

A report for the OFT:

Evaluation of the impact on productivity of abolition of RPM on books

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The Net Book Agreement

- circa 1900 - 1996 the Net Book Agreement (NBA) prevented retailers from selling a book below the publisher's chosen (net) price.
- 1962 Restrictive Practises Court (RPC) allowed the NBA to continue: 'books are different'.
- Formally abolished by the RPC in 1997. But by then it had effectively collapsed anyway partly due to:
 - Pressure from the EC - cross border considerations (UK & EIRE)
 - Entry of supermarkets - buyer power

RPM: possible theories of harm

- Commitment device to extract monopoly profits
 - O'Brien & Schaffer, 1992; Rey & Vergé, 2004a
- To facilitate upstream collusion
 - Jullien & Rey, 2007; Rey & Vergé, 2004b
- To limit retailer bargaining and thereby dampen upstream competition
 - Dobson & Waterson, 2007
- To facilitate downstream collusion
 - Martimort & Stole, 2003
- To prevent downstream entry
 - OFT/UEA, 2007

Research objectives

- 1) Use the abolition of the NBA as a case study to assess the impact of a competition policy intervention on productivity.
- 2) To develop a general methodology appropriate for assessing the impact of competition policy interventions.

Why is the NBA an ideal case study?

- Intervention occurred over 10 years ago
- International comparisons (e.g. German fixed price system) provide a possible counterfactual.
- Reasonable amount of data publicly available. (Short time-scale of project)

Productivity and competition

- OFT (2007): competition is likely to enhance productivity because of positive effects on efficiency and innovation.
- 2 main types of productivity measures:
 - **Labour productivity** - output per worker (per hour)
 - **Total factor productivity** - difference between changes in value of output and the weighted changes in labour and capital inputs
- Strong previous evidence that competition enhances productivity e.g. Nickell (1996) and Nicolletti and Scarpetta (2005) on deregulation.

3 key mechanisms

- OFT (2007) identifies 3 key mechanisms through which competition can impact on productivity:
 - 1) **WITHIN FIRM EFFECTS**: competition (or the threat of entry) creates pressure to use resources more efficiently and reduces X-inefficiency &/or encourages product innovation.
 - 2) **BETWEEN FIRM EFFECTS/MARKET SORTING**: competition reallocates market share, with the higher productivity firms gaining MS and/or new entrants replacing low productivity firms.
 - 3) **INNOVATION**: competition increases incentives for product & process innovation - dynamic efficiency.

A simple decomposition

- OFT asked us to devise a simple methodology for identifying within-firm from between-firm productivity
- We suggest a simple decomposition as follows

Aggregate Productivity

	Period 1		Period 2	
	Prodi1	MSi1	Prodi2	MSi2
Firm 1	100	1/2	110	1/4
Firm 2	110	1/2	120	3/4

Aggregate effect: calculates the change in productivity from periods 1 to 2. In the case of labour productivity, this is simply aggregate output/aggregate employment. Equivalent to the change in average firm productivity, using variable market share weights

$$\text{Period 1: } ((1/2)*(100)+(1/2)*(110))=105$$

$$\text{Period 2: } ((1/4)*(110)+(3/4)*(120))=117.5$$

Change in productivity=12.5 units

Two components

	Period 1		Period 2	
	Prod	MS	Prod	MS
Firm 1	100	1/2	110	1/4
Firm 2	110	1/2	120	3/4

Within firm effect: Change in productivity using **period 2** market shares:

$$\text{Period 1: } ((1/4)*(100)+(3/4)*(110))=107.5$$

$$\text{Period 2: } ((1/4)*(110)+(3/4)*(120))=117.5$$

Between firm effect: Change in productivity using **period 1** productivity levels:

$$\text{Period 1: } ((1/2)*(100)+(1/2)*(110))=105$$

$$\text{Period 2: } ((1/4)*(100)+(3/4)*(110))=107.5$$

Aggregate change: 10 (within) + 2.5 (between) = 12.5

Practicalities

- **Two possible counterfactuals:**
 - UK: Pre & post NBA
 - Post 1995: UK (free prices) & Germany (fixed prices)
 - But insufficient data preclude formal difference in differences methodology
- **Two possible measures of productivity:**
 - labour productivity - output per worker
 - TFP - data constraints & assumptions rule this out
- **Sample frame**
 - Our methodology requires firm-level data, but this is only incompletely available
 - Include all large firms and a sample of small, with the population size distribution employed to gross up to all small firms

Abolition of NBA: expectations on competition and productivity

- **Increased retail price competition, should:**
 - Facilitate low-price entry
 - Force the exit of inefficient (small independent?) retailers
 - Encourage within-firm efficiencyleading to **WITHIN & BETWEEN** retailer gains in productivity
- **Retail non-price competition:**
 - Reduction in service provision?
 - Minimal reduction in stockholdings
 - Specialist services e.g. back-list orders

Abolition of NBA: expectations on competition and productivity (cont)

- **Increased publisher competition because:**

- NBA previously potentially facilitated collusion
- Increased competition between retailers with high bargaining power may induce tougher competition between publishers

WITHIN & BETWEEN publisher productivity gains

- **Author competition:**

- Returns from book writing may fall due to retail competition - reduce number of titles produced?

