



CENTRE for ECONOMIC  
PERFORMANCE

CEP 21st Birthday public lecture

# Restoring Growth

Professor John Van Reenen

*Director, Centre for Economic Performance, LSE*

Stuart Corbridge

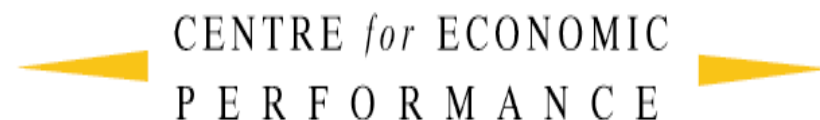
*Chair, LSE*

# SOURCES OF GROWTH

**John Van Reenen**

Department of Economics, LSE;  
Director, Centre for Economic Performance

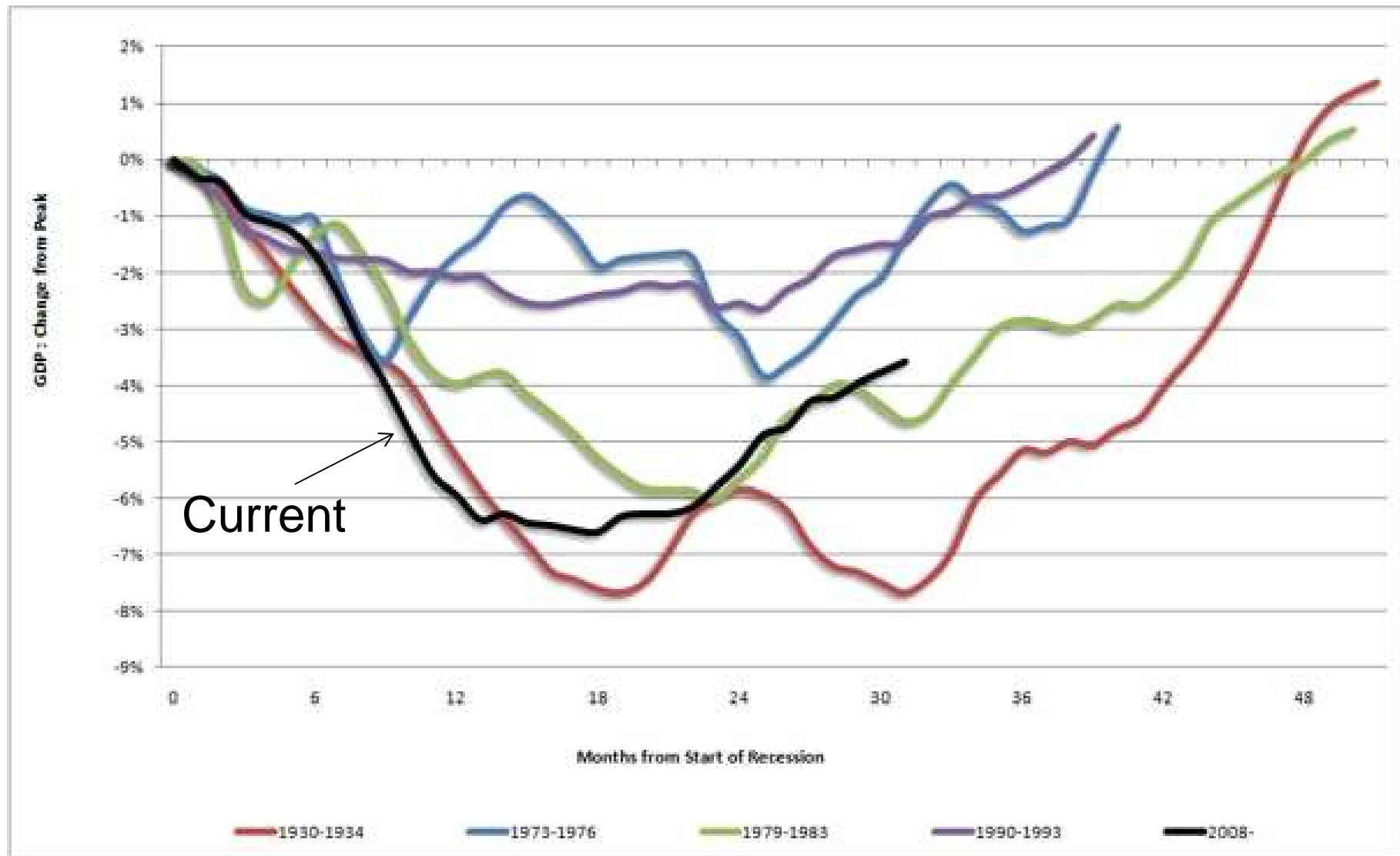
CEP 21st Birthday Series Lecture No. 2  
LSE, November, 2010



# SOURCES OF GROWTH?



# 2008-09 “GREAT RECESSION” COMPARED TO PREVIOUS RECESSIONS, CUMULATIVE CHANGE IN UK GDP



Source: NIESR (November 2010)

## QUESTIONS

- **What are the drivers of growth?**
  - Technological innovation
  - Management practices
  - Micro-economic structural reforms
- **Are the Coalition's accelerated budget cuts the right medicine?**
  - No, extreme austerity will harm economy.
- **How can we rebalance the UK economy?**
  - Within private Sector
  - Between private & public sector

# OUTLINE

**1. Productivity: what is it & how is UK doing?**

2. Why is there a productivity gap?

3. The drivers of better management

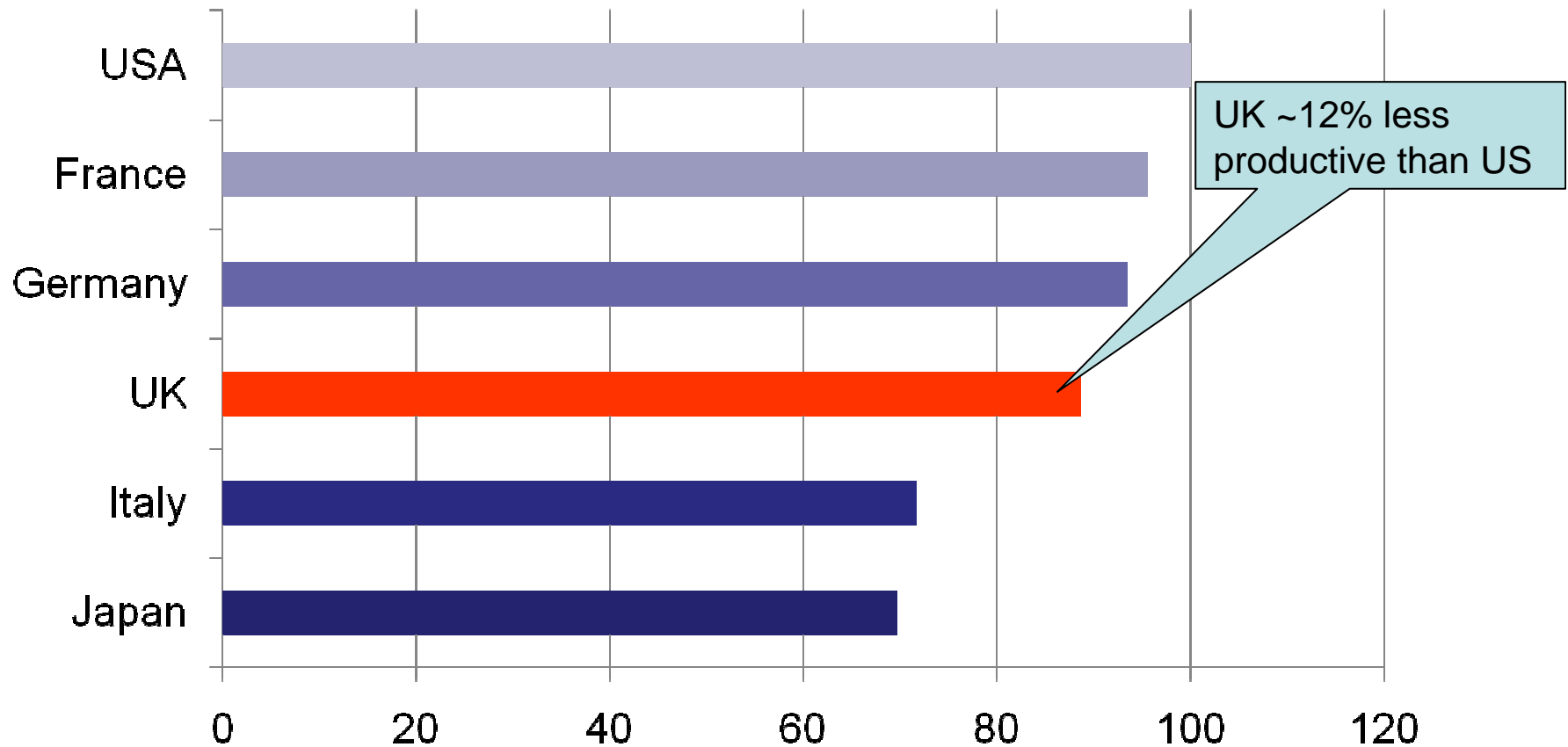
4. Micro-Policy: Structural reforms for long-term growth

5. Macro-Policy: Austerity and its implications

# WHAT IS PRODUCTIVITY AND WHY SHOULD WE CARE?

- **Absolute growth of GDP not the issue**
- **Productivity growth is what matters (GDP per hour & Total Factor Productivity)**
  - Drives growth of real wages & consumption
  - Can facilitate redistribution
- **Downsides to productivity growth**
  - Poverty?
  - Happiness?

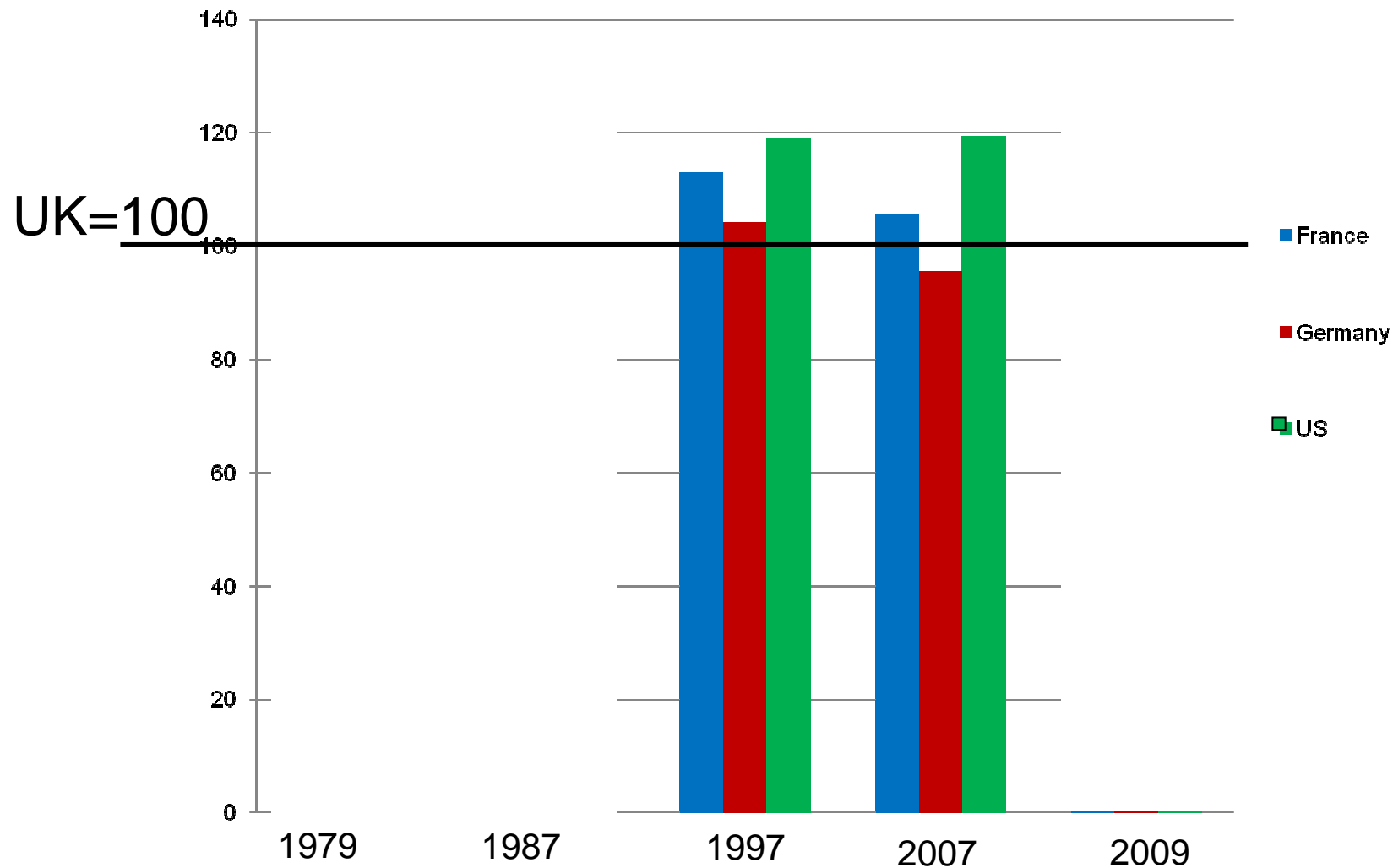
## RELATIVE LABOUR PRODUCTIVITY (GDP PER HOUR) IN 2009, US=100



**Source:** Conference Board World Economy Database,  
September 2010



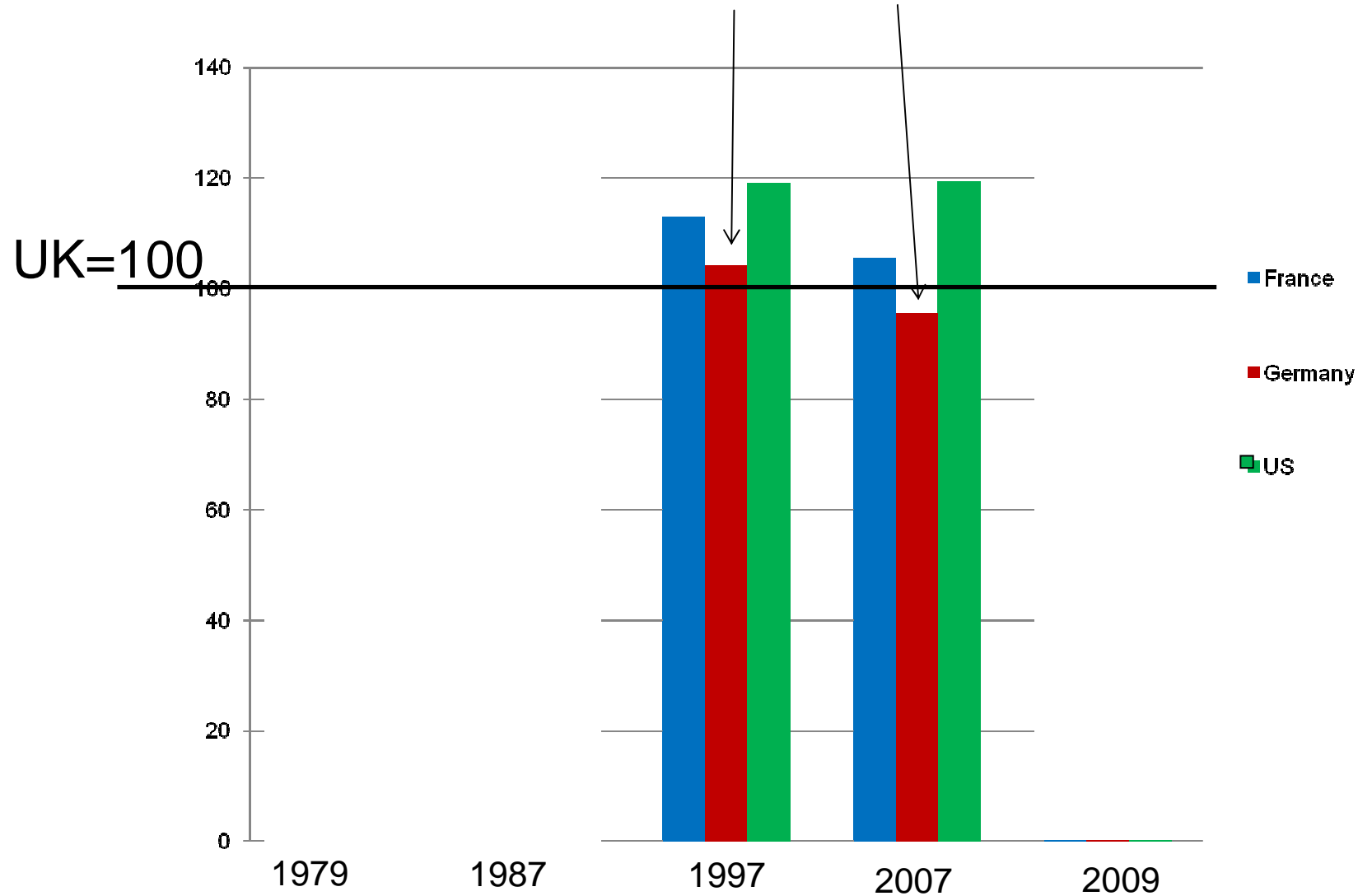
# GDP PER WORKER RELATIVE TO UK IN US, FRANCE & GERMANY (UK=100), 1979-2009



**Source:** Conference Board (2010), PPPs

# UK RELATIVE PRODUCTIVITY

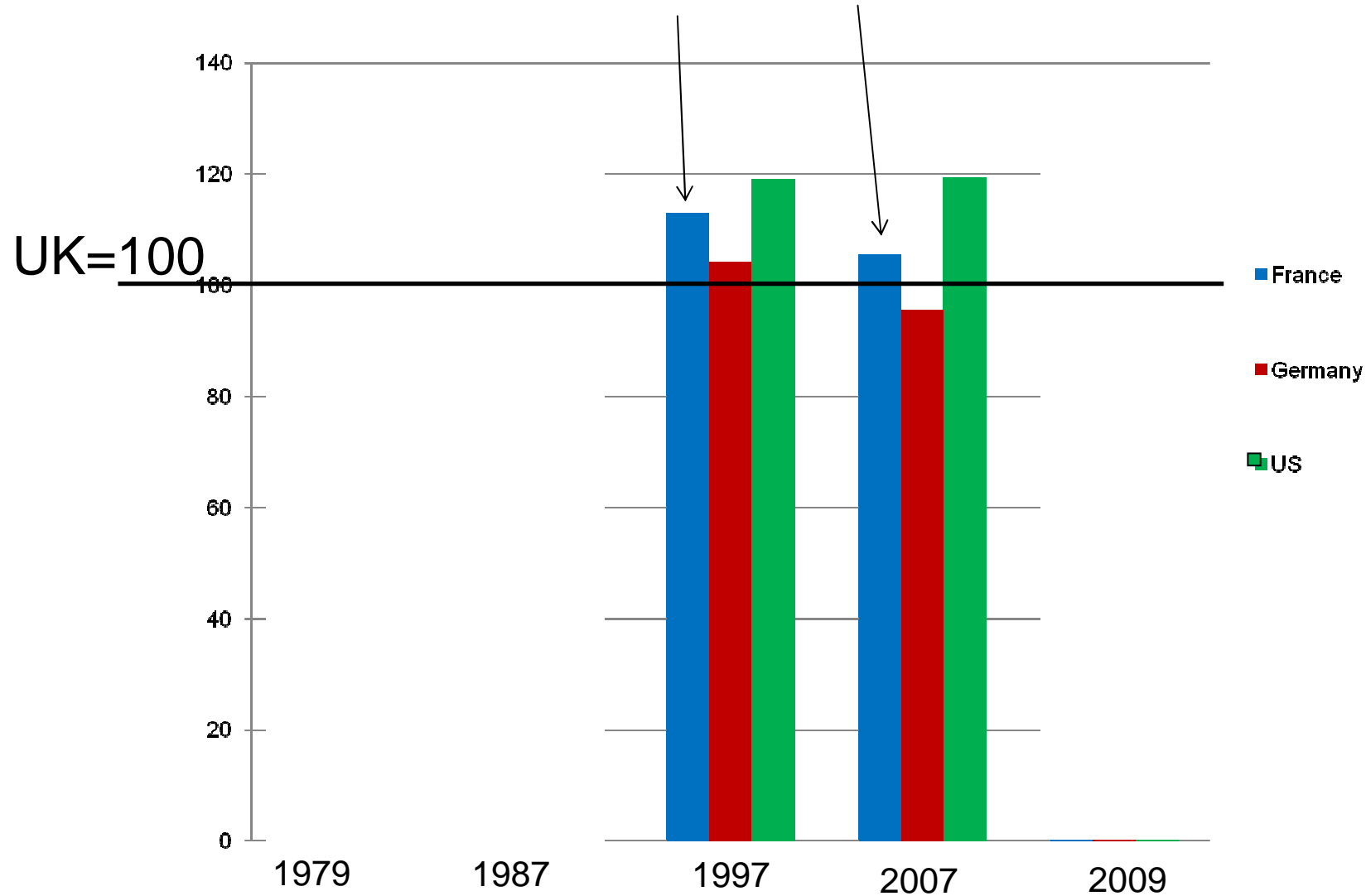
UK Gap with Germany reverses from -4% to +7%



