Retail mergers commentary

Contents

Introduction

Retail mergers account for a significant number of cases that come before the CMA. Moreover, some of the questions that such mergers raise are largely specific to the sector.

This paper provides a commentary on some of the most frequently asked questions from retailers and their advisers. It builds on the previous commentary (OFT1305/CC2) and has been updated to reflect recent Competition and Markets Authority (CMA)[1] experience of mergers in retail sectors.

As a commentary based on the analysis of past merger cases in the retail sector, this paper does not constitute guidance under section 106(1) of the Enterprise Act 2002. The OFT and CC published joint *Merger Assessment Guidelines*[2] in 2010, to which the CMA will have regard when investigating merger cases.

This commentary focuses on situations where a merger involves firms supplying competing products (so-called 'horizontal mergers') and as such, may remove the rivalry between them, allowing the merged firm to profitably increase prices or worsen other elements of its offering (so-called 'unilateral effects'). The paper relates solely to the analysis of retail merger cases and not to other types of investigations.

In recent years the CMA has considered mergers involving many different retail sectors, including grocery stores, mobile phone shops, pubs, betting shops, pharmacies and DIY retailers.

Retail businesses and markets have a number of common features which affect the CMA's analysis:

- Retail businesses typically have fixed physical outlets (sometimes called bricks-and-mortar), which consumers usually visit in order to acquire or consume goods or services. These businesses may also have an internet presence. In other cases retailers may operate exclusively on the internet. In many cases, retail businesses will have multiple outlets across a region or country.

- Retail businesses often supply a range of goods sourced from numerous (unrelated) suppliers, although other retailers may supply services or a mixture of goods and services.

- The decision to purchase from a retail business is made by the individual consumer.

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[1] Note that any references to the CMA include its predecessor organisations the Office of Fair Trading (OFT) and the Competition Commission (CC).
[2] *Merger Assessment Guidelines*: CC2/OFT1254.

The relevance of this commentary to a particular retail merger will therefore vary according to the characteristics of the businesses and market concerned. For example, the commentary on catchment areas will not be relevant to a business that is internet-based and does not have fixed retail outlets. Some of the techniques discussed in the commentary are also useful for analysing mergers in non-retail sectors. For example, the CMA has applied some aspects of the methodology in investigations of mergers in the wholesale and leisure sectors.

Retail markets are continually evolving and we note that online retailing is increasingly important. The competitive interaction between different retail channels depends on the characteristics of the market concerned. This update of the commentary includes a section on how the CMA has assessed the interaction between bricks-and-mortar and online retail.

The commentary explains the principles that the CMA has followed in past retail mergers. It also describes the information and evidence that we have relied upon. We have included technical boxes to provide more detailed information for advisers. However, merger analysis cannot be done mechanistically and the CMA will consider each merger with due regard to the particular circumstances of the case and will apply methodology flexibly. This commentary is not intended to provide a comprehensive overview of all analytical issues in a retail merger.

We have used examples from past phase 1 and phase 2 merger investigations to illustrate our approach. Under the two-phase merger control regime in the UK, the CMA is required to apply different thresholds when answering the statutory questions in phase 1 and in phase 2. In phase 1, the CMA applies a 'realistic prospect' threshold, whereas in phase 2 the CMA applies a 'balance of probabilities' threshold. This will inform the approach taken by the CMA to the analysis in the two stages. The difference in the evidential threshold and the reduced time available for review at phase 1 will sometimes require a difference in the emphasis attached to certain aspects of the analysis – the extent of analysis on particular aspects and the evidence considered is likely to vary according to whether the merger is being considered in a phase 1 or phase 2 investigation.

We have selected the following topics as being of greatest interest to merging parties (Parties) and their advisers:

- Local and national competition, including how the CMA examines the effects of mergers on local competition when prices are set centrally and uniformly at all stores and how the CMA analyses the effect of a retail merger on dynamic competition.

- Catchment areas, including how the CMA chooses the appropriate distance measure.

- Filtering, including how the CMA identifies the effective competitor set and how the CMA chooses the appropriate measure of concentration.

- Bricks-and-mortar and online retail, including how the CMA assesses the strength of the constraint on bricks-and-mortar retailers from retailers active online. This constraint may be assessed either when considering the effective competitor set or assessing the closeness of competition between the Parties and third parties.

- Diversion ratios and price pressure indices, including how the CMA calculates diversion ratios and how the CMA uses these techniques.

- Econometric evidence, including key techniques that are widely used in retail merger investigations.

Surveys are frequently used in the assessment of retail mergers and throughout the commentary we explain how they have been used in past cases. Information on the design and implementation of surveys can be found in *Good practice in the design and presentation of consumer survey evidence in merger inquiries*.[3]

The analysis carried out by the CMA of the issues covered in this commentary will feed into the CMA's assessment of whether or not a particular retail merger gives rise to a substantial lessening of competition (SLC) and the scope of any SLC finding. This in turn will help determine what, if any, remedies would be effective in dealing with the competitive harm arising from the merger.

In line with its general practice, the CMA has tended to use structural remedies, such as prohibition or divestiture, in problematic retail mergers. The CMA's analysis of local and national competition plays a key role in determining what scale and scope of divestiture package would be sufficient to remedy any SLC. Similarly, the CMA's consideration of the effective competitor set can play a role, alongside other factors in assessing the suitability of potential purchasers for any divested business. As such, we hope that this commentary will help retailers and their advisers to anticipate some of the factors leading to the potential remedial outcomes that might be required, as well as the issues that will be considered in analysing the competitive impact of retail mergers. Remedies are not covered further in this commentary, please see *CC8: Merger Remedies: Competition Commission Guidelines.* It is not possible to comment in detail on every aspect of the retail cases that the CMA has examined in recent years. We hope nevertheless that the commentary will be useful and bring out some of the key themes from our experience.

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[3] *Good practice in the design and presentation of consumer survey evidence in merger inquiries*: CC2com1/ OFT1230.

1. Local and national competition

1.1 The CMA draws up theories of harm to provide a framework for assessing the effects of a merger. These theories of harm are informed by an understanding of the nature of competition in the market, including the main dimensions over which firms compete in both the short run and the longer run.

1.2 Bricks-and-mortar retailers compete to attract customers to their stores. The CMA's starting point is therefore that retailers compete with other stores in the local area.

1.3 In this section we set out how the CMA analyses the effect of a retail merger involving bricks-and-mortar stores on local and national competition.

Local competition

1.4 Some retail chains set elements of their retail offer centrally and uniformly across stores.[4] In this context, Parties have sometimes argued that:

(a) the merger would not have an impact on prices and the service to customers at a local level because many of the important aspects of their offer to customers are determined centrally and they would not change their policy to a local one as a result of the merger; and

(b) where the merger involves a firm with a central policy acquiring a small number of stores, there would be no increases in national prices or deterioration of other aspects of their retail offer.

1.5 When considering these arguments the CMA's assessment of local competition has examined whether:

(a) the Parties currently set some aspects of their retail offer with regard to local competitive conditions; and

(b) if the Parties do not currently set their retail offer with regard to local competitive conditions, whether they would have an incentive to do so post-merger.

Does the retail offer vary between stores?

1.6 The CMA's starting point has been to recognise that customers shop in local retail stores within a given travel time of their home or work. Against this background the CMA's strong starting assumption at phase 1 has been that

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[4] The retail offer includes elements such as price, quality, range and service (PQRS).

there will be material local competition on one or more aspects of the retail offer. The CMA has previously found evidence of local competition across a wide variety of sectors, including: supermarkets,[5] cinemas,[6] pharmacies,[7] opticians,[8] and bookmakers.[9]

1.7 In some phase 2 investigations the CMA has conducted a more detailed assessment of whether firms vary some aspects of their retail offer locally according to the strength of local competition. It has considered a range of evidence of local competitive responses, including:

(a) internal documents describing how the Parties set their retail offer, including documents that set out the responsibilities of local management, or show responses to local entry;

(b) evidence on how retailers have responded to underperformance at one or more local stores; and

(c) business plans for refurbishments, store openings and closures.

