

Closing the Productivity Gap – The Economic Challenge

Presentation by
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Overview

2. What is the level of productivity in the key sub-sectors

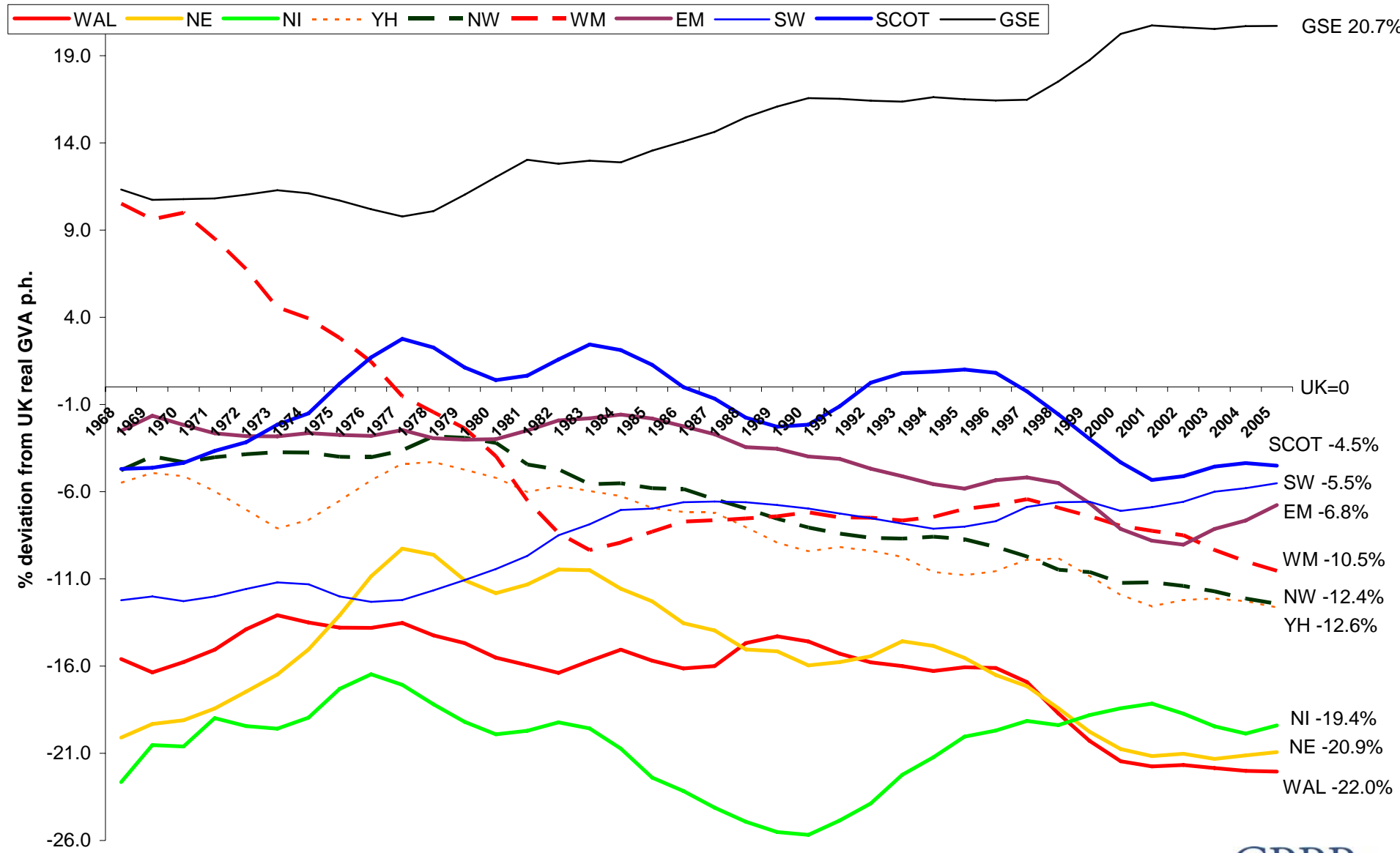
- identified as offering scope for productivity improvement / economic growth in NI?

