

The Joint OFT/ CC Commentary
on Retail Mergers: FAQ

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The Joint OFT/CC Commentary on Retail Mergers: FAQs

10 FAQs on Retail Mergers

- 1 Is this a separate regime for retail mergers alone? [p.7](#)
 - 2 If retailers have national pricing, does that make localised merger assessment irrelevant? [p.9](#)
 - 3 How are diversion ratios estimated? [p.11](#)
 - 4 What is the relevant price-cost margin? [p.14](#)
 - 5 Are demand curves isoelastic or linear? [p.17](#)
 - 6 (How) are merger efficiencies taken into account? [p.19](#)
 - 7 How do UPP and IPR approaches compare? [p.21](#)
 - 8 Does the JP's IPR approach result in greater intervention than concentration-based approaches? [p.23](#)
 - 9 Do IPRs provide reliable predications about unilateral effects? [p.25](#)
 - 10 Is the IPR indicator best suited to phase I or phase II merger inquiries? [p.27](#)
- Conclusions [p.29](#)

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¹ 'Commentary on Retail Mergers', March 2011, available at http://www.offt.gov.uk/shared_offt/mergers/offt1305-ccV1a.pdf

² This is often referred to as a *fascia test* to emphasise the fact that the OFT is concerned with the number of competing retailers, and not the number of stores that they operate.

³ 'Merger Assessment Guidelines', September 2010, available at http://www.competition-commission.org.uk/about_us/our_organisation/workstreams/analysis/pdf/100916_merger_assessment_guidelines.pdf

In March 2011, the UK Competition Commission (CC) and the Office of Fair Trading (OFT) published a joint paper ('the JP') commenting on their approach to the assessment of retail mergers.¹ The stated objective of the JP is to give retailers and their advisers some information on the methodology that has been applied to assess the unilateral effects of mergers in past cases, and that is likely to be implemented in future retail merger inquiries.

The approach outlined in the JP is based on a two-stage process that the OFT has adopted routinely in retail mergers:

- First, a 'filter' is applied based on the number of rival retailers who compete in the catchment area of the merging firms. The OFT dismisses any concerns if the post-merger firm faces three or more rival retailers.² Hence, the potential for concern starts to arise only when the merger reduces the number of local players from '4 to 3' or fewer.
- Second, for store overlaps not sifted out by the first stage filter the OFT computes an 'illustrative price rise' ('IPR') that purports to quantify the impact that retail mergers could have on prices. The OFT has adopted an operational rule in which IPRs in excess of 5% must be remedied by a suitable structural remedy (e.g. a store divestment) if the parties are to avoid a second phase investigation by the CC. The CC has also used the 5% IPR to indicate a *prima facie* SLC concern. This IPR approach is itself closely related to other methods that have been used to measure upward pricing pressure ('UPP') of mergers in differentiated product industries, as described in both the UK and US horizontal merger guidelines.³ These approaches share the common elements that they rely only

on the diversion ratios between the merging parties and estimates of profit margins to derive an initial indicator of the likely unilateral effects.

Drawing on our experience as advisers to the parties on a number of the key cases cited in the JP, this paper provides our perspective on the suggested approach. Our assessment identifies and addresses what we see as the 10 'FAQs' that should be asked about the CC/OFT approach in retail mergers.⁴

4

RBB has advised one or both of the merging parties in the following cases: Safeway/Walmart/Sainsbury/Morrisons (2003), Somerfield/Morrisons (2005), Vue/A3 (2006), HMV/Ottakar's (2006), NBTY/Julian Graves (2009), Alliance Boots/Unichem (2009), Alliance Boots/Dolland & Aitchison (2009), Asda/Netto (2010), Zipcar/Streetcar (2010) and Focus DIY (2011).

1

Is this a separate regime for retail mergers alone?

By publishing a JP on retail mergers, the CC and the OFT imply that the assessment of this category of mergers is set apart from that of other horizontal mergers. In other words, the JP's message seems to be that the assessment of unilateral effects of mergers involving grocery stores, opticians, pubs, betting shops, etc. share some specific distinguishing features that are not observed in non-retail sectors of the economy.

The JP cites three distinguishing features of retail sector mergers. First, that there have been a comparatively large number of such cases. Second, that retailers compete across geographical space and the differentiation between them is determined largely (though not exclusively) by the location of stores and individual consumers. Third, that retail mergers tend to create a large number of separate local overlaps such that each requires its own assessment. This particular feature makes it attractive for the authorities to adopt a filtering approach that seeks as far as possible to automate the competitive assessment.

However, these factors are insufficient to justify a sector-specific approach to merger analysis. The need to evaluate differentiation between merging firms is common across the great majority of merger cases, and assessing mergers according to measures of closeness of competition such as diversion ratios is by no means confined to cases in the retail sector.

Indeed, the JP's case discussion includes the recent Zipcar/Streetcar merger case, which involved a merger between two car club operators, an industry that does not meet the JP's description of what makes retail mergers distinctive. The approach to merger analysis in the retail sector should read directly across to mergers in other industries that share the common phenomenon of having differentiated product offerings.

It is notable that the OFT has shown a willingness to apply the diversion ratios and UPP analysis that is suggested in the JP for retail mergers in a variety of non-retail industries.⁵

5

See, for example, the Premier Foods/Princes merger case, 22 June 2011, relating to packaged foods, a case in which RBB advised the merging parties.

Hence, whilst the retail sector has become the testing ground for the UK authorities' IPR analysis, the case for adopting this tool for unilateral effects must stand or fall on its intrinsic merits. If it is a useful tool for the retail sector, its application should also carry across to the unilateral effects analysis of mergers in all differentiated product industries. But if the JP's approach fails to address the key questions, any criticisms also cast doubts on the wider applicability of this model to other sectors.

2

If retailers have national pricing, does that make localised merger assessment irrelevant?