**Source:** Conference Board (2010), PPPs

# UK RELATIVE PRODUCTIVITY

UK Gap with France falls from -13% to -10%



**Source:** Conference Board (2010), PPPs

## RECENT TRENDS IN PRODUCTIVITY

- After 1970s Oil Shocks a global productivity slowdown (e.g. US productivity growth slowed to ~1.2% p.a)
- From mid-1990s, US productivity “miracle”
- Crisis after end 2007

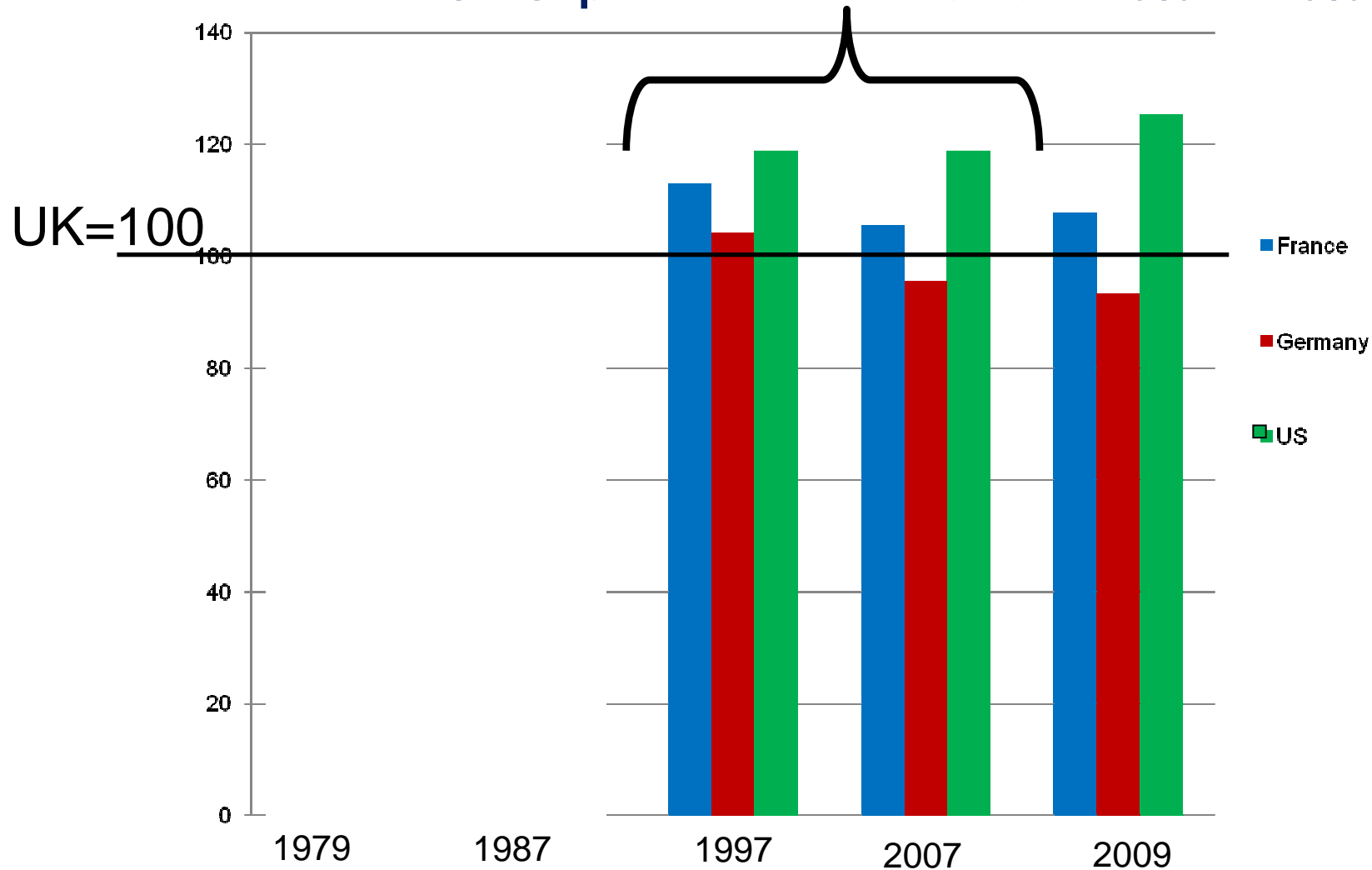
### GDP/hour p.a. growth

	US	EU-15	UK	France	Germany
<b>1995-2005</b>	2.3%	1.5%	2.2%	1.8%	1.6%
<b>2005-2009</b>	1.2%	0.3%	0.4%	0.2%	0.3%

Source: Conference Board, September 2010<sup>12</sup>

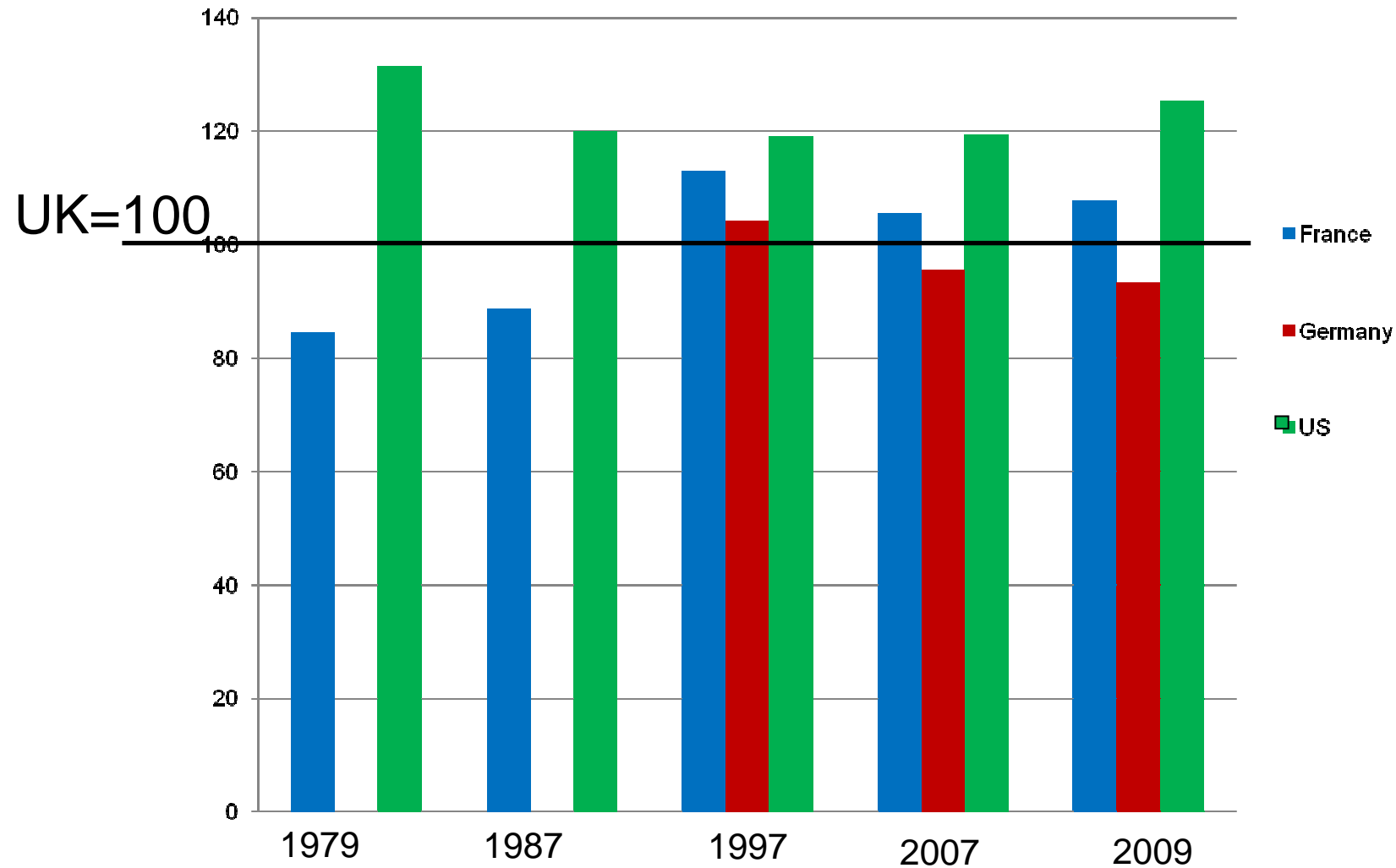
# UK RELATIVE PRODUCTIVITY, 1979-2009

UK Gap with Germany reverses from -4% to +7%  
UK Gap with France falls from -13% to -10%



**Source:** Conference Board (2010), PPPs

# UK RELATIVE PRODUCTIVITY, 1979-2009



**Source:** Conference Board (2010), PPPs

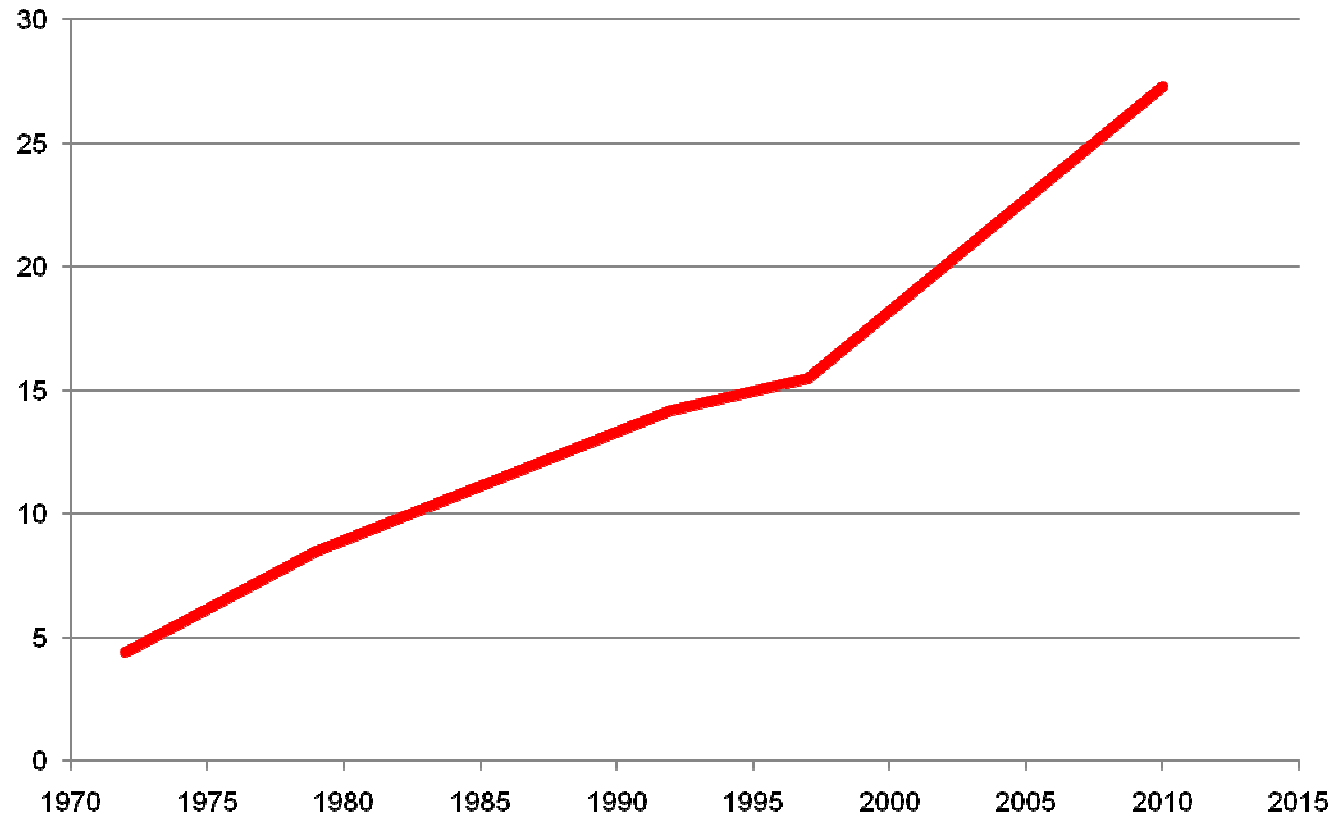
## WHAT HELPED IMPROVE UK'S PRODUCTIVITY POSITION POST 1997?

- Not driven just by financial sector; e.g. retail/wholesale had very strong productivity growth
- Increase in human capital through university expansion & school reforms (see over)
- R&D supported both directly & introduction of R&D tax credits (in 2000 for SMEs & 2002 for all firms)
- Product Market competition (e.g. Competition Policy Regime improved & ranked 2<sup>nd</sup> in world)

### Also:

- Labour market flexibility
- Openness to FDI
- Labour market supported by welfare reform (e.g. New Deal)

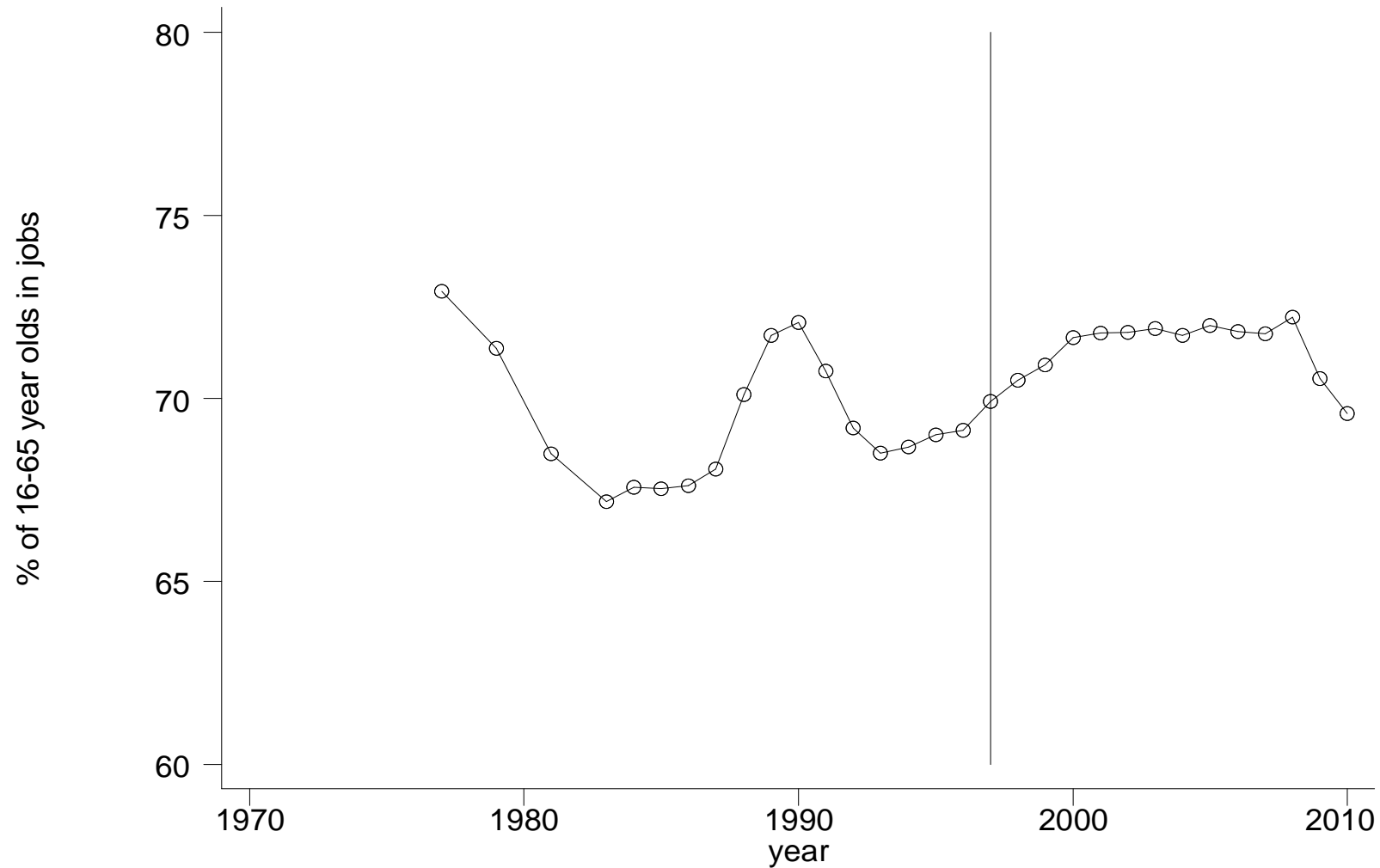
## PROPORTION OF UK WORKERS WITH A COLLEGE DEGREE ROSE BY 12 PERCENTAGE POINTS 1997-2010



**Source:** GHS and Labour Force Survey, Various years



# IMPROVEMENTS IN UK EMPLOYMENT RATE OF ADULTS



**Source:** Labour Force Survey, Various years, ages 16-65

# OUTLINE

1. Productivity: what it is & how is UK doing?

**2. Why is there a productivity gap?**

- **Technological Innovation**
- **The role of management**

3. The drivers of better management

4. Micro-Policy: Structural reforms for long-term growth

5. Macro-Policy: Austerity and its implications

# TECHNOLOGICAL INNOVATION THE CAUSE OF PRODUCTIVITY GAP WITH THE US ?

- **Partially correct: UK has innovation deficit:**
  - Although universities/basic science strong (e.g. highest paper citation to GDP ratio of G8 nations)
  - But commercialization weak: Research & Development (R&D), Patenting, etc.

