The UK productivity gap

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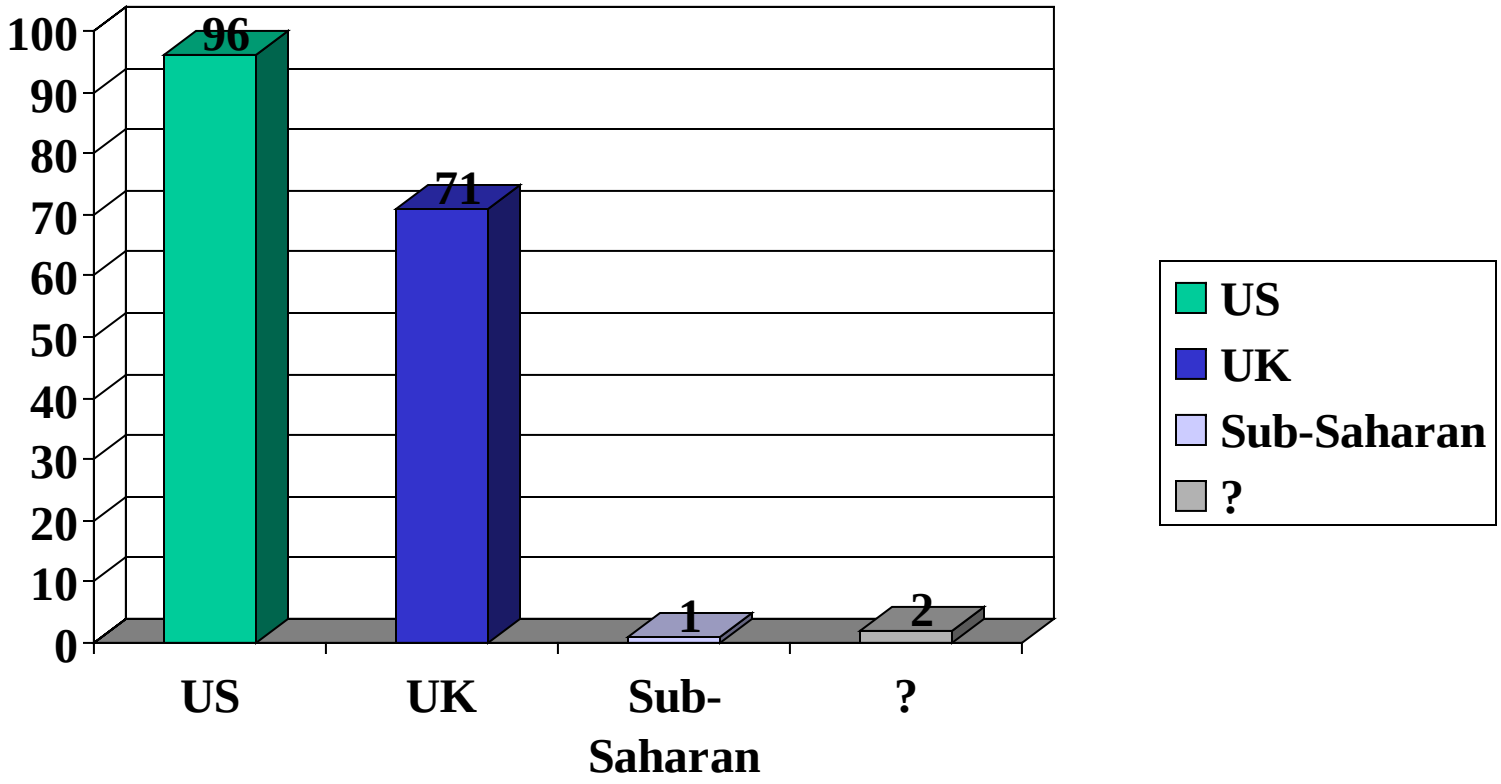
The productivity gap

- Why productivity is important
- How much is the gap?
- What explains it
  - Competition
  - Skills

The well-being of nations

(GDP per citizen per day $US, 2002)



