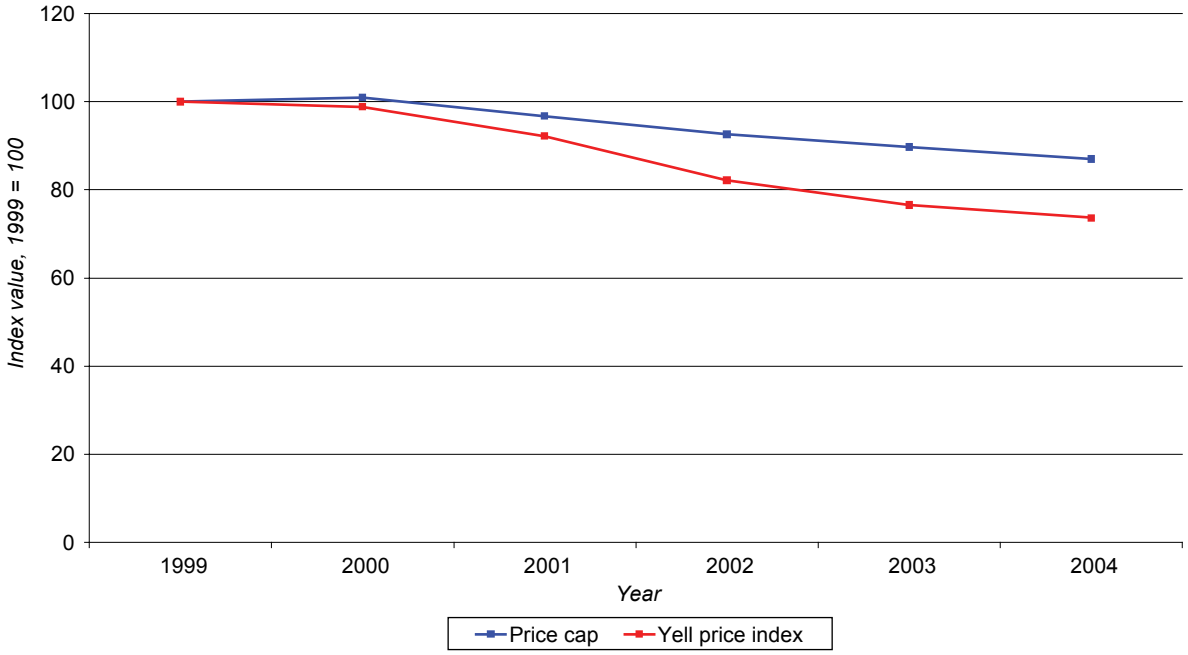
Yell price index

1. We calculated a price index using the 'time series' data set received from Yell.[1] The index shows the average price change that a *Yellow Pages* advertiser would have faced if the same bundle of products had been bought in two consecutive years. The methodology used to calculate the index is explained in the annex to this appendix.

FIGURE 1*

Yell price index (all items)†



Source: Yell time series data set, CC calculations.
*Yell has a financial year publishing cycle for *Yellow Pages*, ending 31 March. In Figure 1, 1999 refers to data for the 1999/00 publishing cycle, and so on for subsequent years.
†Index calculation based on all items in the data set.

TABLE 1 **Price cap and *Yellow Pages* price index data**

	1999/00	*2000/01*	*2001/02*	*2002/03*	*2003/04*	*2004/05*
Price cap	100	101.0	96.8	92.6	89.7	87.0
Yellow Pages price index	100	98.8	92.2	82.2	76.5	73.7

Source: Yell time series data set, CC calculations.

