

**DIRECTORATE FOR FINANCIAL AND ENTERPRISE AFFAIRS  
COMPETITION COMMITTEE**

**Implications of E-commerce for Competition Policy - Note by the United Kingdom**

**6 June 2018**

This document reproduces a written contribution from the United Kingdom submitted for Item 5 of the 129th OECD Competition committee meeting on 6-8 June 2018.

More documents related to this discussion can be found at [www.oecd.org/daf/competition/e-commerce-implications-for-competition-policy.htm](http://www.oecd.org/daf/competition/e-commerce-implications-for-competition-policy.htm)

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## United Kingdom

### 1. Introduction

1. The e-commerce sector underpins an ever-growing part of the economy. In the UK, online sales by businesses in the non-financial sector were estimated at £511 billion in 2016, up from £503 billion in 2015.<sup>1</sup> In addition, around one-fifth of UK retail sales were taking place online by the end of 2017.<sup>2</sup>

2. This has led to the role of competition law, and its ability to deal effectively with competition concerns arising in the digital economy, being widely discussed among policy makers and stakeholders. In particular:

- In May 2015, the European Union published its wide-ranging Digital Single Market Strategy<sup>3</sup>, to which the CMA has contributed its views.<sup>4</sup>
- As part of this Strategy, the European Commission launched the sector inquiry into e-commerce.<sup>5</sup> The CMA responded to the Preliminary Report;<sup>6</sup> the Final Report was adopted in May 2017.
- In the UK, different parliamentary select committees have carried out inquiries looking at, for instance, the competitive impact of the online platforms<sup>7</sup>, internet regulation<sup>8</sup>, and the digital advertising market.<sup>9</sup>
- In April 2018, the UK Government published a ‘Green Paper’ on consumer markets,<sup>10</sup> which included consideration of the opportunities and challenges of the online economy for consumers, and sought views on, among other things, helping consumers benefit from their data and remain protected when online,

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<sup>1</sup> UK’s Office for National Statistics (ONS), [E-Commerce and ICT activity: 2016](#).

<sup>2</sup> ONS, 22 March 2018, [Retail Sales Index internet sales](#).

<sup>3</sup> This [strategy](#) sets out a range of measures to grow the digital economy across Europe.

<sup>4</sup> For more detail, see [CMA responses to consultations on the Digital Single Market](#).

<sup>5</sup> [European Commission inquiry into e-commerce](#).

<sup>6</sup> [CMA’s response to the Preliminary Report on the e-commerce sector inquiry](#).

<sup>7</sup> Report by the EU Internal Market Sub-Committee of the House of Lords, [‘Online Platforms and the Digital Single Market’](#), 20 April 2016.

<sup>8</sup> [Inquiry launch on the regulation of the internet](#).

<sup>9</sup> Report by the House of Lords Select Committee on digital advertising, [‘UK advertising in a digital age’](#), published on 11 April 2018.

<sup>10</sup> [‘Modernising consumer markets, Consumer Green Paper’](#), April 2018, Cm9595.

and helping consumers in utilities markets (in particular, the most vulnerable consumers) to obtain better deals.

3. The OECD Competition Committee has itself previously considered the following: ‘The Digital Economy’, (2011, 2012); ‘Vertical Restraints for Online Sales’ (2013); ‘Disruptive innovations and their effect on competition’ (2015); ‘Competition and Cross platform parity agreements’ (2015); ‘Big data: Bringing competition policy to the digital era’ (2016); ‘Algorithms and collusion’ (2017); ‘Rethinking the use of traditional antitrust enforcement tools in multi-sided markets’ (2017).

4. The CMA continues to develop its thinking on these issues, including on the use of algorithmic pricing and the role of platforms.

5. The CMA has taken an active role in relation to online markets. It has opened a number of investigations using different tools (including a combination of competition and consumer protection tools). This reflects its broader strategic focus on the digital economy and ensuring that online markets work well for consumers and businesses.

6. In order to minimise duplication with previous submissions recently made to the OECD<sup>11</sup>, this submission focuses specifically on the following issues relevant to e-commerce, drawing on the CMA’s recent experience in that regard:

- Part 1: antitrust enforcement against harmful vertical restraints;
- Part 2: merger control in e-commerce markets; and
- Part 3: how the CMA has used a range of competition and consumer protection tools (and spanning enforcement and research work) to understand the online economy better – and to promote competition and consumer welfare in the online economy, with particular focus on the CMA’s recent Digital Comparison Tools market study and its subsequent competition and consumer protection law enforcement action.

7. Before discussing those issues in more detail, however, we provide below some broader remarks regarding competition enforcement in the e-commerce sector and the wider digital economy.

## 1.1. General remarks

8. The digitalisation of commerce has brought significant benefits for consumers, stimulating innovation and significantly expanding the range of goods and services available to them. However, the evolving nature and competitive dynamics of online markets also create risks of harm to consumers, and have engendered significant debate as to how these risks should be addressed, and the role of competition law and competition authorities therein.

9. In broad terms, UK competition laws provide a flexible, ‘principles-based’ framework which has shown itself capable of adapting to changes and new challenges

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<sup>11</sup> In particular, the UK submission on algorithms and collusion (2017) and, the submission from Kate Collyer, Hugh Mullan and Natalie Timan on measuring market power in multi-sided markets (2017). See also the Annex - Examples of cases assessing market power in multi-sided markets considered by the CMA (or Office of Fair Trading, OFT).

in markets. That is also true in relation to certain competition concerns arising in online markets: as set out later in this paper, the CMA has recently used a range of tools to promote competition in those ‘novel’ markets.

10. That said, however, it is also the case that:

- Competition law and competition authorities are not best placed to address certain challenges created by the online economy or broader digitalisation: other means (regulatory or otherwise), or other bodies (such as data protection authorities or government policymakers) may be necessary, or more effective at addressing non-competition concerns; and
- The nature of the online economy, and the novel business models and practices that it has fostered, may create or exacerbate challenges for the traditional application of certain competition tools and raise questions of which authorities need to be mindful. These may include, for example:
  - How do established legal concepts, such as ‘agreement’ or ‘meeting of minds’, apply in a world of artificial intelligence and self-learning algorithms where collusion might occur spontaneously?<sup>12</sup>
  - How should authorities strike the balance between preserving the benefits that online sales channels offer to consumers – such as increased choice, improved convenience, and lower prices – and avoiding risks that incentives to invest and innovate are undermined by free riding?
  - How can authorities protect the benefits for consumers that personalisation of prices can bring (e.g., through targeted discounts and offers, which may also serve to increase competition between merchants) while ensuring that such personalisation is not used to exploit or mislead consumers (particularly, those which are vulnerable or less price sensitive)? It is important to understand when and how best to intervene.<sup>13</sup>
  - In fast moving markets:
    - How can competition authorities ensure that they take sufficiently swift action to prevent harm to competition / consumers, while at the same time exercising appropriate caution to ensure that their interventions do not ‘chill’ pro-competitive innovation or serve inadvertently to reinforce incumbency or existing business models?
    - Do competition authorities have the necessary powers to do so (be they powers to gather electronic evidence or to impose effective interim measures to avoid significant damage to particular persons or the public interest while their investigation is ongoing)?

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<sup>12</sup> See the UK submission on algorithms and collusion (2017).

<sup>13</sup> In May 2013, the OFT published a report on personalised pricing, following a call for information: [Personalised Pricing – Call for Information, May 2013](#), OFT1489. As part of this work, it undertook a review of the economic literature regarding the following research question: under what circumstances is online personalised pricing likely to cause economic harm to consumers? It published the report ‘[The economics of online personalised pricing](#)’, OFT1488. The CMA has also conducted a recent exercise on personalised pricing, which is further described at paragraph 67, below and in the annex to this paper.

- How should courts (reviewing competition authorities' decisions) recognise the importance for competition authorities to be able to act swiftly to preserve competition or gather evidence, even if the evidence or opportunities fully to engage with the parties under investigation is, as a result, limited?

11. The CMA continues to consider – and seek to deepen its understanding of – these and other issues, to invest in building its ‘digital expertise’ and capability,<sup>14</sup> and to assess which are the best tools, or range of tools, to address them. We consider it crucial that, as our understanding of new technologies and their effects grows – including through case experience or market studies – existing competition and consumer laws principles and procedures are kept under review to ensure that authorities have the legal tools necessary to gather evidence of, and investigate, possible anti-competitive practices in the digital economy, such that harm to competition or consumers does not go unchallenged.

12. The remainder of this paper considers three discrete aspects of the CMA’s work in the digital economy:

- Its assessment of restrictive agreements between businesses active at different levels of the distribution chain for online goods and services;
- Its consideration of mergers involving online markets; and
- How it has sought to use a combination of ‘hard’ enforcement and ‘softer’ tools and actions to better identify, and address harms to competition and consumers in online commerce.

## 2. Part 1: Antitrust enforcement against harmful vertical restraints

### 2.1. Vertical restraints and e-commerce

13. There is evidence to suggest that the growth of e-commerce, and associated increases in price transparency and price competition, have increased the prevalence of vertical restraints in contracts between businesses active at different levels of e-commerce markets.<sup>15</sup> The CMA recognises that, as in the offline world, online vertical restraints are frequently pro-competitive. In particular, they can provide manufacturers and retailers with the necessary incentives to deliver consumer benefits such as offer of product range and free in-store customer advice. However, vertical restraints may also be harmful to competition and consumers. The task for competition authorities,

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<sup>14</sup> The CMA is creating a new Data and Digital Insights team. It hopes to increase its capability to (i) understand digital and technology businesses and business models; (ii) capture, analyse, and draw conclusions from large data sets; (iii) share those data sets with partners and parties, where appropriate; (iv) use data and algorithms in developing appropriate remedies; and (v) store some data as part of a growing knowledge bank. It anticipates that some of the initial tasks of the team will include understanding better what data is available for its current cases, accessing/obtaining that data, and improving its use of it, as well as understanding how firms use data and algorithms in their business models and what implications that might have for consumers and competition.

<sup>15</sup> [Final Report on the e-commerce sector inquiry](#), 10 May 2017.

therefore, is to assess when restraints in fact risk harming competition or consumers and, where appropriate, to take action to address it.