GDP per citizen and productivity

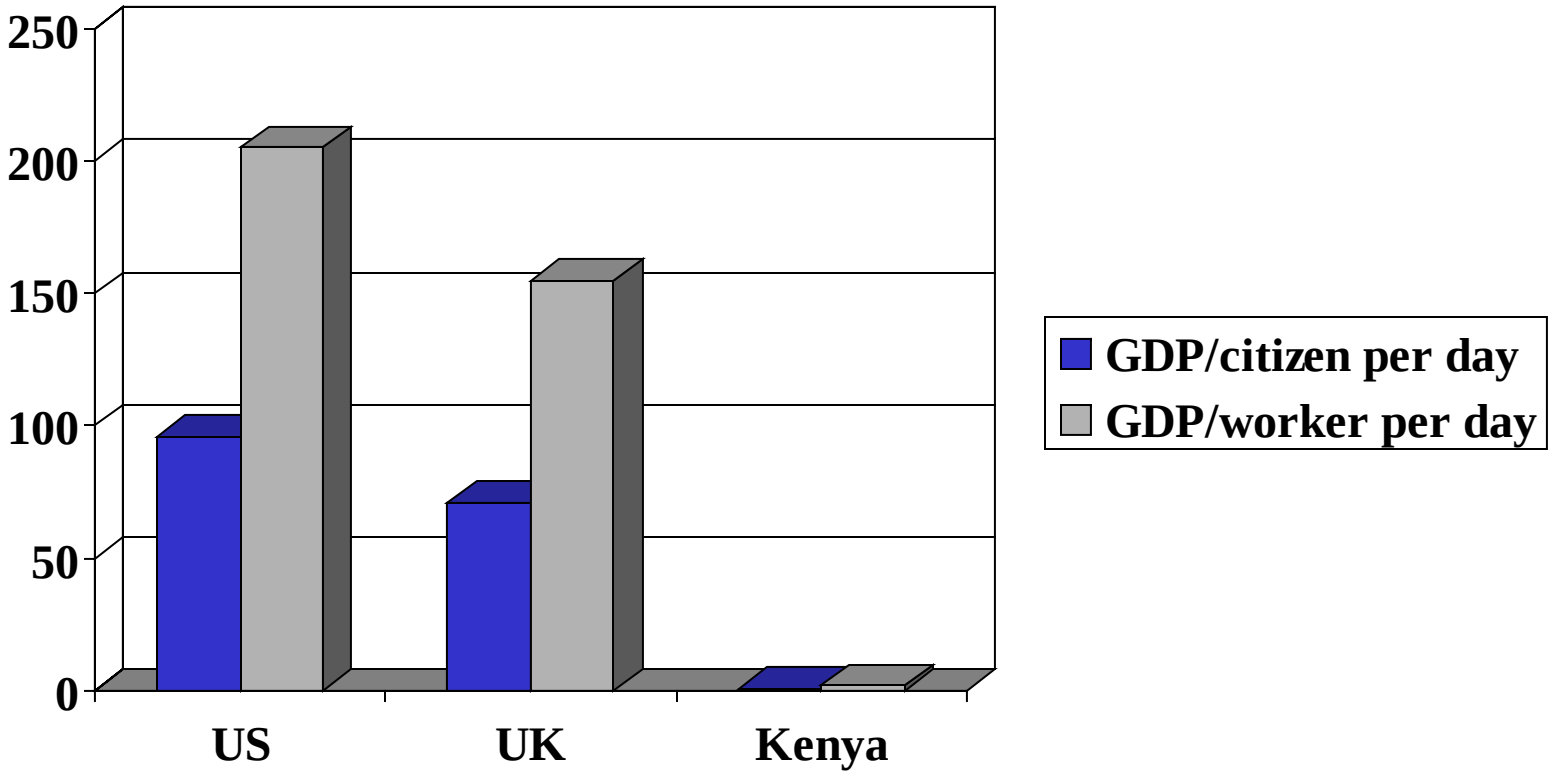
$$\frac{GDP}{Citizen} = \frac{GDP}{Employee} \times \frac{Employee}{Citizen}$$

$$= productivity \times employment\ rate$$

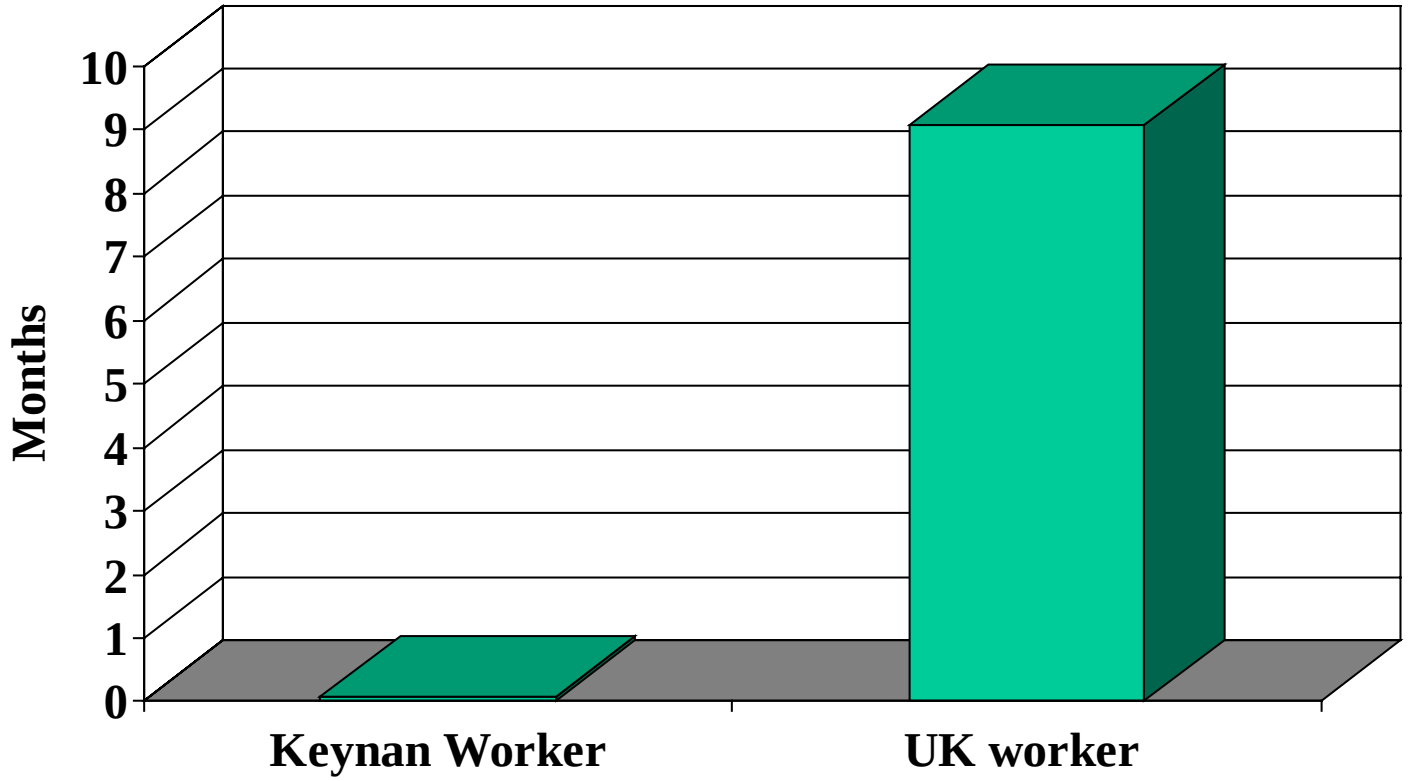
Are cross-country differences due to productivity or employment rates?