3. What factors might explain the sub-sectoral productivity gap observed?

4. What are appropriate interventions

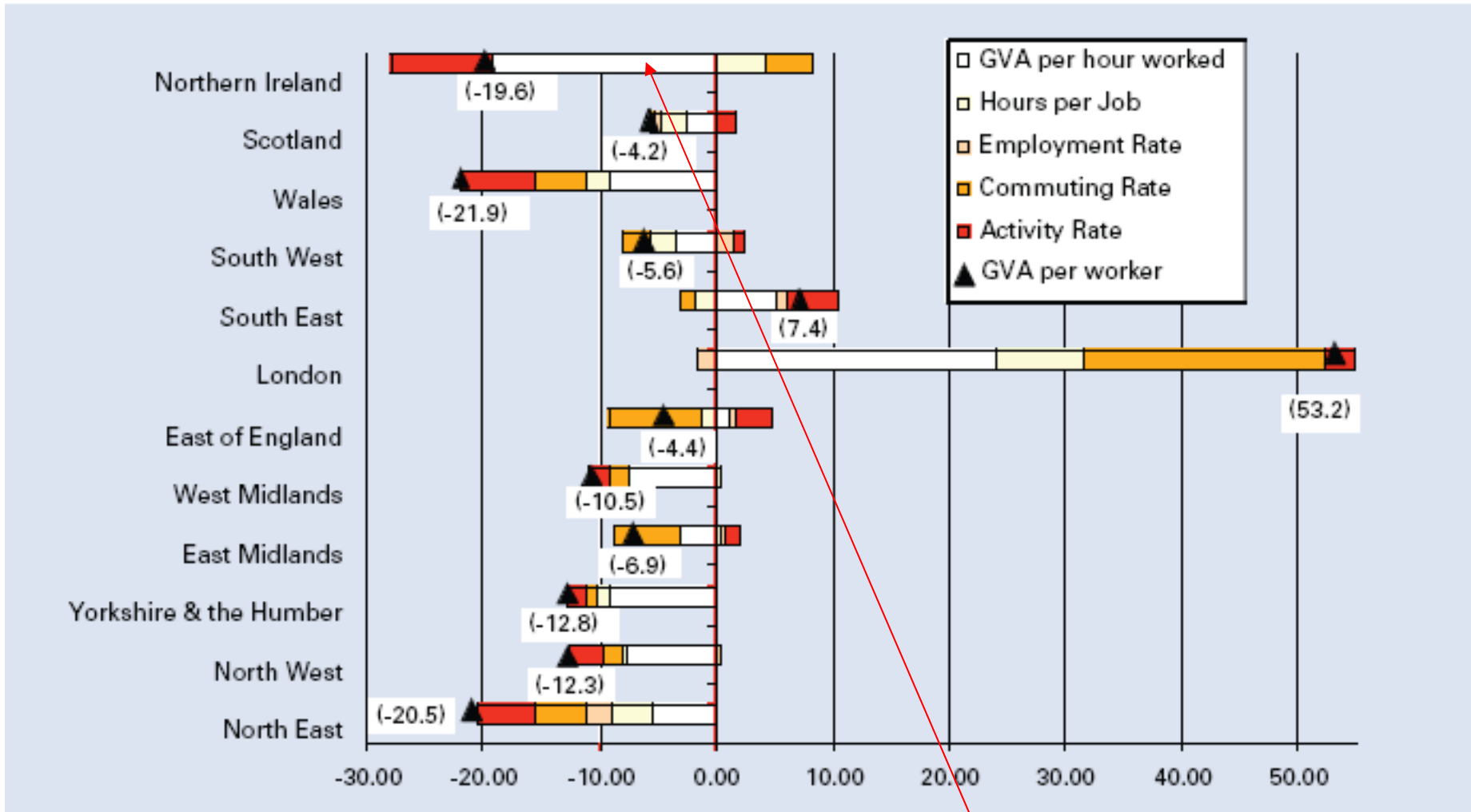
- to promote productivity improvements in the sub-sectors identified?

Chart 1: Relative (headline) GVA per head, 1968-2005, UK regions



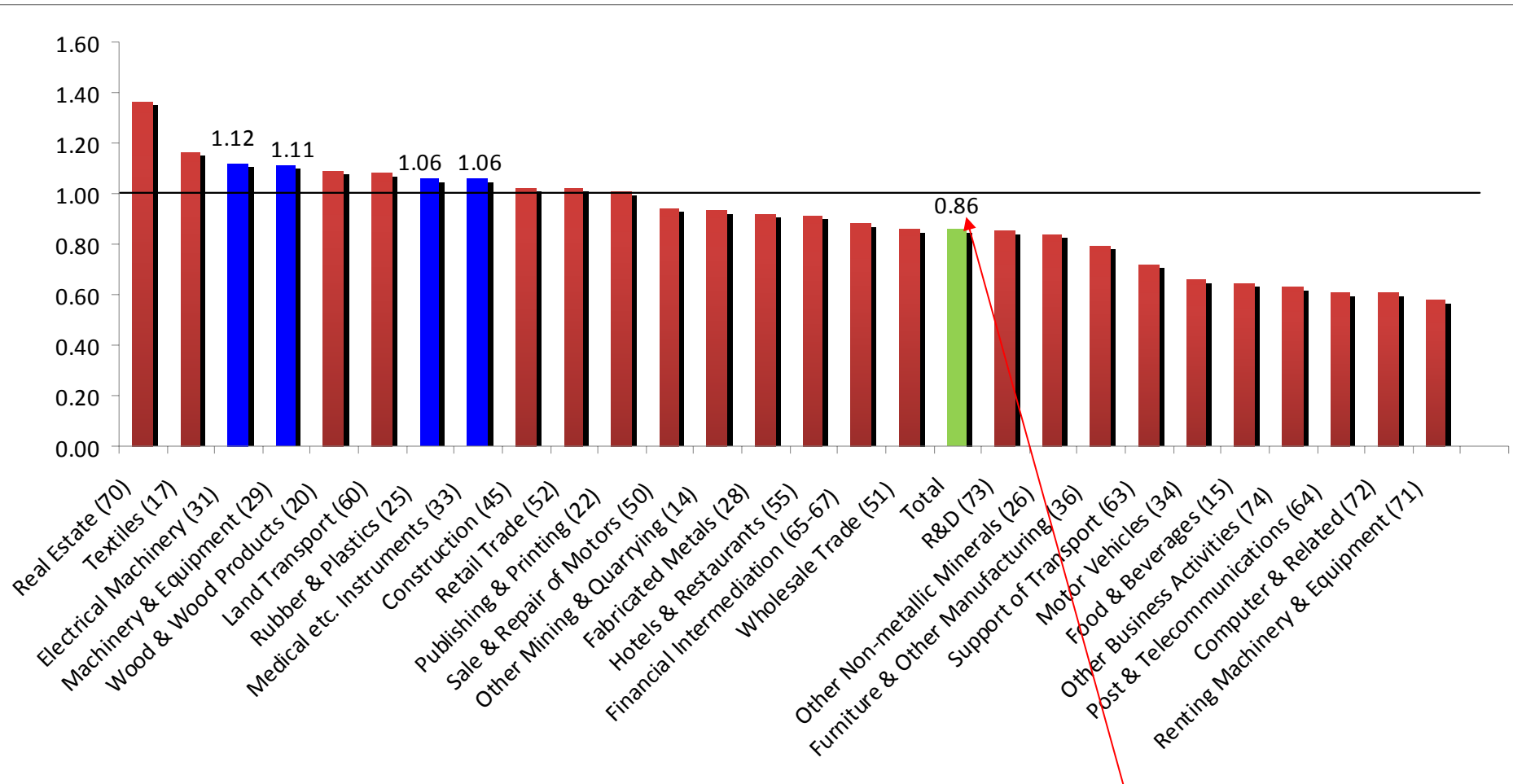
- confirms NI has consistently underperformed (GVA per capita)
- currently around 20% below UK average

