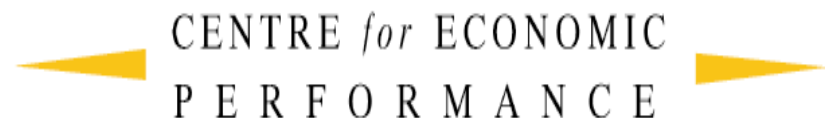
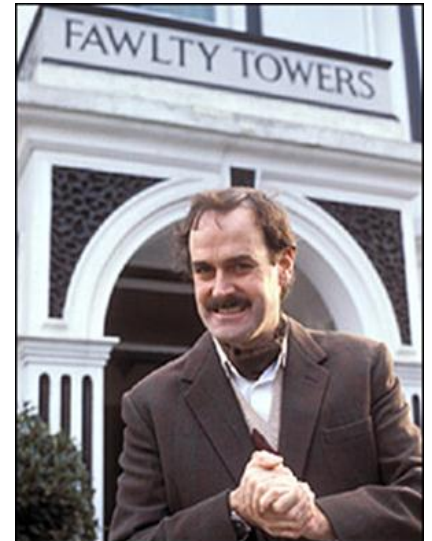


# MANAGEMENT PRACTICES AND GROWTH

John Van Reenen, LSE & CEP

LSE Growth Commission Evidence Session on Management

London May 27th 2012



# INTRODUCTION

- Management is much talked about, but economists have been sceptical due to lack of hard evidence
- Recent evidence suggests huge variation of firm productivity & this is related to management
- ~70% of cross country variation in GDP/head “accounted for” by management practices
- Systematic factors “driving” management – competition, family firms, skills, FDI, etc.
- **Policy implications** (evidence base smaller than others, e.g. human capital)
  - Structural (competition, tax, etc.)
  - Management-specific (e.g. benchmarking, informational, etc.)

# OUTLINE

**1. Productivity dispersion within and between countries**

2. Measuring & describing management

3. Effect of management on performance

4. Causes and Policy

# PRODUCTIVITY DISPERSION WITHIN COUNTRIES

- Empirical work on plant/firm performance in last 1-2 decades shows huge variation of productivity is a 1<sup>st</sup> order economic fact
- **Large cross sectional dispersion *within* countries**
  - Within US four digit industry, plant labor productivity 90<sup>th</sup>-10<sup>th</sup>  $\approx 4x$  (TFP  $\approx 2x$ ). Syverson (2004). Other countries even bigger
  - These plant productivity differences are persistent
  - Not simply measurement error (e.g. use plant-specific prices in Foster et al, 2009)
  - Other measures of firm performance (e.g. profitability, size, management quality, etc.) show wide variation

# FIRM HETEROGENEITY HAS LONG BEEN RECOGNISED

*“...we have the phenomenon in every community and in every trade, in whatever state of the market, of some employers realizing no profits at all, while others are making fair profits; others, again, large profits; others, still, colossal profits.”*

Francis Walker (*Quarterly Journal of Economics*, '87)

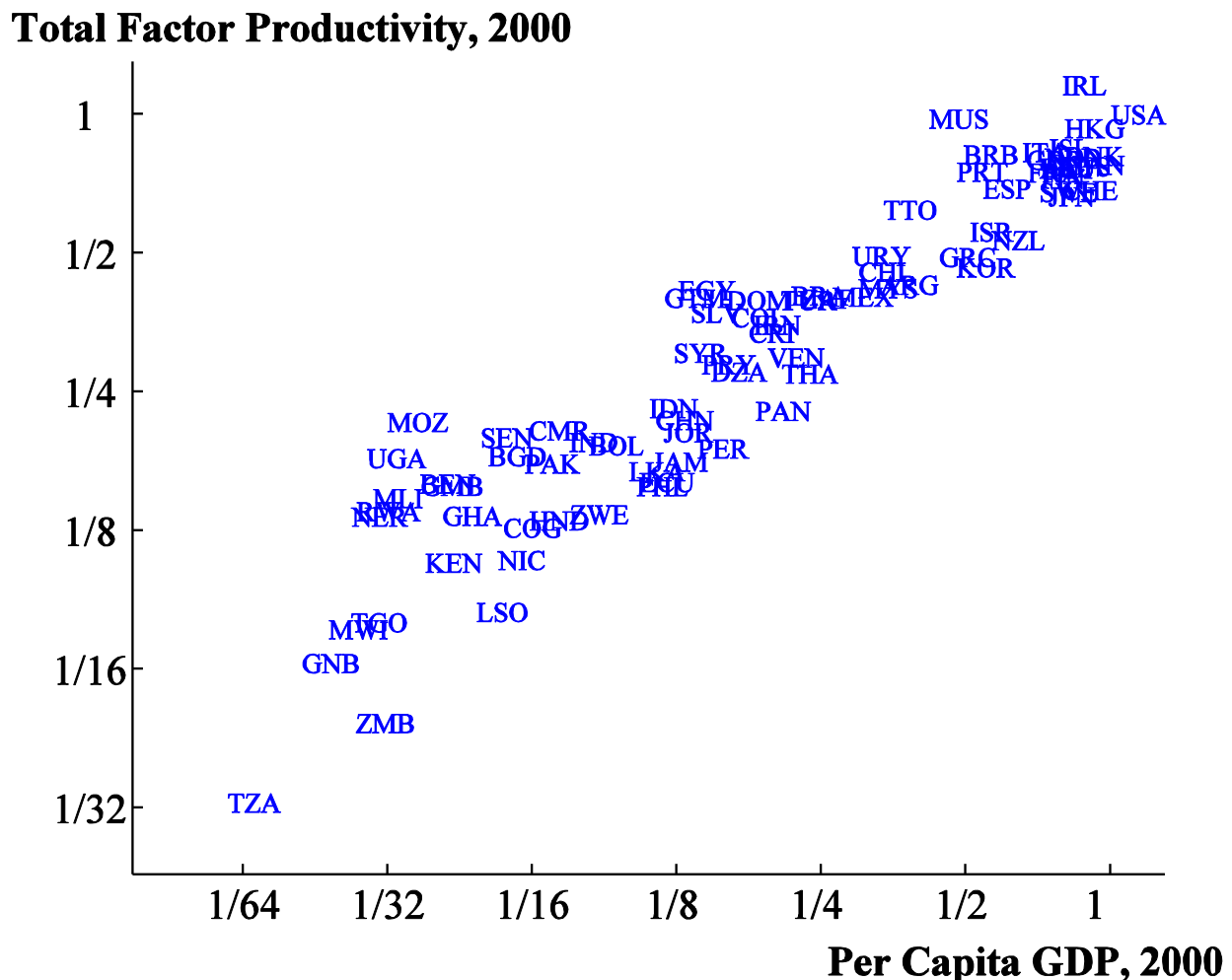
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*(Quarterly Journal of Economics, 1887)*

