

## Local competition

### Introduction

1. This appendix sets out some further details and additional analysis of local competition issues.

### Geographic extent of local competition

2. The parties presented us with analysis on the impact of competitor store openings on Waterstone's and Ottakar's stores at varying distances. The parties calculated the revenue from like-for-like sales three months prior, and subsequent, to a competitor store opening, and compared the change in revenue between these two periods. In addition, Ottakar's also showed data for a longer period following the competitor store opening to see the longer-term impact.
3. HMV's analysis is reproduced in Table 1 and Ottakar's in Table 2. Both indicated that the effect of a Waterstone's or Ottakar's opening is most acute where stores are opened within 1 mile of an existing Waterstone's or Ottakar's store. However, a Borders store opening appears to have an impact over a wider geographic area. Moreover, the data have not been adjusted for other events that may have had an impact on revenue, such as other nearby store openings, general sales performance in the appropriate chain or any other relevant factors.
4. We undertook an 'event analysis' to explore the extent of local competition. This involved identifying an event—in this case a new store opening—and examining the impact on revenue in surrounding stores at varying distances from the new store.

5. A small number of stores were selected for this analysis. The store data was chosen on the basis of location, data availability and the timing of the event:
  - (a) The stores were in Waterstone's and Ottakar's overlap areas where either a Waterstone's (Huddersfield) or Ottakar's (Cheltenham, Coventry, Guildford) store opened. Locations were also chosen where there were sufficient competitors at varying distances to generate results.
  - (b) As data was only available for 2001 to 2005, we confined our analysis to store openings between September and November 2003 so as to ensure sufficient data prior, and subsequent, to this time frame to analyse the event properly. Furthermore, using only one time frame allowed a more direct comparison of results in different geographic locations as any industry-wide influences will be identical.
  - (c) The number of individual stores for which the data was collected needed to be kept to a manageable level.
  - (d) Restricting the time frame to four 12-week periods and one four-week period a year was intended to provide us with a useful data set at the earliest possible time. We were also told that the five-period-a-year data collation was a standard way of looking at the data within the book-retailing industry.
  
6. As pricing decisions are taken at the national level with no substantial variation at the local level, an analysis of the volume of sales was deemed appropriate. The impact on the volume of books sold for stores at varying distances from a new store opening are set out in Table 3.
  
7. The data showed that a store opening has a clear impact at the local level on the volume of sales, which continues for at least 12 months after the store opening, but with no obvious impact on stores at greater distances. We also noted that both Waterstone's and Ottakar's store openings had an impact on WH Smith stores sales

of books in the same location, showing that WH Smith was also a competitor to Waterstone's and Ottakar's at a local level.

8. We noted, however, that there were a number of limitations to the data:
  - (a) the data was volatile and seasonal, making it difficult to determine the exact impact of any store opening; and
  - (b) the aggregation of the data into four 12-week periods and one four-week period in each calendar year made intra-year comparisons problematic.

## **Range**

9. The parties told us that there was no evidence to support the view that the presence of an Ottakar's store led to a statistically significant uplift in Waterstone's range of titles, or vice versa.
10. They analysed the range of titles by estimating econometric models to explain what determined range for both Waterstone's and Ottakar's stores separately. The approach was to identify the overlap areas in each model by using a specific variable in the model, and then test if this variable was statistically significant. The model included variables that took account of the size of the store and the population of the area surrounding the store as a proxy for likely demand. The analysis also sought to take account of a number of problems with the data itself.<sup>1</sup>
11. The parties found that for both Waterstone's and Ottakar's stores, the variable identifying the overlap areas was statistically insignificant, and hence that the factors determining range were not different between the overlap and non-overlap areas. Their model also showed that the size of the store itself was the most significant

---

<sup>1</sup>Estimation of the models using Ordinary Least Squares techniques showed evidence of heteroscedasticity and non-normality in the estimated residuals of the model.

factor determining the range. We duplicated this analysis using an updated data set provided by the parties and concurred with both the approach and conclusion.

12. We also considered whether range varied in such a way that overlap stores stocked cheaper titles than non-overlap stores so that average revenue per book sold tended to be lower at overlap than non-overlap stores (holding other things constant). We found that whether a store was in an overlap or non-overlap area had no significant effect on average revenue per book sold, once we had allowed for the effect of store size on average revenue per book sold (larger stores tend to have higher average revenue per book sold, probably because they tend to have a higher proportion of sales from deep-range titles).