1.8 The CMA has also conducted empirical analysis to test how the performance of a store (for instance its price or quality) is affected by the level of, and any changes in, competition in the local area (for more information on performance concentration analysis see paragraphs 6.5 and 6.9):

(a) In Ladbrokes/Coral (2016), the Parties flexed some elements of the retail offer locally, affecting both price (eg promotions) and quality (eg store refurbishments), and the CMA assessed the effect of the merger on local competition. The Parties set other aspects of the retail offer (eg odds) centrally and uniformly across all of their stores, so the CMA also assessed the effect of the merger on their incentive to degrade the retail offer at all stores (see paragraphs 1.13 to 1.17).

(b) In Celesio/Sainsbury's (2016) evidence showed that pharmacies are able to (and do in practice) vary a number of aspects of the retail offer at a local level in response to competition. These included location, quality and speed of service, opening hours, stocking levels and waiting times. As a result the CMA assessed the effect of the merger on local competition.

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[5] In Somerfield/Morrison, the CC found that although prices were set nationally, Somerfield had tiered pricing, leading to variation in local prices.
[6] In various investigations in the cinema sector, the OFT found that cinemas set ticket prices and other aspects of the retail offer locally to account for local competition.
[7] Boots/Alliance UniChem, Celesio/Sainsbury's.
[8] Alliance Boots/Dolland & Aitchison.
[9] Ladbrokes/Coral (although the CMA also found that there was national competition to offer the best odds for particular events).

Does the merger affect the Parties' incentive to vary the retail offer between stores?

1.9 Where the evidence shows that the retail offer at a store does not reflect competitive conditions in local markets, the CMA has assessed whether the merger may create an incentive to flex some aspects of the retail offer locally. To assess this the CMA has analysed the costs and benefits of changing the policy.

1.10 The costs of local flexing might include the cost of carrying different ranges in different stores, the fragmenting of sales volumes with suppliers and the additional complexity associated with such a change in policy, which may require different systems.

1.11 The benefits of local flexing come from the ability to degrade the retail offer where a store faces less competition and to improve it where it faces more competition. The benefits are greater when local demand and the intensity of local competition differ between the areas where the retailer operates.[10]

1.12 The CMA has assessed the incentive to flex some aspects of the retail offer in past phase 2 investigations:

(a) In Holland & Barrett/Julian Graves (2009) the CC found that the Parties would incur costs if they changed to local pricing and that these costs would deter a change in policy. These costs included a loss of national brand identity resulting in reduced revenue, increased spending on local in-store advertising, new staff to manage local promotions and local stock management.

(b) In Sports Direct/JJB Sports (2010), the CC found that differences in Sports Direct's retail offer were not related to local competitive conditions and that this suggested that the benefits of flexing were outweighed by the costs. There were relatively few areas where the Parties' stores overlapped and the CC did not think it likely that the merger would significantly increase Sports Direct's incentives to flex its retail offer in response to local competition.

(c) In Poundland/99p Stores (2015), the CMA found that the Parties would be able to flex the retail offer at the local level and that the cost of doing so would not be prohibitive. The CMA analysed the incentive to flex the retail offer by assessing the effect of the merger on the proportion of areas in which Poundland faced few competitors. The merger did not change this

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[10] Demand may differ between stores because of differences in demographics, for example, or differences in the size of the local market.

proportion significantly, so the CMA found that it would not be likely to change Poundland's incentives.

Local markets and centrally set, uniform components of the retail offer

1.13   In some cases the CMA has found that Parties do not flex aspects of the retail offer locally and would not have the incentive to do so after the merger. The CMA has then assessed whether the loss of rivalry in the areas where they overlap would be sufficient for the Parties to deteriorate their centrally set retail offer. This would involve increasing prices, or deteriorating other aspects of the retail offer, at all stores.

1.14   A retailer will take account of the extent of local competition faced by its stores when making decisions regarding prices and other competitive variables, even if these are set uniformly across all stores.

1.15   The total effect of any change in the retail offer is determined by the aggregate change in competitive conditions across all individual stores operated by that retailer. This, in turn, depends on the local competitive conditions faced by each store. Where competitive conditions facing individual stores are weak, fewer customers will be lost if the retailer degrades the retail offer. A retailer that has a collection of stores facing weak local competition will, as a result, face less of a constraint from its competitors than a retailer that has stores facing stronger local competition.

1.16   For example, two retailers might each have 50% of national sales. In one case, this might reflect an equal market share in each local market. In this case, each retailer will be influenced by the actions of its competitor. However, in another case, a 50% share of national sales might reflect a monopoly position for each of the two retailers in half of the local markets across the country. In these circumstances, each retailer would not face any direct constraint from the other (except in the border region where their stores face each other).

1.17   To assess the effect of a merger on the centrally set, uniform retail offer the CMA has looked at evidence on closeness of competition between the Parties and other retailers at a local level and the extent of geographic overlap:

   (a)   In Holland & Barrett/Julian Graves (2009), the CC found that the local markets where competition might be lessened as a result of the merger represented a small proportion of the Parties' stores. The CC found that this would not be sufficient for the retailer to increase its prices substantially, or to adjust any other feature of its centrally set uniform retail offer.

(b) In Sports Direct/JJB Sports (2010), the CC found that less than 10% of Sports Direct stores were within 5 miles of an acquired JJB Sports store.[11] The CMA used quantitative techniques to assess post-merger upward price pressure (see Section 5 for more details on these techniques) and estimated potential price effects of less than 1%. The CC considered this alongside other evidence and concluded that the effect of this merger was likely to be too small to be significant.

(c) In Poundland/99p (2015) the CMA's quantitative analysis suggested that the merger would not significantly change the proportion of areas where Poundland would face limited competition. The CMA concluded that the merger would not create an incentive for Poundland to worsen any aspects of its centrally set, uniform retail offer.

(d) In Ladbrokes/Coral (2016), the CMA used quantitative techniques to estimate the aggregate diversion ratio reflecting the extent of local overlap between individual stores. This indicated that there was likely to be a material incentive for the Parties to worsen aspects of their centrally set, uniform retail offer at all stores. The CMA concluded that this SLC would be remedied by the sale of stores designed to address SLCs in local markets.

National competition

1.18 There may be aspects of competition that are not related to the extent of local competition. The CMA has assessed two theories of harm associated with a reduction in national competition:

(a) A loss of national competition not related to the standard aggregation of local areas.

(b) A loss of dynamic competition, such as the expansion of the Parties into new locations.

Assessing national competition

1.19 The CMA has assessed the loss of national competition where there are elements of the competitive offering that are determined nationally and not in response to the aggregation of local competitive interactions. For example, in Ladbrokes/Coral (2016), the CMA investigated whether bookmakers competed against each other on a national basis to offer the best odds for a

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[11] This transaction involved the sales of 31 out of 251 JJB stores. The remainder of the stores were kept by JJB Sports, which continued to operate them.

certain event, in a national newspaper. Even though consumers 'purchased' their bets locally, the CMA concluded that the Parties did not have regard to local levels of competition when bidding to offer the best price.

Dynamic competition

1.20 If retailers have plans to open new stores, an analysis based on the locations of their current stores may not fully capture the effect of merger. The CMA has investigated whether a merger will lessen dynamic competition where at least one of the Parties has extensive expansion plans, but has not yet decided on the location of new stores.[12]

1.21 The CMA has tested whether the following cumulative conditions are met:[13]

   (a) One or both of the Parties would be likely to enter into a number of overlaps in local markets absent the merger.

   (b) One or both of the Parties would be substantially more likely to enter into these overlap areas than other competitors.

   (c) In the absence of the merger, the entry of one or both of Parties in overlap areas would have led to substantially greater competition.

1.22 The CMA investigated this theory of harm in a number of recent cases:

   (a) In Pure Gym/The Gym (2014), the CMA at phase 1 found that the Parties were the two leading budget gym players and were each significantly larger than the third and fourth largest players. Their expansion plans were also materially more significant than those of other budget gym players, and meant that they would open a large number of new gyms in the near future. However, the CMA did not find it necessary to conclude on its concerns on potential competition beyond areas where the Parties had specific plans to enter to pass the test for reference, given it had other concerns about the merger.