Many UK retailers choose to operate a single pricing policy in which they charge the same prices across all stores nationwide. Such retailers would not be expected to exploit local market power even if that was created by a merger that eliminated competition in a specific geographic area, unless the commercial rationale for that choice is changed by the merger itself.⁶ This calls into question whether it is appropriate to apply the inherently localised competition assessment that is proposed in the JP. However, the JP sidesteps this objection in two ways.

First, it argues that a retailer's decision to implement a single national pricing structure represents a commercial judgment of what works best for the retailer across the sum of all local areas, so logically a reduction in competition in one or more areas could cause the optimal national price to change (or the prior commitment to a common nationwide price structure to be abandoned). This is a valid point in principle, but unless a merger relaxes competition in a wide range of individual locations it is unlikely to be a material factor. As far as we are aware, although this possibility has been considered the UK authorities have not yet found a case in which the sum of the local effects of a retail merger would have a significant impact on nationwide pricing.⁷

Second, the JP asserts that a single national pricing structure does not prevent the retailer from offering different levels of service quality in different locations. It expresses the concern that an SLC could manifest itself in a non-price attribute such as through a deterioration in service quality, opening hours, etc in an overlap area. In principle, it is possible to measure service quality at a local level and to test whether quality depends on local concentration. But there are many possible dimensions of non-price attributes of competition, and they tend not to be as simple to measure as price.⁸ In the HMV/Ottakar's merger case, for example, the OFT and CC tested a succession of possible non-price attributes

6

The JP notes that centrally set prices can still entail a local element of pricing, for example generated by price tiers for different stores. In such circumstances, the fact that prices are set by head office does not preclude the possibility that an SLC could be confined to individual areas. Factors that could lead to truly singular nationwide pricing policies might include administrative convenience or situations in which the commercial attraction of providing a common brand promise to consumers (e.g. in the context of national advertising) outweighed any perceived gains from charging higher prices in areas where competition was less intense.

7

The question has been raised in HMV/Ottakar's and Sports Direct/JJB.

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During the Groceries market inquiry, the UK CC commissioned GfK to undertake local case studies in order to determine whether different aspects of QRS vary with local concentration. See at http://www.competition-commission.org.uk/inquiries/ref2006/grocery/pdf/gfk_local_case_studies.pdf

that could vary locally including the range of books offered, the number of staff in the store, the experience of the staff, opening hours, the time since last refurbishment and the number of author book-signings. Having drawn a blank on the first four of these, the CC concluded that the latter two attributes did vary with local competition.

At paragraph 3.16, the JP notes that the competition authority 'may fail to find evidence of local effects even if they are present, for example because of limitations to the data'. Whilst this might appear an innocent enough statement, merging firms who are faced with the task of proving the absence of an un-measurable local effect tend to find themselves trapped in this simple truism. In effect, it allows the UK authorities to presume a localised SLC even if it cannot be tested. As it is impossible to disprove an effect that cannot be measured, this gives the UK authorities unlimited scope to use IPR analysis as a proxy for non-price effects at a local level even when merging firms are committed to common national prices.

Hence, even if the authorities fail to find a non-price attribute that varies with local concentration merging firms cannot avoid the need for IPR analysis. This applies with particular force when dealing with the OFT's first phase merger review, since the OFT's duty to refer a transaction to the CC if it cannot satisfy itself that there is no realistic prospect of an SLC provides wide scope for it to take a highly conservative approach.

3

How are diversion ratios estimated?

The diversion ratio between the merging stores forms a key element in any attempt to assess the unilateral effects of a retail merger. A high diversion ratio indicates that the parties are close competitors, which in turn suggests that the elimination of this competitive constraint is likely (all else equal) to enable the merged firm to increase price. There are different ways to estimate diversion ratios, but the method of choice in UK retail mergers is to survey a sample of shoppers at the retail outlets in question. A random sample of shoppers is asked a direct hypothetical question: 'where would you have done today's shopping had this store not been available?'

In practice, there is no perfect survey, and the approach adopted by the UK authorities faces four main challenges.

First, there is the problem of sample representativeness. To draw reliable information from a survey it is necessary to ensure that the sample is not biased, that is, it corresponds well to the relevant population of customers at the store. In practice, to limit administrative costs the market research company employed by the OFT or CC conducts the survey once (sometimes twice), on a particular day and at a particular time. As a result, the survey may fail to include some parts of the customer population who do not shop at this time of the day or on that particular day. For example, if the survey is conducted late in the morning on a week-day, the chances are that families with full-time working parents will be under-represented. It is difficult to alleviate this issue completely without repeating the survey several times at the same store; a procedure which would add significant costs.

Second, even for well constructed samples there are inherent problems of reliability. By their nature, diversion ratios estimated from customer survey responses are not exact. If two surveys based on separate random samples were conducted at the same store, the diversion ratio from each survey would be different, possibly very different. Because it is highly unlikely that the diversion ratio that comes out of the survey will match the 'true'

diversion ratio had all shoppers been answering the questionnaire, it is not good practice to rely on the exact figure drawn from a survey, but instead to provide a range of possible values.

For example, if the survey at a store samples responses from 38 shoppers, and the result reveals a diversion ratio between the merging parties of 23.5%, the 95% confidence interval ranges from 10 to 37%.⁹ In other words, 95 times out of 100 the 'true' diversion ratio would fall between these two values.¹⁰ One way to reduce the range of the confidence interval, and thus to supply a more precise diversion ratio estimate, is to sample more shoppers. Taking the previous example as a basis, if 98 shoppers instead of 38 were surveyed the confidence interval would range approximately from 15 to 32%.

In general, to significantly reduce the confidence interval would require a substantial jump in the sample size. If 1000 shoppers had responded to the survey at that particular store, the 95% confidence interval would be 21 to 26%. It is clearly desirable to use a larger sample to narrow this level of uncertainty, but since the survey needs to be repeated for all overlap stores, there is a high risk that any such extension would make the entire exercise prohibitively costly.