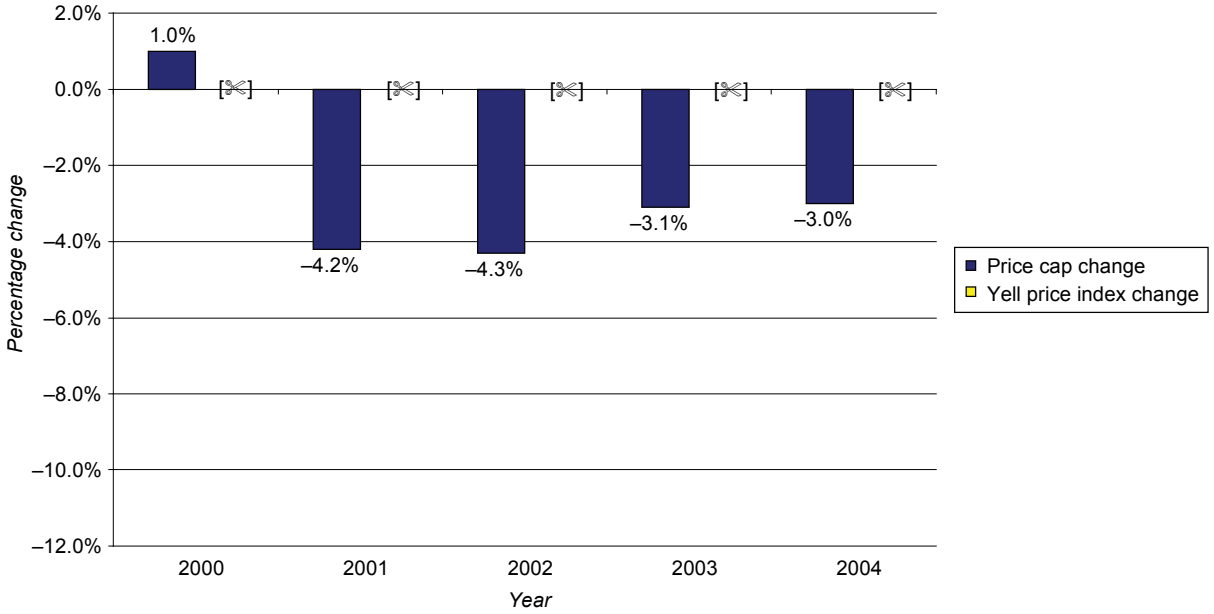
[1]The time series data set is a combination of 'CC Table 4 New Mart' and 'CC Table 4 Old Mart–2' containing data on the top 500 Yell classifications, and 'CC Table 4 Insur' and 'CC Table 4 Old Mart Insur' containing data on insurance classifications. The top 500 classifications were defined with reference to the 2004/05 publishing cycle. Due to a change in classifications, selecting the top 500 classifications (in 2004/05) meant that insurance data was not present for the earlier years of the sample; data on selected insurance categories were subsequently added.

2. As Figure 1 shows, *Yellow Pages* realized prices[2] have fallen faster than the price cap. *Yellow Pages* prices are determined by a combination of a rate card price and a discount from that price. The fact that *Yellow Pages* prices have fallen faster than the price cap is due to the discount schemes Yell has offered since *Yellow Pages* rate card prices have fallen at the rate implied by the price cap.

3. Figure 2 shows the percentage change in the price cap and Yell price index as compared with the previous year. These are the figures used to generate Figure 1. *Yellow Pages* realized prices have fallen by more than the minimum rate implied by the price cap in every year.

FIGURE 2

Average percentage change in prices



Source: Yell time series data set, CC calculations.

4. We generated a price index for colour advertisements only; this is shown in Table 2.

TABLE 2 **Price cap, *Yellow Pages* price index (all products), *Yellow Pages* price index (colour products only)**

	1999/00	*2000/01*	*2001/02*	*2002/03*	*2003/04*	*2004/05*
Price cap	100.0	101.0	96.8	92.6	89.7	87.0
Yellow Pages price index (all products)	100.0	[✂]				
Yellow pages price index* (colour items only)	100.0					

Source: Yell time series data set, CC calculations.

*Only prices and price changes relating to colour advertisements are used in this index, which is produced by a colour-only weighting of products (see the annex for an explanation of weighting).

5. Table 2 shows that the colour index differs only slightly from the index for all items. This is probably due to the fact that *Yellow Pages* colour advertisement prices are determined by the monochrome rate and a colour premium. Since the colour

[2]The *Yellow Pages* 'prices' used are the average revenue per advertisement for particular advertisement types.

premium is set as a percentage of the monochrome rate the price changes of colour products have been similar to those of monochrome products.

6. The annex presents the methodology used to calculate the price index together with an additional table relating to the index calculation.

Methodology

1. The price indices presented are calculated using the average percentage price change for each year. The percentage price change is calculated as the ratio of the weighted average price change to the weighted average initial price.

2. The 'prices' that are used are average revenues per advertisement type. An advertisement type is defined for the purposes of this analysis by reference to the size and colour of an advertisement and the directory that an advertisement is placed in. Letting i refer to advertisement types, t to time periods, r to net revenue per advertisement type, and n to number of advertisements per advertisement type, average net revenue per advertisement is given by:

$$p_{it} = \frac{r_{it}}{n_{it}}$$

3. Price changes are only calculated for advertisement types that are present in both periods. In the price indices, advertisements in a newly re-scoped book are treated as new products and hence no price change is calculated between comparable old (pre-re-scope) and new (post-re-scope) products.

4. The CC price change is derived using the following formula:

$$Change\% = \frac{\sum (p_{it} - p_{it-1}) \times w_{it-1}}{\sum p_{it-1} \times w_{it-1}}$$

5. The weighted average price change over two consecutive periods divided by the weighted average price in the first period gives the average percentage price change.

6. The weights that are used in the indices presented in the main section of this paper are based on the number of advertisements present in that type. So the weight given to the price (and price change) of an individual advertisement type is given by:

$$w_{it} = \frac{n_{it}}{\sum n_{it}}$$

TABLE 1 **Index calculation**

	1999/00	*2000/01*	*2001/02*	*2002/03*	*2003/04*	*2004/05*
Number of advertisements						
Total net revenue (£ million)						
Number weighted average price (£)						
Number weighted average price change (£)						
Percentage price change (number weights)						

Source: Yell time series data set, CC calculations.