   (b) In Poundland/99p Stores (2015), there was evidence from Poundland's internal documents and public statements that it had plans to expand substantially. Analysis showed that the expansion would only create a

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[12] Where the CMA has information about where the Parties are planning to open stores, it uses the potential competition framework to assess their plans to enter specific local areas. *Merger Assessment Guidelines*, paragraphs 5.4.13–5.4.18.

[13] These conditions are consistent with a theory of harm based on actual potential competition, but where the areas in which overlaps will occur are not yet known. 'Actual potential competition' occurs due to the removal of a potential constraint on a party present in an area. This constraint only occurs if and when entry occurs. *Merger Assessment Guidelines*, paragraph 5.4.14.

small number of additional overlaps because most 99p stores already overlapped with a Poundland store. The CMA also found that the Parties were not better placed to expand than their competitors, who also had plans to expand significantly.

(c) In Ladbrokes/Coral (2016) the CMA had historical information on shop openings and closures in the industry. The CMA noted that the Parties had frequently opened stores in competition with each other over the five years preceding the merger. However, the CMA also noted that the Parties' expansion activity had considerably slowed down in the two most recent years, and that their forward-looking expansion plans were constrained by regulation and the changing economics of the betting industry. For these reasons, the CMA found that the merger would not cause a substantial lessening of dynamic competition post-merger.

2. Catchment areas

2.1 A store's catchment area is the area from which most of its customers are drawn. Catchment areas provide useful information on how far customers are willing to travel to visit a store.

2.2 The CMA has used analysis of catchment areas to identify areas where the Parties' stores overlap. Stores are likely to be alternatives for some customers, and therefore competitors, if their catchment areas overlap. If the Parties' catchment areas overlap then further analysis will be required to determine whether an SLC may arise.

2.3 The CMA has estimated catchment areas using distance or drive-times and using the range of sources set out in paragraph 2.5. The CMA usually centres catchment areas on the stores of the target and the acquirer. This approach has been used both in phase 1 and phase 2 assessments of retail mergers.

2.4 The section looks at the techniques and evidence used to estimate catchment areas. We consider the following issues:

   (a) Data sources.

   (b) Methodological issues:

      (i) Shopping mission.

      (ii) Choosing the distance measure.

      (iii) 80% catchment areas.

      (iv) Individual or average catchment areas.

      (v) Asymmetric catchment areas.

      (vi) Urban and rural catchment areas.

Data sources

2.5 The CMA has used a variety of evidence to identify the location of a store's customers. Sources include:

   (a) data from loyalty cards – for example, Greene King/Spirit (2015);

   (b) home/site delivery records – for example, Travis Perkins/BSS Group (2010), Saint-Gobain/Build Centre (2012), Edmundson Electrical/Western Electrical (2014);

(c) customer contact details – for example, Nationwide Building Society/Derbyshire Building Society (2008), Saint-Gobain/Build Centre (2012);

(d) customer surveys can be used to estimate customers' willingness to travel, which can be used to estimate catchment areas – for example, Saint-Gobain/Build Centre (2012), Poundland/99p Stores (2015), Ladbrokes/Coral (2016), Celesio/Sainsbury's (2016);

(e) company documents, such as business plans or internal company research – for example, Pure Gym/The Gym (2014), Martin McColl/Co-operative (2016), Ladbrokes/Coral (2016).

Methodological issues

Shopping mission

2.6 The CMA has usually estimated catchment areas using data on the home address of the Parties' customers, where this data is available.

2.7 However, the CMA has adjusted this approach where there is evidence that customers do not visit the store from their home, or where the visit is part of a bigger shopping trip. In Saint-Gobain/Build Center (2012) the Parties' customers were tradesmen who may buy goods near to the site they are working on rather than near their home address. The OFT used evidence from competitors and from a consumer survey, which suggested that the appropriate catchment area was 10 miles.

Choosing the distance measure

2.8 The catchment area can be measured using the straight-line distance, the drive-time, or using postcode areas.

2.9 The choice of measure depends on what data is available as well as the number of overlaps and the characteristics of the market. Where relevant and appropriate, the CMA will also draw on experience from previous cases in the sector.

2.10 In some cases the CMA has tested the sensitivity of the results to different measures in order to ensure that all potentially problematic overlap stores are identified.

- *Straight-line distance*

2.11 Straight-line distance is measured 'as the crow flies' from the store.[14] It is easier to measure than drive-time.

2.12 The CMA has used straight-line distance where the results are unlikely to be sensitive to the measure used or for pragmatic reasons where the Parties have a large number of stores.

2.13 The CMA used straight-line distances to estimate catchment areas in a number of merger cases including Poundland/99p Stores (2015), Ladbrokes/Coral (2016) and Celesio/Sainsbury's (2016).

- *Drive-time or walk-time*

2.14 Drive-time (or walk-time) measures how far a customer can drive (or walk) in a given time. The area delineated by a drive-time is referred to as an isochrone.[15] For example, a 10-minute drive-time isochrone is the area covered by driving from a store for 10 minutes in all directions.

2.15 Isochrones follow the local road network and the CMA has used them when there are important topographic features in the local area that make straight-line distances inaccurate. For example, an isochrone will take account of the time taken to reach the crossing points of a river whereas a straight-line distance is based on the assumption that the river can be crossed at any place.

2.16 Assumptions about driving speeds must be clearly stated in any submission because they affect the size of a drive-time isochrone.

2.17 The CMA has used isochrones in many merger investigations, including Rontec/Total (2011), One Stop/Alfred Jones (2013), Asda/Co-operative Group (five stores) (2014), and Pure Gym/The Gym (2014).

- *Postcode areas*

2.18 The CMA has sometimes used postcode areas to measure catchment areas.[16] These are constructed by centring on the postcode area in which one of the Parties' stores is located and then adding neighbouring postcode areas until the catchment area captures 80% of customers. Using postcode areas

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[14] This gives a radial catchment area, which is referred to as an isoradial. An isoradial is a line that connects points that are an equal straight-line distance from a focal point.
[15] An isochrone is a line that connects points that are an equal travel time away from a focal point.
[16] A postcode area is typically defined as the first two to four digits of the postcode, depending on area (for instance N1 or SW19) plus the next digit.

can have advantages over straight-line distance and drive-time measures where it allows the CMA to use information on the local area to estimate shares of sales in a catchment area. For example, in mergers in the funeral home sector the CMA has used data on the number of deaths in each postcode area to estimate the total number of deaths in a catchment area and the share accounted for by a funeral home.

2.19 The CMA has used this approach in a number of mergers in the funeral sector, including Co-operative Group (CWS) Limited/United Co-operatives Limited (2007), Co-operative Group Limited/George Burgess & Son Ltd (2009) and Lodge Brothers Funerals Ltd/two funeral homes in the London Borough of Hillingdon (2009).

80% catchment areas

2.20 The CMA has usually used catchment areas that capture 80% of a store's sales or customers. However, the CMA may adjust its starting point where there is evidence that this is appropriate:

(a) In Pure Gym/The Gym (2014), the CMA found that the Parties assessed competition over a narrower area than the 80% catchment and analysed each overlap area in detail instead of relying on a catchment area-based filter (see Section 3 for more details on filters).

(b) In Greene King/Spirit Pub (2015), the CMA used 60% catchment areas because customers who lived nearer the pub were more likely to visit regularly and therefore account for a larger share of revenue.

Individual or average catchment areas

2.21 The CMA usually calculates an average catchment area for a sample of stores. However, in some cases the CMA has calculated the catchment area for individual stores as a sensitivity, or as the basis of the analysis.

2.22 Individual store catchment areas can be informative where people living in different places are willing to travel very different distances to visit a store, and where differences in travel patterns are not related to observable factors such as whether the area is in an urban or rural area. However, catchment areas for individual stores depend on the number of stores in the local area – customers do not need to travel far if there are lots of stores in the local area. Therefore, store catchment areas may not be related to customers' willingness to travel and it may be preferable to use average catchment areas to identify overlaps.

Asymmetric catchment areas

2.23 In some cases the CMA has used different catchment areas for different types of store. For example, a large one-stop shop grocery store typically has a 10- to 15-minute catchment area, whereas a small convenience store has a much smaller catchment area.[17]

2.24 Asymmetric catchment areas have been used in most mergers in the grocery sector, as well as in a number of other sectors:

(a) In Carpetright/Allied Carpets (2010) the OFT found that some independent stores had narrower catchment areas than the larger, often out-of-town, stores that were often located out of town.