# UK SECOND ONLY TO US IN ELITE SCIENCE



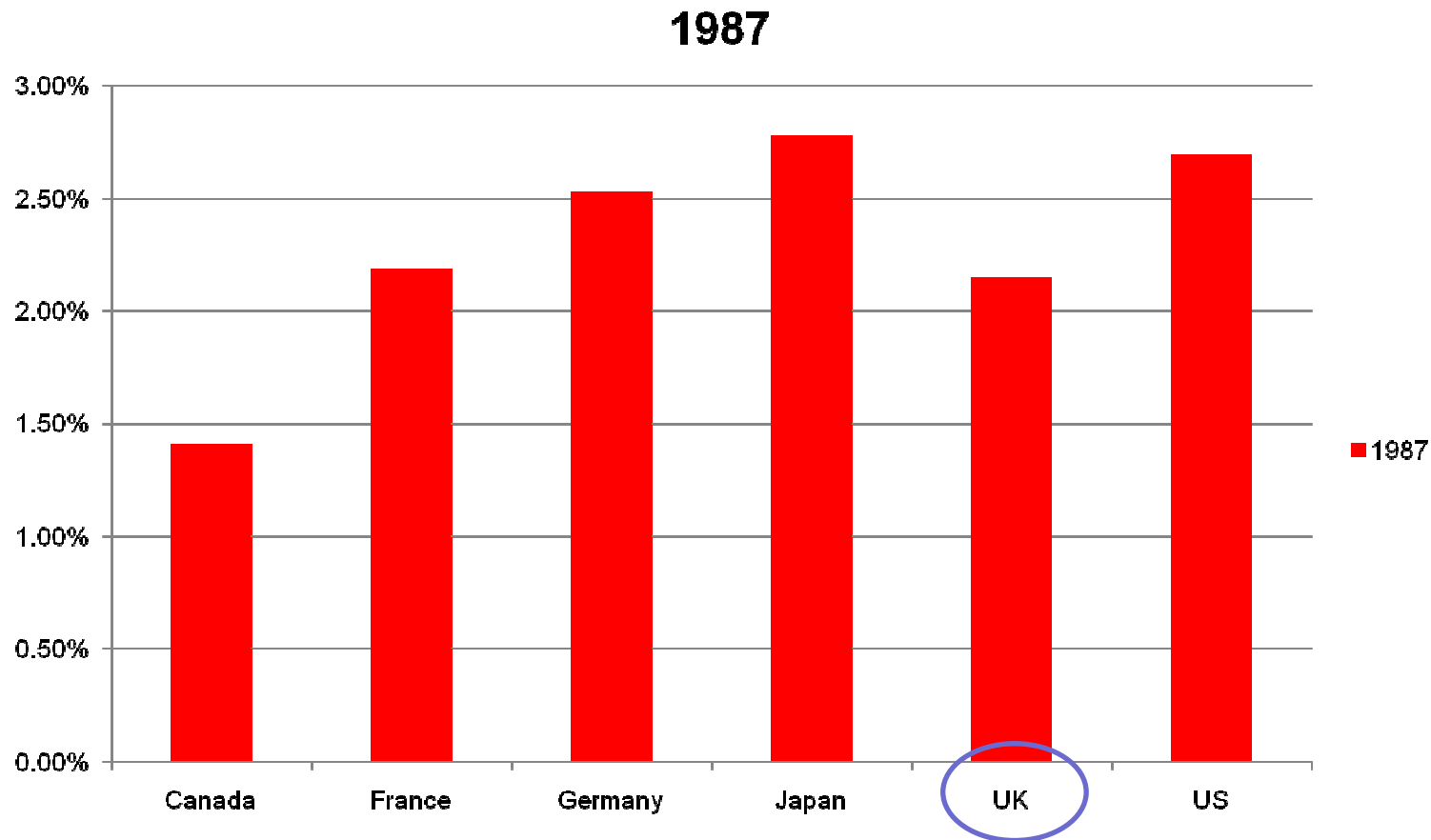
	Share of top scientific papers	Rank
US	58.6	1
UK	14.4	2
GERMANY	11.1	3
FRANCE	7.0	4
CANADA	6.2	5
JAPAN	6.1	6
ITALY	4.8	7
NETHERLANDS	4.3	8
CHINA	4.2	9

**Notes:** Shares of the most cited scientific papers 1999-2008 (top 1%)

**Source:** BIS/Thompson-Reuters (2009) “International comparative performance of the UK research base”, Table 1.12, p.60

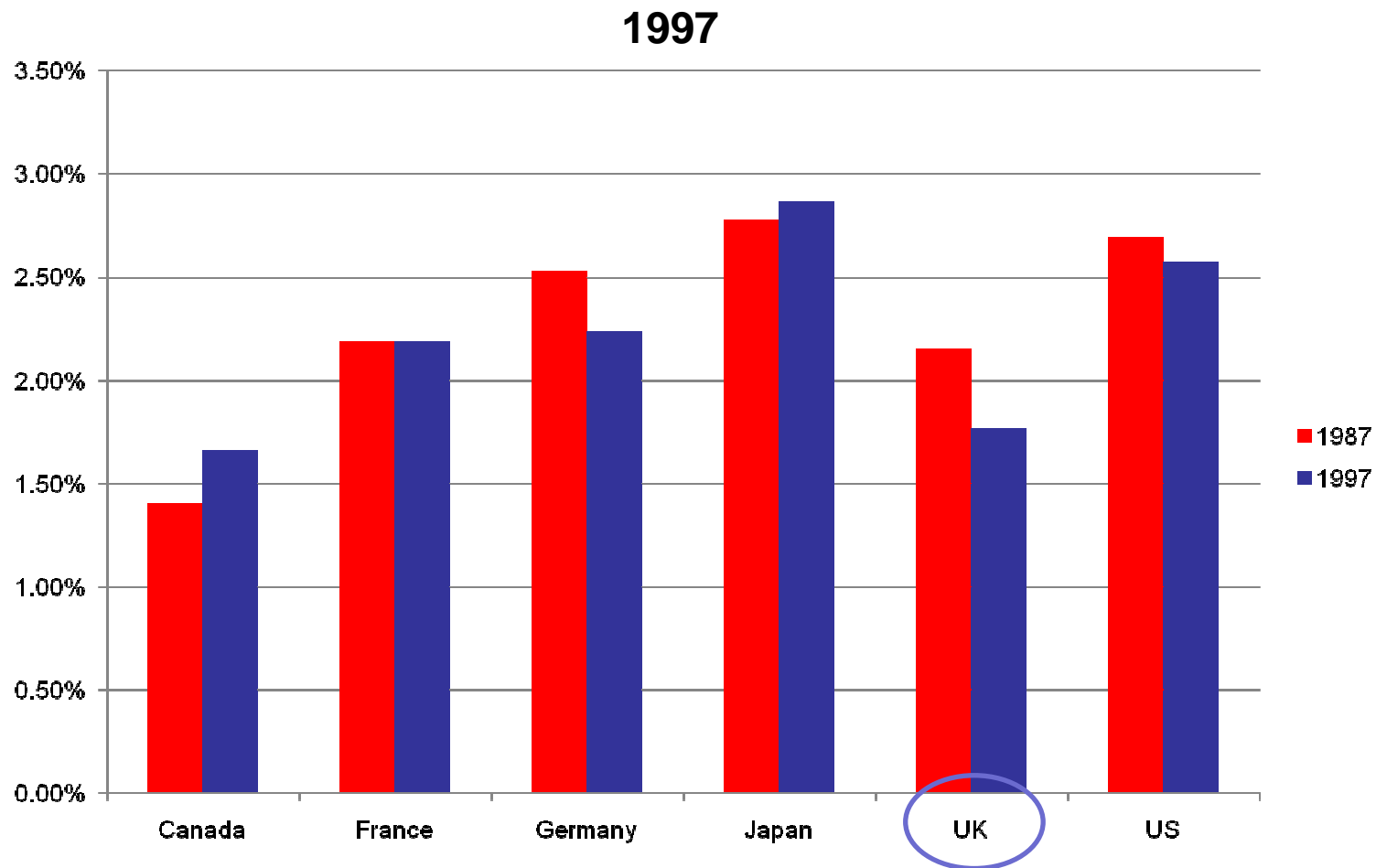
[http://www.bis.gov.uk/assets/biscore/corporate/migratedd/publications/i/icpruk09v1\\_4.pdf](http://www.bis.gov.uk/assets/biscore/corporate/migratedd/publications/i/icpruk09v1_4.pdf)

# UK R&D LOW COMPARED TO OTHER COUNTRIES. TOTAL RESEARCH AND DEVELOPMENT AS A % OF GDP



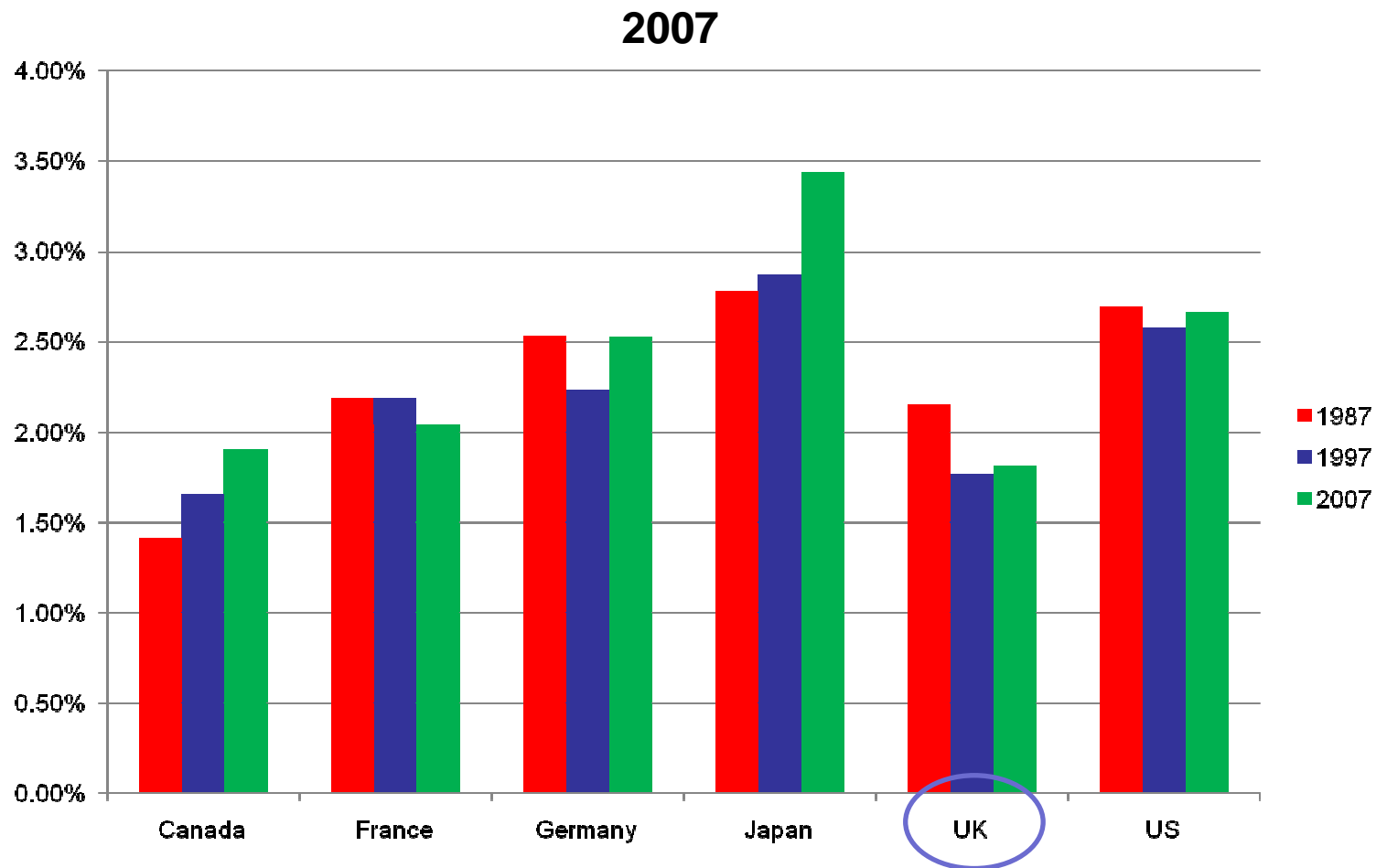
Source: OECD (GERD/GDP)

# UK R&D DECLINE 1987-1997? TOTAL RESEARCH AND DEVELOPMENT AS A % OF GDP



Source: OECD (GERD/GDP)

# UK R&D DECLINE HALTED? TOTAL RESEARCH AND DEVELOPMENT AS A % OF GDP



Source: OECD (GERD/GDP)

## TECHNOLOGICAL INNOVATION THE CAUSE OF PRODUCTIVITY GAP WITH THE US ?

- But problem is not just “hard” technologies. Also problems with the way firms are managed
- “Innovations” in management, such as
  - Toyota’s Lean Manufacturing system (1970s)
  - Taylor’s Scientific management (1900s)
  - Mass production (1920s)
  - Alfred Sloan’s M-form firm (1930s)
  - Demming’s quality movement (1950s)
- **7 year research Program with Nick Bloom (Stanford)**
  - Quantify & compare management in firms & nations
- Why don’t all firms adopt best practice immediately?  
Same as “hard” technologies (hybrid corn, ICT, etc.)
  - Information, Incentives, human Capital, etc.



# THE SURVEY METHODOLOGY

## 1) Developing management questions

- Scorecard for 18 monitoring, targets and people
- ≈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, PBC, RBI, etc.
- Run by 55 MBA types (loud, assertive & business experience)

## **MONITORING – e.g. *HOW IS PERFORMANCE TRACKED?*”**

<b>Score</b>	<b>(1): Measures tracked do not indicate directly if overall business objectives are being met. Certain 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 dimensions and over 50 examples in Bloom & VanReenen (2006).

# MANAGEMENT SURVEY SAMPLE

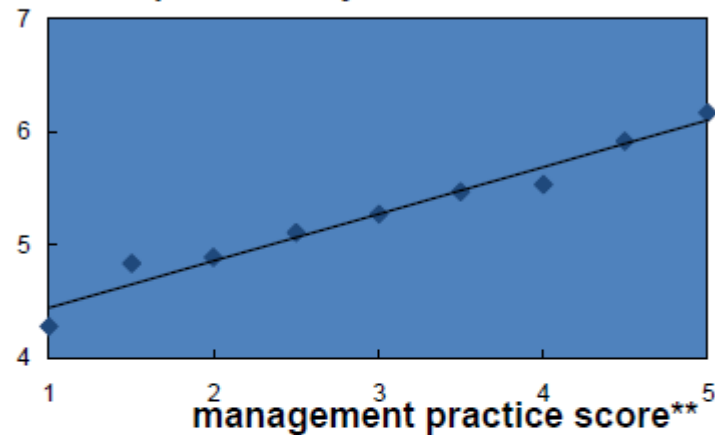
- Interviewed over 8,000 firms across Americas, Asia & Europe
- Obtained ~45% response rate from sampling frame (with responses uncorrelated with performance measures)

Medium sized manufacturing firms:

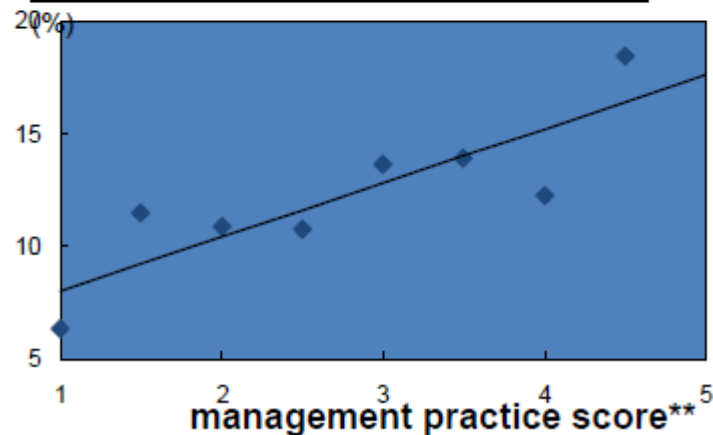
- Medium sized (100 - 5,000 employees, median  $\approx$  250) because firm practices more homogeneous
- Manufacturing as easier to measure productivity
- Also examined management in Hospitals, Schools, Retail, Law Firms, nursing homes, charities, tax collection agencies

## EXTERNAL VALIDATION: MANAGEMENT SCORE CORRELATES WELL WITH PERFORMANCE INDICATORS

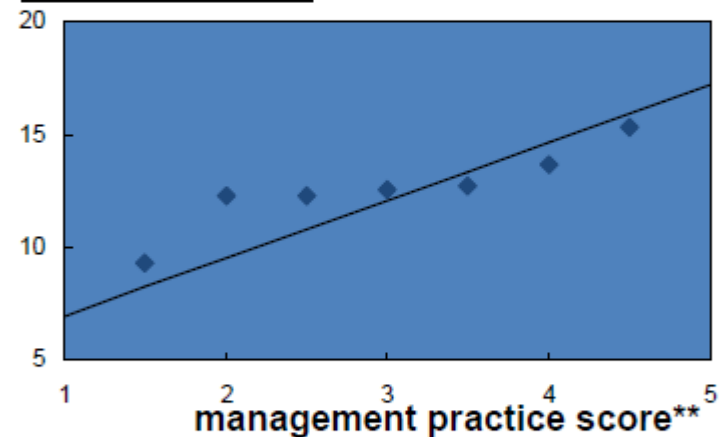
Labour productivity\*



Return On Capital Employed, ROCE



Sales growth (%)

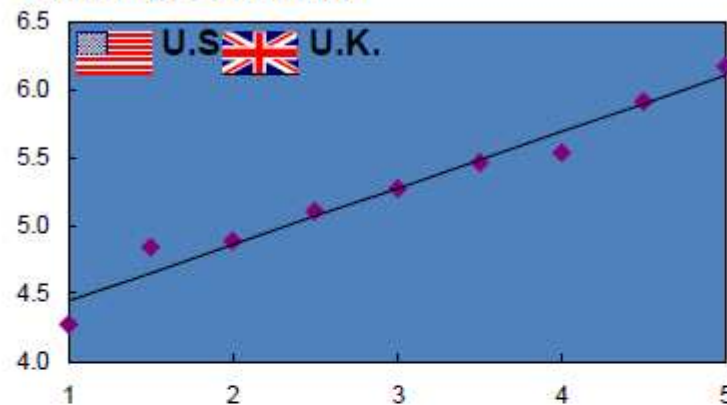


\* Log scale

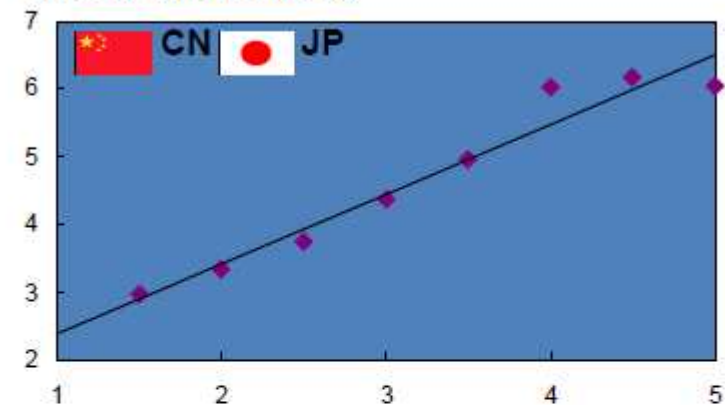
\*\* Firms are grouped in 0.5 increments of assessed management score

# THE LINK BETWEEN PRODUCTIVITY AND MANAGEMENT HOLDS TRUE ACROSS DIFFERENT COUNTRIES

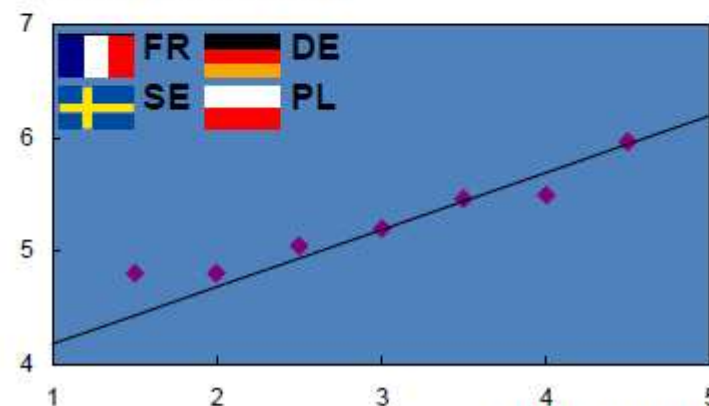
Labour productivity\*



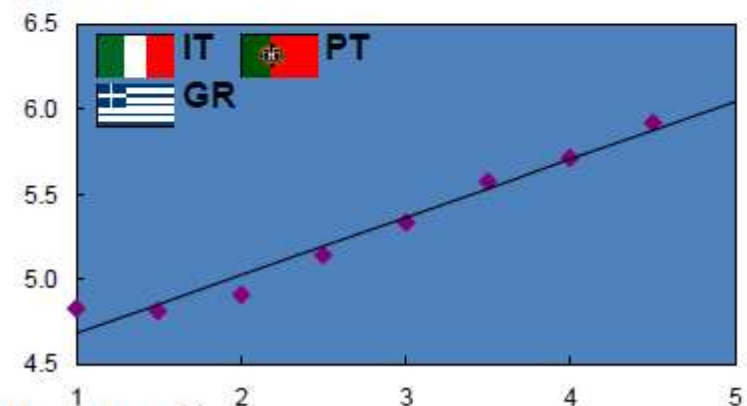
Labour productivity\*



Labour productivity\*



Labour productivity\*



\* Log scale (sales per worker)

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

# THE CAUSAL EFFECT OF MANAGEMENT ON PRODUCTIVITY

- Randomized Control Trials of Indian textile firms outside Mumbai
- All Firms receive a “light” management treatment then a randomized treatment group receive in-depth management consultancy from top international consulting firm for ~6 months
- Followed these firms for ~2 years
- Large improvements in management, quality and profitability (~\$200,000 p.a.)
- So evidence of an important and large causal effect of these practices on performance



## MANY PARTS OF THESE INDIAN PLANTS WERE DIRTY AND UNSAFE



Garbage outside the plant



Garbage inside a plant



Flammable garbage in a plant



Chemicals without any covering



# THE PLANT FLOORS WERE DISORGANIZED

Instrument not removed after use, blocking hallway.