### *2.1.1. Knowledge-building and engagement*

14. In this connection, the CMA has recently undertaken research specifically in relation to vertical restraints, and in particular businesses' incentives to use them and the impact of the internet on those incentives.<sup>16</sup> The CMA commissioned qualitative research which, among other things, reported businesses' views that:

- Increased price transparency for consumers (resulting from online selling and price comparison websites etc.) had intensified price competition, making it more difficult for manufacturers and retailers to maintain price differentials between bricks-and-mortar and online retail, as well as against rival products.
- Vertical restraints (and related practices such as specifying recommended retail prices) offer ways to manage the competitive impact of increased e-commerce in many sectors. While many reasons were given as to why firms use such restraints, the main reasons stated by participants were to prevent free-riding and therefore maintain the pre- and after-sales service quality, and to protect brand image.

15. The CMA notes businesses' views on the incentives for using vertical restraints. As stated at paragraph 17, while vertical restraints are often pro-competitive and can lead to consumer benefits, they may also be harmful to competition and consumers.

16. Prior to the business survey, the CMA organised a roundtable discussion with legal advisers, economic consultants, and representatives of business organisations to discuss the same research questions.<sup>17</sup>

17. Having regard to these, and in line with the CMA's published Prioritisation Principles<sup>18</sup> (which consider, among other things, the likely direct or indirect impact of the CMA intervening), the CMA focuses its enforcement on cases that raise the greatest risk of competitive or consumer harm. We discuss this further in paragraphs 34 and 35, below.

18. Under UK and EU competition law, vertical restrictions are considered within the framework of the EU's Vertical Agreements Block Exemption Regulation (VABER), and its associated guidelines.<sup>19</sup> The CMA's experience to date is that the broad principles set out in the VABER – namely that, provided that the vertical agreement/concerted practice does not include a hard core or excluded restriction and

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<sup>16</sup> ['Vertical restraints: new evidence from a business survey'](#), prepared for the CMA by Oxera Consulting LLP and Accent, 24 March 2016.

<sup>17</sup> [A summary](#) of the main views provided by participants has been published on the CMA's webpages.

<sup>18</sup> [Prioritisation principles for the CMA, CMA16](#), April 2014.

<sup>19</sup> Commission Regulation (EU) No 330/2010 of 20 April 2010 on the application of Article 101(3) of the Treaty on the Functioning of the European Union to categories of vertical agreements and concerted practices, OJ L 102, 23.4.2010 (VABER) and Guidelines on Vertical Restraints, OJ C 130, 19.5.2010.

provided that market share thresholds are not exceeded, the restrictions will be automatically exempted – remains appropriate in the online economy as it currently stands. However, and given the often highly specific nature and competitive impact of particular vertical restraints (both online and offline), the CMA may consider on a case-by-case basis whether to withdraw the benefit of VABER if appreciable anti-competitive effects occur and particular practices are not compatible with the requirements of Article 101(3) TFEU or its UK equivalent. Complex issues of law and economics are engaged in such analysis and the CMA assesses the appropriate response in each case based on legal and economic advice.

19. We set out below examples of recent CMA enforcement actions in relation to vertical restraints.

## 2.2. Restrictions on the ability to set prices independently

20. The CMA has conducted a number of investigations relating to (a) resale price maintenance (RPM) and (b) parity clauses.<sup>20</sup>

### 2.2.1. Resale price maintenance

21. RPM is a restriction on the ability of the retailers to set their own prices, and therefore, in practice, to offer lower prices to end customers. Under the UK/EU legal framework, RPM constitutes a restriction of competition ‘by object’; it is presumed to restrict competition and to infringe the prohibition on anti-competitive agreements. RPM is also a ‘hard core’ restriction for the purposes of VABER. As such, it does not benefit from block exemption and it is presumed unlikely to merit individual exemption from the prohibition.<sup>21</sup>

22. RPM, and the precise restrictive measures used to achieve it, can take various forms. This is emphasised by the distinct nature of the conduct involved in each of the cases in which the CMA has found unlawful RPM. As set out in more detail at paragraphs 34 and 35, the CMA seeks to focus its enforcement action on cases that pose the greatest risk of harm to competition and consumers. In each of those cases, the CMA suspected that the practice was widespread in the sector, as can be seen from the use of warning letters to other suppliers (and retailers in one industry), following each investigation. The widespread nature of the practice is one of the circumstances which may indicate such risks of harm to competition and consumers.

- In a case in the *commercial catering* sector, ITW Ltd imposed a ‘minimum advertised price’ policy restricting the price at which retailers could advertise ITW’s product online.<sup>22</sup> ITW enforced this policy with threats of higher wholesale prices or even a complete cessation of supply for non-compliant retailers. ITW was fined approximately £2.3 million. In addition, the CMA

<sup>20</sup> Also known as retail ‘most favoured nation’ clauses (MFNs).

<sup>21</sup> VABER and European Commission Guidelines on Vertical Restraints.

<sup>22</sup> CMA decision of 24 May 2016, *Online resale price maintenance in the commercial refrigeration sector*, [Case reference: CE/9856-14](#).

issued warning letters<sup>23</sup> to other suppliers and retailers in the industry, having received evidence that RPM restrictions were prevalent across the sector.

- In the *bathroom fittings* case<sup>24</sup>, the supplier, Ultra Finishing Ltd, threatened – with higher wholesale price or withheld supply – those retailers who did not price at or above the ‘recommended’ online price for its products. Ultra Finishing Ltd was fined approximately £800,000, and the CMA again issued a number of warning letters to other suppliers of equivalent bathroom fitting products whom it was concerned may be employing similar practices.
- In a case in the *light fittings* sector, the National Lighting Company (NLC) imposed a minimum price on online sellers, and used threats to ensure they would comply.<sup>25</sup> NLC, which tried to avoid detection by not committing agreements to writing, was fined £2.7 million. The fine includes an uplift in the penalty imposed because the company ignored an earlier ‘warning letter’ from the CMA. The CMA has also sent a number of warning letters to other suppliers in the light fittings sector.

23. In these cases, the CMA was able to increase the pace and effectiveness of its enforcement action by addressing the statements of objections and decisions solely to the supplier – and not to any retailer.<sup>26</sup> The CMA may nevertheless decide to fine retailers in future.

24. As alluded to above – and particularly in the light of both (a) CMA research indicating that businesses’ understanding of RPM was low, and (b) the CMA’s broader desire not to chill legitimate, pro-competitive commercial conduct – the CMA has sought, alongside this enforcement, to help businesses comply with the law and increase their awareness of when suppliers’ attempts to control retailers’ pricing might constitute RPM. This has included specific awareness-raising activities in the sectors in which it had found infringements,<sup>27</sup> and the production of user-friendly guides to businesses, including video materials.<sup>28</sup>

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<sup>23</sup> The CMA uses [warning and advisory letters](#) to contact businesses that it is concerned might be breaking competition law and encourage them to comply with competition law.

<sup>24</sup> CMA decision of 10 May 2016, *Online resale price maintenance in the bathroom fittings sector*, [Case Reference: CE/9857-14](#).

<sup>25</sup> CMA decision of 3 May 2017, *Online resale price maintenance in the light fittings sector*, [Case 50343](#).

<sup>26</sup> The CMA’s ability to do so derives from its statutory rules, the Competition Act 1998 Rules (rule 5(3)). This rule allows the CMA to address its proposed infringement decision to fewer than all the persons who were party to the relevant agreements.

<sup>27</sup> Through, for example, presentations at industry events, and articles published in the relevant industry press.

<sup>28</sup> See <https://www.gov.uk/government/news/cma-guides-businesses-on-online-competition-law>

### 2.2.2. Retail parity clauses

25. Retail parity clauses in online retailing typically require the provider of a product (good or service) to price that product via an online outlet at a price<sup>29</sup> that is as low or lower than the price at which the product is sold through rivals to that outlet. The CMA has observed two types of price parity clauses.

- Clauses that restrict the seller from setting a lower price on *its own website*, while the seller is free to set lower prices for its product on other online platforms: so-called ‘narrow price parity’ clauses.
- Clauses used by platforms that require the seller not to set a lower price on *any* sales channel other than the platform. These other sales channels may include other platforms and the seller’s own website. These are referred to as ‘wide price parity’ clauses.

26. The CMA’s approach to assessing parity clauses is summarised in a paper that we presented to the OECD in October 2015.<sup>30</sup>

27. By way of update to that paper, we set out below recent CMA work involving consideration of retail parity clauses:

- The CMA’s *Digital Comparison Tools market study*<sup>31</sup> considered the impact that its *Private Motor Insurance Market Investigation Order 2015*, that had prohibited wide parity clauses in online selling of motor insurance (following a market investigation), has had<sup>32</sup>, and found that:
  - Since the removal of wide parity clauses, commission fees in motor insurance have been lower than they would have been with the wide parity clauses in place.
  - Most stakeholders considered that the Order had a positive impact in motor insurance. For example, many of the motor insurers and brokers who provided views to the CMA said that the removal of wide parity clauses had had a positive impact on competition between price comparison websites and that they had been able to negotiate Promotional Deals and set different prices on different price comparison websites.

<sup>29</sup> Note, however, that retail parity clauses need not relate (only) to the price at which a product is provided. They may also relate to other terms: for instance, that the provider must provide the same or better quantity of a product, or ensure the same availability, to the online outlet as to other sales channels (including, typically, the provider’s own direct sales channel).

<sup>30</sup> ‘[Hearing on across platform parity agreements](#)’, (2015).

<sup>31</sup> Wide MFNs increased commission fees by around 3 to 4% on average during 2010 to 2016. For more detail, see the DCTs market study Final Report, [Paper E: Competitive landscape and effectiveness of competition](#).

<sup>32</sup> The [Private Motor Insurance Market Investigation Order](#) prohibited the use of wide MFNs by price comparison websites (PCW) in the private motor insurance market together with practices by large PCW intended to have equivalent effect. Narrow MFNs were excluded from the scope of the prohibition.