## **Quality of service**

### ***Book signings***

13. We did some econometric analysis to determine whether in-store author signings were more prevalent in overlap stores than in non-overlap stores. We estimated a model that attempted to explain the number of book signings by considering the size of the store and whether the store was in an overlap area. We also extended this model to include population size, a variable the parties considered important in determining the number of book signings.
14. The parties told us that book signings were unrepresentative and largely irrelevant as an indicator of the quality of service. They noted that fewer than 1 per cent of new books are subject to book signings and that such events were not highly valued by the average customer and are largely determined by publishers.

15. We used two techniques<sup>2</sup> to estimate the model, chosen to allow for some of the limitations of the data, to check the robustness of the results. We found that for Ottakar's stores, there was some evidence that Ottakar's scheduled more book signings in areas where the stores overlap with Waterstone's, but that there was no evidence that Waterstone's reacts to Ottakar's presence in the same way. These results appeared robust with respect to the different techniques used, and whether or not population size was included in the model. The parties questioned the robustness of our analysis, noting that different combinations and transformations of the data<sup>3</sup> yielded very different results.

### ***Number of staff***

16. The parties told us that there was no evidence to support the view that the presence of an Ottakar's store led to a statistically significant uplift in Waterstone's staff level, or that the converse was true.
17. The parties undertook a similar analysis to that of the range of titles (see paragraphs 9 to 11) to analyse the number of full-time-equivalent staff in overlap and non-overlap areas. An econometric model was estimated as before, including a variable to represent the overlap areas, using store size and population as variables to explain staff numbers. The parties found that for both Waterstone's and Ottakar's stores, the factors determining the number of full-time-equivalent staff were not different between the overlap and non-overlap areas. We replicated this analysis and agreed with the parties' conclusion.

---

<sup>2</sup>The models were estimated using a Poisson regression and a negative binomial regression to allow for the discrete nature of the dependent variable.

<sup>3</sup>Inclusion and exclusion of population data and transformation using logs.

## **Staff experience**

18. We found no statistical evidence that Waterstone's staff were more experienced in overlap areas than non-overlap areas. HMV provided us with data on the number of full-time equivalent staff for each Waterstone's store by their level of experience. Staff were ranked in one of seven categories of experience. Management staff were given either branch or assistant manager designation, with branch managers carrying more experience. Non-management staff were graded from Stage 5 (most experienced) to Stage 1 (least experienced).
  
19. To test whether staff experience was different in the overlap areas, we used an ANOVA approach,<sup>4</sup> which looked simultaneously at the different levels of staff experience for each Waterstone's store and tested to see whether these levels of experience were different in the overlap area from the non-overlap area. The ANOVA approach looked at how variable staff experience was, and then determined whether or not any difference in the number of staff at each level of experience was statistically different between the overlap and non-overlap areas.
  
20. The analysis made allowances for different store sizes by matching stores in the overlap area with stores of the same or similar size in the non-overlap area. This was done to eliminate any potential bias that may have resulted as the overlap stores are, on average, smaller than the non-overlap stores. The final results of our ANOVA analysis showed that there was no difference in the extent of staff experience between the overlap and non-overlap areas.
  
21. We were unable to obtain comparable data for Ottakar's stores, but Ottakar's provided us with data on their staff's average length of service. Ottakar's said it considered average length of service a good proxy for staff experience but it noted

---

<sup>4</sup>Two-factor Analysis of Variance (ANOVA) with replication.

that the length of time staff had been employed in any particular store was likely to be affected by factors such as whether the store was in a metropolitan centre, in which case staff turnover was likely to be higher. Ottakar's also said that if the average length of service in some stores was relatively low this did not necessarily mean that service levels were lower in those stores than in other stores. Ottakar's also pointed out that the amount of time staff had worked in Ottakar's did not directly reflect their knowledge of books, as a number of employees may have worked in other book environments. In any event, our analysis of the data suggested there was no significant difference between overlap and non-overlap stores in the length of service of Ottakar's staff.

### ***Store opening hours***

22. We were provided with store opening hours for both Waterstone's and Ottakar's stores in overlap locations, as well as any changes to Waterstone's store opening hours dating back to approximately 1997.
  