# LARGE INCOME & TFP DIFFERENCES BETWEEN COUNTRIES



**Source:** Jones and Romer (2010). US=1

**Note:** related to firm dispersion (Hsieh & Klenow, 2009)

# REASONS FOR PERFORMANCE HETEROGENEITY

- **TFP Heterogeneity due to “hard technologies”**
  - R&D, patents, diffusion of ICT (information and communication technologies), etc.
- **These hard technologies matter a lot, but:**
  - After controlling for technology, still a big TFP residual
  - Productivity effects of ICT depend on firm organization (e.g. Bloom, Sadun & Van Reenen, AER 2012; Bresnahan, Brynjolfsson and Hitt, QJE 2002)
- **Heterogeneity of management practices & organization?**
  - Case studies & recent advances in measurement



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# NOTIONS OF MANAGERIAL “BEST PRACTICE”

- Management styles that have always been better
  - e.g. promotion on ability/effort (rather than family)
- **Complementarity:** Practices that have become desirable because the environment has changed
  - Technological advances makes monitoring output better (e.g. SAP) and enables more performance related pay (Lemieux et al, 2009)
- **Innovation:** Discoveries of how to manage better
  - E.g. Toyota system of Lean Manufacturing
  - **Transferable:** dynamic diffusion

# THE SURVEY METHODOLOGY

## 1) Developing management questions

- Scorecard for 18 monitoring, targets and people/talent
- ≈45 minute phone interview of manufacturing plant managers

## 2) Obtaining unbiased comparable responses (“Double-blind”)

- Interviewers do not know the company’s performance
- Managers are not informed (in advance) they are scored
- Run from LSE, with same training and country rotation

## 3) Getting firms to participate in the interview

- Introduced as “Lean-manufacturing” interview, no financials
- Official Endorsement: Bundesbank, Bank of Italy, RBI, etc.
- Run by ~100 MBA-types (loud, assertive, business experience)

# MONITORING – E.G. “*HOW IS PERFORMANCE TRACKED?*”

**Score**

**(1): Measures tracked do not indicate directly if overall business objectives are being met. Certain 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**