- The CMA has taken part in a joint monitoring project with the European Commission and with national competition authorities in the EU concerning the hotel online booking sector.<sup>33</sup>
  - This project looked at the effects on the market of (i) the July 2015 Europe-wide replacement of wide price parity clauses by narrow price parity clauses and removal of wide availability parity clauses in the agreements with hotels of online travel agents Expedia and Booking.com, and (ii) the prohibition of narrow price parity clauses in France and Germany.
  - In April 2017, the European Competition Network reported on the outcome of its monitoring, finding that the events listed in (i) and (ii) above had both led to an increase in price differentiation between online travel agents by hotels. On the basis of the ECN work, the CMA considered that there was some evidence that the removal of the wide parity clauses has improved the competitive situation.
  - However, given the key finding that many hotels were not aware that Booking.com and Expedia no longer enforce ‘wide’ parity clauses or of what this means for hotels’ ability to differentiate their prices across online travel agents, the CMA has also taken steps to raise awareness among UK hotels of the changes. As part of this work, the CMA has sent a ‘60-second summary’ explaining how hotels can set their prices on online travel agents and has discussed these issues with hotels at a series of roundtables.<sup>34</sup>
- The CMA also investigated parity clauses in its recent investigation, under the UK and EU prohibitions on anti-competitive agreements and on abuse of a dominant position, into the supply of live online auction platform services.<sup>35</sup>
  - The CMA had concerns that some of the practices of ATG Media, the leading supplier of online bidding services, were illegally preventing its customers from being able to shop around and use rival platforms.
  - The CMA gave extensive consideration to an application from a third party for ‘interim measures’ directions, to halt the practices pending the outcome of a full investigation. However, shortly before it was to make a final decision on whether to make an interim measures direction, ATG Media made an offer of commitments.

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<sup>33</sup> This followed an investigation by the OFT. The investigation focused on restrictions in agreements between InterContinental Hotels Group and Hotel Inter-Continental London Limited and each of Booking.com and Expedia, which prevented the online travel agents from discounting the price of room-only hotel accommodation. The CMA closed the investigation after the case was remitted back from the Competition Appeal Tribunal for reconsideration of the OFT decision, following an appeal in respect of the commitments decision by Skyscanner. For more detail on the investigation and the monitoring project, see <https://www.gov.uk/cma-cases/online-travel-agents-monitoring-of-pricing-practices>.

<sup>34</sup> See <https://www.gov.uk/government/publications/resale-price-maintenance-advice-for-retailers>

<sup>35</sup> See <https://www.gov.uk/cma-cases/auction-services-anti-competitive-practices>

- As the commitments fully addressed all its competition concerns and brought a halt to those practices, the CMA no longer needed to take a decision on the application for interim measures.
- The CMA subsequently published guidance to explain which business practices ATG Media had agreed to change, and what this meant for auction houses who transact with it.
- The CMA is currently investigating suspected breaches of UK and EU prohibitions on anti-competitive agreements in the use of certain retail parity clauses by a price comparison website in relation to home insurance products.
  - Evidence concerning the use of wide parity clauses in relation to home insurance came to the CMA's attention during its [market study into digital comparison tools](#).<sup>36</sup>
  - The CMA has not yet reached a view on whether there is sufficient evidence of an infringement of competition law for it to issue a statement of objections to any of the parties to the agreement or agreements under investigation.

### 2.3. Restrictions on selling online

28. Under the UK/EU legal framework, unjustified online sales bans constitute restrictions of competition by 'object', as well as hard core restrictions.<sup>37,38</sup>

29. The CMA has recently considered the impact of online sales bans in the following cases:

- In August 2017, the CMA fined Ping, a golf manufacturer, £1.45m for banning UK retailers from selling its golf clubs online and thereby infringing the prohibition on anti-competitive agreements.<sup>39</sup> Ping was also required to bring the online sales ban to an end, and to avoid imposing the same or equivalent terms on other retailers. The CMA found that, while Ping was pursuing a genuine commercial aim of promoting in-store custom fitting services, a total ban on online sales was not objectively justified because it could have achieved this through means that would be less restrictive of competition. Ping

<sup>36</sup> For further detail on the market study, see paragraphs 56-64 and the [CMA's webpage](#).

<sup>37</sup> See the judgment of 13 October 2011, *Pierre Fabre Dermo-Cosmétique SAS v Commission*, C-439/09, EU:C:2011:649, VABER, and EU Guidelines on Vertical Restraints.

<sup>38</sup> The CMA notes the recent judgment of the EU Court of Justice in *Coty*, in which the Court stated, in particular, that marketplace bans can be compatible with Article 101(1) TFEU – i.e. not infringing the prohibition on anti-competitive agreements – if they meet certain criteria, and that they do not constitute hard core restrictions under VABER. Judgment of 6 December 2017, *Coty Germany GmbH vs Parfümerie Akzente GmbH*, C-230/16, EU:C:2017:941. The criteria were set out by the Court in its judgment of 25 October 1977, *Metro SB-Großmärkte v Commission ('Metro I')*, 26/76, EU:C:1977:167.

<sup>39</sup> CMA decision of 24 August 2017, *Online sales ban in the golf equipment sector*, [Case 50230](#).

has brought an appeal before the Competition Appeal Tribunal, on which the judgment is pending.

- The CMA received a complaint from carwow, an online car portal, alleging that BMW UK was stopping its dealers from listing BMW and MINI cars on the portal, and asking the CMA to investigate whether this breached competition law.<sup>40</sup> The CMA carried out an initial assessment of the complaint and met both carwow and BMW UK. Following its engagement with the CMA, BMW UK informed the CMA of its decision to change its policy in order to allow its dealers to work with carwow and similar internet-based new car portals. Given this change of policy, the CMA decided, on administrative priority grounds, against initiating a formal investigation into BMW UK at that time.

#### 2.4. Focus on cases with greatest risk of competitive/consumer harm

30. The CMA applies prioritisation principles<sup>41</sup> to decide which projects and programmes of work to undertake across all areas of its responsibility, with a view to make the best use of its resources in terms of outcomes for UK consumers.

31. Recognising that vertical restraints can be pro-competitive, the CMA seeks to focus its enforcement action in areas where there is a greater risk of competitive and consumer harm. Circumstances which may indicate such risks include:

- Interbrand competition being weak, due to the existence of upstream market power (that is, unilateral market power or high concentration upstream). Such upstream power may be consistent with theories of harm that are based on, for example: (a) upstream collusion or coordination; (b) loss of intrabrand competition which causes potential harm due to existing weak interbrand (upstream) competition; or (c) the use of RPM by a supplier with market power to exclude upstream rivals (as set out in the EU Guidelines on Vertical Restraints: ‘the increased margin that RPM may offer distributors, may entice the latter to favour the particular brand over rival brands when advising customers, even where such advice is not in the interest of these customers, or not to sell these rival brands at all’).
- Equivalent restrictions were implemented by a number of upstream firms covering a significant share of the upstream market (network of agreements). This would be consistent with RPM theories of harm around collusion and softening of competition<sup>42</sup>; or<sup>43</sup>
- The existence of downstream market power or bargaining power.

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<sup>40</sup> <https://www.gov.uk/government/news/bmw-changes-policy-on-car-comparison-sites-following-cma-action>

<sup>41</sup> [Prioritisation principles for the CMA, CMA16](#), April 2014.

<sup>42</sup> See the report commissioned by the OFT from Professor Greg Shaffer on [Anti-competitive effects of RPM agreements in fragmented markets](#) (2013).

<sup>43</sup> In addition, the more widespread the practice, the less scope there is for consumers to instead purchase the relevant products produced by other upstream suppliers who do not impose RPM on their distributors.

- A vertical restraint always implies a loss of sales to the upstream supplier (due to the loss of downstream sales channel intrabrand competition). It would be unattractive to the upstream supplier, unless (i) the restraint acts to incentivise the retailer to act in a way which expands sales despite the reduction in intrabrand competition, or (ii) there are anti-competitive motives (for example, the supplier may be looking to reduce interbrand competition<sup>44</sup> or may be responding to pressure from retailers seeking to reduce intrabrand competition, as set out below).
- On the other hand, a vertical restraint which only reduces downstream competition, with no increase in sales effort, would be attractive to downstream retailers. Therefore, vertical restraints driven by downstream firms are more likely to give rise to competition concerns than vertical restraints driven by upstream suppliers.
- However, it may be difficult in practice to establish directly that a given restraint is retailer-driven, and not all retailer-driven vertical restraints would be problematic. The bargaining strength of the downstream retailer may be a useful indicator because it may identify when a retailer is well-placed to drive a vertical restraint which may not lead to greater sales for the upstream supplier. For example, an upstream supplier may agree to a restriction on retailer competition in response to a threat that it would no longer be stocked by a key retailer. This could support theories of harm around downstream collusion (allowing retailers not to compete over a group of products) or exclusion of a downstream rival (by a powerful retailer putting pressure on suppliers to impose RPM in order to eliminate a rival retailer which sought to discount prices below those of the powerful retailer).<sup>45</sup> Downstream market power may provide a good proxy of the retailer's bargaining power.

### 3. Part 2: Merger control

#### 3.1. Analytical considerations arising in online mergers

32. Mergers in online markets can give rise to challenges for competition authorities in applying merger control rules. These may include, for example:

- Risks that mergers involving competitively significant e-commerce businesses may not be captured by jurisdictional thresholds (especially where they are only turnover-based)

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<sup>44</sup> The supplier may be seeking to soften (upstream) interbrand competition by sending a signal that it is committed to higher retail prices which may cause retailers of other suppliers to also increase their prices.

<sup>45</sup> The bargaining power of downstream retailers also features in some theories of harm about RPM softening competition.

- Traditional forms of substantive analysis, which may be focused on price effects, and thus may fail to capture other metrics of competition effectively, including quality<sup>46</sup> and innovation
- Post-merger counterfactuals may be difficult to assess in markets which are very new or in which new online products and offerings may shortly be – or may already be – fundamentally and rapidly changing the dynamics of competition
- Challenges in assessing the extent of the constraint that sales online or in bricks-and-mortar shops place on each other
- Taking due account of network effects in multi-sided markets
- The relevance of data in the competitive assessment (one or more of the merging parties may hold large customer data sets).