23. We analysed store opening hours by considering the changes to Waterstone's opening hours and whether these changes coincided with the opening of a new Ottakar's store. In total, there were only 14 changes to opening hours, only nine of which occurred within three years of an Ottakar's store opening. Of these nine occurrences, seven involved shorter opening hours, whilst in the two locations where opening hours were increased, one could also be explained by the opening of a Borders store within six months of the Ottakar's store opening (see Table 4).

### ***Refurbishments***

24. HMV provided us with data on general refits of Waterstone's stores during 2003/04 and 2004/05. The data is summarized in Table 5. Out of a total of 23 general refits, seven were in overlap areas and six in areas where Ottakar's opened a new store

during the period 2002 to 2004 (in both cases including two Waterstone's stores, which were refurbished in both Edinburgh and Guildford). Table 5 shows the proportion of overlap stores refitted, particularly those where the Ottakar's store had opened recently, was higher than the proportion of all stores refitted. HMV told us that the only refurbishments it carried out around the time of the Ottakar's store opening were those at the two Guildford stores (one of the others took place within 10 months of the opening of the Ottakar's store while the remaining refurbishments were carried out at least 16 months before or after the opening of the Ottakar's store). HMV said the refurbishments in Guildford were seen as necessary to maintain the presentational standards of the stores at the same level as the Waterstone's chain.

25. HMV also provided us with data on partial refits during 2004/05, also summarized in Table 5. These covered children's areas and/or counters (the average expenditure on these partial refits was about £[redacted] per store or £[redacted] per sq metre compared with £[redacted] per store or £[redacted] per sq metre for general refits). Looking at both general and partial refits during 2004/05, Table 5 shows a lower proportion of overlap stores, than of all stores, refitted.

TABLE 1 HMV's analysis of the impact of new store openings, July 2000 to December 2005

Opening store	Nearest Waterstone's		Size of new store (sq m)†	Size of Waterstone's (sq m)†	Date of entry	Turnover at Waterstone's store‡		
	Location	Distance (miles)*				Prior to entry (%)	Post-entry (%)	% point difference
<i>Ottakar's store openings</i>								
Cheltenham	Cheltenham	0.1	900	500	Oct 03	✕		
Guildford	Guildford High St	0.1	900	600	Oct 03			
Guildford	Guildford North St	0.1	900	700	Oct 03			
Norwich	Norwich	0.1	900	700	Nov 00			
Canterbury	Canterbury	0.2	700	600	Nov 04			
Coventry	Coventry	0.2	600	600	Sep 03			
Milton Keynes	Milton Keynes	0.2	1300	600	Jul 00			
Wimbledon	Wimbledon	1.0	100	500	Oct 05			
Teddington	Kingston Bentalls§	1.6	200	1,100	Sep 04			
Twickenham	Kingston Bentalls§	2.6	100	1,100	Sep 04			
Greenwich	Ludgate Circus	4.6	600	300	Jun 02			
Wilmslow	Macclesfield	6.4	200	300	Oct 01			
Ormskirk	Southport	7.4	200	600	Nov 02			
Market Harborough	Kettering	9.7	300	200	May 02			
Falkirk	Stirling Thistle	9.9	200	500	Sep 04			
Berkhamstead	Watford	10.0	300	700	Oct 04			
St Neots	Bedford	10.0	200	300	Sep 04			
Sunderland	Newcastle Grey St	10.0	300	800	Dec 00			
St Andrews	Dundee	11.0	200	600	Oct 04			
Lymington	Southampton Above Bar	12.0	200	800	Apr 01			
Hexham	Gateshead	21.9	100	700	Aug 02			
Northallerton	Middlesbrough	22.2	200	500	Nov 01			
Torquay	Exeter High St	22.4	700	600	Dec 04			
Boston	Kings Lynn	23.0	200	200	Sep 04			
Wells	Bath	23.3	300	1100	Feb 04			
Tenterden	Tunbridge Wells	23.6	200	500	Oct 02			
Abergavenny	Hereford	23.9	200	400	Apr 02			
Ayr	Glasgow Sauchiehall	35.7	400	2,600	Jul 02			
<i>Borders store openings</i>								
Birmingham¶	Birmingham High St	0.1	1,400	1,700	Sep 03			
Birmingham¶	Birmingham New Street	0.2	1,300	500	Sep 03			
Bristol¶	Bristol College Green	0.4	900	400	Mar 03			
Inverness	Inverness	1.7	1,200	600	Jul 03			
Swansea	Swansea	2.7	700	500	Mar 03			
Swindon	Swindon Brunel Plaza	2.7	1,200	200	May 03			
Brent Cross	Finchley	2.8	700	500	Feb 05			
Beckton	Ilford	3.3	1,000	600	Oct 03			
London Colney	Hatfield	4.2	1,000	2600	Feb 05			
Glasgow Fort	Glasgow Sauchiehall	4.5	1,000	600	Mar 05			
Glasgow Fort	Glasgow Argyle St	4.5	600	1,100	Mar 05			
Newcastle Silver Links	Emerson Chambers	5.4	600	800	Nov 04			
Newcastle Silver Links	Newcastle Grey St	5.4	1,000	700	Nov 04			
Leeds Birstall	Bradford Wool Exchange	5.6	900	1,000	Nov 04			
Liverpool	Liverpool Central	5.6	900	500	Feb 03			