Old warp beam, chairs and a desk obstructing the plant floor

Dirty and poorly maintained machines



Tools left on the floor after use

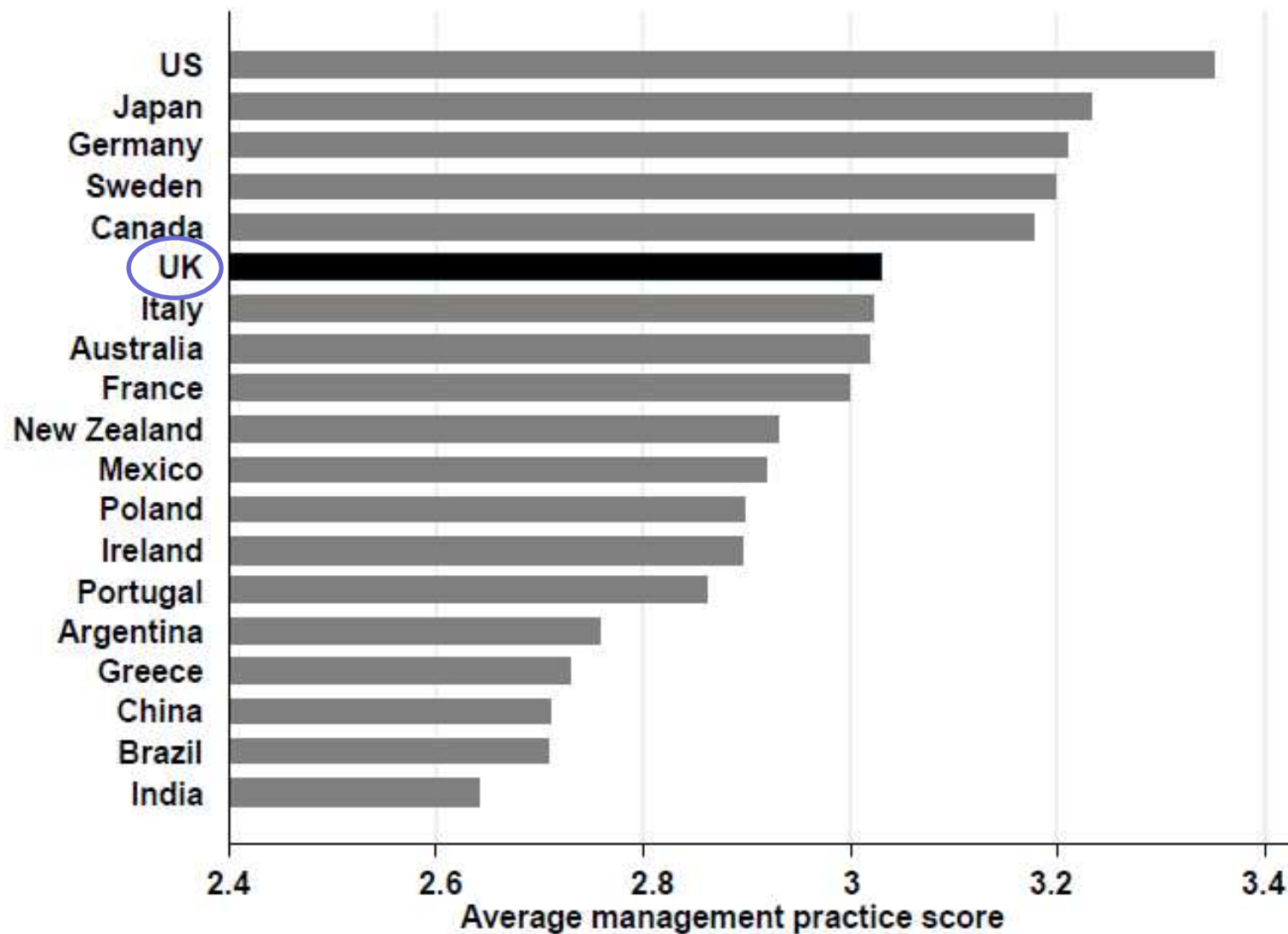




# THE CAUSAL EFFECT OF MANAGEMENT ON PRODUCTIVITY

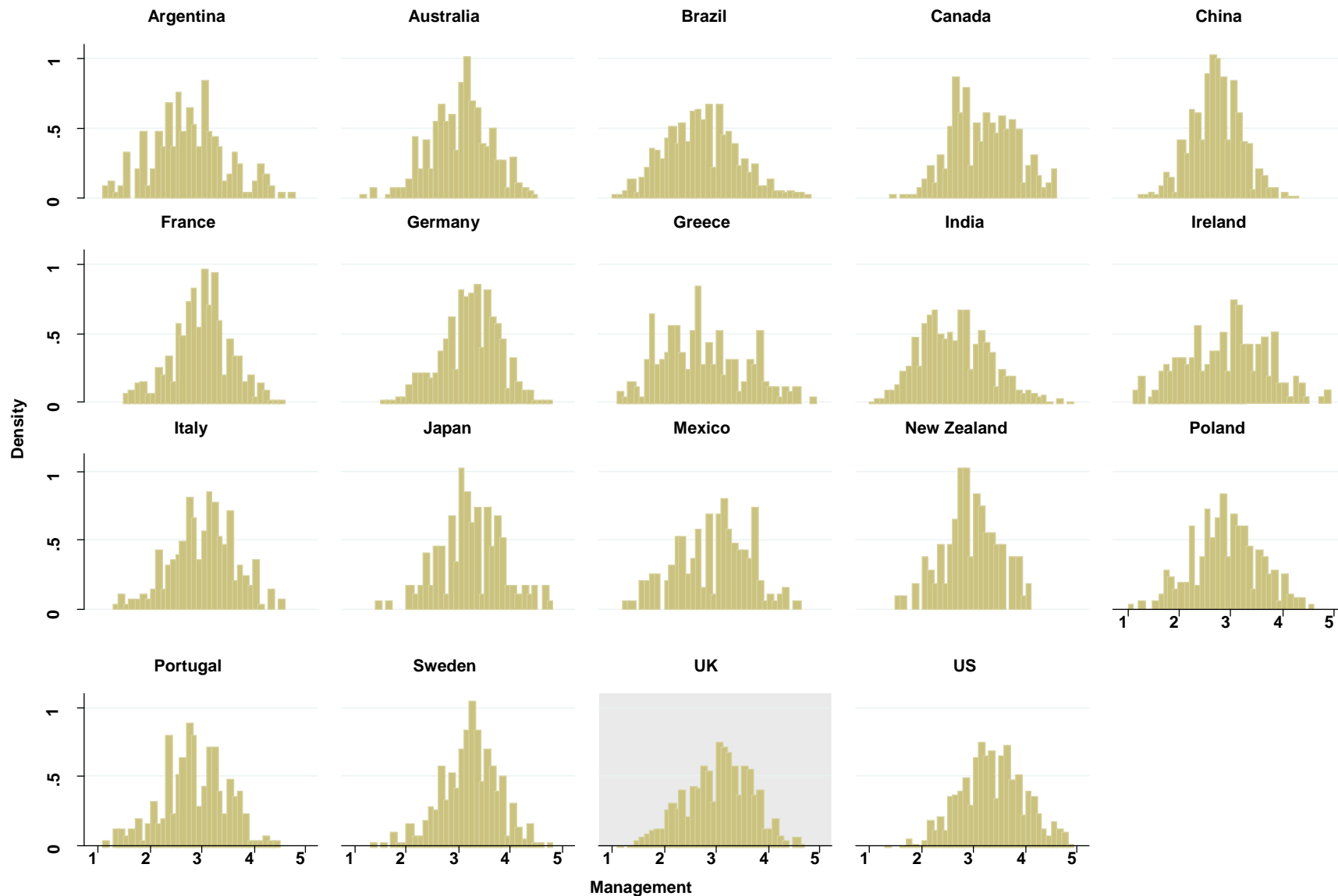
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## UK MANAGEMENT MID-TABLE BY INTERNATIONAL STANDARDS



**Note:** Based on 8,261 management interviews between 2006 and 2010. We pool across multiple survey waves to maximize the extent of cross-country management comparison

# HUGE VARIATION OF MANAGEMENT PRACTICES COMPARED WITHIN ALL COUNTRIES



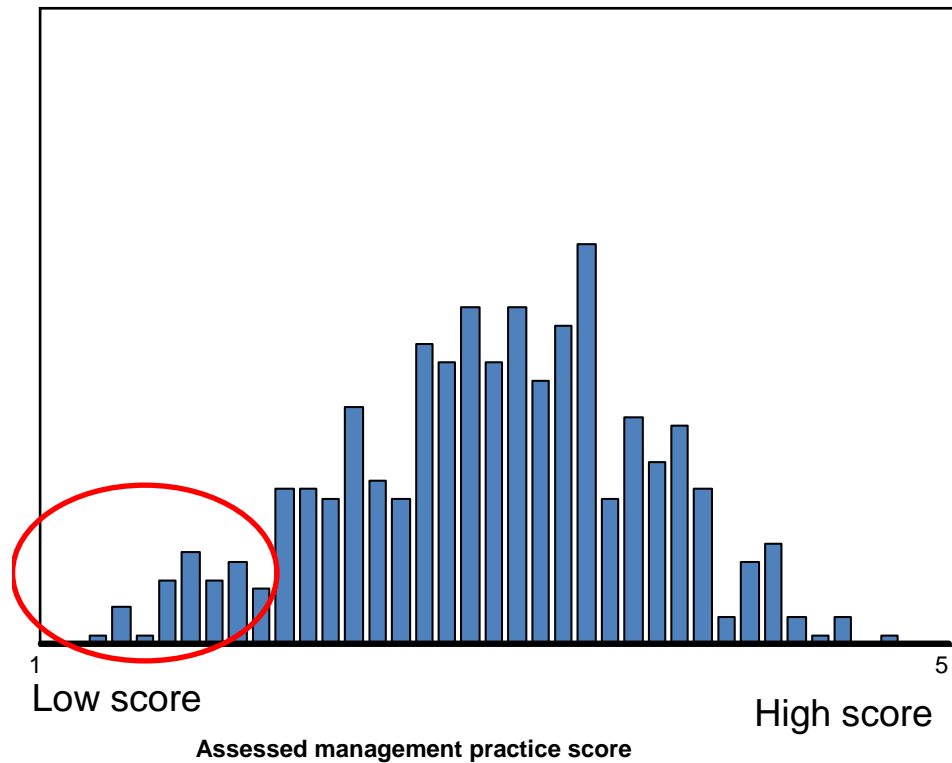
**Note:** Based on 8,261 management interviews between 2006 and 2009.

# MUCH OF THE CROSS-COUNTRY DIFFERENCES DUE TO THE “LOWER TAIL”

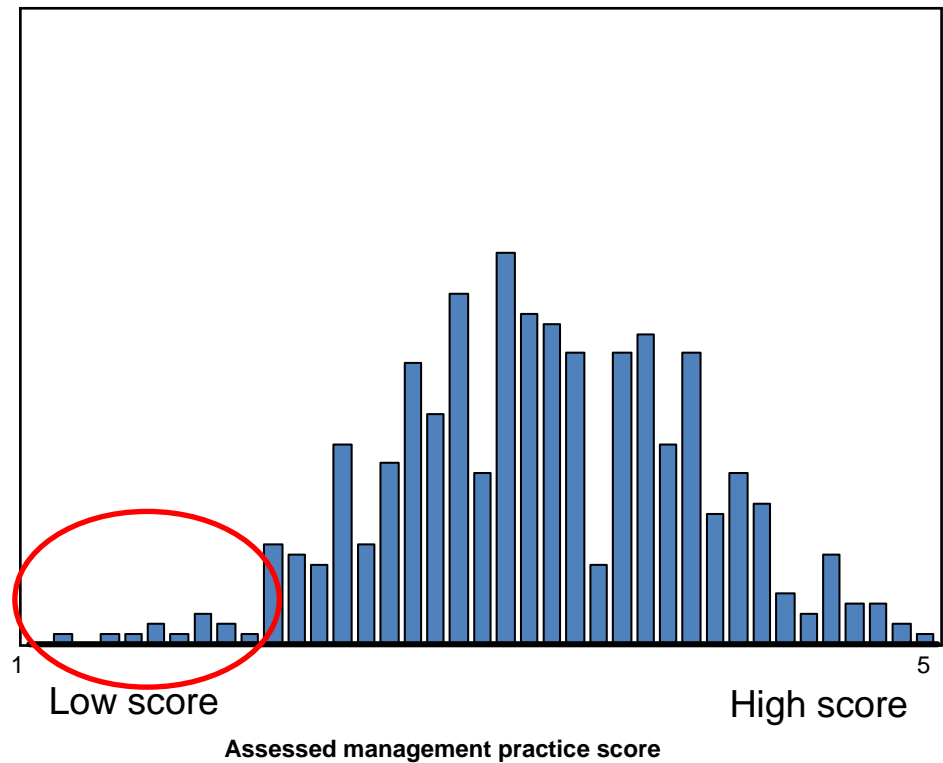
Distribution of firm level management practice scores



U.K.



U.S.



# OUTLINE

1. Productivity: what it is & how is UK doing?
2. Why is there a productivity gap?
3. **The drivers of better management**
  - **Competition**
  - **Ownership & control (Family Firms)**
  - **Skills & other factors**
4. Micro-Policy: Structural reforms for long-term growth
5. Macro-Policy: Austerity and its implications

# COMPETITION & MODELS OF MANAGEMENT

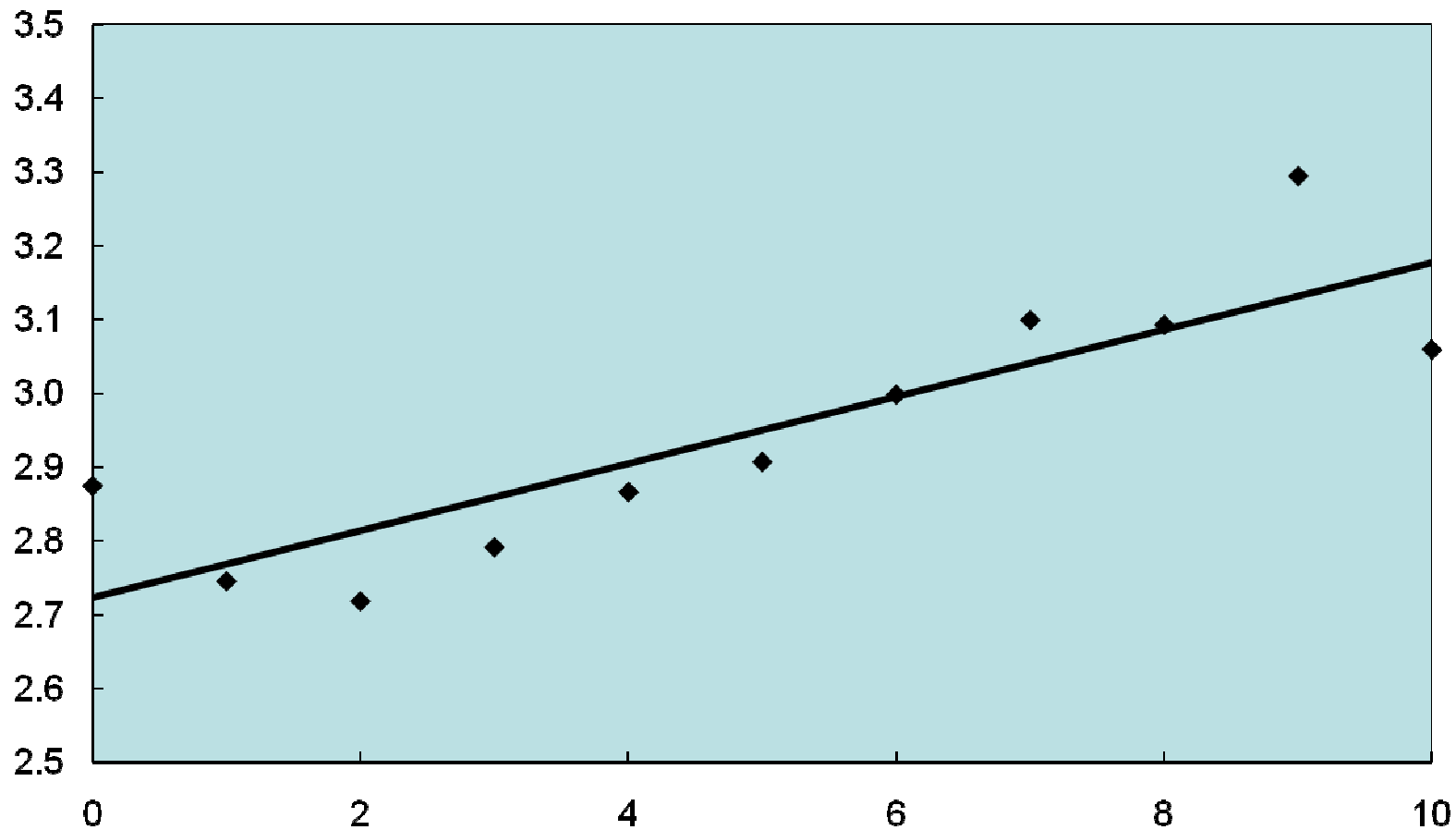
Various ways that competition may influence management

- Selection – badly run firms more likely to exit
- Effort – forces badly run firms to try harder to survive

We find competition is strongly linked with better management through a mixture of selection & effort

# COMPETITION IS ASSOCIATED WITH BETTER MANAGEMENT PRACTICES

Assessed management practice score



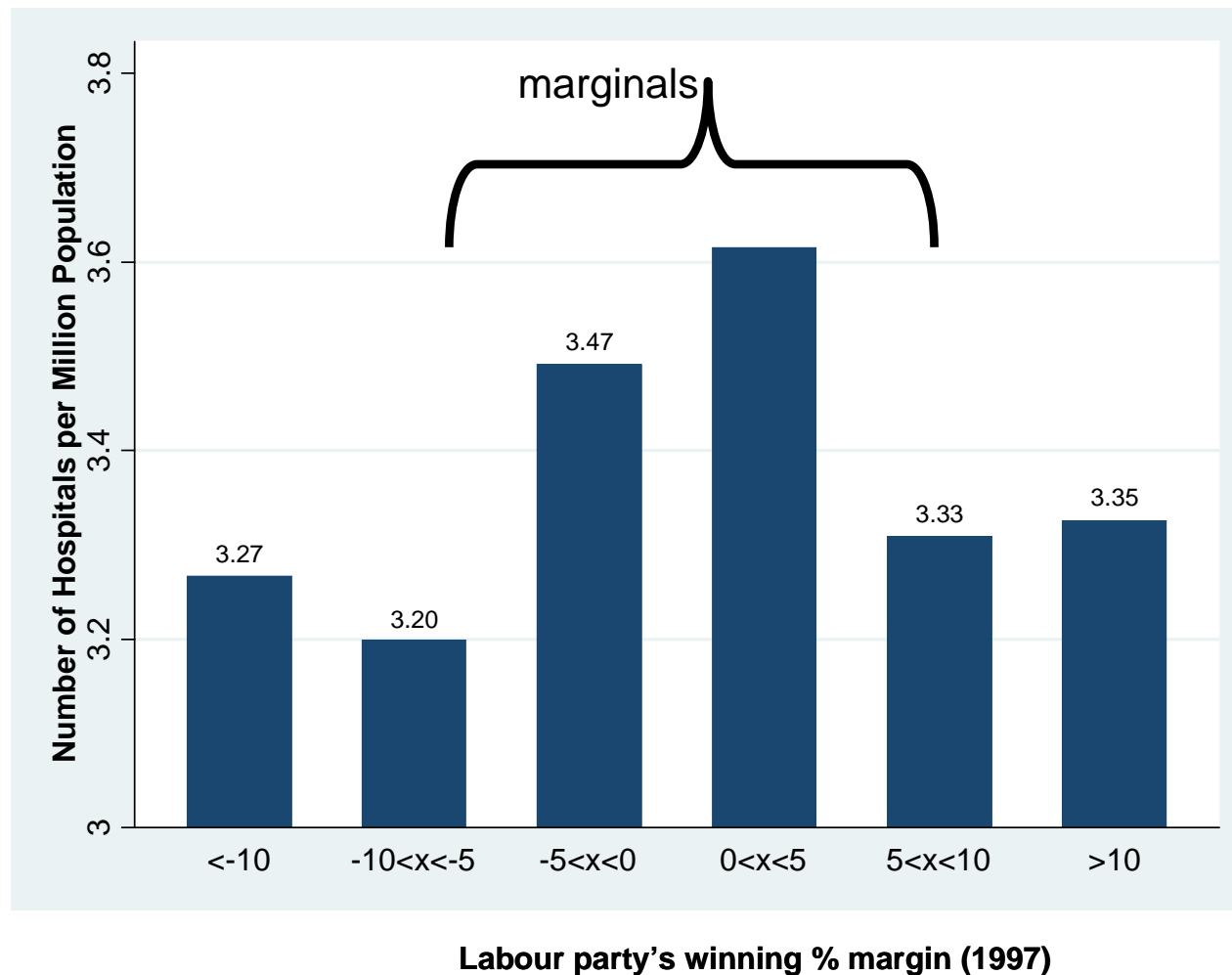
**Note:** Reported number of competitors (10=10 or more)

# IS COMPETITION A CAUSAL FACTOR IN IMPROVING MANAGEMENT?

- Examine management in NHS hospitals. Mid 2000s reforms increased competition by geographically closer hospitals
- Closing hospitals very politically unpopular, so we use exogenous variation in degrees of political contestability to construct a “natural experiment”
  - Hospital in “marginal” wards much less likely to be closed