33. Despite those challenges, the CMA has been able to review effectively a number of mergers involving enterprises active in online commerce. In that regard, it is noted in particular that:

- The *jurisdictional thresholds* under UK merger control (in the Enterprise Act 2002) involve two alternative tests, such that jurisdiction is exercisable if either test is met: not only a turnover-based test, but also a test based on the parties' combined share of supply or purchase of at least 25%. The 'share of supply' test is not an economic 'market share' test – i.e. it can apply if there is an overlap and a combined 25% share of supply or purchase of any class of products (goods or services), even if that class of products does not constitute the relevant economic market; in practice, the test can be applied quite flexibly.<sup>47</sup>

As a result, the CMA (and its predecessor, the OFT) have been able to review significant mergers involving targets with limited UK revenues, for example, Google's purchase of Waze, or Facebook's acquisition of Instagram.<sup>48</sup>

- In relation to the *substantive assessment* of such mergers, the CMA applies the 'substantial lessening of competition' standard and relies on evidence-based economic analysis in assessing it. That standard can take into account a range of (non-price) competitive metrics, including impacts on innovation and new online entry in cases involving fast-moving and dynamic markets.<sup>49</sup>

34. There are, however, particular challenges in considering digital markets that are rapidly changing or where network effects are so strong that the purchase by an

<sup>46</sup> In certain markets, relevant vectors of quality may include, for example, levels of privacy protection provided to users.

<sup>47</sup> [Mergers: Guidance on the CMA's jurisdiction and procedure](#), January 2014, CMA2. Note also the amendments to the jurisdictional thresholds in three defined sectors.

<sup>48</sup> In addition, Facebook's acquisition of WhatsApp, which was referred to the European Commission under Article 4(5) of the EU Merger Regulation, qualified for referral because it qualified for review under the Enterprise Act 2002 (and in at least two other member states).

<sup>49</sup> For further detail on the CMA's assessment of non-price effects of mergers, see the UK submission to the OECD (2018).

incumbent with market power of a nascent firm in an adjacent market could have long lasting effects in preventing a competitor emerging. A key challenge posed by such cases in digital markets relates to assessing what may be a small possibility of a substantial reduction in competition. This may require the authority to consider the future development of digital markets, for which previous decisions or historical data are not likely to be relevant. The CMA believes this represents a very important challenge currently facing competition authorities.

35. The CMA is considering ways to address these challenges, in particular by ensuring that its analytical techniques properly evaluate the constraints that businesses exercise on each other in rapidly-evolving markets. For example, it may be appropriate, in some cases, to make greater use of available data from analysts and other sources, in order to gain a broader insight into an investor's motivation for allocating value to the company that it is acquiring. In other cases, an investor's internal documents may be a particularly relevant source of evidence to understand the competitive constraint that the target company (as compared to other players active in the same or adjacent markets) exercises on the investor's activities. The CMA is also establishing a data and digital insights team, part of whose remit is expected to include consideration of how mergers (including between data-driven businesses) may impact the evolution of, and competition in the online economy.

### 3.2. Recent analysis of e-commerce in CMA merger reviews

36. The CMA's recent merger control experience includes consideration of a number of the substantive and analytical issues arising in mergers of e-commerce businesses. These include, in particular: (a) the competitive interaction between the bricks-and-mortar and online retail distribution channels, and (b) the two-sided nature of online platform markets, including associated network effects and the competitive implications of single-homing (where users use only a single platform) and multi-homing (where users use multiple platforms).<sup>50</sup>

#### 3.2.1. Competition between online and brick-and-mortar sales channels

37. When considering the extent to which online and bricks and mortar sales channels compete, the CMA follows a case-by-case, evidence-based, approach. It typically uses the same sources of evidence as it uses for other aspects of its competitive assessment. These include customer surveys, internal documents, econometric analysis, internal data, and third-party views.<sup>51</sup> It also takes into account in its analysis how the competitive landscape can be expected to evolve in future.

<sup>50</sup> [Just Eat and Hungryhouse, A report on the anticipated acquisition by JUST EAT plc of Hungryhouse Holdings Limited](#), 16 November 2017.

<sup>51</sup> In *JD Sports/Go Outdoors*, the parties were both UK-based bricks-and-mortar and online retailers of outdoor clothing, footwear, and equipment. Although assessed separately from bricks-and-mortar retail, online sales were treated as a constraint on the parties when considering the merger effects at a local level. This supported the clearance of the merger in areas with significant bricks-and-mortar concentration. CMA decision of 18 May 2017, [Completed acquisition by JD Sports Fashion Plc of Go Outdoors Topco Limited](#), ME/6648/16.

- In *Mapil Bidco (Wiggle)/Chain Reaction Cycles (CRC)*,<sup>52</sup> the parties were both online retailers of bikes, bike components, bike accessories, and general multi-sports goods (CRC also operated two bricks and mortar stores). Based on the evidence – including, merging parties’ price tracking data, third party comments, as well as information on competitors’ range and presence online and offline – and on a cautious basis, the CMA treated online retailing of bikes, components, accessories, and general multi-sports goods as a separate economic market from offline retailing of these products. However, constraints from offline retailing were taken into account in the competitive assessment. In the competitive assessment, the CMA took into account the following evidence to assess closeness of competition and the constraints posed by rival competitors (in addition to other evidence, including third party views):
  - Price-tracking data, this data was used by the parties to monitor competitors’ pricing activity. The CMA used it, in particular, to analyse how often each competitor had the lowest price amongst those tracked. The CMA looked at CRC’s and Wiggle’s price-tracking data for the stock keeping units (SKUs) they track and then looked at how often Wiggle and CRC, respectively, were the lowest priced supplier for these SKUs, who else sold these SKUs, and how often they were the lowest priced.
  - Price-matching data: the CMA analysed the number of SKUs that each of Wiggle and CRC was able to match to each competitor, including CRC and Wiggle, respectively.
  - A Google shopping price comparison for CRC’s top components, submitted by the parties.
  - Evidence of dynamic pricing. At the beginning of a six month period of analysis, Wiggle was lowest priced against more CRC products than any other retailer, but other competitors took over the lowest price position at some point in the period for 50-60% of products.
- In relation to bike components, accessories, and general multi-sports goods, the evidence showed that the merging parties were close competitors, but that they faced competition from a few large competitors and many small competitors online.<sup>53</sup> In addition, the CMA noted that the characteristics of online competition in the sector meant that there was high price transparency, little consumer brand loyalty, easy product and supplier comparison, and non-exclusive supply chains, and in turn that the remaining providers in the market, although smaller, were able to exert a competitive constraint beyond that which their size would suggest.

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<sup>52</sup> CMA decision of 30 June 2016, [Anticipated acquisition by Mapil Bidco Ltd of Chain Reaction Cycles Ltd, Hotlines Europe Ltd and Decade Europe Ltd](#), ME/6595-16.

<sup>53</sup> With regard to the online retail of bikes, the parties were not close competitors due to their different focus. The CMA also noted that the parties faced a stronger competitive constraint from offline retail in relation to bikes than for the other economic markets.

### 3.2.2. Mergers in two-sided markets, network effects and single-homing

38. Multi-sided markets are platforms that match two or more groups of customers. The value of a platform for users on one side depends on the number of users on the other side. This leads to indirect network effects (INE): an increase in the number of users on one side leads to a similar increase on the other side, in a reinforcing cycle, and vice versa. Network externalities can lead to markets tipping to one, or a few, providers.<sup>54</sup> Once a market tips, the joint behaviour of consumers and businesses may mean that the market power of the platforms becomes well-established because it may take considerable coordination by both consumers and businesses to switch to another platform in order to restore competition. A multi-sided market may be less likely to tip the more differentiated the offering from competing platforms and the more that customers on one or more sides multi-home.

39. A recent example of these dynamics arose in *Just Eat/Hungryhouse*, a case involving the merger of two ‘food ordering marketplaces’; they provided consumers with access to multiple restaurants, and restaurants with access to multiple consumers, on a single (two sided) online platform.<sup>55</sup> Despite possible INEs, the CMA found evidence that multiple food ordering marketplaces can and do coexist. It considered further that, in the presence of customer differentiation, the likelihood of multiple platforms coexisting depends on: (i) the strength of INE<sup>56</sup>, (ii) the degree of platform differentiation,<sup>57</sup> and (iii) customers’ single- or multi-homing behaviour.<sup>58</sup>

40. The relevant market was considered to include the parties as well as ‘ordering and logistics specialists’, such as Deliveroo, UberEATS and Amazon Restaurants. The CMA considered, based especially on survey evidence, that direct ordering, while outside the relevant product market, provided some constraint.

41. The clearance decision, following an in-depth ‘Phase 2’ investigation, was ultimately based on the fact that (i) the sector was dynamic and evolving with well-funded competitors (Deliveroo and UberEATS) growing strongly; (ii) there was some evidence that the constraint exerted by Deliveroo and UberEATS was stronger than that from Hungryhouse in areas where they were present; and (iii) in those areas where

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<sup>54</sup> INE may also be relevant when assessing market definition and competitive constraints because it may be necessary to consider substitution and competitive constraints on both sides of the market served by the platform rather than focusing only on the competitive effects of the merger on one side of the market.

<sup>55</sup> For further detail on the CMA’s assessment of non-price effects of mergers, see the UK submission to the OECD (2018).

<sup>56</sup> Strong network effects make tipping more likely: the larger platform becomes much more attractive and feedback loops are stronger.

<sup>57</sup> Differentiated platforms, with a niche of loyal users, are more likely to coexist than undifferentiated platforms. Differentiation reduces the importance of INE: users may still join their preferred platform even if slightly smaller.

<sup>58</sup> See definitions of single- and multi-homing at paragraph 40. Multi-homing makes coexistence more likely: it reduces the importance of INE, as it eliminates the need for a binary choice between platforms. The extent of multi-homing on each side of the market is determined by the costs of multi-homing (financial and non-financial), platform differentiation, and the extent of multi-homing on the opposite side of the platform.

Deliveroo and UberEATs did not yet operate, Hungryhouse was particularly weak (and direct ordering was also a constraint).

#### **4. Part 3: A multi-functional approach to promoting competition and consumer welfare in e-commerce**

42. The CMA has used a range of tools other than merger control and antitrust to better understand how digital markets work and how consumers engage in them, enabling it – where concerns are identified – to take focused action using the most effective tools for each of these concerns, and so to ensure that the digital economy is working well for consumers and businesses. These have included its markets powers, calls for information, empirical research and analysis, and enforcement of consumer protection laws.

