

Management and the Wealth of Nations

John Van Reenen

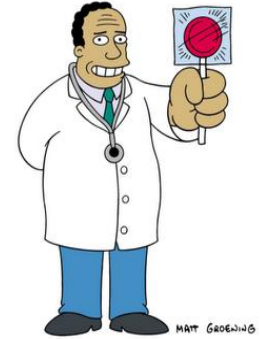
December 7th 2017

World Bank Empirical Management Conference

Based on joint work with Nick Bloom (Stanford), Renata Lemos (World Bank), Danielle Scur (Oxford) & Raffaella Sadun (HBS)



OR... "BOSS-ONOMICS"



Why did we do the WMS?

What have we learned?

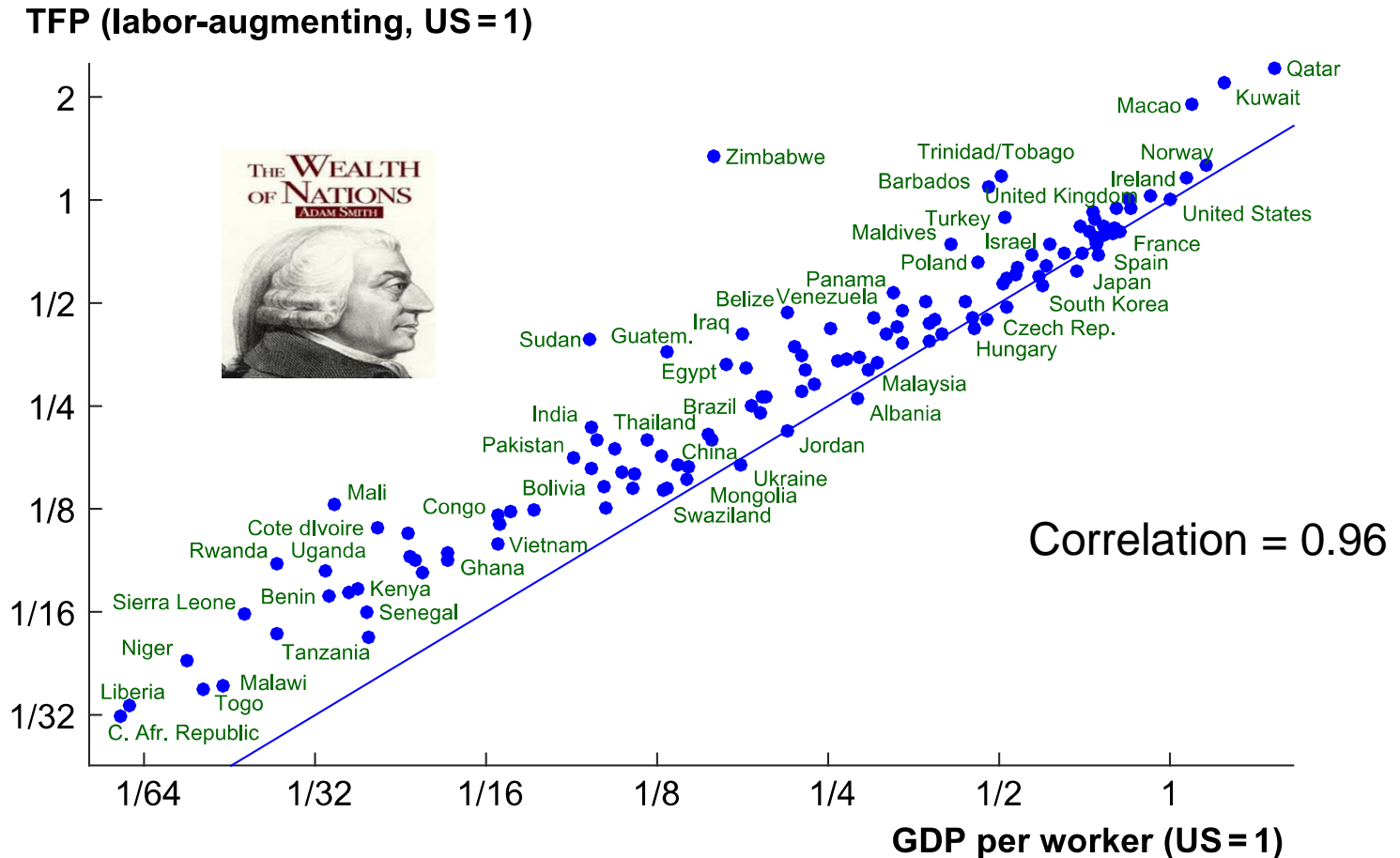
What don't we know?

What should we do next?

WHY DID WE DO IT?

- Big productivity differences between countries determine wealth of nations

Big spread of productivity between countries



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

Source: Penn World Tables 8.0; Jones (2015)

WHY DID WE DO IT?

- Big productivity differences between countries determine wealth of nations
- Mirrored by productivity dispersion across firms within countries
 - and the two phenomena are linked (Hsieh & Klenow, 2009, 2014)

WHY DID WE DO IT?

- Productivity heterogeneity across firms runs through almost all areas of economics
 - **Field** (*example*)
 - Macro (*reallocation literature*)
 - Trade (*Melitz model*)
 - Labor (*firm wage premia*)
 - IO (*firms vs industries*)
 - Finance (*corporate governance*)
 - Development (*slow adoption of technologies*)
- But where do these come from?
 - Organizational Economics

WHY DID WE DO IT?

- Big productivity differences between countries determine wealth of nations
- Mirrored by productivity dispersion across firms within countries
 - and the two phenomena are linked (Hsieh & Klenow, 2009, 2014)
- Suspicion that management is critical to understand this from case studies
 - But no systematic data across firms, industries & countries

But evidence on management is limited

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

Chad Syverson (2011,
Journal of Economic Literature)



WHY DID WE DO IT?

- Big productivity differences between countries determine wealth of nations
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 - and the two phenomena are linked (Hsieh & Klenow, 2009, 2014)
- Suspicion that management is critical to understand this from case studies
 - But no systematic data across firms, industries & countries
- A vision to create a “data infrastructure” to address these questions (& many others)
 - National accounts with managerial capital
- Use to address policy questions – e.g. productivity woes

Why did we do the WMS?

What have we learned?

What don't we know?

What should we do?

WHAT HAVE WE LEARNED?