**Note:** All 18 dimensions and over 50 examples in Bloom & Van Reenen (2006)

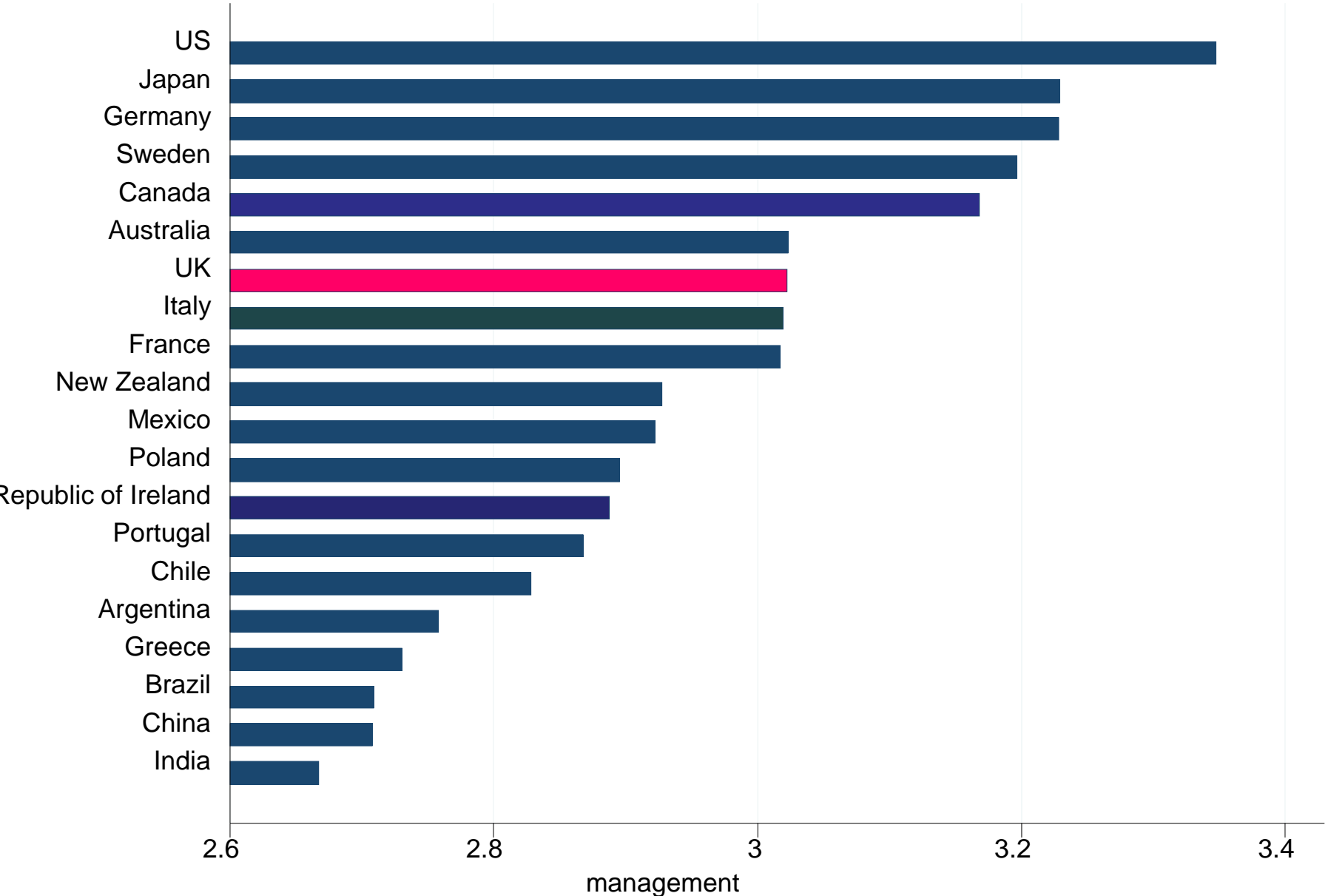
# MANAGEMENT SURVEY SAMPLE

- Interviewed over 8,000 firms across 21 countries in Americas, Asia & Europe
- 45% response rate (responses uncorrelated with performance)
- 3 major waves in 2004, 2006 & 2009 with panel element

Medium sized manufacturing firms:

