

UNIVERSITY OF
CAMBRIDGE

CENTRE *for* ECONOMIC
PERFORMANCE

LSE

Management Practices across Europe, the US and Asia

Christos Genakos
Cambridge & CEP

Nick Bloom
Stanford,
CEP & NBER

Raffaella Sadun
LSE & CEP

John Van Reenen
LSE, CEP,
CEPR & NBER

MOTIVATION

- Large persistent productivity spread across firms and countries:
 - UK productivity gap with the US going back 100 years
 - China and India 10% to 20% of US GDP per capita
- Even after controlling for human and physical capital, there is a large “unexplained residual” in productivity both between countries and within countries
- Could this be in part because of differences in management?
- Historically there has been no international management data
- **Our aim:** new project measuring and explaining management practices across firms and countries
 - Extends Bloom and Van Reenen (2007) methodology to 12 countries including India and China

OUTLINE

1. Why should management practices vary?

2. “Measuring” management practices

3. Evaluating the reliability of this measure

4. Describing management across firms & countries

5. Accounting for management across firms & countries

WHY SHOULD MANAGEMENT PRACTICES VARY?

Two models - not mutually exclusive

- “Optimal choice of management practices”
 - Another factor of production (like advertising)
 - No “better” or “worse” style of management – depends on firm’s circumstances

- “Managerial inefficiency” (Mundlak, 1961; Lucas 1978)
 - Part of total-factor productivity
 - Strictly “better” or “worse” styles of management

Empirically we find some support for both – today focus on “managerial inefficiency” evidence due to time constraints

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THE SURVEY METHODOLOGY

1) Developing management questions

- Scorecard for 18 monitoring, targets and incentives practices
- \approx 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, Treasury, CII & RBI, etc.
- Run by 51 MBAs (loud, assertive & business experience)

MONITORING - i.e. *“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

All 18 questions and 54 examples in Bloom and Van Reenen (2007)

ADDITIONAL CONTROLS FOR BIAS & NOISE

8 INTERVIEWEE CONTROLS

- ✓ Gender, seniority, tenure in post, tenure in firm, countries worked in, foreign, worked in US, plant location, reliability score

3 INTERVIEWER CONTROLS

- ✓ Set of analyst dummies, cumulative interviews run, prior firm contacts

5 TIME CONTROLS

- ✓ Day of the week, time of day (interviewer), time of the day (interviewee), duration of interview, days from project start

MANAGEMENT SURVEY SAMPLE

- Interviewed over 4,000 firms across US, Asia & Europe
- Obtained 63% coverage rate from sampling frame (with response rates uncorrelated with performance measures)

Medium sized manufacturing firms:

- Medium sized (100 - 5,000 employees, median \approx 275) because firm practices more homogeneous
- Manufacturing as easier to measure productivity (currently piloting in healthcare and retail)

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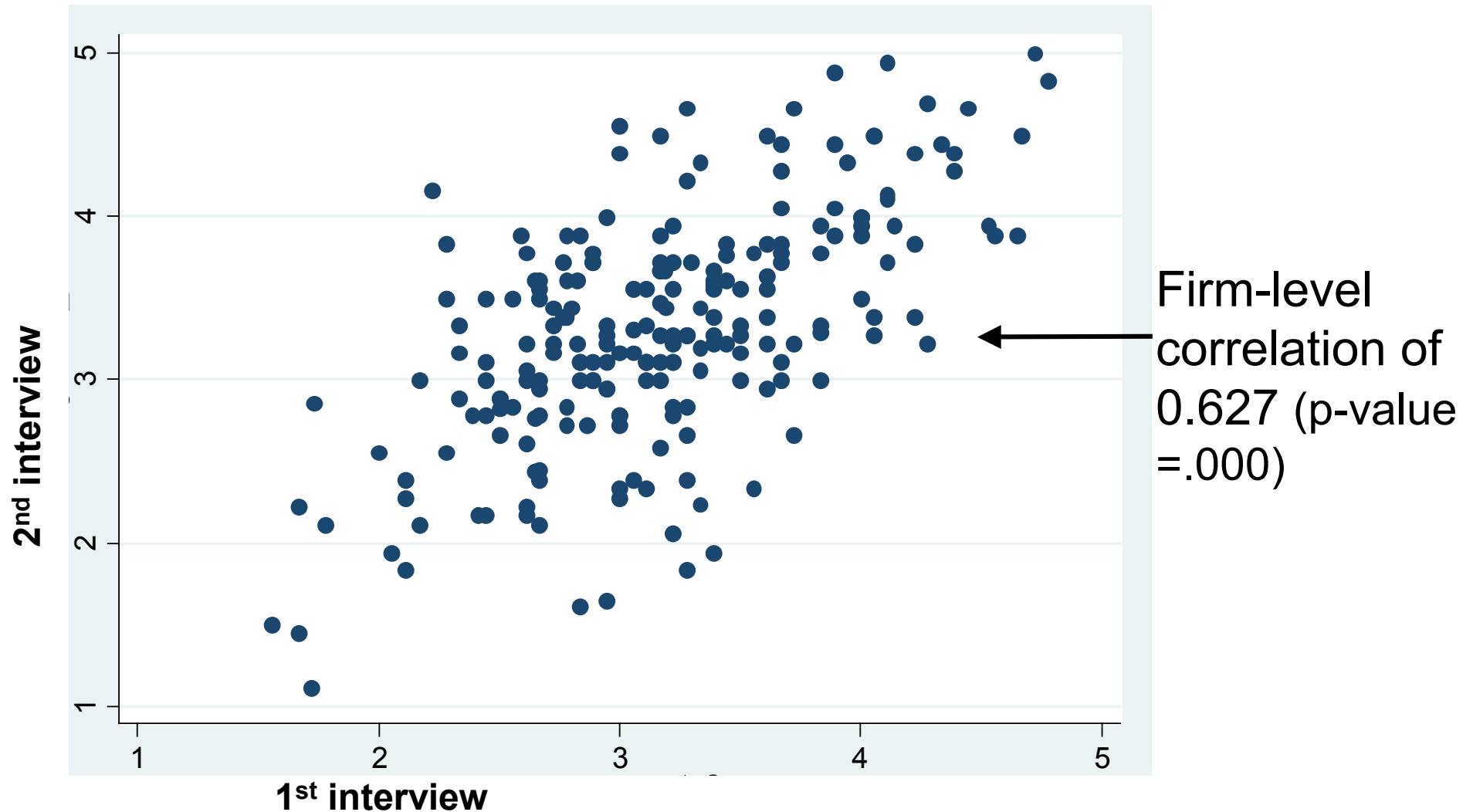
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INTERVAL VALIDATION OF THE SCORING

Re-interviewed 222 firms with different interviewers & managers

Firm average scores (over 18 question)



EXTERNAL VALIDATION OF THE SCORING

Performance measure

country c

$$y_i^c = \beta MNG_i^c + \alpha^c_l l_i^c + \alpha^c_k k_i^c + \alpha^c_m h_i^c + \gamma^c' x_i^c + u_i^c$$

management (average z-scores)

In(labor)

In(capital)

In(materials)

other controls

- ❖ Use most recent cross-section of data (2006)
- ❖ **Not causal estimation**, only shows management data informative

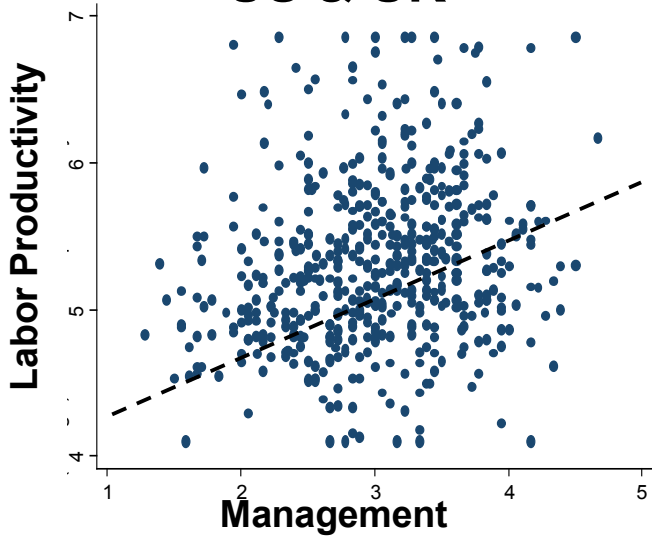
EXTERNAL VALIDATION: PRODUCTIVITY & PROFIT

Dependent variable	Sales (in Ln)	Sales (in Ln)	Sales (in Ln)	ROCE	Sales growth	Tobin Q (in Ln)	Exit
Estimation ¹	OLS	OLS	OLS	OLS	OLS	OLS	Probit
Firms	All	All	All	All	All	Quoted	All
Management	0.300 (0.026)	0.213 (0.025)	0.198 (0.028)	1.880 (0.923)	0.032 (0.013)	0.250 (0.075)	-0.200 [0.026]
Ln(Labor)	0.956 (0.024)	0.471 (0.033)	0.485 (0.021)	-0.494 (1.069)	0.001 (0.015)	0.209 (0.109)	0.233 [0.045]
Ln(Capital)		0.438 (0.021)	0.415 (0.013)	0.347 (0.505)	0.018 (0.010)	-0.029 (0.086)	-0.158 [0.045]
Ln(Skills) (% with degree)		0.059 (0.013)	0.036 (0.014)	0.347 (0.505)	0.004 (0.073)	0.130 (0.050)	-0.084 [0.231]
Ind. dummies	No	No	Yes	Yes	Yes	Yes	Yes
Noise control	No	No	Yes	Yes	Yes	Yes	Yes
Firms	3529	2706	2706	1752	2145	374	709