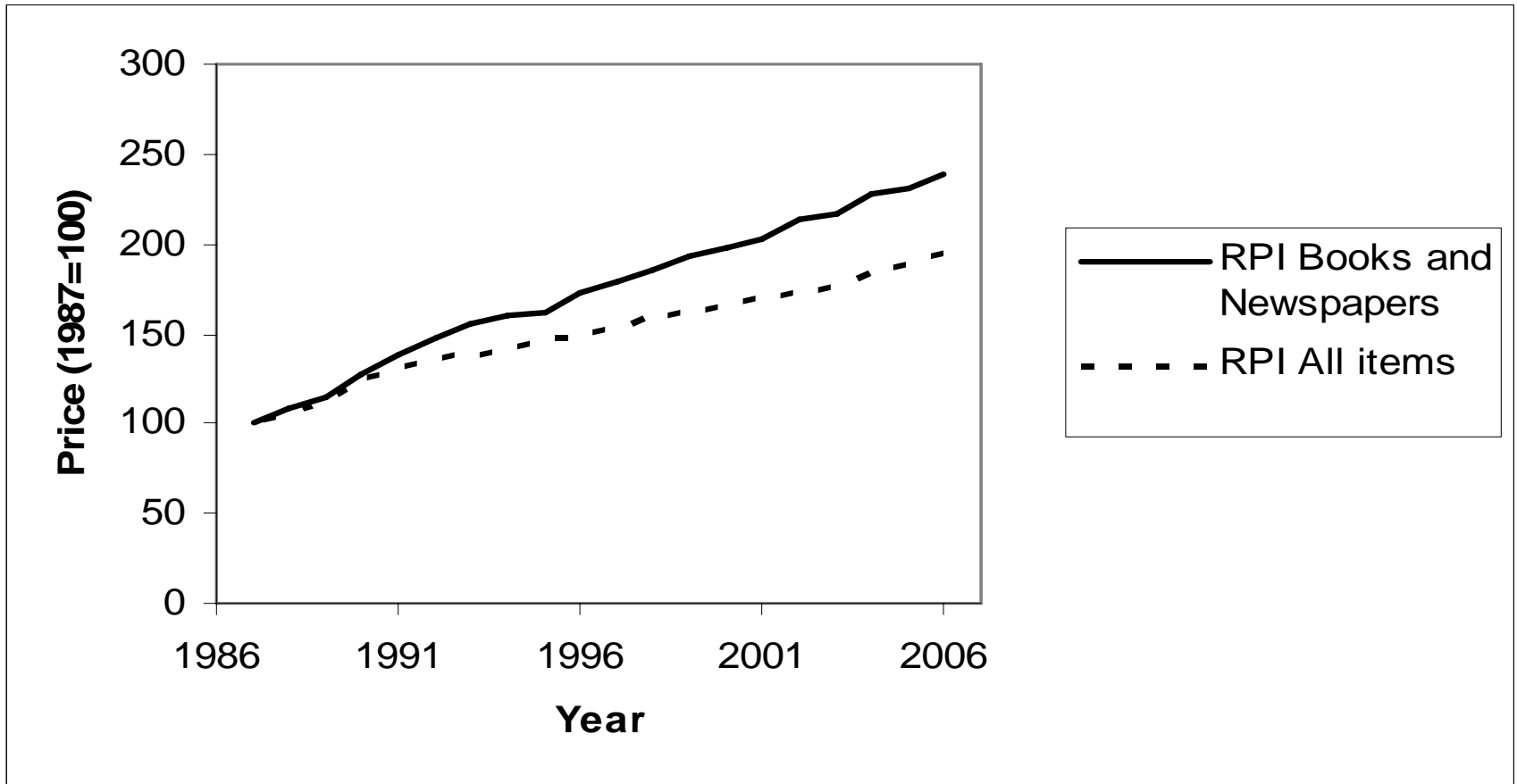
UK Book retail market shares

	2001	2002	2003	2004	2005
Waterstone's	16	16	16	16	14
Ottakar's	6	5	6	7	8
WH Smith, Borders & Blackwell	18	20	20	20	19 (13,6,2)
Supermarkets	4	4	5	6	8
Internet	5	7	8	9	12

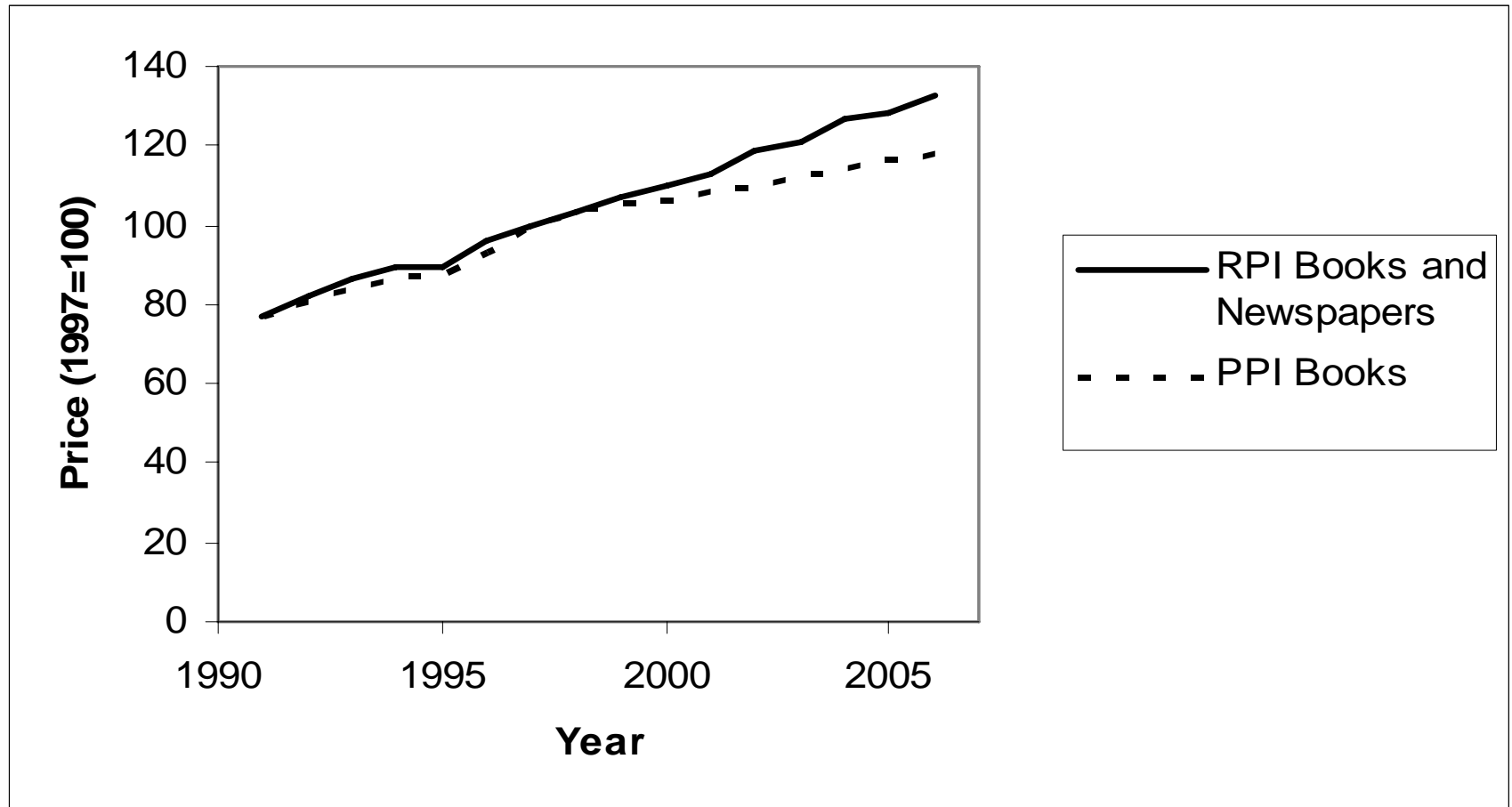
2001-2005 UK book prices: actual relative to RRP