GDP per citizen per day and per worker per day

($US per day, 2002)

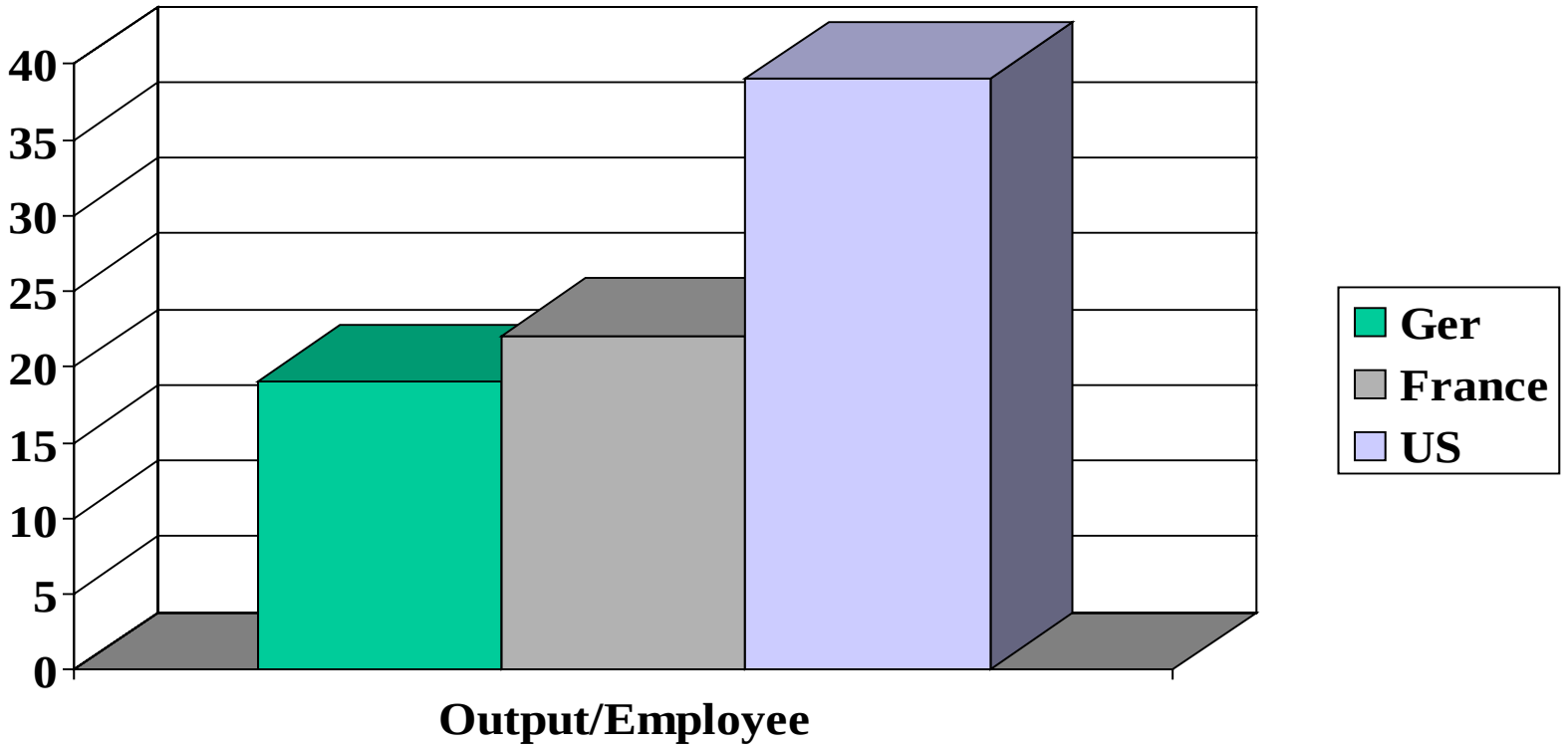


Time taken for a US worker to produce what other workers produce per year

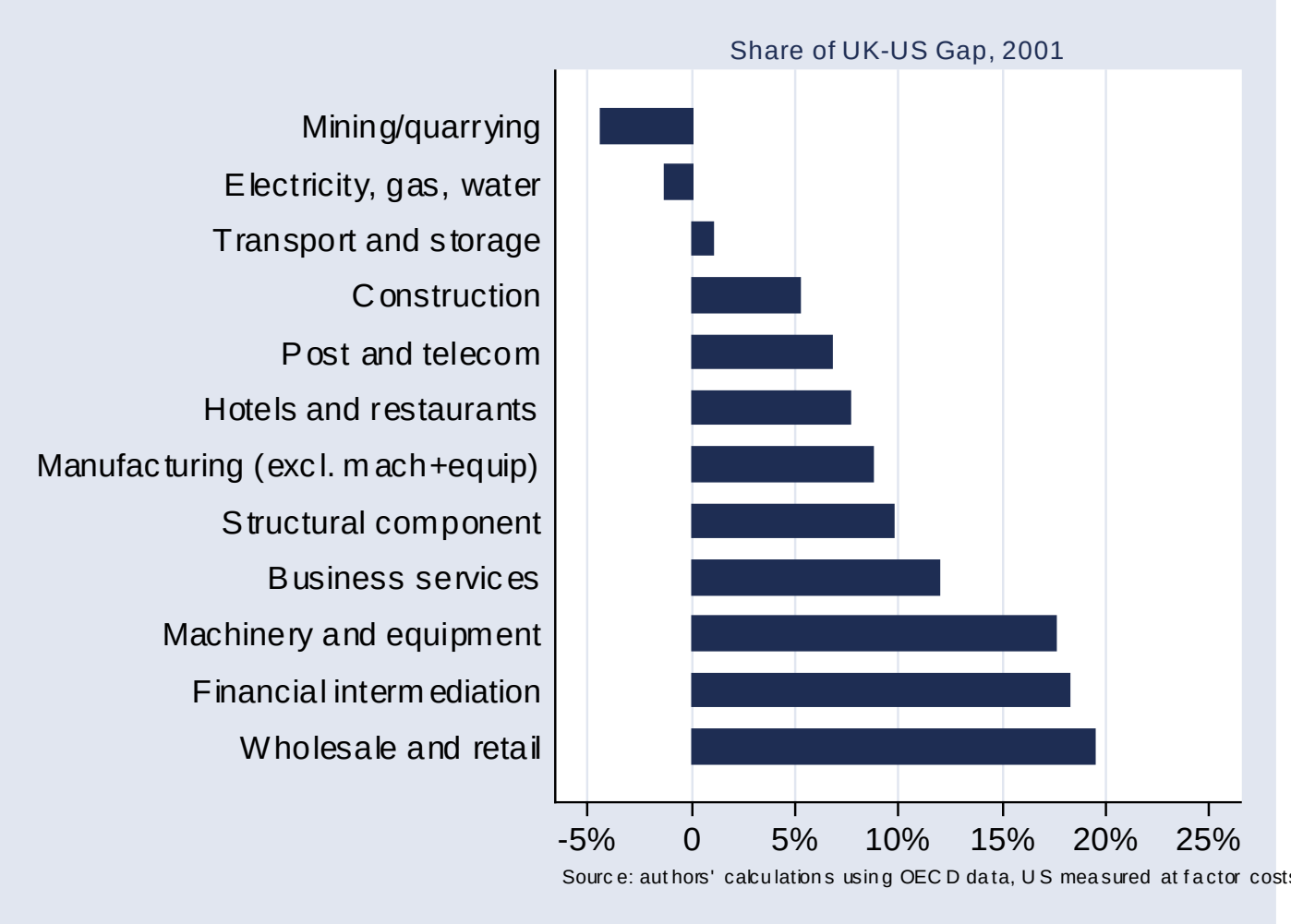


The productivity gap with Germany, France and the US

(UK=0, 1999, value added per hour, market economy)



The US/UK gap by industry



Three industries account for 50% of the gap