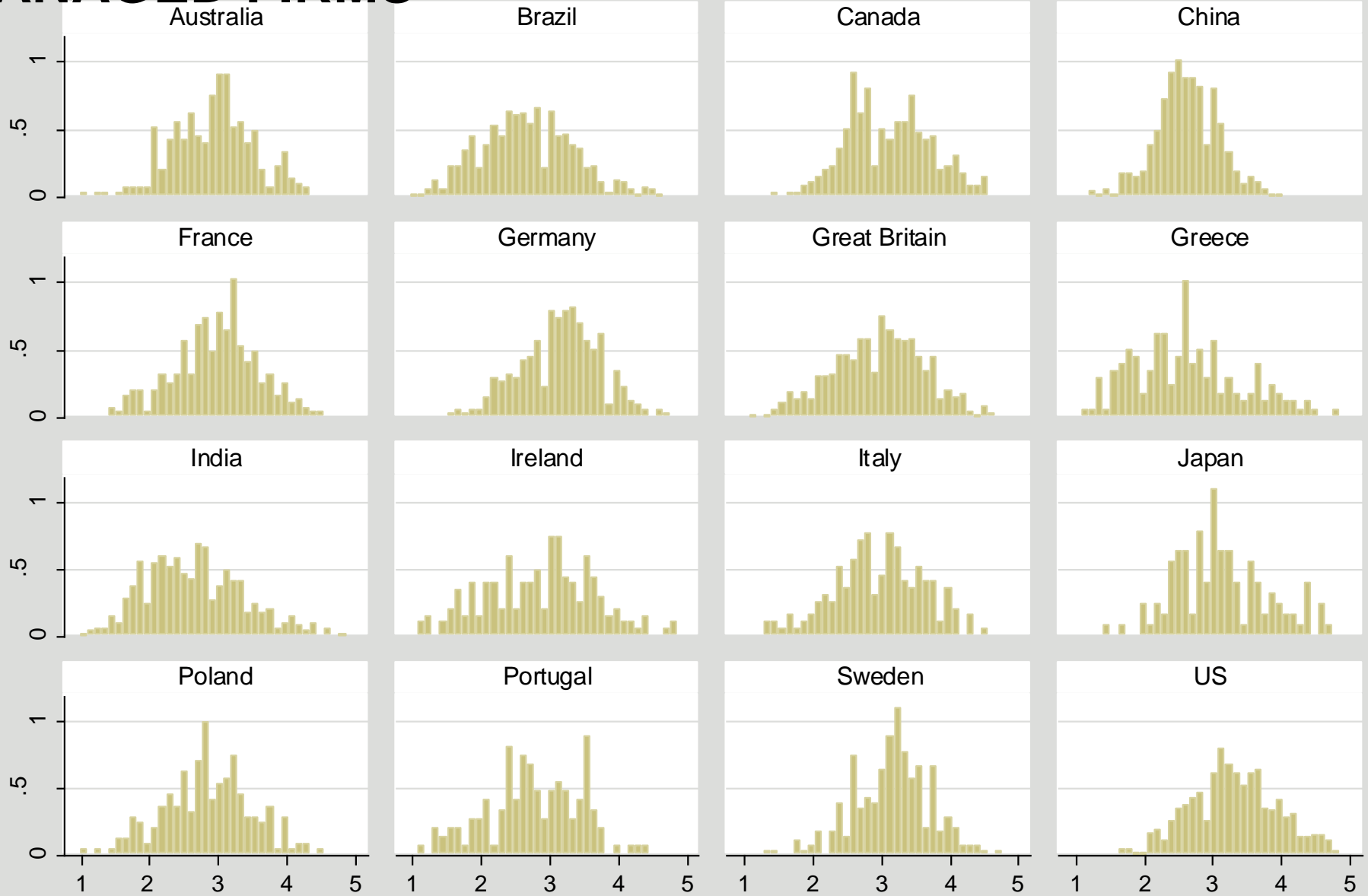
- Medium sized (100 - 5,000 employees, median  $\approx$  250)  
Manufacturing as easier to measure productivity
  - Now extended to Hospitals, Retail, Schools, Charities, Nursing homes, Law Firms, Government agencies, etc.
- Many controls for measurement error – second interviews, controls for interviewer, interviewee and interview effects
- Also running conventional surveys US MOPs, EBRD MOI,..

# AVERAGE MANAGEMENT SCORE ACROSS COUNTRIES



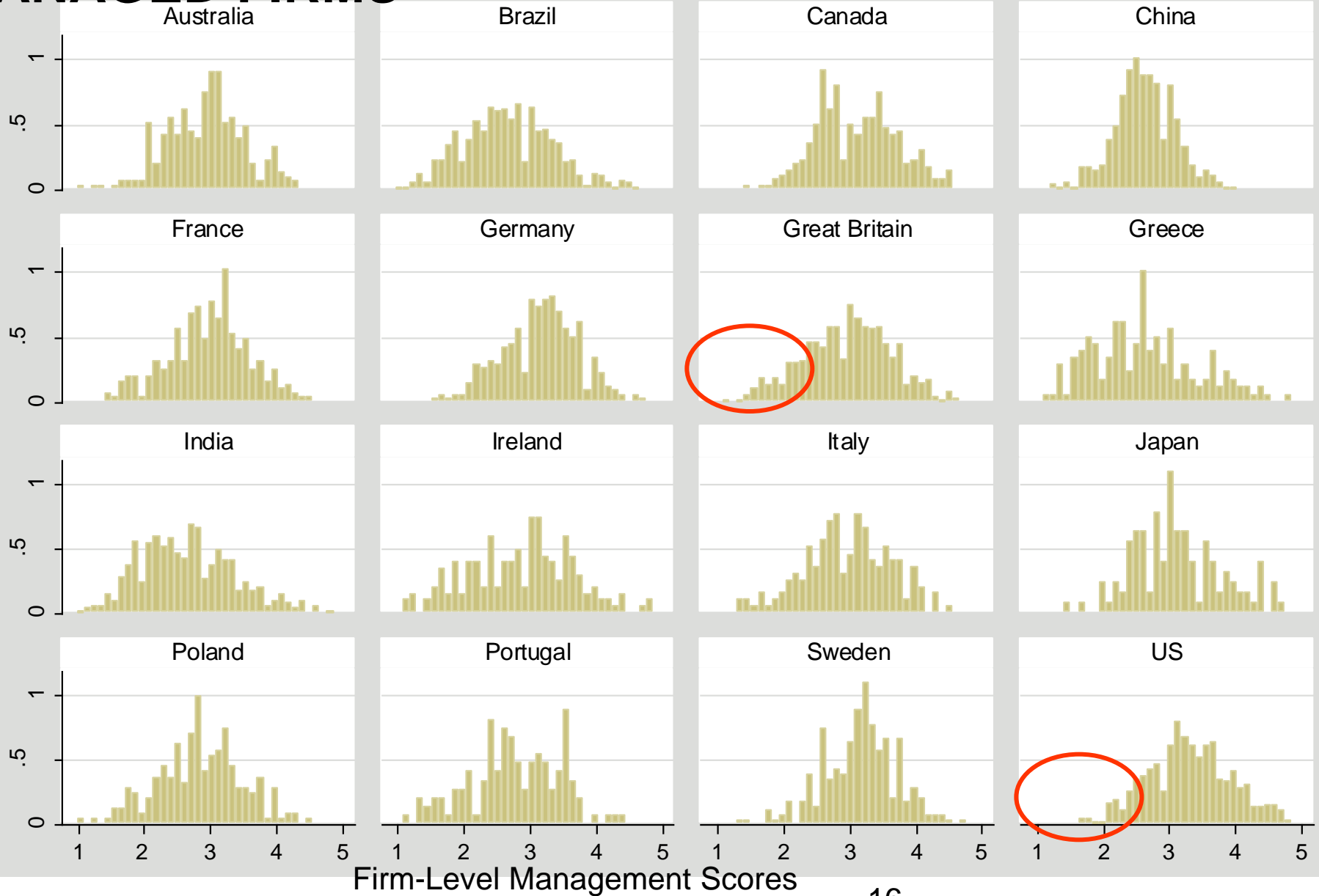
Note: Averages taken across all firms within each country. 9079 observations in total.