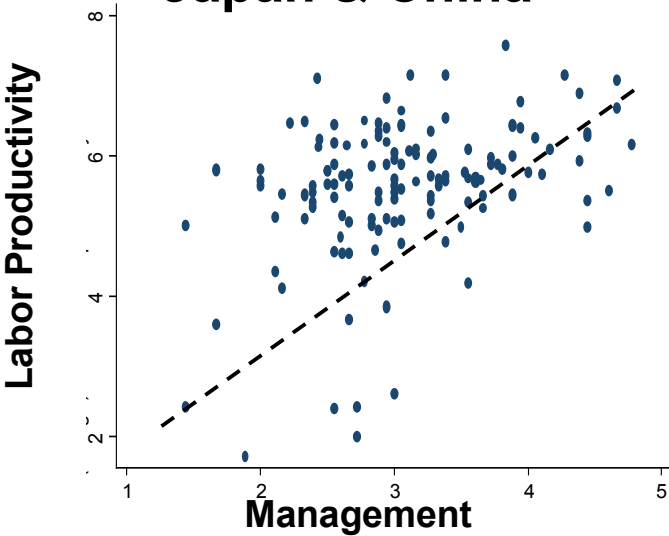
Cross sectional regressions. All columns include country controls. Robust s.e. in () below. For probit p-values in [] below

LINKED TO PERFORMANCE IN ALL THE COUNTRIES (NOT JUST ANGLO-SAXON ONES)

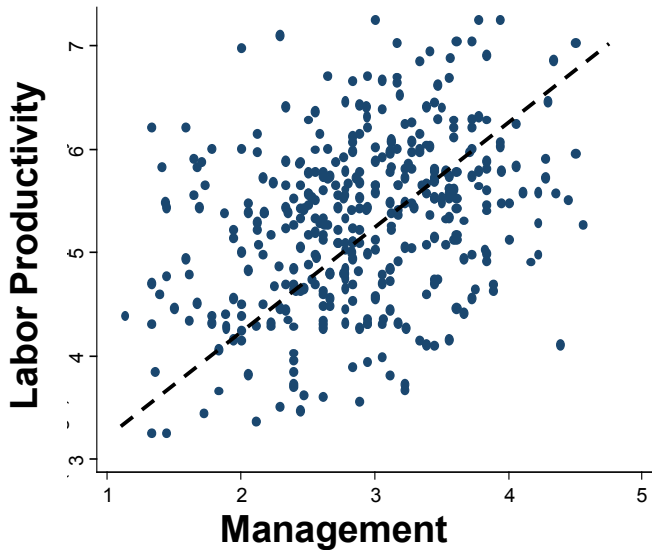
US & UK



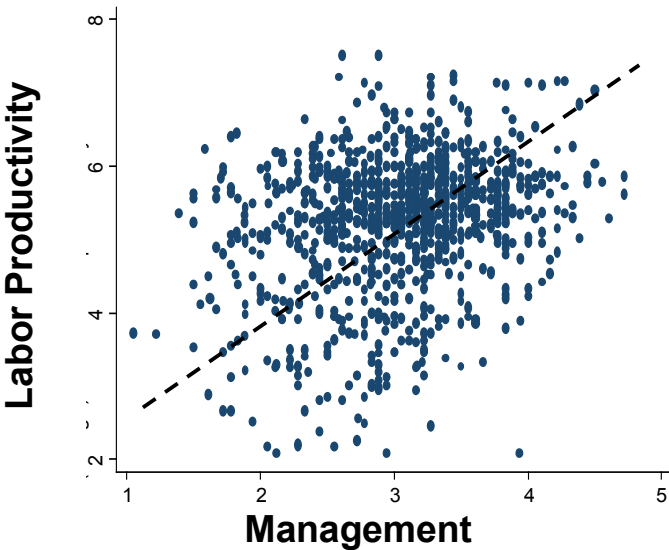
Japan & China



Greece, Portugal & Italy



France, Germany, Sweden & Poland



OUTLINE

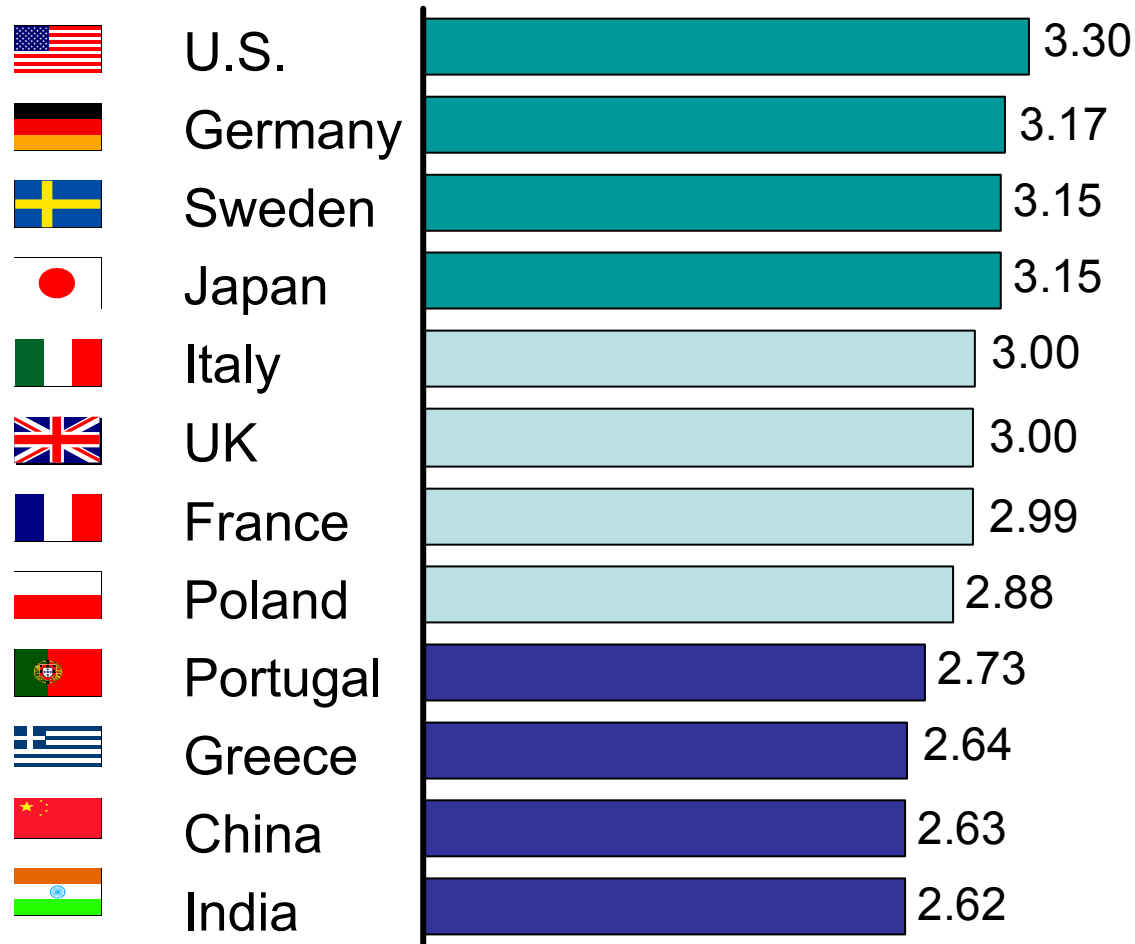
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COUNTRY LEVEL MANAGEMENT SCORES