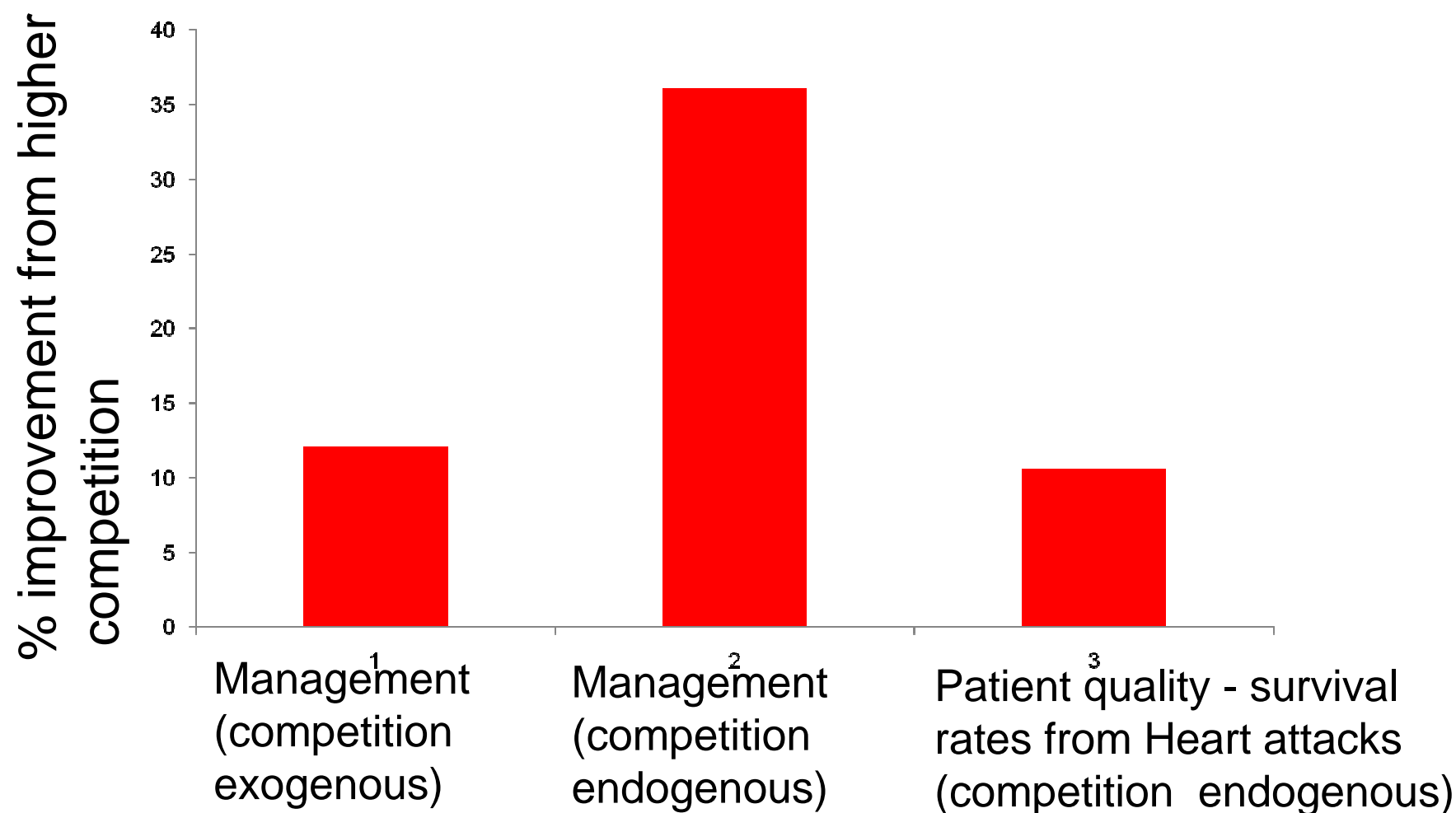


# MORE HOSPITALS IN MARGINAL CONSTITUENCIES



**Notes:** Mean number of hospitals per 1 million people within a 30km radius of centre of a political constituency; “winning margin” (x) is % of votes ahead of second party

# EFFECT OF AN INCREASE IN COMPETITION (1 EXTRA RIVAL HOSPITAL) ON MANAGEMENT AND CLINICAL QUALITY



**Source:** Bloom, Proper, Seiler & Van Reenen (2010)

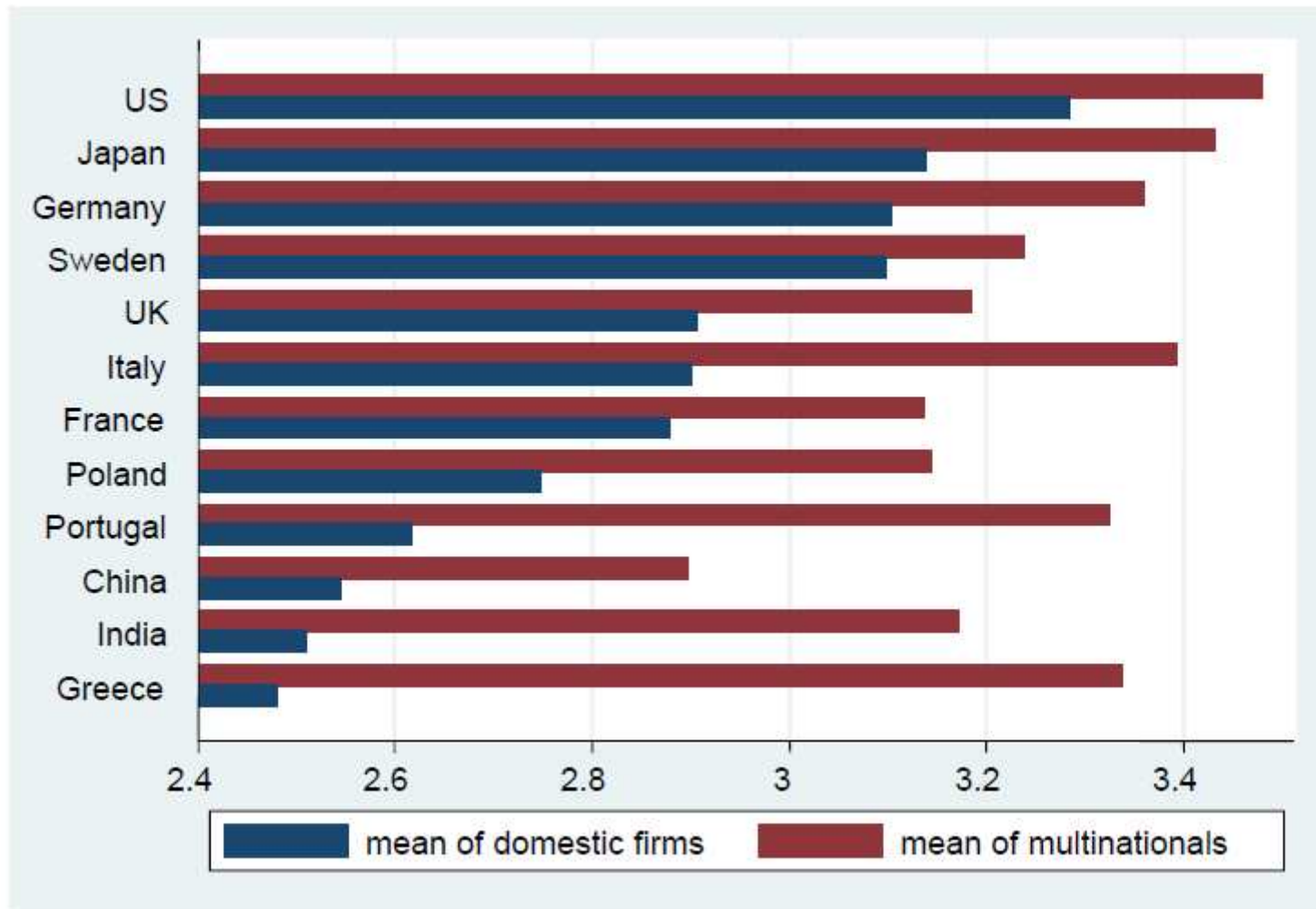
**Notes:** Derived from OLS and 2SLS regressions

# FAMILY FIRMS (OWNED WITH ELDEST SON AS CEO) AND GOVERNMENT FIRMS HAVE WORST MANAGEMENT

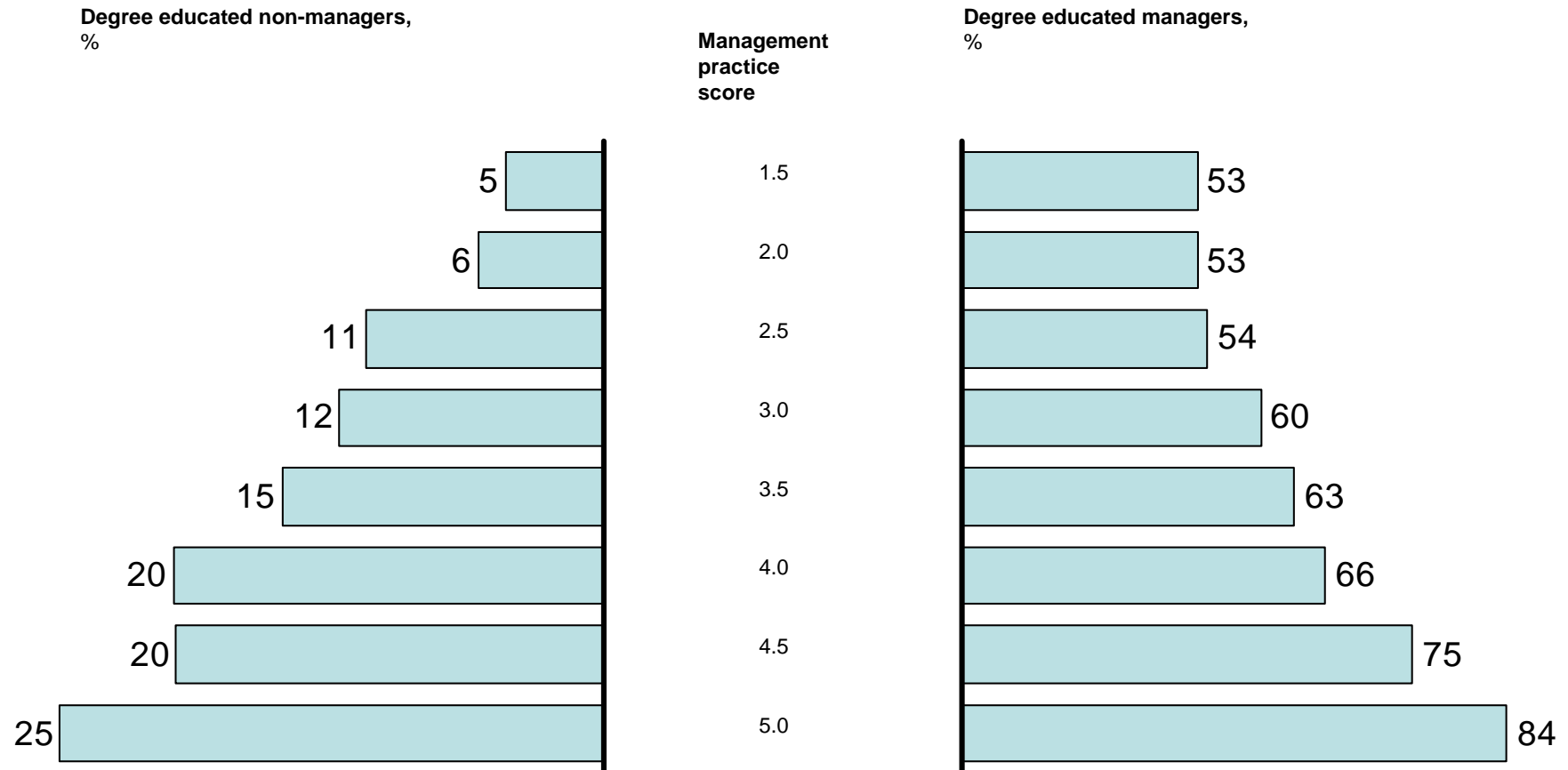


Note: Sample of 4,221 medium-sized manufacturing firms. The bottom bar-chart only covers the 3696 firms which have been in the same ownership for the last 3 years. The "Other" category includes venture capital, joint-ventures, charitable foundations and unknown ownership.

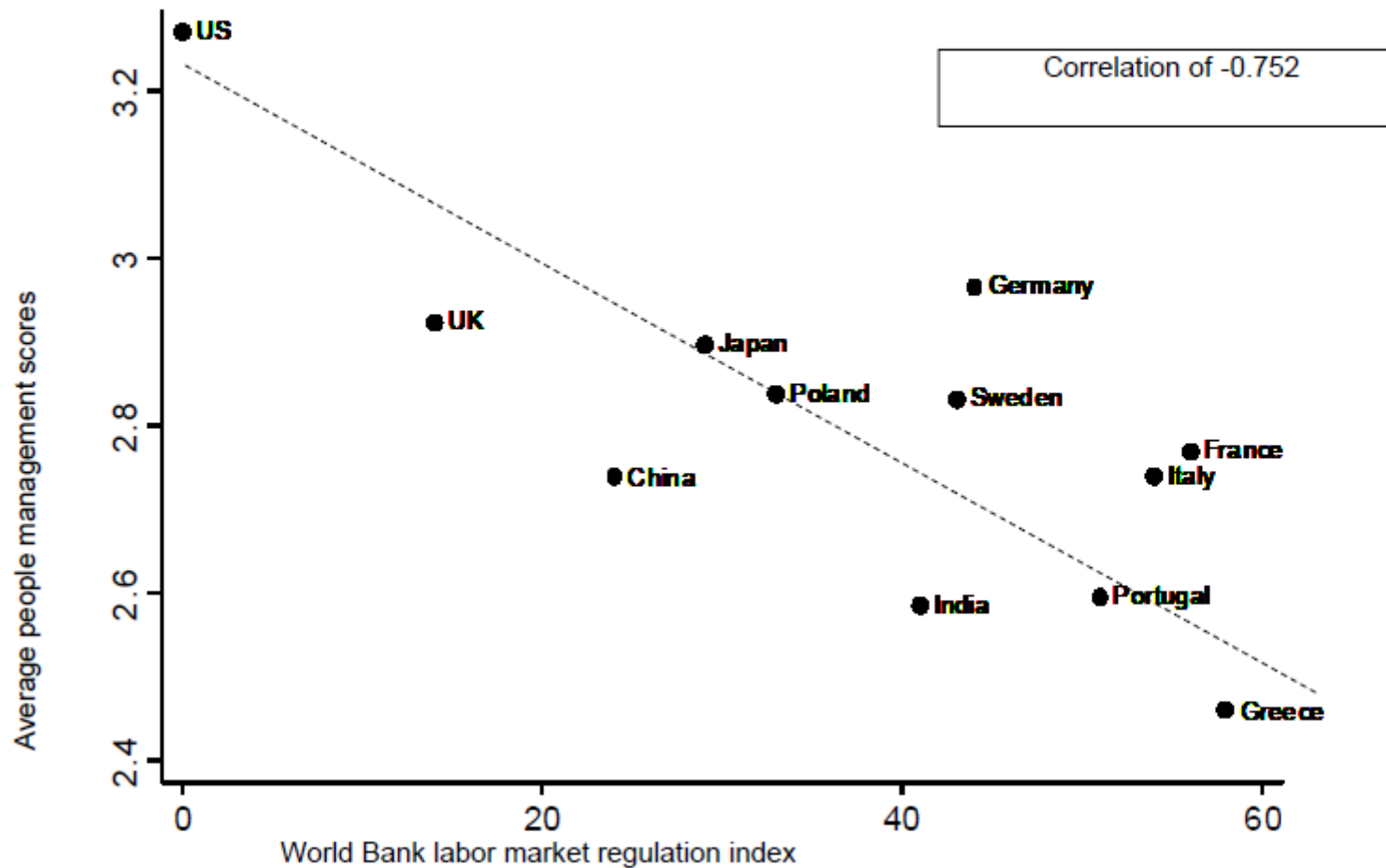
## MULTINATIONALS APPEAR TO BE WELL MANAGED IN ALL COUNTRIES



# BETTER MANAGEMENT IS LINKED WITH HIGHER SKILL LEVELS OF BOTH MANAGERS AND NON-MANAGERS



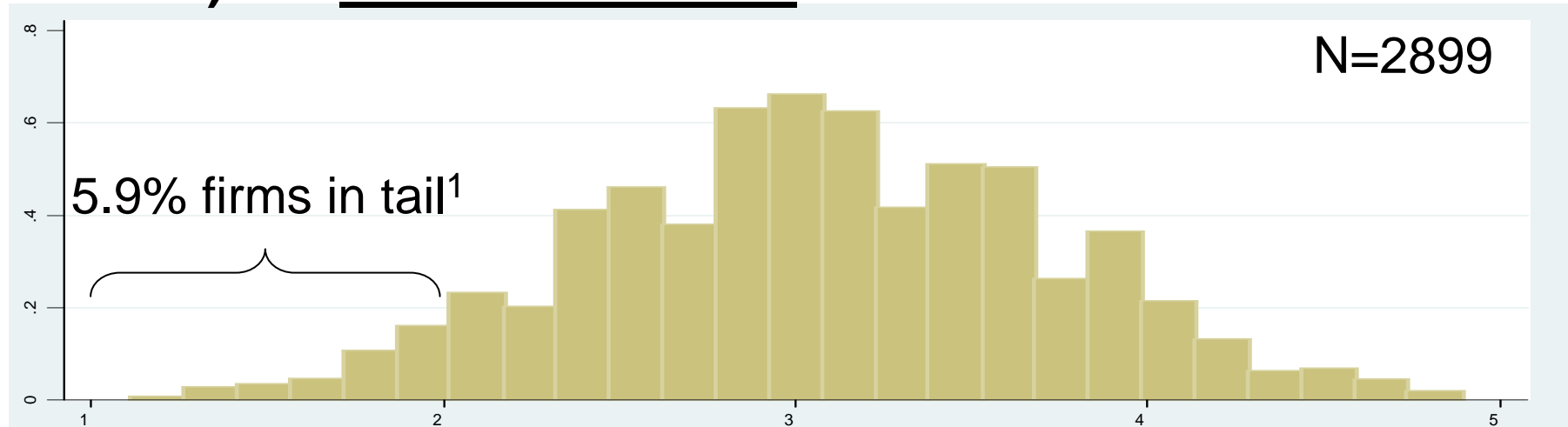
## LABOUR MARKET REGULATION ARE NEGATIVELY CORRELATED WITH PEOPLE MANAGEMENT...