# EMERGING COUNTRIES HAVE LONG TAIL OF BADLY MANAGED FIRMS



Firm-Level Management Scores

# EMERGING COUNTRIES HAVE LONG TAIL OF BADLY MANAGED FIRMS





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# CAUSAL EFFECT OF MANAGEMENT ON PERFORMANCE? BLOOM ET AL (2012)

- Run experiment on plants in Indian textile firms outside Mumbai
- Randomized “treatment” plants get heavy management consulting (5 months); “control” plants get very light consulting (just enough to get data)
- Collect weekly performance data on all plants from 2008 to 2010
  - Improved management practices led to large and significant improvements in productivity and profitability (~\$325k higher pa)

# THE FACTORIES ARE DISORGANIZED



Instrument not removed after use, blocking hallway.

Oil leaking from the machine

Cotton lying on the floor

Instrument blocking the hallway

# THE TREATED FIRMS INTRODUCED BASIC INITIATIVES

Worker involved in “5S” initiative on the shop floor, marking out the area around the model machine



Snag tagging to identify the abnormalities on & around the machines, such as redundant materials, broken equipment, or accident areas. The operator and the maintenance team is responsible for removing these abnormalities.

# OUTLINE

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# CAUSES OF DIFFERENCES IN MANAGEMENT QUALITY

- **“Deep”**
  - Information
  - Incentives
  - Collective action in organization
  
- **Proximate (Leave to Ian Davis)**
  - Competition (within & between; causal)
  - CEO selection (e.g. Family firms)
  - Human Capital
  - Ownership (state, private equity, foreign, etc.)
  - Regulation

# POLICIES

- Modesty over evidence base
- **Structural**
  - Competition (e.g. planning; anti-trust; trade)
  - Taxation (e.g. inheritance tax)
  - Fostering reallocation (SME policy, EU State Aid, etc.)
- **Public sector**
- **Management interventions**
  - Benchmarking, Manufacturing Advisory Service, Managerial training & education
  - Need to have some proper evaluation
- **Link to “industrial policy”**

# CONCLUSIONS

- Heterogeneity of productivity across firms and countries a 1<sup>st</sup> order economic fact
  - This is strongly linked to management quality
- Competition improves management through both within and between firm effects
- Many other factors affecting management (meritocratic selection, human capital, FDI, ownership, labour market regulation, etc.)