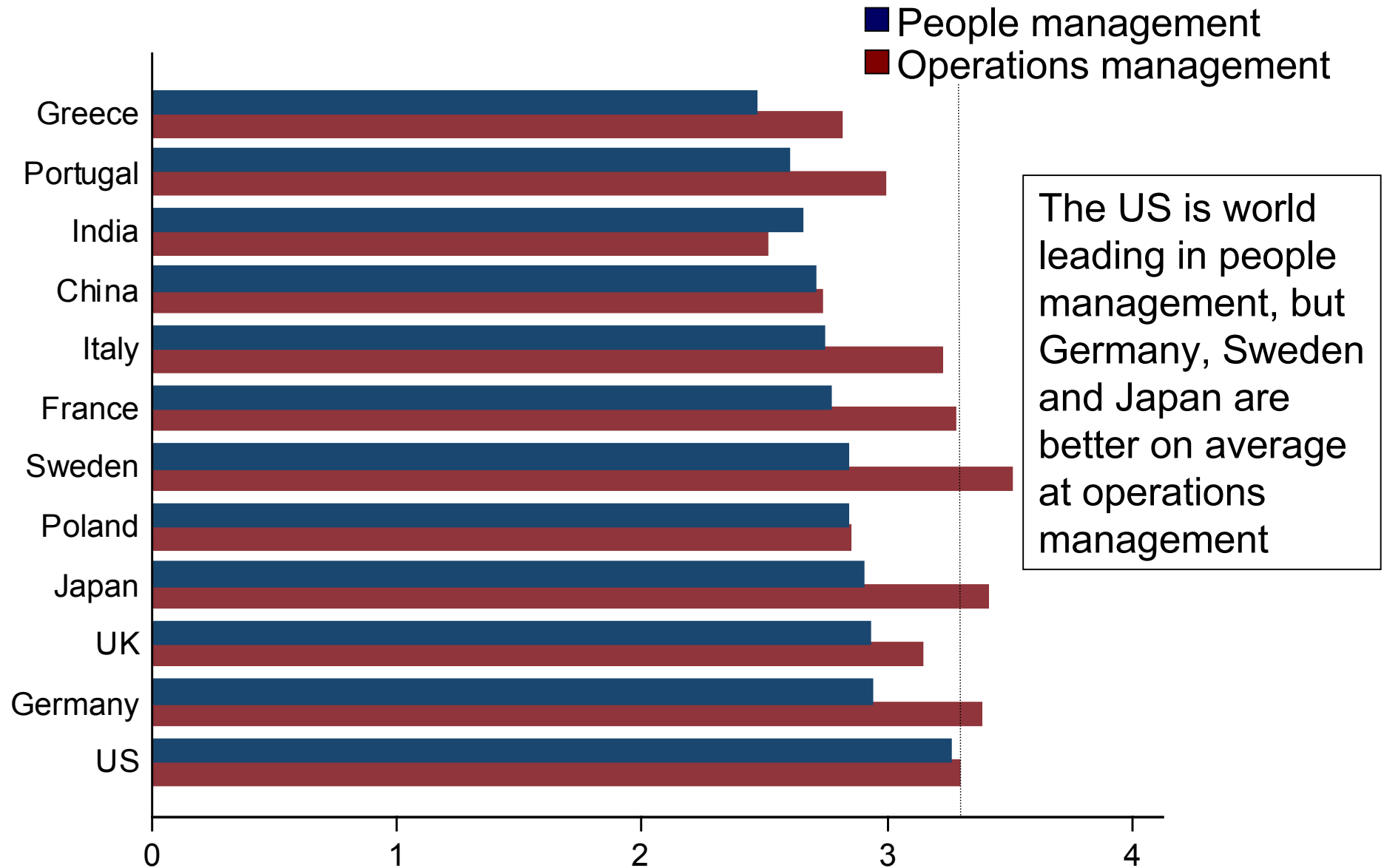
Average management score, by country



3 statistically distinct groups appear

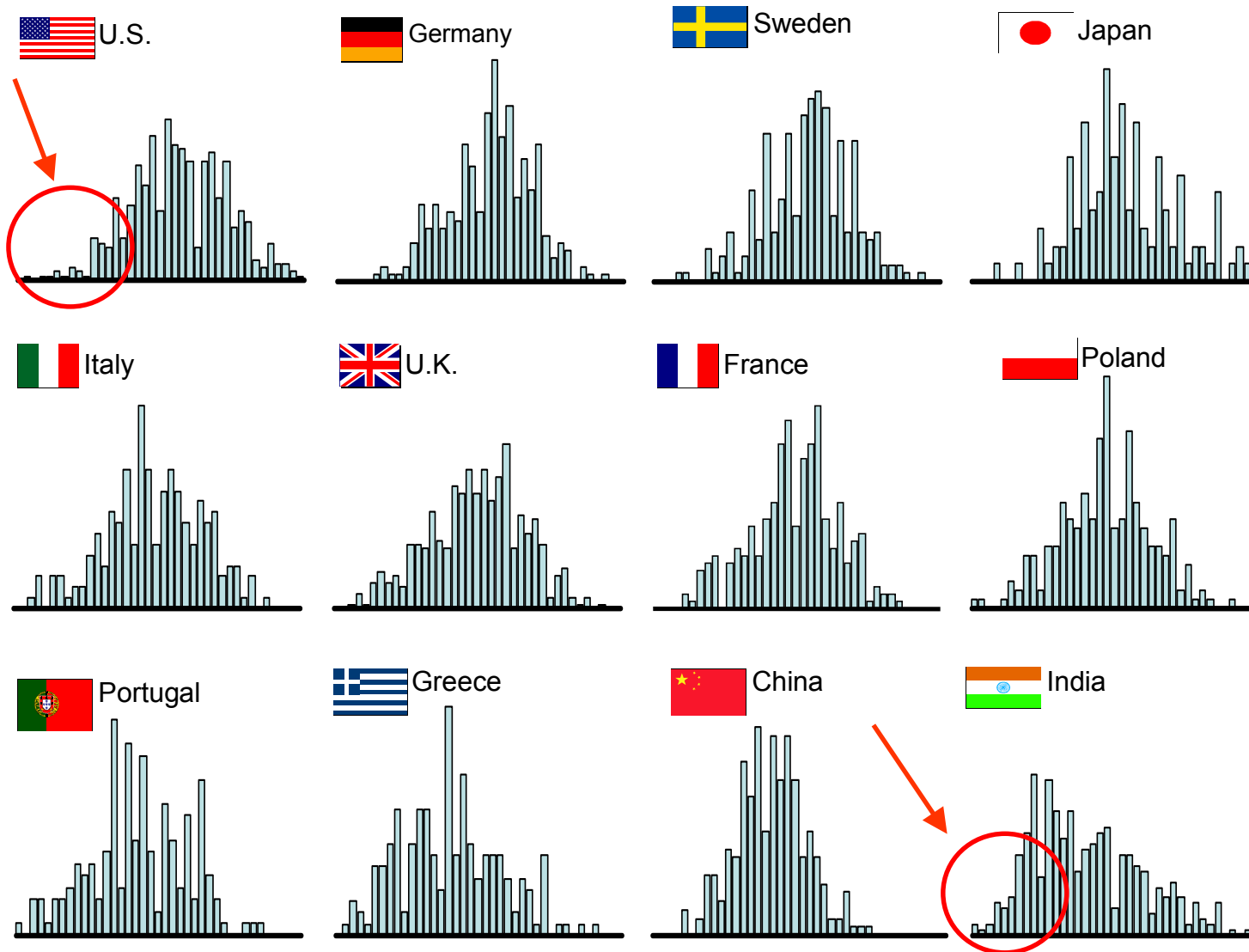
- U.S., Germany, Sweden and Japan
- Italy, U.K., France, and Poland
- Portugal, Greece, China and India

BUT THE US IS NOT BEST AT EVERYTHING - THERE ARE NATIONAL STRENGTHS & WEAKNESSES



ALSO THE AVERAGE HIDES MUCH VARIATION

Distribution of firm level management scores, by country



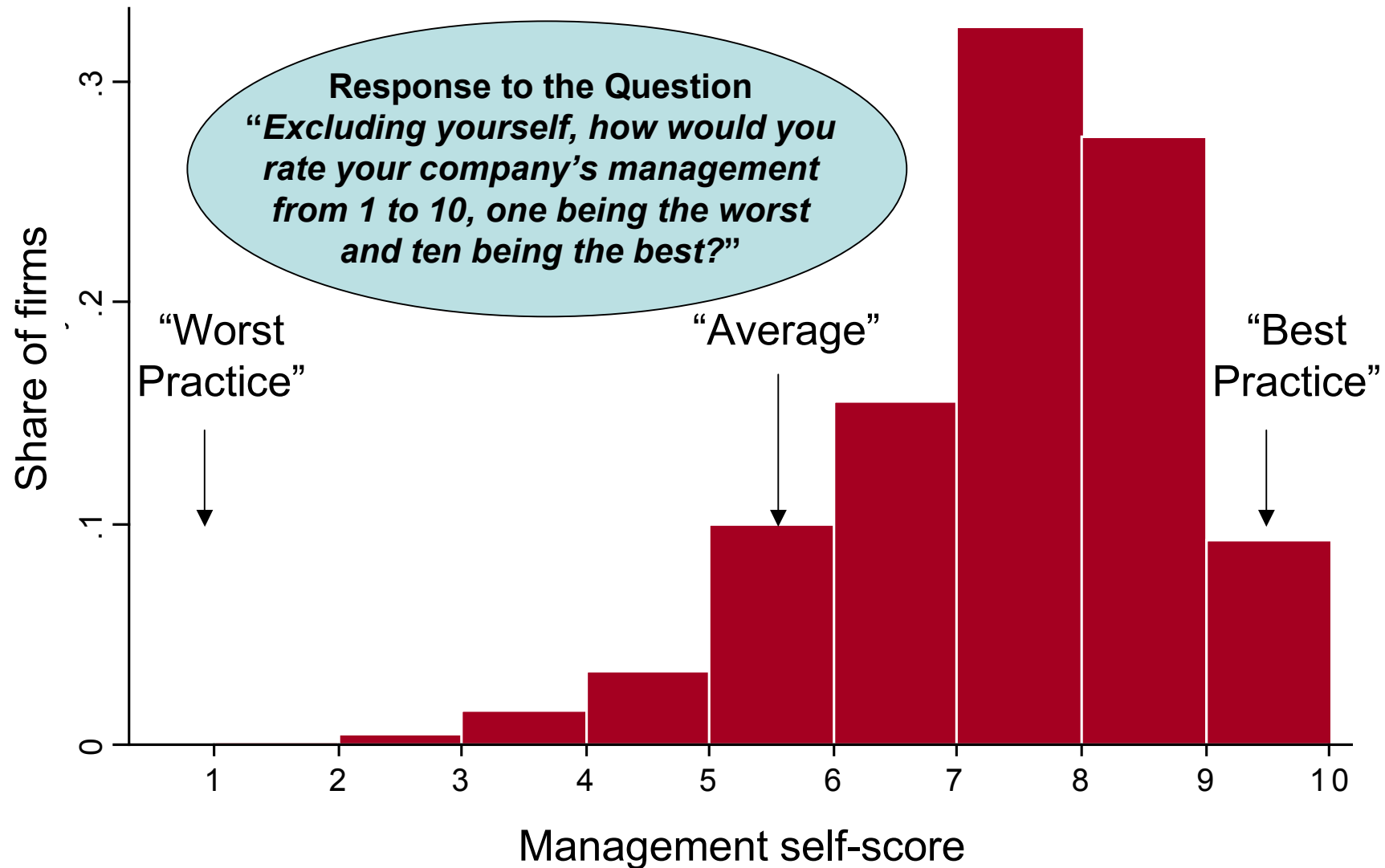
85% of variation in management scores within countries

Long 'tail' of poorly managed firms pulls down the average management score of low performing countries