- Some aspects of management can be robustly measured
- Management has an important effect on firm performance
 - Non-experimental evidence
 - RCTs (Bloom et al, 2013; Bruhn et al, 2016; Fryer, 2017)
 - Quasi-experiments (Giorcelli, 2016)
- Drivers of management practices
- Magnitudes
 - Micro data (~25% as much as measured tech)
 - Macro data
 - Levels (Development Accounting; ~30%)
 - Changes (Interaction with technologies)

The World Management Survey



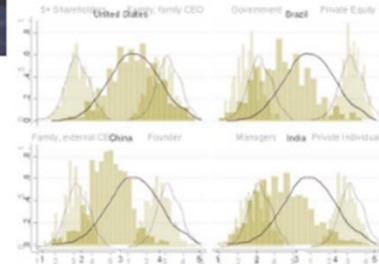
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Benchmark your manufacturing firm, hospital, school, or retail outlet against others in your country, industry or size class.

Benchmark your organization

Management scores across firms: rship WMS team analyses the distribution of management practices within countries: ip 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](#)

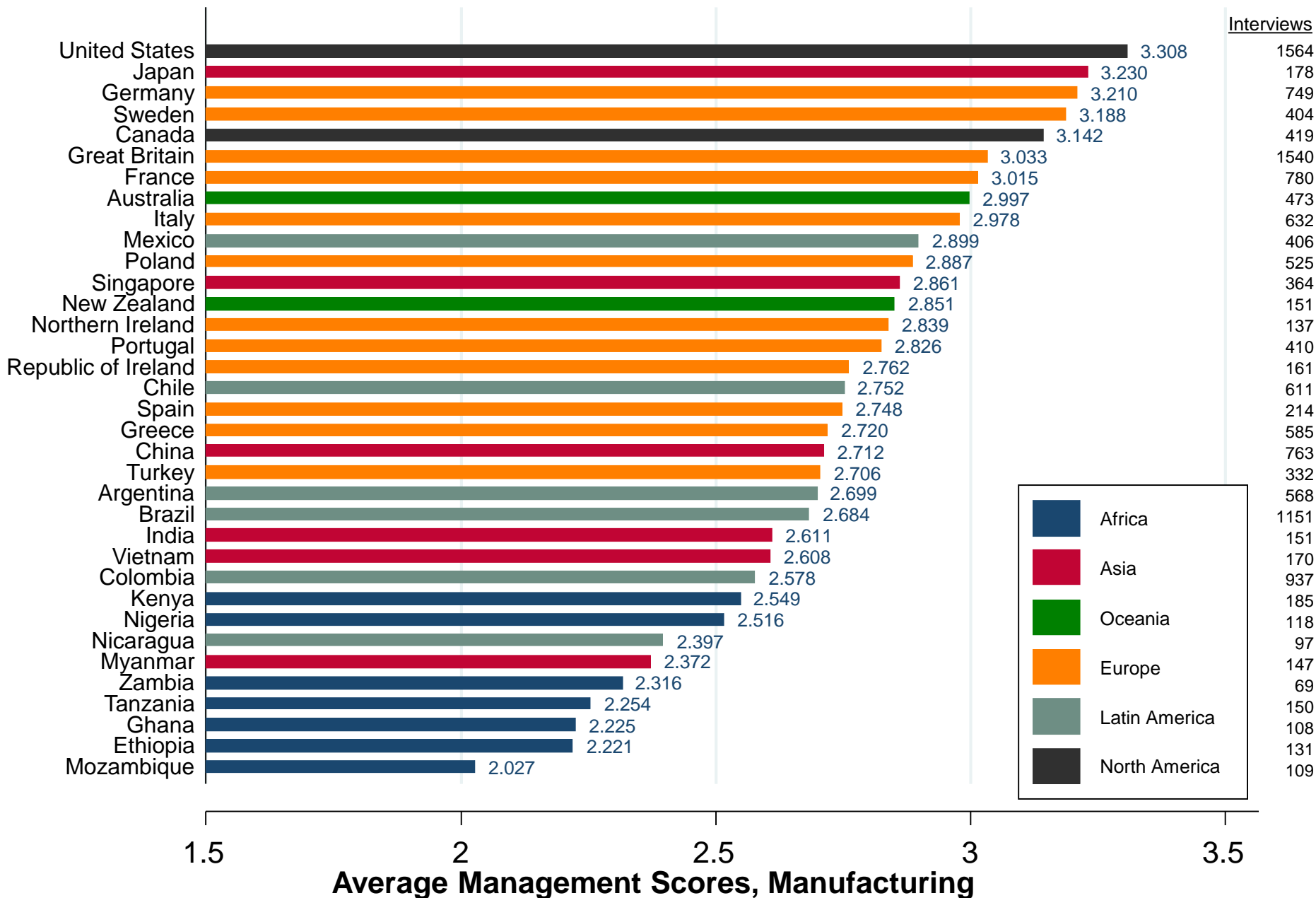
Firms **12,000**

Managers **20,000**

Countries **34**

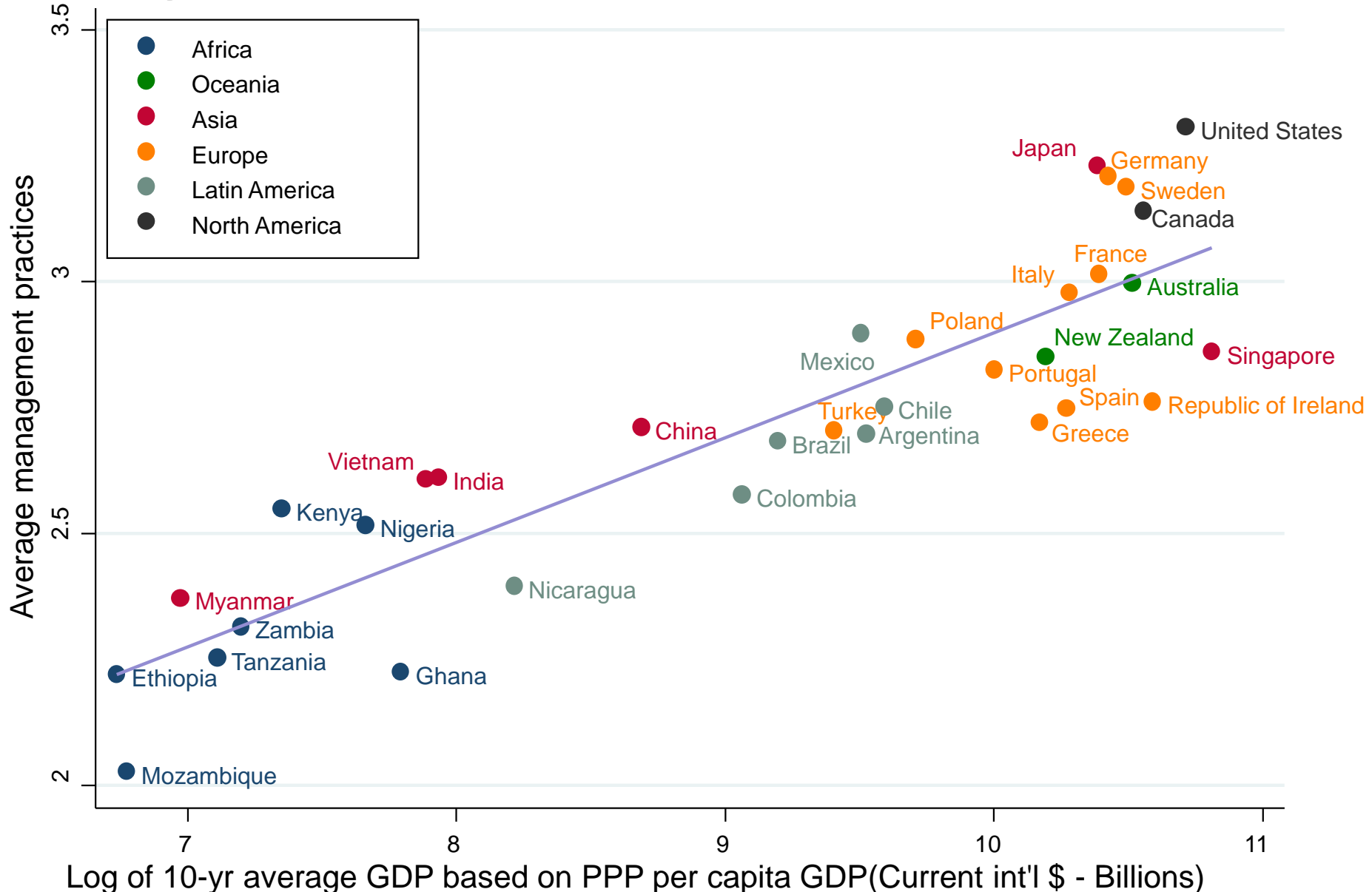
- Conducted in 4 major waves 2004, 2006, 2009, 2014
- Medium sized manufacturing firms (50-5,000 workers, median \approx 250)
- Now extended to **Hospitals, Retail, Schools, etc.**

Average Management Scores by Country

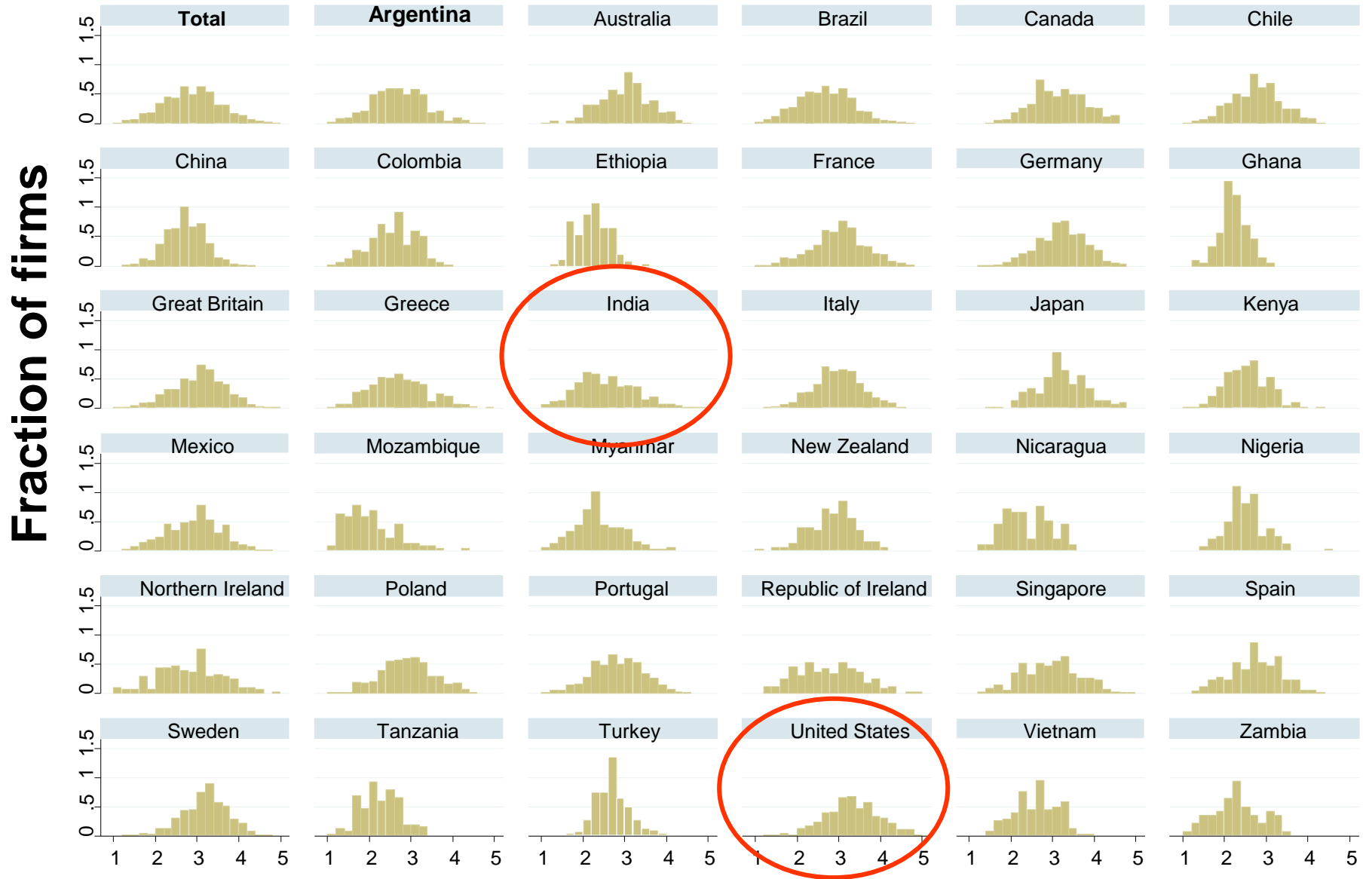


Note: Unweighted average management scores; # interviews in right column (total = 15,489); all waves pooled (2004-2014)

