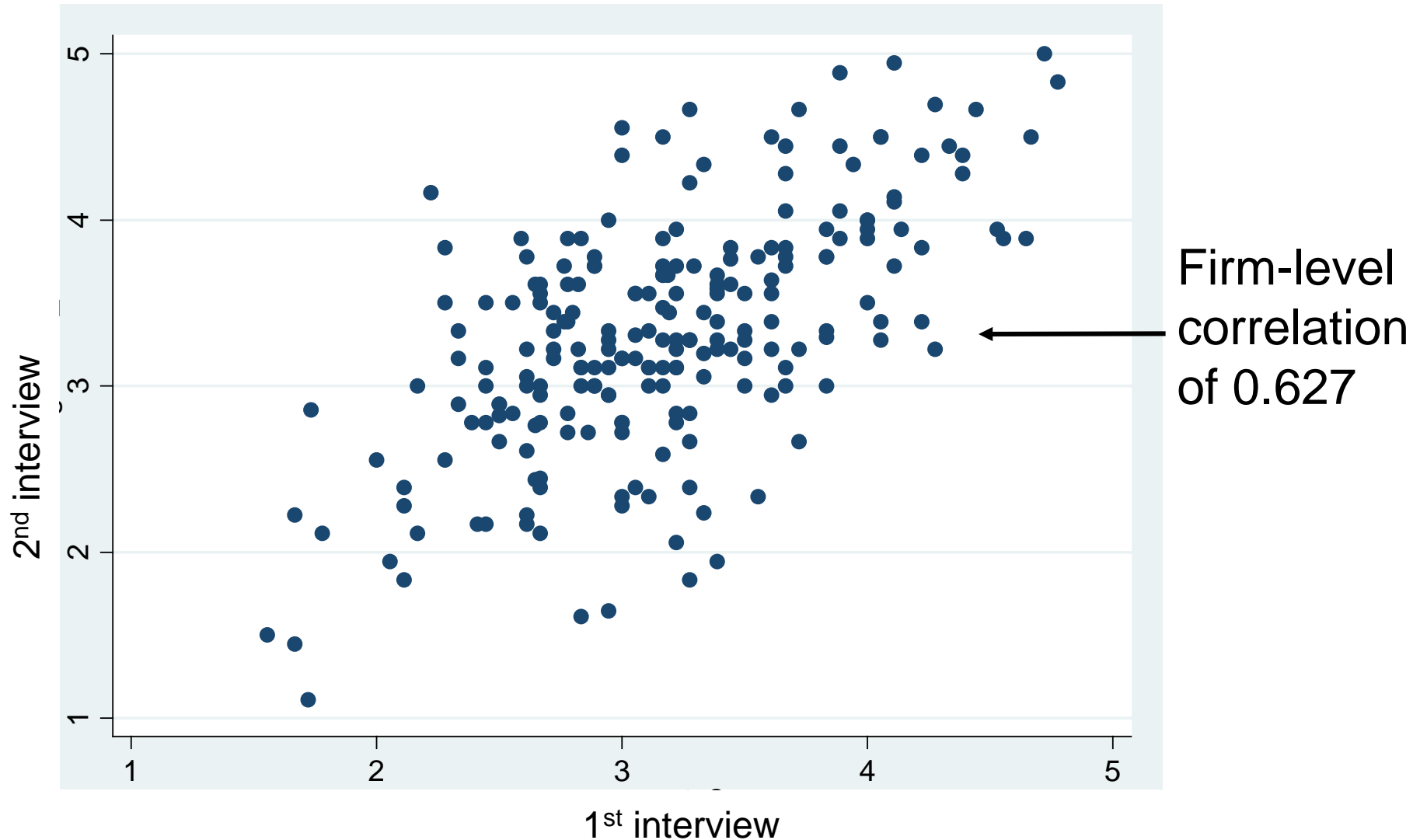
<https://people.stanford.edu/nbloom/sites/default/files/drivers.pdf>

## **Management as a Technology (NBER WP):**

<http://mitsloan.mit.edu/shared/ods/documents/?DocumentID=2685>

# How much should you trust our management data?

We re-interviewed 5% of the sample to have a different interviewer speak to a different management in the same firm