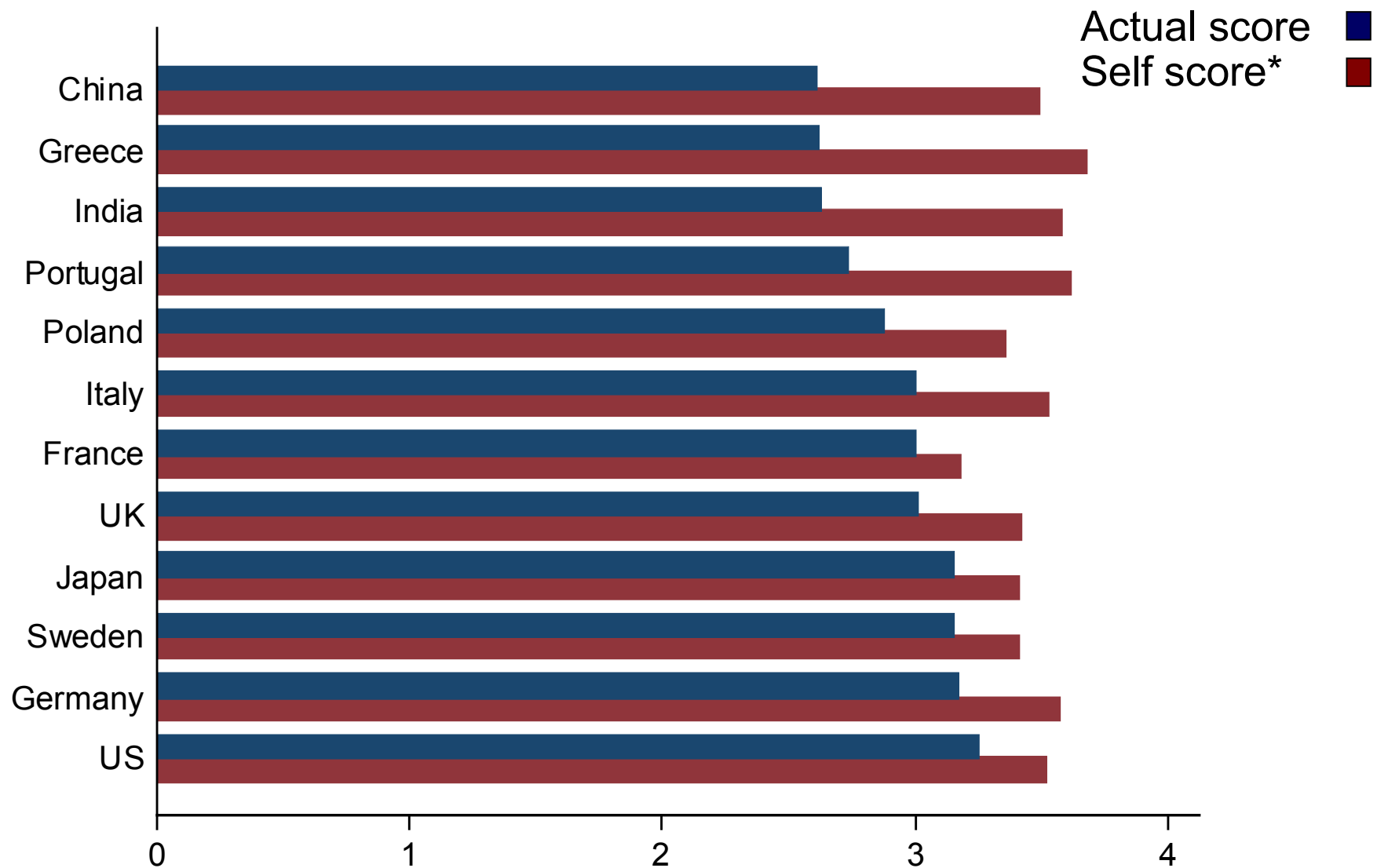
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THE AVERAGE MANAGER ALSO THINKS HIS FIRMS MANAGEMENT IS WELL ABOVE AVERAGE



AND THIS OVER-SCORING OCCURS IN EVERY COUNTRY IN OUR SAMPLE



* Divided by 2 to normalize to a similar scale

COMPETITION & MODELS OF MANAGEMENT

- “Exogenous managerial inefficiency” – positive impact
 - Selection models Hopenhayn (1992) or Syverson (2004)

- “Optimal choice model” – ambiguous impact
 - In contracting models balance between opposing profit and market-size effects (Raith 2003, Vives 2004)

COMPETITION AND MANAGEMENT PRACTICES

3 competition proxies from Nickell (1996) & Aghion et al. (2005)

Competition proxies	Dependent variable: Management		
	Import penetration (SIC-3 industry, 1995-1999)	0.066 (0.033)	
1 - Lerner index¹ (SIC-3 except sample, 1995-1999)		1.964 (0.721)	
# of competitors (Firm level, 2006)			0.158 (0.023)
Observations	2499	2980	3589
Full controls^{2,3}	Yes	Yes	Yes

¹ Lerner index = (operating profit – capital costs)/sales ≈ rents

² Includes 108 SIC-3 industry, country, firm-size, public and interview noise (analyst, time, date, and manager characteristic) controls

³ s.e. in () below, robust to heteroskedasticity, clustered by country-industry

FAMILY FIRMS & MANAGEMENT – AN OLD TOPIC

Alfred Chandler¹ and David Landes² claimed that the UK industrial decline relative to US & Germany was linked to family firms

“The Britain of the late 19th Century basked complacently in the sunset of economic hegemony. Now it was the turn of the 3rd generation...and the weakness of British enterprise reflected their combination of amateurism and complacency”

¹ Alfred Chandler, “Scale and Scope: The Dynamics of Industrial Capitalism”, (1994)

² David Landes, “The Unbound Prometheus: Technological Change and Industrial Development in Western Europe from 1750 to the Present”, (1969)

FAMILY FIRMS AND MODELS OF MANAGEMENT PRACTICES

Likely family impact depends on involvement

- Ownership but not management probably positive
 - Concentrated ownership so better monitoring
- Management probably negative
 - Smaller pool to select CEO from
 - Possible “Carnegie” effect on future CEO’s
 - Less career-concern incentive for non-family managers
 - All effects likely to be worse with *primo geniture* (succession of eldest son to CEO position)

FAMILY MANAGEMENT (PARTICULARLY A *PRIMO GENITURE* SELECTED CEO) IS PROBLEMATIC

%	Dependent variable: Management			
Family ¹ largest shareholder	-0.137 (0.023)			-0.008 (0.043)
Family ¹ largest shareholder & family CEO		-0.169 (0.025)		-0.073 (0.049)
Family ¹ largest shareholder, family CEO & <i>primo geniture</i> ²			-0.254 (0.043)	-0.223 (0.046)
Observations	4141	4141	4141	4141

¹ Family defined as 2nd generation or later

² Based on question: “*How was management of the firm passed down: was it to the eldest son or by some other way?*”. Non *primo geniture* alternatives: other sons, son in-laws, daughters, brothers, wives, nephews and cousins.

Note includes SIC-3 digit, country, skills, firm size and public controls

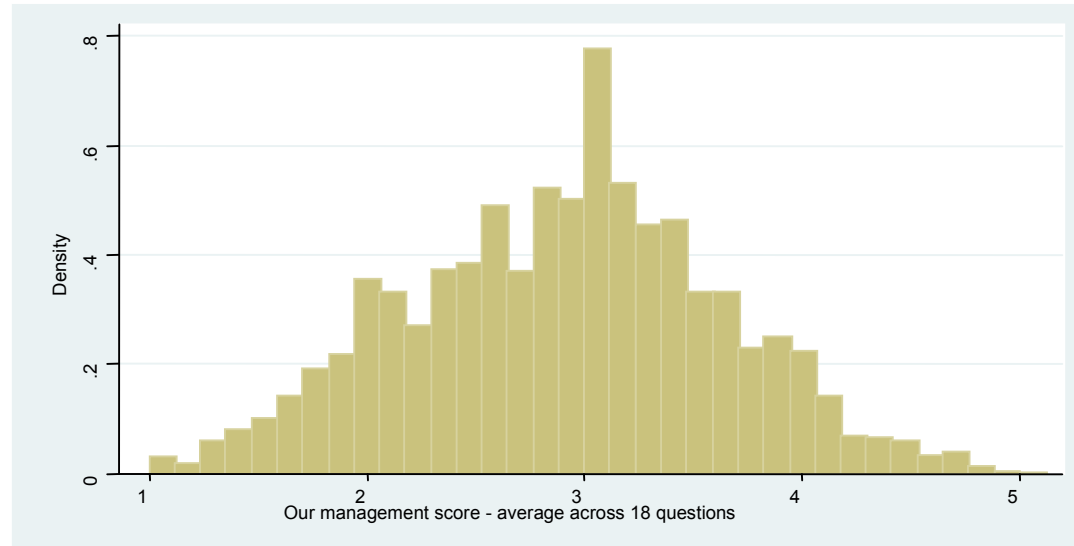
WE ALSO LOOK AT MULTINATIONALS AS A WAY TO EVALUATE THE ROLE OF LOCAL CONDITIONS

Interesting to examine because:

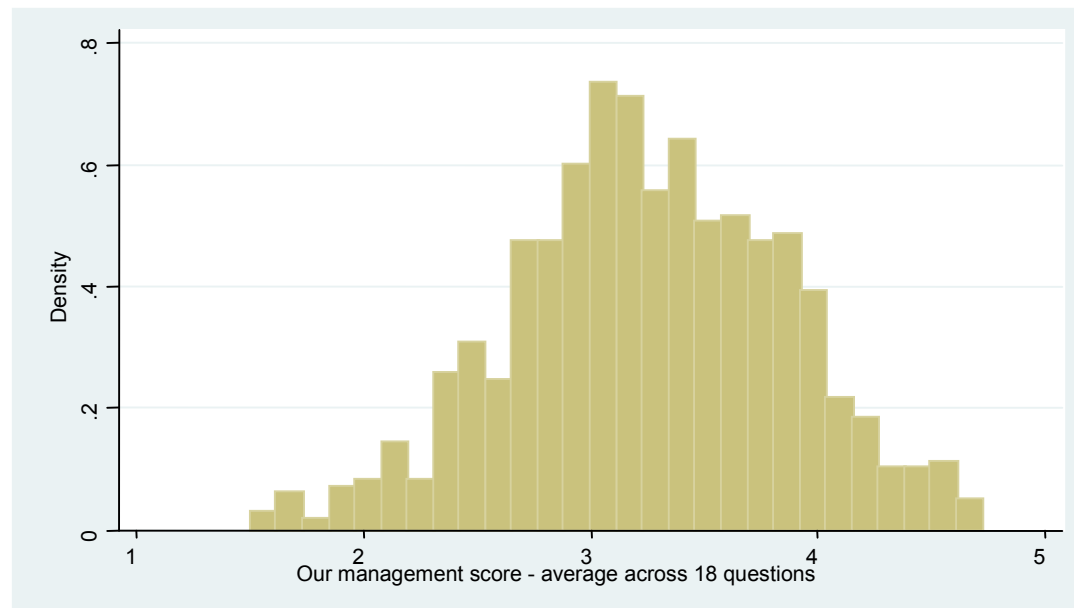
- If the management variations all due to local constraints then multinationals should look like domestic firms
- If instead management partly a technology then multinationals may export this
 - Idea in theory papers like Helpman et al. (2004), Antras et al. (2008), Burstein & Monge (2008)