Year	Best-sellers	Deep-range titles
2001	0.88	0.93
2002	0.84	0.93
2003	0.82	0.92
2004	0.80	0.90
2005	0.75	0.90

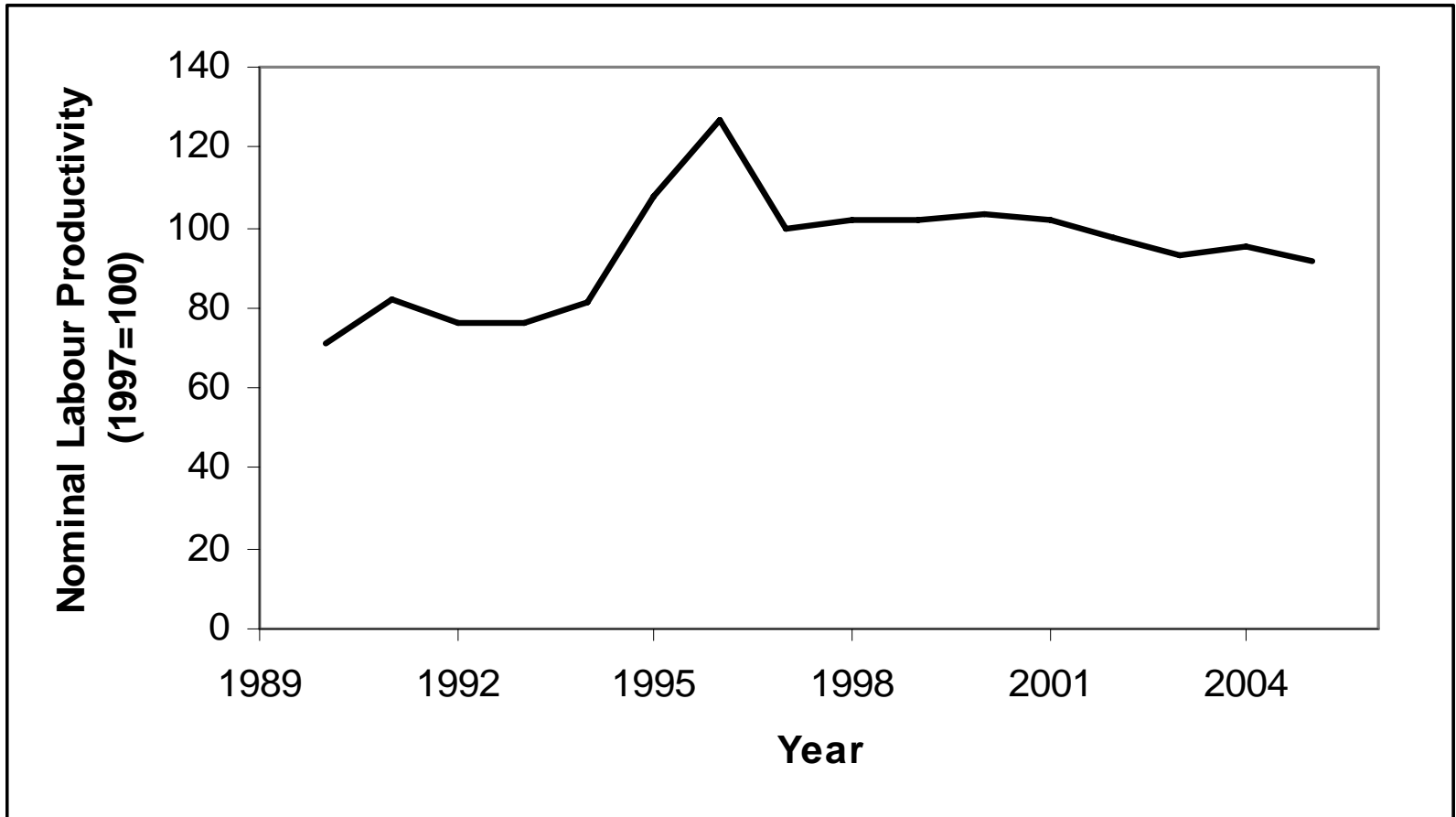
Retail prices



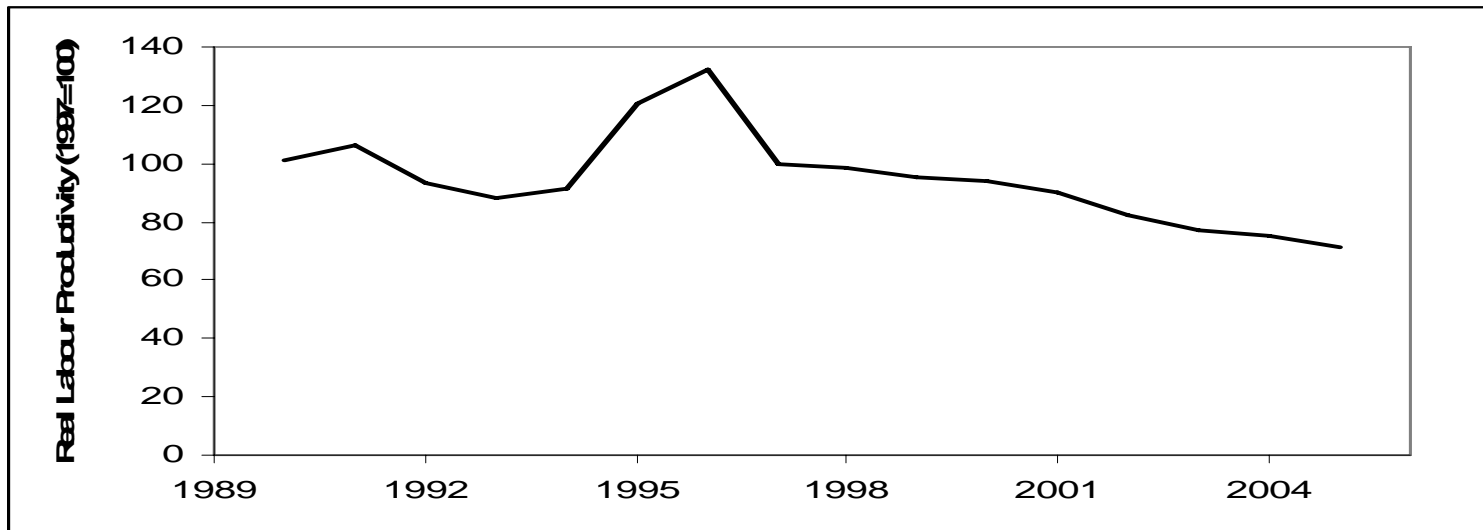
Retail versus producer prices



Nominal labour productivity: B&M retailers



Real labour productivity: B&M Book retailers