Chart 2: Composition of Regional productivity Differences 2005 (percentage difference from UK)



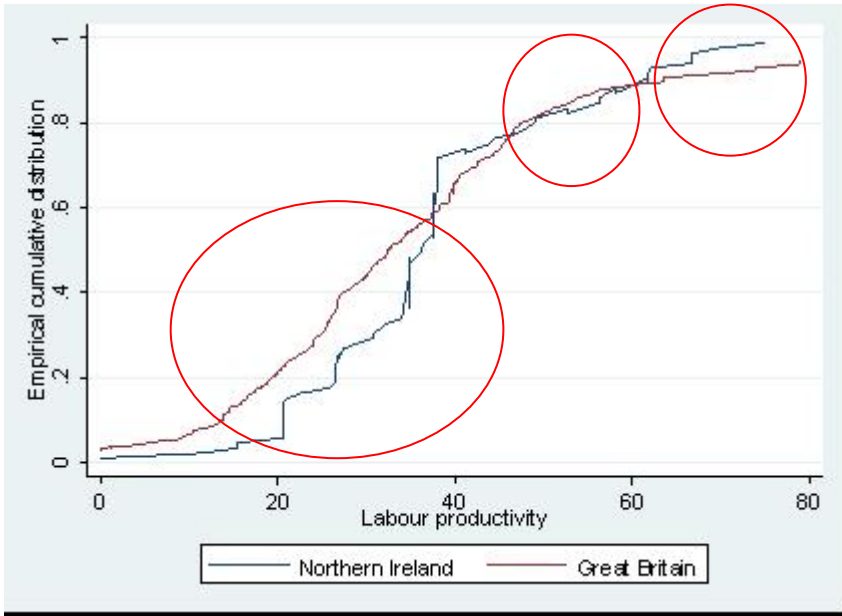
- main reason for GVA per capita gap for NI is lower productivity

Chart 3: Labour productivity in Northern Ireland, 2006, by Sector (UK = 1)

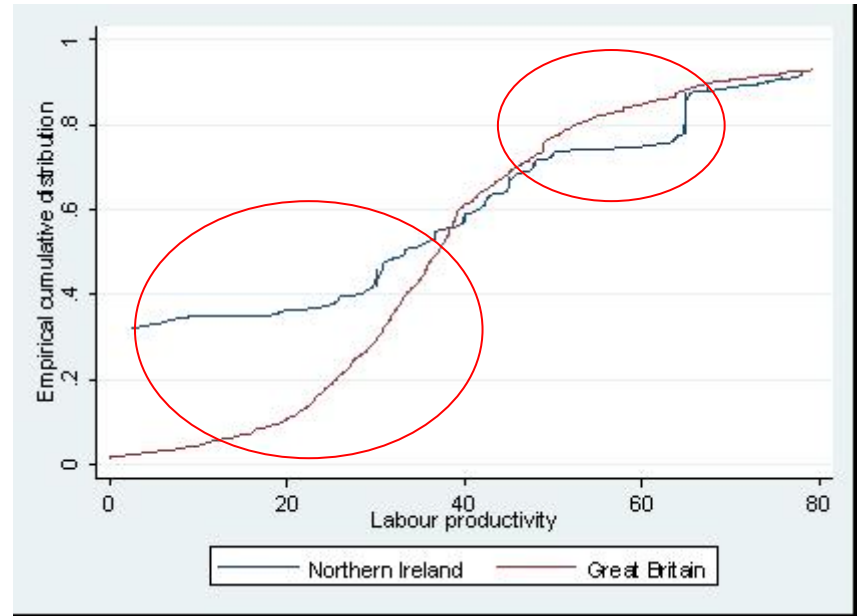


- overall in market-based sectors, labour productivity is some 14% below UK average in 2006
- better measure would be *total factor productivity*
- slightly above average in some manufacturing industries (more capital intensive)