(wholesale, machines, financial)

What causes differences in productivity?

- Inputs: capital, labour, raw materials
  - Quantity
  - Quality (computers, skills)
- Efficiency with which they are used
  - Efficiency of firms
  - Efficiency of the market in sorting good and bad firms

How much do quantity of inputs matter?

- Way to calculate

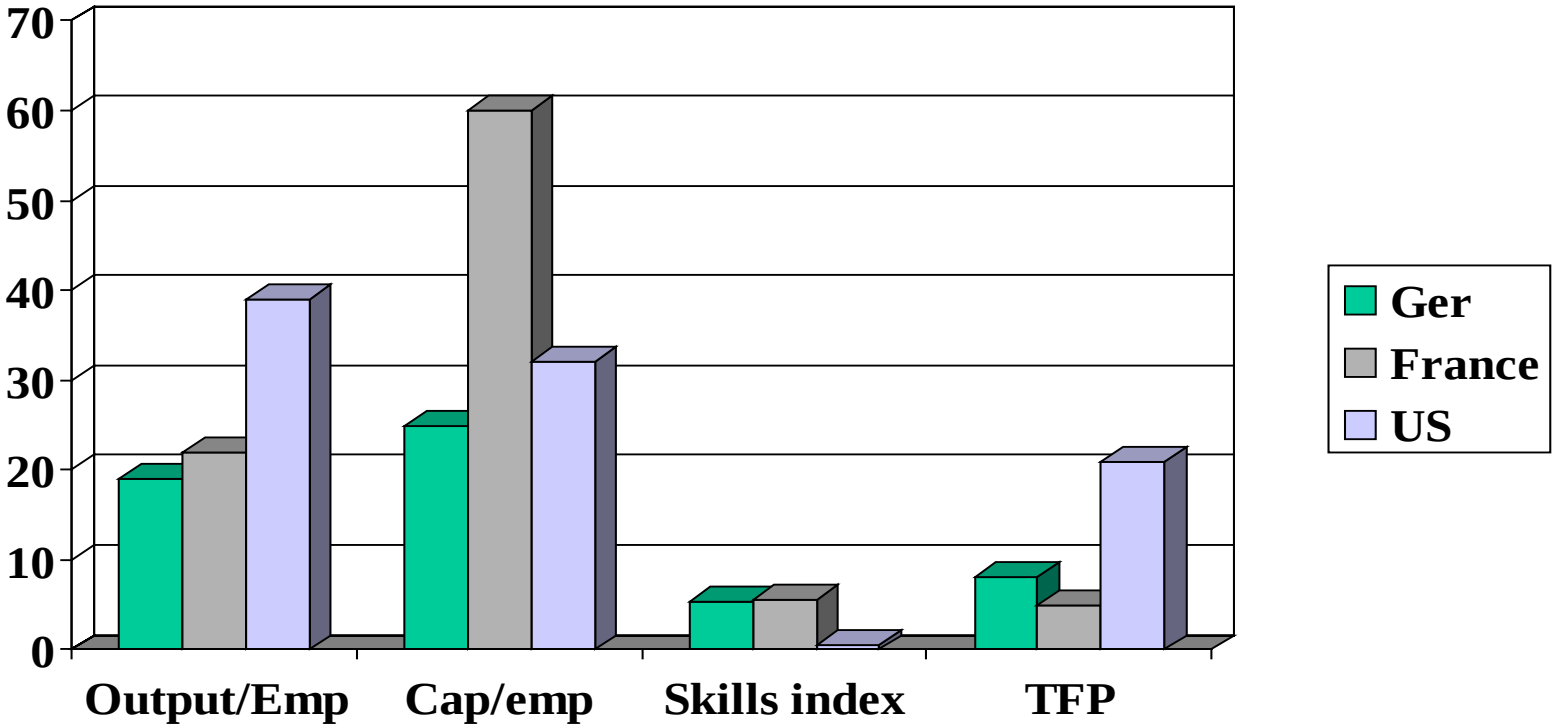
$$Labour\ \ prod = \frac{Output}{Labour\ input}$$