# 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”

# 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...”

## FURTHER READING

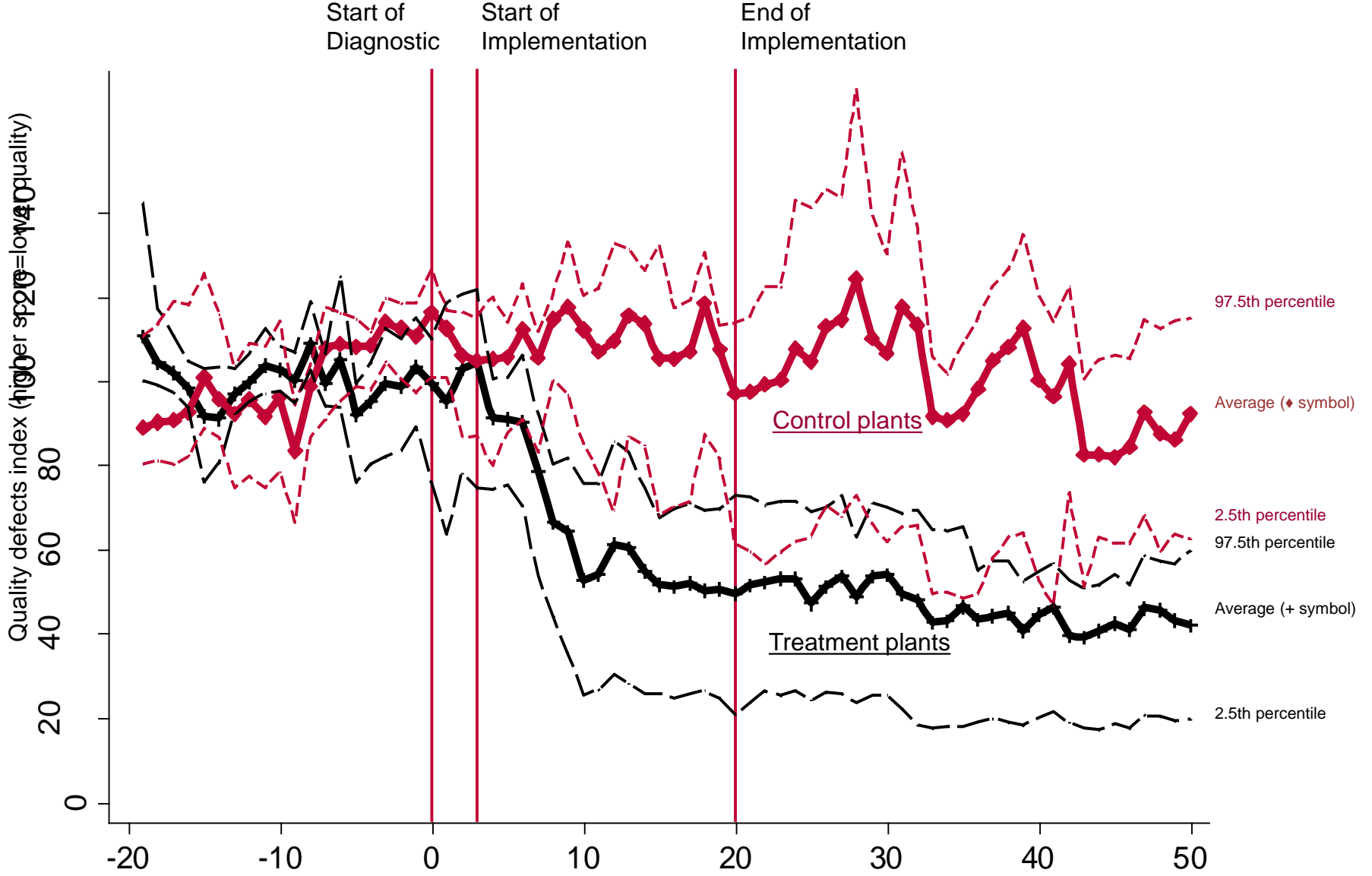
1. Bloom and Van Reenen (2007) "Measuring and Explaining Management practices across firms and nations" *Quarterly Journal of Economics*, 122(4), 1351–1408 <http://cep.lse.ac.uk/pubs/download/dp0716.pdf>
2. Van Reenen (2011) "Does competition raise productivity through improving management practices?" *International Journal of Industrial Organization* 9(3), 306-317, <http://cep.lse.ac.uk/pubs/download/dp1036.pdf>
3. Bloom, Sadun and Van Reenen (2012) "Americans do IT better" *American Economic Review*, 102 (1), 167-201 <http://cep.lse.ac.uk/pubs/download/dp0788.pdf>
4. "Management Practices across firms and countries" Bloom, Genakos, Sadun & Van Reenen (2012). *Academy of Management Perspectives* 26 (1) 12-33, [http://cep.lse.ac.uk/\\_new/publications/abstract.asp?index=3962](http://cep.lse.ac.uk/_new/publications/abstract.asp?index=3962)

**BACK UP**

# MANY PARTS OF THE FACTORIES ARE DIRTY AND UNSAFE



# QUALITY DEFECTS INDEX: TREATMENT & CONTROL PLANTS



Notes: Displays the average weekly quality defects index, which is a weighted index of quality defects, so a higher score means lower quality. This is plotted for the 14 on-site treatment plants (+ symbols) and the 6 on-site control plants (♦ symbols). Values normalized so both series have an average of 100 prior to the start of the intervention. To obtain confidence intervals we bootstrapped the firms with replacement 250 times.