(b) In Celesio/Sainsbury's (2016) the CMA found that Sainsbury's pharmacies drew customers from a wider area than Lloyds, partly because they were located in a supermarket. As a result, the CMA used different catchment areas for supermarket and non-supermarket pharmacies.

Rural or urban

2.25 In some cases the CMA has used different catchment areas for stores in rural and urban areas. For example:

(a) in Rontec/Total (2011) the OFT used 10-minute drive-time isochrones for urban areas and 20-minute drive-time isochrones in rural areas;

(b) in Asda/Co-operative Group (five stores) (2014) the CMA used 10-minute drive-time isochrones in urban areas and 15-minute drive-time isochrones in rural areas for one-stop shop grocery stores and 5-minute drive-time isochrones in urban areas and 10-minute drive-time isochrones in rural areas for mid-sized grocery stores; and

(c) in Greene King/Spirit Pub (2015) and Celesio/Sainsbury's (2016) the CMA distinguished between rural and urban areas using information from the Office of National Statistics.

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[17] See CC, Groceries market investigation.

3. Filtering

3.1   A filter is a simple rule based, for example, on the number of competitors in the catchment area. A store passes the filter if there will be sufficient competitors in the catchment area after the merger.

3.2   The CMA mainly uses filters as a screen. When there are many overlaps between the Parties' stores the CMA uses filters to screen out overlap areas where there are unlikely to be competition concerns. This allows the CMA to focus on the remaining overlap areas, which are each analysed in more detail in an assessment that is informed by an understanding of the nature of competition and reflects the factors discussed in this and later sections.

3.3   In this section we focus on these screening filters that are used to rule out non-problematic overlap areas. In some phase 2 merger investigations the CMA has used more sophisticated rules to conduct a competitive assessment and to identify the local areas where the merger may be expected to result in an SLC. The CMA has taken this approach when there were a very large number of potentially problematic overlap areas (see, for example, Ladbrokes/Coral (2016)).

3.4   The screening filter is usually implemented early in a case, often in pre-notification. This allows the CMA to conduct further analysis of any areas that may give rise to competition concerns. In some cases, the CMA has refined the filter during the course of an investigation when it has received additional information.

3.5   Screening filters must be applied systematically and need to be based on a readily observable concentration measure, such as the fascia count (see paragraph 3.22).

3.6   The CMA has sometimes done additional filtering to check that stores have not been incorrectly screened out. This is done by flexing the catchment area or using a different filter.

3.7   Phase 2 merger investigations often involve more complex filters and may use the results of surveys or empirical evidence.

3.8   In this section, we discuss:

(a) identifying which competitors should be included in the filter (the effective competitor set);

(b) choosing a concentration measure;

(c) weighting the concentration measure; and

(d) setting a threshold.

The effective competitor set

3.9 The CMA uses information on the nature of the products or services offered by the Parties and customer preferences to identify the Parties' main competitors (the effective competitor set).

3.10 As discussed above, screening filters are conducted early in a case and for pragmatic reasons in most cases the CMA has identified the effective competitor set across local areas rather than identifying every competitor in every local area.

3.11 In past cases the CMA has drawn on a range of readily available information to assess whether a firm should be included as a competitor in the filter. This has included:

(a) internal documents;

(b) evidence on store characteristics;

(c) evidence from competitors and customers; and

(d) surveys.

3.12 In some more complex cases, the CMA has refined the effective competitor set using data and econometric analysis (see Section 6).

Internal documents

3.13 Internal documents can provide useful information on the competitors that the Parties benchmark their retail offer against. For example, in the casino merger Rank/Gala (2013) group-level internal documents provided useful information that suggested that other types of leisure venue such as cinemas should not be included in the competitor set.

3.14 Documents that have been prepared by the local store manager or the regional manager, or centrally prepared documents that have a local focus, may identify individual competitors in a local area:

(a) In Rank/Gala (2013) internal documents only identified nearby casinos as competitive threats and suggested that bingo venues did not constrain casinos.

(b) In Ladbrokes/Coral (2016) internal capital expenditure requests submitted by local store managers identified the rival store(s) with which they competed.

3.15 Competitors may provide useful information on the effective competitor set and they may have internal documents or research that provides useful insights.

Evidence on store characteristics

3.16 Information on store characteristics can indicate whether there are similarities between different stores and this can provide evidence to assess whether customers view them as close substitutes.

3.17 The relevant stores characteristics may include qualitative and quantitative measures such as range, store size, branding and opening hours. For example, in Poundland/99p Stores (2015) the CMA compared the ranges and prices for a selection of products of Poundland with those of a number of other retailers.

Survey evidence

3.18 A survey can provide useful information on the factors that matter to customers when they choose a store.

3.19 In some cases, customers are able to identify the set of alternative stores that they use, or would consider using. Diversion ratios (see Section 5) may also be used to provide a ranking of competitors and can be used to identify whether different types of competitors should be included in the effective competitor set. For example, in Ladbrokes/Coral (2016), the CMA's survey, along with other pieces of evidence, indicated that the Parties' customers considered independent LBOs to be a slightly less attractive alternative than LBOs managed by other national chains. The evidence also suggested that the Parties' customers did not perceive any significant differences between the LBOs of the different national chains.

What concentration measures?

3.20 As noted in paragraph 3.1 the filter needs to be based on a readily observable measure, as filtering is usually carried out at an early stage in the investigation.

3.21   The CMA usually uses either a fascia count or a store count to measure concentration. The choice of measure depends on the characteristics of the market and the factors that drive customers' choice of store.

Fascia count

3.22   The CMA often uses a count of the number of independent fascias in a local market to measure concentration. Fascia counts have been used in mergers in a wide range of sectors, including; groceries, sports retailers, and cinemas, as well as builders' merchants.

3.23   Fascia count is likely to be the appropriate measure if brand is important to customers and customers choose between the fascias in their local area, irrespective of the number of stores that they have. Fascia count takes account of the fact that customers may perceive that stores of the same brand have similar retail offers. As such, the entry of a new fascia is likely to have a greater effect on competition than the entry of another store in a chain already present in the area:

   (a) In Cineworld/City Screen Limited (2013) the CC used a count of the number of cinema fascias because consumers choose between brands.

   (b) In Martin McColl/Co-operative (2016) the CMA used a count of the number of grocery fascias because consumers choose between brands.

Store count

3.24   Store count is a good measure of concentration if the brand is not very important or visible to the customer. Store count can also be a useful measure in cases where factors such as distance are an important driver of competition:

   (a) In Greene King/Spirit (2015) the CMA used a count of the number of pubs in the local area because customers may not have been aware of the chain to which a pub belonged.

   (b) In Ladbrokes/Coral (2016) the CMA used a count of the number of betting shops in the area because location was very important to consumers.

   (c) In Celesio/Sainsbury's (2016) the CMA used a count of the number of pharmacies in the area because location was very important to consumers.

Market shares

3.25   The CMA has sometimes used market share estimates to measure concentration. This is only possible where there is data on the size of the local market and on the sales of each competitor. For example, the CMA was able to calculate local shares in Co-operative Group Limited/Funeral Business of George Burgess & Son Ltd (2009). The CMA used data on the number of deaths in each postcode district in the UK to estimate the size of the overall market for funeral services at a local level and determine the volume share of each market participant in the local area. However, in many retail sector cases involving local markets, local market share data may not be available.

Weighting the concentration measure

3.26   In some cases, the CMA has weighted the concentration measure. This additional complexity is more frequently used in phase 2 merger investigations. The CMA has used this approach in the design of screening filters as well as in the design of rules that identify the local areas where the merger may be expected to result in an SLC (for an example of the latter see Ladbrokes/Coral (2016)).

3.27   In using fascia count or store count we assume that each individual fascia or store in the effective competitor set in an area is equally close, and also that all competitors within a given distance impose the same competitive constraint. Depending on the facts of the case these may or may not be reasonable assumptions. Simple counts of fascias or stores may under or overstate the extent of competition in an area because they do not reflect important differences between fascia or stores.