Third, there are problems associated with the distinction between marginal and infra-marginal consumers. The preferences of shoppers who would continue to use the store in question even if a price rise occurred (the 'infra-marginal' group) play no role in relaxing the constraints on the merging firms. It is only the marginal consumers, i.e. those who would actually switch stores in the event of a price rise, whose views matter. Yet the simple survey question posed by the UK authorities makes no distinction between these two groups. A slightly more complex survey approach would have to ask first whether the respondents would switch stores in the event of a small price rise, and then – if so – where they would switch their business.

It is unclear how this approach would affect the estimated diversion ratios, but there can be no assurance that the behaviour of marginal customers is similar to that of all shoppers of the store. Marginal customers are more price sensitive, which might be due to the fact that they are less affluent, and that could well mean they have very different alternative store preferences from the average customer.¹¹ The UK authorities are well aware of this weakness, but a survey that focused on 'marginal' customers would have to be significantly expanded to provide reliable information, which would translate into significant additional costs. Assuming that 10% of all customers would stop buying from the surveyed store if the price were to increase by 5%, about 1000 random customers would have to be

9

The confidence interval is based on approximating the binomial distribution with a normal distribution, which usually holds when the sample size is sufficiently large and/or the diversion ratio is sufficiently close to one-half. As a rule of thumb when the product of the sample size and the diversion ratio is at least five, the normal distribution can be used to approximate the binomial distribution.

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Alternatively, it is possible to perform a test statistic to determine whether the DR is actually greater than 14.3%. This is what the CC did in the Somerfield/Morrison merger case.

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In Sports Direct/JJB Sports (2010), the CC surveyed customers and actually compared the response of the average customers (all customers responded to what they would do in case the shop was unavailable) with those of marginal customers (identified as those who responded that they would switch to another retailer or stop purchasing in response to a 5% price increase). In this case, the diversion ratio between Sports Direct and JJB was higher for marginal customers than for the average customer (32% vs. 20%).

12

See Reynolds and Walters (2007). 'The use of customer surveys for market definition and the competitive assessment of horizontal mergers', *Journal of Competition Law and Economics*, Vol. 4, Issue 2, pp. 411–431.

13

In March 2011, the OFT and CC published their 'Good practice in the design and presentation of consumer survey evidence in merger inquiries', available at http://www.competition-commission.org.uk/rep_pub/consultations/past/pdf/Good_practice_guide.pdf. At paragraph 3.46 that guidance paper acknowledges the possible role for conjoint and discrete choice survey methods, but concludes that they have not been sufficiently widely used by the UK authorities to provide material for a discussion of best practice. The key issue is whether such techniques are better placed to yield reliable results.

surveyed to obtain responses from 100 marginal customers.¹² In Zipcar/Streetcar, the CC survey did seek to elicit responses from marginal customers, but judged that the sample size for this subgroup was too small to provide any usable results, and so instead relied on the results for the average consumer.

Fourth, there are more fundamental questions regarding the reliability of responses to such survey questions. Consumers often provide answers to direct questions which do not accurately reflect the way in which they would actually react if faced with the hypothetical situation presented to them in real life. This well-known limitation of direct questions in surveys has given rise to a number of methodologies adopted consistently in marketing research (e.g. conjoint valuation) which rely on survey designs that aim at eliciting consumer preferences via indirect questions.¹³ Indirect questioning can be more effective in removing framing bias, and hence in revealing what the respondents' actual behaviour would be in different circumstances. This calls into question the reliance the UK competition authorities place on the relatively unsophisticated survey questions that they use on retail merger cases.

If survey response weaknesses cannot be avoided, it would be preferable to construct diversion ratios from other sources (such as win/loss data) that draw from actual customer switching behaviour, but although a wealth of data are collected by many firms in the retail sector, the fact that the questions of interest in the current exercise are inherently local may make it hard to find sufficient information.

Taken together, these problems cast major doubts on the reliability of the diversion ratio estimates that can be derived from the survey approach that has been adopted in the retail mergers described in the JP. Whilst the UK authorities are sophisticated enough to be aware of these pitfalls, there is a danger that with each successive retail merger case in which these surveys are adopted they become desensitised to these problems. However, the diversion ratios are so central not only to the IPR computation but also more generally to the overall competitive assessment of horizontal mergers, that any error in their estimation seriously questions the reliability of merger decisions that are derived from such estimates.

4

What is the relevant price-cost margin?

Aside from diversion ratios, the second key building block of the IPRs (and other UPP-based approaches such as the GUPPI) is a measure of the merging parties' profit margins. Margins are relevant to two aspects of the analysis of upward pricing pressure.

First, the margin calculation is designed to capture the commercial value to the post-merger firm of the sales that are diverted from one merging party to the other. Clearly, the higher the profit margin on those diverted sales the greater the extent to which the merger will affect incentives of the post-merger firm. If, for example, the diversion ratio is 20%, that means that 20 of every 100 unit sales that firm A loses as a result of a price rise are re-captured by firm B. A margin figure is then required to assess how much additional profit accrues to the post-merger firm from these extra 20 units. The higher the margin, the greater the extent to which the merger changes the balance of commercial considerations that affect the firms' pricing decisions, and hence the greater the IPR.

Second, margins are relevant to the IPR calculations because the store margin is used, via the Lerner condition, to infer a value for the own-price elasticity of demand for the merging firm's products.¹⁴ Under the Lerner condition, a high margin implies a low demand elasticity, which in turn implies that the post-merger firm has less to fear from price increases, and hence creates higher IPRs.

In view of the critical role played by margins, it is perhaps surprising that the JP does not provide more detailed discussion on precisely which price-cost margin is relevant for the IPR calculation. At paragraph 4.13, the JP simply states that the relevant measure is sales revenue less variable costs, and suggests that the extent to which costs are variable depends on the time horizon over which decisions on pricing and other key competitive variables are actually made. In general, competition authorities assess the likely competitive effect of a transaction for the near future, avoiding predictions beyond a certain point, typically two years – though this may vary on a case by case basis.

14

The Lerner condition is a basic microeconomic result which states that a profit-maximising firm will set prices where its own-price elasticity is inversely related to its price-cost margin.