# COVERAGE OF WORLD MANAGEMENT SURVEY: 21 COUNTRIES

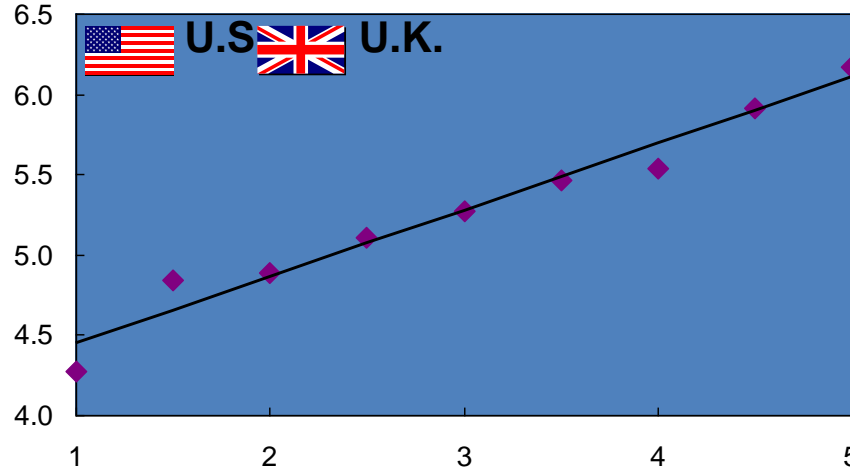


Source: World Management Survey, <http://worldmanagementsurvey.org/>

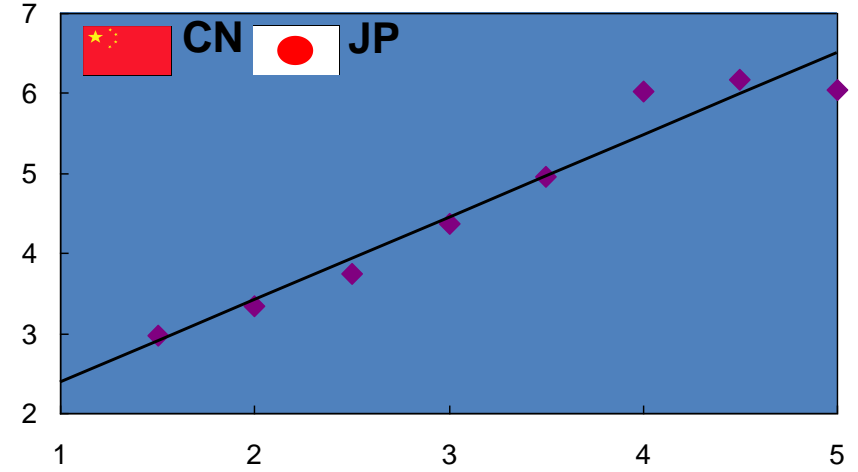


# LINK BETWEEN PRODUCTIVITY & MANAGEMENT HOLDS TRUE ACROSS DIFFERENT COUNTRIES

Labour productivity\*

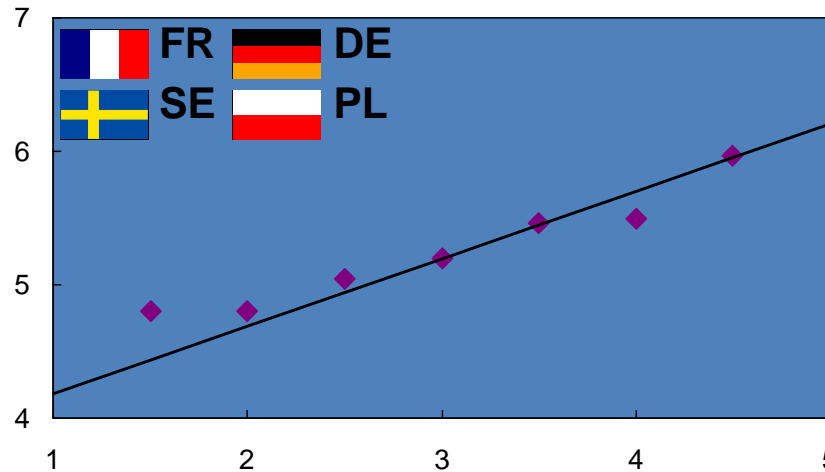


Labour productivity\*

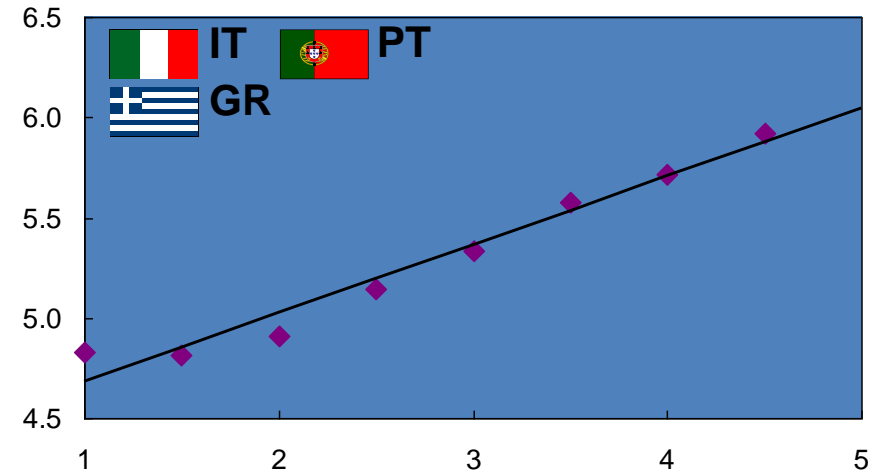


management practice score\*\*

Labour productivity\*



Labour productivity\*



management practice score\*\*

\* Log scale (sales per worker)