THERE IS NO TAIL OF REALLY BADLY RUN MULTINATIONALS

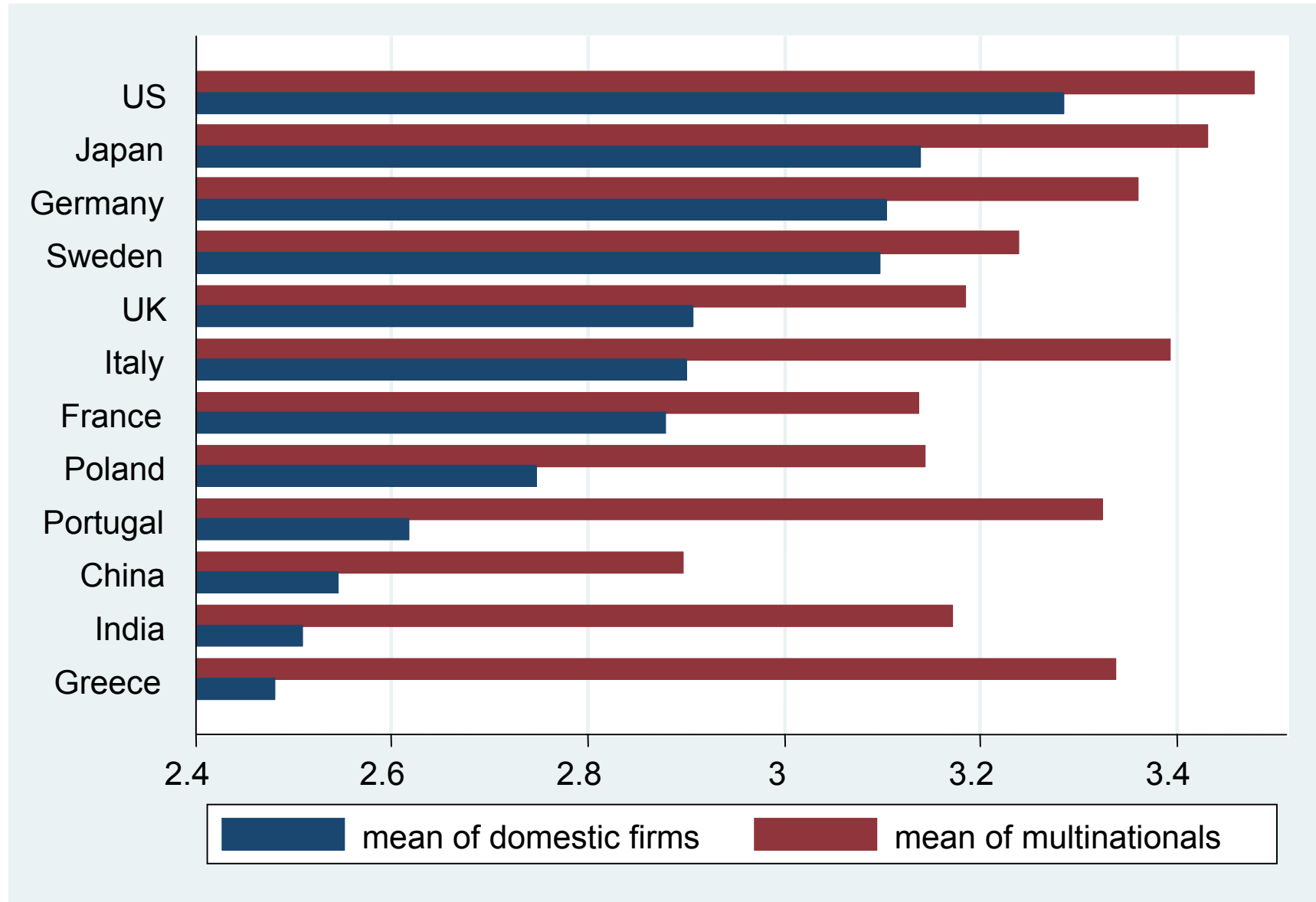
Domestic Firms



Foreign Multinationals



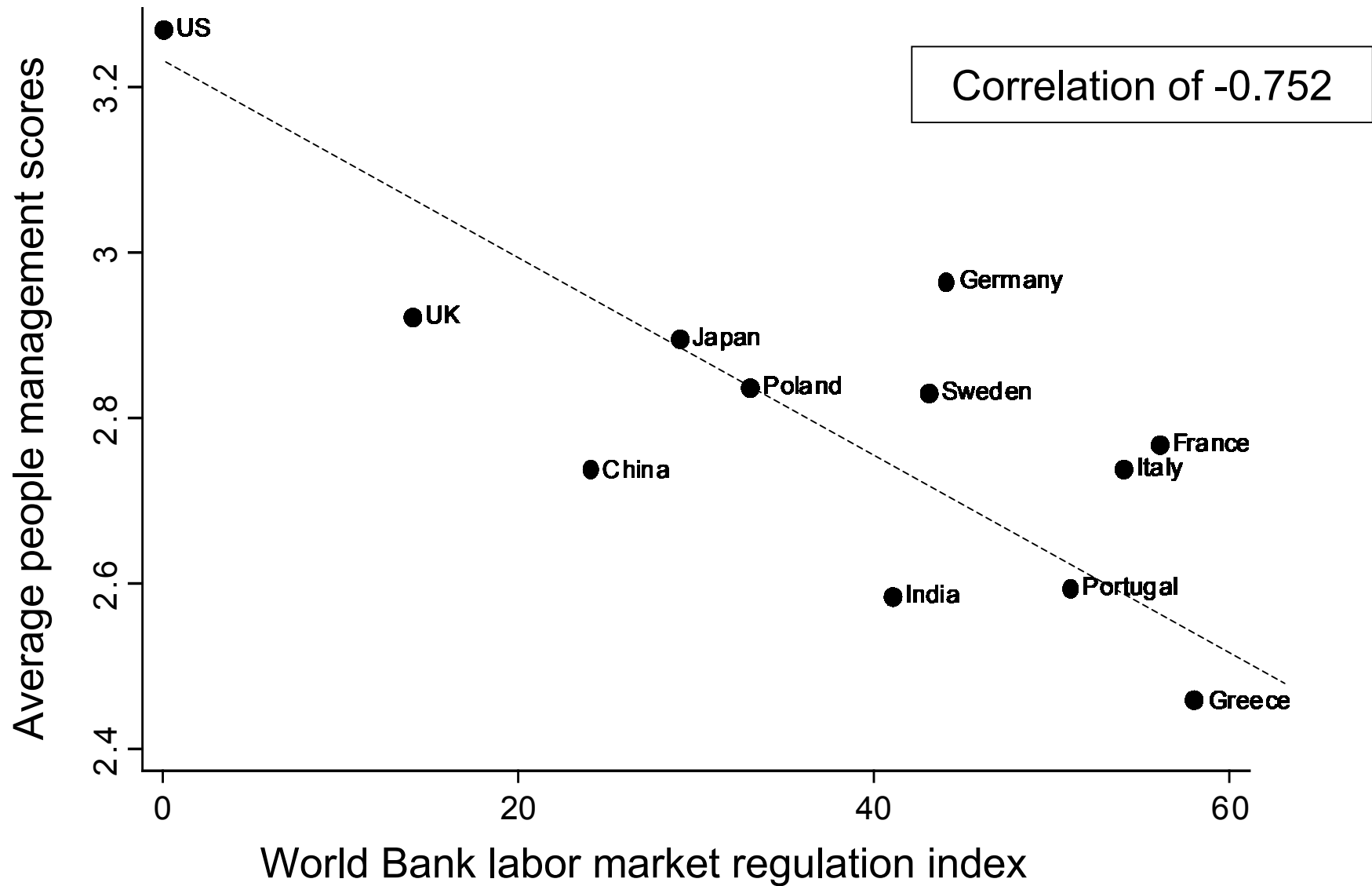
MULTINATIONALS DO APPEAR TO BE WELL MANAGED IN ALL COUNTRIES



MANAGEMENT PRACTICES ALSO MAY REFLECT LABOR MARKET REGULATIONS

- Tough hiring/firing practices may be impaired by law
- Management practices for hiring, firing, pay and promotions is negatively correlated with strength of labor market regulations