Therefore, we would expect that any key competitive variable that can be flexed in the relevant time frame should be taken into account in the merger effect assessment. This also implies that any category of cost that is flexible over this time frame should be considered as variable.

The JP then cites a number of case illustrations in which the OFT and CC appear to have made different judgments as to which retailer cost categories (e.g. sales staff within the stores, distribution, etc) should be considered variable over a one-month period. It is far from clear that the authorities have adopted a consistent margin measure, or even a consistent conceptual approach, across these cases. The JP also cites the Zipcar/ Streetcar case, in which the CC made its assessment based on a (very wide) range of price-cost margins depending on whether car costs were assumed to be 100%, 50% or 0% variable.

Whilst it is reasonable for the JP to call for a case by case approach to margins, both the JP and the individual case illustrations seem to reveal a lack of precision as to which margin calculation is in principle relevant for the task in hand. The wide range of scenarios adopted by the CC in the Zipcar case indicates that the UK's second phase merger investigation body has not yet reached an internal consensus on this crucial question.

To consider how this question should be addressed, it is perhaps useful to step back to recap on the role that margins play in the IPR analysis, and more generally how they relate to the overall assessment of SLC. In essence, a merger assessment should seek to judge whether the competition that is eliminated by the transaction will result in some (non-transitory) significant increase in price relative to the no-merger counterfactual. But as acknowledged by the UK authorities, retailers compete on the basis of the entire 'retail offer' of PQRS (price, quality, range and customer service). The retail offer depends on many elements (such as staff numbers, staff training, distribution arrangements, store opening hours, local advertising, amount of pre-sale service, even the store size and store layout), which can be altered in the short to medium term. A change in any or a combination of these elements not only alters the competitive position of the store(s), but also involves additional costs. It appears evident that any profit-maximising firm selects the price level in response to immediate customer demand, but also with an eye to covering the costs of supplying its chosen retail offer. As a result, it seems to us that focusing myopically on readily observable (often short-run) variable cost margins for the IPR calculations is likely to yield a seriously distorted picture that tends to overstate the merger's likely unilateral effects.

As with the estimation of diversion ratios, there is a danger that with repeated implementation of the IPR analysis the authorities will settle on the approach to margin calculation that is the easiest to measure, rather than that which is best attuned to the needs of the task. Administratively, the simplest approach is for the authorities to rely on an existing accounting-based measure of profits that can be read across from the merging firms' financial results. But such administrative simplicity is unlikely to correspond to the correct economic approach. Accounting data may provide a very poor approximation of economic costs, let alone marginal cost.

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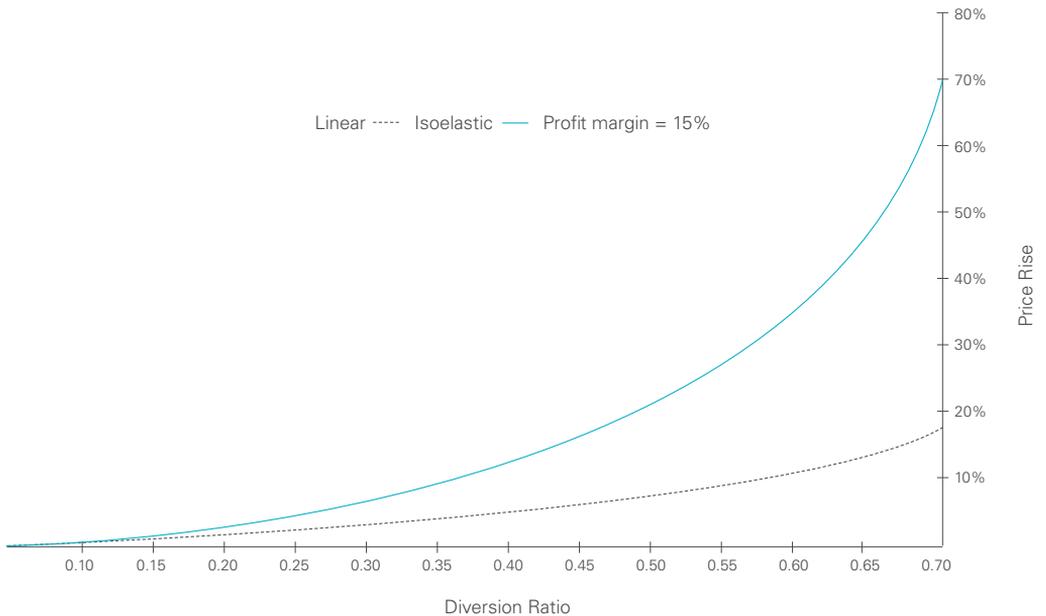
Are demand curves isoelastic or linear?

The diversion ratio and margin information together produce a measure of the extent to which a merger will stimulate the post-merger firm to raise its prices. In converting information on that initial stimulus into a price effect, however, the IPR calculation needs to make an assumption about how consumers react to a change in price. The more elastic the demand curve, the greater is the loss of sales the post-merger firm will suffer if it seeks to raise price in reaction to the merger. As a result, the calculated IPRs depend heavily on the assumed shape of the demand curve for the individual store. In particular, the IPR is higher when an iso-elastic instead of a linear demand curve is assumed.¹⁵

The difference in the price increase between the two demand curves is particularly large when the diversion ratio between the parties is high.

15

An iso-elastic demand curve has the same elasticity across all price levels –visually, it appears convex to the origin in price/quantity space.



Illustrative price rises: Different demand curves

16

The OFT adopted an asymmetric IPR formula. To compute the asymmetric IPR, the OFT had to make an assumption about the relative price levels of Asda and Netto. In one version in which Asda's prices are cheaper, the isoelastic case IPR would require 55 store divestments in lieu of a reference whilst the linear case would imply only 11 store divestments. Regardless of the relative price levels between Asda and Netto, the isoelastic IPR always involves many more store divestments in lieu of a reference than the linear IPR.