3 Distinct Phases

- **1990-93** Constant/declining productivity
- **1994-96** Upward surge in productivity – as a result of the breakdown of the NBA?
- **1997-05** Significant decline in productivity

Quote 1 (from 1997)

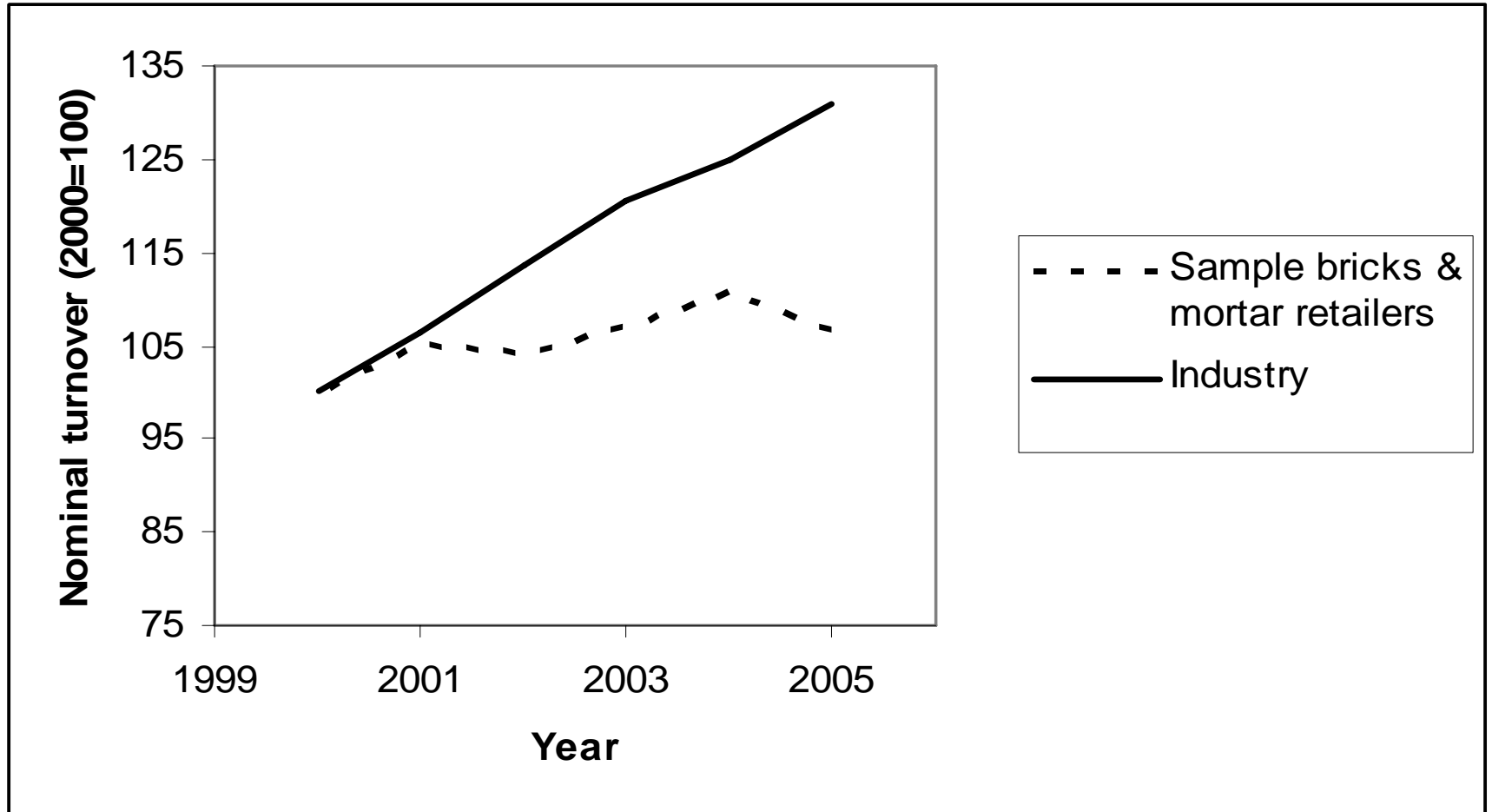
Reaction from booksellers to Borders entry into UK:

'(some booksellers) expressed fears that expansion of the US chains on the UK high street would be as 'reckless' as it had been in the US, and that a price war would break out.'

Firm level change in real labour productivity 1999-2005

Firm	% change 1999-2005
Borders	5.0
Blackwell	3.1
Same Day Books	1.8
David Flatman	-17.3
British Bookshops	-17.9
Waterstone's	-25.3
WH Smith	-29.7
Ottakar's	-34.8
Galloway & Porter	-46.4

Nominal turnover - sample B&M retailers v growth industry turnover



Quote II (from 2006)

In 2006 HMV (Waterstone's) described themselves as:

'caught in a 'pincer movement' between, on the one hand, the supermarkets offering a limited range but substantial discounts, both on best sellers and on an increasing number of deep-range titles, and, on the other hand, the Internet retailers offering a very extensive range.'

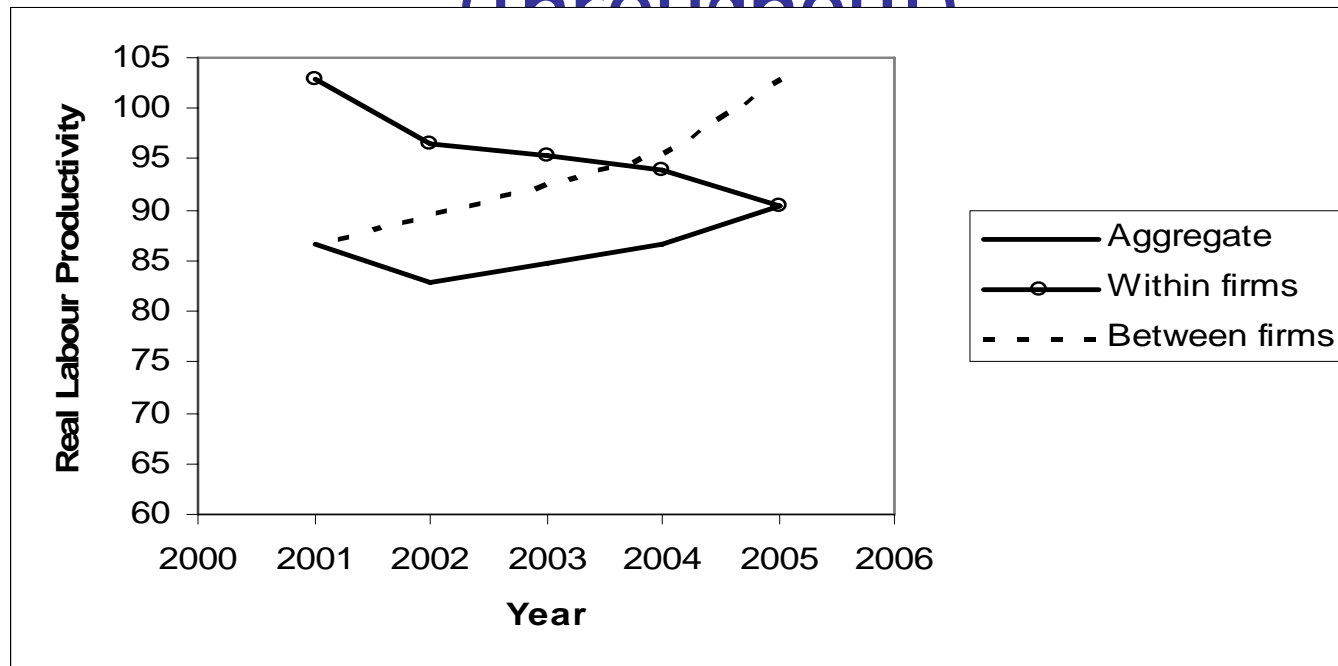
Supermarket productivity

- Amadeus data for supermarkets not disaggregated for books. But, for all products, their labour productivity was 50% higher than Waterstone's & Ottakar's
- We have data on their market shares (& thus turnover) from CC merger study, but number of employees devoted to selling books unknown
- But we do know their relative space productivity in selling books (i.e. sales per sqft):
£900 per sqft for supermarkets (£1,100 for all products)
Which is **3 times** typical level in Waterstone's & Ottakar's

Amazon's productivity

- Only aggregated data available from Amadeus + incomplete (due to business model?)
- Available information:
 - book sales of £297m in 2005 (9.6% market share)
 - In 2005 UK sites employed around 1000 people
 - This gives a productivity multiple over Waterstone's and Ottakar's of **3.77**.
- Taking account of non-book sales (60%?) and Agency sales (10%?), the productivity multiple rises from **3.77 to 5.66**

Assuming supermarkets' & Amazon's productivity = 3x Waterstone's in 2005 (throughout)