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

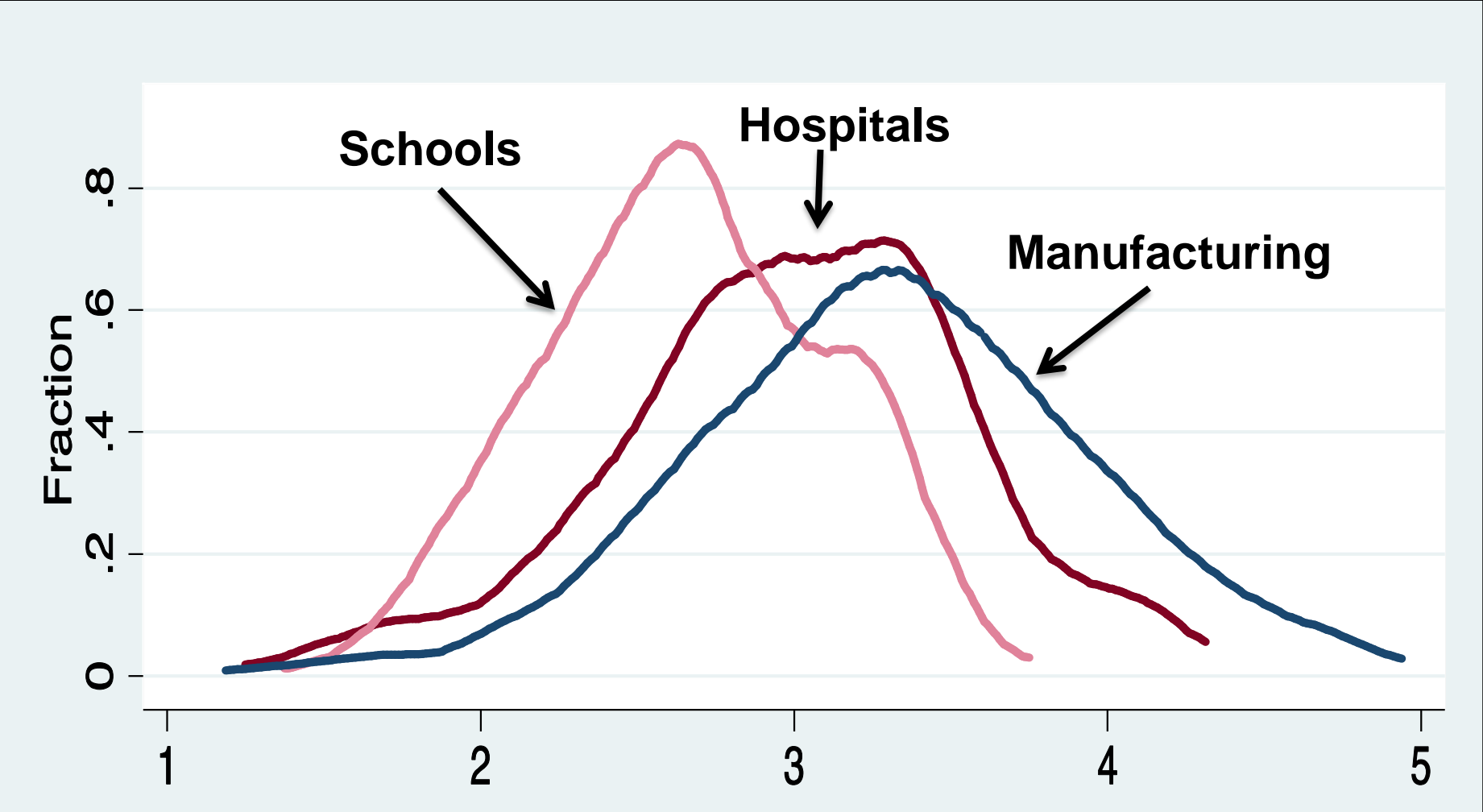


Management also varies heavily within countries



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 ~20k interviews over 13 years like this



To get 40k in one quick wave we'd need this



Census survey run with the US Census (MOPS)

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

2nd US MOPS in 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.)

The image shows a form titled "2010 MANAGEMENT AND ORGANIZATIONAL PRACTICES SURVEY" from the U.S. Department of Commerce, Economic and Statistics Administration, U.S. Census Bureau. The form number is MP-10002 (DRAFT) and the OMB No. is 0607-0963, with an approval expiration date of 2/28/2014. The form includes instructions for filling out the survey, contact information for the U.S. Census Bureau (1201 East 10th Street, Jeffersonville, IN 47132-0001), and a section for internet reporting. A red box highlights the legal notice: "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." The form also includes a section for internet reporting with fields for User ID and Password, and a public reporting burden estimate of 30 minutes.

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

2010 MANAGEMENT AND ORGANIZATIONAL PRACTICES SURVEY

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MP-10002

Need help or have questions about filling out this form?
Visit 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:
U.S. CENSUS BUREAU
1201 East 10th Street
Jeffersonville, IN 47132-0001

(Please correct any errors in this mailing address.)

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INTERNET REPORTING OPTION AVAILABLE - We encourage you to complete this survey online at: www.census.gov/econhelp/mops

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; 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.

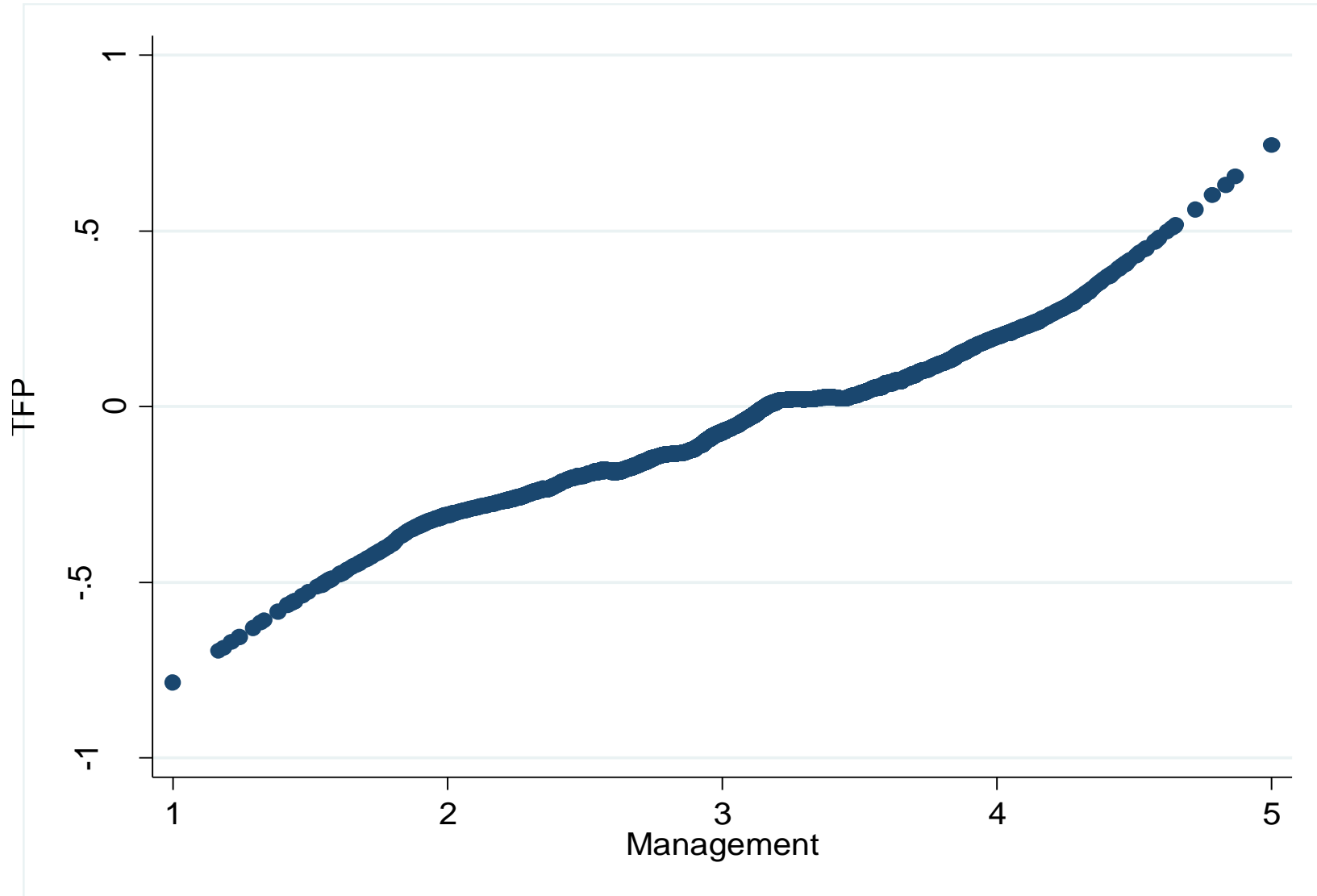
The reporting unit for this form is an **establishment** which is generally a single physical location where business is conducted or where services or industrial operations are performed.