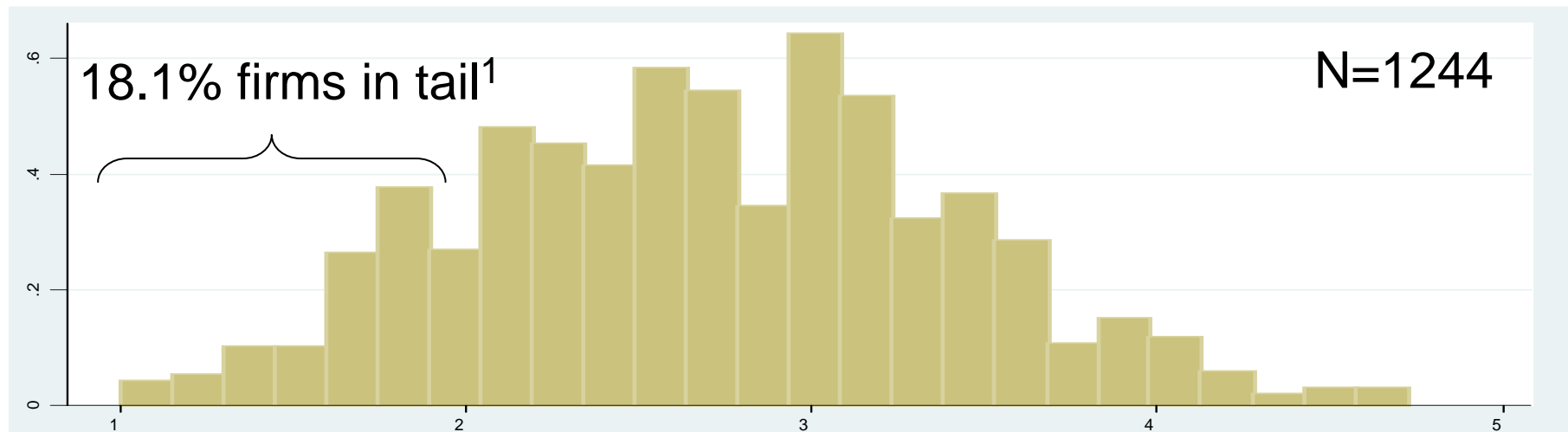
## **QUANTIFYING EFFECTS OF COMPETITION, FAMILY FIRMS & MULTINATIONAL:**

- **ACROSS FIRMS ~  $\frac{1}{2}$  VARIATION**
- **ACROSS COUNTRIES ~  $\frac{1}{2}$  VARIATION**

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



## **“BAD DOMESTIC” (FEW COMPETITORS OR PG FAMILY)**



<sup>1</sup> Tail defined as a score  $\leq 2$ . In the whole sample 9.6% of firms are in the tail. PG= “Promo geniture”



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# **STRUCURAL REFORMS TO IMPROVE MANAGEMENT & PRODUCTIVITY**

- **Product market Competition**
  - Competition policy, Trade policy, planning
  - Public sector (e.g. UK hospital reforms)
- **Meritocratic CEO appointment not eldest sons**
  - e.g. 100% Inheritance Tax exemption for family business assets, promotes family firms (cf. Mirrlees Review)
- **Human Capital**
  - UK weak at lower end (e.g. EMA, Apprenticeships,)
- **Openness to foreign investment**
- **Labour market regulation**
- **Financial market regulation**

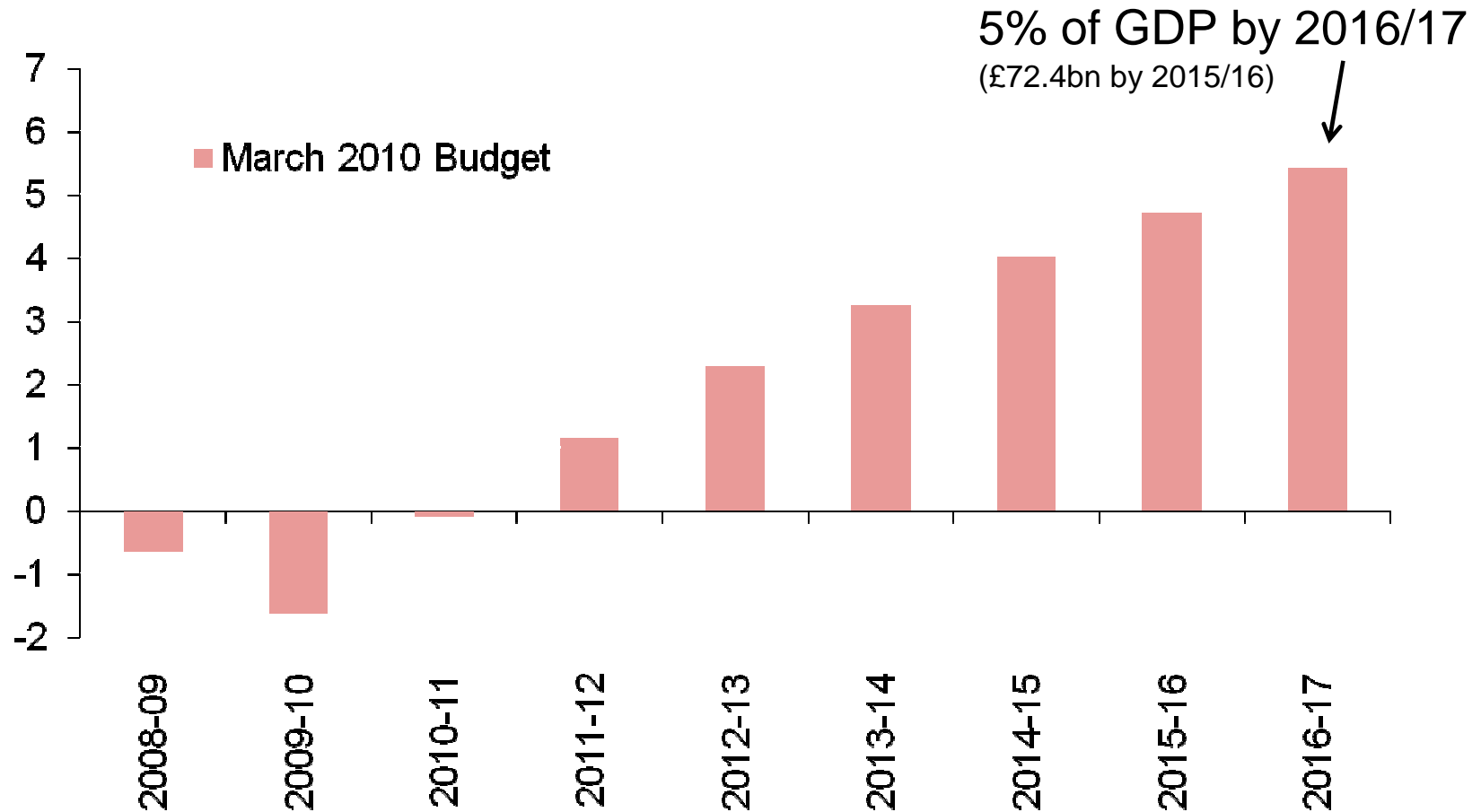
## **IMPLICATIONS FOR POLICY MAKERS – INNOVATION**

- **Structural reforms will tend to also boost innovation**
- **Universities and basic science**
  - Funding & Browne Response; student visas
  - University linkages (Technology Transfer)
- **R&D policies**
  - R&D tax credits raise R&D (Bloom, Griffith & VR, 2002) but improving supply side better

# OUTLINE

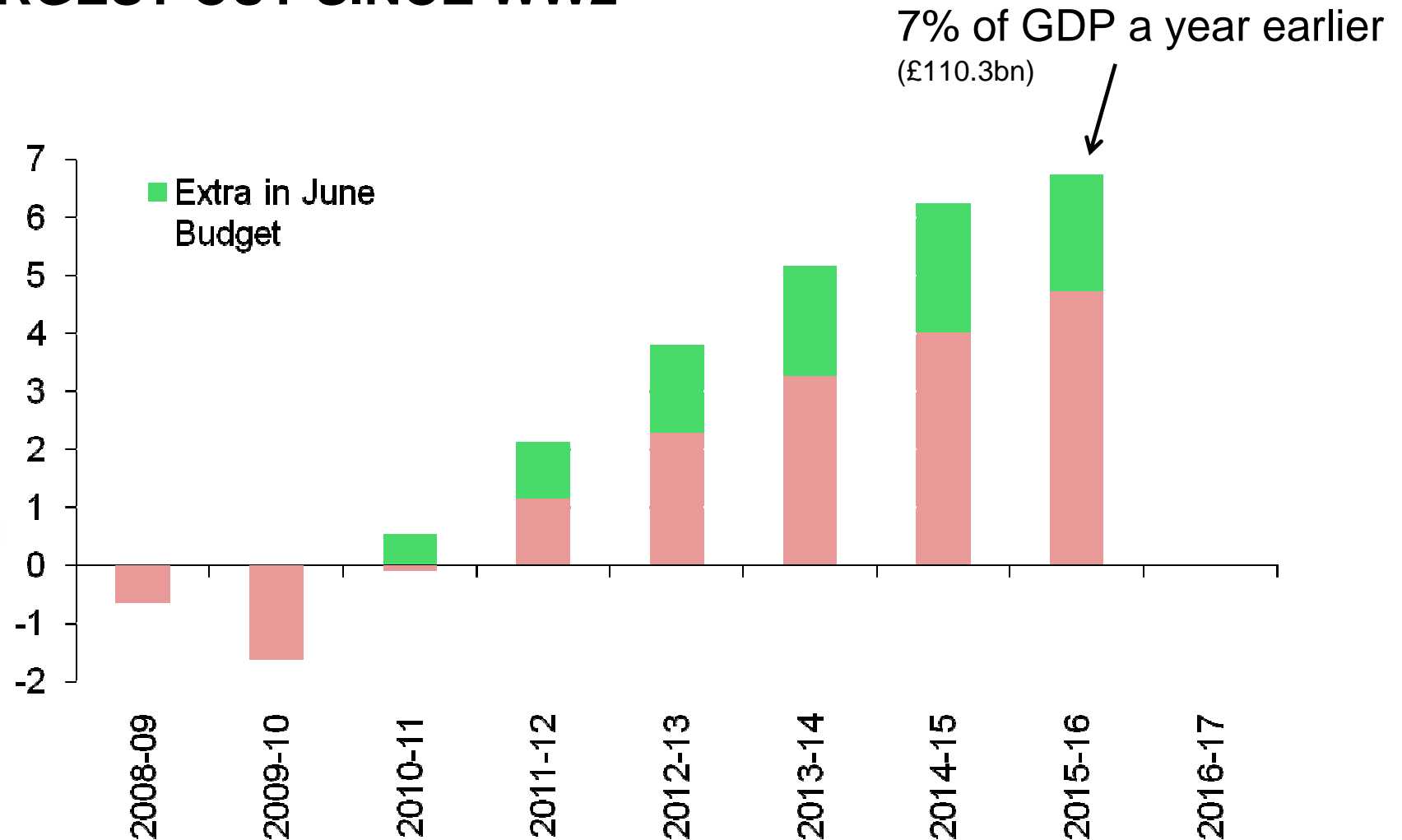
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# AUSTERITY – LABOUR’S PLANS FOR FISCAL TIGHTENING



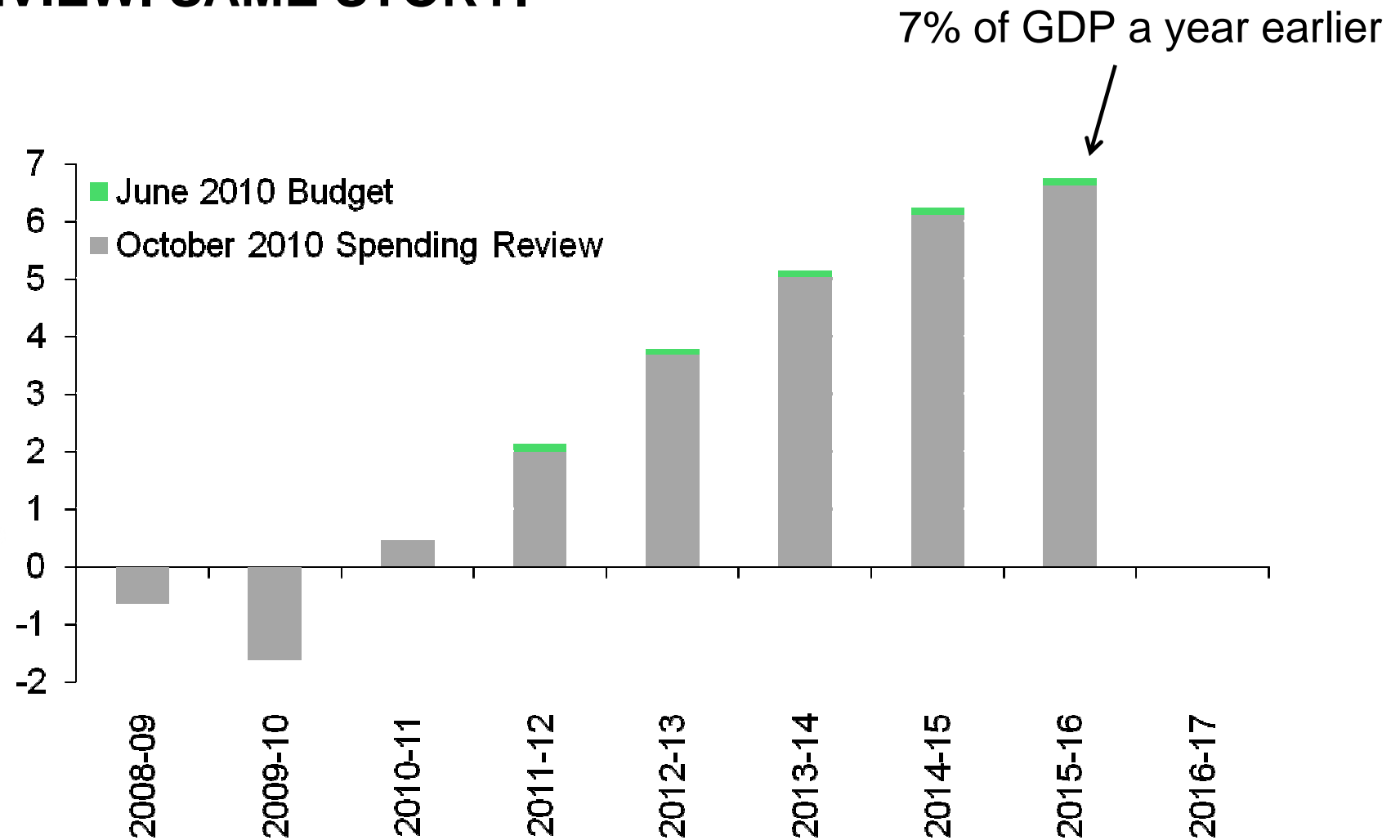
Source: IFS, HMT

# EXTREME AUSTERITY – JUNE EMERGENCY BUDGET. LARGEST CUT SINCE WW2



Source: IFS, HMT

# EXTREME AUSTERITY – OCTOBER SPENDING REVIEW. REVIEW. SAME STORY.



Source: IFS, HMT

## **COSTS OF ACCELERATED AUSTERITY**

- **Withdrawal of demand risks recovery**
  - Private sector cannot speedily adjust to the fiscal shock
  - Recovery is fragile (e.g. 2010 UK growth through construction & stimulus & US very weak)
- **Long-run effects of short-run fiscal contraction**
  - Scrapping of human and fixed capital (a pessimistic view of UK capacity becomes a self-fulfilling prophecy)
  - Example: long-term unemployment (Pissarides)
- **Destruction of successful policies**
  - Crisis forces removal of unsuccessful policies, but also a bonfire of successful programs (e.g. EMA)
  - Combined with huge changes (e.g. decentralization to GPs in NHS upheaval) creates uncertainty
- **Fairness**



## **BENEFITS OF ACCELERATED AUSTERITY**

- **UK faces a “Greek scenario?”: unsustainable debt**
  - Deficit driven by global recession & consensus on need for reduction, mainly via spending cuts
  - Reduce borrowing costs? Not if contraction severe
  - Debt crisis exaggerated:(i) Historically moderate (42% in 2006;79% 2011;av=102%); (ii) maturity;(iii) no default
- **Credibility & Confidence**
  - “Frontloading” to reassure irrational bond markets?
  - Better to deliver a realistic good plan than fail to deliver an unrealistic bad plan
- **Productive capacity is much lower**
  - Too pessimistic? some genuine productivity progress post 1997

## **EXTREME AUSTERITY – THE NEED FOR A “PLAN B”**

- **Chancellor has argued against a Plan B**
- **Mervyn King & MPC to the rescue?**
  - Low interest rates?
  - Quantitative Easing
- **Tax cuts & spending increases**
  - Hard to fine tune
  - Extreme loss of credibility

## WHAT “REBALANCING” IS NECESSARY?

- **Within Private sector**
  - Away from finance, construction, etc.
  - Towards manufacturing, high tech service exports
- **Between Public and private sector**
  - Need to reduce public spending
  - But to what level? Problem in 2000-07 was that taxes should have been raised more to cover spending choices
  - Expansion of health & education a choice post 1999
  - Reducing also a political choice, not an economic necessity, e.g. US vs. Northern EU

## CONCLUSIONS

- Sources of productivity growth are innovation (well-studied) and management (understudied)
- Management and productivity can be improved by micro-economic structural reforms - especially over competition, human capital, tax reform, labour markets.
- Extreme austerity a political choice not economic necessity, will have long-lasting negative effects
  - An experiment

## 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...”

## MY FAVOURITE QUOTES:

### Who rules the home in Ireland

*Interviewer:* “Would you mind if I asked how much your bonus is as a manager?”

*Manager:* “I don't even tell my wife how much my bonus is!”

*Interviewer:* “Frankly, that’s probably the right decision...”

### Staff retention the American way

*Manager:* “I spend most of my time walking around cuddling and encouraging people - my staff tell me that I give great hugs”

### The trusted Secretary

*French secretary:* “You want to talk to the plant manager? There are legal proceedings against him, so hurry up!!”

## 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”



## FURTHER READING

1. Bloom and Van Reenen (2010) “Why do Management Practices Differ across Firms and Countries?” *Journal of Economic Perspectives* 24(1) 203-224  
<http://pubs.aeaweb.org/doi/pdfplus/10.1257/jep.24.1.203%20>
2. Bloom and Van Reenen (2007) “Measuring and Explaining Management practices across firms and nations” *Quarterly Journal of Economics*, 122(4), 1351–1408. CEP Discussion Paper (2006) <http://cep.lse.ac.uk/pubs/download/dp0716.pdf>
3. Bloom, Sadun and Van Reenen (2007) “Americans do I.T. better” CEP Discussion Paper No. 788, *forthcoming, American Economic Review*  
<http://cep.lse.ac.uk/pubs/download/dp0788.pdf>
4. UK productivity  
[http://cep.lse.ac.uk/briefings/pa\\_uk\\_productivity.pdf](http://cep.lse.ac.uk/briefings/pa_uk_productivity.pdf)

Back Up

## RECENT TRENDS IN PRODUCTIVITY

- TFP p.a. growth (Conference Board, Sept. 2010)

	US	UK	France	German y	Japan
<b>1995- 2005</b>	0.9%	0.5%	0.3%	0.8%	0.1%
<b>2005- 2009</b>	-0.5%	0.5%	-0.5%	0.5%	0.1%

## **TARGETS - e.g. “*HOW TOUGH ARE TARGETS?*”**

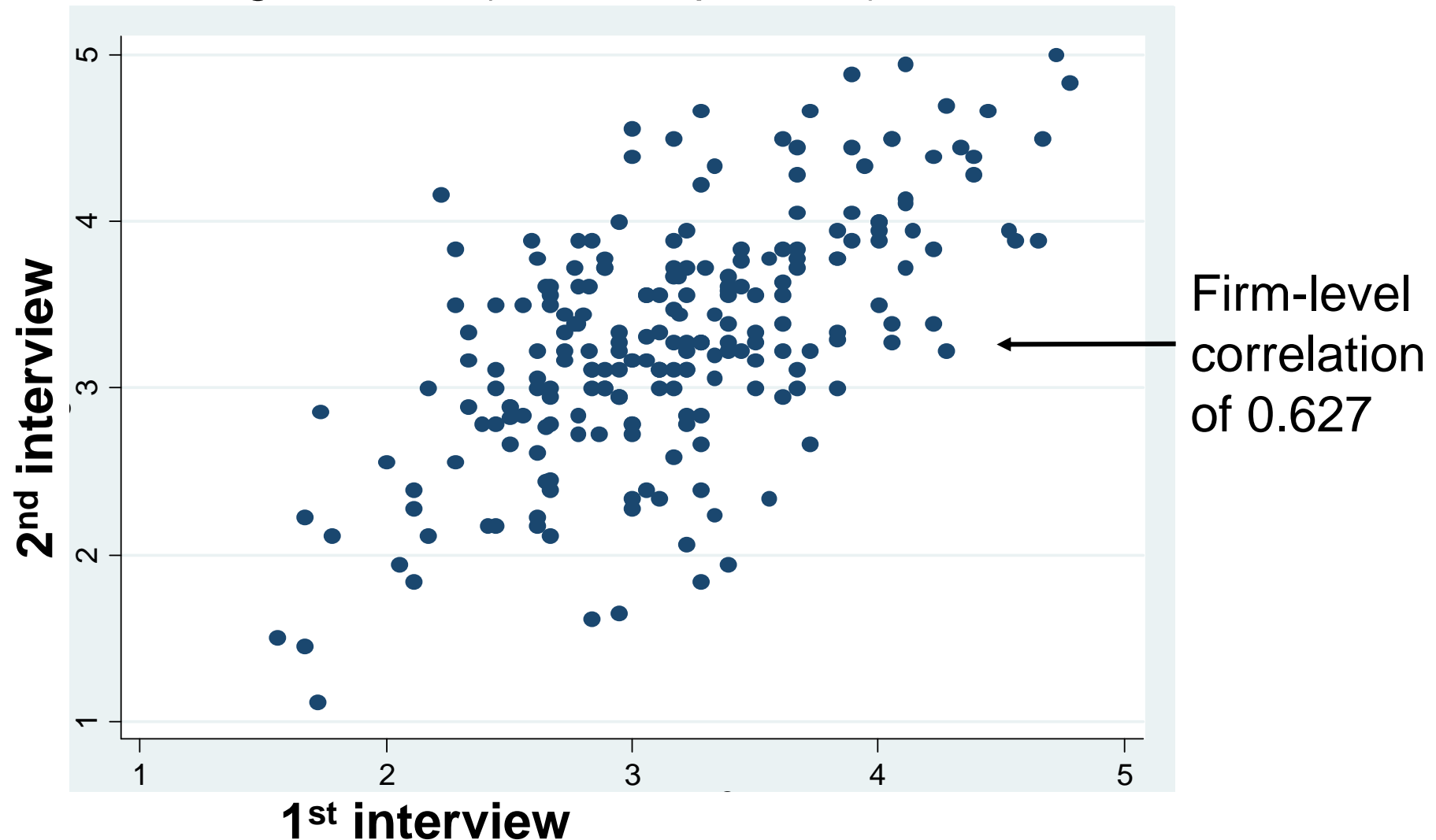
<b>Score</b>	<b>(1) Goals are either too easy or impossible to achieve; managers low-ball estimates to ensure easy goals</b>	<b>(3) In most areas, top management pushes for aggressive goals based on solid economic rationale. There are a few "sacred cows" not held to the same rigorous standard</b>	<b>(5) Goals are genuinely demanding for all divisions. They are grounded in solid, solid economic rational</b>
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Note: All 18 dimensions and over 50 examples in Bloom & VanReenen (2006).