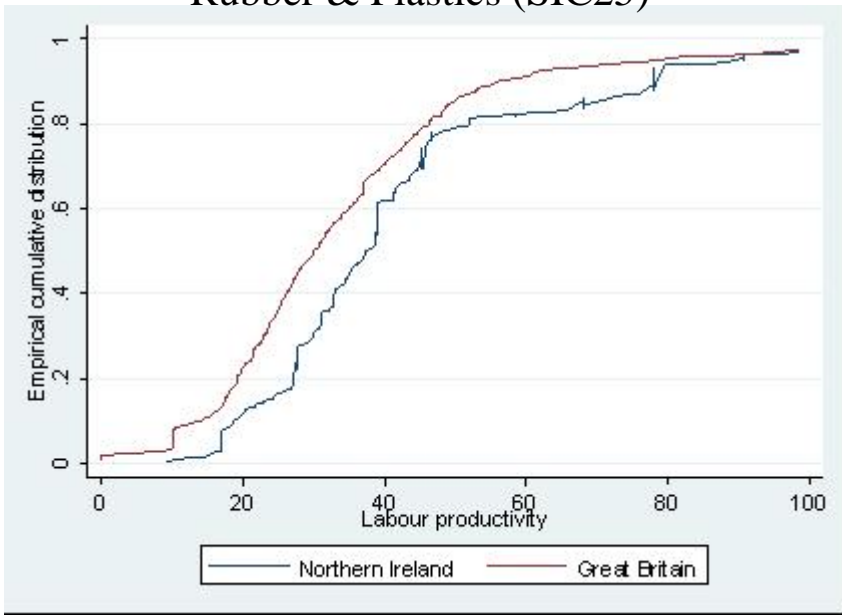
Electrical Machinery (SIC 31)



Machinery & Equipment (SIC29)



Rubber & Plastics (SIC25)



Medical etc. Instruments (SIC33)

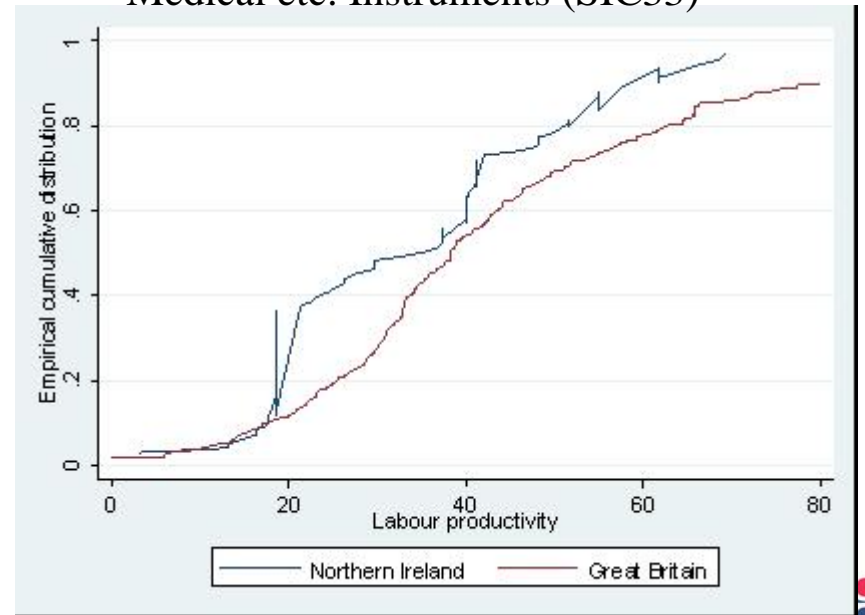
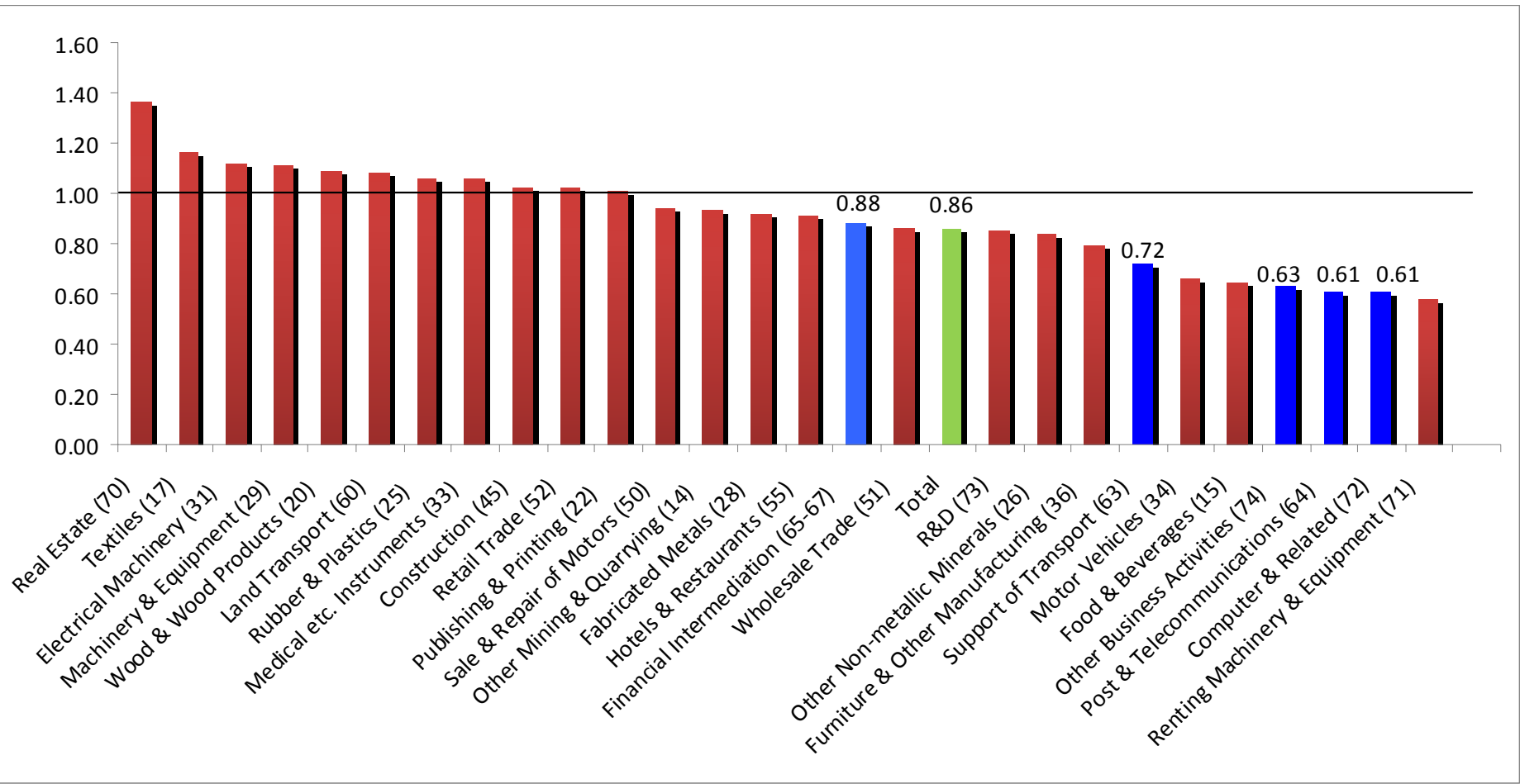