The graph on page 17 illustrates the calculated IPRs for each demand curve assuming a profit margin of 15%, which is in line with a typical margin assumption adopted by the UK authorities in the grocery retailing sector. As expected, the IPRs increase with the diversion ratio, and it is notable that the divergence between IPRs based on the different demand profiles becomes dramatically different at higher diversion ratios.

It is evident that the choice of the iso-elastic demand curve implies a much more interventionist policy stance than the linear curve. For example, in one version of the IPR calculations for the Asda/Netto transaction, when the isoelastic demand was adopted 55 store overlaps yielded an IPR above 5%, whereas this number fell to only 11 stores under the linear demand assumption.¹⁶

In conducting its first phase retail merger investigations, the OFT has tended to adopt the isoelastic demand curve, and this isoelastic demand assumption was also deemed 'more plausible' by the CC in the Somerfield/Morrisons merger investigation. To the best of our knowledge, however, there is absolutely no empirical evidence as to which of the isoelastic or the linear demand curve is the better approximation of grocery shoppers' behaviour. This means that actual merger control decisions in practice rest on an essentially arbitrary choice of a mathematical function, without further motivation.

6

(How) are merger efficiencies taken into account?

When a merger gives rise to efficiencies, the authorities ought to take those into account in the competitive assessment. For example, if post transaction the merging parties are able to purchase inputs at a lower price, this would decrease marginal cost, giving them, in turn, an incentive to reduce price. Where such efficiency gains are sufficiently high, they can offset anti-competitive unilateral effects.

Although the JP makes no reference to this possibility, in principle, the quantitative tools proposed in the JP can take into account post-merger cost reductions (and more specifically marginal cost efficiencies) which could be used to offset any adverse unilateral price effects revealed by the IPR analysis. In practice, however, the UK authorities have not incorporated such cost reductions in their IPR calculations. This is either because no quantified cost reduction evidence has been submitted by the parties, or because the evidentiary standard of proof is so high (in particular in phase I before the OFT) that the authorities have not been in a position to accept cost efficiency claims.

In the US, in the context of their proposed UPP analysis Farrell and Shapiro (2010) have advocated granting the merging parties a 10% 'efficiency credit' that can be used to offset any adverse UPP result.¹⁷ The motivation for introducing this efficiency credit seems to be that absent such credit, all horizontal mergers in differentiated product industries would reveal upward pricing pressure and thus would be flagged for an in-depth investigation. Indeed as virtually all merging parties have positive profit margin and diversion ratios, the simple indicator will always show 'upward pricing pressure'.

In the UK, the CC and the OFT have both used a 5% threshold for IPRs. The OFT considers that in any local area in which the IPR is above 5% there is a realistic prospect of substantial lessening of competition, and it has made divestment of one of the overlap stores a condition of avoiding a CC investigation in such cases.

17

Joseph Farrell and Carl Shapiro, 'Antitrust Evaluation of Horizontal Mergers: An Economic Alternative to Market Definition', *BE Journal of Theoretical Economics*, Vol. 10, Issue 1, 2010.

It may be that this tolerance threshold corresponds to an efficiency credit in the same manner as the Farrell and Shapiro proposal, though the UK authorities have never explicitly positioned the 5% in this way.

An alternative characterisation would be to view it as a significance threshold, or a suggestion that price effects below 5% are either not problematic or too marginal to provide a sufficiently robust basis for intervention, though again the UK authorities are very reluctant to make any such concession.¹⁸

18

As such, they could be seen as an implicit response to the questions regarding the reliability of the margin and/or diversion ratio results that are used as key inputs to the calculations, but there is no explicit discussion of this rationalisation in the JP.

This leaves it unclear what would happen if the parties were to prove that their efficiency gains are sufficient to reduce post-merger prices by, say, 4%. If the OFT's 5% figure is in reality a significance or tolerance threshold, then the logical reaction would be to add the proven 4% efficiency effect to the 5% significance figure and declare that only mergers which showed a 9% IPR would be challenged.¹⁹ But if on the other hand the 5% is truly the OFT's best (if uninformed) guess as to the true efficiency effect on price, the knowledge that this effect is in fact smaller at 4% should lead the OFT to substitute that lower figure into its decision criteria, leading the transaction to fall short of the clearance threshold even when the actual IPR is less than 5%. That would lead to the paradoxical situation in which a proven story on efficiency gains might actually harm the chances of regulatory clearance. In other words, the merging parties would be better off not submitting any efficiency claim so as to obtain clearance when the actual IPR is less than 5% in overlap areas.

19

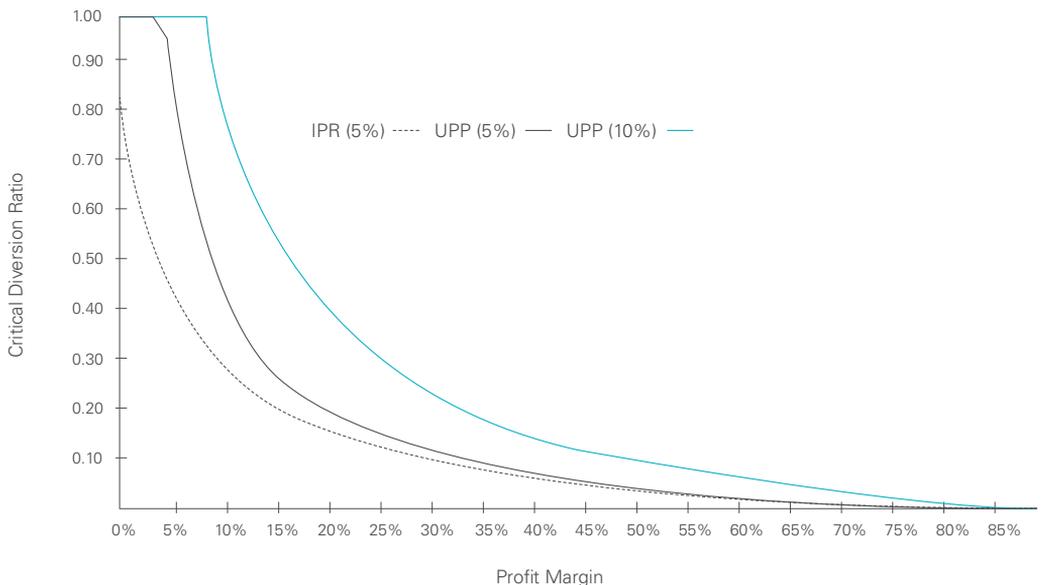
That is, a proven efficiency gain that reduces price by 4% implies that a 9% IPR without efficiency gain becomes a 5% IPR with the efficiency gain.