Source: HMV and CC calculations.

\*Distance based on store postcodes.

†Store sizes are rounded to the nearest 100 sq metres.

‡Percentage change in three months' average revenue over same period in the previous year.

§Car park closure in Bentalls centre.

¶High street store.

TABLE 2 **Ottakar's analysis of the impact of new store openings, 2003 to 2005**

Opening store	Date of entry	Nearest Ottakar's		Turnover at Ottakar's store*								
		Location	Distance (miles)†	Prior to entry (%)	Post-entry (%)	% point difference						
<i>Waterstone's store opening</i>												
Darlington	Nov 05	Darlington‡	0.1	)	)							
Hemel Hempstead	Nov 05	Hemel Hempstead‡	0.1									
Huddersfield	Nov 03	Huddersfield	0.1									
Lincoln	Jun 05	Lincoln	0.1									
Bournemouth Castle Point	Dec 03	Poole	6.5									
Stafford	Nov 04	Stafford	0.0									
Stevenage	Nov 04	Stevenage	0.0									
<i>WH Smith stand-alone bookstore opening</i>												
Barnet	Sep 05	Barnet	0.0				)	)				
Brentwood	Nov 05	Brentwood	0.0									
<i>Borders store opening</i>												
Watford	Oct 05	Barnet§	8.2									
Fulham¶	Jun 04	Clapham#	5.5									
Coventry	Jun 05	Coventry	2.7									
Stockton-on-Tees	Nov 05	Darlington§	11.4									
Glasgow	Jul 05	East Kilbride	8.0									
Inverness	Jul 03	Inverness	1.6									
Leicester	Dec 03	Market Harborough	13.9									
Norwich	Oct 05	Norwich§	0.3									
St Albans	Mar 05	St Albans	3.4									

Source: Ottakar's and CC calculations.

\*Percentage change in three months' average revenue over same period in the previous year.

†Distance based on store postcodes.

‡Data only available for one month post-entry.

#Clapham store closed for refit in June 2003 such that year-on-year turnover growth for June 2004 likely to be overstated.

§Only one month data post-entry available in Darlington, whilst only two months' data post-entry available in Barnet and Norwich.

¶Borders Express store.

TABLE 3 Percentage change in volume of books sold (over previous year) following the opening of a new bookstore\*

	Distance (miles)§	Store size (sq m)¶	Percentage change in turnover†					Percentage change in cumulative turnover‡						
			2003	2004				2003	2004					
			Weeks 49-52	Weeks 1-12	Weeks 13-24	Weeks 25-36	Weeks 37-48	Weeks 49-52	Weeks 49-52	Weeks 1-12	Weeks 13-24	Weeks 25-36	Weeks 37-48	Weeks 49-52
<b>Waterstone's Huddersfield store opening (294 sq m)</b>														
<i>Huddersfield</i>														
Ottakar's	<1	300												
WH Smith	<1	100												
<i>Bradford</i>														
Waterstone's	10	600												
WH Smith	10	200												
<b>Cheltenham Ottakar's store opening (829 sq m)</b>														
<i>Cheltenham</i>														
Waterstone's	<1	500												
WH Smith	<1	300												
<i>Gloucester</i>														
Ottakar's	7.5	800												
WHSmith	7.5	200												
<i>Cirencester</i>														
Ottakar's	12	300												
WH Smith	12	100												
<b>Coventry Ottakar's store opening (549 sq m)</b>														
<i>Coventry</i>														
Waterstone's	<1	600												
WH Smith	<1	300												
<i>Nuneaton</i>														
Waterstone's	8	300												
WH Smith	8	100												
<i>Leamington Spa</i>														
Waterstone's	8	400												
WH Smith	8	200												
<b>Ottakar's Guildford store opening (791 sq m)</b>														
<i>Guildford</i>														
Waterstone's (High Street)	<1	600												
Waterstone's (North Street)	<1	700												
WH Smith	<1	400												
<i>Woking</i>														
Ottakar's (Wolsey Walk)	10	200												
Ottakar's (Peacock Center)	10	400												
<i>Camberley</i>														
Ottakar's	10	400												
WH Smith	10	100												
<i>Dorking</i>														
Waterstone's	10	200												
WH Smith	10	400												
<i>Farnham</i>														
Ottakar's	10	200												
WH Smith	10	1000												