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WHAT HAVE WE LEARNED?

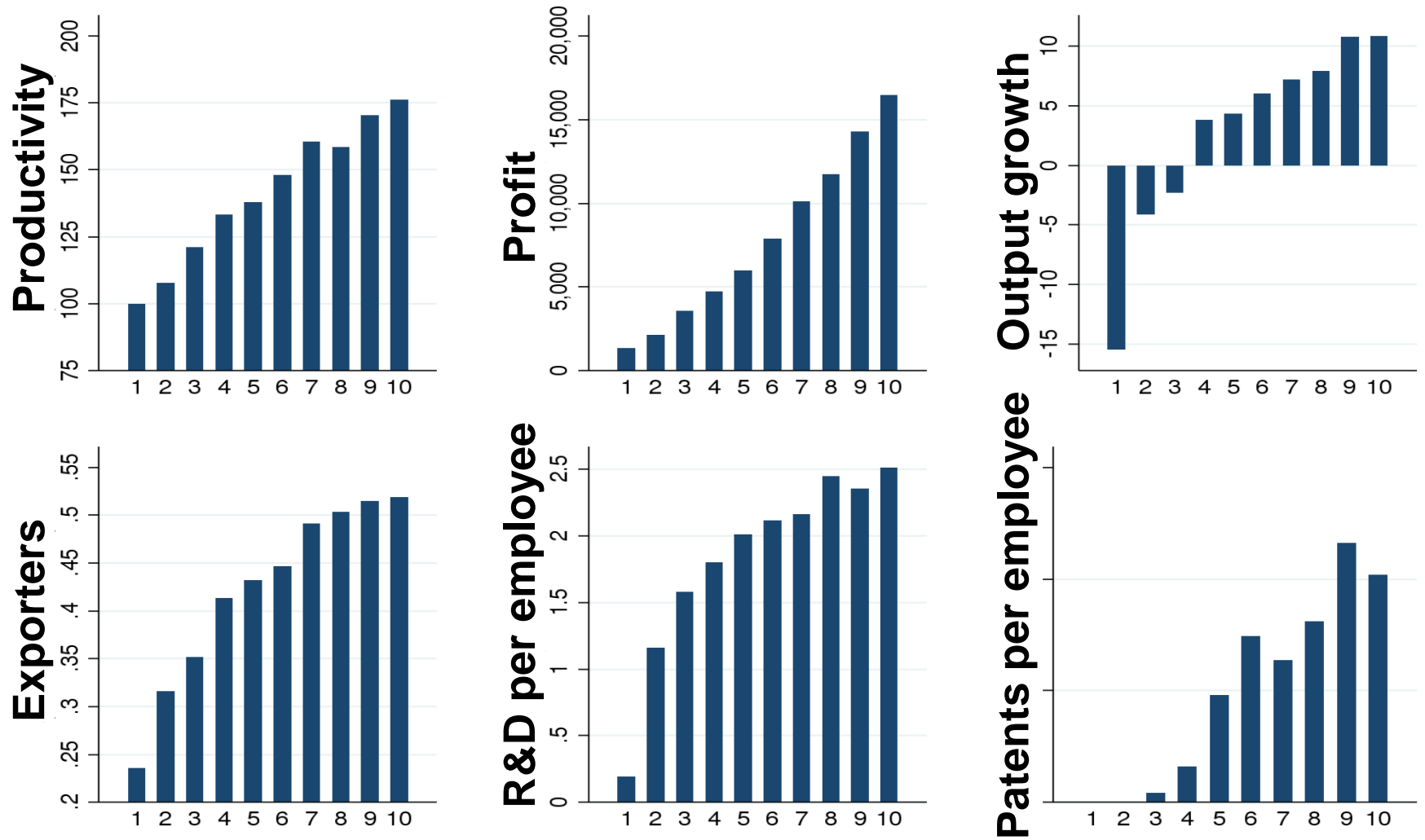
- Some aspects of management can be robustly measured
- Management has an important effect on firm performance
 - Non-experimental evidence
 - RCTs : e.g. Bloom et al, 2013; Bruhn et al, 2016; Fryer, 2017; McKenzie & Woodruff (2013, 2016)
 - Quasi-experiments

TFP & Management correlation (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”