Given the difficulty of quantifying the likely efficiency effects to the OFT's satisfaction, this problem might be theoretical rather than real, but in outlining a conceptual approach the JP ought to be clearer on this point of principle.

How do UPP and IPR approaches compare?

As noted above, the IPR approach advocated for retail mergers in the JP shares some common elements with the UPP approach that is discussed in section 4 of the JP and has been suggested as a first phase screen in the US horizontal merger guidelines. Like IPR, the UPP formula uses information about prices, costs and diversion ratios. Unlike IPR, however, UPP on its own does not generate an estimate of the post-merger price effect.

One obvious attraction of UPP over IPR is that it makes no assumption about the shape of the demand and cost curve, and in theory it does not assume a particular model of competition. That is, this test applies equally well whether firms compete in price or over non-price dimensions.



IPR vs. UPP Critical Diversion Ratio

20

For a merger between two single product firms, for product 1 the upward pricing pressure (UPP) is given by the formula: $UPP = (P_2 - C_2) D_{12} - EC_1$, where $P_2 - C_2$ is product 2's price-cost margin, D_{12} is the diversion ratio from product 1 to product 2 and EC_1 represents the efficiency credit, which Farrell and Shapiro set to 10%. The symmetric IPR with an iso-elastic demand is given by: $IPR = M_2 D_{12} / (1 - M_2 - D_{12})$, where $M_2 = 1 - C_2 / P_2$. The two formulae are not strictly comparable because UPP is based on $(P_2 - C_2)$ whilst IPR depends on M_2 . However, we can solve for the diversion ratio that will set UPP or IPR to be equal to 5% – we call this the critical diversion ratio. The lower the critical diversion ratio, the more interventionist the pricing pressure indicator.

21

See JP, paragraph 4.19.

To illustrate how the outcomes of the two approaches differ, in the graph on page 21 we compare the isoelastic version of the IPR test as applied by the OFT with UPP as proposed by Farrell and Shapiro. The two formulae are not strictly comparable. However, we can determine the diversion ratio for which the IPR and UPP equals 5% (we call this the critical diversion ratio): the smaller the critical diversion ratio, the more interventionist the measure.²⁰

A number of key points emerge from this comparison.

First, the UPP critical diversion ratio is always above that of the isoelastic IPR. This implies that for any given profit margin, it takes a higher diversion ratio to fail the UPP test than the IPR test. In other words, the IPR (5%) is more interventionist than both the UPP (5%) and of course the UPP (10%).

Second, the difference between the UPP and the IPR tests varies with the profit margin level. For margins close to 90%, there is almost no difference, but the gap grows wider when the profit margin becomes smaller. It is noteworthy that when the profit margin is less than 5%, the UPP test when set at 5% will never give a negative result, whereas a transaction with a diversion ratio above 48% will fail the 5% IPR test.

In the grocery sector the store profit margins adopted by the UK authorities generally range from 8 to 20%. Over this range, the difference between IPR (5%) and the two UPP measures is quite significant. For example, a margin of 15% gives a critical diversion ratio of 21% under IPR (5%), and 28% and 57% for UPP (5%) and UPP (10%) respectively.

This comparison shows that applying UPP (5%) instead of the isoelastic IPR would lead to vastly different outcomes for mergers in the grocery sector. Because the number of local areas in which a transaction may give rise to a SLC is largely determined by the IPR test, adopting the UPP formula would certainly reduce significantly the number of divestments in lieu of a reference. This does not in itself prove that the OFT's IPR approach is excessively interventionist, but it does suggest that the JP should contain more explicit discussion to justify why the IPR approach is favoured. The JP notes that the CC adopted a version of the UPP approach in the Zipcar/Streetcar case but it would have been interesting had the JP addressed this distinction and explained why different approaches are apparently favoured in different cases.²¹

Does the JP's IPR approach result in greater intervention than concentration-based approaches?

It is hard to assess definitively whether the application of IPR increases the levels of intervention when compared with concentration based measures such as market share and fascia count. Indeed, one of the key attractions to UPP and IPR approaches is that they avoid having to make arbitrary in/out distinctions in the context of market definition in differentiated product markets.²² But there are strong indications that the UK authorities have adopted a version of IPR that substantially increases their propensity to intervene.

22

Note, however, that the two-stage process described in the JP does require a view to be taken on market definition in the first phase when conducting the so-called 'fascia test'.

A simplified way to translate the UK IPR test into the market share approach is to consider the diversion ratios that would arise from redistributing the sales of an acquired firm in a market where all firms had symmetric market shares. In this setting, a merger between two firms with 50% market share each would yield a 100% diversion ratio; a merger between three identically sized firms would yield a 50% diversion ratio, and so on. This 'translation' is approximate only, since in particular it ignores the possibility that most if not all markets defined by the SSNIP test will exhibit some degree of leakage, such that some of the demand that switches away from any one firm will migrate to products outside the product market rather than to the remaining in-market rivals.

As we show in the graph on page 21, critical diversion ratios under IPR depend on the parties' margins, but where margins are in the region of 20% the UK IPR test yields SLC concerns when diversion ratios are around 15%. In the Somerfield/Morrisons merger, this approach was used by the CC to justify the adoption of a critical diversion ratio of 14.3%. One strand of its reasoning on that case was that in a merger between 8 equal-sized firms, in which the post-merger firm would enjoy a market share of 25% ($12.5\% \times 2$) the typical diversion ratio would be 14.3% ($12.5\%/87.5\%$). As post-merger shares below 25% had been

identified as a safe harbour in the UK merger guidelines at that time, the CC reasoned that its decision to require divestment of stores wherever the diversion ratio exceeded 14.3% was therefore not inconsistent with that market share safe harbour.