Source: CC analysis of data from Nielsen BookScan, HMV, Ottakar's, WH Smith.

\*New bookstores all opened during weeks 37-48 of 2003.

†Per cent increase in volume of sales over the same period 12 months prior.

‡Per cent increase in cumulative volume of sales from weeks 49-52 of 2003 to period noted, over the same period 12 months prior.

§Distance from opening store.

¶Store sizes are rounded to the nearest 100 sq m. WH Smith store size adjusted to represent area dedicated to selling books, based on overall share of books in WH Smith retail revenue. Calculations by CC.

TABLE 4 Analysis of Waterstone's store opening hours

Store	Date at which:		Difference (months)	Change	Shorter opening hours?	Reason for increase in opening hours*
	Ottakar's store opened	Waterstone's hours changed				
Wimbledon	Oct 05	Nov 04	-11	Later opening	Yes	
Edinburgh (George Street)	Mar 02	Jun 01	-8	Earlier closing	Yes	
Aberdeen	Dec 97	Jun 97	-6	Earlier closing	Yes	
Dundee	Sep 05	Mar 05	-6	Earlier closing/ later opening	Yes	
Harrogate	Apr 03	Jan 03	-3	Sunday opening	No	Sunday trading started due to popularity
Basingstoke	Sep 04	Feb 05	5	Earlier closing	Yes	
Eastbourne	Apr 03	Jan 04	9	Later opening	Yes	
Inverness†	Jan 03	Jun 04	18	Earlier opening	No	Busier Sunday morning
Lancaster	Apr 03	Jan 05	22	Earlier closing	Yes	
Norwich	Mar 00	Jun 04	53	Later opening	Yes	
Milton Keynes	Jun 00	Oct 05	65	Earlier closing	Yes	
Kings Lynn	Aug 96	Nov 05	113	Earlier closing	Yes	
Folkestone	Oct 95	Jun 05	118	Sunday closing	Yes	
Tunbridge Wells	Oct 92	Jun 03	131	Earlier closing	Yes	

Source: CC analysis of data from HMV.

\*Reasons given by Waterstone's for change in opening hours.

†Borders also opened a store in Inverness in July 2003.

TABLE 5 Waterstone's refurbishments in 2003/04 and 2004/05

	Number of Waterstone's stores			
	All areas	In area with Ottakar's overlap	In area with Ottakar's recently opened overlap store*	
			A†	B‡
<i>Data for 2003/04 and 2004/05</i>				
Number of stores with general refits	23	7	6	3
Total number of stores‡	141	30	15	4
Percentage with general refit	16.3	23.3	40.0	75.0
<i>Data for 2004/05</i>				
Number of stores with general refits	6	1	1	0
Number of stores with partial refits§	20	0	0	0
Number of stores with any refit	26	1	1	0
Total number of stores¶	147	31	12	4
Percentage with any refit	17.7	3.2	7.1	0.0

Source: CC calculations based on data supplied by HMV.

\*Stores opened in period considered or previous 16 months (January 2002 in the case of the data for 2003/04 and 2004/05 and January 2003 in the case of the data for 2004/05). If only stores opened in the period are included, the data for 2003/04 and 2004/05 show 4 refits out of 12 stores (33 per cent) on base A and 3 refits out of 4 stores (75 per cent) on base B and the data for 2004/05 show no refits out of 2 stores on base A and out of 1 store on base B.

†A includes stores acquired from James Thin or Hammicks. B excludes these stores.

‡UK stores open at the beginning of 2003 (excluding any stores on a university campus).

§Excludes one store which is also recorded under general refits.

¶UK stores open at the beginning of 2004 (excluding any stores on a university campus).