3.28   Where there is evidence of systematic variations based on observable characteristics, the CMA has incorporated these into its analysis. This has either been done by adjusting the weight of stores or fascias used in the filter, or by excluding firms from the filter and taking account of the constraint they impose in the competitive assessment.

3.29   The adjustments have fallen into two categories: adjusting the weight that is assigned to a specific competitor; or weighting all stores based on distance.

Adjusting the weight that is assigned to a specific competitor

3.30   By adjusting the weight given to a specific competitor, the CMA is able to account for differences between different fascias, or between different types of competitors. The CMA has typically determined the weight using qualitative evidence, such as; internal competitor monitoring reports, and/or quantitative

evidence such as; surveys, performance concentration analysis, or entry exit analysis:

(a) In Greene King/Spirit (2015), the CMA found that wet-led pubs (ie pubs that have a drink-focused offering) exerted some constraint on the Parties' dry-led pubs, though not as much as other dry-led pubs. The CMA included wet-led pubs in the effective competitor set, but applied a discount factor related to the diversion ratio (see Section 5) to reflect the reduced competitive constraint they imposed.[18]

(b) In Poundland/99p Stores (2015) the CMA found that although supermarkets and value general merchandise (VGM)[19] retailers competed with the Parties, they did not compete as closely as other single price point retailers. As a result, the CMA applied a 0.5 weight to both supermarkets and VGM retailers, based on the empirical analysis and the results of the consumer survey.

(c) In Ladbrokes/Coral (2016) the CMA found that independent LBO operators exerted less of a competitive constraint on the Parties than national LBO operators. As a result, the CMA applied a 0.9 weight to independent LBOs, before then applying a distance weighting (see paragraph 3.32(b)).

Weighting all stores based on distance

3.31 Where there is evidence that distance is an important driver of store choice for customers, stores located close together are likely to be closer competitors to each other than stores located further apart.

3.32 There are a number of different ways to control for the impact of distance on closeness of competition, all of which attach some form of decreasing weight to each store based on how far it is away from the focal store:

(a) In Celesio/Sainsbury's (2016) the CMA found that distance was an important factor for consumers when they choose which pharmacy to visit. The CMA used a weight based on straight-line distance from the focal store to each store in the catchment area. It then used this weighted store count to calculate the Parties' combined share of stores in the area and the increment due to the merger.[20]

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[18] The discount factor was determined by looking at both the survey results and the number of pubs in that category (in the isochrone) and setting the discount factor so that expected diversion to that category of pubs is equal to actual diversion.

[19] This was defined as meaning any of the following retailers: B&M, Home Bargains, Poundstretcher, Wilko, Poundworld's Bargain Buys fascia and 99p's Family Bargains fascia.

[20] This was calculated as the sum of the Parties' weighted store count, divided by the total weighted store count.

(b) In Ladbrokes/Coral (2016) the CMA found that that distance was an important factor for consumers when they choose which bookmakers to visit. The CMA used a weight based on straight-line distance from the focal store. The CMA calculated a 'weighted share of shop' around each focal shop as its primary measure of competition.[21]

What is the threshold for concern?

3.33 The appropriate threshold for screening out non-problematic overlaps depends on the characteristics of the market and the definition of the effective competitor set. For example, the appropriate threshold for identifying overlaps that require a detailed competition assessment is likely to be higher if the effective competitor set is narrowly defined and excludes firms that are likely to exert some competitive constraint. The CMA designs the filters to minimise the risk of screening out overlaps that could be problematic.

3.34 Internal documents that provide insights into the nature and intensity of competition in the market are likely to be helpful in deciding the appropriate threshold. Empirical evidence can also provide useful information on the relationship between outcomes for customers and the number of firms in the market (see performance concentration analysis and entry/exit analysis (Section 6)).

Fascia count threshold

3.35 The CMA has used a 'four to three' fascia count threshold in mergers in the grocery sector. That is, the CMA has identified overlaps as potentially problematic where the merger reduces the number of fascia in the market from four to three. In other sectors, the CMA has often used a 'five to four' fascia count threshold:

(a) A four to three fascia count threshold was first used in Safeway (2003) and has been used in subsequent supermarket investigations. This has been consistent with evidence found during the course of merger enquiries and the Groceries market investigation.

(b) In Saint-Gobain/Build Center (2012) the OFT used a five to four fascia count threshold to screen out non-problematic areas. This was consistent with the approach taken in comparable cases.

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[21] This was defined as the sum of the weights associated with the shops of the merging party divided by the sum of the weights associated with all shops present in the area.

(c) In Rank/Gala (2013), the CC used a five to four fascia count threshold to screen out non-problematic areas. It adopted this threshold to ensure that no potentially problematic areas were missed. This threshold was based on an assessment of the Parties' internal documents, the evidence from surveys and the econometric analysis.

(d) In Cineworld/City Screen Limited (2013), the CC used a four to three fascia count threshold which excluded independent cinemas. Given the evidence available, which included internal documents, econometrics and surveys, the CC considered that this was appropriately cautious.

Store count threshold

3.36 In past cases the CMA has calculated the share of stores from the store count. Previous CMA decisions in mergers in markets where products are undifferentiated suggest that combined market shares of less than 40% will not often give the CMA cause for concern over unilateral effects.[22] The CMA has taken this as a starting point when assessing the appropriate share of store threshold.

3.37 The share of store threshold usually has two elements: the combined share of stores and the increment due to the merger. If the combined share of stores is high, but the increment is low, this is likely to indicate that one of the Parties is not an important competitive constraint in the local area:

(a) In Greene King/Spirit (2015) the CMA used a 35% share of stores (pubs) with a 5% increment. This threshold was higher than in previous cases in the pub sector because evidence from a consumer survey and internal documents suggested that some customers would switch to alternatives outside the effective competitor set.

(b) In Celesio/Sainsbury's (2016) a 40% weighted share of stores, with an increment of 15% was used. This threshold was consistent with a diversion ratio from the consumer survey of around 30%.

(c) In Ladbrokes/Coral (2016) the CMA used the weighted store counts to calculate a proxy for the diversion ratio, this was referred to as a weighted share of stores. The CMA used a 35% weighted share of stores. This threshold was determined by analysing the results of a consumer survey and econometric analysis.

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[22] *Merger Assessment Guidelines*, paragraph 5.3.5.

4.   Bricks-and-mortar and online retail

4.1   One question that often arises in retail mergers is how the CMA assesses the competitive interaction between different distribution channels. In this section we focus on how the CMA has assessed whether bricks-and-mortar retailers are constrained by online retailers;[23] specifically, whether the online constraint is sufficient to prevent bricks-and-mortar retailers worsening their retail offer as a result of a merger. In general, this will occur if a significant share of those customers who shop at a bricks-and-mortar store would switch to online retailers in response to a small, but significant change in the relative PQRS.[24]

4.2   To assess the strength of the online constraint, the CMA has typically used the same sources of evidence as it uses for other aspects of its competitive assessment. These include customer surveys, internal documents, econometric analysis, and third party views.

4.3   In some retail sectors the CMA has found that the competitive interaction between the online and bricks-and-mortar channels is evolving rapidly and this needs to be taken into account in the analysis.

4.4   In the following section we set out some of the issues encountered:

(a) The use of customer surveys to test out-of-market constraints.

(b) The use of internal documents.

(c) Interpretation of price differences in different channels.

(d) The role of price discrimination.

(e) Interpretation of trends and migration versus diversion.

(f) Customer search.

(g) Multi-channel offers.

(h) Online retailer mergers.

Customer surveys

4.5   In some cases the CMA has used a customer survey to obtain information on customer preferences with regard to different distribution channels. This has

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[23] This can be pure play online retailers or bricks-and-mortar retailer with an online presence.
[24] The CMA has also investigated mergers of online retailers and examined whether online stores are constrained by bricks-and-mortar stores has also arisen. For example: Amazon/The Book Depository (2011), Yoox/Net-a-Porter (2015), Mapil Bidco/Chain Reaction Cycles (2016).

included information about current customer behaviour, search behaviour and an estimate of the proportion of bricks-and-mortar customers who would divert to online providers.