$$Total\ \ factor\ \ prod = \frac{Output}{(Labour\ and\ capital\ input)}$$

- Lab Prod differences= capital and efficiency
- TFP differences = efficiency

How much more capital and skill inputs do other countries have?

(UK=0, 1999, using value added and hours, market economy)



So what explains the TFP gap?

- Competition
- Skills

Turbulence in the economy: Job Creation and Job Destruction in UK manufacturing

Year	Ch in employ		
1980-91: Total	-1,933,256		
Per week	-3,380		

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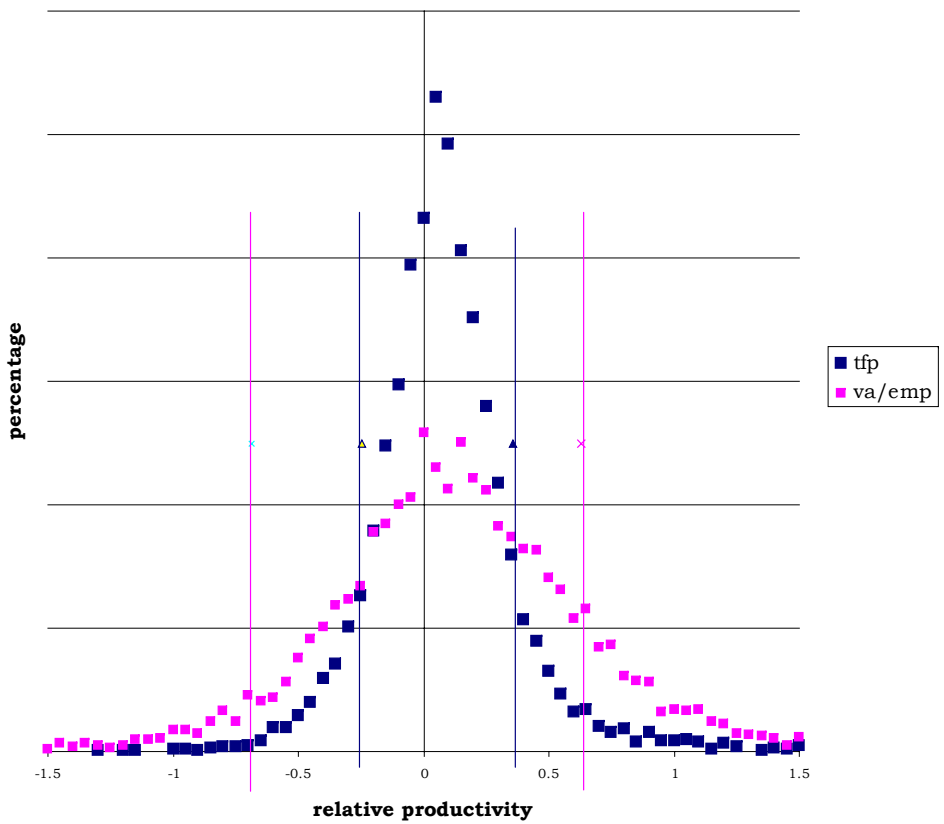
1980-91: Total	-1,933,256	6,010,343	7,943,599
Per week	-3,380	10,508	13,887
Of which:			
% by firms under 100		43	35
% by firms over 100		56	64

Competition: the long tail hypothesis

– “the best performers are as good as anyone…
– …but UK is let down by a long tail of poor performers”