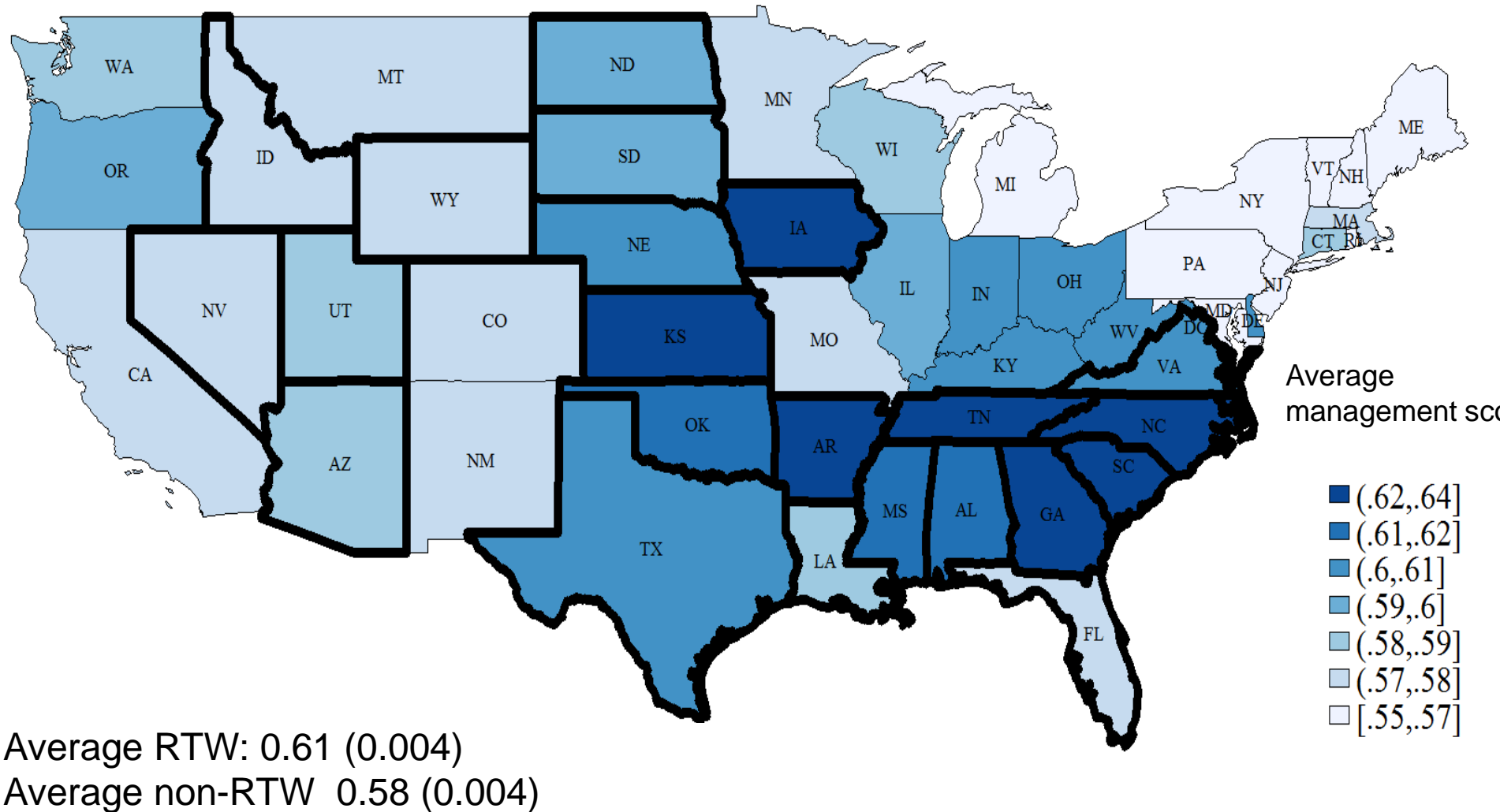
**These management scores are positively correlated with firm performance – even with many controls**

<b>Dependent variable</b>	<b>Productivity</b>	<b>Profits (ROCE)</b>	<b>5yr Sales growth</b>	<b>Share Price (Tobin Q)</b>	<b>Exit</b>
Estimation	OLS	OLS	OLS	OLS	Probit
Firm sample	All	All	All	Quoted	All
<b>Management</b>	<b>28.7***</b>	<b>2.018***</b>	<b>0.047***</b>	<b>0.250***</b>	<b>-0.262**</b>
Firms	3469	1994	1883	374	3161

Includes controls for country, industry, year, firm-size, firm-age, skills etc. All firms (public and private) for which accounts data is available