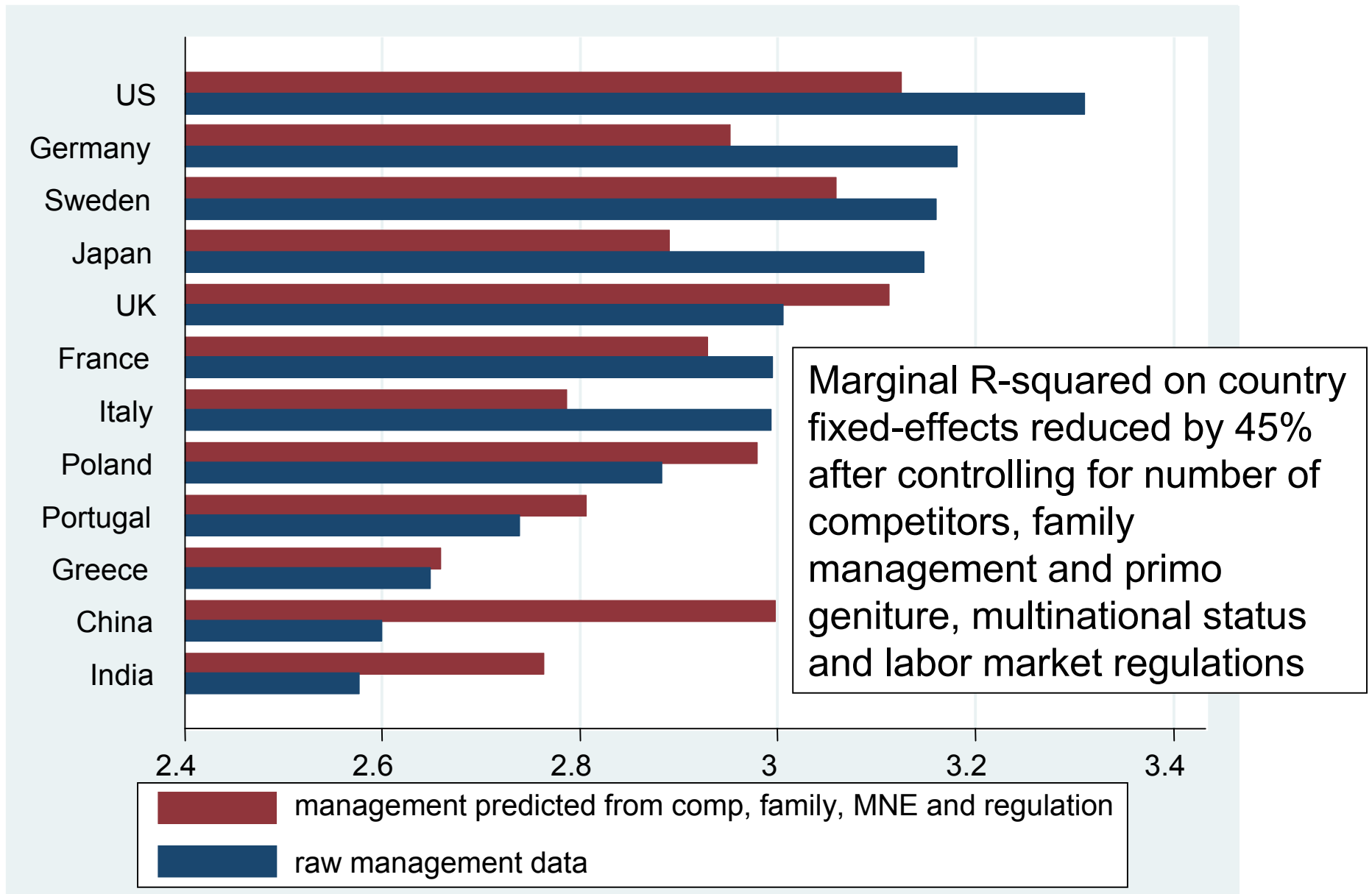
LABOUR MARKET REGULATION IS NEGATIVELY CORRELATED WITH PEOPLE MANAGEMENT...



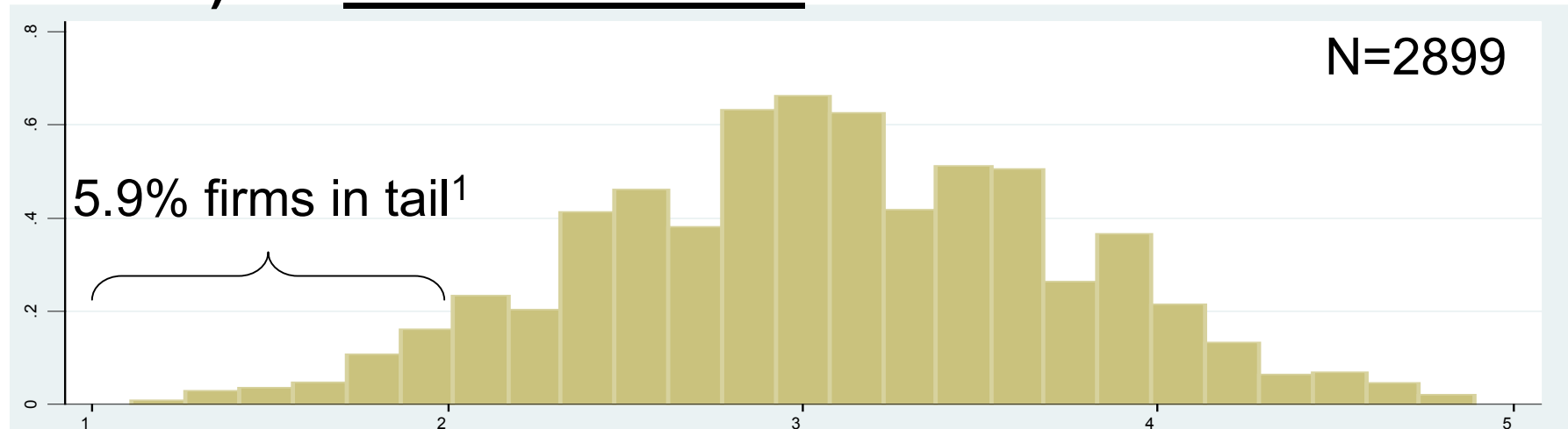
QUANTIFYING EFFECTS OF COMPETITION, FAMILY FIRMS, MULTINATIONAL & LABOR REGS:

- **ACROSS COUNTRIES ~ 1/2 VARIATION**
- **ACROSS FIRMS ~ 1/2 VARIATION**

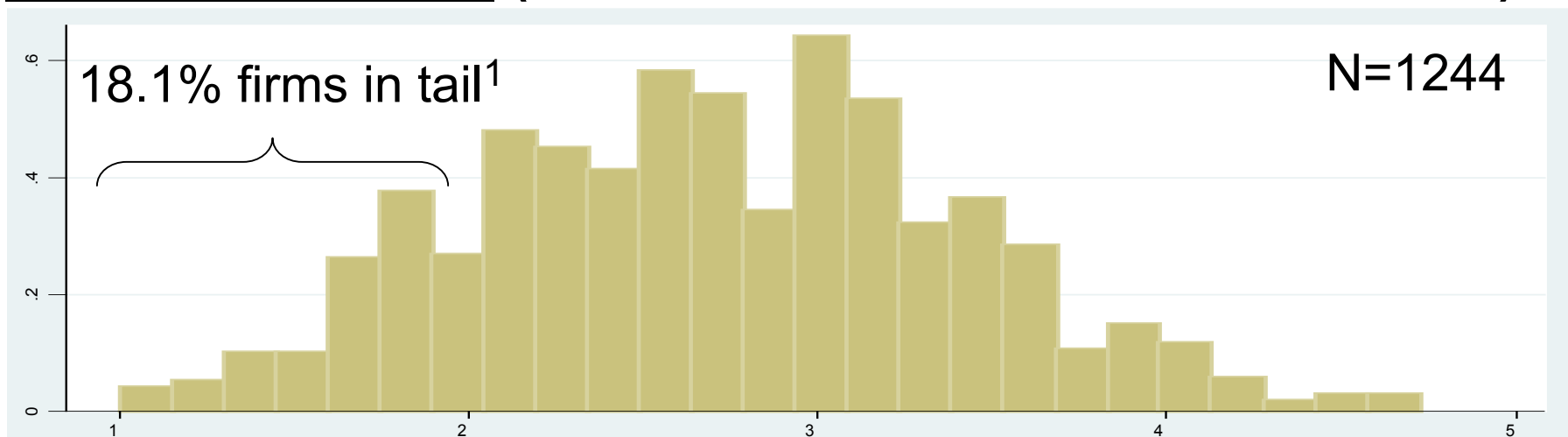
COMPETITION, FAMILY FIRMS, MULTINATIONALS & LABOR REGULATIONS ACCOUNT FOR $\approx \frac{1}{2}$ COUNTRY SPREAD



“GOOD DOMESTIC” (MANY COMPETITORS, NOT PG FAMILY) OR MULTINATIONAL



“BAD DOMESTIC” (FEW COMPETITORS OR PG FAMILY)

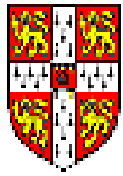


¹ Tail defined as a score ≤ 2 . In the whole sample 9.6% of firms are in the tail.

SUMMARY

- ✓ Original methodology for measuring management practices for over 4000 firms across 12 countries
- ✓ Better management practices are strongly associated with superior firm performance
- ✓ Significant within country variation in management practices
- ✓ Product market competition, family management, multinational status and labor regulation *account for*
 - About 50% of tail of badly managed firms
 - About 50% cross country management gap

It was hard work but...?