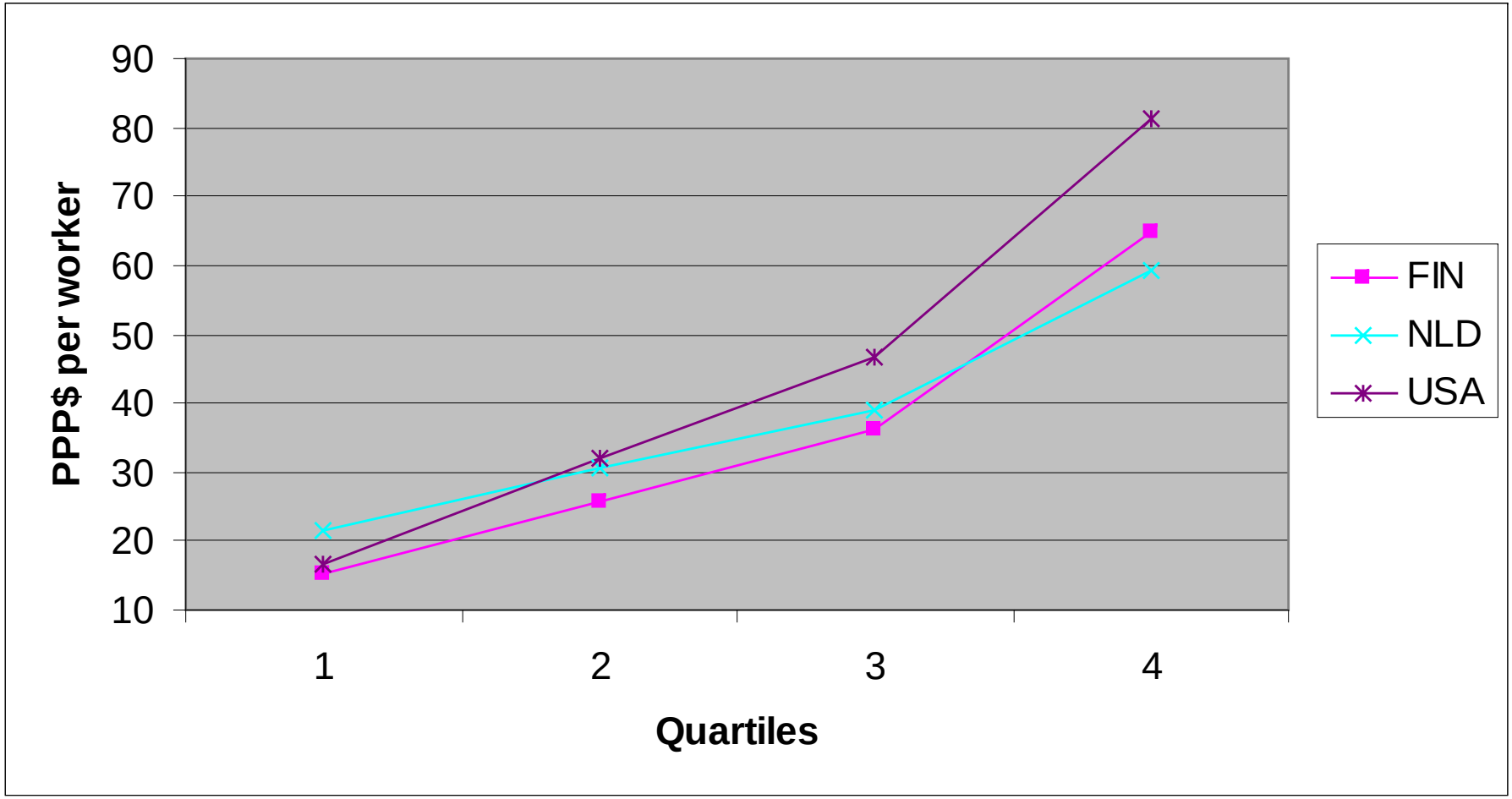
Is there a UK productivity tail?



- Labour prod gap: 5:1
- TFP gap: 2:1

How does the UK productivity tail compare?

(Value added per worker by quartile, manufacturing)



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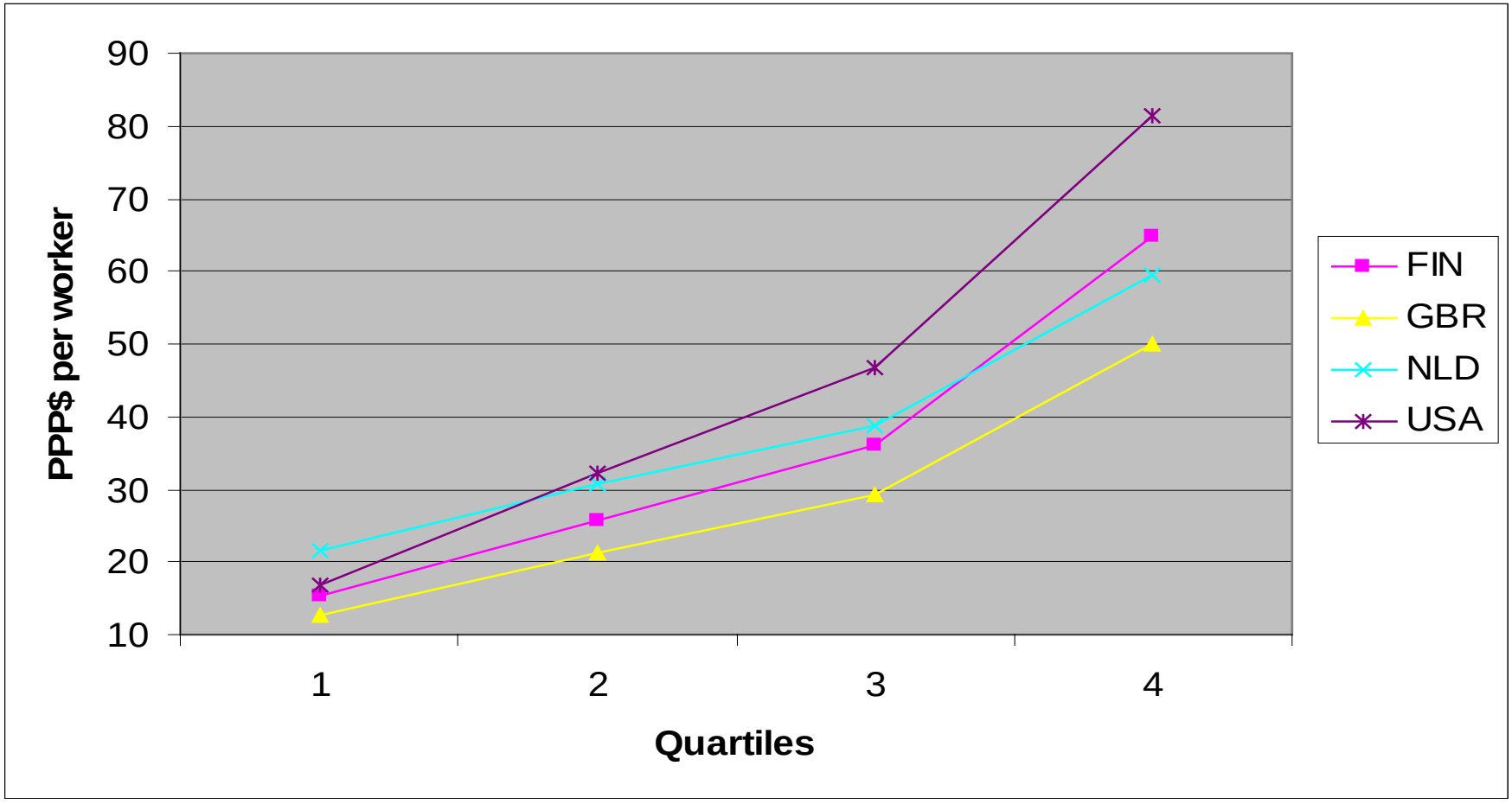
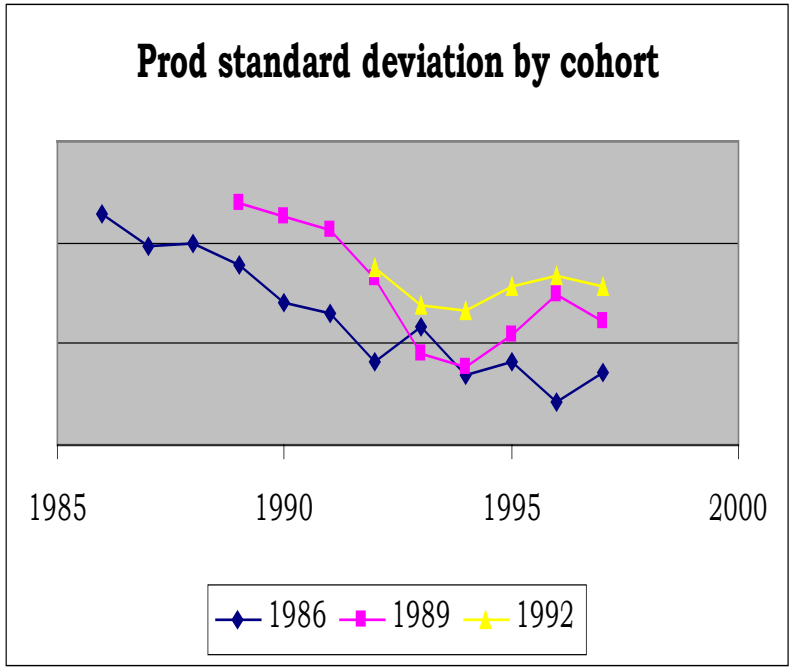