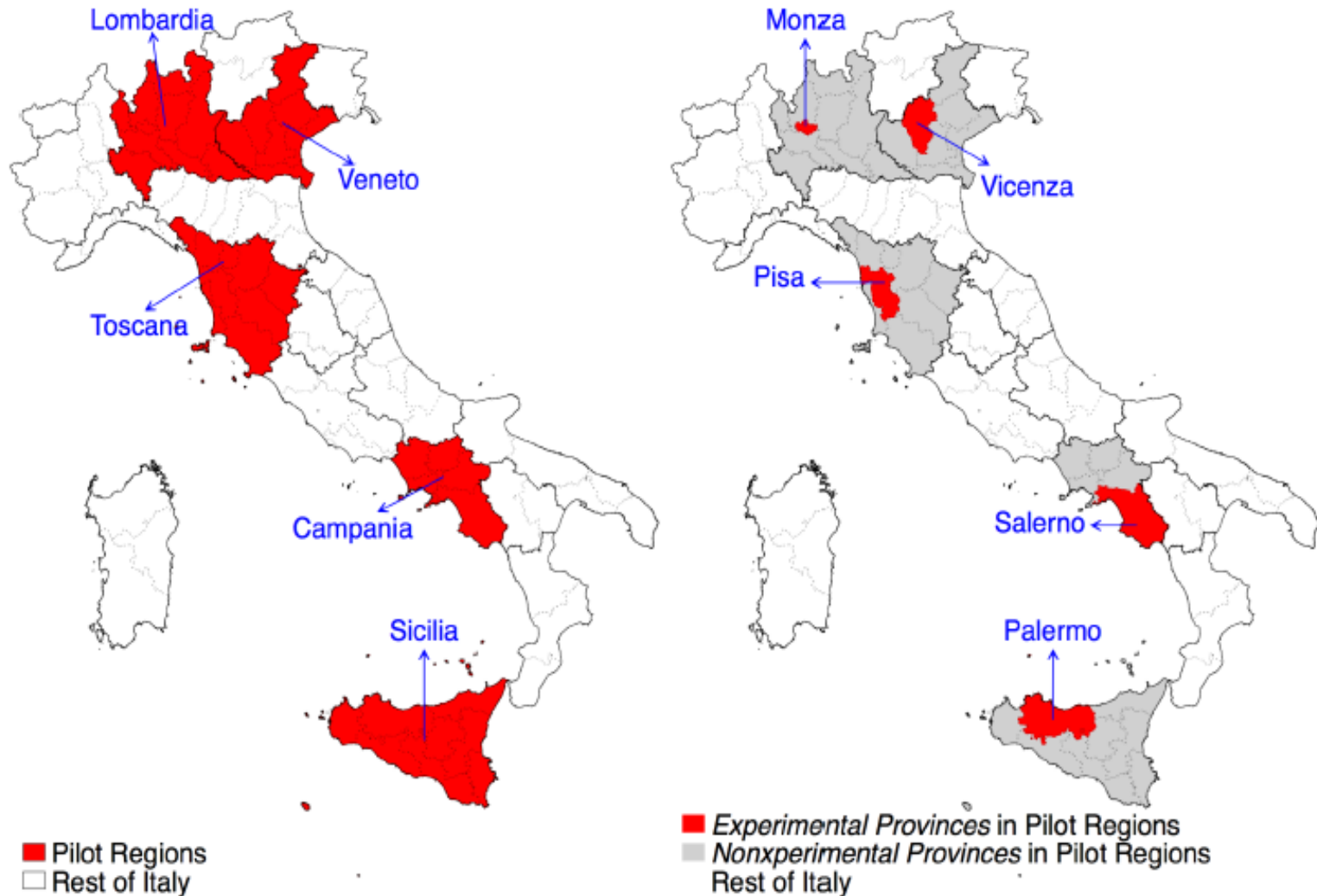
Management scores associated with significantly better performance (MOPS)



Management score decile

Source: Bloom, Brynjolfsson, Foster, Jarmin, Patnaik, Saporta-Eksten & Van Reenen (2017) "What Drives Management?"

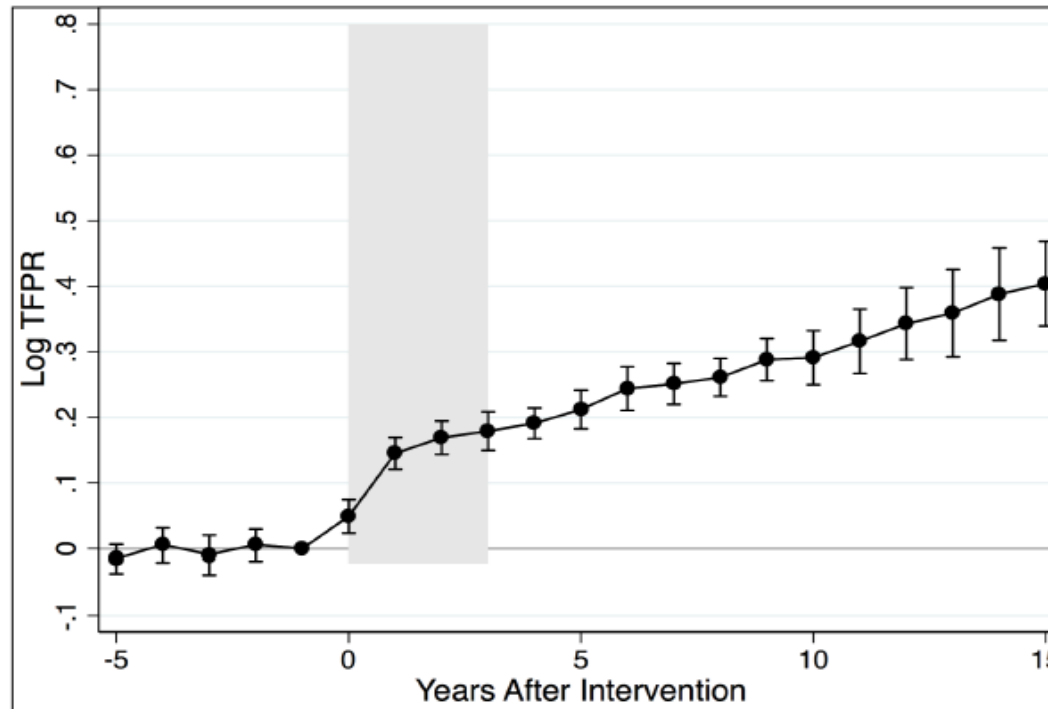
Pilot Regions (1950) and Experimental Provinces (1952)



Source: Giorcelli (2016)

Long-run effect of management effects on Productivity

Management: 46.3% Increase in TFPR after 15 Years



Notes. The dependent variables are logged TFPR, estimated with the Akerberg et al. (2006) method. Standard errors are clustered at the province level.

Source: Giorcelli (2016)

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 - Quasi-experiments (Giorcelli, 2016)
- “Drivers” of management practices

So why does management vary across countries and firms?