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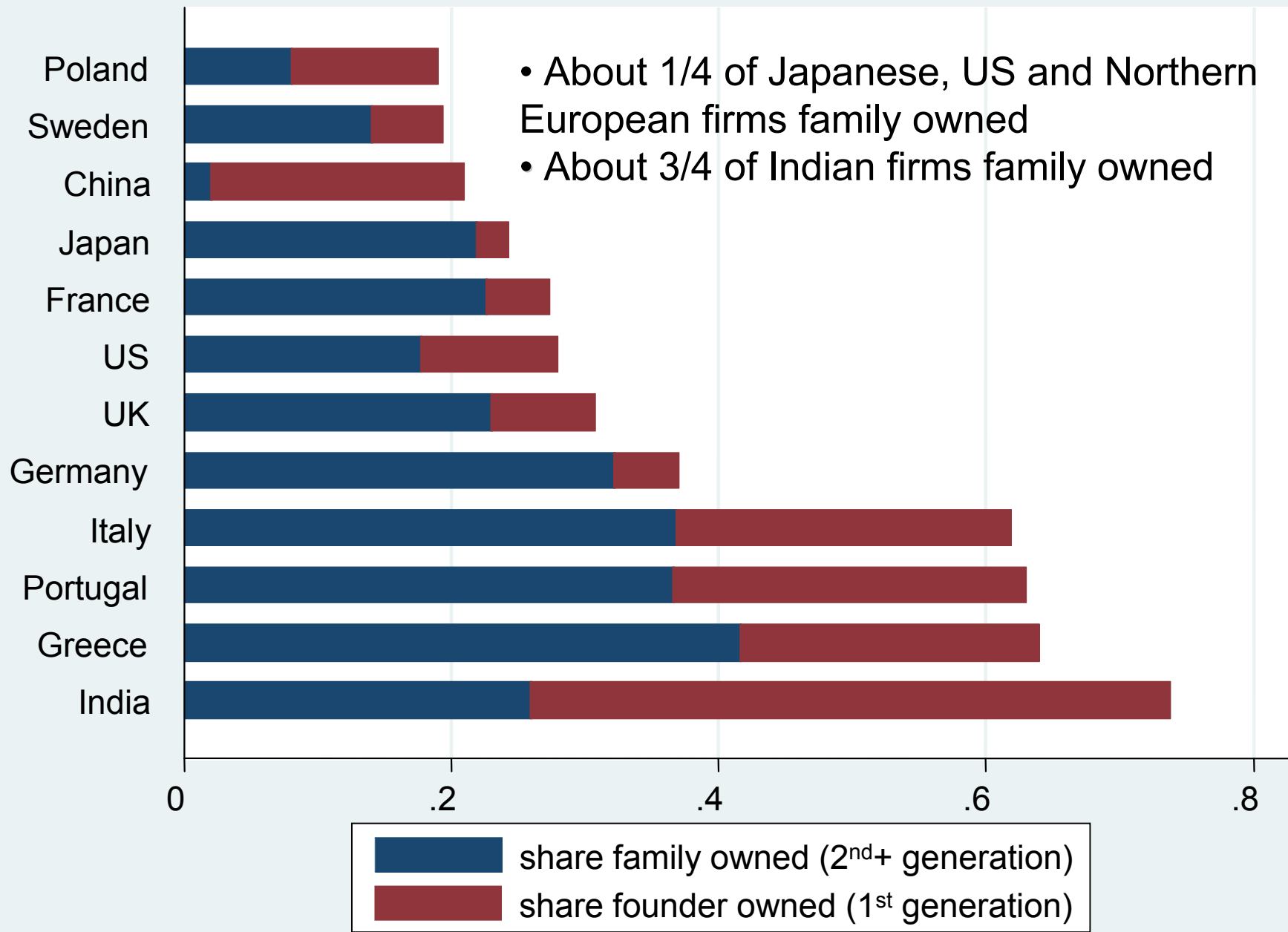
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BACK-UP