Competition via sorting

Prod grows by

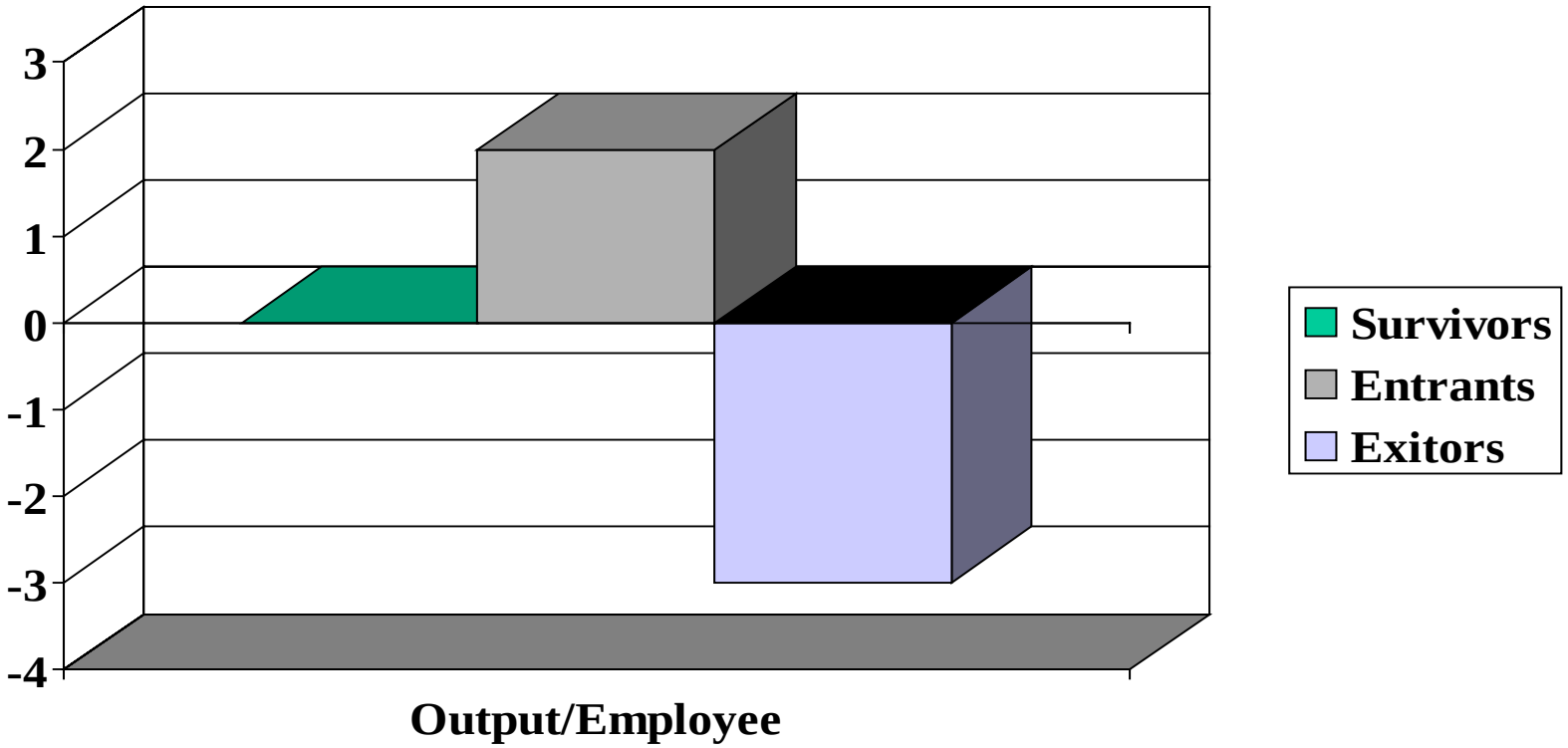
incumbent firms growing and getting market share