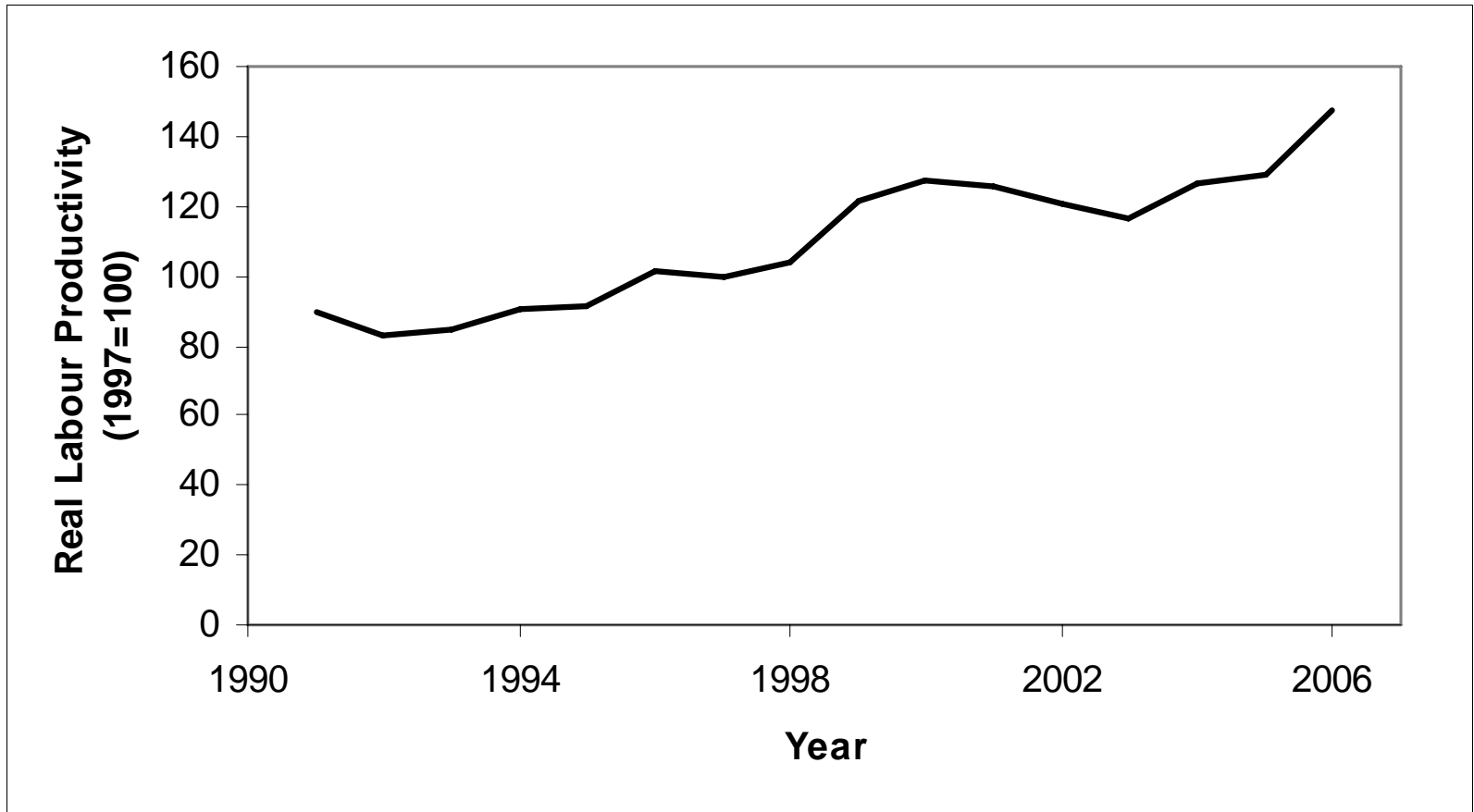


	Absolute change	% change
Aggregate	3.8	4.3
Within	-12.5	-12.1
Between	16.2	18.8

Alternative assumptions on the productivity multiple

Multiple	Aggregate (% change)	Within (% change)	Between (% change)
1	-16.3	-16.8	0.6
1.5	-10.5	-15.4	5.7
2	-5.2	-14.1	10.4
2.5	0	-13.0	14.9
3	4.3	-12.1	18.8
4	12.5	-10.7	26
5	19.7	-9.5	32.2