##### *Combining competition and consumer protection law enforcement tools*

43. The CMA has powers to enforce a range of (civil and criminal) consumer protection laws, in particular to tackle systemic issues, and practices and market conditions that make it difficult for consumers to exercise choice or have the potential to damage trust. The CMA sees those consumer powers as symbiotic, and very much complementary, with its competition tools:

- It is competitive markets that will typically deliver the best outcomes for consumers.
- Although primarily geared to ensure the protection of consumers (including the most vulnerable), consumer laws can also serve to drive competition in online markets. For example, consumer protection can promote a level playing field, and foster competition, on the standard of protection, for example, on the level of privacy protection provided to users. This in turn ensures that consumers are confident sharing data, which may be necessary to engage in certain markets (see, for instance, the recent remedies adopted by the CMA following the market investigations in the banking and energy sectors, discussed below at paragraph 60)

44. To that end, the CMA has sought actively to enforce consumer protection laws in online markets. For example, following CMA enforcement action, three major secondary ticketing websites have formally undertaken to make a number of changes to the information which is provided to customers, and the way it is provided.<sup>59</sup> This will help people to decide whether buying a ticket is worthwhile, as well as pick the

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<sup>59</sup> More specifically, the sites will make clear: a) whether there is a risk a customer might be turned away at the door; b) which seat in the venue the customer will get; and c) who is selling the ticket, so customers can benefit from enhanced legal rights when buying from a business. To ensure people can easily find this information, the three platforms will make significant changes to the way they gather and display it. For more detail, see <https://www.gov.uk/cma-cases/secondary-ticketing-websites#launch-of-enforcement-investigation>.

best deal for them.<sup>60</sup> The CMA also continues to work closely with partner agencies and enforcers working in this field.

45. In addition, the CMA's consumer protection role can help ensure that consumers are confident engaging in markets, can make effective informed choices, and so can drive greater competition in the market.<sup>61</sup>

46. In the online economy in particular, there is increasing overlap between potential competition and potential consumer protection concerns.

47. As a result, and as demonstrated in particular by the CMA's Digital Comparison Tools market study discussed further at paragraphs 54 to 61 below, competition and consumer tools may be used in parallel or in sequence, so as to maximise the impact and effectiveness of the CMA's interventions.

#### 4.1. Calls for information

48. The CMA has powers to carry out 'calls for information'. It helps the CMA better understand a market or business practice, and to determine if and where further action is warranted, whether by the CMA or others.<sup>62</sup>

49. In early 2015, the CMA carried out a call for evidence relating to the commercial use of consumer data, including in particular in data-driven markets.<sup>63</sup> This study was launched in the light of businesses starting to increasingly collect and use data from, and about, consumers. Such data includes the identity of their customers, what they consume, where they live and work and other demographic information. It might also include, for example, information on who they connect with, their interests and attitudes.

50. That work highlighted those situations in which consumers were most at risk from losing out or competition was most likely to be impeded.<sup>64</sup> It helped to create a framework for analysis that the CMA has been able to use when assessing competitive and consumer effects in heavily data-driven markets. Indeed, the CMA has used the

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<sup>60</sup> The CMA also raised the same concerns about how information is provided to customers with a fourth platform, viagogo, along with other issues. Unless they promptly commit to satisfactorily addressing its concerns, the CMA has notified them it will take action through the courts.

<sup>61</sup> For example, algorithms may be used for 'personalisation' of search rankings or even pricing. The CMA's consumer powers are of vital importance in tackling such practices where they may cause consumer harm, for example where they are discriminatory, or may risk misleading consumers, or if vulnerable consumers are disadvantaged) to avoid consumers reducing their online purchases because they are no longer confident.

<sup>62</sup> Such action may involve, for example, launching a formal market study into a market or markets; advocating legislative change to government; providing guidance; seeking voluntary action from businesses in the sector; or initiating stand-alone enforcement action against identified instances of potentially unlawful conduct.

<sup>63</sup> See [The commercial use of consumer data, report on the call for information](#), CMA38, June 2015.

<sup>64</sup> In particular, paragraph 3.78 of the report on the commercial use of consumer data lists four market indicators that suggest a greater likelihood of competition concerns.

findings from its call for information to assist, and inform, specific subsequent work in the online economy, including the DCTs market study.

## 4.2. Market studies and market investigations

51. The CMA's market study and market investigation powers enable it to examine why particular markets may not be working well, and to consider holistically regulatory and other economic drivers in a market and patterns of consumer and business behaviour.<sup>65</sup>

### 4.2.1. Digital Comparison Tools Market Study

52. The CMA's recently completed market study on Digital Comparison Tools (such as price comparison websites), which built on experience from past CMA cases, provides an example of how the CMA can use its markets powers to promote more effective competition in a market or markets.<sup>66</sup>

- Past CMA projects, including on private motor insurance<sup>67</sup>, payday lending, energy, and banking found that digital comparison tools can increase competition and offer significant benefits to consumers – allowing them to make better, more informed choices. However, there were also concerns in relation to consumer trust and how digital comparison tools compete.
- In the light of these findings, the CMA launched a market study to:
  - Consider the areas of possible concern:
  - Identify ways to maximise the benefits from DCTs, while ensuring that consumers are suitably protected and that DCTs compete effectively with each other,
  - Increase consumer engagement, and
  - Enable effective competition between suppliers.

53. The CMA identified that, for digital comparison tools to deliver benefits to consumers, a number of factors need to be in place, including:

- Consumers need sufficient trust and confidence to use DCTs in the first place, and enough understanding to choose and use them effectively.

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<sup>65</sup> Market studies can lead to a range of outcomes, including: actions which improve the quality and accessibility of information to consumers, actions to encourage businesses to self-regulate, recommendations to government to change regulations or public policy, direct competition or consumer enforcement action, or the making of a market investigation reference. If, following such a market investigation, the CMA finds an adverse effect on competition, it can require market participants to take remedial action to address its concerns. More information about the CMA's market investigation powers can be found the UK submission on 'Methodologies for Conducting Market Studies', (2017), and on the [CMA's website](#).

<sup>66</sup> The CMA defined them as 'digital intermediary services used by consumers to compare and potentially to switch or purchase products or services from a range of businesses.'

<sup>67</sup> See paragraph 31.

- Digital comparison tools need to offer a relevant and accurate service and a smooth customer journey
- Competition between digital comparison tools needs to be effective, so that people can benefit from the competitive pressure digital comparison tools bring to bear on the suppliers whose services they compare, and suppliers pay competitive prices for the services digital comparison tools offer.
- Regulation should support all these factors in a proportionate way, if the market does not deliver them on its own.

54. The market study looked at the extent to which these conditions hold in particular sectors in which digital comparison tools play, or could play, a significant role. These were: car insurance, home insurance, energy, broadband, flights and credit cards. However, the study also touched upon other sectors, including mobile phones, travel insurance, mortgages, hotels, foreign exchange transfer, car hire, event tickets and legal services.

55. The study found that digital comparison tools offer a range of benefits, including helping people shop around by making it easier to compare prices and encouraging suppliers to compete harder to provide lower prices and better choices.

56. However, the study also found that some sites could improve their practices to ensure that consumers can trust them and can make sufficiently well-informed choices between digital comparison tools and between suppliers that are listed on them. The CMA set out principles which deliver positive outcomes and reflect the existing law – spelling out that digital comparison tools should treat people fairly by being Clear, Accurate, Responsible and Easy to use (the CARE principles). These include (a) making clear to consumers how they protect their personal information and how consumers can control its use; and (b) taking steps to ensure their websites and apps comply with their obligations under relevant equality law.

57. The CMA's recommendations to regulators included that:

- They should have regard to the CARE principles when assessing compliance with the law by DCTs and consider updating voluntary accreditation schemes to remove the most potentially distorting rules.
- They address barriers to the effective functioning of DCTs (including to make more consumer and supplier data available, to make it easier for people to make effective comparisons, and also to support people in using more than one DCT).<sup>68</sup>
- They consider ways to free up more data and make it easier for consumers to use DCTs, in order to support more consumer engagement and better informed choice.
- They look to work with DCTs and suppliers to improve the effectiveness of quality metrics in order to mitigate against the risk of hollowing-out (a reduction of product quality as a result of an undue focus on price).

<sup>68</sup>

See Final Report, [Paper D: Making Comparison Easier and More Effective](#).

- The UK Regulators Network welcomed the recommendations to regulators. It is helping to facilitate the collective work being undertaken by sector regulators to address the general recommendations in the report as well as supporting those regulators to which specific recommendations were addressed.

58. The CMA also recommended that digital comparison tools and relevant consumer and charitable organisations work more closely on how to address vulnerable consumers' needs – including providing links to sources of additional help and support. Following the market study, the CMA wrote out to over 80 encouraging them to take forward the recommendations. As part of this exercise, the CMA specifically encouraged liaison between digital comparison tools and relevant consumer bodies to address vulnerable consumer issues.

59. The CMA also reiterated its previous recommendation to the UK Government that civil fining powers be introduced for breaches of consumer protection law.<sup>69</sup> The UK Government has announced its intention to give civil courts such a power, which the CMA expects will provide an important additional deterrent against unlawful practice and further help to enhance consumer welfare and drive competition in e-commerce and other consumer-facing markets.<sup>70</sup>

60. In addition, based on its findings, the CMA launched:

- A competition law investigation in relation to one price comparison website's contracts with home insurers which limit insurers' ability to charge a lower price on one platform than on another (wide parity clauses).<sup>71</sup>
- A consumer law investigation into hotel booking sites. The CMA is concerned about the clarity, accuracy, and presentation of information on sites, which could mislead people, stop finding them the best deal, and potentially break consumer law.
- The CMA is also keeping under review several other practices (such as non-brand-bidding, negative matching and non-resolicitation agreements), because they might either limit competition between digital comparison tools or make it more difficult for digital comparison tools to operate effectively. Findings of the Digital Comparison Tools market study also fed into its ongoing programme of consumer enforcement work in digital markets.