One obvious objection to this threshold is that it implies that the UK IPR test could find an SLC in mergers that reduce the number of active suppliers in a market from 8 to 7, despite the fact that unilateral effects concerns have rarely been found to arise until mergers reduce the number of effective players from 4 to 3 or fewer.²³

23

Even if due allowance is made in the translation factor for the impact of demand leakage outside the candidate market, the standard implied by the UK authorities' IPR approach is much more restrictive.

More importantly, this logic for the IPR threshold contradicts the 'facia test' used in the first stage filtering process that is often adopted by the OFT and is described in the JP. Under that filter, store overlaps do not give rise to competition concerns if there remain four post-merger competitors. If the OFT considers that this is a valid first phase screen, it seems anomalous to apply an IPR calculation in the second phase that is clearly capable of objecting to mergers at much lower levels of market concentration.

The UK authorities are, however, generally keen to avoid the question of whether the IPR approach makes mergers policy stricter than before, preferring instead to stress that it is more important to get the right answers whether or not that means blocking more mergers than before. That is of course correct, but it should not allow the authorities to escape the scrutiny that is required. If, as appears to be the case, the UK authorities believe that the insights arising from IPR analysis justify a more interventionist mergers policy, then it ought to be incumbent on them to state that explicitly, to explain the apparent contradiction with the first stage filter, and to demonstrate (e.g. through *ex post* assessment of these cases) the extent to which previously over-lax policy enforcement allowed anti-competitive mergers to proceed.

Do IPRs provide reliable predictions about unilateral effects?

These important policy questions are closely related to the essential substantive question: do the IPRs derived from the process described in the JP really create credible predictions about real world merger effects? The JP is notably coy about the status of the price increases that are generated by the IPR calculations. It asserts that the IPRs ‘consider the effect of the merger in terms of potential price rises’, but denies that they actually ‘predict the exact extent of the post merger price rises.’ However, in practical terms it is unclear what this denial means. When they have calculated IPRs in retail merger cases, the OFT and CC have both adopted the decision rule that the acquisition of a store in any local area where the IPR exceeds 5% generally requires a remedy (i.e. divestment of the store).²⁴ If a 6% IPR actually leads to a store divestment, then surely it is important that the UK authorities do believe that the acquisition of that store would have led to a significant SLC.

24

Or a referral to the CC in the case of the OFT review when no remedy is proposed or the remedy package is not deemed sufficient.

Interestingly, the JP refers to the Somerfield/Morrisons merger investigation by the CC as a case in which the IPR predictions were tested against actual market outcomes. In that case, Somerfield adopted a pricing policy that allowed local variations in the prices at different stores, which enabled the CC to test whether the pre-merger Somerfield business chose to set higher prices in stores where it faced fewer local rivals.

The JP notes that when the CC studied Somerfield’s pricing it found a statistically significant relationship between Somerfield’s prices and levels of local concentration. This result is then cited in support both of the CC’s IPR findings in that case and more generally of the use of IPR calculations to reach conclusions in retail mergers.²⁵ However, the JP’s brief reference to the Somerfield case analysis does not do justice to the CC’s actual findings. The CC’s margin-concentration study in that case found that the difference between Somerfield’s store prices in monopoly and duopoly locations was less than 2%, yet the CC’s preferred IPR results indicated post-merger price increases of between

25

See JP, paragraph 3.18. The CC preferred to look at the relationship between store margin and local concentration in this case rather than a simpler price-concentration study on the grounds that margin information could capture additional information about the variations in non-price competition.

26

These results were based on the assumption of isoelastic demand. With linear demand, the IPRs for the same overlap stores ranged from 2.5% to 34.7%, but in all of the problem cases the IPR predictions exceeded the observed price premium charged by Somerfield where it enjoyed a local monopoly of its natural catchment area. Somerfield's analysis of price-concentration effects indicated an even smaller (though statistically significant) relationship between local concentration and price.

7.1% and 1,898.4% in the 12 store locations that were deemed problematic, in most of which there would remain nearby rivals to the post-merger firm.²⁶ Even if we accept that price-concentration studies have their limitations too, the difference in magnitude between the IPR estimates and the empirical pricing evidence must surely indicate a potentially serious deficiency with the IPR approach, but that has not prevented its adoption in subsequent cases. The fact that the JP actually cites the Somerfield study in support of the IPR approach reveals a worrying lack of awareness on behalf of the OFT and CC of the need to sense check the predictions from the theory before it can be relied upon as a policy tool.

Is the IPR indicator best suited to phase I or phase II merger inquiries?

The IPR approach that is favoured by the UK authorities has in practice been employed by both the OFT and the CC, but it has failings both in the initial screening role performed by the OFT and in the in-depth investigation of the CC.

As regards the first phase role of the OFT, the first problem is the huge practical question over the time required to complete the IPR calculations. Even the initial filtering test applied by the OFT, based on the number of competing retailers (a 'fascia count') within a geographical area that corresponds to the catchment area of the stores concerned, involves some relatively detailed and time-consuming mapping work.²⁷ It is only once this fascia count has identified locations in which the merger reduces the number of retailers to fewer than four that the IPR formula is calculated.

It is becoming abundantly clear that the OFT phase I merger inquiries in the groceries sector are taking a very long time, even beyond the standard phase II timetable. For example, in the recent Asda/Netto inquiry the OFT concluded that store divestments were necessary on 23 September 2010, whilst the informal investigation started in April 2010 when the first customer survey was conducted by the parties. It took at least 21 weeks – longer than a phase II investigation in many jurisdictions – for the OFT to conclude that the transaction gave rise to *prima facie* SLC concerns in some local areas.