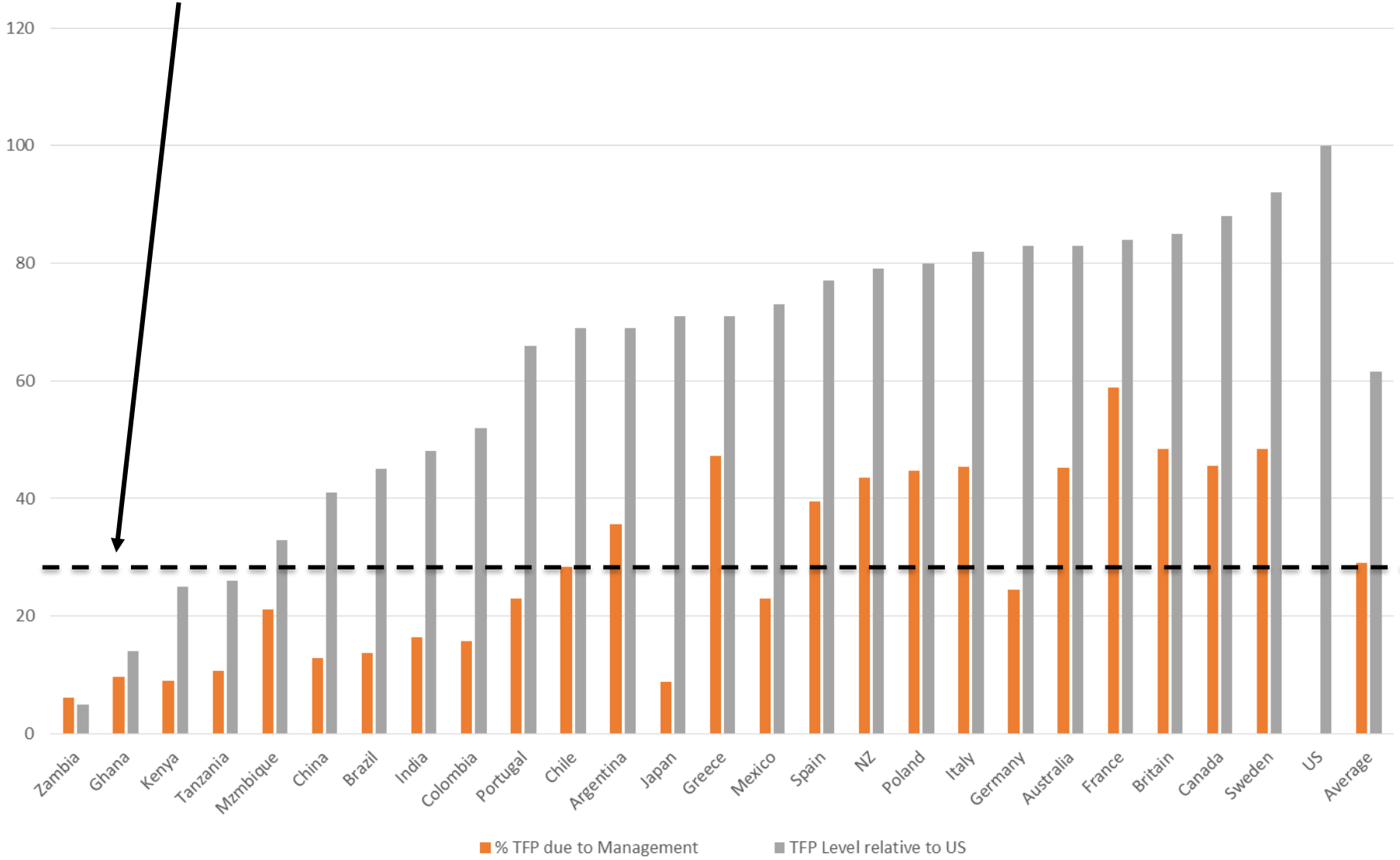
Some factors that seem important. Illustrate using WMS & MOPs (see Bloom et al, 2014, JEEA for summary)

- **Product Market Competition**
- Family firms
- Multinationals
- Labor market regulations
- Education
- Information

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- Drivers of management practices
- Quantification
 - Micro data (~20% as much as measured tech)
 - Macro data
 - Levels (Development Accounting; ~30%)
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Management accounts for ~30% of TFP Gap with US



Source: Bloom, Sadun & Van Reenen (2017)

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 we do the WMS?

What have we learned?

What don't we know?

What should we do?

WHAT DON'T WE KNOW?

- A LOT!
- Managers vs. Management (Bender et al, 2017)
- How to model?

HOW TO MODEL?

1. Management as Design

Contingency: No better or worse management: different optimal “styles” (Woodward, 1959)

2. Management as a Technology (MAT)

- Management draw & endogenous M choice
- Bloom, Sadun & Van Reenen (2017): Simple structural model gives 3 results found in data:
 - Performance increasing in management
 - Competition improves management
 - Management changes with age & costs of managerial skills
- We find positive evidence for **both** perspectives, but MAT more important in our data

WHAT DON'T WE KNOW?

- A LOT!
- Managers vs. Management (Bender et al, 2017)
- How to model?
 - Traditional contingency approach
 - Simplest: intangible managerial capital (MAT in Bloom, Sadun & Van Reenen, 2017)
 - **More ambitious: e.g. organizational capital approach of Prat & Dessein (2017)**
- “Pricing up” management
- Drivers – general issue with org economics
- Measuring other aspects of management (e.g. strategy)

Why did we do the WMS?