#### *4.2.2. Use of digital tools to enhance competition*

61. Beyond the Digital Comparison Tools market study, the CMA has also incorporated digital tools in its remedies in markets interventions to drive effective competitive outcomes in online markets:

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<sup>69</sup> Another recommendation to government was to consider how to maximise the opportunities presented by the General Data Protection Regulation (GDPR) to use data portability to support competition between intermediaries, such as DCTs.

<sup>70</sup> [‘Modernising consumer markets, Consumer Green Paper’](#), April 2018, Cm9595.

<sup>71</sup> See the discussion on parity clauses, in paragraphs 29 to 31, above.

- *[Retail Banking market investigation](#)*: To address concerns raised by the market investigation in the UK retail banking market, the CMA set out a wide-ranging package of remedies, including a requirement on banks to implement an [‘Open-Banking’ standard](#) by early 2018.<sup>72</sup> Open Banking will enable customers to share their data securely with other banks and third parties, and to manage accounts with different providers through a single digital app. The CMA believes that this will enhance customers’ ability to compare products to find the one that suits them best.<sup>73</sup>
- *[Energy market investigation](#)*: Following concerns identified by the CMA in the UK energy market, a number of remedies were put in place, including ensuring that customers are sufficiently engaged to make informed decisions about the choices available to them.<sup>74</sup>  
For example, the CMA recommended the creation of a database of customers who have been on a default tariff for more than 3 years. [The information would then be made available under strict controls to competing energy suppliers](#) so they could offer cheaper deals directly to customers based on their actual energy usage.  
The remedies also sought to develop the conditions for price comparison websites to play a more active role in helping customers find the best offers for them, by removing restrictions on their access to data and regulations that undermine their incentives.

### 4.3. Empirical research and analysis

62. As noted above, the CMA considers it imperative that competition authorities seek to deepen their understanding of digital markets, and the way in which competition operates, and consumers engage, in them. The CMA therefore invests in undertaking empirical research and analysis into particular aspects of online markets. Most recently this has included the prevalence (or otherwise) of personalised pricing online, and how users search for information online.<sup>75</sup>

<sup>72</sup> [The Open Banking Implementation Entity](#) was created by the CMA to deliver Open Banking in the UK. This, for examples, includes designing the specifications for the Application Programme Interfaces that banks and building societies use to securely provide Open Banking.

<sup>73</sup> <http://www.oecd.org/daf/competition/workshop-on-competition-regulation-and-digitalisation.htm>

<sup>74</sup> <https://www.gov.uk/government/news/cma-publishes-final-energy-market-reforms>

<sup>75</sup> Note that, under its April 2018 Green Paper on consumer markets (see paragraph 6), the UK Government is consulting on ways to boost consumer confidence, including by promoting fair use of data with respect to personalisation of price and search online.

#### *4.3.1. Personalised pricing ‘mystery shopping’ trial*

63. In October 2017, the CMA carried out a small-scale trial of several leading retailers’ websites to test for evidence of personalised pricing.<sup>76</sup> More information on the personalised pricing trial is included as an annex to this report.

- The team used the CMA’s internet lab to conduct the tests in order to (i) create anonymous profiles and ensure that website operators would not be able to identify that a mystery shopping trial was being carried out, and (ii) to observe prices offered to multiple users at the exactly the same time.
- It did not observe any direct examples of personalised pricing apart from a small number of advertised discounts for members. However, it did observe examples of different consumers being shown different search results.

64. Given the limited scope of the trial, the team was only able to carry out simple static tests, for example comparing results when accessing a retailer’s website directly versus accessing via a price comparison website. It was not able to test for more dynamic forms of price discrimination, for example based on a consumer’s previous purchasing history. To that end, the CMA considers that future research could usefully focus on exploring whether these more dynamic forms of personalised pricing can be observed in online markets.

#### *4.3.2. Online search behaviour: Literature review*

65. In April 2017, the CMA published a review of online search behaviour.<sup>77</sup> The review summarised evidence from the available economic and marketing literature on how consumers search online and how firms operate as a result of this behaviour. The motivation for the review was to understand whether there were common features of online search which might affect competitive dynamics in online markets.

66. The literature review highlighted a number of findings in relation to how consumers search online:

- Consumer search online can be complex, but consumers often compare fewer options than might be expected (typically between 2 and 3 brands for a given search);
- Consumer often use multiple channels in a given search (e.g. search engines, price comparison sites, social media);
- Consumers focus mostly on results at the top of the search results, and even more so when using mobile devices (on mobile devices the top three links on average account for more than 70% of the total clicks);
- Consumers differ markedly in their propensity to search;
- Consumer search is sensitive to website characteristics (e.g. website structure and available search tools);

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<sup>76</sup> See also the research and call for information carried out by the OFT on personalised pricing, referred to above, in footnote 13.

<sup>77</sup> [CMA \(2017\): ‘Online search: Consumer and firm behaviour – A review of the existing literature’](#)

- Consumers sometimes have significant brand loyalty online;
  - Online reviews are an important factor in consumers' search and purchase process.
67. In relation to firms, the review found that:
- Online retailers have successfully differentiated themselves even when the good they sell is the same irrespective of the retailer selling it (e.g. CDs or books);
  - Online firms can potentially exploit consumers' behaviour biases (e.g. through 'bait and switch' and drip pricing strategies);
  - There is no clear evidence of under-provision of quality goods on the internet (in spite of theoretical concerns that buying goods online may make it hard for consumers to assess quality).
68. The review also considered some of the implications of these findings for the CMA in conducting future work (for example, in assessing closeness of competition between firms).

## 5. Conclusion

69. In the CMA's view, effective enforcement of competition and consumer protection laws have a central role to play in ensuring dynamic, innovative, and competitive markets that work in the interests of consumers and businesses.
70. Many of the issues raised by digital markets are common areas of interest with other agencies in the UK and worldwide. Also, in an increasingly global marketplace, it is vital that consumer and competition agencies can cooperate effectively with each other. The CMA therefore recognises the importance of working with counterparts, both across national boundaries, and across organisation boundaries and policy disciplines (such as engagement with data and privacy protection authorities),
71. The CMA recognises the OECD's role in this regard, and welcomes the initiatives it has instigated, in particular the joint meeting between the OECD Competition Committee and Committee on Consumer Protection and the OECD's horizontal 'Going Digital' project.

## Annex A. Testing for evidence of personalised pricing

### 6. Summary

72. We carried out a small-scale trial of several leading retailers' websites in October 2017 to test for evidence of personalised pricing. We did not observe any direct examples of personalised pricing apart from a small number of advertised discounts for members. However, we did observe examples of different consumers being shown different search results.

73. Given the limited scope of the trial, we were only able to carry out simple static tests, for example comparing results when accessing a retailer's website directly versus accessing via a price comparison website. We were not able to test for more dynamic forms of price discrimination, for example based on a user's previous purchasing history. Future research could usefully focus on exploring whether these more dynamic forms of personalised pricing can be observed in online markets.

### 7. Background

#### 7.1. What is personalised pricing?

74. Personalised pricing is the charging of different prices to different customers for the same product. These are not price differences caused by quantity discounts or related to the costs of serving that customer (such as local customers incurring lower delivery fees). The personalisation should be related to the willingness to pay and the price elasticity of the customer.

75. Personalisation could occur in many circumstances, such as in direct negotiation in shops or when a customer suggests they are considering switching to another provider. Here we are looking at whether businesses can gather and use data online to help them determine a consumer's willingness to pay without engaging in direct negotiation and altering the headline or advertised price.

#### 7.2. Rationale for new tests

76. The OFT tested for personalised pricing online in 2013 but did not find clear evidence of this in the UK.<sup>78</sup> The OFT noted some examples of newspaper and policy articles (often based on activity in the USA) on personalised pricing, but despite using these to target its approach to personalised pricing, found very limited evidence of this practice in the UK.

77. Since the 2013 study we have been aware of a number of similar trials by other NCAs, some of which have suggested the existence of personalised pricing. We wanted to carry out a trial study to check whether anything had changed since the OFT

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<sup>78</sup> Office of Fair Trading (2013), [Personalised Pricing](#).

study, and more generally to test different approaches to identifying personalised pricing.

## 8. Review of literature on evidence of personalised pricing in practice

78. There is evidence that most consumers dislike online personalised pricing. For example, there was a backlash in 2000 when Amazon.com varied the prices of their DVDs based on previous browsing patterns.<sup>79</sup> This practice was found after customers discovered that they could buy products at a lower price if they stripped their computer of the electronic tags that identifies them as a regular customer. Following this, Amazon denied personalising prices, and stated that the price deviations were totally random discounts to test how sales would change in response to price changes. They refunded all customers who received higher prices.<sup>80</sup>

### 8.1. OFT Personalised Pricing Call for Information in 2013

79. In 2012, the Office of Fair Trading (OFT) launched a call for information to improve its understanding of how the use of consumers' information is affecting online markets. The businesses they discussed this with stated that they had no desire to identify individual consumers, and were aware of the potential adverse consumer reaction to actual or perceived invasions of their customers' privacy.

80. The OFT also conducted its own research, which found no evidence of prices being set on the basis of individual consumer profiles by Amazon or any other company, as opposed to a broader group, or type, of consumer.<sup>81</sup>

81. The OFT noted that consumers and media commentators find it difficult to distinguish between personalised pricing and other forms of price discrimination. Online prices can vary rapidly and consumers may think they are being offered a price based on information collected about them personally.

### 8.2. Hannak et al (2014)

82. Hannak et al. (2014)<sup>82</sup> surveyed 16 popular e-commerce websites (10 general, 6 hotel and car rental) to measure price discrimination and price steering<sup>83</sup> in the US. They used two methodologies.

<sup>79</sup> See BBC News article from 2000, '[Amazon's old customers 'pay more'](#)'.

<sup>80</sup> See Amazon's press release on this, '[Amazon.com Issues Statement Regarding Random Price Testing](#)'.

<sup>81</sup> OFT (2013), '[Personalised Pricing: Increasing Transparency to Improve Trust](#)'.

<sup>82</sup> Hannak et al. (2014), '[Measuring Price Discrimination and Steering on E-commerce Web Sites](#)', *Proceedings of the 2014 conference on internet measurement conference*, pp305-318.