This problem of time delay in applying IPR calculations in the phase I process is compounded by the inherent conservatism of the OFT first phase review. The legal test applied by the OFT (which requires no more than a 'realistic prospect' of SLC, compared to the 'balance of probabilities' test applied by the CC at the second phase investigation) justifies some degree of conservatism when assessing mergers. But the greater the time and effort taken by the OFT during this first phase review, the greater its understanding of the likely effect of the merger ought to be, and so if the more detailed investigation does indeed generate useful insights, it

27

The natural catchment area of the store is defined by the OFT as the area in which consumers accounting for 80% of the store's sales are located. Catchment areas are drawn based on an isochrones analysis which captures information about the time taken to drive a certain distance from the store. The JP describes various adjustments that are made to the isochrone analysis, such as re-centring around population centres to ensure that all possible problem store overlaps are included in the more detailed IPR assessment.

ought to be capable of justifying a more robust approach by the first phase body. Instead, by applying an IPR methodology that is calibrated at a very conservative level, the OFT process has weighted its decision-making heavily towards a second phase reference. In our assessment this has led to a succession of retail mergers where the parties have made divestment concessions at the end of the OFT review that far exceed the levels required to protect competition and consumer interests.

Of course, one solution to this problem lies in the hands of merging firms and their advisers. Given the time delays associated with the OFT process on retail mergers, the highly interventionist prescription that emerges from the IPR calculations, and the heavily skewed basis for any subsequent discussions about the robustness of the IPR conclusions, firms contemplating their mergers being subject to the OFT process described in the JP ought increasingly to be asking whether the cost and delays of engaging with the OFT process makes any business sense. It may be that a decision to short-circuit the process by dispensing with a lengthy OFT deliberation and submitting instead to an in-depth investigation by the CC provides a better commercial prospect despite the cost and delay associated with this process.

However, there are also serious questions over the utility of the IPR approach as a device to guide merger investigations in an in-depth second phase investigation. For all their empirical complexity, even if IPR calculations are adapted to address the concerns listed above, they represent only a very partial approach to the assessment of unilateral effects of horizontal mergers. It is for this reason that the US merger guidelines advocate the use of UPP calculations only as a device to guide the US equivalent of first phase decisions, and not as a recipe for in-depth merger review. The IPR calculation takes no account of a whole range of dynamic factors and responses, including customer and competitor reactions. Indeed, it would make a mockery of the information that is routinely requested in merger investigations if it were possible, using an IPR approach alone, to answer all the questions that are needed for an SLC assessment simply by combining a retail margin and an estimated diversion ratio with some algebra.

The Zipcar/Streetcar case illustrates this point nicely. In an industry in which two new entrants had advanced plans to start operations in competition with the post-merger firm, and in which demand projections indicated an 8-fold increase in industry size over the next 5 years, it would be incredible if a post-merger projection based on a static assessment of existing competitive relationships provided a robust guide to the post-merger environment. Yet IPR calculations base their predictions of future pricing solely on historic evidence of consumer behaviour in the pre-merger environment.

Conclusions

The JP places retail sector mergers at the forefront of the UK authorities' efforts to apply an IPR formula to the assessment of unilateral effects. In principle, IPRs (and other UPP measures that use diversion ratios and margins to quantify the impact that mergers have on firms' incentives) have the potential to generate insights that go beyond traditional market concentration measures. If used in isolation from other information about the market, market shares often fail to appreciate the strength of each competitor with differentiated products.

However, the questions discussed in this paper have identified a number of important measurement, conceptual and calibration problems that are not adequately addressed in the JP, or more generally in the recent merger enforcement decisions of the UK competition authorities. Our main conclusions are as follows:

- The JP describes an approach to retail sector mergers, but the techniques described can apply more widely to any case in which unilateral effects analysis is required in a differentiated product industry. There is no good reason why the UK competition authorities should adopt a separate approach to mergers assessment in this sector, and indeed although the retail sector has played the role of the 'laboratory rat' for the early case application of the IPR approach, there are clear signs that the OFT and CC favour the same approach in other differentiated product industries. This wider application of the UK IPR test would be unproblematic if the approach was sound, but applying it to other industry sectors raises the stakes involved considerably.
- The JP seems to assume that, because the UK authorities have applied the IPR calculations to numerous cases and in doing so have made the measurement of the key diversion ratio and margin variables on which the IPRs are based predictable, this approach is now reasonably settled and uncontroversial. But that is not a valid conclusion. On the contrary, there are significant unresolved issues that continue to plague the way in which the UK authorities measure

diversion ratios and profit margins. They cast doubts on the reliability of the IPR results that emerge from this process.

- We believe that the UK authorities' chosen calibration of the IPR approach as described in the JP has led to a significant tightening of UK mergers policy. In particular, the worst-case scenario approach to IPR calculations employed by the OFT, combined with the time taken for its phase I review, yields a policy approach that subjects merging parties to a lengthy process and an unduly high likelihood of an SLC conclusion. It is disappointing that the JP does not acknowledge (or deny) this. In addition, we note that the treatment of merger efficiencies and the status of the 5% threshold that is applied by both the OFT and the CC merit some clarification. After all, the IPR calculations can also incorporate marginal cost efficiencies, but up to now these cost savings have not been taken into account.
- The JP discussion reveals a pressing need for the UK authorities to sense test their methodology by reviewing *ex post* the price and non-price effects of merger transactions in which the UK version of IPR was used against those in which it was not. This could help either to justify the approach taken in the JP or (more likely in our view) guide the UK authorities towards a better calibration of the model that would be less likely to yield false convictions.
- Ultimately, our concern is that the UK authorities' current infatuation with the IPR approach appears to have blinded them to its limitations as a phase I screening device (for which use it is far too cumbersome and time-consuming), and as a means to provide anything more than an interesting starting point for a proper phase II merger analysis. We doubt that the continued application of this tool to retail sector mergers is justified without a significant adjustment to the approach. We also believe that rolling out the UK version of IPR in its current configuration to merger analysis in other differentiated product industries would be unjustified.

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