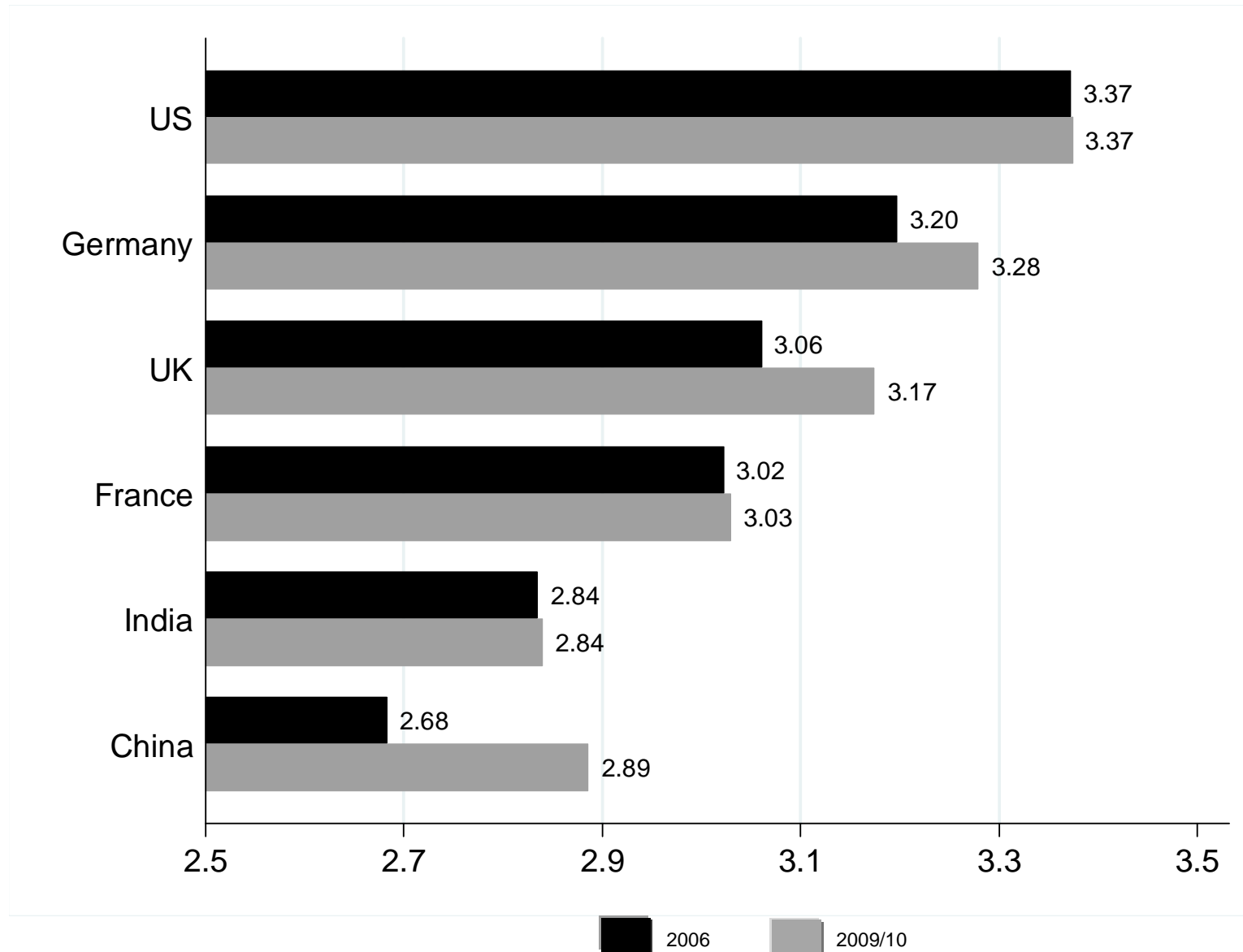
# INTERVAL VALIDATION OF THE SCORING

Re-interviewed 222 firms with different interviewers & managers

Firm average scores (over 18 question)

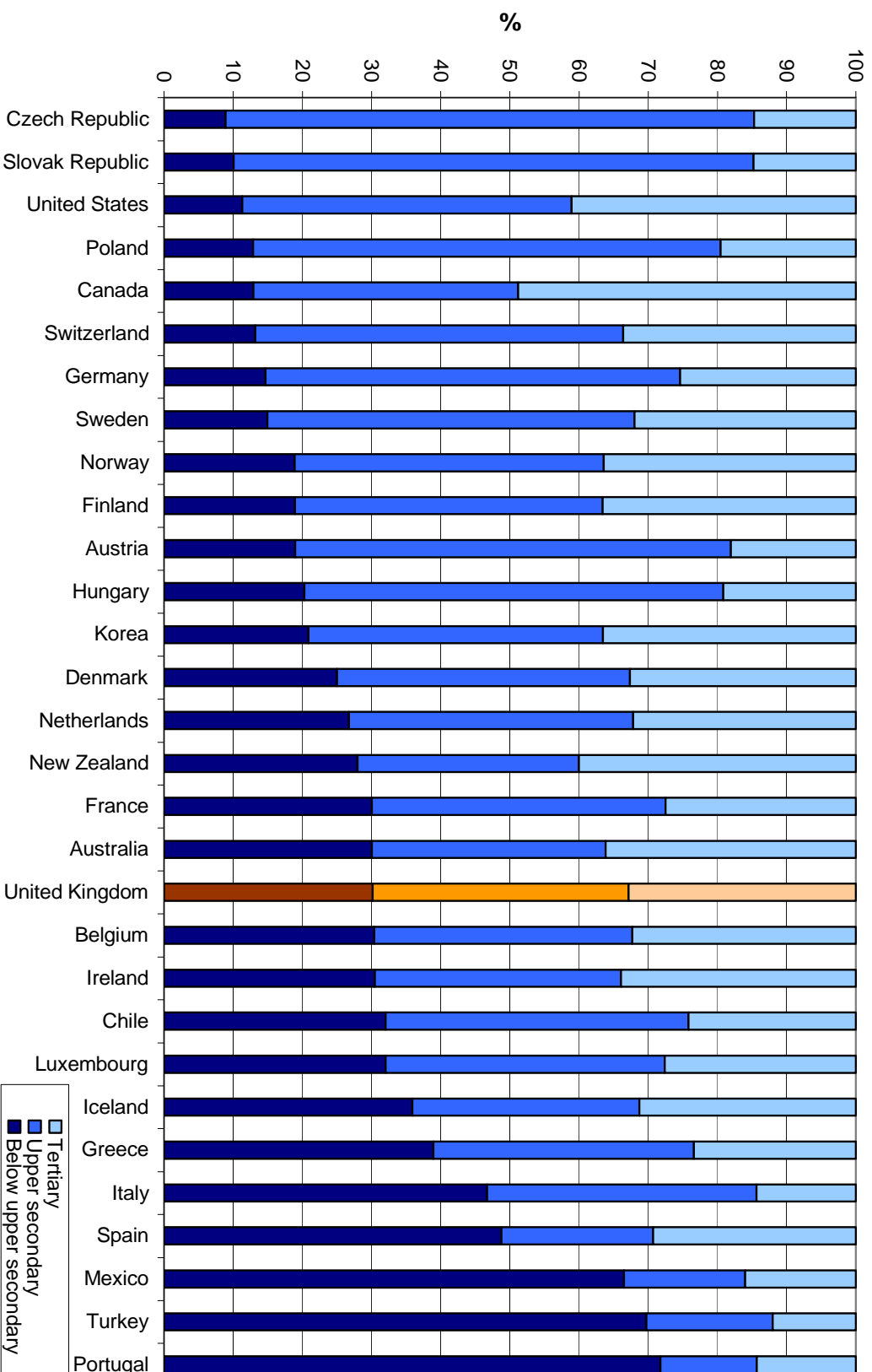


# CHANGES IN MANAGEMENT SCORES ACROSS COUNTRIES



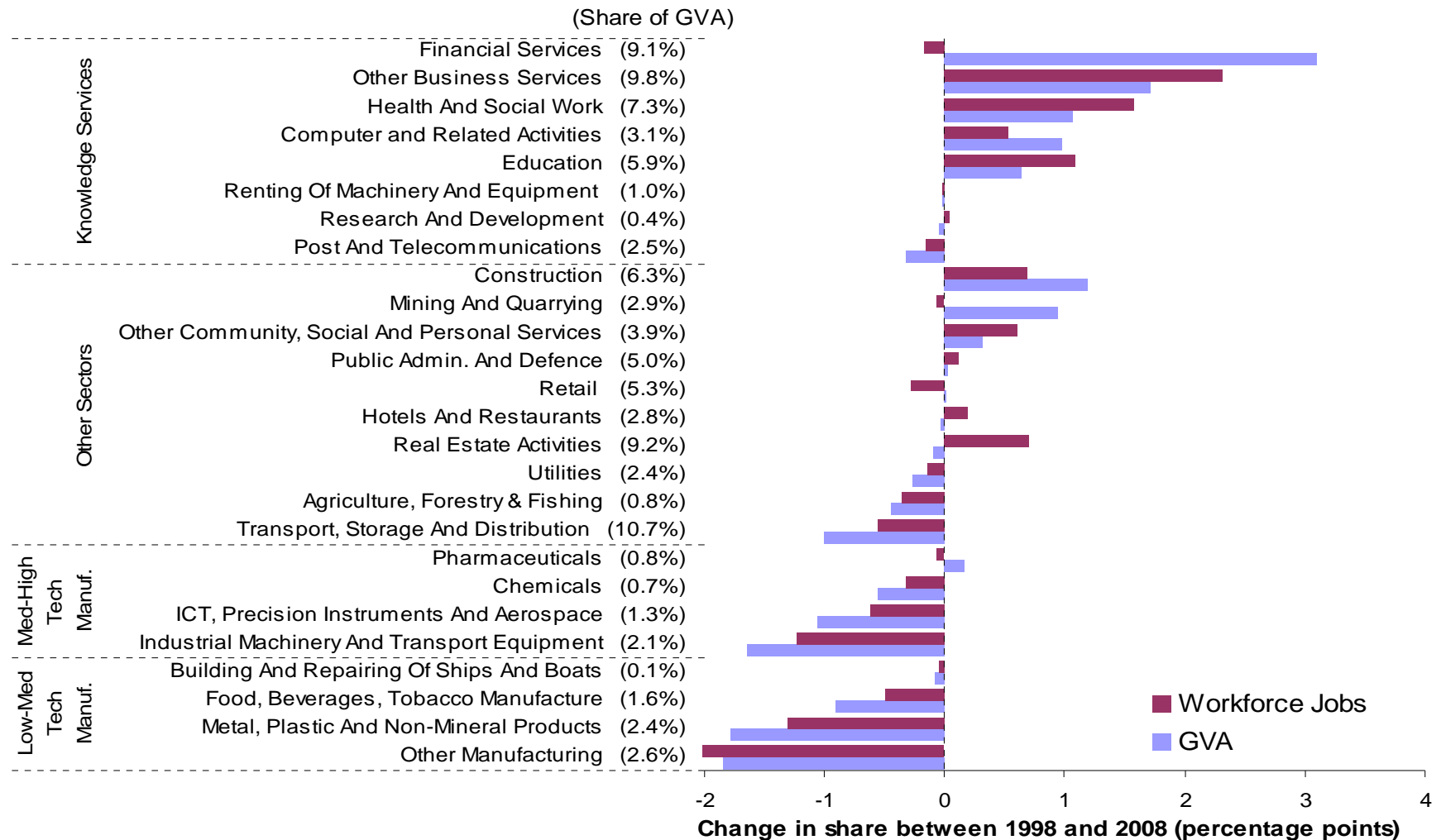
**Note:** Data from a total of 1,718 firms interviewed in 2006 and 2009/10 (263 US, 118 German, 253 UK, 157 French, 197 Chinese, 107 India firms).

# **% 25-64 with below upper secondary, upper secondary & tertiary education (2008)**



Source: OECD Education at a Glance 2010

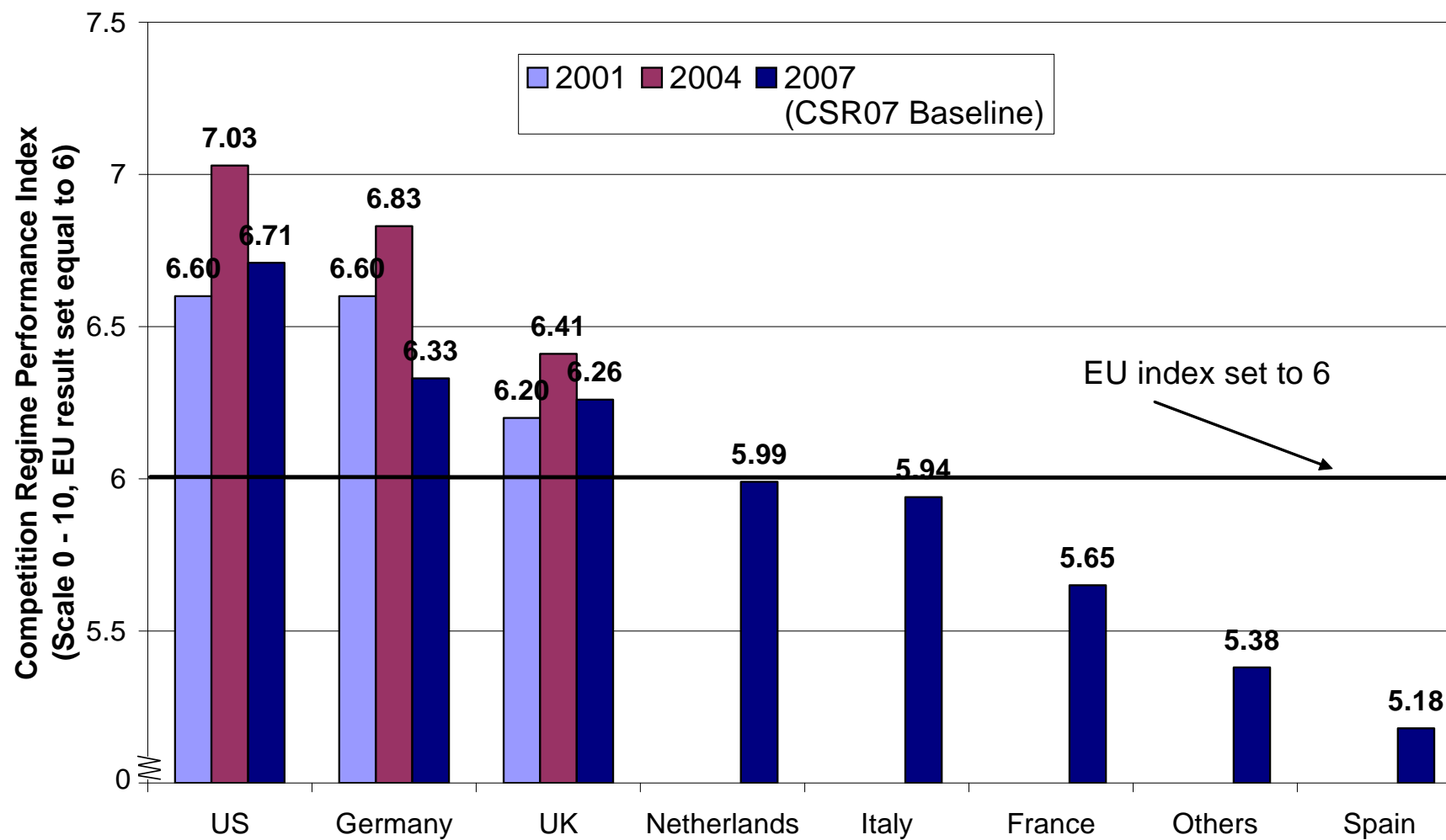
# CHANGE IN THE SHARE OF UK EMPLOYMENT & VALUE ADDED (1998-2007)



Source: BIS (2010)

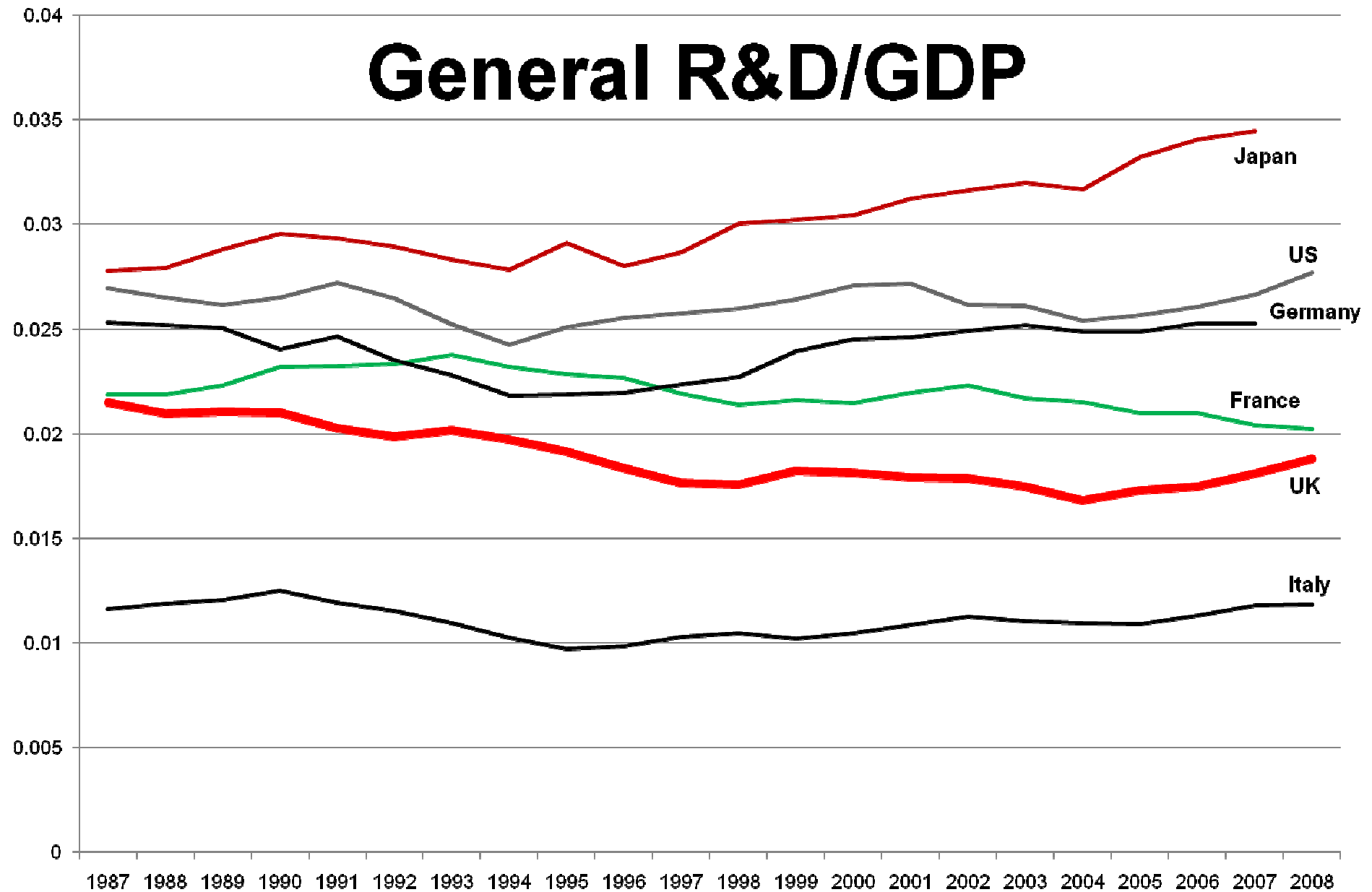


# COMPETITION REGIME PERFORMANCE



Source: BIS (2010), KPMG

# General R&D/GDP



## UK STRONG POSITION IN ELITE SCIENCE

- UK 1% of world's population but....
  - 7.9% of all scientific papers (2<sup>nd</sup> in world)
  - 11.8% of all citations to these papers (2<sup>nd</sup> in world)
  - 14.4% of all top papers (in top 1% of citations), 2<sup>nd</sup>
  - 32 papers per \$bn GDP – 1<sup>st</sup> in G8
  - Citations per \$bn GDP – 1<sup>st</sup> in G8
  - 2.5 papers per \$m GERD - 1<sup>st</sup> in G8 (3<sup>rd</sup> in world)
- Universities are very strong area of UK comparative advantage
  - Major export industry
  - Threatened by spending cuts
  - Threatened by new student visa regime