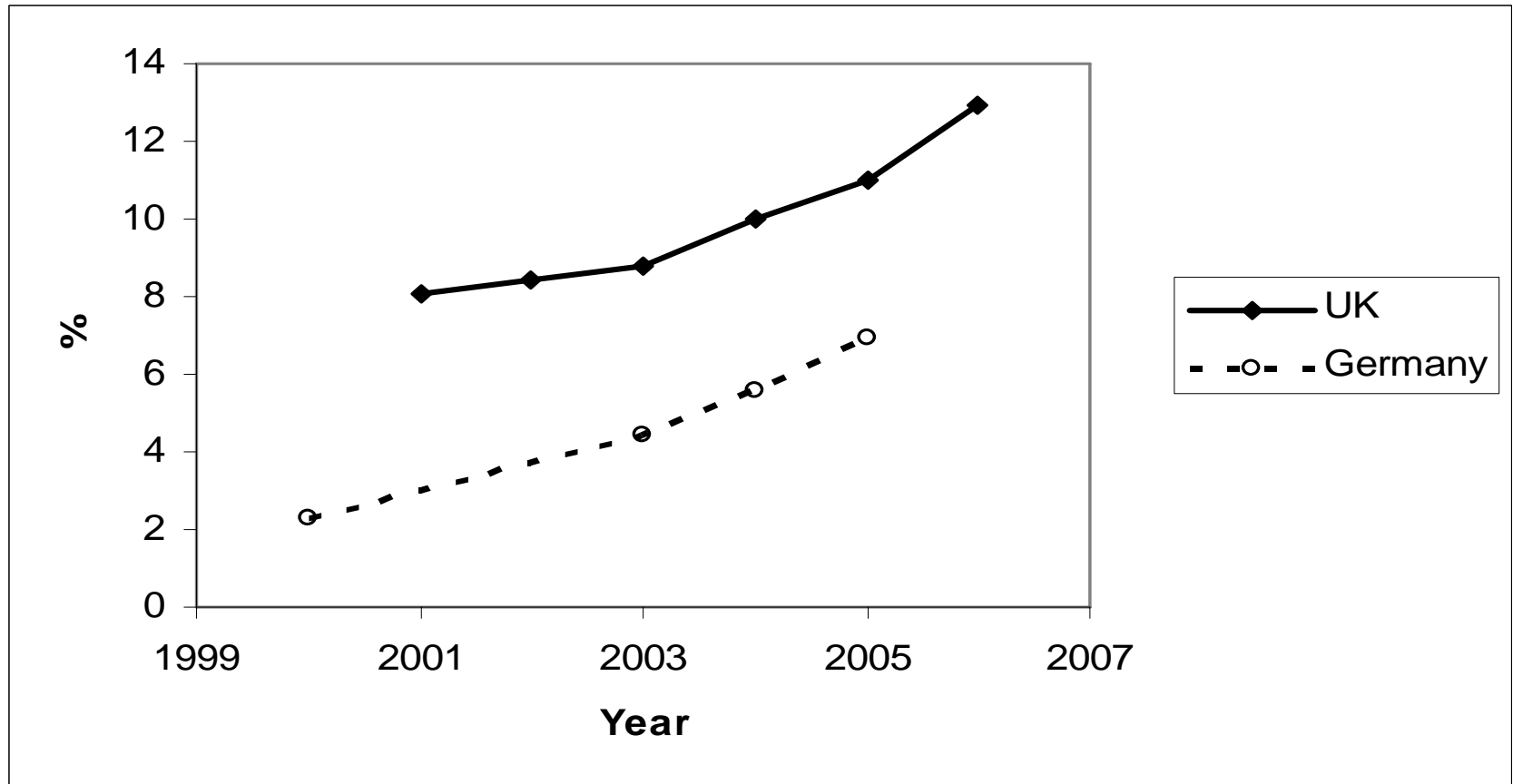
Publishers real labour productivity



UK publishers real labour productivity % change 1992-2005

	1992-95	1995-2005
Aggregate	26.3 (8.7 p.a.)	55.1 (5.5 p.a.)
Within	20.5	59.5
Between	4.8	-2.8
Large	-2.5	82.9
Small	49.9	42.1

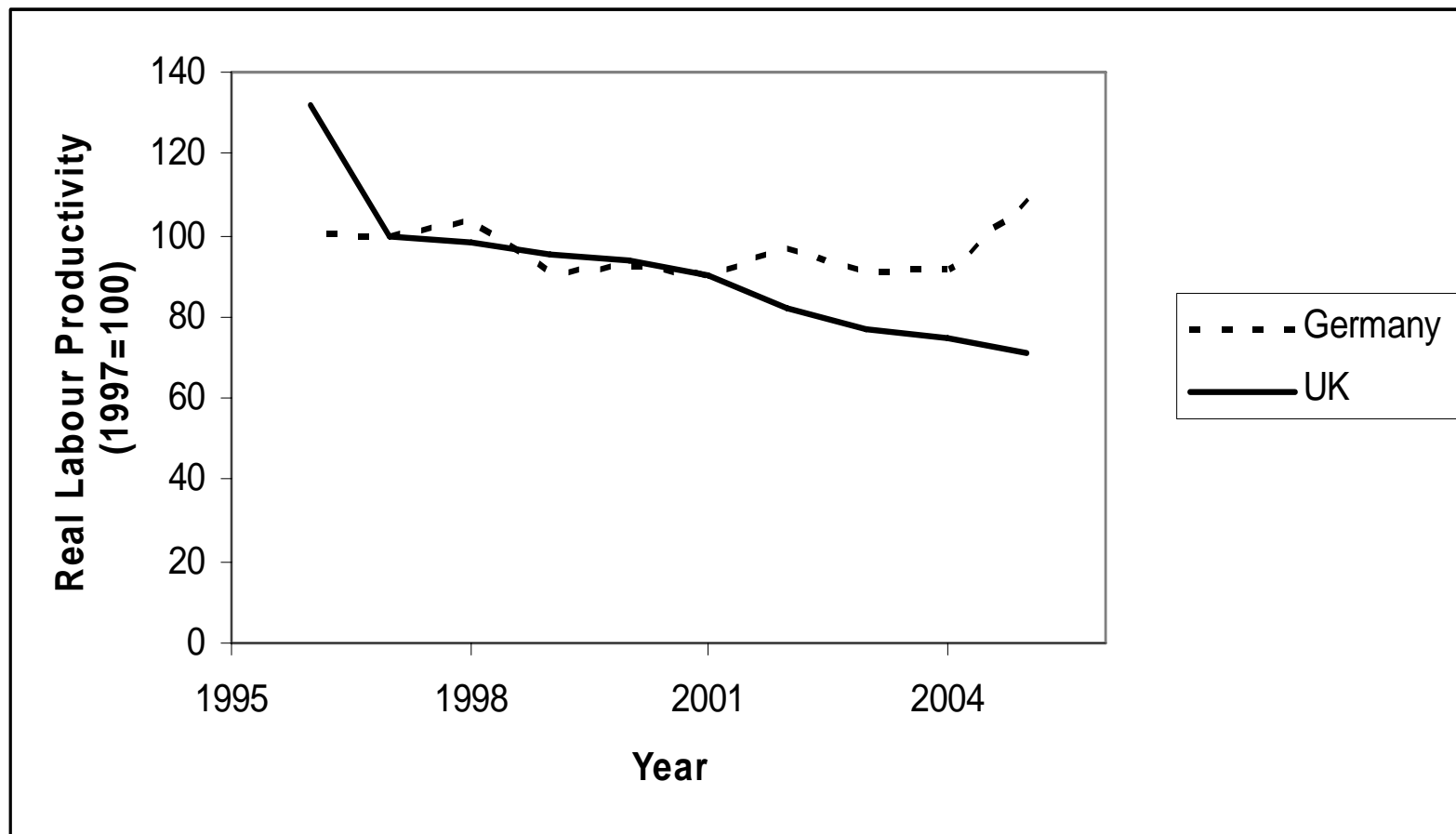
Online market share for book retailing - Germany & UK