<sup>83</sup> Price steering, also known as 'search discrimination', is the practice of presenting different results or the same results in a different order to different consumers that have made the same search, on the basis of information about the consumer's characteristics.

83. First, they recruited real users living in the US from Amazon's Mechanical Turk service, and asked them to complete a search for prices after configuring their browser so that their search was routed through the authors' HTTP proxy, which could make simultaneous and identical 'control' searches without any of the users' cookies. This method controls for differences by geolocation (all searches come from the same IP address of the authors' proxy server) and by time.

84. Using this methodology, the authors found that:

- For some websites, users were consistently receiving results in a different order relative to the control searches. For example, they found that Sears appeared to be ordering search results for users so that *cheaper* products are displayed near the top, compared with the control searches.
- A small set of sites (Home Depot, Sears, and many of the travel sites) displayed different prices to users relative to controls, for a small but significant proportion of products tested (between 0.5 to 3.6% of products), and the average difference in prices in these cases were hundreds of US dollars higher for users relative to control searches.<sup>84</sup> In addition, the authors noted that some users appeared to experience personalisation across multiple websites.

85. Although the first methodology demonstrated that websites personalise results for different users, it was not possible using this method to determine why and on what basis the personalisation was set, as real-world user profiles had too many potentially confounding variables. Therefore, the authors also conducted controlled experiments by creating false accounts for which some variables were changed but were otherwise identical. The variable features tested were: browser, OS, account log-in, click history, and purchase history.

86. They found that:

- Only one retail site (Home Depot) and none of the rental car sites revealed personalised prices based on the user features tested.
- Cheaptickets and Orbitz offered logged-in members reduced prices for hotels.
- Expedia and Hotels.com conducted randomised A/B testing on users, including steering one group of consumers towards more expensive hotels.
- Priceline altered hotel search results based on the user's history of clicks and purchases. Users that clicked on or reserved low-price hotel rooms receive slightly different results in a much different order, compared to users who click on nothing, or click/reserve expensive hotel rooms.
- Travelocity offered lower prices for hotel rooms to customers using iOS devices. Also, users browsing with Safari on iOS (a mobile device) received slightly different hotels, in a much different order, compared with users browsing with Chrome on Android, Safari on OS X, or other desktop browsers.

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<sup>84</sup> The authors did not report the size of the price difference in percentage terms, but in Figure 4 of Hannak et al. (2014), the authors show an example for a hotel in Paris, which cost \$633 for one user compared with \$565 for the control search, an increase of 12%.

- Home Depot also personalised results for mobile users. On most days, there was almost zero overlap between the results displayed to desktop and mobile browsers, but on a few days the results are identical for all browsers. The pool of results served to mobile browsers contained more expensive products overall.

### 8.3. Mikians et al. (2012)

87. Mikians et al. (2012)<sup>85</sup> also conducted controlled experiments, and tested the effect of varying: browser, OS, geolocation (using proxy services in east and west coast US, Germany, Spain, Korea, and Brazil), browsing history (using false personas to build up a browsing history that mimics the behaviour of affluent or budget conscious people), and origin URL (i.e. which website you were on before visiting a vendor's website). They looked at 600 products, across 35 product categories from 200 distinct vendors.

88. The authors' methodology for building up a browsing history is particularly instructive. Mikians et al. (2012) used Audience Science to research generic traits and browsing habits for budget conscious and affluent consumers. For instance, budget conscious consumers visit price aggregation and discount sites more often than average, and affluent consumers visit high-end luxury products, automotive resources, and community personals sites more often than average. Using Alexa and Google's lists of most popular sites, the authors selected appropriate sites for each profile, and built up the profile by visiting these sites for a week. During this training session, the authors permitted tracking and disabled all blocking, so that the profiles may be tracked by third party aggregators and ad networks (such as Google Analytics/Ad Services and DoubleClick) that have a presence on many sites, and can combine information about these visits to build up a profile of the user.

89. Mikians et al. (2012) found:

- No evidence of price or search discrimination for different OS and browsers.
- Price differences based on geographic location of customer, primarily for digital products (such as ebooks and video games) of up to 166%. They also observed price differences for Staples's website (an office products seller) when queries are sent from different locations within Massachusetts, USA. However, these differences could be due to digital rights costs and competition rather than price discrimination.
- Evidence of search discrimination (but not price discrimination) between affluent, budget conscious, and 'clean' profiles (with no browsing history) on online hotels and ticket vendor websites. The price of the different products shown to affluent personas are up to four times higher than for budget conscious personas.
- They also found price discrimination depending on the channel (or origin URLs). For some product categories, when a user visits a vendor site via a

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<sup>85</sup> Mikians et al. (2012), '[Detecting price and search discrimination on the Internet](#)', *Proceedings of the 11th ACM Workshop on Hot Topics in Networks*.

discount aggregator site, prices can be up to 23% lower than what is available when visiting the vendor's site directly.

#### **8.4. Austrian Chamber of Labour (Arbeiterkammer Wien) studies in 2016 and 2017**

90. Arbeiterkammer Wien (AK Wien) conducted a study of personalised pricing in 2016.<sup>86</sup> For every day in a week in 2016 (between 2pm and 3pm on Monday to Friday, and between 9am and 10am on Saturday and Sunday), AK Wien looked up 36 prices for various products on more than 28 devices (including desktops, laptops, smartphones, and iPads) in the 9 federal capitals of Austria over a period of 5 days. They also did this in Dusseldorf (in Germany). The products examined included furniture, flights, shoes, and hotels. They tested for changes in price by type of device, geographical location, and time.

91. They found no differences in price by type of device. For some products, they found that prices varied over the course of the week, and that there were differences in prices on online store websites accessed in Austria and in Germany.

92. In 2017, AK Wien repeated this study<sup>87</sup>, examining 33 prices on different online shops (Amazon, Lufthansa, AirBerlin, Austrian Airline, Opodo, booking.com and Heine) on 20 different devices (stationary desktops, laptops, notebooks, iPads, smartphones and iPhones) every Tuesday, Thursday and Saturday, from the 14th to the 25th of March 2017. The devices were located in various places in Austria and one device (laptop) was located in Dusseldorf, Germany. Between 3 and 9 products were checked on each site.

93. This time, AK Wien found some differences in prices between devices, mainly for travel,<sup>88</sup> but it was not the case that prices were always higher for one type of device. They also noted that, for Opodo, some products were offered on some devices but not on other devices, and this changed daily. Again, they also found differences in price across time and between Austria and Germany.

### **9. Experiment overview**

#### **9.1. Approach**

94. We wanted to test the extent of personalised pricing in online retail. The aim of this work was to update the OFT's work in 2013, and obtain a prima facie indication of whether personalised pricing exists in the UK. If so, further research would be needed to assess in greater detail why price variations occurred.

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<sup>86</sup> AK Wien (2016), '[ÖSTERREICHWEITER AK-TEST DYNAMISCHE UND PERSONALISIERTE PREIS-DIFFERENZIERUNG IM ONLINE-HANDEL](#)'.

<sup>87</sup> AK Wien (2017), '[AK-TEST PREISDIFFERENZIERUNG IM ONLINE-HANDEL](#)'.

<sup>88</sup> The range of price differences for the product with the largest price difference: Air Berlin €5 - €10; Austrian Airlines €30 - €80; Opodo €28 - €167; Booking.com up to €154.35 (for hotels in Madrid) and up to €66.35 for hotels in Hamburg, but no differences for other cities. For Lufthansa and Heine, there were no price differences depending on device.

95. We used the CMA's internet lab to conduct the tests. This allowed us to create anonymous profiles and ensure that website operators would not be able to identify that we were carrying out a mystery shopping test. It also enabled us to observe prices with multiple users at the exactly same time.<sup>89</sup>

96. The study was not designed to look at cross-country differences as there may be good reasons for these price differences, such as costs of dealing with a different legal regime in that country or different delivery costs.

## 9.2. Parameters

97. We checked price variances in response to:

- Operating System: past research suggested that a difference in operating systems (e.g. iOS and Android) may cause a difference in final prices. This test could be performed by looking at the results obtained using a Windows operating system and a Mac operating system.
- Logged in vs normal search: Logging in to the website, and therefore revealing the customer's identity, may result in a different price.
- Direct vs Indirect search: Accessing a website directly or via a digital comparison tool or affiliate may affect the price. We did not look at personally tailored products like insurance, but at goods where we expect a single price to be offered. We thus looked at both comparison tools where consumers go solely to choose between the end retailer sites, and cashback sites (such as Quidco and Top Cashback, a type of reward website that pays its members a percentage of money earned when they purchase goods and services via its affiliate links) where consumers assume they are getting a better deal on any site than the other customers that use that site because they are getting the cashback on top. To ensure cashback sites are doing what they say they are, the consumer should pay the same 'headline' rate, whether or not they are using a cashback site. To reduce complexity, we focussed on two cashback websites for each product: Topcashback was the first one used but checks were done using Quidco, froggybank, or comparison sites such as Kayak or Pricerunner.

98. We considered checking price variations in response to other differences but were not able to include these within the initial trial. The most significant of the tests we considered were:

- Geographic location within the UK: different geographic location may affect the prices offered to users. Ideally, to do this one would need to be in various locations as the pricing effect would normally be implemented by the computer detecting where the user is based using its IP address. Alternatively, this test might be implemented by logging in with a profile that includes a rich

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<sup>89</sup> Many of the websites change prices regularly (in fast moving markets such as travel prices can change very quickly especially if a particular hotel has received a large order or a flight has been reserved, or it gets close to departure date). Thus, if an item is viewed at different times it may be prudent to refresh the page that was loaded earliest to see if any price discrepancies are unique to the test situation or if the site has globally changed its prices.

or a poor postcode. In any event, geographic location is increasingly difficult for retailers to detect and exploit, especially as much browsing and buying now takes place on smartphones, which obtain new IP addresses as users move across areas with different cell towers, but also because IP geolocation may be quite inaccurate even on desktop computers, depending on how Internet Service Providers assign its dynamic IP addresses.<sup>90</sup> Additionally, price variation for physical goods (even for prices before delivery) could be due to different costs (e.g. for local warehouse). We therefore decided not to check for price differences due to different locations within the UK, as overall this test was too complex for us to be properly performed.