## **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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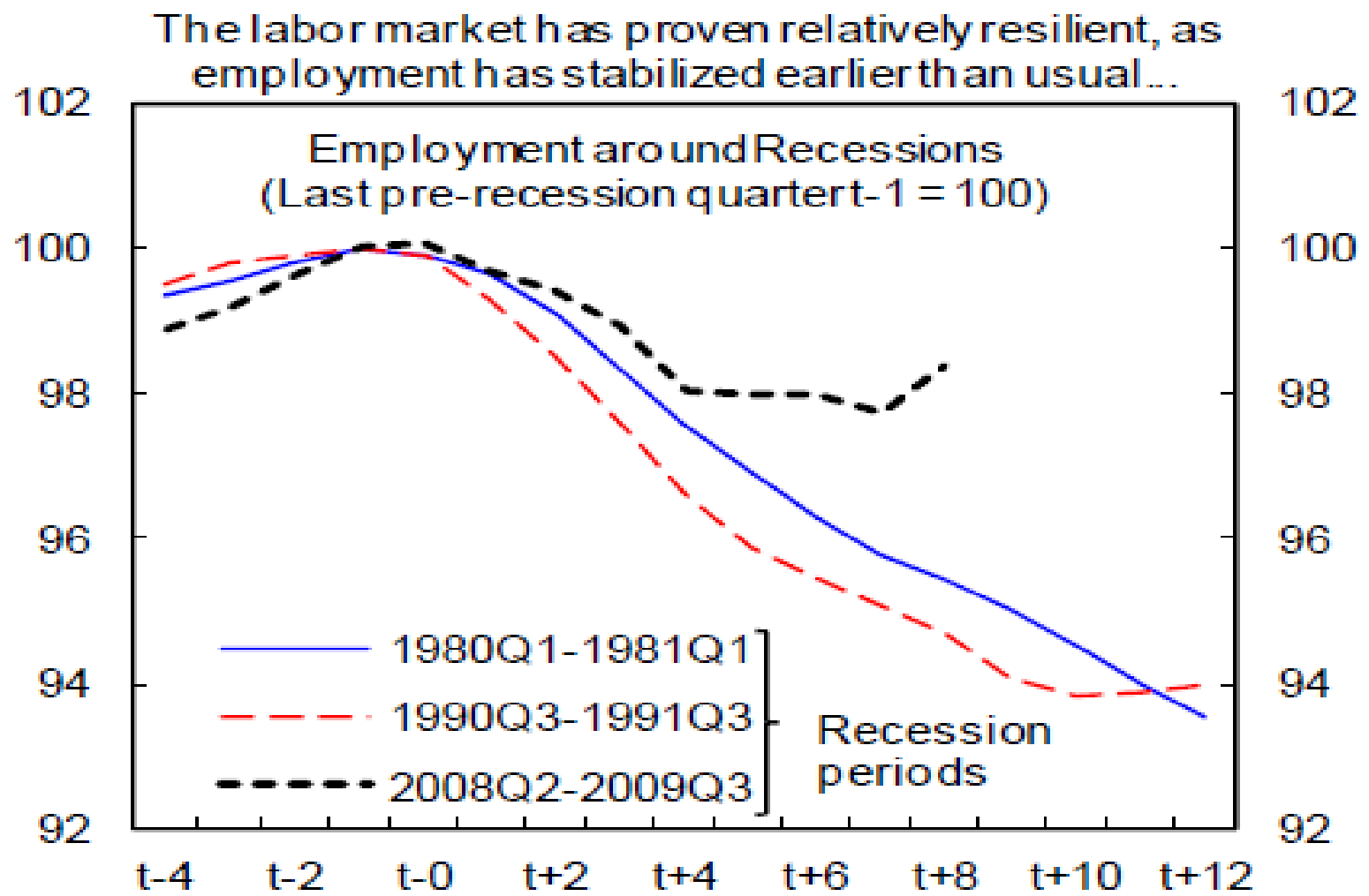
Note: All 18 dimensions and over 50 examples in Bloom & VanReenen (2006).

# CAUSAL EFFECT OF COMPETITION ON MANAGEMENT & PATIENT OUTCOMES (DEATH RATES) IN HOSPITALS

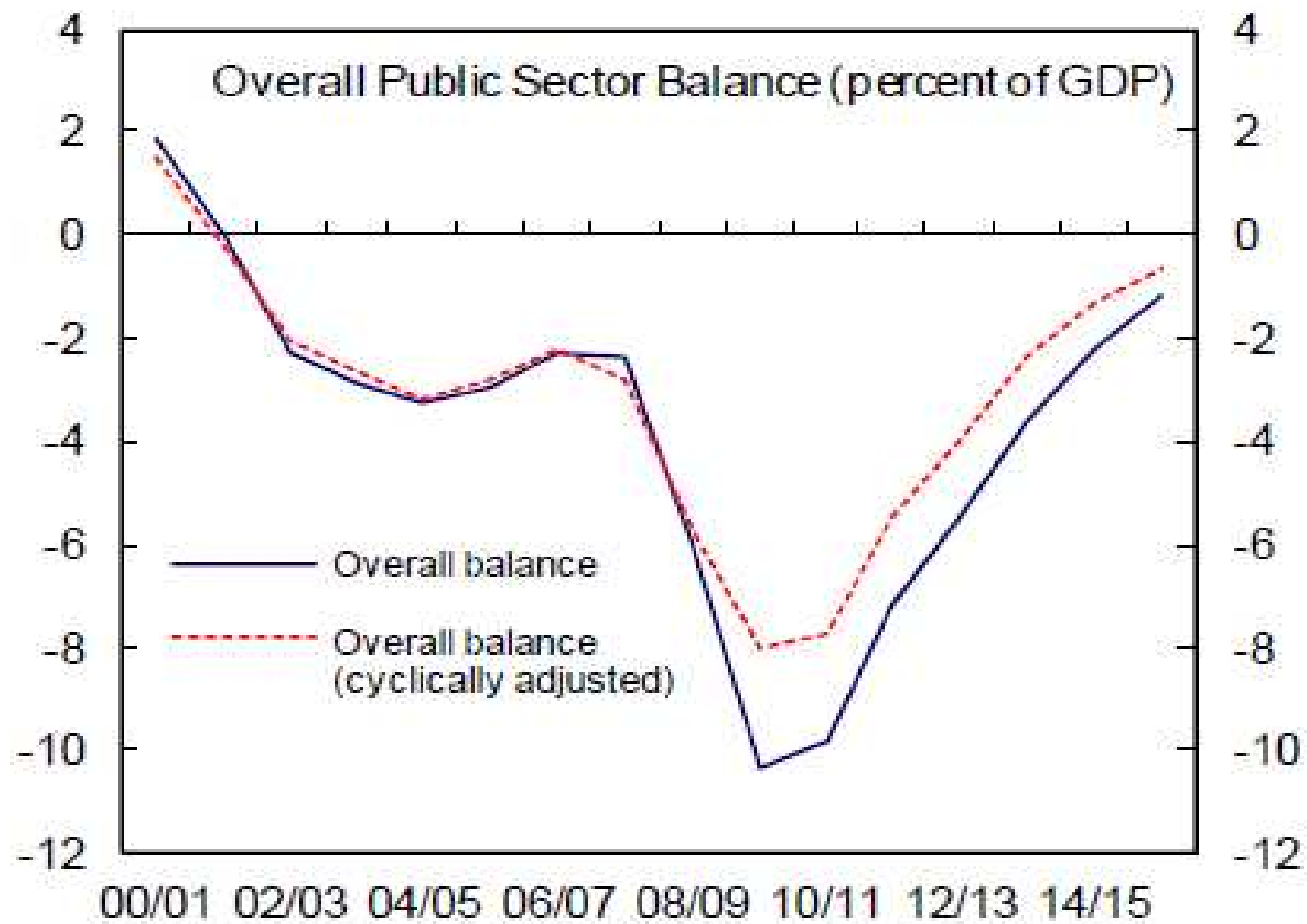
Type of Regression	OLS	IV: 1 <sup>st</sup> Stage	IV: 2 <sup>nd</sup> Stage	IV: 2 <sup>nd</sup> Stage
Dependent variable	Management	# Competing Hospitals	Management	Emergency AMI death rate
# Competing Hospitals	0.121** (0.058)		0.361* (0.215)	-1.827* (1.037)
Marginal Constituencies		5.850*** (1.553)		
F-statistic of excluded instrument		14.18		
Observations	161	161	161	140

Source: Bloom, Propper, Seiler & Van Reenen (2010)

Notes: Constituency marginal if won by <5%. S.Es clustered by hospital. Controls include casemix (age/gender of admissions), population density, age profile (11 categories), Foundation Trust & interviewer dummies (4); % Labour votes, #political constituencies & mortality in catchment area; respondent tenure & whether she was a manager or clinician, regional dummies, # hospital sites, # admissions, % managers with a clinical degree and a dummy for joint decision making at the hospital level.

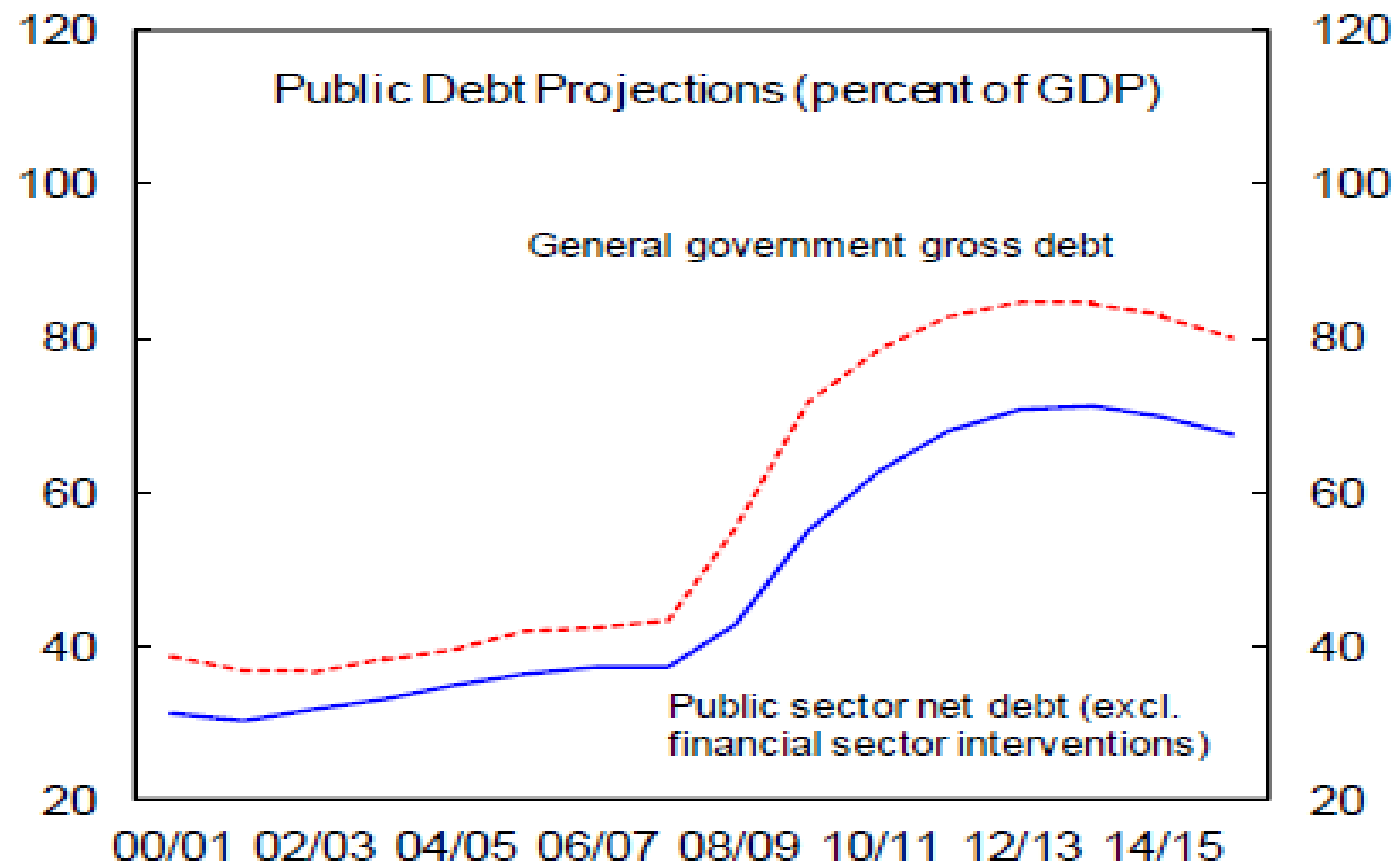


Source: IMF (2010), Article IV Consultation



Source: IMF (2010 ), Article IV Consultation

..to close the UK's large structural deficit and restore debt sustainability.



Source: IMF (2010 ), Article IV Consultation



Public Sector Finances (percent of GDP) 1/

	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
	June 2010 Budget						
Overall balance	-11.0	-10.1	-7.5	-5.5	-3.5	-2.1	-1.1
Cyclically adjusted overall balance	-8.7	-7.4	-5.0	-3.4	-1.8	-0.8	-0.3
Current balance	-7.5	-7.5	-5.8	-4.1	-2.4	-1.0	0.1
Cyclically adjusted current balance	-5.3	-4.8	-3.3	-2.0	-0.7	0.3	0.8
Fiscal stance 2/	2.4	-1.3	-2.4	-1.7	-1.6	-1.0	-0.6
<i>of which: new policy measures</i>	...	-0.5	-0.5	-0.5	-0.4	-0.3	...
General government gross debt	71.2	78.9	83.6	85.5	84.9	83.1	80.4
	Staff projections						
Overall balance	-10.4	-9.9	-7.2	-5.5	-3.6	-2.3	-1.2
Cyclically adjusted overall balance	-8.1	-7.7	-5.5	-4.0	-2.4	-1.4	-0.7
General government gross debt	71.6	78.5	82.8	84.8	84.6	82.9	80.2

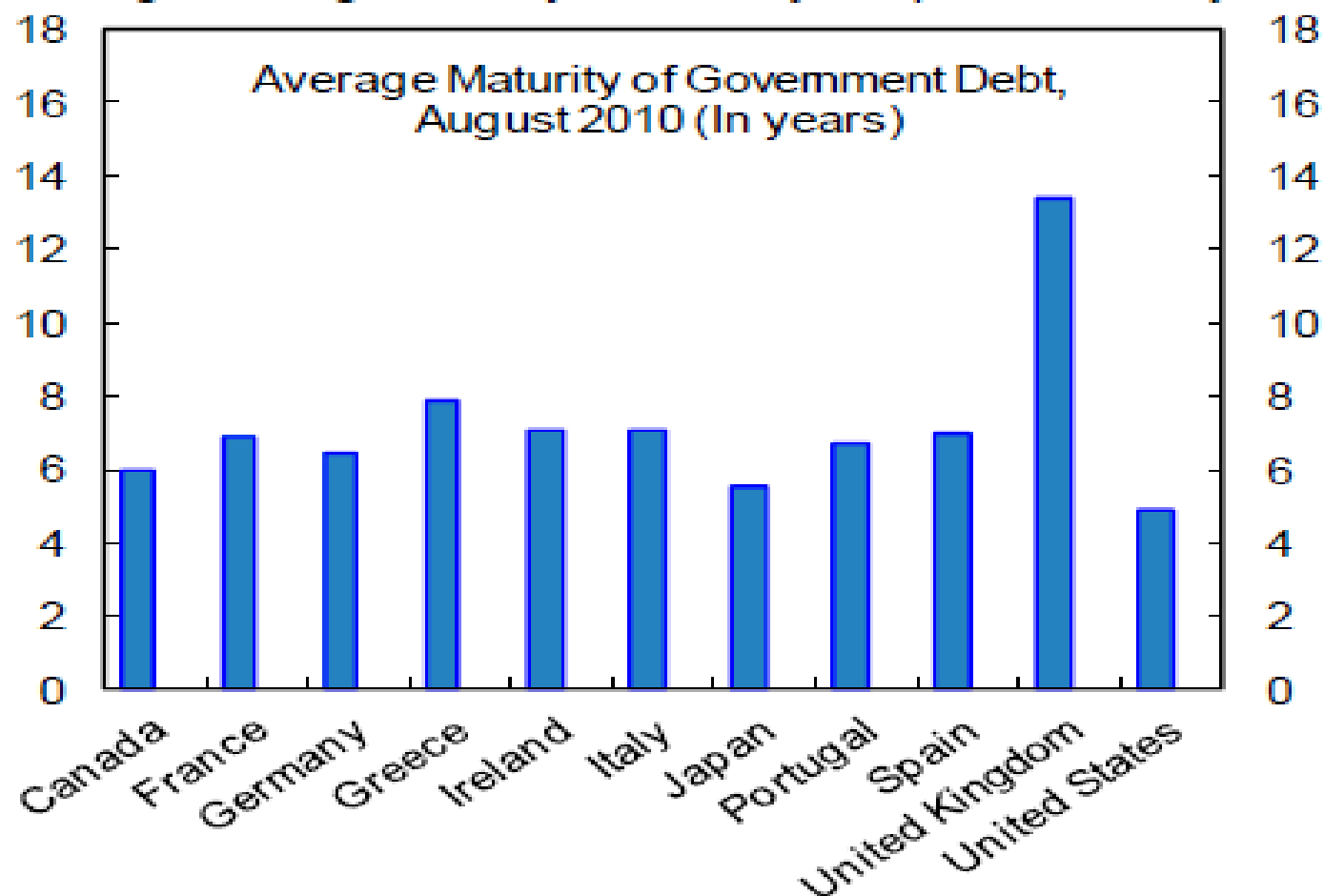
Sources: Office for National Statistics, HM Treasury, and staff estimates.

1/ Fiscal year starts in April and ends in March.

2/ Negative of the change in cyclically adjusted balance.

Source: IMF (2010 ), Article IV Consultation, p.31

UK sovereign debt has a favorable structure, featuring a longer average maturity than in any comparator country.



Source: IMF (2010 ), Article IV Consultation

Table 1. United Kingdom: Selected Economic and Social Indicators, 2005-11

	2005	2006	2007	2008	2009	2010 Proj.	2011 Proj.
<b>Real Economy</b> (change in percent)							
Real GDP	2.2	2.8	2.7	-0.1	-5.0	1.7	2.0
Domestic demand	2.1	2.5	3.1	-0.7	-5.5	2.6	1.5
Private final domestic demand	2.0	2.7	3.3	-1.4	-6.6	1.3	2.6
CPI, end period	1.9	3.0	2.1	3.1	2.9	2.8	2.5
Unemployment rate (in percent) 1/	4.8	5.4	5.4	5.6	7.5	7.9	7.5
Gross national saving (percent of GDP)	14.5	14.1	15.6	15.0	12.3	12.1	12.9
Gross domestic investment (percent of GDP)	17.1	17.5	18.2	16.6	13.6	14.5	15.2
<b>Public Finance</b> (fiscal year, percent of GDP) 2/							
General government balance	-2.9	-2.3	-2.7	-6.7	-11.3	-9.9	-7.4
Public sector balance	-2.9	-2.3	-2.4	-6.0	-10.4	-9.9	-7.2
Cyclically adjusted balance (staff estimates)	-2.8	-2.2	-2.9	-5.8	-8.1	-7.7	-5.5
Public sector net debt	35.5	36.0	36.5	42.7	53.5	61.2	66.3
FX-denominated public debt (percent of gross debt)	0.3	0.3	0.2	0.0	0.0	...	...
<b>Money and Credit</b> (end period, 12 month percent change) 3/							

Source: IMF (2010 ), Article IV Consultation

Table A1. United Kingdom: Public Sector Debt Sustainability Framework, 2005-2015  
(In percent of GDP, unless otherwise indicated)

	Actual					Projections						Debt-stabilizing primary balance 9/
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	
Baseline: Public sector debt 1/ o/w foreign-currency denominated	41.7 0.1	42.4 0.1	43.1 0.1	55.4 0.0	71.6 0.0	78.5 0.0	82.8 0.0	84.8 0.0	84.6 0.0	82.9 0.0	80.2 0.0	-0.7

Source: IMF (2010 ), Article IV Consultation



CENTRE for ECONOMIC  
PERFORMANCE

CEP 21st Birthday public lecture

# Restoring Growth

Professor John Van Reenen

*Director, Centre for Economic Performance, LSE*

Stuart Corbridge

*Chair, LSE*