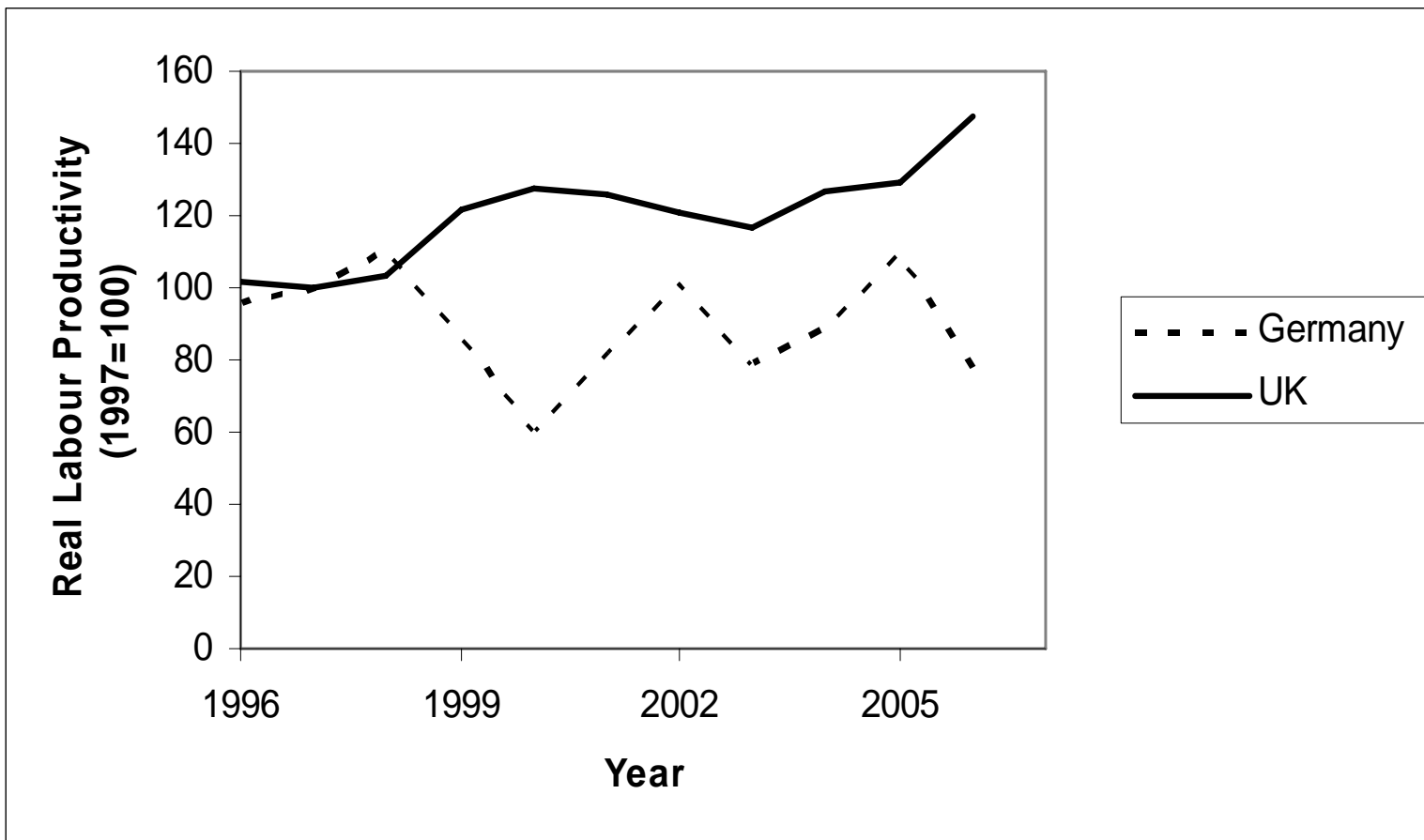
German retail market (shares)

	2003	2004	2005
High-street	56.5	55.8	54.8
Online	4.4	5.6	6.9
Discount stores e.g. Aldi, kiosks	8.8	9	8.8
Others	30.3	29.6	29.5

Real labour productivity: B&M retailers in Germany and UK



Real labour productivity: Publishers in Germany and UK



Conclusions

- **Retailing**

Entry: supermarkets & internet (+Borders):

- Facilitated by freedom to discount (suggested by comparisons with Germany)
- Increase in industry productivity (**BETWEEN** firm effect)
- Negative **WITHIN** firm effect for B&M incumbents:
 - Not observed in Germany
 - Not just affecting small independents
 - efficiency defence for Waterstone's/Ottakar's merger
- **Publishing**
- **WITHIN** firm productivity gains
- Post NBA slower productivity growth than pre.
- But favourable post NBA in comparison to Germany.

Future research - bestseller prices

- 2 datasets:
 - 2008 weekly top 50 bestsellers: RRP & average selling price
 - 2001-07 quarterly top 20 bestsellers: RRP, average selling price & price by retailer
- What role do RRPs play in competition?
- Evidence discounting increases with title popularity (Latcovich & Smith (2001)). **Explanations?**
 - Tacit collusion more difficult when demand high (Rotemberg & Saloner (1986))
 - Loss leaders