4.6 When looking at different distribution channels it is important to design the survey carefully, and to consider the appropriate survey mode. For example, a survey conducted online is likely to over-represent the views of customers who are more familiar with the digital environment and online shopping tools:

(a) In Poundland/99p Stores (2015) the Parties conducted an online survey of customers, who were recruited by encouraging customers to go to a website shown on the till receipt. The CMA was concerned that those customers willing to go online to complete a survey may not be representative of the population of customers, which was supported by the CMA's survey in phase 2.

(b) In Ladbrokes/Coral (2016) the CMA found that the results of a survey of an online panel were not representative across channel use and were likely to be heavily biased in favour of those who gamble online and who would divert online.

4.7 For more information on best practice in surveys, please see *Good practice in the design and presentation of consumer survey evidence in merger inquiries*.

Internal documents

4.8 The CMA has used internal documents to help understand how retailers perceive the interaction between different channels and how it affects business decisions. For example, if bricks-and-mortar retailers regularly monitor online competitors alongside other bricks-and-mortar competitors and if this analysis is used to inform business decisions on pricing and quality, this could point to a relatively strong interaction between the two channels.

4.9 If internal documents point to online retailers as a 'strategic threat' but day-to-day business decisions are still primarily informed by the monitoring of bricks-and-mortar competitors, then the CMA may be less confident that the online channel constrains the bricks-and-mortar channel. For example, in Ladbrokes/Coral (2016), although the Parties argued that online suppliers constrained their business, their internal documents indicated that they tended to focus on their bricks-and-mortar competitors when tracking the performance of their retail estates. These internal documents did not indicate that the Parties responded to a change in the constraint imposed by the online channel.

Differences between the prices charged by retailers in different channels

4.10   The CMA has found that, in and of itself, the existence of price differentials between the bricks-and-mortar and online channels does not necessarily imply that there is no competitive interaction between them. For example, bricks-and-mortar stores may be able to charge a higher price as they offer additional services – such as the ability to try the product – and no delivery times.

4.11   The magnitude of any price differential may be an indicator of the strength of customers' preferences for shopping in stores. More importantly, changes in such price differentials over time might shed some light on how competitive dynamics are evolving in the industry:

   (a) In Waterstone's/Ottakar's (2006) the CC found that the Parties had increased their discounts from the recommended retail price (RRP) in response to increasing discounts by other retailers, including online retailers. The CC concluded that there were important competitors active in other distribution channels.

   (b) In Ladbrokes/Coral (2016), the CMA looked at the extent to which retailers charged different prices and earned different margins for their products depending on whether they are sold online or in stores. The CMA found that there had been limited variation in the gross win margin differential in the last five years, which indicated that the competitive constraint exercised by online providers on bricks-and-mortar operators was changing only very slowly, and not for all products.

Price discrimination

4.12   In past cases the CMA has found that the constraint from online retailers requires that bricks-and-mortar retailers cannot segment their customers and charge different prices to those who are likely to divert online and those that are unlikely to do so.

4.13   In most retail sectors, customers are anonymous and retailers have little information on their shopping habits. However, in some sectors, retailers that operate across both channels might be able to identify those bricks-and-mortar customers who also shop online and offer them cheaper prices in store without extending these offers to other customers.

Migration versus diversion

4.14   Bricks-and-mortar retailers have often pointed to the growth of the online channel, and/or to specific evidence that some of their customers are migrating online. However, this type of evidence may not necessarily be informative of the strength of the online constraint.

4.15   In Ladbrokes/Coral (2016) the CMA assessed whether a sufficient share of bricks-and-mortar customers would respond to a small, but significant change in relative prices by switching to online providers. It concluded that the fact that a number of bricks-and-mortar customers regularly migrate online irrespective of changes in quality, or price, did not allow any strong inferences about how substitutable the two channels were for the remaining retail customers.

Search

4.16   In some cases, the CMA has found that the online channel exerts pressure on the bricks-and-mortar channel by allowing easier search for customers, even if most customers end up purchasing the products in store. For example, in Thomas Cook/Co-operative Group Ltd/Midlands Co-operative Society Ltd (2011), the CC found that around half of customers searched online before booking a holiday in store, and a quarter of those who asked for a discount did so because they had seen lower prices online.

4.17   However, for this type of behaviour to be an effective constraint on bricks-and-mortar retailers, there must be some evidence that it impacts their business decisions (for example, in the form of internal documents, correlation in prices over time).

Online retail mergers

4.18   The CMA has also investigated mergers of online retailers and assessed the constraint from bricks-and-mortar retailers:

(a) In Amazon/The Book Depository (2011), the OFT found that the online retailers were not constrained by offline retailers, based primarily on the results of a survey conducted by the Parties.

(b) In Yoox/Net-a-Porter (2015), the CMA found that online fashion retailers and bricks-and-mortar retailers operated in separate markets, based primarily on the Parties' internal documents and third party views.

(c) In Mapil Bidco/Chain Reaction Cycles (2016), the CMA found that online retailers of bike components and accessories were not constrained by

bricks-and-mortar retailers, based primarily on an analysis of the Parties' internal documents, third party views, and a qualitative analysis of the product ranges and prices available in the two channels. The Parties argued that many customers would need to visit a bricks-and-mortar store for fitting and technical assistance. The CMA noted that detailed online product information attempted to replicate this assistance.

5.   Diversion ratios and price pressure indices

5.1   In some retail mergers the CMA has used diversion ratios and simple quantitative indicators such as pricing pressure indices (PPIs) to evaluate the potential for the merger to create incentives for the merging firms to raise their price.

5.2   These measures can be used as part of a simple screen to rule out overlap areas that are not likely to be problematic, or as part of the more detailed competitive assessment of areas that have failed a filter. These measures are generally used as one input into the decision and are unlikely, on their own, to determine the outcome of a particular case.

5.3   In this section, we set out:

(a) how the CMA uses diversion ratios and PPIs;

(b) calculating diversion ratios;

(c) calculating profit margins;

(d) calculating pricing pressure indices; and

(e) deriving empirical estimates of pass-through

How the CMA uses diversion ratios and PPIs

5.4   In many retail markets, retailers compete on a number of aspects of the retail offer. When altering aspects of the retail offer, there are both costs and benefits to the retailers concerned. For example, if a retailer raised its prices, a cost of doing so would be the profit lost through customers switching to its competitors. However, the retailer may also benefit from increased profit from those customers who do not switch but who pay the higher prices.

5.5   When reviewing a merger, the CMA considers whether some of the profits lost by one of the Parties (resulting from a hypothetical change in the retail offer) would be recaptured by the other Party. If so, the merger may create an incentive to change the retail offer (for example, raise prices). The strength of this incentive will depend, among other things, on the profits from sales that the Parties would recapture from the change to the retail offer.[25]

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[25] The CMA has often considered this by reference to the incentive to raise prices, such reference serving as a proxy for other aspects of the retail offer. However, the CMA has also considered separately and in more detail how other aspects of the retail offer may be altered by the merger.

Calculating diversion ratios

5.6   The diversion ratio provides an indicator of the closeness of competition between firms or products.

5.7   Diversion ratios can be calculated in a number of different ways, depending on the information available in a particular case. In retail mergers, the CMA has most often used the results of consumer surveys to calculate diversion ratios.

5.8   The diversion ratio attempts to capture what customers would do in response to an increase in prices. However, it can be difficult to survey a sufficiently large number of customers who would switch in response to a price rise to estimate a robust diversion ratio. Therefore, the CMA asks customers what they would do in response to the closure of a store (or stores).

5.9   The diversion ratio from firm A to B is then calculated by dividing the number of customers who switch from A to B by the total number of customers who gave eligible responses to the diversion question. (See Technical Box 4 for a discussion of how the CMA calculates diversion ratios and PPIs when one or both of the Parties has more than one store in any area and *Good practice in the design and presentation of consumer survey evidence in merger inquiries* for more detail on the precise calculation.)

5.10   Diversion ratios can either be combined with margins to give a measure of the pricing pressure or used on their own as a measure of closeness of competition:

   (a) In Rank/Gala (2013) the CC focused on diversion ratios as a general measure of closeness of competition.

   (b) In Ladbrokes/Coral (2016) the CMA carried out a survey in a sample of 15 local overlap areas. The survey results were used to inform the decision on the strength of the constraint from online, whether there were aggregated local effects and as an input to determining the local areas in which the merger would be likely to lead to an SLC.