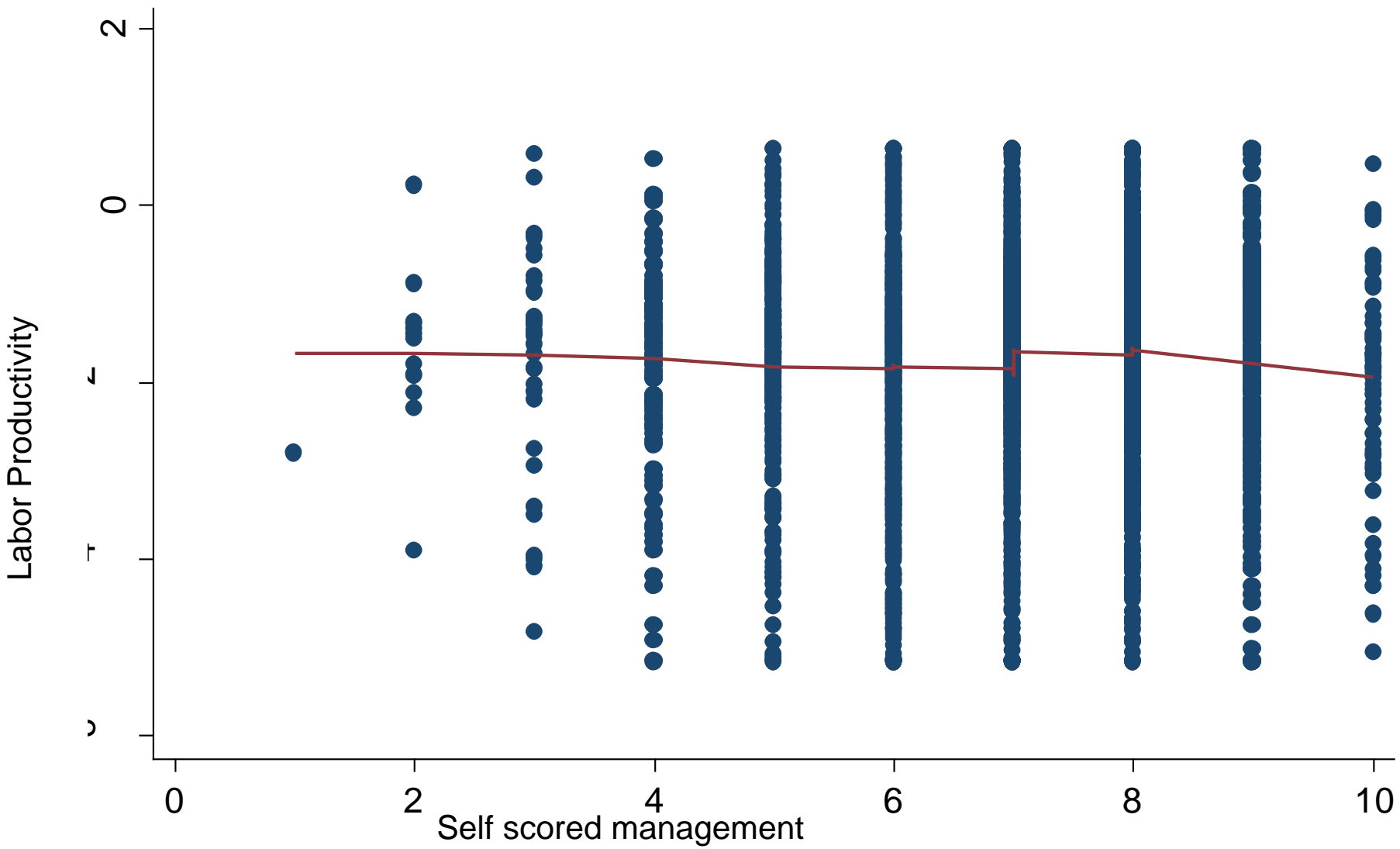
\*\* Firms are grouped in 0.5 increments of assessed management score

# **INCENTIVES - e.g. “HOW DOES THE PROMOTION SYSTEM WORK?”**

<b>Score</b>	<b>(1) People are promoted primarily upon the basis of tenure</b>	<b>(3) People are promoted 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 dimensions and over 50 examples in Bloom & Van Reenen (2006)

# SELF-SCORES UNCORRELATED WITH PRODUCTIVITY



\* Insignificant 0.03 correlation with labor productivity, cf. management score has a 0.295

# MY FAVOURITE QUOTES:

## The bizarre

*Interviewer:* “[long silence].....hello, hello....are you still there....hello”

*Production Manager:* “.....I’m sorry, I just got distracted by a submarine surfacing in front of my window”

## The unbelievable

[Male manager speaking to a female interviewer]

*Production Manager:* “I would like you to call me “Daddy” when we talk”

[End of interview...]

# MY FAVOURITE QUOTES:

## Staff rewards the American way

*Production Manager:* “For example, if an employee suggests a company slogan, and his name is used, he gets a TV. If he is employee of the month, he gets a parking space”

## Staff retention the UK way

*Interviewer:* “How would you persuade your top performers to stay?”

*UK Chairman:* “Sex is a great thing! If the employee finds a new girlfriend somewhere else, I can’t do anything!”