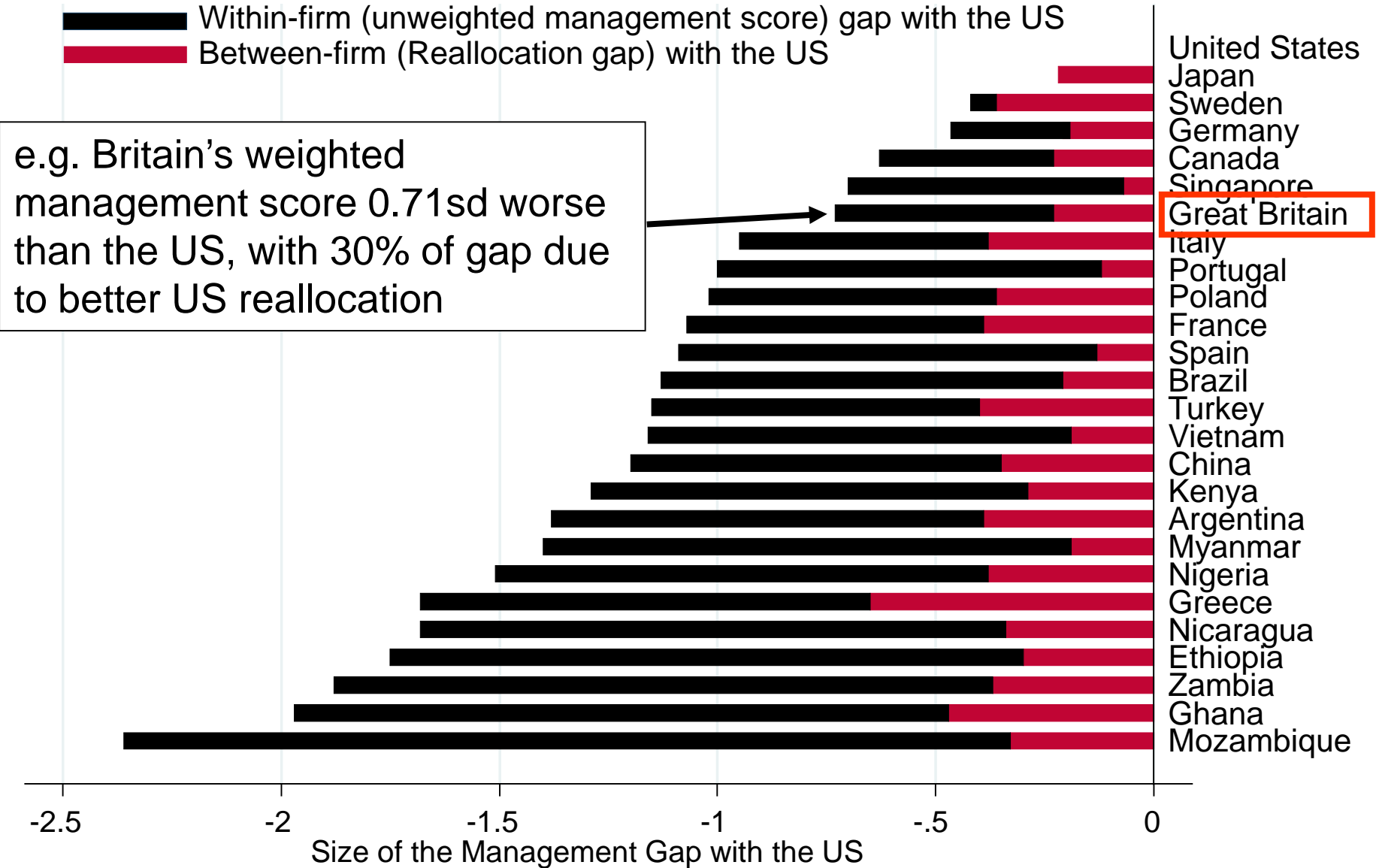
Significance levels: \*\*\* 1%, \*\* 5%, \* 10% (clustered by firm)

**Regulation: Right to work (less regulation) *correlated* with higher management scores across US states**



Notes: Black outline: right-to-work states as of 2010. The RTW and non-RTW averages are calculated using the 35 states which are reported in the paper, weighted by the number of observations in each state.

# Step 1: Aggregate Management Gaps with the US



**Notes:** Share-weighted management score differences relative to the US (in terms of management score standard deviations). Length of bar shows total deficit, composed of the sum of the (i) the unweighted average management scores (black bar) and the Olley-Pakes reallocation effect (red bar). Domestic firms only with management scores corrected for sampling selection bias.