   (c) In Celesio/Sainsbury's (2016) the CMA carried out a survey in a sample of 16 local overlap areas. The survey was used to calculate the diversion ratio between the Parties, and between the Parties and third parties. This was used as in input into the initial filter as well as in the detailed assessment of areas failing the filter.

5.11   The CMA has adjusted the diversion ratio calculation when the merger involves the sale of just part of a retail chain. For example, in Asda/Co-

operative Group (five stores) (2014) CGL was only selling a small proportion of stores to Asda and was keeping stores in a number of the overlap areas. The CMA considered that the diversion ratio to Asda gave a measure of the strength of the competitive constraint that would be lost as a result of the merger, and the diversion ratio to other retained CGL stores, gave a measure of the competitive constraint that would be gained by the merger. The combination of these two diversion ratios was used to calculate the PPI.

Calculating pricing pressure indices

5.12 Price pressure indices (PPIs) combine diversion ratios with information on product margins and prices to give an approximate measure of the incentives for the Parties to raise their price. PPIs are simple quantitative indicators. They do not attempt to predict the exact extent of post-merger price rises. They measure the extent of the upward price pressure or, if an assumption is made about the degree to which this pressure is passed through to customers, a measure of upward price movement.

> **Technical Box 1: Calculating variable profit margins**
>
> Variable margins are made up of the sales of the relevant products which both Parties supply less their variable costs. In past cases the CMA has considered that cost variability depends on the period over which the Parties could change their retail offer. The decisions on how to derive variable margins have therefore been made on a case-by-case basis and have required an element of judgement. In general, if margins are high, unilateral effects are more likely to arise as a result of a merger:[26]
>
> *(a)* In Somerfield/Morrison (2005), the CC considered margins based on 'direct costs' including cost of sales, staff costs and distribution costs.
>
> *(b)* In Asda/Netto (2010), the OFT used one month as a reasonable period over which to assess variable margins. The OFT considered that over a month, a supermarket can change a number of variables including its staffing levels for particular shifts, levels of stock and pricing decisions.
>
> *(c)* In Cineworld/City Screen Limited (2013) the CC sought to calculate the margins and revenue that the Parties could expect to obtain from an additional film admission. This included both the margin and revenue associated with films and ancillary services such as food and drink. The CC analysis considered what percentage of each cost and revenue item was variable with admissions.

5.13 The choice of which PPI is most appropriate (and which form of the PPI[27]) depends on the circumstances of the case and on the information available, including that on the rate of cost pass-through (see Technical Box 3). Each PPI is based on strong assumptions about the nature of competition, costs and the way in which demand changes with price. In past cases the CMA has looked at how likely these assumptions are to hold and which best fits the facts of the case, whilst making the limitations of PPIs clear in its assessment.

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[26] See paragraph 5.4.9(b) of the *Merger Assessment Guidelines*.
[27] For instance in cases where there are asymmetries in the cost structure between two firms it may be appropriate to use an asymmetrical form of the PPI. See Asda/Netto (2010).

> **Technical Box 2: Three main types of PPIs**
>
> The CMA and its predecessor bodies have used three main types of PPIs:
>
> 1. The Upward Pricing Pressure (UPP) metric compares an estimate of the value of lost sales (based on estimated diversion ratios and margins) with an estimate of efficiencies resulting from the merger. If the value of lost sales is higher than the value of efficiencies, the merger is likely to lead to a price increase.
>
> 2. The Gross Upward Pricing Pressure Index (GUPPI) is similar to UPP, but does not allow for any efficiencies. The GUPPI can be interpreted as equivalent to a notional cost increase for the Parties. If we make an assumption about the rate of cost pass-through, it can be interpreted as an upward price movement.
>
> 3. The Illustrative Price Rise (IPR) combines an estimate of the value of lost sales with an assumption about the form of demand, or an empirical estimate of cost pass-through, to provide an estimate of the upward price movement. It takes account of accommodating price reactions. IPR has historically considered that the relationship between prices and quantity is either linear or isoelastic.[28]

5.14   In general:

    (a) GUPPI is the most commonly used measure. It requires the least information, but has no straightforward interpretation in terms of a price increase unless we make some additional assumptions about pass-through. The CMA has used GUPPI in a number of retail mergers including Shell/Rontec (2011), Saint-Gobain/Build Center (2012), Edmundson/Electric Center (2012), Rexel/Wilts (2012), Cineworld/City Screen (2013) and Original Bowling/Bowlplex (2015). For example:

        (i) In Saint-Gobain/Build Centre (2012) the Parties conducted surveys in 49 local areas[29] that failed the initial filter. The OFT combined diversion ratios, margins and a measure of the pass-through to calculate the GUPPI in each area. The OFT considered that this was an indicator (among others) of the presence of horizontal unilateral

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[28] Isoelastic demand is concave and assumes that consumers have a constant elasticity, ie that the ratio of a change in price to a change in quantity is the same at all points of the demand curve.
[29] Surveys were not conducted in three local areas which failed the initial filter.

effects, and that a value of this measure greater than 5% gave rise to concern.

     (ii)   In Cineworld/City Screen Limited (2013) the CC carried out a survey of Cineworld and Picturehouse members. The CC used this along with a measure of the local margin to calculate the GUPPI in each local area. This was used as part of the competitive assessment.

(b) The IPR is expressed as a percentage price increase, which makes interpretation easier. However, it requires additional information on the form of demand and/or the extent of cost pass-through. One disadvantage of the IPR approach is that its results are sensitive to assumptions about the way demand changes with price. The CMA has used IPR in most grocery mergers[30] as well as in other mergers including Carpetright/Allied Carpet (2010), Sports Direct/JJB (2010), and Edmundson Electrical/Western Electrical (2014).

(c) The UPP can be useful where the CMA has information on efficiencies.

Technical Box 3: Deriving empirical estimates of pass-through

In some mergers, Parties have submitted empirical evidence on cost pass-through. This attempts to show how prices have reacted to changes in costs in the past. These can be useful in understanding which PPI should be used in a particular case (or in calibrating GUPPI as a measure of the upward price movement). This is because each PPI makes different assumptions about how incentives to increase prices are passed through to consumers, which can then be compare to empirical evidence on pass-through.

For example, in Saint-Gobain/Build Centre (2012), the OFT analysed data on a revenue-weighted basket of goods, to estimate pass-through for the branch network as a whole. This suggested pass-through was around 100%. This evidence led the OFT to conclude that it was not appropriate to use isoelastic IPR, as this assumed a pass-through rate of greater than 100% at all times.

5.15   Where no reliable information is available on demand or efficiencies, the CMA has found it preferable to use GUPPI and consider other factors qualitatively

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[30] See for example, GCL/Somerfield (2008) and Asda/Co-operative Group (5 stores) (2014).

rather than make simplifying assumptions to calculate more sophisticated indicators.

5.16   PPIs do not take account of other factors that are relevant to the competitive assessment, including merger efficiencies (with the exception of UPP – see Technical Box 2), product repositioning and entry. The CMA has taken these factors into account separately as part of its wider competitive assessment.

Technical Box 4: Calculating diversion ratios and PPIs in multi-store areas

- In some retail mergers there might be some areas where one or both Parties own more than one store. Where this is the case, the CMA must decide how to capture the interactions between the different stores owned by the same party in the calculation of diversion ratios and PPIs. This has implications for the formulation of the diversion question(s) in consumer surveys, and for the formulas used to calculate the PPIs.

- It is possible to formulate the 'diversion question' in a customer survey in two different ways:

  o the survey can ask respondents where they would go if the particular store they visited on that occasion was closed for a period of time; or

  o the survey can ask respondents where they would go if all stores of the same brand were closed.

- The first formulation leaves open the possibility that a proportion of customers might respond to a closure of a given store by going to another store of the same brand (ie there might be some 'own-brand diversion'); whereas the second question 'forces' customers to go to a store of another brand. As a result, diversion ratios based on the first approach will indicate a lower level of diversion between the Parties than diversion ratios based on the second approach.