Chart 3: Labour productivity in Northern Ireland, 2006, by Sector (UK = 1)



- more worryingly is lower productivity in above 5 industries highlighted (which account for some 21% of market-sector GVA in 2006)

Causes of low productivity

- Research confirms that
 - firms that export and/or undertake R&D are
 - more competitive,
 - have higher TFP
 - more likely to produce significant new products and services.
- A large part of the reason
 - such firms are able to exploit knowledge-based intangible assets
 - such as R&D and propriety know-how, intellectual property, workforce skills, world-class supply networks and brands
 - they are especially able to internalise knowledge
 - they have higher ‘absorptive capacity’

- Making better and more extensive use of these assets allows firms:
 - to break down the barriers to entering overseas markets
 - to commercially developing new products and processes.
- Thus to improve productivity, Northern Ireland needs to ensure:
 - it has adequate stocks of these firm-bases knowledge assets
 - and the absorptive capacity to exploit such stocks.

Table 1: Innovativeness and Exporting in Northern Ireland and the UK, 2004-06

Sector (SIC92)	Relative labour Productivity ^a	R&D intensity ^b		% share new products ^c		Exporters ^d		Share of GVA ^a
		NI	UK	NI	UK	NI	UK	
Production industries (10-45)	0.94	0.49	1.07	8.8	7.8	42.6	34.8	39.3
Support of Transport (63)	0.72	0.69	0.05	12.5	2.7	46.8	40.1	1.4
Post & Telecommunications (64)	0.61	0.24	1.12	4.3	19.5	20.8	27.2	2.7
Financial Intermediation part (65-67)	0.88	0.05	0.06	3.1	7.5	12.5	29.4	6.3
Computer & Related (72)	0.61	11.83	3.95	17.2	22.0	68.6	52.5	1.5
Other Business Activities (74)	0.63	0.46	0.35	5.5	36.2	14.4	27.7	8.9
Other Services (50-60, 70-71, 73)	0.95	0.02	0.43	0.6	9.0	21.9	18.3	39.8
All industries	0.86	0.15	0.48	2.4	10.8	29.0	26.8	100.0

^a Based on ABI data in 2006.

Source: ABI, CIS4

^b Based on (weighted) CIS4 data measured as $100 \times$ spending on R&D/turnover in 2004

^c Based on (weighted) CIS4 data on the share of turnover in 2004 attributed to products 'new to market' and 'new to industry'