- Purchase history: if past purchasing habits or patterns are observable, firms may use this information to personalise final prices. Ideally we would test whether loyal customers (i.e. customers likely to visit and buy from the same site) were charged more for their loyalty and apparent lack of search than a less loyal one (e.g. a customer profile for someone that often searched and compared options on competing sites). It could also be that after the retailer's pricing algorithm learns that a certain customer profile is connected to someone with a high willingness to pay they start to charge that customer more. Algorithms could easily consider the number of times that customer previously viewed the product or information about products which were bought or viewed by people with similar profiles to perfectly discriminate and set a price equal to the maximum amount a consumer is willing to pay. Overall, however, this would be too expensive for the CMA to test (requiring customer profiles to be built up, and potentially requiring us to either buy products, or to book rooms/tickets and cancel them, which may have research ethics implications). An alternative approach would be to get the public to send us screenshots of different prices for the same trip at (almost) the same time. However, this was too difficult to do within the CMA internet lab given the short timeframe available.

### 9.3. Retailers

99. We looked at the findings of the AK Wien study<sup>91</sup> and included some of the biggest retailers in the UK. The largest single price difference that AK Wien found was for Opodo (prices of flights had a variance apparently due to personalisation of at least 6% and up to 40%), so we included this retailer in the trial. Booking.com was also included for similar reasons.<sup>92</sup> Other travel sites that we included were Expedia, and Ryanair (to have an individual airline). We also included Amazon given its scale in online commerce. Furthermore, we considered major retailers Asda and Tesco who are technically advanced and have been looked at in relation to a Which? complaint on in-store prices but not for their online pricing. The US examples of personalised

<sup>90</sup> IP address geolocation accuracy is quite high at a country level, but becomes much more hit-or-miss at a regional or city level. See <https://www.iplocation.net/geolocation-accuracy>.

<sup>91</sup> AK Wien (2017), '[AK-TEST PREISDIFFERENZIERUNG IM ONLINE-HANDEL](#)'.

<sup>92</sup> Showed a 0-11% price difference on hotel rooms.

pricing feature shoplet.com and Staples: we included Staples to take account of these experiences.<sup>93</sup> Leading European multichannel retailers include Apple, H&M, Zara, Boots, Ikea, and Nike. We chose Apple, and Zara from this list as they are amongst the more technically advanced of the group and have a broad customer base including people with a high willingness to pay who could be adversely affected by personalised pricing.

100. In total we tested 30 products across the ten vendor websites: i) Opodo; ii) Booking.com; iii) Ryanair; iv) Expedia; v) Amazon; vi) Staples; vii) Asda; viii) Tesco; ix) Apple; and x) Zara.

#### 9.4. Products

101. We started with a small exercise of 3 products per site across these 10 retailers, with products sometimes being different for each attribute test. We outlined a set of possible products for each retailer before starting but did not specify this rigidly (as this may have caused the test to fail, for instance if we chose a product that was out of stock).<sup>94</sup> In our view, it did not matter which products we compared, so long as the same product was compared in each test. We avoided products that were very well known or heavily advertised, since retailers may avoid personalising these if it is clear to customers the price they should be paying.

102. We cleared the cookies collected on the web browsing session regularly. This reduced the chance that the retailers would realise they were being tested by having the same two computers repeatedly viewing the same products at the same time.

103. We conducted 90 initial tests (10 firms and 3 products for each of three variables), and then re-tested any examples from the 90 where we found price differences to confirm our results and check whether these differences appeared random or not.

### 10. Results

104. Overall we found very little evidence of personalised pricing, but there did seem to be differences in search results that at times were substantial and may have led to different consumer choices. The results are summarised in Table 1, and described in more detail below.

#### 10.1. Operating system (Windows v Mac) comparison:

105. When comparing OS's for Amazon we found a different order of search results. This could reflect price steering (i.e. encouraging some customers to spend more by making higher priced options more prominent), but appears mostly down to the default or selected product category. Accessing Amazon from the two different computers sometimes resulted in a different default search category being applied to

<sup>93</sup> The UK website adjusts to show prices with and without VAT.

<sup>94</sup> We did not search for particular products on CMA machines before accessing the lab to avoid sites having a log of connections from CMA machines to a particular product page.

the same search terms. We ensured that the search terms were the same on both computers but did not explicitly alter the product category. However, even when the default category was the same for both searches, on some searches there were still some differences in the number or the order of results.

## **10.2. DCT/Cashback link v direct:**

106. Amazon did not give any cashback, so cashback websites could not be tested for Amazon. There was no cashback offered for Zara so we checked ASOS as an alternative. Booking.com did not show up on comparison sites like Kayak, so was not tested for this. A 128-tool attachment set was advertised at a lower price on the Pricerunner website than the actual price on Amazon but the end price you would pay would still be the same as if you bought it directly without going via Pricerunner (this was probably an error of Pricerunner not personalisation by the retailer). For Asda, Pricerunner displayed a higher Asda price than Asda did but only because Pricerunner included the delivery fee whereas Asda does not but says that customers can collect in store for free.

107. When comparing hotels on Expedia, the ranking (order of the hotels in the search results) was different for direct access and when coming via cashback site Quidco. With car hire using froggybank the advertised price is £1 higher on the cashback 'froggybank' link than the direct search, but only because froggybank rounds every number (even 10p over) up to the pound. The final pay page was the same whether you arrived there via froggybank or directly but the link between the pages was different with the direct search having an extra buying step (e.g. to choose to add a car seat). There were other differences in page display/graphics e.g. pages generated by cashback sites often listed the amount of cashback next to the price but also claimed far more often that a price was a discount compared to normal rates (directly clicking on the search just displayed the current price without suggesting there had been a 'was' price).

108. On one of the websites (Opodo) with one of the cashback sites (Topcashback) we did get a result where the same car hire options for the same booking were £11 (9%) higher via the cashback link than when going direct. However, this result could not be replicated either for the same booking or a different one on that day or on the other days that we did the testing (after cookies had been removed). Thus, the initial result appears to have been an anomaly. This was only found on the car-hire (5.8% cashback) and not on flights or hotels where cashback was below 2%. There were no price differences from the affiliate links for the other sites.

## **10.3. Comparing logged in prices to direct access:**

109. Expedia explicitly advertises that members get special discounts of 10% on particular hotels. We confirmed that although there are no member discounts on car hire or flights, Expedia do give up to 11% off on some hotels (which are marked with a yellow reduction). However, this practice is also advertised as available and mentioned on the non-logged in site. For car hire the logged in search appeared to default to searching the whole city rather than just the airport. For the hotel search the second result was a more expensive choice for the logged in customers.

110. Several firms showed different search results to the logged in and browsing customer, including:

- On Asda, for the Lego search the third result was a more expensive choice when not logged in.
- On Zara, there was a difference in one of the search results (but not the prices).
- On Booking.com, the edreams price was higher (£67 when not logged in rather than £61) but the price was not the lowest price found so should not affect the customer. The number of results changed substantially with 149 results when not logged in and 307 otherwise.
- On Opodo when searching for hotels the first three results for browsing cost £720, £220, and £300. While for the logged in customer the options displayed cost £570, £1500, and £680. Thus, the logged in customer may end up being persuaded to pay more. When this was tested for a different hotel location the list of search results for the two customers (logged in and not) were different but there was no real pattern of one customer being shown higher priced options than the other.
- Tesco gave slightly fewer results for some searches but not always to the same person. Twice the unidentified browsing customer got more results (usually in the same order) while once it was the logged in customer.
- The other retailers gave the same prices and the same order of search results.

## 11. Areas for improvement

111. Given the wide range of potentially relevant factors which can interact, it is perhaps unlikely that experiments focusing on varying one factor at a time would uncover personalised pricing.

112. A more sophisticated method which is likelier to uncover personalised pricing would be to recruit real customers to collect data on prices.<sup>95</sup> These real customers are likely to have built up a ‘profile’ or pattern of signals which would allow firms to respond with a personalised price. It is technically possible to conduct a rigorous test which removes any effect of dynamic pricing (i.e. changes in price over time that apply to all customers), by setting up the customers’ system so that when they request a price on a webpage, a simultaneous request is made from a ‘blank’ profile and recorded. Whilst this method would likely uncover evidence on the existence of personalised pricing, it would not reveal what exactly about the customer’s profile is used as the basis for personalised pricing.

113. As noted in paragraph 7, we were not able to test for differentiation based on geographic location or on previous purchasing history. The latter may be particularly important given the ability of retailers to build up information on consumers over time based on their online search and purchases. We suggest that future research might focus particularly on this potential source of personalised pricing.

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<sup>95</sup> This would be a kind of crowd sourcing of evidence – either voluntarily (although the quality of the evidence may be poor) or paid by using the techniques outlined in Hannak et al. (2014), [‘Measuring Price Discrimination and Steering on E-commerce Web Sites’](#), *Proceedings of the 2014 conference on internet measurement conference*, pp305-318.

114. Similarly, it would also be possible to carry out further research based on the methodologies in Hannak et al. (2014) and Mikians et al. (2012) to conduct a more in-depth and conclusive examination of the extent of online personalised pricing and search discrimination in the UK.

**Table 1. Tabulated Results of Personalised Pricing Tests**

Retailer/test	Operating System	DCT/cashback link	Logged in to site
Amazon	Different search results order.	- (no cashback), Amazon was cheaper than Pricerunner but probably due to error in reporting price by Pricerunner.	-
Apple	-	-	-
Asda	-	Pricerunner higher price than Asda but due to including delivery cost (rather than in store collection).	-
Booking.com	-	- (not on comparison sites)	Difference in one quote but not the lowest quote, different number of search results
Expedia	-	Different search results order. With car hire using froggybank higher price stated due to rounding and different options (car seat). Different graphics and means of displaying discount.	Advertises that members get 10% off at selected hotels. Different search results.
Opodo	-	One-off result of more expensive (9%) car hire rates for the Topcashback link but could not be replicated.	Logged in customer appears to get more expensive hotels recommended.
Ryanair	-	-	-
Staples	-	-	-
Tesco	-	-	Slight difference in number of search results
Zara	-	- (ASOS was tested)	Slight difference in search results order.