exit of bad firms,entry of good ones



Productivity of survivors, entrants and exitors

(% differences from survivors)



Size of supermarkets

(Competition Commission, 2000, Minimim Efficient Scale 3,000 sq m)

	Spain	France	Italy	UK	Germany	US
# of stores	5,670	8,820	6,073	4,720	23,680	22,000
Avg. store size (’000 sq.m.)	0.8	1.17	0.9	1.61	0.71	

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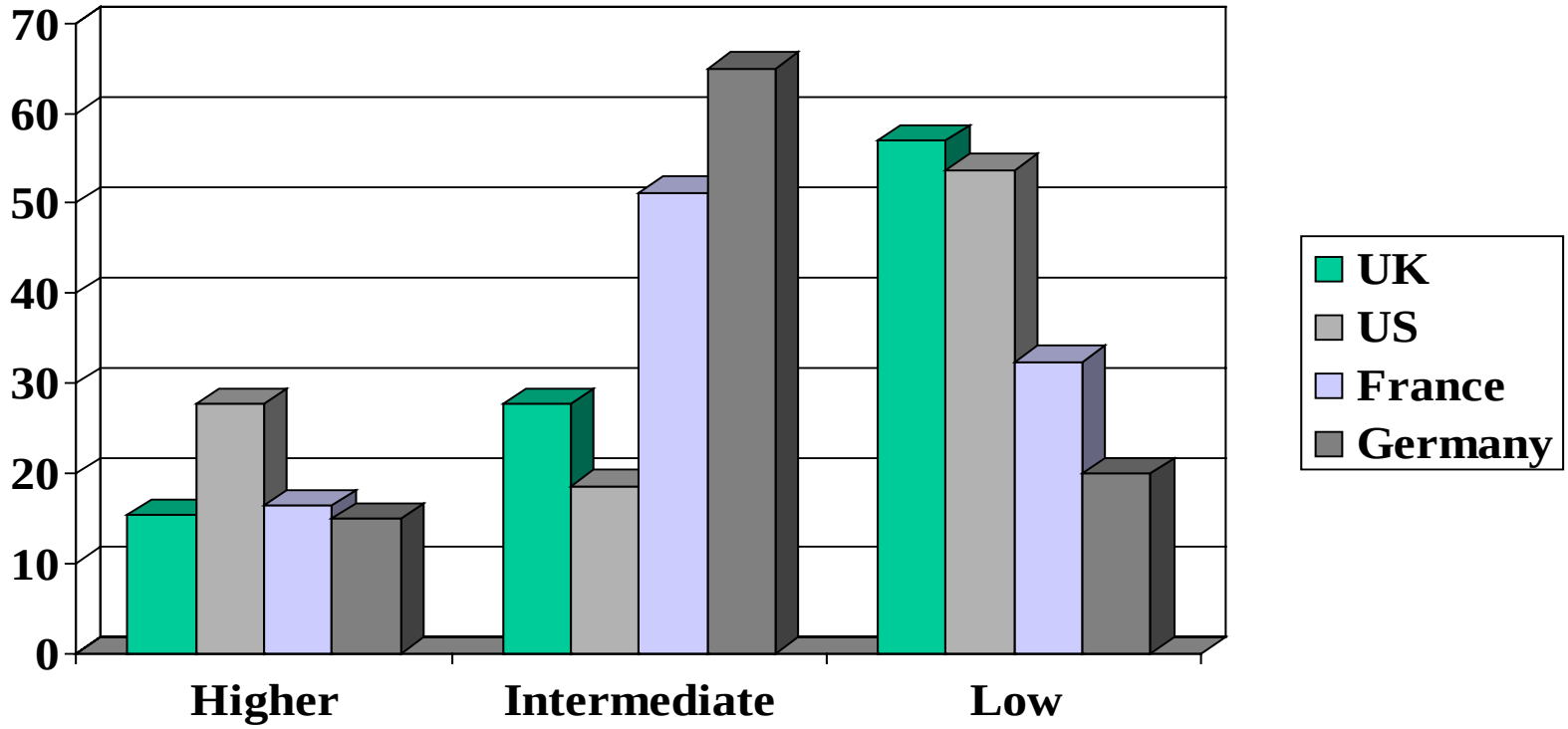
Division of workforce by skill

1999, higher level (degree and above), intermediate vocational (more than general schooling but below degree) and rest



Skills and the cross-country gap

- Most skilled versus least skilled countries
  - 8 years of education difference
  - Suppose a year of education raises worker productivity by 10%
  - ⇒most skilled would be 2.2 times as productive
- But top is 37 times as productive

Public spending per pupil on education

University	£5,300
Post 16 college	£4,300
Secondary	£4,000

Public spending per pupil on education

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Post 16 college	£4,300
Secondary	£4,000
Primary	£3,200
3 yr olds	£1,800