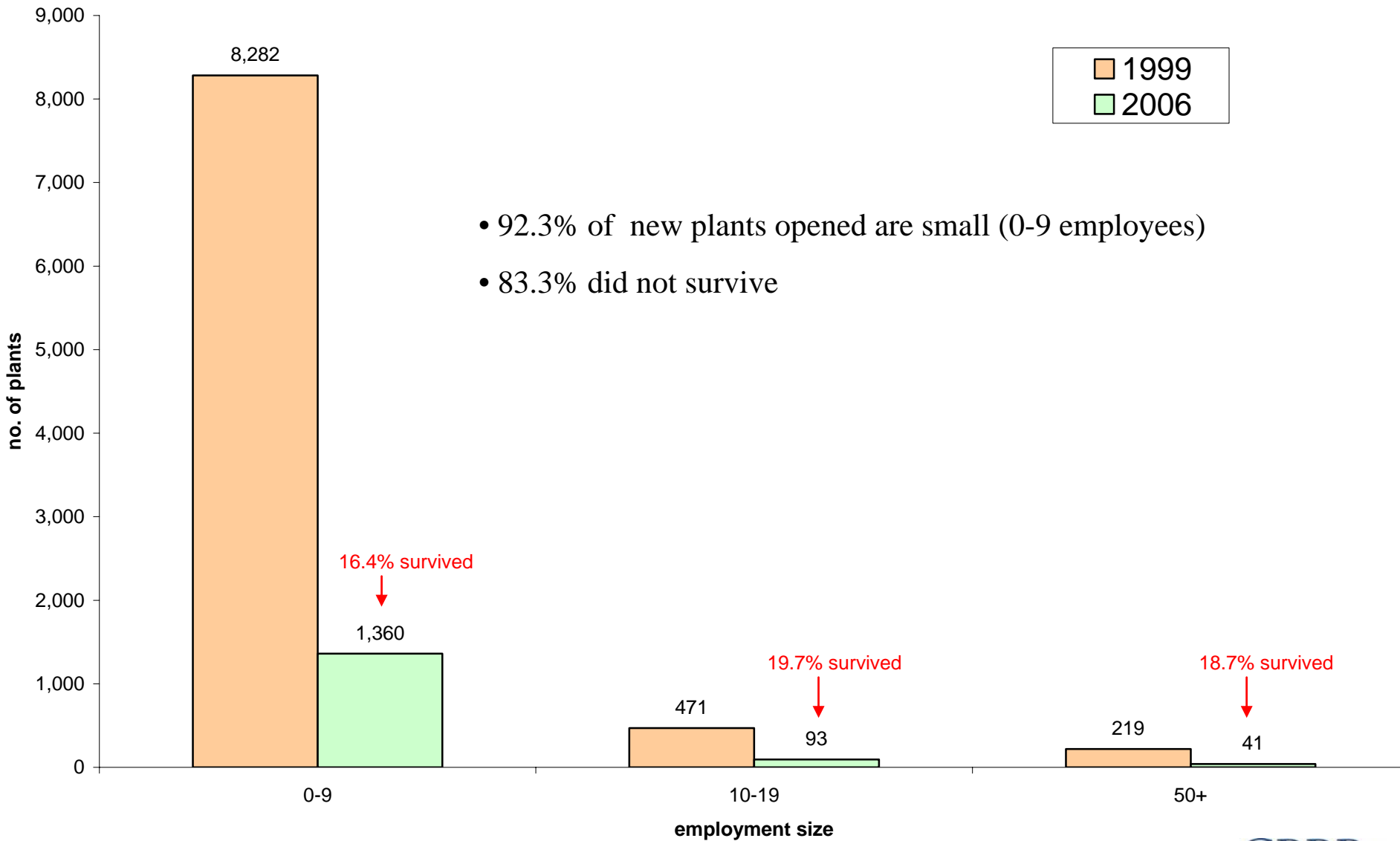
^d Percentage of enterprises in (weighted) CIS4 data that sold at least some products/services outside the UK

- R&D intensity (i.e. importance of developing new products/processes) is lower in key sectors
- when higher, does not translate into new-to-market or new-to-industry products
- overall NI products tend to be of older vintage
- overseas sales are considerably lower in important sectors
- overall, lower R&D, new products and exporting contribute to lower productivity and competitiveness and shows there is room for considerable 'catch-up'

Policy options

- Both Northern Ireland's Economic Vision of 2005 and the Draft Economic Strategy of 2007 recognise:
 - the need for firms to become more export orientated
 - the need for firms to become more innovative
- in to share in the benefits from greater globalisation and thus improvements in productivity and ultimately a higher long-run growth rate.
- In terms of what policies are best suited to helping firms overcome barriers to exporting and undertaking R&D:
 - both documents provide little guidance on what needs to be done to achieve a step-change in productivity levels
- They discuss:
 - importance of trade
 - poor management practices and their impact on TFP
 - fiscal incentives (although since the publication of the Varney Report in late 2007, further fiscal decentralisation seems very likely)
- Traditionally, Northern Ireland has relied on:
 - new inward investment (especially from foreign-owned companies)
 - providing grant aid (such as SFA) to indigenous firms in the tradable goods sector
 - considerable efforts to increase the number of business start-ups.

New plants opened in 1999 in Northern Ireland, surviving to 2006, by employment size



Survival and growth of new plants in Northern Ireland (all market-based sectors)