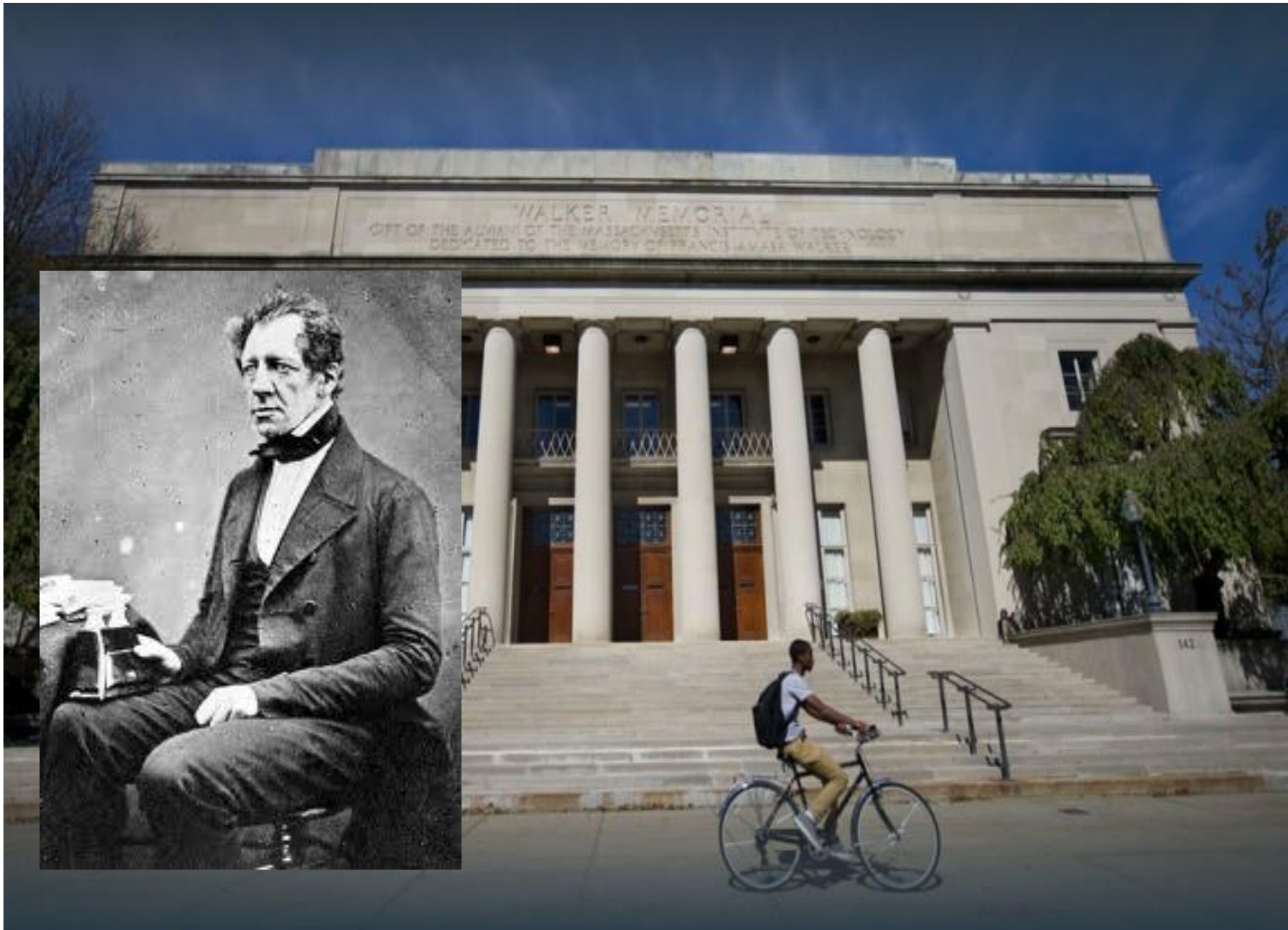
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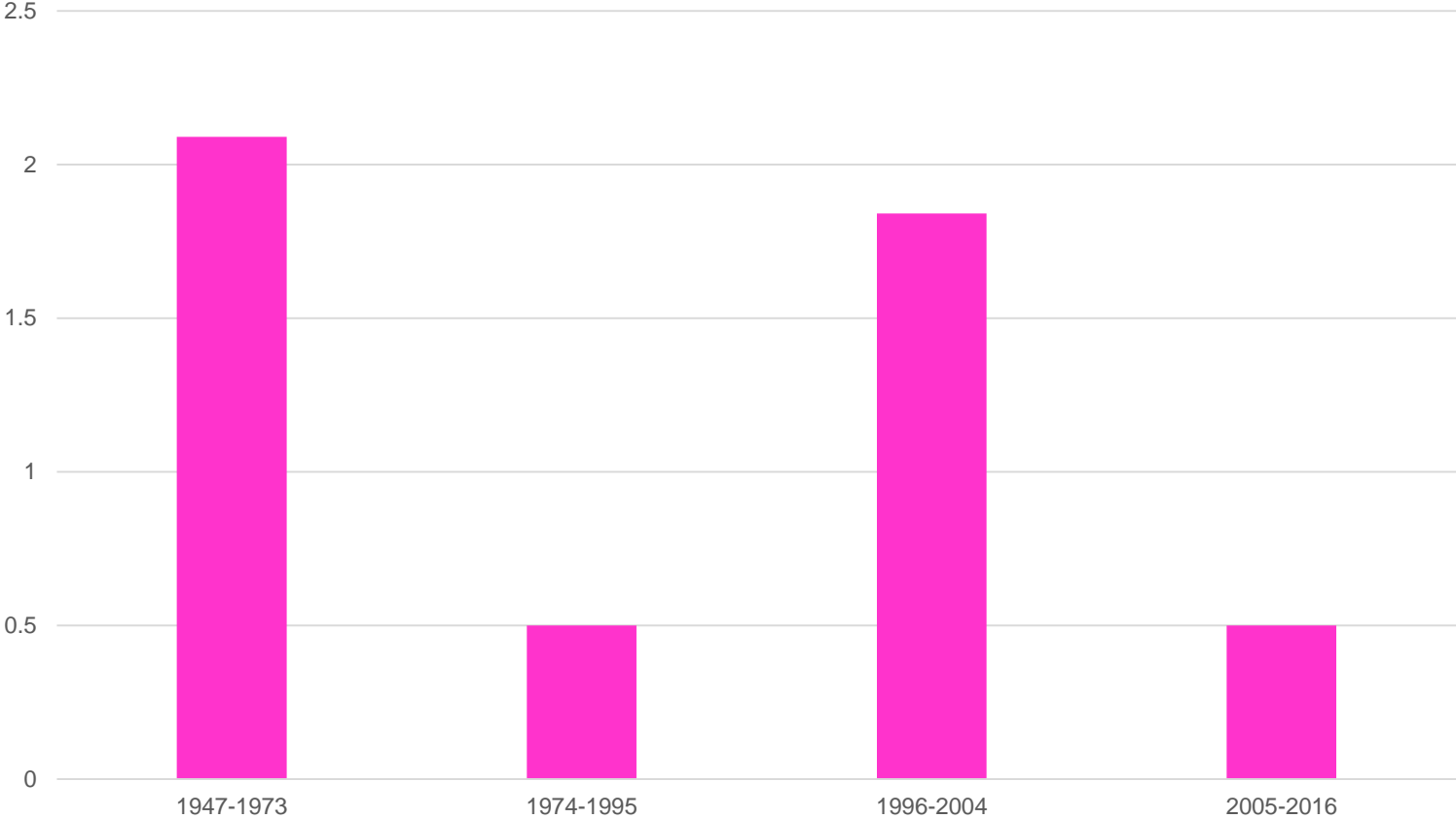
POLICY

- Improving management in firms (trad B-school mission)
- Improving management in public sector
- Structural Policies (our main focus so far)
- Direct policies to improve management



THANKS!

Slowing Productivity Growth



Note: US Total Factor Productivity (TFP); Annual average growth over different periods

Source: Fernald (2016)