- Which question to ask and how to treat own-brand diversion depends in the first instance on the theory of harm that is investigated:

  o If the CMA is investigating a theory of harm based on the aggregation of local concerns – as the Parties apply the same parameters of competition uniformly across their estates – the right approach is to use the second formulation of the diversion question and disallow own-brand diversion. In this context, a customer who decides to leave a shop of one party in response to a price increase is very unlikely to go a different shop of the same party as this will also experience the same price increase.

  o If the CMA is investigating a local theory of harm – where the firms flex the parameters of competition in individual shops – the interactions between the stores are more complex, and different approaches may be appropriate depending on the circumstances of the case.

- Consider the situation depicted in Figure 1, where one of the merging party owns two stores (1.a and 1.b), and the other merging party owns one store (2).

Suppose we observe significant own-brand diversion from store 1.a to store 1.b.

Figure 1
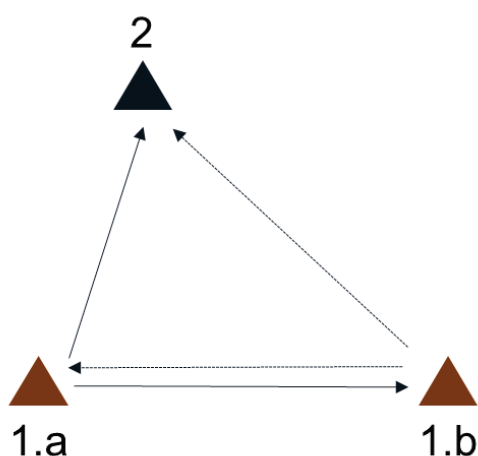
- One possible argument is that the effect of own-brand diversion is already present pre-merger, and therefore to identify the effect of the merger we should use the first formulation of the diversion question and allow own-brand diversion to reduce diversion between the merging parties. The argument is that the owner of shop 1.a will already offer a high price pre-merger to reflect the fact that they retain a share of the value of diverted sales. In other words, that aspect of market power is already 'priced in' pre-merger. Because we are interested in identifying the incremental effect of the merger, the diversion ratio from store 1.a to store 2 should be reduced by allowing for the amount of own-brand diversion that exists pre-merger.

- The problem with this argument is that it considers the change in pricing incentives at store 1.a in isolation, and ignores the other effects of the merger on pricing incentives at other stores. If shop 1.b also has some positive diversion to store 2, it will also have an incentive to increase price. This will increase the value of diverted sales from store 1.a to store 1.b, which will, in turn, prove a further incentive to increase price at shop 1.a. Moreover, if shop 1.b has some positive diversion to shop 1.a it will have a further incentive to increase its price to reflect the higher value of diverted sales at shop 1.a, and this will then further feedback on the pricing incentives at shop 1.a. So even though own-brand diversion is present pre-merger, its effects on pricing incentives change post-merger.

- If we know the diversion ratios between all shops in the area, then in principle it is possible to calculate an IPR to provide an approximation of the 'equilibrium price' in the market. The IPR methodology relies on diversion ratios that allow own-brand diversion, but it captures the interactions between different shops

under common ownership by solving their equilibrium pricing conditions 'as a system'.

- If we do not know the diversion ratios for all shops then we can potentially use GUPPIs to provide bounds for the effects of the merger. A GUPPI with a diversion ratio that allows for own-brand diversion is likely to underestimate the effects of the merger because it takes no account of these various feedback effects (it only considers the 'first order effects' of the merger on the pricing incentives of each shop considered in isolation). A GUPPI with a diversion ratio that disallows own-brand diversion might overestimate the effects of the merger because it does not truly reflect its incremental effect on pricing incentive. This approach is likely to be more appropriate in the context of a phase 1 inquiry.

6.   Econometric evidence

Introduction

6.1   Econometric techniques are widely used in retail merger investigations to provide quantitative evidence on the nature and extent of competition, particularly at phase 2, but also occasionally at phase 1. Such evidence often relates to how closely the Parties compete, over which dimensions they compete, and who their main competitors are. These questions are fundamental to merger investigations, meaning that rigorous econometric and quantitative analysis are important tools to help us make more informed decisions.

6.2   A variety of empirical methods are used in retail merger investigations. In some instances, simple descriptive analysis can provide useful evidence. We may analyse price changes over time for example, or test whether prices are correlated with costs. Econometric analysis goes beyond simple correlations, by aiming to establish robust causal relationships between variables.

6.3   Econometric analysis can form an important piece of the evidence base in a merger investigation. The relative weight that is attached to this evidence depends crucially on the robustness of the results – whether, for example, reasonable changes to the model or data produce similar outcomes – and the extent to which the analysis is able to isolate causal effects rather than correlations. This will depend in large part on the availability and reliability of the data we have.

6.4   This section provides details on the most common econometric models used in retail mergers. For information on the submission of original econometric work, and the process for interacting with the CMA on its econometric evidence see *Suggested best practice for submissions of technical economic analysis from parties to the Competition Commission* (CC, 2009).

Performance concentration analysis

6.5   Performance concentration analysis (PCA) is the most common econometric model used in retail merger cases. A PCA tests how the performance of a retail store is affected by the level of competition in its local area. Performance may be measured by margin, revenue, prices or quality – such as the number of staff or opening hours. In areas where the Parties' stores face only one competitor for example, the Parties may offer a poorer service than areas where their stores face many competitors.

6.6   We measure the extent of local competition by the number of stores – or fascias – within a given distance of the store of interest. As a first approximation, this distance is often the catchment area. We can then extend this basic framework to allow for different distances and/or different types of competing stores. Doing so, we generate quantitative evidence along two important dimensions of local competition:

   (a) What is the relevant geographic market – over what distances do retail stores compete with each other?

   (b) What is the relevant competitor set – with which fascia or type of store do retail stores compete most closely?

6.7   A primary concern with such analysis is that unobserved local factors, such as the level of demand or rental costs, might influence both the level of competition and a store's performance or prices. This would bias the results, as we would wrongly be conflating the impact of such factors on performance with that of local competition. Stores based in areas of high demand, for example, can charge higher prices, and there are likely to be many competing stores to serve the high demand. The model could therefore, incorrectly, suggest that greater competition causes higher prices.

6.8   Furthermore, the absence of any correlation in performance concentration analysis cannot be interpreted as strong evidence of a lack of a relationship between performance and competition, only that the model has been unable to show that there is a linkage.

6.9   PCA's have been used by the CMA in a number of cases:

   (a) In Rank/Gala (2013), the PCA analysis found that the number of competitors within a 30-minute drive-time reduced a casino's admissions and turnover, but there was no evidence of any effect beyond this distance. There was also some evidence that increases in local competition, caused by new entry, reduced a casino's margins.

   (b) In Celesio/Sainsbury's (2016), the CMA found that entry of single-owner independents and large-chain high street pharmacies exerted a competitive constraint on Lloyds, with opening hours increasing in response to new entry. Similarly, the analysis showed that the entry of supermarket pharmacies exerted a competitive constraint on Sainsbury's.

Entry and exit analysis

6.10   A (partial) solution to this problem is to consider how the store's performance varies over time in response to changes in the extent of local competition,

while controlling for unobservable factors using fixed effects. This partially alleviates the problem above, because factors such as local demand are, to a large extent, constant over time. Changes in the extent of local competition are driven by the entry and exit of new stores; hence this methodology is also sometimes known as 'entry-exit analysis'.

6.11 Entry-exit analysis can still suffer from the concerns above though, because new entrants may target locations where demand is expected to increase. Again, this would cause the model to wrongly assign the impact of demand on performance to that of competition. For specific applications, we can assess the extent to which this is likely to be true and the expected impact on the results. In general, such issues cause the model to under-estimate the impact of competition on performance, so that the results can be interpreted as 'lower bound' estimates.

6.12 Entry-exit analysis has been used by the CMA in a number of cases:

(a) In Poundland/99p Stores (2015), the CMA found that local entry by the Parties had a larger impact on each other's sales than local entry by supermarkets or small single price point (SPP) retailers. Further, the CMA found that entry within 0.5 miles generally had a larger impact on sales than entry between 0.5 miles and 1 mile.

(b) In Ladbrokes/Coral (2016) the CMA found that betting and gaming stakes at the Parties' stores declined when rival stores entered the local area. This effect was larger when entrants located very nearby, and when the existing level of competition was weak.

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