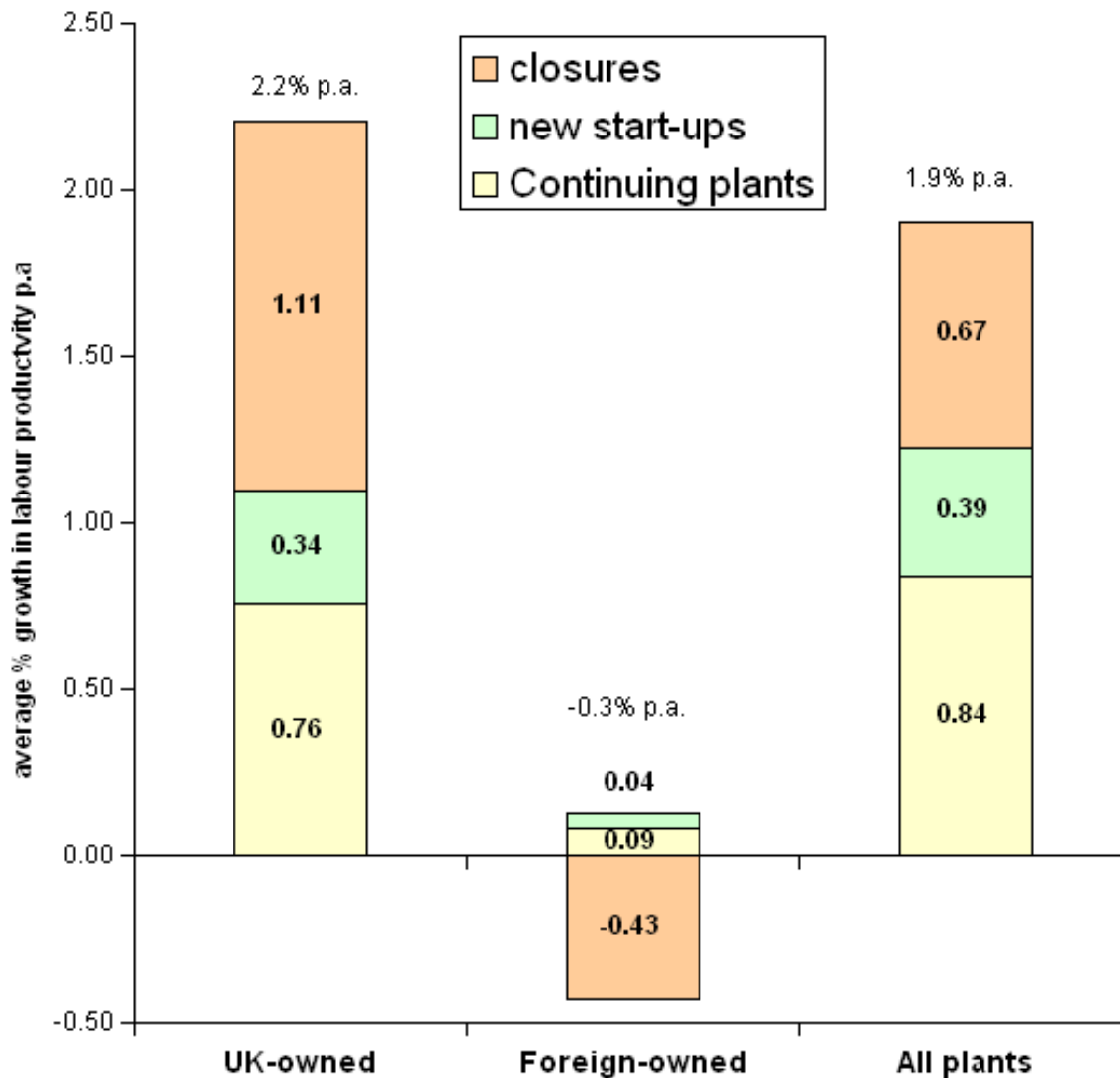
Employment size in 2006	<u>Employment size in 1999</u>		
	0-9	10-19	50+
0-9	15.1	6.8	2.3
10-19	0.9	8.5	0.5
50+	0.4	4.5	16.0
Total	16.4	19.7	18.7

Figures are % of 1999 sub-groups

Source: NI ABI data

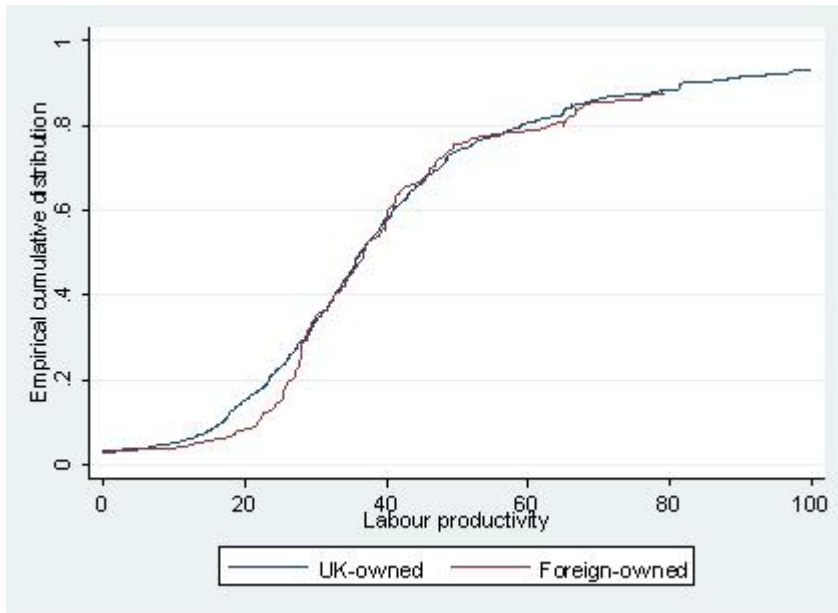
- plants that do survive generally do NOT grow in employment terms
- Thus little evidence of “competition effect” from new start-ups
- only some 1.3% (i.e. just over 100) new small plants starting-up in 1999 grew “into” the next or a higher size-band