FAMILY OWNERSHIP VARIES ACROSS COUNTRIES



MULTINATIONALS ARE MOST COMMON IN NORTHERN EUROPE, LESS IN ASIA & THE US

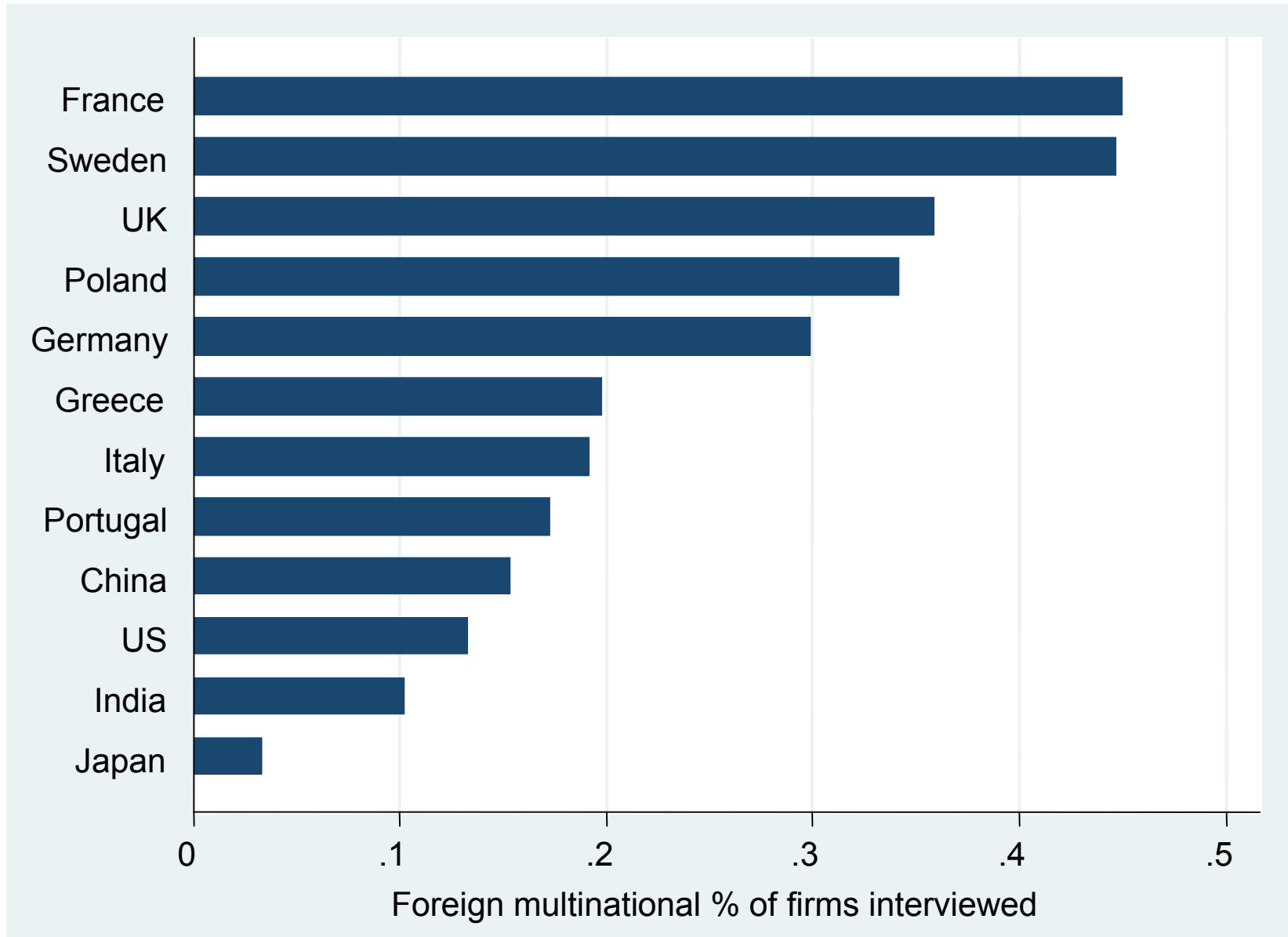


FIG 3. COUNTRY LEVEL RELATIVE SCORES

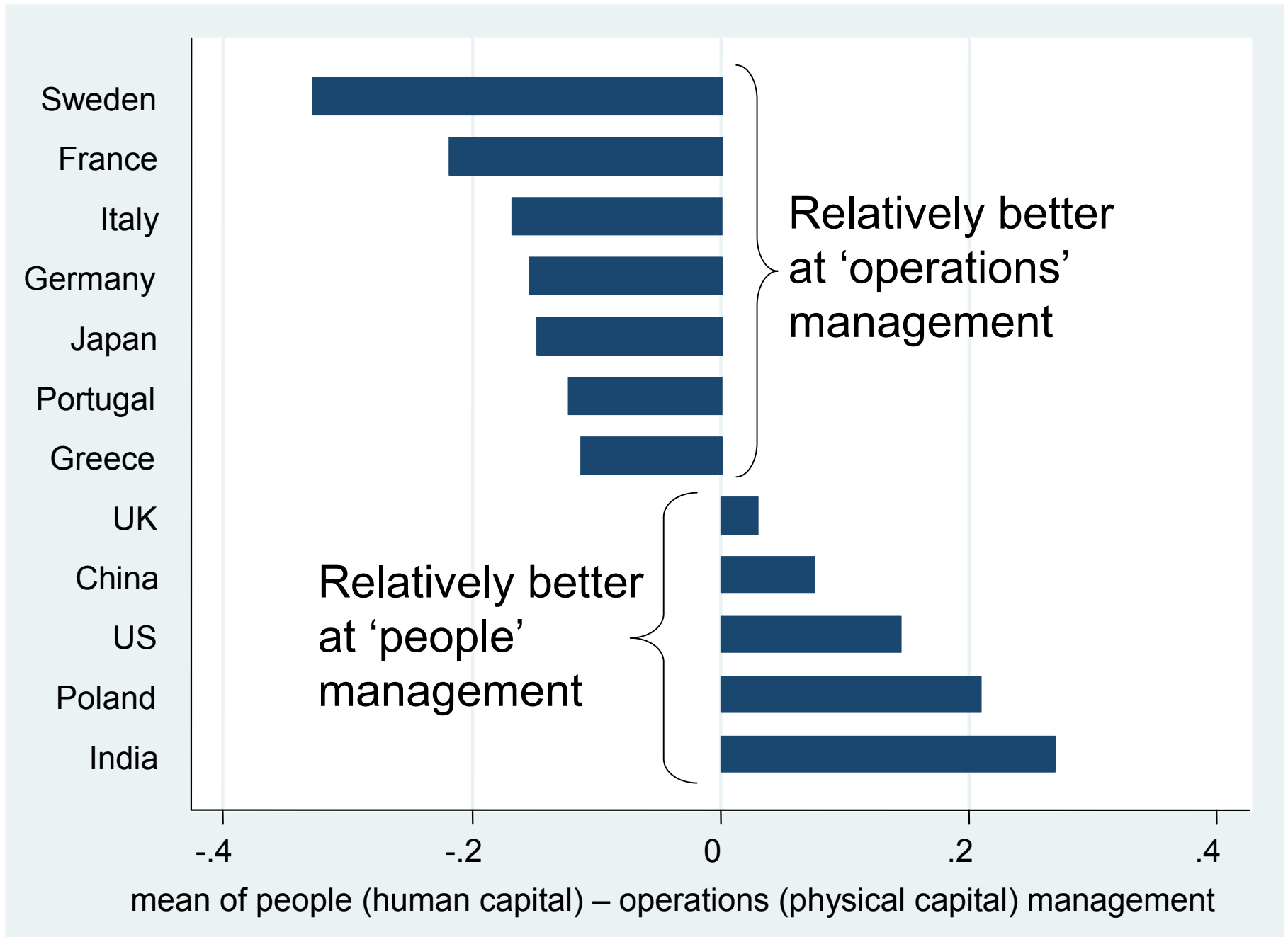
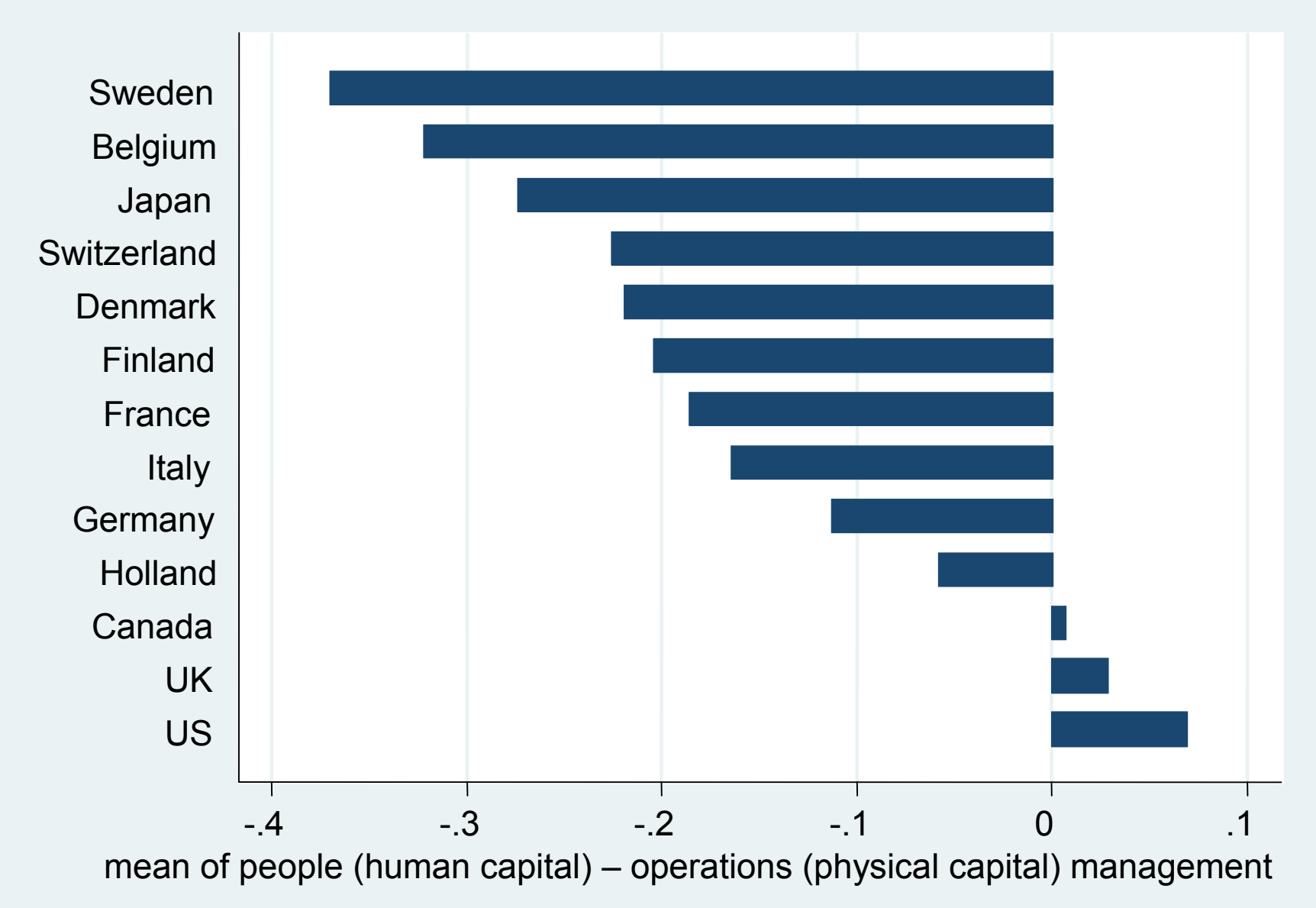


FIG 4. MULTINATIONALS TAKE THESE HOME COUNTRY PRACTICES ABROAD



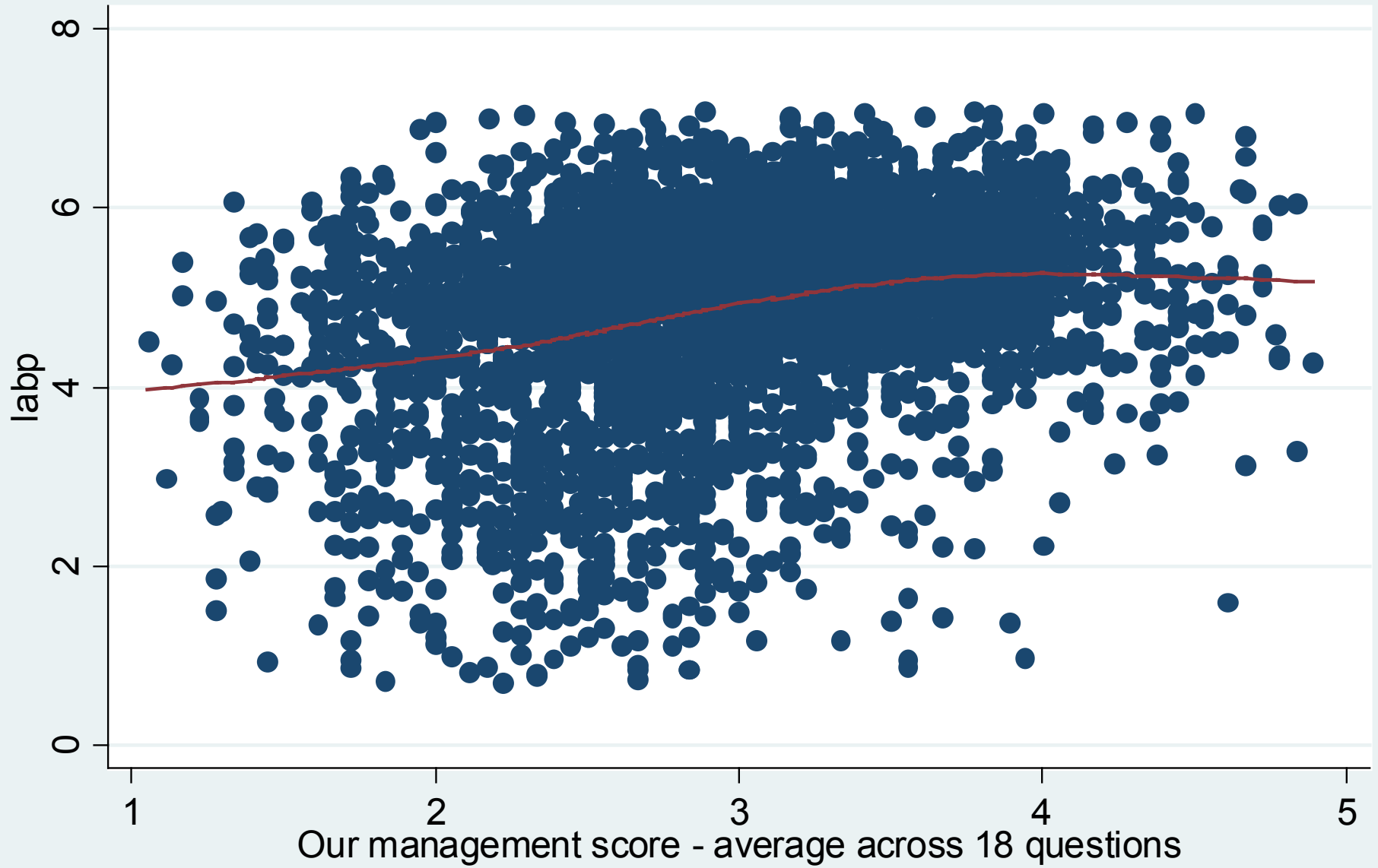
Only source countries with 25+ subsidiaries in our data

CONCERNS WITH OUR MANAGEMENT MEASURE?

- (2) **Firm performance-related measurement bias in management score** (i.e. the “happy manager” problem), but
- Surveying methodology using examples tries to minimize this
 - Competition and management *positively* linked (later)
 - Management-performance link is as important in Europe (where managers less likely to “talk up” Anglo-Saxon practices) as it is in UK & US
 - No link between past productivity growth & management
 - Not all questions significant (and not linked to “subjectivity”)
 - Other subjective questions insignificant – i.e. “feel-good” work-life balance questions, organisational devolvment questions

So potential problem – but no evidence that major phenomenon

Lowess smoother



bandwidth = .8

...BUT, LABOUR MARKET REGULATION IS NOT LINKED WITH POOR OPERATIONS MANAGEMENT