Growth in market-sector labour productivity in NI, 1998-2006

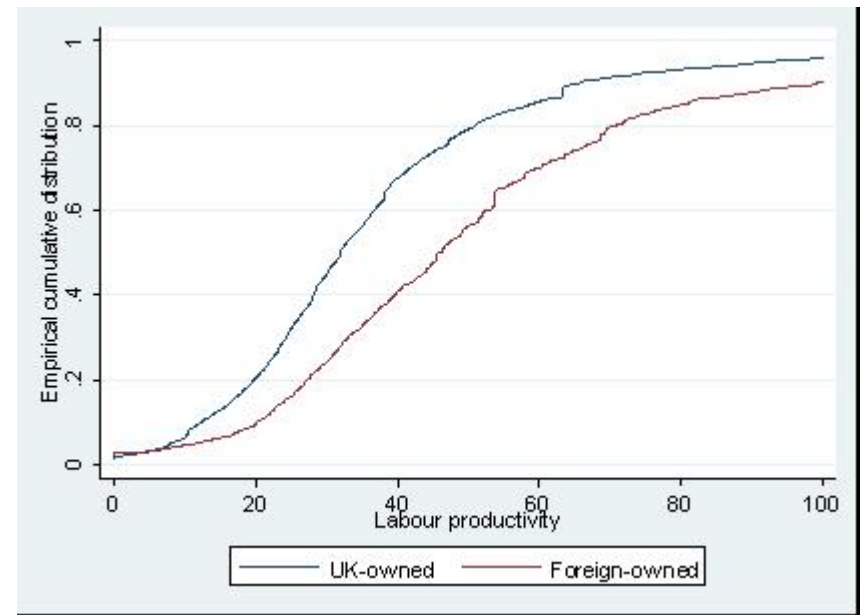


- overall 1.9% p.a. growth in productivity
- almost all due to indigenous plants (even though FO accounted for some 20% of GVA)
- ‘churning’ a major source of growth
- closure of FO plants lowered productivity growth as those plants closed had relatively higher productivity

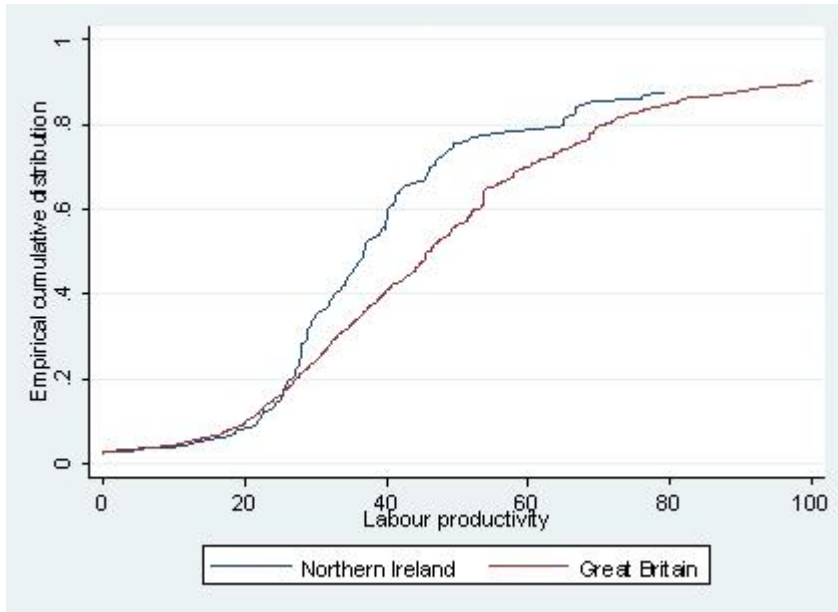
NI FO versus non-FO manufacturing



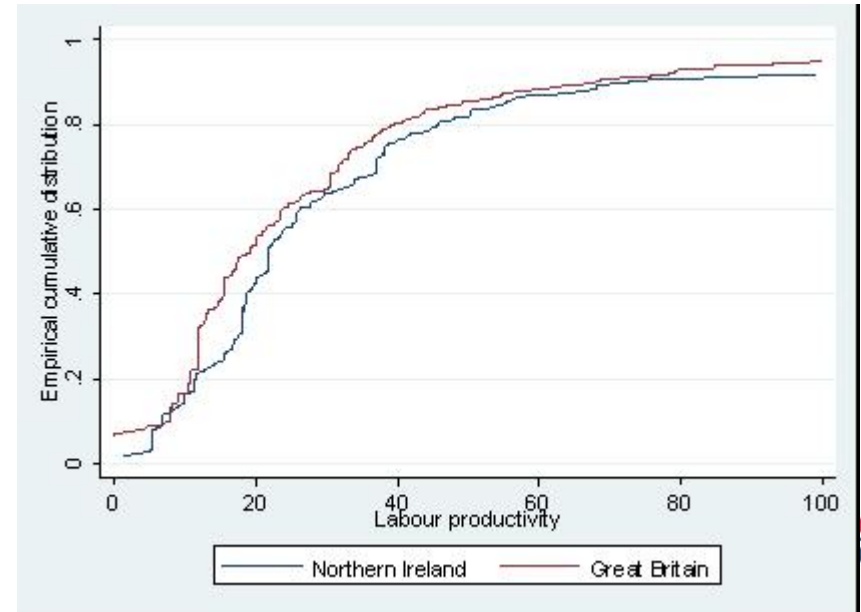
GB FO versus non-FO manufacturing



NI/GB foreign-owned manufacturing



NI/GB foreign-owned service sector



- unclear whether policies have been tailored to specifically helping firms
 - to increase their stock of knowledge-based assets
 - and absorptive capacity levels
- thus there is a need for a more detailed micro-level evidence-base on
 - what barriers firms face when attempting to enter export markets and/or innovate.
- Lastly, should government interventions in the market be aimed
 - directly at economic agents (such as firms or people)?
 - or on improving the infrastructure and environment in which agents interact?

- Two points seem relevant given the above discussion:

1. much transfer of knowledge is tacit

- it mostly occurs through firm-to-firm (i.e., market-based) linkages
- rather than as ‘spillovers’
 - i.e., through being located in a cluster or agglomeration of firms whereby close proximity to other firms produces benefits that ‘seep-out’ to all firms located near-by

2. even if spillovers are large, firms need to be able to internalise such knowledge

- that requires firm-specific intangible assets
- and adequate absorptive capacity
- so as to be able to benefit from external spillover effects.